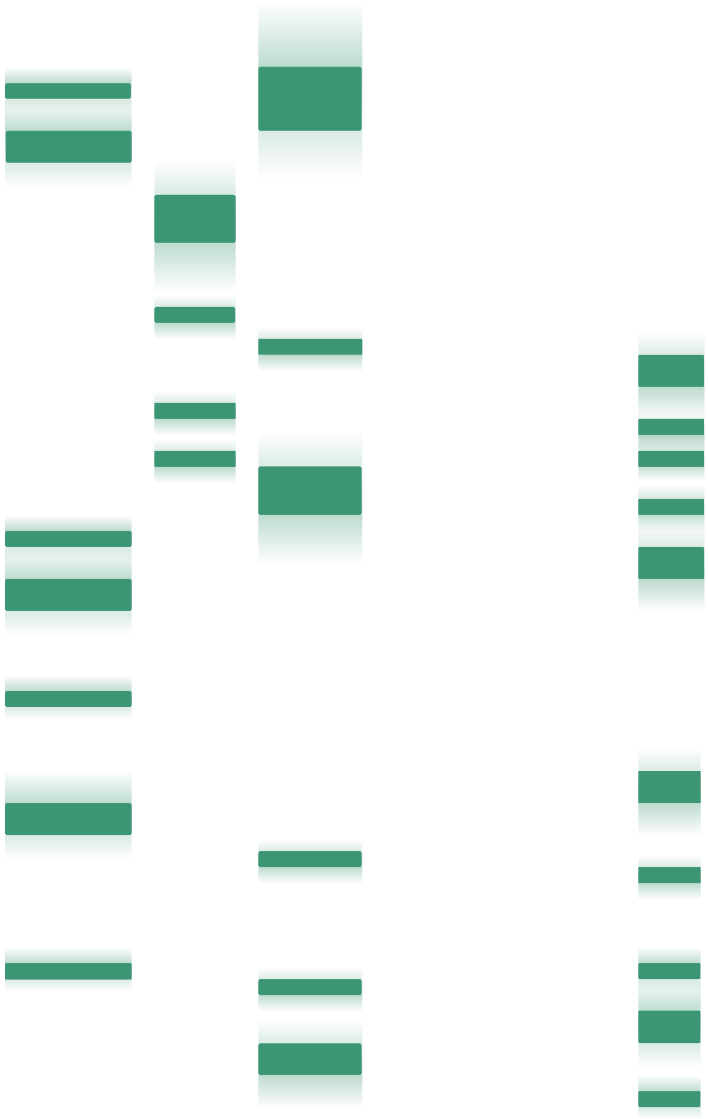

BIONTECH


Together
for a
healthier
tomorrow
BioNTech
Annual Report 2022



DNA sequencing

Deoxyribonucleic acid (“DNA”) is the biological molecule that carries genetic information as a code. It consists of four different building blocks called nucleotides, often referred to by the first letters of their chemical names: A, T, C and G. DNA is essential for the development and functioning of living organisms.

Decoding the sequence of DNA is key to understanding the function of genes and other parts of the genome. To determine the exact sequence of nucleotides, a laboratory technique called DNA sequencing is used. There are different methods to sequence DNA. The Sanger sequencing method, which is illustrated in the picture, has existed for approximately forty years and is widely used. The shown fluorescent bands of different colors represent the four different nucleotides, illustrating their position in the DNA sequence. This way, the genetic code of a cell can be determined.

Differences between DNA sequences of a patient’s healthy and tumor cells are a prerequisite for creating personalized therapies tailored to the individual tumor. We at BioNTech use next-generation sequencing to identify targets for personalized mRNA-based vaccines.

FOR QUICK NAVIGATION, USE THE BUTTONS IN THE UPPER LEFT CORNER

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Our pipeline

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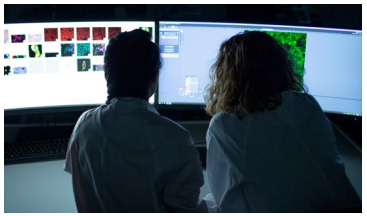

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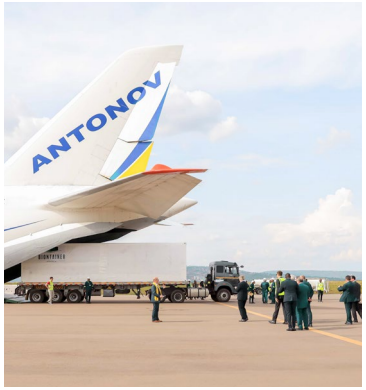

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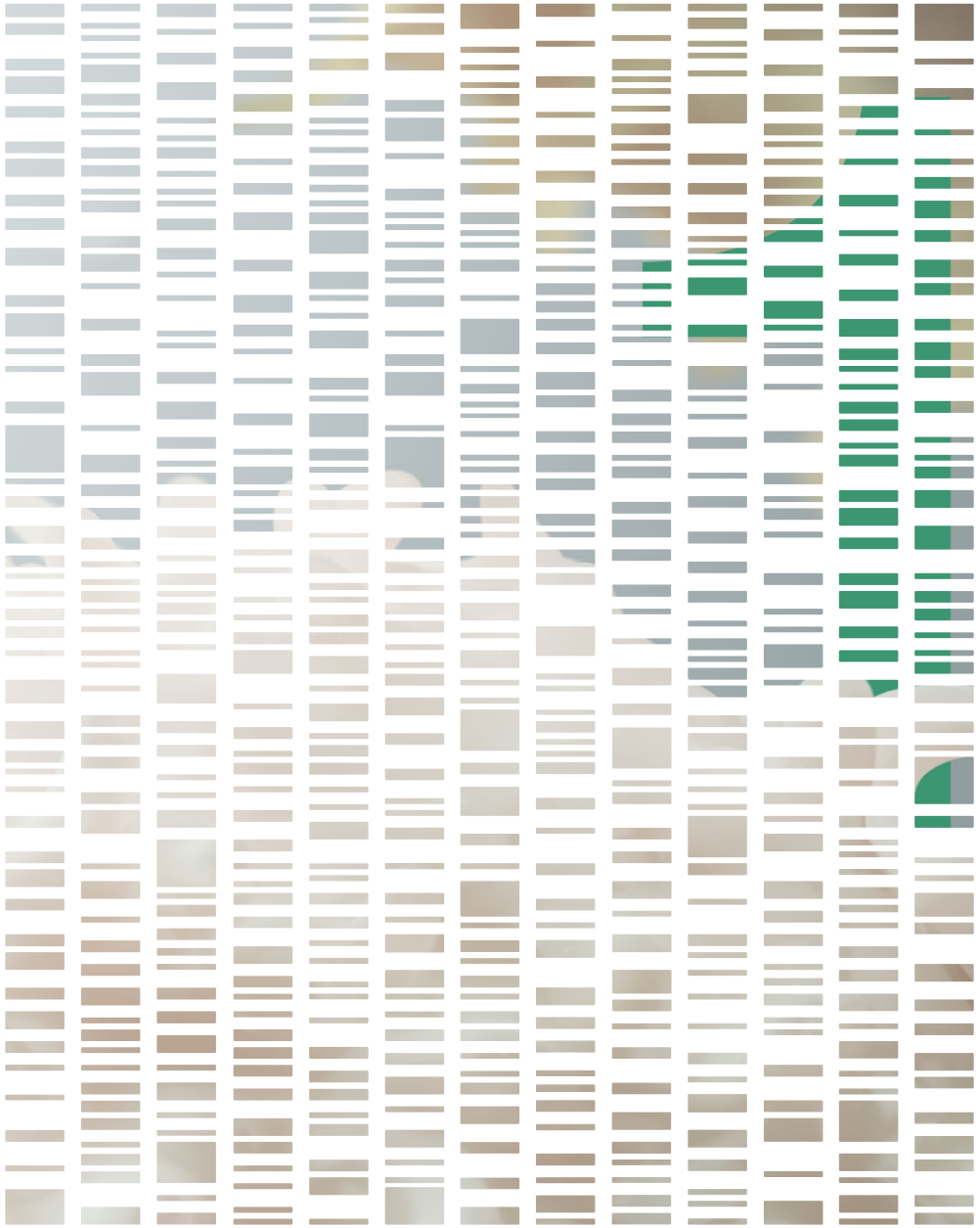
FINANCIAL REPORT

TOGETHER FOR A HEALTHIER TOMORROW



Together for a healthier tomorrow

Lymphocytes are a type of white blood cell that form part of the immune system. They work together to eliminate threats. Lymphocytes include cells that can directly eliminate threats, such as Natural Killer cells and T cells. Lymphocytes also comprise B cells, which produce antibodies. Antibodies are molecules that impair the function of the pathogen or the cancer cell and mark them for elimination.

Turning our vision into reality

We at BioNTech aim to strengthen and further develop our position as a global immunotherapy powerhouse. To this end, our strategy is focused on three priorities:

- Pipeline
- Societal responsibility
- Innovation at scale

The foundation for these priorities lies in our corporate values, unique culture, vision and spirit: We aspire to translate science into survival by developing new immunotherapies and vaccines utilizing the full potential of the immune system.

A GLOBAL NEXT-GENERATION IMMUNOTHERAPY COMPANY

INNOVATIVE AND DIVERSIFIED PIPELINE

Develop potent and precise medicines to address diseases with high unmet medical needs

HEALTHCARE AND SOCIETAL RESPONSIBILITY

Contribute to democratize access to novel medicines around the globe

INNOVATION AT SCALE

Establishing and fostering specific organizational structures for holistic growth

VISION MISSION

The foundation for our strategy are our corporate values, unique BioNTech culture, vision and spirit.

BioNTech by the numbers

OUR INNOVATIVE PIPELINE

APPROVED PRODUCT

1 (indication: COVID-19)

Approx. **2 billion doses** invoiced in 2022[1]

Approx. **550 million doses** of variant-adapted vaccine shipped[2]

>30

PRODUCT CANDIDATES IN A DIVERSIFIED PIPELINE

INFECTIOUS DISEASES

6 programs in 10 clinical studies, as well as more than
10 preclinical programs

ONCOLOGY

20 programs in
24 clinical studies,
5 of which are in Phase 2

OUR DIVERSE COMPANY

EMPLOYEES

>4,500

R&D TEAM

~1,700 colleagues

NATIONALITIES

>80

FEMALE EMPLOYEES IN THE TOTAL WORKFORCE

>50%

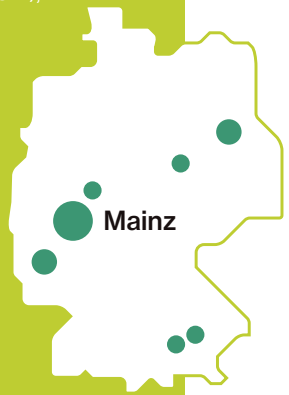
OUR GLOBAL FOOTPRINT

LOCATIONS GLOBALLY[3]

CAMBRIDGE (USA),
GAITHERSBURG (USA),
ISTANBUL (TURKEY),
KIGALI (RWANDA),
LONDON (UNITED KINGDOM),
SHANGHAI (CHINA),
SINGAPORE,
VIENNA (AUSTRIA)

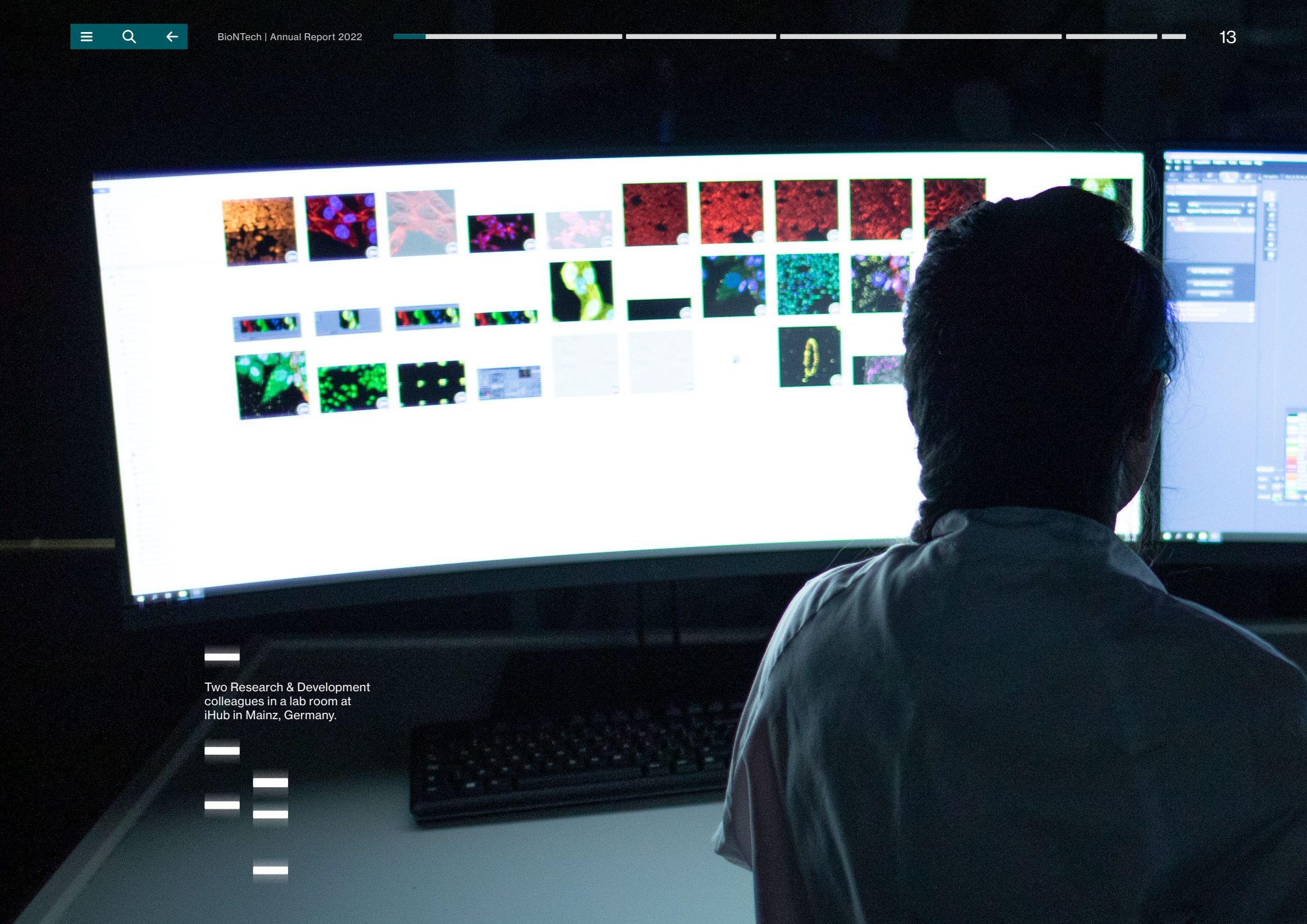
LOCATIONS IN GERMANY

BERLIN,
HALLE,
IDAR-OBERSTEIN,
MAINZ (HQ),
MARBURG,
MARTINSRIED,
NEURIED



4 GMP-CERTIFIED MANUFACTURING FACILITIES

(1) Partnered with Pfizer.
(2) As of December 16, 2022.
(3) In alphabetical order; map shows locations with employees only. All figures as of December 31, 2022, unless indicated otherwise.

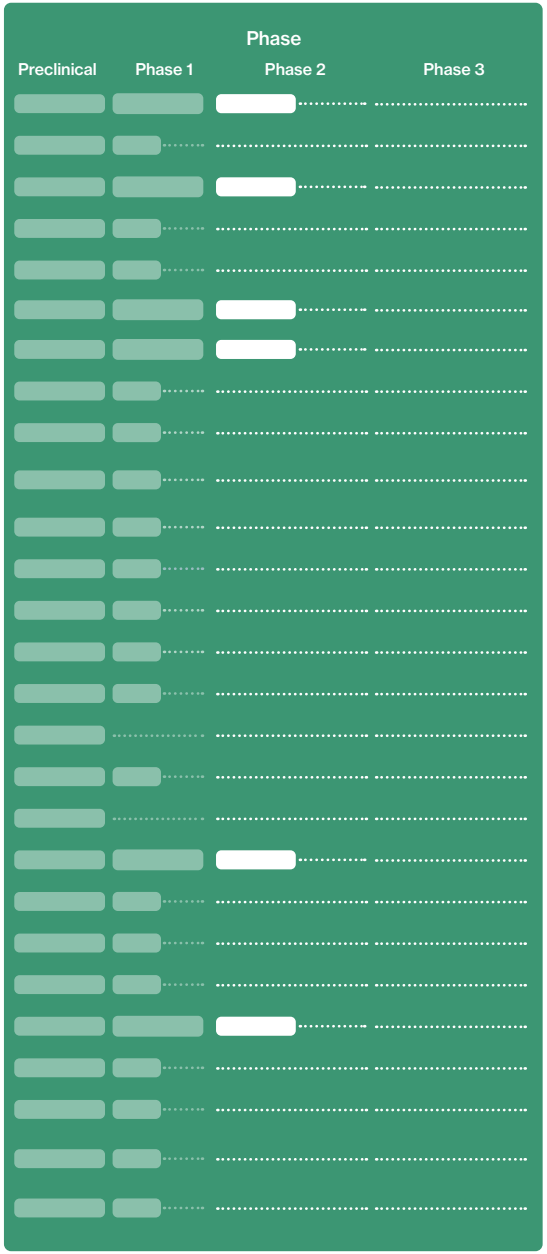


Two Research & Development colleagues in a lab room at iHub in Mainz, Germany.

Our pipeline

ONCOLOGY

Drug class	Platform	Product candidate	Indication	Rights/Collaborator
mRNA	FixVac (fixed combination of cancer-specific shared antigens)	BNT111	Advanced and R/R[1] melanoma	Fully owned
		BNT112	Prostate cancer	
		BNT113	HPV16+ head and neck cancer	
		BNT115	Ovarian cancer[2]	
		BNT116	Non-small cell lung cancer	
			1L advanced melanoma	
			Adjuvant colorectal cancer	
	iNeST (individualized neoantigen specific immunotherapy)	BNT122 (autogene cevumeran)	Multiple solid tumors	Genentech[3] (global 50:50 profit/loss share)
			Adjuvant pancreatic ductal adenocarcinoma[2]	
	Intratumoral immunotherapy	BNT131 (SAR441000)	Multiple solid tumors (IL-12sc, IL15-sushi, GM-CSF, IFNα)	Sanofi (global profit/loss share)
	RiboMabs (mRNA-encoded antibodies)	BNT141	Multiple solid tumors (CLDN18.2)	Fully owned
		BNT142	Multiple solid tumors (CD3×CLDN6)	
	RiboCytokines (mRNA-encoded cytokines)	BNT151	Multiple solid tumors (optimized IL-2)	
		BNT152, BNT153	Multiple solid tumors (IL-7, IL-2)	
Cell therapies	CAR T cells + CARVac	BNT211	Multiple solid tumors (CLDN6)	Fully owned
		BNT212	Pancreatic, other cancers (CLDN18.2)	
	Neoantigen-based T cells	BNT221	Multiple solid tumors	Fully owned
	TCR engineered T cells	To be selected	All tumors	Fully owned
Antibodies	Next-gen immune checkpoint modulators		Metastatic NSCLC (PD-L1×4-1BB)	Genmab (global 50:50 profit/loss share)
		BNT311 (GEN1046)	Multiple solid tumors (PD-L1×4-1BB)	
		BNT312 (GEN1042)	Multiple solid tumors (CD40×4-1BB)	
		BNT313 (GEN1053)	Multiple solid tumors (CD27)	
			Ovarian cancer (CTLA-4)	
		ONC-392	Multiple solid tumors (CTLA-4)	OncoC4 (exclusive global license)[4]
	Targeted cancer antibodies	BNT321	Pancreatic cancer (sLea)	Fully owned
		BNT322 (GEN1056)	Multiple solid tumors (undisclosed)	Genmab (global 50:50 profit/loss share)
SMIM[5]	Toll-like receptor binding	BNT411	Solid tumors (TLR7)	Fully owned



As of March 27, 2023.

(1) Relapsed / refractory. (2) Investigator initiated trial. (3) A member of the Roche Group. (4) Transaction is expected to close in the first half of 2023, subject to customary closing conditions and regulatory clearances. (5) Small Molecule Immunomodulators.

INFECTIOUS DISEASES(6)

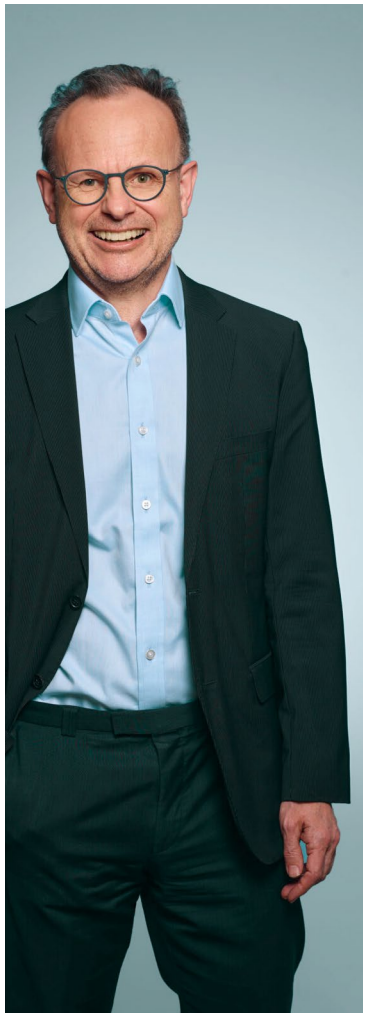
Drug class	Indication	Product candidate	Rights/Collaborator
mRNA	COVID-19	COMIRNATY	Pfizer (global marketing and distribution rights, excl. Germany, Türkiye, Mainland China, Hong Kong SAR, Macau SAR and the region of Taiwan) Fosun Pharma (marketing and distribution rights in Mainland China, Hong Kong SAR, Macau SAR and the region of Taiwan)
		BNT162b2(Original/Omicron-BA.4/5-adapted bivalent)	
		BNT162b2 (Original/Omicron-BA.1-adapted bivalent)	
		BNT162b4 (T-cell enhancing)	
		BNT162b5 (enhanced spike antigen)	
	COVID-19 – Influenza combination	BNT162b2+BNT161 (qFlu + BA.4/5-adapted bivalent)	Collaboration with Pfizer
	Influenza	BNT161	Exclusive license to Pfizer
	Shingles	BNT167	Collaboration with Pfizer
	HSV-2	BNT163	Collaboration with University of Pennsylvania
	Tuberculosis	BNT164	Collaboration with Bill & Melinda Gates Foundation
	Malaria	BNT165	Fully owned
	HIV	Undisclosed	Collaboration with Bill & Melinda Gates Foundation

(6) The table is limited to programs with disclosed indications only as of March 27, 2023.

BioNTech Management Board

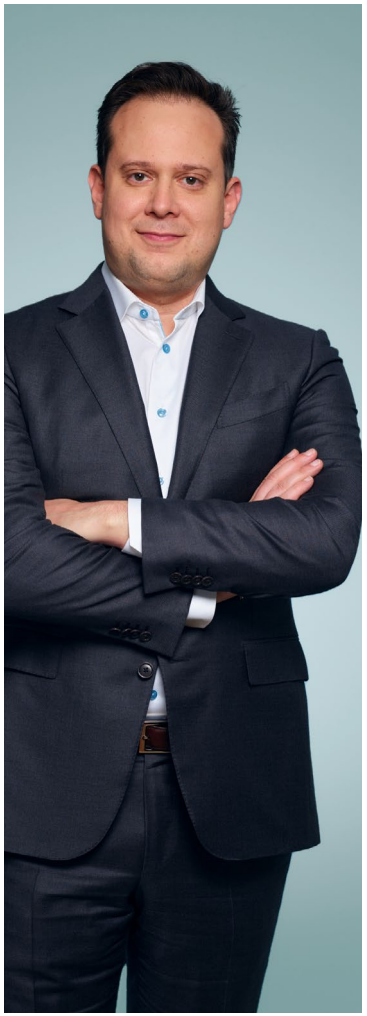
JENS HOLSTEIN
CHIEF FINANCIAL OFFICER

SEAN MARETT
CHIEF BUSINESS OFFICER AND
CHIEF COMMERCIAL OFFICER

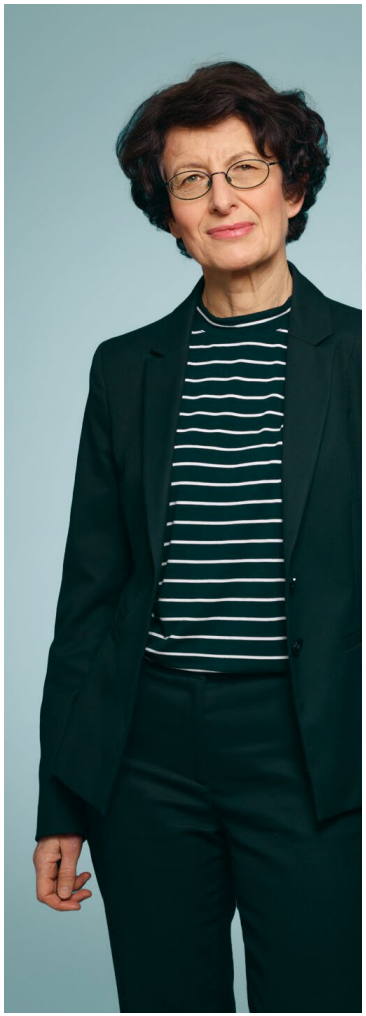


SIERK POETTING, PH.D.
CHIEF OPERATING OFFICER

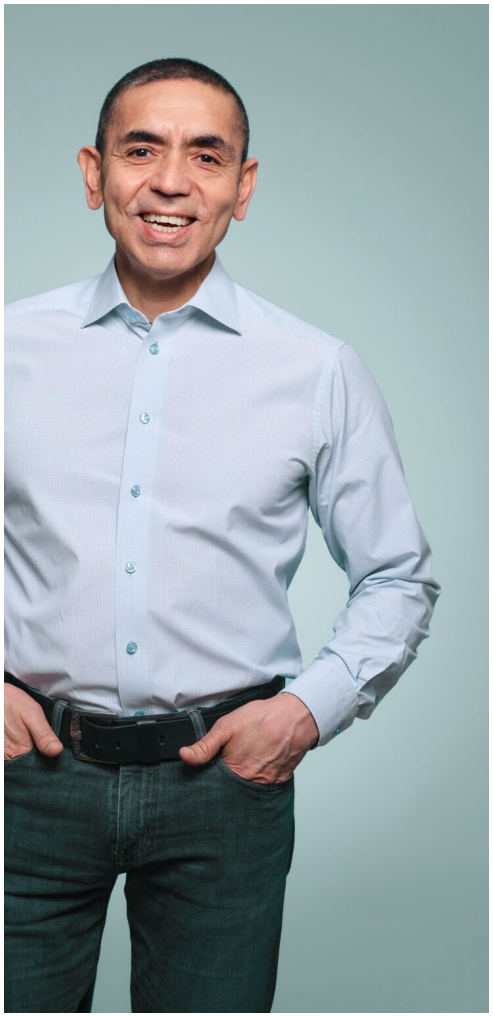
RYAN RICHARDSON
CHIEF STRATEGY OFFICER



PROF. ÖZLEM TÜRECI, M.D.
CHIEF MEDICAL OFFICER



PROF. UGUR SAHIN, M.D.
CHIEF EXECUTIVE OFFICER



Translating vision into strong performance

Dear Shareholders,
“Together for a healthier tomorrow” – the title of this year’s annual report reflects a key conviction that we at BioNTech embraced early on: If we collaborate, combine our strengths and expertise, and work toward the same goal, science can be translated into human survival and make a true difference to the health of many.

~550
MILLION DOSES
OF VARIANT-ADAPTED COVID-19 VACCINE SHIPPED(3)

~2
BILLION DOSES
OF COVID-19 VACCINE INVOICED IN 2022(3)

>60%
GLOBAL COVID-19 VACCINE MARKET SHARE(2)

Thanks to the success of our first approved product, we believe we have a once-in-a-generation opportunity to transform healthcare and realize our mission to improve the health of people worldwide. We have never been better positioned to drive the discovery, research and development of innovative vaccines and therapies for diseases with high unmet medical need.

In the past year, we translated our vision into strong performance as we continued to grow and transform as a company. We made significant progress in 2022 by advancing our pipeline and launching the world's first Omicron BA.4/BA.5-adapted bivalent COVID-19 vaccine. In addition, we presented encouraging clinical data on multiple new modalities and brought nine new programs into clinical trials. In order to execute our priorities, we expanded our global footprint into new regions by deepening our network of corporate and scientific collaborators, and by growing our global team to over 4,500 colleagues in 2022.

Our focus on pioneering research and the development of innovative medicines aims to deepen our understanding of the immune system and enhance our ability to harness its power to fight human disease. Our goal is to use its full potential to fight cancer and infectious diseases and diversify our therapeutic area footprint to leverage the potential of all technology platforms across autoimmune diseases, inflammatory diseases, cardiovascular diseases, neurodegenerative diseases, as well as regenerative medicines. We have continued to expand and complement our diverse toolbox of platform technologies, which we believe can help address various diseases or provide potential synergistic treatment combinations.

FOCUS ON STRATEGIC EXECUTION

In 2022, we executed on five key strategic objectives to strengthen our COVID-19 vaccine franchise, advance our clinical stage pipeline, enhance our technology and digital capabilities, augment our growth through new partnerships and acquisitions, and continue our international expansion.

1. FURTHER COVID-19 VACCINE LAUNCHES

Together with our partner Pfizer, we continued our global COVID-19 vaccine leadership in 2022: We developed and launched two first-to-market Original/Omicron-adapted bivalent vaccines that address the Omicron BA.1 and Omicron BA.4/BA.5 sublineages, respectively. Our COVID-19 vaccine has the broadest label among COVID-19 vaccines(1) and a market share of over 60 percent(2). Together with our partner Pfizer, we invoiced approximately two billion doses of our COVID-19 vaccine and shipped approximately 550 million doses of variant-adapted vaccines in 2022(3).

We believe we are well positioned to sustain our scientific and commercial leadership in COVID-19 vaccines while we simultaneously evaluate next-generation COVID-19 vaccine approaches.

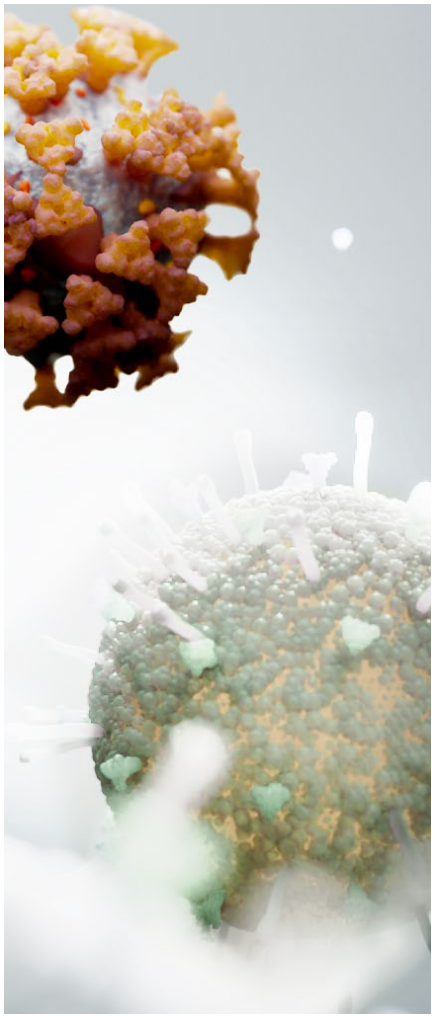
1) In the U.S., EU and UK. (2) Pfizer/BioNTech cumulative global COVID-19 market share across reporting countries; CDC, ECDC OWID data as of Nov 2022. (3) As of December 16, 2022.

4 NEW
FIRST-IN-HUMAN ONCOLOGY PROGRAMS:

BNT116 FixVac in NSCLC
BNT313 Hexabody CD27(1)
BNT141 Ribomab CLDN18.2
BNT142 Ribomab CD3xCLDN6

3
NEW FIRST-IN-HUMAN INFECTIOUS DISEASE PROGRAMS:

GRIPPE+COVID-19(2)
BNT163 HSV-2(3)
BNT165 MALARIA



2. ACCELERATE PIPELINE DEVELOPMENT

In 2022, we accelerated and broadened our clinical stage pipeline and achieved multiple important clinical milestones.

In oncology, our pipeline of 20 programs across 24 ongoing trials is designed to address various cancer indications. It is based on our unique toolkit of therapeutic platforms.

In 2022, we started five first-in-human clinical trials and were able to provide a clinical proof of concept across multiple modalities, including BNT211, a novel cell therapy candidate for the treatment of patients with CLDN6-positive relapsed or refractory advanced solid tumors, as well as for our next-generation checkpoint immunomodulator candidate BNT312, which we are developing in collaboration with Genmab with the aim of treating solid tumors.

In infectious diseases we had 6 programs in 10 ongoing clinical trials by the end of 2022, including clinical trials of two next-generation COVID-19 vaccine or vaccine component candidates, a COVID-19 and influenza combination mRNA vaccine program and vaccine candidates against shingles (all partnered with Pfizer), HSV-2 infection (partnered with the University of Pennsylvania) and malaria.

(1) In collaboration with Genmab. (2) In collaboration with Pfizer. (3) In collaboration with the University of Pennsylvania.

3. RAMP UP R&D INVESTMENTS

In 2022, we grew our global team and established subsidiaries across five continents. Our workforce now represents more than 80 nations.

In the past year, we invested more than €1.5 billion in R&D to further develop our platforms, drive forward our preclinical and clinical trials, and accelerate the development of our later-stage product candidates. These investments also funded activities to enhance our manufacturing technology and infrastructure, as well as our digital infrastructure.

One example of our investment in manufacturing technology is our BioNTainers – our approach to support scalable vaccine production by developing and delivering turnkey mRNA manufacturing facilities based on a modular container solution. This is a solution we believe is capable of sustainably improving vaccine supply. Other use cases include, for example, the research and development of investigational medicines based on mRNA. The manufacturing solution consists of one drug substance module plus one formulation module, with each module built of at least six ISO sized containers. Each BioNTainer is a high-tech clean room which BioNTech equips with state-of-the-art manufacturing solutions.

4. PURSUE COMPLEMENTARY ACQUISITIONS AND COLLABORATIONS

In 2022 and early 2023, we announced multiple complementary acquisitions and collaborations to strengthen our technology platforms, digital capabilities and infrastructure.

In oncology, we entered into three new collaborations and expanded our existing collaboration with Genmab. In early 2023, we entered into an agreement to acquire our long-time strategic collaboration partner, InstaDeep Ltd., in order to augment our internal capabilities and enable our transformation into a potentially leading artificial intelligence (AI) and machine learning-driven company in the biotech field. We believe the acquisition of InstaDeep will enable us to create fully integrated, enterprise-wide capabilities that leverage AI and machine learning technologies across our therapeutic platforms and operations. Closing of the transaction is pending, subject to receiving the necessary regulatory approvals.

Thus far in 2023, we have also announced a licensing and collaboration agreement with OncoC4 Inc. to co-develop and commercialize a novel antibody, with a randomized Phase 3 trial planned to start in 2023. Lastly, we have received exclusive licenses from Duality Biologics (Suzhou) Co. Ltd. (“DualityBio”) for two investigational antibody-drug conjugate assets directed against targets expressed in a broad range of human cancers, adding a new class of precision medicine therapeutics to our clinical-stage oncology portfolio and expanding the breadth of our immunotherapy toolkit with synergistic potential.

5. EXPAND GLOBAL ORGANIZATION

We want to help democratize access to novel medicines. This is why we further expanded our organization in the past year and increased our R&D and production capabilities.

In Africa, we have reached two important milestones in our aim to enable sustainable local vaccine manufacturing. First, we broke ground on our initial African mRNA manufacturing facility in Kigali, Rwanda, in June 2022. Second, the six containers for the first BioNTainer were delivered to Kigali in March 2023. The initial site is designed to serve as a potential node in a decentralized and robust end-to-end manufacturing network.

In the Asia-Pacific region, we aim to develop, manufacture and broaden access to innovative medicines with a focus on treatments designed to target the most common types of cancer. This includes ramping up clinical development and manufacturing capabilities in the region. To this end, we announced the acquisition of a GMP-certified manufacturing facility in Singapore to support R&D and, if approved, the potential manufacturing of product candidates across the Asia-Pacific region, with the potential to expand production beyond mRNA to such areas as cell therapies. In addition, we have announced plans to set up a clinical-scale end-to-end mRNA manufacturing

facility based on our BioNTainer solution in Melbourne, Australia, aiming to support research in mRNA and promote corresponding collaborations in the Asia-Pacific region. Jointly with Australia's state of Victoria, we also intend to establish an mRNA research and innovation center that will strengthen translational research for innovative medicines from discovery to delivery. In addition, we announced plans to activate the first regional clinical trial sites for our mRNA-based cancer immunotherapy candidates in the Taiwan region. Finally, in Europe, in early 2023 we announced a strategic partnership with the government of the United Kingdom aimed at accelerating the development of personalized cancer medicine and moving immunotherapy development closer to the point of care and making it widely accessible. Together with the UK government, we have ambitious goals for this collaboration and plan to treat up to 10,000 patients with personalized immunotherapies by 2030, either in clinical trials or as authorized treatments. If successful, this collaboration has the potential to improve outcomes for patients and provide early access to our suite of potential cancer immunotherapies and vaccines against infectious diseases – in the UK and worldwide.

FINANCIALS

Our COVID-19 vaccine revenues in the past year were driven by the delivery of our Omicron-adapted bivalent vaccines. With total revenues of €17.3 billion, we believe that our financial success in 2022 will provide a springboard to accelerate and build upon our diversified clinical pipeline and fuel our research and development in the coming years. We anticipate our COVID-19 vaccine franchise will further support our already existing financial strength in the years to come.

Our capital allocation strategy for the upcoming year has three focus areas:

- We intend to invest in R&D and expect to spend €2.4 billion to €2.6 billion in 2023.
- We strive to extend and augment our expertise with synergistic acquisitions and collaborators to supplement our technologies and digital capabilities to create future growth.
- We plan to return capital to shareholders and have authorized a new share repurchase program of up to $500 million during the remainder of 2023.

OUTLOOK

We expect to further execute across our strategic priorities to become a multi-product, global biotechnology leader. We plan to continue investing in our transformation with a focus on building commercial capabilities in oncology and working toward trials with registrational potential. Our mid-term goal is to seek approval for multiple oncology products in cancer indications with high unmet medical need.

In addition, we expect to achieve multiple important milestones for our programs. In oncology, we expect a number of clinical data updates throughout the year across various programs. Our focus will be on the acceleration of several oncology programs toward trials with registrational potential. In infectious diseases, we will continue to work on our leading position in COVID-19 vaccines with the development of next-generation vaccine candidates and expect to further advance multiple programs in trials for indications in infectious diseases. With regard to business development, our focus remains on strategic and complementary licensing and M&A activities, especially with a focus on later-stage clinical assets and technologies that could enhance our capabilities.

As members of the Management Board, we would like to express our sincere gratitude to our employees – through their continued hard work, we believe our vision to harness the immune system to fight human disease is crystallizing into reality. We also would like to thank you, our shareholders. We appreciate your trust and support during these pivotal times and look forward to continuing this path as we take the next steps to deliver on our strategy and achieve our shared mission.

Your Management Board,

Prof. Ugur Sahin, M.D.
Chief Executive Officer

Jens Holstein
Chief Financial Officer

Sean Marett
Chief Business Officer,
Chief Commercial Officer

Sierk Poetting, Ph.D.
Chief Operating Officer

Prof. Özlem Türeci, M.D.
Chief Medical Officer

Ryan Richardson
Chief Strategy Officer

HELMUT JEGGLE
CHAIRMAN
OF THE SUPERVISORY BOARD

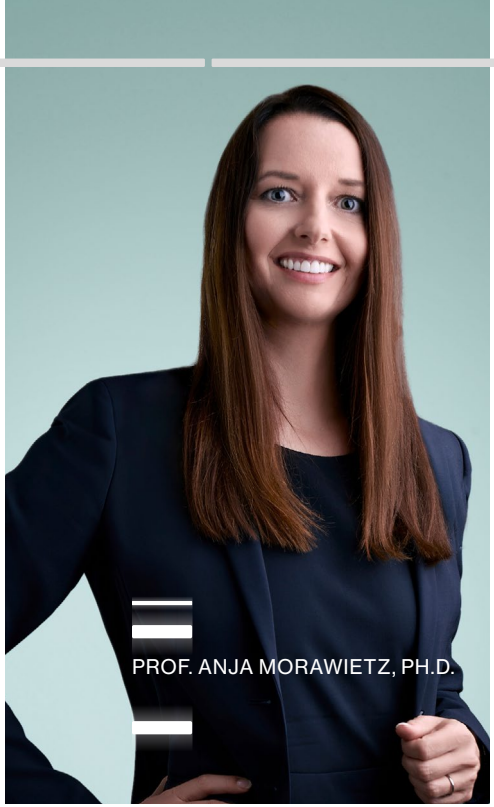
Report of the Supervisory Board on the financial year 22

The 2022 financial year was a significant and challenging year for BioNTech SE. The Management Board, together with the employees, continued to drive the transformation of the Company and made significant progress to further strengthen BioNTech's position as a global, fully integrated biopharmaceutical company with a maturing product pipeline. The transformation also takes account of the Company's evolved vision. Since its founding in 2008, BioNTech's vision has evolved from precision medicine for personalized cancer treatment to broader goals that include medical breakthroughs in infectious diseases and autoimmune diseases, as well as the aspiration to make these treatments accessible worldwide.

PROF. CHRISTOPH HUBER, M.D.

In 2022, it was essential for the Company to act with foresight to mitigate various global issues and resulting risks, and to contribute and offer support wherever possible. These issues included the ongoing war between Russia and Ukraine, the COVID-19 pandemic with new virus variants and regional outbreaks, geopolitical and geo-economic tensions between different economic systems, inflation with massive impact on energy and commodity prices, gaps and disruptions in supply chains, as well as the recent natural disasters that primarily affected Türkiye and Syria, among others.

BioNTech successfully assumed the responsibility to contribute at various points, while setting an important course for its own future development. The Company's focus was to establish and expand important business areas, its internationalization and the further development of its pipeline. At the same time, the Company adapted its COVID-19 vaccine to two Omicron sublineages and advanced it to regulatory approval. BioNTech continued to grow organically in 2022, primarily in R&D and central functions. In addition, planned mergers and acquisitions have strengthened BioNTech's position to become one of the leading global biopharmaceutical companies with the potential to innovate and launch products in the coming

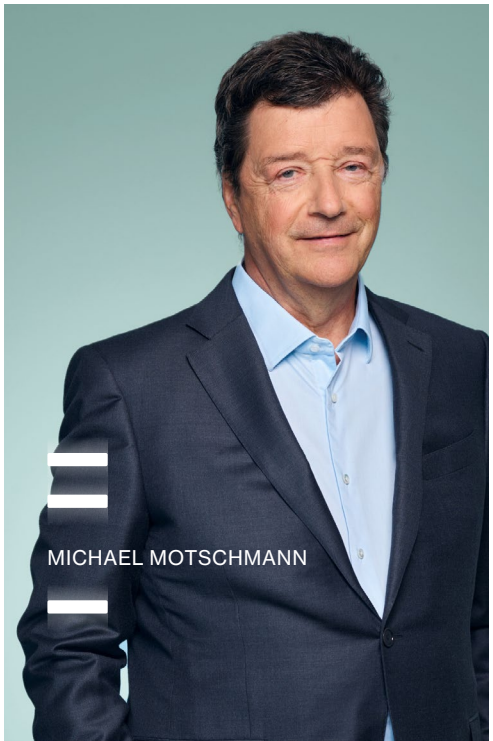


PROF. ANJA MORAWIETZ, PH.D.

years and decades. The 2022 financial year was also operationally successful, and BioNTech remains well positioned on a growth trajectory to further implement its strategy.

BioNTech initiated the process of its transformation with its IPO in 2019, and has driven it successfully since then. At that time, the Company had only one program in an advanced Phase 2 of clinical development. Now BioNTech has five product candidates in Phase 2 trials having generated clinical data and achieved important milestones. We support the strategy of the Management Board to focus on investing in Phase 2/3 clinical trials with registrational potential in various cancer indications in the current and upcoming financial years. The goal is to achieve a number of product approvals in cancer indications with high unmet medical need starting in 2026.

We, the Supervisory Board, closely followed the business activities of the Management Board in fulfillment of our advisory and supervisory function. Throughout the 2022 financial year, the Supervisory Board, under my chairmanship, performed its duties and obligations in accordance with the law and the Articles of Association, as well as its Rules of Procedure.



MICHAEL MOTSCHMANN

BioNTech successfully assumed its responsibility as a company to contribute to various socially important topics, while setting course for its own future development.

The Supervisory Board grew in the past financial year. Prof. Anja Morawietz, Ph.D., and Prof. Rudolf Staudigl, Ph.D., were elected as Members of the Supervisory Board of BioNTech SE at the Annual General Meeting that took place on June 1, 2022. Prof. Anja Morawietz, Ph.D., is a professor of external accounting and general business administration at the Nuremberg University of Applied Sciences Georg Simon Ohm. She has profound knowledge of accounting and auditing. Her research areas are financial and sustainability reporting, as well as developments in corporate governance. Prof. Rudolf Staudigl, Ph.D., is an independent consultant and member of the Supervisory Board of TÜV Süd AG. He has extensive knowledge in the areas of manufacturing, science and international markets, with a focus on China and India. As a long-time CEO of Wacker Chemie AG, a globally active chemical company, he also has a deep understanding of biotechnological products.

This expansion of the Supervisory Board took into account the continued growth of BioNTech and allowed the Company to bring additional expertise and experience to the Supervisory Board.

CONTROL AND MONITORING FUNCTION OF THE SUPERVISORY BOARD TOWARD THE MANAGEMENT BOARD

The Supervisory Board continuously monitored the Management Board, regularly advised it and oversaw the strategic development of the Company.

As the Supervisory Board, we closely follow the rapid development of the Company, and we apply our know-how, entrepreneurial focus and approach of agile control to support BioNTech's business activities and its team. Among other things, the Management Board regularly informed us, the Supervisory Board, about current business activities and future business planning (including financial, investment and personnel planning). In addition, we regularly consulted with the Management Board on the risk situation, risk management and compliance at the Company. As Chairman of the Supervisory Board, I was also in regular contact with the Management Board beyond the Supervisory Board meetings, and was routinely informed about all matters relating to the Company, its legal and business relations with affiliated companies, and all significant business transactions and matters at these companies that were affiliated with the Company.

On the basis of reporting by the Management Board, which was prepared in cooperation with the respective specialist departments, we discussed business developments and events of importance to the Company in detail. Where necessary, the Supervisory Board was supported in this by the respective responsible committees. We as the Supervisory Board maintain an active dialogue to embrace the rapid development of BioNTech and to review decisions made by the Management Board without delays and by taking into account the opportunities and risks. In doing so, we always keep in mind the Company's goals, such as the goal of bringing several products to market-readiness by 2030. The Supervisory Board was directly involved at an early stage in all decisions of fundamental importance to the Company. Where the law, the Articles of Association or the Rules of Procedure required the approval of the Supervisory Board for individual measures, a corresponding resolution was passed. The Supervisory Board approved the respective resolutions proposed by the Management Board after thorough examination and discussion.

The cooperation with the Management Board was characterized by responsible and goal-oriented action in every respect. The Management Board fulfilled its reporting obligations to the Supervisory Board fully, both verbally and in writing, so that the Supervisory Board was always able to be assured of the legality, regularity, appropriateness and economic efficiency of the management of the Company.

FOCUS TOPICS AND MEETINGS OF THE SUPERVISORY BOARD

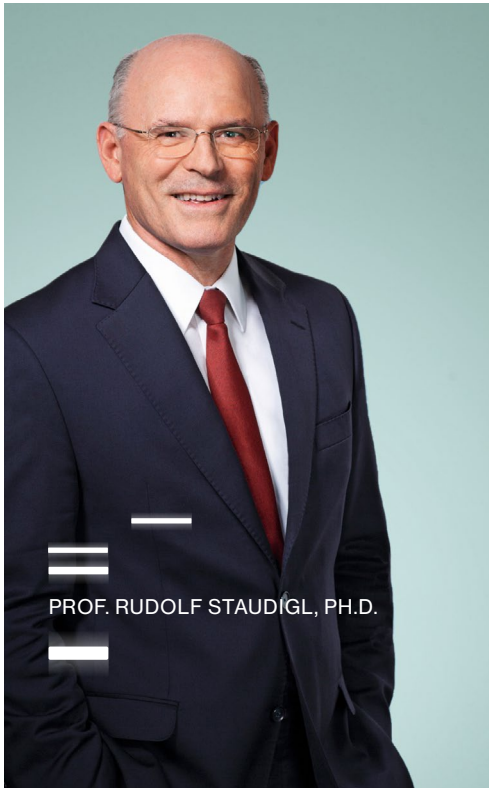
A total of 10 ordinary meetings were held in the 2022 financial year, during which the strategic development of the Company was discussed jointly with the Management Board. The 2022 meetings were held on February 7, March 10, March 21, March 24, March 30, April 1, May 30, June 1, September 15 and December 15, 2022. All members of the Supervisory Board attended the individual meetings. Members of the BioNTech Management Board also attended some of these meetings. The meetings on March 10, May 30, September 15 and December 15, 2022, were each attended by all members of the Management Board. Sierk Poetting, Ph.D., attended the meeting on February 7. Sierk Poetting, Ph.D., and Jens Holstein attended the meeting on March 21. Jens Holstein, Sean Marett, Prof. Özlem Türeci, M.D., and Ryan Richardson attended the meeting on March 24. Jens Holstein and Ryan Richardson attended the meeting on March 30. The meetings held on April 1 and June 1 were not attended by any member of the Management Board. Within the framework of the meetings, and outside the meetings, the Supervisory Board also met and discussed regularly without the Management Board. Five out of the 10 meetings were held in person; the other five meetings took place in the form of telephone and video conferences.

The focus of the ordinary meetings in the 2022 financial year was on deliberations regarding the continued development of the Company's business related to its developed COVID-19 vaccine and the associated strategic decisions regarding adaptions to the Omicron sublineage, as well as decisions with regard to manufacturing, supply, delivery and distribution of the vaccine worldwide. Another focus was deliberations regarding the Company's pipeline development in the areas of oncology and infectious diseases, as well as on the completion of new strategic collaborations.

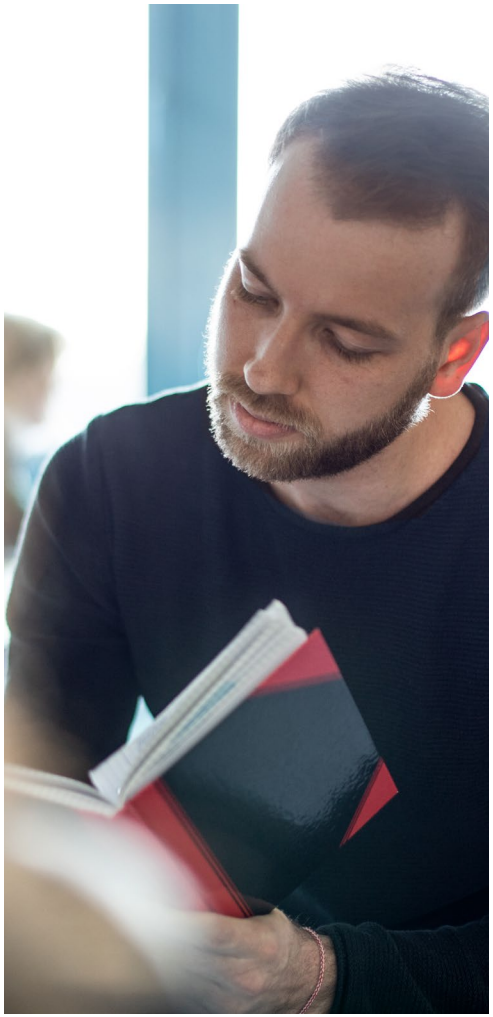
The Supervisory Board was also involved with decisions about the strengthening and development of the corporate strategy, including the growth of the Company and the accompanying expansion into various regions worldwide.

In addition to the focus topic of the COVID-19 vaccine program and the pipeline expansion in the areas of oncology and other immunotherapies, the Supervisory Board addressed the following topics during the 2022 financial year:

- Review of manufacturing of the COVID-19 vaccine, as well as its commercialization, network development, creation of a development plan adapted to changing population health needs worldwide, national and international distribution, as well as enabling global availability of the COVID-19 vaccine;



- Review of the expansion of distribution and commercialization of the COVID-19 vaccine and support of global vaccine supply to populations by entering into supply agreements as well as collaboration agreements with multiple companies and countries worldwide, as well as the development and construction of BioNTainers and a new manufacturing facility in Rwanda;
- Review of the advancement of the diversified portfolio of oncology product candidates and the achievement of clinical trial milestones in the areas of oncology and immunology , and development of IT processes to support clinical development;
- Review of strategy, structure and process development in the areas of commercialization, communication, digitization and cooperations at the respective sites;
- Review of the expansion of laboratory and manufacturing capacity and office space, as well as the development of new manufacturing facilities to expand manufacturing and distribution capacity worldwide including development and construction of BioNTainers intended to expand vaccine manufacturing worldwide;
- Review of the Company's global growth and related measures such as site expansion in Africa;
- Monitoring the Company's financing activities;
- Completion of several collaboration, investment and licensing agreements;
- Review of the established terms and parameters for determining the restricted stock units, or RSUs, issued in December 2022 under the BioNTech Employee 2020 Long-Term Equity Plan ("BioNTech Employee 2020 Equity Plan") for employees;



- Setting the agenda and review of the draft resolutions for the 2022 Annual General Meeting and, in particular, the expansion of the Supervisory Board;
- Review and appraisal of the compensation granted and owed in the 2022 financial year and of the compensation system applied as part of the remuneration report pursuant to Section 162 of the German Stock Corporation Act (AktG);
- Review and monitoring of the achievement of the Company's 2022 goals and the setting of the budget for the 2023 financial year;
- Review and discussion of the effectiveness of the internal control system and the results of the annual auditor's review;
- Consideration of all corporate governance issues and review of compliance with the recommendations of the Corporate Governance Code both in and after the 2022 financial year; and
- Discussion, review and approval of the submitted non-financial report published in the follow-up for the 2022 financial year.

We members of the Supervisory Board regularly participated in training and education initiatives during the 2022 financial year, such as various workshops and training events on topics relevant to the Company. We also conducted a self-assessment after the end of the 2022 financial year to evaluate the work procedures in the Supervisory Board and with the cooperation of the Management Board.

COMMITTEES

To implement its monitoring and advisory function, the Supervisory Board has formed three committees: an Audit Committee, a Compensation, Nomination and Governance Committee, and a Capital Markets Committee. The above-mentioned key topics were prepared by the committees, including the associated resolutions and issues, for subsequent consideration by the full Supervisory Board. Effective January 1, 2023, the participating members of the committees have changed.

The **Audit Committee** consisted of Ulrich Wandschneider, Ph.D., Michael Motschmann and Prof. Christoph Huber, M.D., throughout the 2022 financial year. Ulrich Wandschneider, Ph.D., is the Chairman of the Audit Committee. The Audit Committee deals in particular with the monitoring of accounting, the monitoring of the establishment and effective functioning of internal controls over financial reporting, the monitoring of compliance with SOX regulations (Sarbanes-Oxley Act Section 404), and the monitoring of the establishment and effective functioning of the risk and compliance management system. For the quarterly financial statements as of March 31, June 30 and September 30, 2022, and the annual financial statements as of December 31, 2022, the Audit Committee held discussions with the auditors and representatives of the accounting department, discussed the key points of the audit and discussed the publications in detail with the Management Board. The Audit Committee prepared the resolutions of the Supervisory Board for the reports to be approved by the Supervisory Board. The committee met nine times in the 2022 financial year. Of these, a total of six meetings were held in person, and three meetings took place as telephone or video conferences. Michael Motschmann was unable to attend one meeting; otherwise all members of the Audit Committee attended all meetings.

As of January 1, 2023, the Audit Committee members were Prof. Anja Morawietz, Ph.D. (Chairwoman), Ulrich Wandschneider, Ph.D., and Prof. Rudolf Staudigl, Ph.D.

All members of the Audit Committee for the 2022 financial year, as well as all members

since January 1, 2023, qualify as "independent directors" within the meaning of Rule 10A-3 under the Exchange Act and Nasdaq Rule 5605. In addition, Prof. Anja Morawietz, Ph.D., Ulrich Wandschneider, Ph.D., and Prof. Rudolf Staudigl, Ph.D., qualify as "Audit Committee financial experts" as defined under the Exchange Act. In addition, Prof. Anja Morawietz, Ph.D., (Chairwoman of the Audit Committee), Prof. Rudolf Staudigl, Ph.D., and Ulrich Wandschneider, Ph.D., have special knowledge and experience in the field of accounting as well as expertise in the field of auditing, as required by the German Corporate Governance Code. In the area of accounting, this includes, in particular, knowledge and experience in the application of accounting principles and internal control and risk management systems. In the area of auditing, it includes special knowledge and experience in auditing financial statements. Michael Motschmann, who was a member of the Audit Committee until December 31, 2022, also had this knowledge. In addition, Ulrich Wandschneider, Ph.D., and Prof. Anja Morawietz, Ph.D., possess knowledge of sustainability reporting and auditing.

The **Compensation, Nominating and Corporate Governance Committee** consisted of Michael Motschmann, Prof. Christoph Huber, M.D., and Ulrich Wandschneider, Ph.D., throughout the 2022 financial year. As of January 2, 2023, Michael Motschmann and Prof. Christoph Huber, M.D., remained members of the Committee. Prof. Rudolf Staudigl, Ph.D., replaced Ulrich Wandschneider, Ph.D., on this Committee. To this date, Michael Motschmann remains the Chairman of this Committee. The Compensation Committee deals with fundamental issues relating to the compensation and determination of the salaries of the Management Board and the compensation of the Supervisory Board, as well as the employee stock option programs. In the 2022 financial year, it dealt in particular with the expansion of the Supervisory Board, the implementation of new Management Board contracts to be concluded in 2022 and above all the implementation of a new contract with the Chairman of the Management Board. For the expansion of the Supervisory Board, the Committee made proposals to the full Supervisory Board in this context. Furthermore, the Compensation, Nomination and Corporate Governance Committee dealt with reviewing the compensation system for the Management Board members by commissioning external consultants to conduct a benchmark analysis and discussed the result and possible future adjustments. In addition, the Committee held discussions to determine corporate goals, which were then discussed by the full Supervisory Board. The actual application of the compensation system in the 2022 financial year was assessed in the form of the remuneration report in accordance with Section 162 of the German Stock Corporation Act (AktG). In the 2022 financial year, the Committee also addressed the requirements for implementing a share repurchase program and discussed the introduction of shareholder's guidelines with the Management Board. Additional possible performance-based employee shareholder programs that are in line with corporate objectives were discussed. In addition, the committee addressed the development of a corporate governance standard for the Company that meets the requirements of both Nasdaq Global Select Markets and the German Corporate Governance Code. The Committee met six times during the 2022 financial year and held regular conference calls to discuss current topics. Of these six meetings, one meeting was held in person, and five meetings took place as telephone or video conferences. Michael Motschmann and Ulrich Wandschneider, Ph.D., each attended three meetings; all other meetings were attended by all members.

The **Capital Markets Committee** consisted of myself – Helmut Jeggle – and Michael Motschmann for the 2022 financial year. Until today, I act as Chairman of the Committee.

Since January 1, 2023, Prof. Anja Morawietz, Ph.D., has also been a member of the Committee. The Capital Markets Committee advises the Supervisory Board on capital market policies, which took place during the 2022 financial year, in particular during the conclusion of the acquisition agreement of InstaDeep Ltd., as well as other takeover, merger and acquisition activities. In the 2022 financial year, the Committee dealt, among other things, with the regular analysis of the Company's investor structure, investor expectations of BioNTech, recommendations from various banks and feedback from investors. The Committee held discussions on strategic corporate planning and the ongoing share repurchase program. The Committee also held discussions on individual targets of potential M&A transactions, regularly discussed updates on planned or ongoing transactions, and engaged in discussions on the topic of communicating with investors. The Committee also addressed ongoing stock option programs and discussed an M&A strategy, as well as a long-term capital allocation strategy. The Committee met seven times during the 2022 financial year. All of those meetings took place as telephone or video conferences.

CORPORATE GOVERNANCE

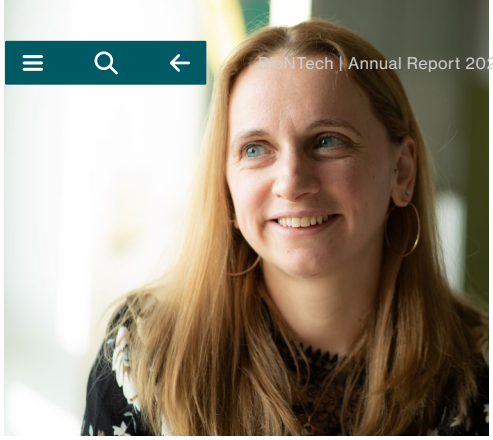
Together with the Management Board, we have dealt in detail with the recommendations of the Corporate Governance Code. BioNTech follows the recommendations of the Corporate Governance Code with the exception of the provisions explicitly listed in the Declaration of Conformity pursuant to Section 161 of the German Stock Corporation Act (AktG) dated March 20, 2023, and for which an explanation is provided as to why these are not complied with. We will continue to support the Management Board in its efforts to comply with the recommendations of the German Corporate Governance Code in full to a large extent in the future.

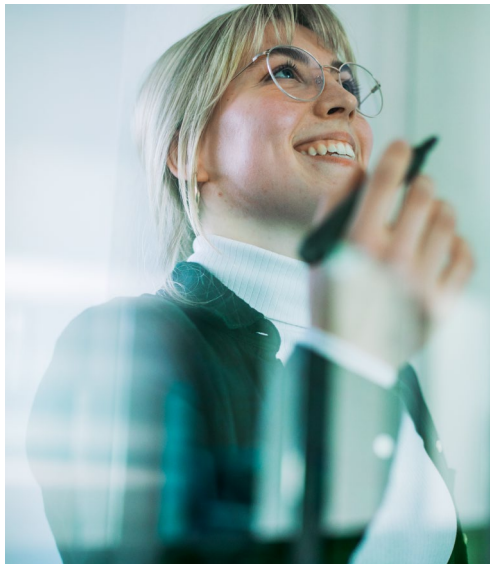
CONFLICTS OF INTEREST ON THE SUPERVISORY BOARD AND MANAGEMENT BOARD, SELF-ASSESSMENT AND COMPETENCE PROFILE

Conflicts of interest of Supervisory Board and Management Board members that may arise, for example, as a result of a consultancy or board functions with customers, suppliers, lenders or other third parties are disclosed in the interests of good corporate governance. To avoid the appearance of potential conflicts of interest arising from specific situations, members of the Supervisory Board and the Management Board refrained from participating in the discussion of individual agenda items and from voting on the relevant resolutions during the 2022 financial year.

For the 2022 financial year, we as the Supervisory Board conducted an internal self-assessment. It covered all key aspects of our work, including committee work. This was conducted through detailed questionnaires that all members of the Supervisory Board filled in and were based on a questionnaire from an external consultant engaged last year. The content of the assessment included the competence profile of the Supervisory Board, the provision of information prior to meetings, the chairing and content of meetings, the composition of committees, and the relationship with the Management Board. The results of the self-assessment were evaluated internally and subsequently discussed among the Supervisory Board members with regard to any possible improvements. According to this self-assessment, our work and the work of the Supervisory Board, its committees and the Management Board remain professional and cooperative. No fundamental need for change was identified.

The Supervisory Board has also developed a competence profile for the full Supervisory Board, which covers various specialist areas. We ensure that the competence profile is fulfilled by our members. In addition, the Supervisory Board always endeavors to fill this competence profile when appointing members to the Supervisory Board.





ANNUAL AND CONSOLIDATED FINANCIAL STATEMENTS AUDIT

In accordance with the resolution of the Annual General Meeting on June 1, 2022, the Supervisory Board has commissioned Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft to audit the annual financial statements for the 2022 financial year.

The audit includes:

- the annual financial statements of BioNTech SE in accordance with the German Commercial Code (HGB);
- the report on relations with affiliated companies pursuant to Section 313 para. 1 of the German Stock Corporation Act (AktG), the so-called dependent company report
- the consolidated financial statements prepared in accordance with Section 315e para. 3 in conjunction with Section 315e para. 1 of the German Commercial Code (HGB) on the basis of the International Financial Reporting Standards (IFRS) as adopted by the EU;
- the consolidated financial statements, which have been prepared in accordance with the IFRS as issued by the International Accounting Standards Board (IASB) and filed on Form 20-F with the U.S. Securities and Exchange Commission after our approval;
- the management report for the Group and the Company; and
- the audit of the internal control system.

The financial statements prepared by the Management Board on March 24, 2023, i.e., the annual financial statements and the dependent Company report of BioNTech SE, the consolidated financial statements and the management report for the Group and the Company for the 2022 financial year, were submitted to all members of the Supervisory Board.

Together with the Management Board, we have prepared a compensation report for the first time for the 2022 financial year in accordance with Section 162 of the German Stock Corporation Act (AktG), which was adopted on March 24, 2023, and is published as a separate report.

We also received the auditors' reports on the accounting records, the annual financial statements, dependent company report, the consolidated financial statements, the management report for the Group and the Com-

pany, and the compensation report, each of which was issued with an unqualified opinion on March 27, 2023. The auditors' report was discussed by the Audit Committee with the Management Board and the auditors. The Audit Committee dealt in particular with the key audit matters described in the auditors' report, including the audit procedures performed. This was followed by a discussion by the Supervisory Board.

For our part, we have audited the annual financial statements, the dependent company report, the consolidated financial statements and the management report for the Group and the Company for the 2022 financial year.

Based on the final results of our audit, we have no objections to raise; we believe that the auditors' assessment of the annual financial statements is appropriate. We approve the annual financial statements and the consolidated financial statements prepared by the Management Board. The former is thus adopted. The Supervisory Board also concurs with the management report for the Group and the Company. Based on the final results of its examination, the Supervisory Board also has no objections to the declaration by the Management Board on relations with affiliated companies in the dependent company report.

DIVIDEND AND SHARE REPURCHASE

The Supervisory Board has examined the Management Board's proposal for the appropriation of net income. Pursuant to Section 19 para. 1 of the Articles of Association of BioNTech SE, 50% of the net profit for the year will be allocated to retained earnings and the remaining amount will be carried forward. In calculating the portion of the net income to be allocated to retained earnings, allocations to the legal reserve and loss carryforwards are included in advance in accordance with Section 19 para. 2 of the Articles of Association of BioNTech SE.

In addition, together with the Management Board, we expect to authorize a program to repurchase ADSs, pursuant to which the Company may purchase ADSs in the amount of up to $0.5 billion over the course of 2023. We expect to use all or a portion of the ADSs repurchased and held in our own portfolio to satisfy upcoming settlement obligations under our share-based payment arrangements.

The main objective of the capital allocation is to create value for investors, patients, employees and the Company by strengthening and developing the product pipeline and to further aid the process of transforming the Company. Consequently, we also support the proposal of the Management Board not to pay a dividend for 2022.

EXPRESSION OF GRATITUDE BY THE SUPERVISORY BOARD

In the past year, BioNTech has set an important course for its further transformation and future success. The Management Board and Supervisory Board will build and implement this together in 2023 to continue BioNTech's success story. The Supervisory Board would like to thank the investors for their trust, the members of the Management Board and all employees across the globe for their passionate dedication and commitment in the past year, as well as the employee representatives for their constructive collaboration with the Company's corporate bodies.

Munich, March 27, 2023
BioNTech SE

Helmut Jeggle
Chairman of the Supervisory Board

Milestones 22

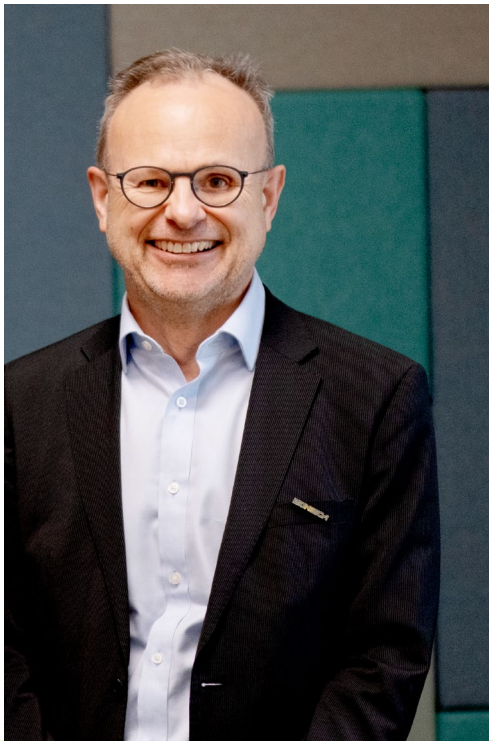
CORPORATE

05

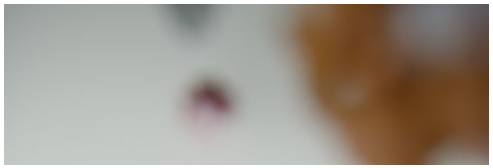
Pfizer and BioNTech sign a new global collaboration agreement to develop first mRNA-based shingles vaccine.

10

BioNTech and Crescendo Biologics announce a global collaboration to develop multi-specific precision immunotherapies.

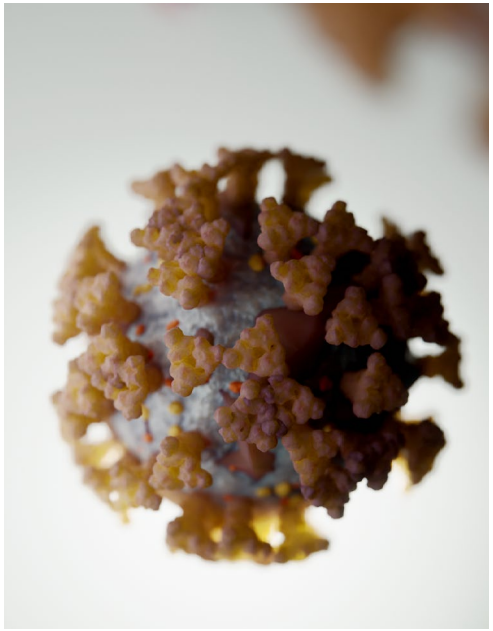


COVID-19



11

BioNTech and InstaDeep developed and successfully tested an early warning system to detect potential high-risk SARS-CoV-2 variants.



JAN

16

BioNTech introduces its first modular mRNA manufacturing facility to promote scalable vaccine production in Africa.

21

BioNTech and Medigene announce a global collaboration to advance T cell receptor immunotherapies against cancer.

CORPORATE

MAR

08

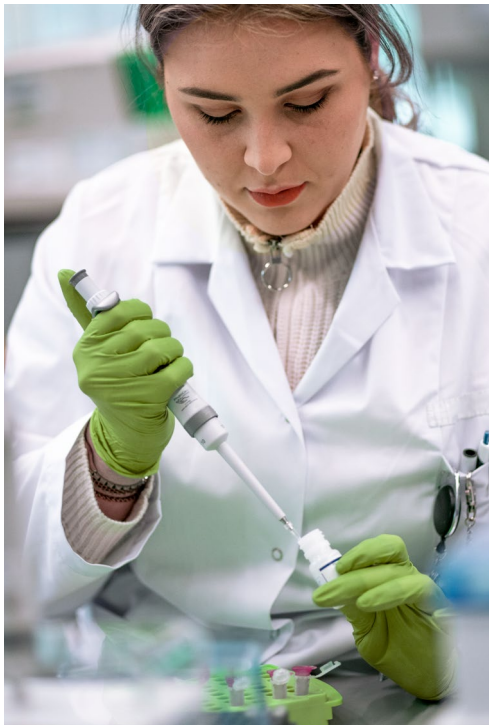
BioNTech and Regeneron expand their strategic collaboration to advance clinical development of FixVac and Libtayo® (cemiplimab) as a combination therapy in NSCLC.

APR

CORPORATE

11

BioNTech and Matinas BioPharma announce an exclusive research collaboration to evaluate a novel delivery technology for mRNA-based vaccines.



SCIENCE

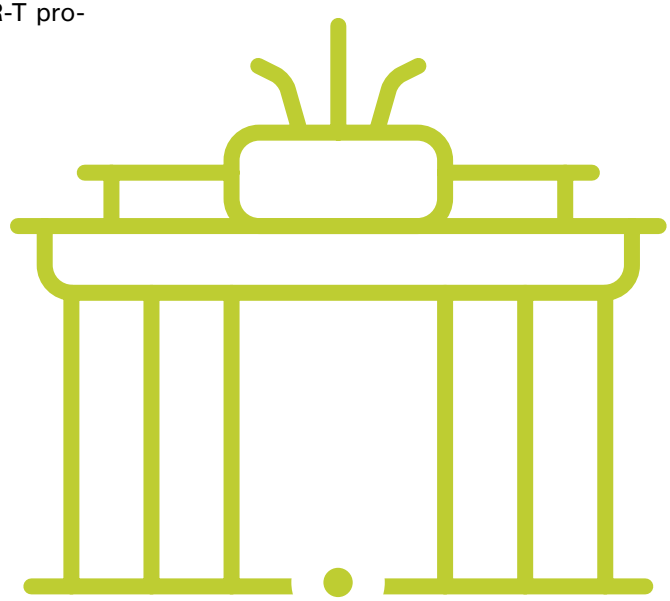
11

BioNTech presents positive preliminary Phase 1/2 data for innovative CAR-T program BNT211 at AACR.

COVID-19

08

BioNTech was granted a pandemic preparedness contract by the German Federal Ministry of Health.



CORPORATE

23

BioNTech starts the construction of its first mRNA vaccine manufacturing facility in Africa.

23

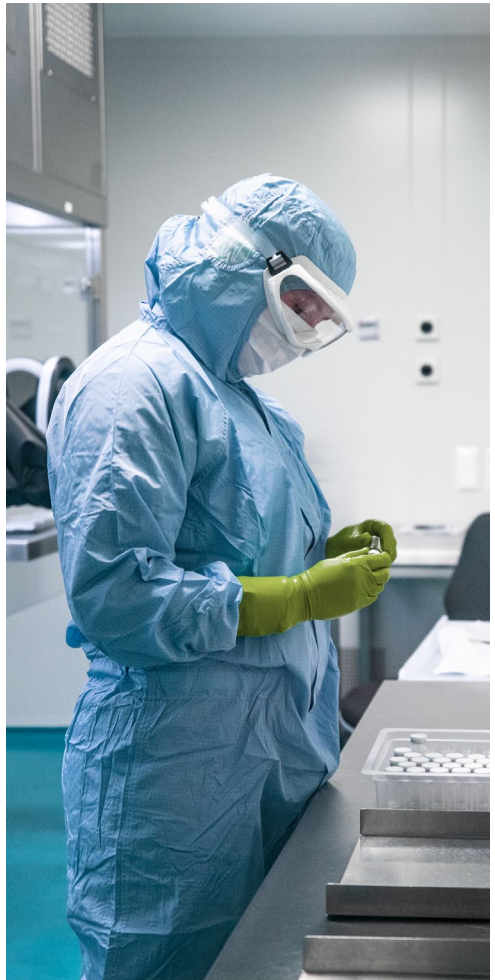
BioNTech receives a priority medicines (PRIME) designation from EMA for enhanced regulatory support of its CAR-T candidate BNT211 in testicular cancer.

PRIME

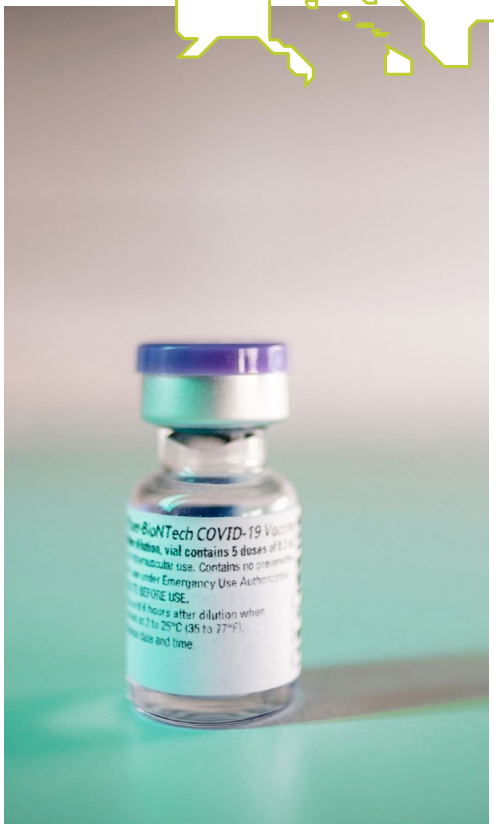
SCIENCE

05

BioNTech presented positive Phase 1 data from an mRNA-based individualized neo-antigen specific immunotherapy in patients with resected pancreatic cancer at ASCO.



COVID-19



Pfizer and BioNTech announce a new agreement with the U.S. government to provide additional doses of their COVID-19 vaccine.

29

JUL

COVID-19

Pfizer and BioNTech advance their COVID-19 vaccine strategy with the study start of a next-generation vaccine candidate based on an enhanced spike protein design.

27

CORPORATE

05

BioNTech and Genmab expand their global strategic collaboration to develop and commercialize novel immunotherapy candidates.

COVID-19

SEP

12

Pfizer and BioNTech receive a positive CHMP opinion for their Omicron BA.4/BA.5-adapted bivalent COVID-19 vaccine booster in the European Union.

CORPORATE

06

BioNTech and Australia's state of Victoria form a strategic partnership to establish an mRNA research center and manufacturing facility.

CORPORATE

13

BioNTech expands its global footprint by acquiring a GMP manufacturing site to establish the first mRNA facility in Singapore.

BioNTech and Ryvu Therapeutics enter into a global collaboration to develop and commercialize immuno-modulatory small molecule candidates.

30

NOV

CORPORATE

16

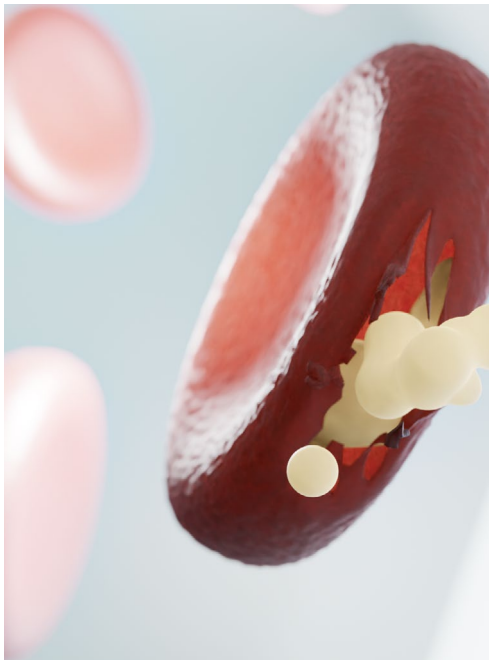
BioNTech announces plans for a clinical trial hub in the Taiwan region for mRNA-based cancer immunotherapies as part of its Asia-Pacific expansion.

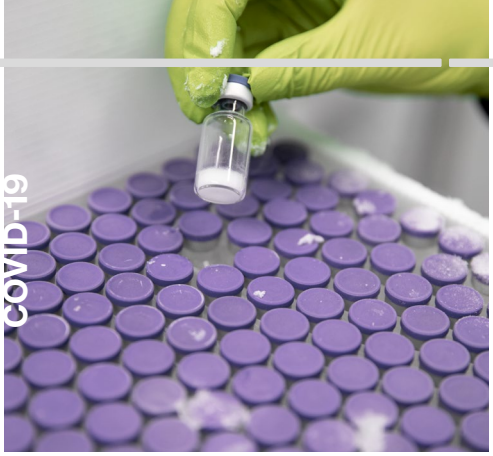
21

BioNTech starts a Phase 1 clinical trial for its prophylactic herpes simplex virus-2 vaccine candidate BNT163.

23

BioNTech initiates a Phase 1 clinical trial for its malaria vaccine program BNT165.





COVID-19

08

Pfizer and BioNTech receive U.S. FDA Emergency Use Authorization for their Omicron-BA.4/BA.5-adapted bivalent COVID-19 vaccine in children under 5 years.

09

Pfizer and BioNTech receive a U.S. FDA Fast Track Designation for their single-dose mRNA-based vaccine candidate against COVID-19 and influenza.

22

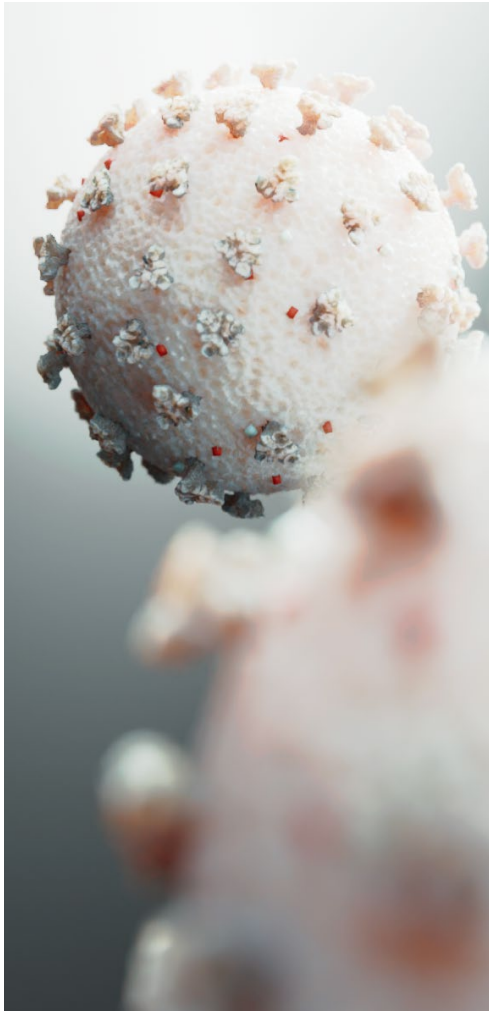
BioNTech and Fosun Pharma provide COVID-19 vaccine doses for vaccination of German expatriates in China.

Scientists in the iHub labs in Mainz, Germany.

Innovative pipeline

Platform approaches and synergistic combinations


OCTOBER
2019
8
oncological product candidates
including one Phase 2 clinical trial



Harnessing the full power of the immune system to improve the health of people worldwide

Since our founding in 2008, we have focused on harnessing the power of the immune system to develop novel treatments for cancer patients. While our focus has historically been on immuno-oncology and the development of individualized cancer therapies, we have broadened our vision to include vaccine candidates addressing several infectious diseases with high medical need, as well as investigational regenerative medicines and treatments addressing autoimmune, cardiovascular and other serious diseases.

Our team applies its deep expertise in immunology, fundamental research and drug discovery through a range of groundbreaking technologies. We have built a pipeline across different drug classes and platform technologies. This deep and broad pipeline of investigational treatments and vaccines has one purpose: to improve the health of people worldwide.

WE BELIEVE THAT THE FUTURE OF CANCER THERAPIES LIES IN DETECTING CANCER EARLIER AND PERSONALIZING ITS TREATMENT.

Prof. Özlem Türeci, M.D.,
Chief Medical Officer and
Co-Founder at BioNTech

Our unique pipeline

BioNTech's scientific foundation is based on a deep understanding of the immune system. As every cancer type is unique, we are convinced that individualized and tailored treatment approaches are needed. Cancer is a complex combination of diseases with many possible causes. It is also a disease with extreme ranges of genetic heterogeneity across patients and cancer types and across tumors, even if the type of cancer is the same. This complexity extends to the many mechanisms cancer uses to undermine the body's immune system and to the possible therapies used for treatment. There is no one-size-fits-all treatment that works equally for all types of cancer or for all stages of the disease.

BioNTech's approach is to establish a diverse toolkit of different technologies, modalities and modes of action with the aim of developing highly effective treatment options. In recent years, we have broadened our pipeline to include different drug classes and modes of action, including mRNA, cell therapies, antibodies and other protein-based therapeutics as well as small molecules. With our unique pipeline, we aim to achieve medical breakthroughs in oncology as well as infectious and other serious diseases.

At the time of our initial public offering in October 2019, our pipeline contained eight clinical product candidates in nine ongoing clinical trials. Most of our candidates were still in the preclinical phase. Since then, our pipeline has continuously grown. At the end of March 2023, the pipeline contained 26 clinical-stage candidates spanning oncology and infectious diseases, including multiple randomized Phase 2 trials in oncology.

MARCH 2023

20

oncological candidates in clinical development, including 5 randomized Phase 2 trials

1

approved product: our COVID-19 vaccine, of which more than 4 billion doses have been shipped globally since authorization

6

vaccine candidates for infectious diseases in clinical trials

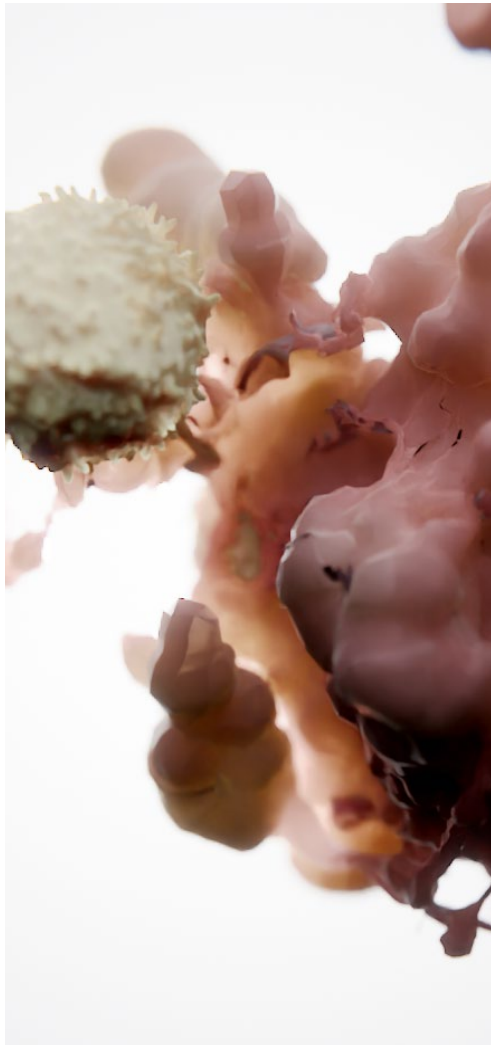
20

ONCOLOGICAL CANDIDATES IN CLINICAL DEVELOPMENT,

INCLUDING

5

RANDOMIZED PHASE 2 TRIALS



IMMUNE CELL DIRECTLY ELIMINATING A CANCER CELL

Oncology

In 2022, we successfully advanced our oncology pipeline. Five of these programs are now in randomized Phase 2 clinical trials. They are all tailored to either a specific tumor type (FixVac platform) or to the individual patient's tumor (iNeST and cell therapy platform) and they each target cancer indications with a high medical need.

While we are preparing trials with registrational potential for several candidates, we continue to advance further product candidates into clinical development. In 2022, we initiated five clinical trials to evaluate additional potentially therapeutic approaches.

- BNT116 is a candidate from our FixVac platform for potentially treating non-small cell lung cancer.
- BNT141 and BNT143 are product candidates for mRNA encoded antibodies for potentially treating solid tumors.
- BNT313 and BNT322 are two antibody candidates from our collaboration with Genmab. BNT313 is being investigated for its potential to treat a number of solid tumors, including testicular and cervical cancer. BNT322 is being evaluated for the potential treatment of advanced or metastatic solid tumors.

Since 2012, we have dosed over 1,600 patients across more than 20 solid tumor types[1]. We intend to address tumors by using complementary therapeutic strategies that either target the tumor cells directly or activate an immune response against the tumor. Many of our product candidates have the potential for use in combination with other candidates from our pipeline or with existing therapies.

(1) As of December 31, 2022.

Phase 2 trials from BioNTech's development

iNeST

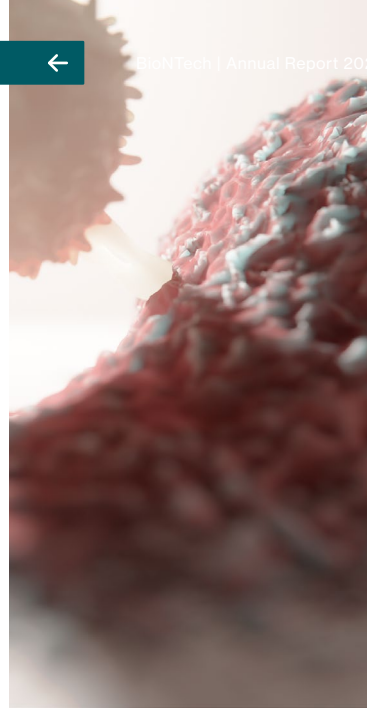
(in collaboration with Genentech)

BNT122
Melanoma

BNT122 is an individualized cancer vaccine candidate encoding patient-specific tumor neoantigens aiming to induce an immune response against the patient's unique tumor. It is currently being evaluated in a Phase 2 trial as a first-line treatment in combination with Merck's pembrolizumab, a PD-1 inhibitor, versus pembrolizumab alone in patients with previously untreated advanced melanoma. Previous data from a Phase 1 solid tumor trial showed the induction of neoantigen-specific T cell responses, a manageable safety profile and early evidence of clinical activity.

BNT122
Colorectal cancer

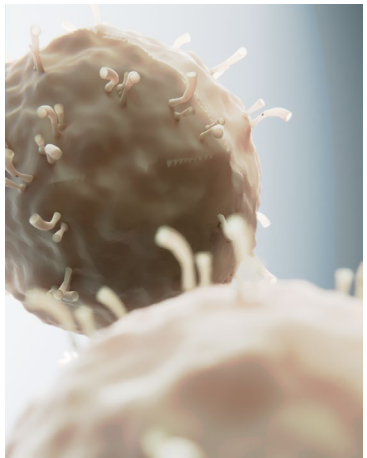
BNT122 is currently also being evaluated in a Phase 2 trial as an adjuvant treatment for circulating-tumor-DNA-positive, surgically resected Stage II (high risk)/Stage III colorectal cancer. Previous data from a Phase 1 solid tumor trial showed the induction of neoantigen-specific T cell responses, a manageable safety profile and early evidence of clinical activity.



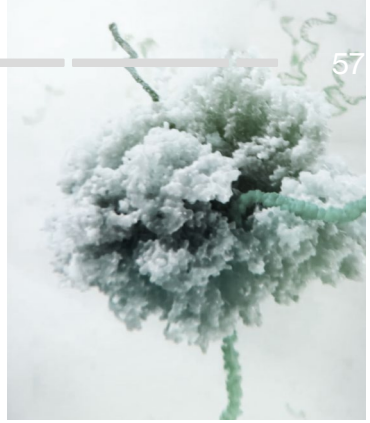
Cell therapy

BNT211
Solid tumors (incl. testicular and cervical cancer)

BNT211 comprises two drug product candidates, an autologous CAR-T cell therapy targeting the oncofetal antigen Claudin-6 (CLDN6) and a CLDN6-encoding CAR-T cell amplifying RNA vaccine (CARVac) based on BioNTech's proprietary mRNA-lipoplex technology to improve persistence and functionality of the CAR-T cells. The therapy aims to induce a powerful immune response against various CLDN6+ solid tumors, such as ovarian cancer, sarcoma, testicular cancer, endometrial cancer and gastric cancer. It is our most advanced CAR-T product candidate in BioNTech's clinical development.



FixVac



BNT111
Advanced melanoma

BNT111 is an mRNA cancer vaccine candidate encoding a fixed set of four melanoma-associated antigens aiming to trigger a strong and precise immune response in patients with advanced melanoma. It received Orphan Drug Designation by the U.S. FDA in September 2021 and Fast Track Status by the U.S. FDA in November 2021. Initial data from the ongoing Phase 1 Lipo-MERIT trial, published in Nature, showed a favorable safety profile and preliminary anti-tumor responses for BNT111 treatment in patients with advanced melanoma.

BNT113
HPV16+ head and neck squamous cell carcinoma

BNT113 is an mRNA cancer vaccine candidate encoding two oncoproteins, E6 and E7, that are frequently found in HPV16+ solid cancers. It aims to trigger a strong and precise immune response in patients with HPV16+ head and neck squamous cell carcinoma (HNSCC).

Infectious diseases

Alongside our pioneering work in individualized cancer therapies, we aim to expand our leading role in the development of mRNA-based vaccines targeting infectious diseases.

We have expanded our diversified and growing pipeline of mRNA-based infectious disease vaccine candidates significantly since our IPO. We believe our mRNA technology, which was the cornerstone in the successful development of our COVID-19 vaccine, has the potential to address a range of other infectious diseases.

Our infectious diseases product pipeline includes three focus areas:

COVID-19

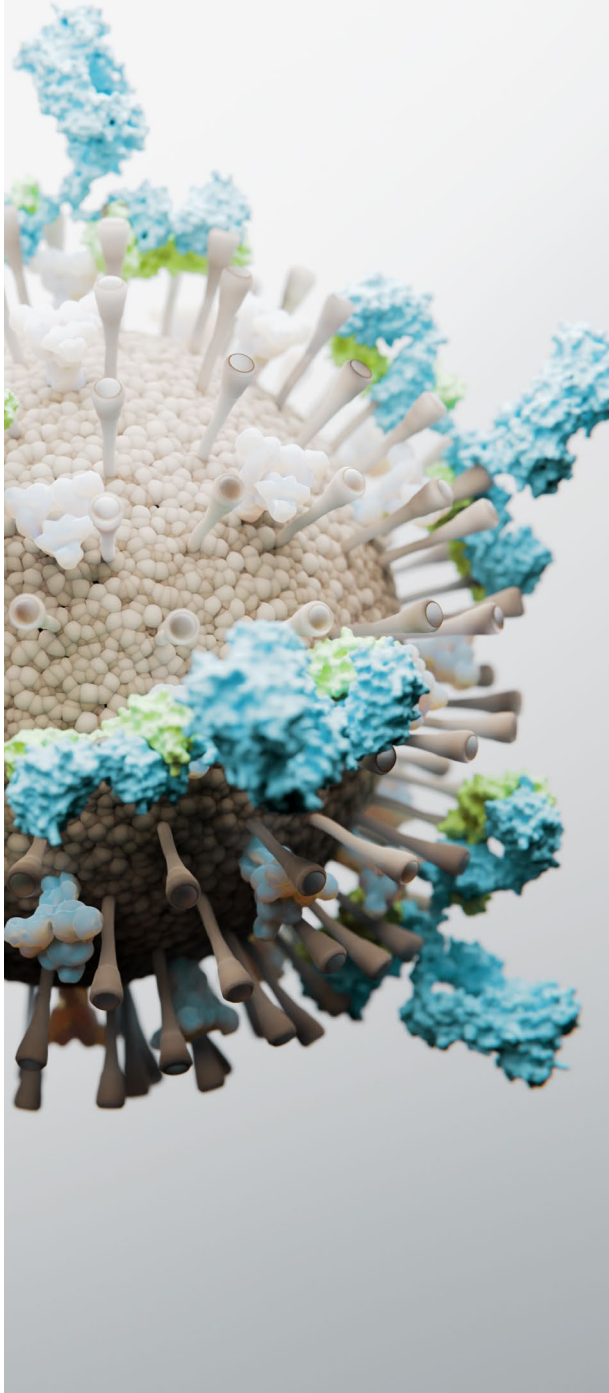
In 2022, we worked with our partner Pfizer to expand our global leadership position in the field of COVID-19 vaccines by successfully developing the first authorized Omicron-adapted bivalent COVID-19 vaccines. At the same time, we have been working on the next generation of COVID-19 vaccines, including a candidate aimed at inducing a broader T cell response. We believe our COVID-19 vaccine franchise will remain a long-term sustainable business opportunity.

OTHER VACCINE PROGRAMS IN COLLABORATION WITH PFIZER

Last year, we further strengthened our collaboration with Pfizer to develop infectious disease vaccine candidates. Alongside our COVID-19 vaccine program, our joint work includes a combination vaccine candidate for influenza and COVID-19 aimed at addressing two severe respiratory diseases with one vaccine. We also collaborated with Pfizer on the research and development of an mRNA-based influenza vaccine candidate, for which Pfizer is currently conducting a Phase 3 trial. In addition, we are working with Pfizer on co-developing an mRNA-based shingles vaccine candidate. Our goal is to develop a highly effective mRNA vaccine with a beneficial risk profile and production that can be scaled up easily to support global access.

MEDICINES TO ADDRESS INFECTIOUS DISEASES WITH HIGH MEDICAL NEED

In 2022, we made significant progress in our programs for the potential treatment of infectious diseases with a high unmet medical need, especially in lower-income countries. These include the clinical-stage vaccine candidates for malaria and herpes simplex virus type 2 (HSV-2). Our HSV-2 vaccine candidate, BNT163, is the first candidate from our infectious disease mRNA vaccine collaboration with the University of Pennsylvania to enter clinical trials. A clinical trial for our tuberculosis vaccine candidate, BNT164, is planned to begin in 2023. In addition, we are working on research and preclinical development programs covering potential vaccines and therapeutic approaches for more than ten other infectious diseases.



Collaborating on the research and development of new medicines

2022 **5** NEW STRATEGIC RESEARCH COLLABORATIONS

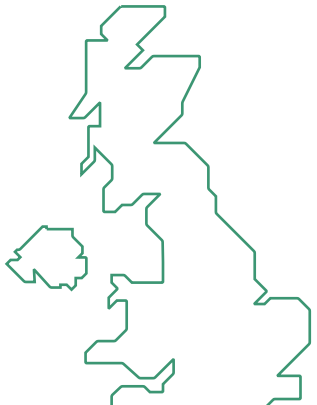
With our novel platform technologies, we aim to usher in a new era of immunotherapy as we develop potential medicines for cancer, infectious diseases and a growing number of other severe diseases. To this end, we are joining forces with leading experts in academic research and industry. In 2022, we entered into five new strategic research collaborations, two of them with our long-standing partners Genmab and Pfizer. Three new collaborations established in 2022 will strengthen our research and development network in Europe.

In March 2023, we announced an exclusive worldwide license and collaboration agreement with OncoC4, Inc. to develop and commercialize OncoC4's anti-CTLA-4 monoclonal antibody candidate, ONC-392, in various cancer indications. The transaction is expected to close in the first half of 2023, subject to customary closing conditions and regulatory clearances, and would add another candidate in a randomized Phase 2 clinical trial to our pipeline.

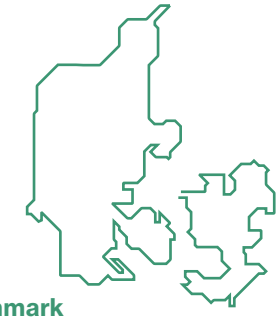
Crescendo biologics

Crescendo Biologics Ltd. headquartered in the United Kingdom

In January 2022, we announced a multi-target discovery collaboration with Crescendo Biologics to develop novel immunotherapies for the treatment of cancer and other diseases. Using Crescendo's proprietary Humabody® VH platform, we are seeking to develop multi-target precision immunotherapies – including mRNA-based antibodies and programmable cell therapies. Thanks to their specific properties and modular structure, we believe Humabodies are ideal for developing immunotherapies capable of addressing multiple target structures.

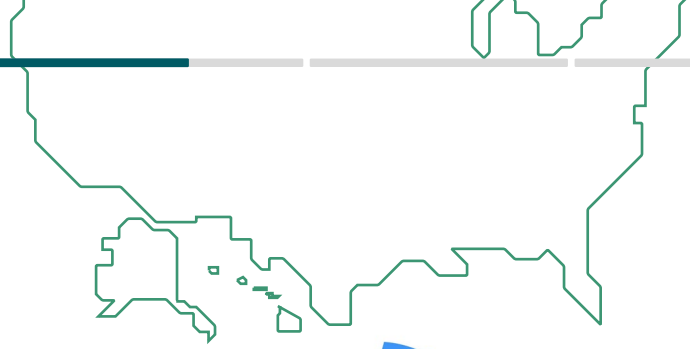


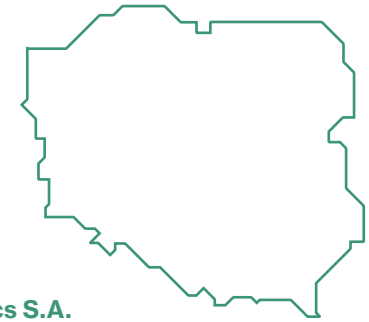
Genmab



Genmab A/S headquartered in Denmark

Last year, we expanded the collaboration with Genmab that was initiated in 2015. Using Genmab's proprietary HexaBody technology, we will jointly develop and commercialize monospecific antibodies, subject to regulatory approval. The first monospecific antibody candidate, GEN1053/BNT313, has already entered clinical trials. We will share the development costs and potential future profit from GEN1053/BNT313 equally with Genmab.





Medigene AG
headquartered in Germany

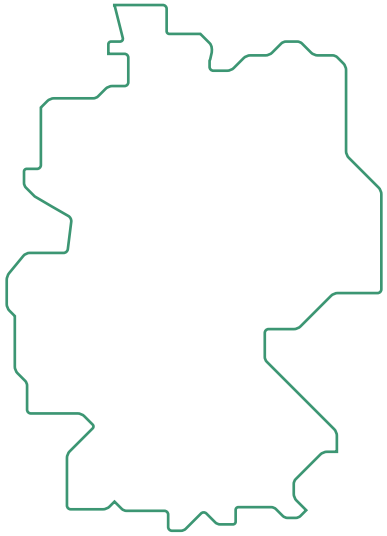
In February 2022, we entered into a three-year multi-target research collaboration with Medigene to develop T cell receptor (TCR) based immunotherapies against cancer. We will leverage Medigene's automated, high throughput TCR discovery platform to develop innovative TCR immunotherapies against multiple solid tumor targets nominated by us. As part of the agreement, we acquired Medigene's next generation preclinical PRAME-TCR program and will receive non-exclusive licenses to Medigene's PD1-41BB switch receptor and precision pairing library.

Pfizer, Inc.
headquartered in the United States

In January 2022, we continued to expand our partnership with Pfizer for the development of mRNA vaccines for infectious diseases and concluded a new agreement to develop and commercialize the potentially first mRNA-based vaccine for the prevention of shingles. We continue to work with Pfizer on the COVID-19 vaccine program as well as on a combination vaccine for COVID-19 and influenza. These collaborations build on the strength of our existing partnership for the development of a mRNA-based influenza vaccine announced in August 2018. Pfizer initiated a Phase 3 clinical trial for a candidate from this collaboration in September 2022.

Ryvu Therapeutics S.A.
headquartered in Poland

In November 2022, we entered into a multi-target research collaboration with Ryvu Therapeutics for several small molecule immunotherapy programs as well as an exclusive license agreement for Ryvu's STING agonist portfolio as standalone small molecules. The global collaboration will consist of two parts: We will receive a global, exclusive license to develop and commercialize Ryvu's STING agonist portfolio as standalone small molecules. In addition, the companies will jointly undertake drug discovery and research projects to develop multiple small molecule programs directed at exclusive targets selected by us, primarily focused on immune modulation within oncology.



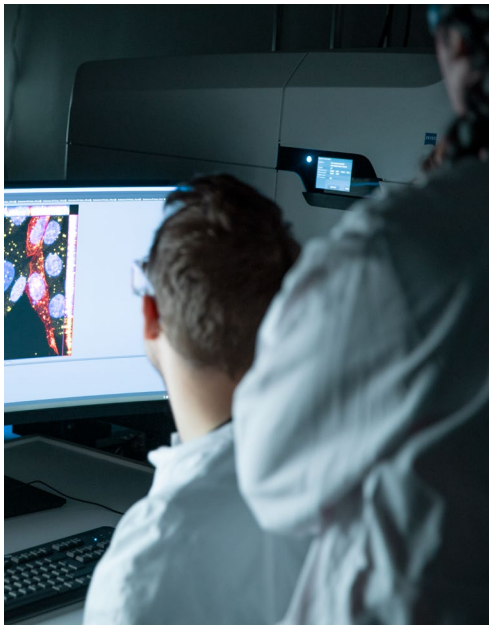
Global collaborations to broaden research and access to novel medicines

BioNTech considers collaboration between the private and public sectors as critical to ensuring patients have better access to potential new therapies. Clinical trials are an important aspect of this as they are essential for the evaluation of potential novel treatment options, particularly for patients for whom standard therapies have been exhausted. The resulting data may also provide the basis for a potential expansion of a patient population that could benefit from a certain therapeutic candidate.

In 2022 and in the first quarter of 2023, we announced four strategic partnerships (including memoranda of understanding, “MoUs”) in various regions and markets of the world with the aim of fostering the research and development of innovative potential medicines.

AUSTRALIA

We aim to collaborate with the state of Victoria in Australia on the research and development of potential mRNA-based vaccines and therapies. As part of the partnership, we plan to establish a research and innovation center in Melbourne to facilitate the transition of academic research into clinical development. We also plan to set up a clinical scale end-to-end mRNA manufacturing facility based on our BioNTainer solution in Melbourne with the aim of supporting the design, manufacturing and clinical testing of product candidates, thereby strengthening scientific collaboration in the Asia-Pacific region.



ISRAEL

Under a memorandum of understanding signed with the Weizmann Institute of Science in Israel, scientists from BioNTech and the Weizmann Institute will collaborate on basic and applied research with the aim of better understanding various diseases, including cancer, infectious diseases and neurodegenerative diseases. This collaboration will bring together specialists from various disciplines, including life science, computer science, mathematics, physics and chemistry. The joint research will be conducted at our planned mRNA Excellence Center in Israel and in Weizmann Institute laboratories.

TAIWAN

We plan to accelerate the development of our cancer immunotherapy pipeline by conducting clinical trials in the Taiwan region. BNT113 will be the first product candidate that we intend to evaluate in the region. As part of these plans, we are collaborating with the YongLin Healthcare Foundation and, in November 2022, signed a memorandum of understanding with Retain Biotech Corp., a Taiwan-based organization that is sponsored by the YongLin Healthcare Foundation, and engaged in precision medicine, genomic medicine and cell therapy in oncology. These plans are part of BioNTech's Asia-Pacific strategy, which has the aim of developing, manufacturing and broadening access to innovative medicines in Asia, with a focus on treatments addressing the region's most common types of cancer.

UNITED KINGDOM

We have signed a memorandum of understanding with the government of the United Kingdom to benefit patients by accelerating clinical trials for personalized mRNA immunotherapies with the aim of providing personalized cancer therapies for up to 10,000 patients by the end of 2030, either in clinical trials or as authorized treatments. This multi-year collaboration is focused on three strategic pillars: cancer immunotherapies based on mRNA or other drug classes, infectious disease vaccines and investments into expanding BioNTech's footprint in the United Kingdom as one of the company's key markets.

Arrival of containers for the first BioNTainer at Kigali Airport, Rwanda.

Our commitment

to better healthcare worldwide

Translational science and technology to provide equitable access to innovative medicines

BioNTech aspires to translate science into survival by addressing the most pressing health challenges we face as a society globally. It is our goal to develop novel prophylactic vaccines for a range of infectious diseases with a high medical need, especially for certain diseases that disproportionately affect lower-income countries. Based on our mRNA technology and our experience in the field of immunotherapies, we aspire to improve existing treatments and establish new standards of care.

We are currently evaluating six mRNA-based vaccine candidates against various infectious diseases.

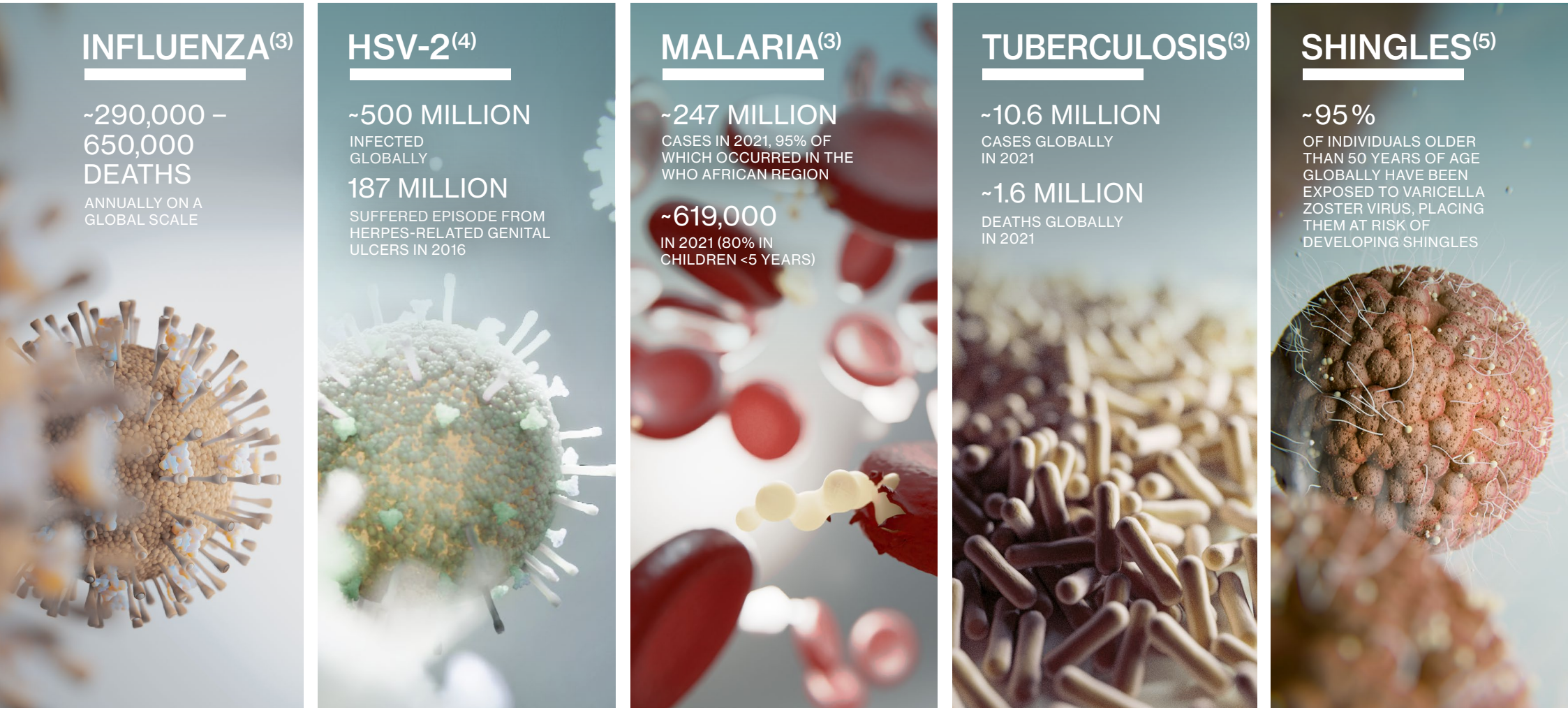
Infectious disease vaccines

The COVID-19 pandemic has clearly shown us the importance of epidemic preparedness as well as of addressing infectious diseases early on across the globe to protect the health of people worldwide. That is why we are working on developing a number of mRNA-based vaccine candidates which could help prevent disease and reduce associated mortality. We are currently conducting clinical trials for mRNA-based vaccine candidates for a number of indications with a high unmet medical need:

- **COVID-19**[1]
- **Influenza**[1]
- **a combination vaccine candidate addressing COVID-19 and influenza**[1]
- **Shingles**[1]
- **Herpes simplex virus type 2 (HSV-2)**[2]
- **Malaria**

Over the course of the year, we also expect to begin clinical trials with an mRNA vaccine candidate for tuberculosis. Our partner Pfizer is currently evaluating a joint influenza vaccine candidate in a clinical Phase 3 trial. Millions of people around the world are exposed to the risk of infection with one of these diseases and resulting complications. Global mortality from malaria and tuberculosis infections remains high.

(1) In collaboration with Pfizer.
(2) In collaboration with the University of Pennsylvania.



(3) All figures from World Health Organization fact sheets. https://www.who.int/news-room/fact-sheets (accessed April 14, 2023).
(4) https://www.who.int/news/item/01-05-2020-massive-proportion-world-population-living-with-herpes-infection (accessed April 14, 2023).
(5) Pan CX, Lee MS, Nambudiri VE. Global herpes zoster incidence, burden of disease, and vaccine availability: a narrative review. Therapeutic Advances in Vaccines and Immunotherapy. 2022;10.

Our manufacturing solutions

The COVID-19 pandemic demonstrated that vaccines are primarily available in those regions where they are produced and evaluated. We want to build manufacturing capabilities where they are needed and have made it our goal to help democratize access to novel medicines and therapies globally.

In February 2022, we introduced our BioNTainers – modular manufacturing facilities based on containers for the scalable production of mRNA-based medicines. BioNTainers are an important step toward achieving our goal of facilitating high-quality mRNA vaccine manufacturing worldwide. The modular and scalable approach could allow us to set up turnkey mRNA manufacturing facilities around the world. Once rolled out, the approach could also support clinical trials as well as regional pandemic preparedness measures.

Construction on our first ever mRNA manufacturing facility based on our BioNTainer approach in began in June 2022 in the Rwandan capital of Kigali. We are also pursuing facility developments in Senegal and South Africa, in close coordination with each country. Each BioNTainer is intended to become a node in a decentralized and robust end-to-end manufacturing network in Africa, which aims to offer greater independence and faster vaccine supply within the African Union.

We also plan to set up BioNTainer-based manufacturing facilities in Australia and Israel to support research and development of novel medicines in collaboration with world-class scientists in the respective countries and disciplines.

Sabin Nsanzimana, M.D., Ph.D.,
Minister of Health
of Rwanda

Our modular production facilities are a big step in our journey to enable the production of high-quality mRNA vaccine manufacturing worldwide. The modular and scalable approach could allow us to set up turnkey manufacturing sites for mRNA worldwide. Once rolled out, the approach could support clinical trials as well as regional pandemic preparedness measures.

Sierk Poetting, Ph.D.,
Chief Operating Officer
at BioNTech

UP TO

2

BILLION COVID-19 VACCINE DOSES PLEDGED TO LOW- AND MIDDLE-INCOME COUNTRIES JOINTLY WITH PFIZER UNTIL THE END OF 2022

ABSOLUTE REDUCTION IN GREENHOUSE GAS EMISSIONS OF

42%

BY 2030

DONATIONS TOTALED

~1.28

MILLION EUROS IN 2022

Corporate social responsibility and ESG

Social responsibility, responsible governance, environmental and climate protection, respect for human rights and ensuring equitable integral parts of our vision.

We have signed the United Nations Global Compact and support the Sustainable Development Goals (SDGs). In particular, our work aims to contribute to SDG 3 – the promotion of good health and well-being for all people at all ages. Our achievement of this goal is supported by specific measures:

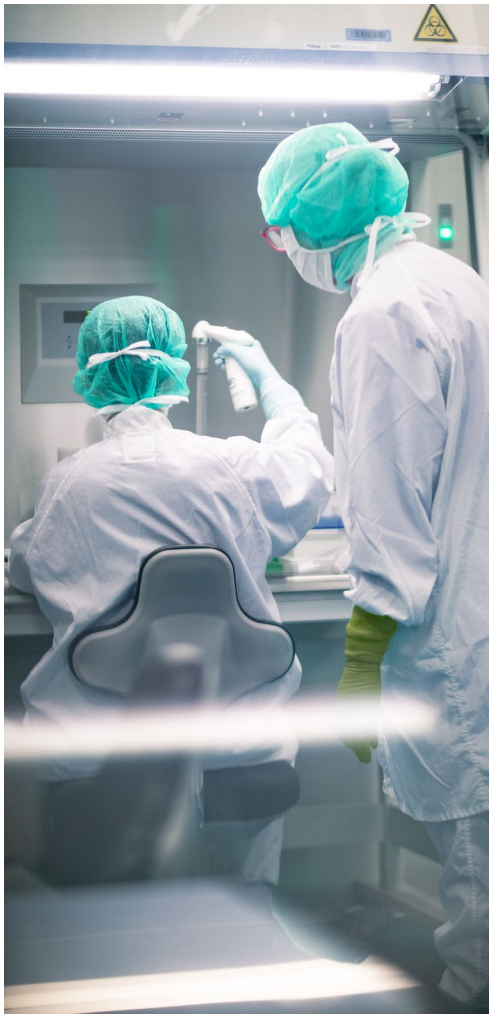
- We aim to promote equitable access to medicines for low- and middle-income countries. To this end, we and our partner Pfizer have delivered approximately 1.7 billion doses of our COVID-19 vaccine to low- and middle-income countries in line with demand.
- We have defined climate targets which satisfy the requirements of the Science Based Targets initiative (SBTi). For targets 1 and 2, we are aiming to achieve an absolute reduction in greenhouse gas emissions of 42 percent by 2030 (base year 2021). Target 3 requires our suppliers to contribute at least two thirds of the reduction in greenhouse gas emissions set by this target by 2026 at the latest.
- In 2022, our corporate donations totaled €1.28 million, including a donation of €1 million to “UNO-Flüchtlingshilfe,” the German partner of the UN Refugee Agency (UNHCR), to support the provision of humanitarian aid in Ukraine. A further sum of €100,000 was donated to the City Children Clinical Hospital No. 1 in the Ukrainian capital of Kyiv.
- So far in 2023, we have contributed to humanitarian aid in Türkiye, Syria and Ukraine by donating €500,000 to the German nonprofit organization ‘Aktionsbündnis Katastrophenhilfe’ (Action Alliance for Disaster Relief), as well as €500,000 to “UNO-Flüchtlingshilfe.”

Technical assistants in a lab in Idar-Oberstein, Germany.

BioNTech 2.0

Organizational structures for holistic growth

Structures to scale our innovative power substantially and sustainably



With our first approved product, we have made medical history and established mRNA as a new drug class. Our unique culture, visionary thinking and pioneering spirit have made the seemingly impossible possible.

We want to continue this success story and achieve further medical breakthroughs for patients. That is why we are implementing structures and processes to scale our innovative power substantially and sustainably. In this way, we can continue to grow as the team we are today and toward the organization we want to become.


MÖBEL MARTIN

Anchoring culture and making it tangible

Our culture is the foundation of our success. In order to anchor this in the company, two long-standing employees have established the Culture Campus as an independent department. Together with a small interdisciplinary team, their responsibility is to develop and roll out measures to strengthen our culture worldwide. They are supported by a network of long-standing and new colleagues at various BioNTech locations.

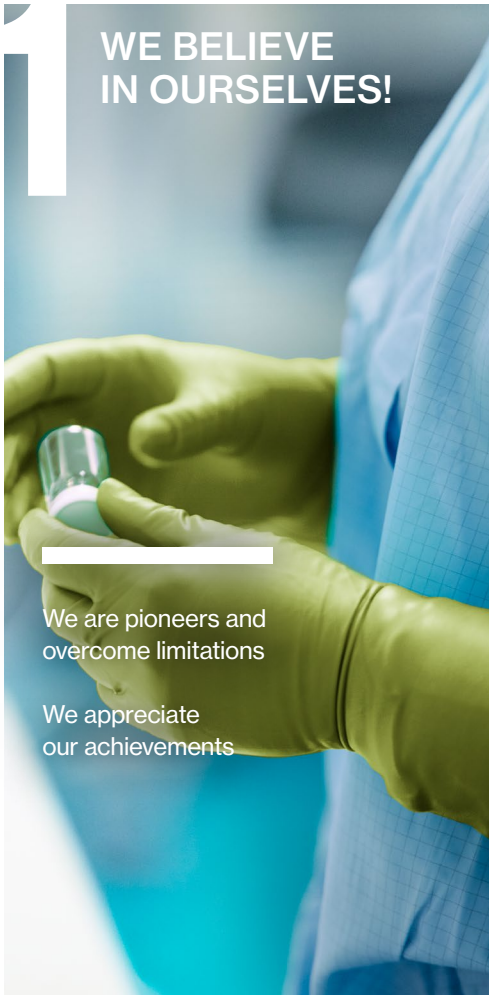
As BioNTech continues to develop and grow as a company, the aim of the Culture Campus is to anchor and consistently develop our culture. To this end, the team has developed dedicated guiding principles.

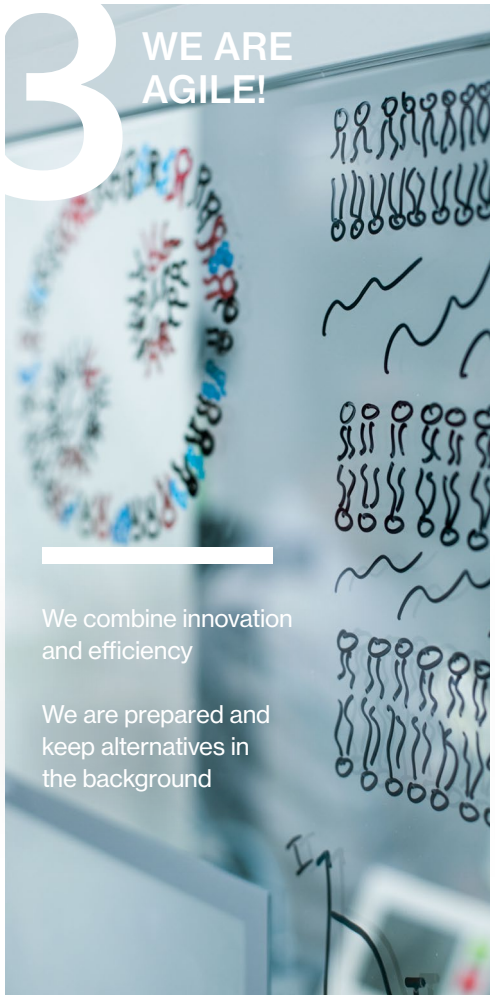
These guiding principles are the basis for small and large measures that anchor our culture throughout the company.

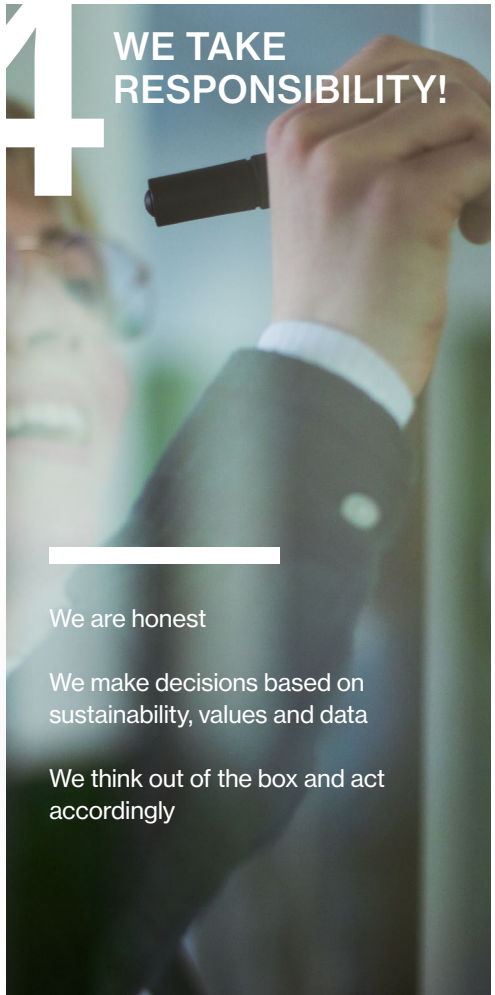
These include, for example:

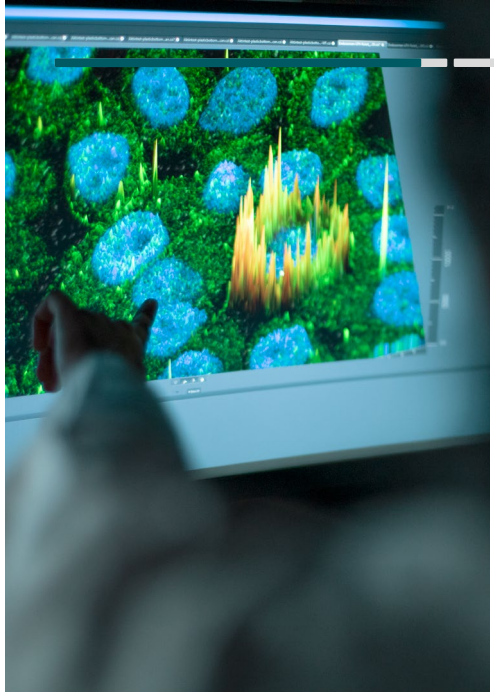
- **Leadership principles,** because it is essential for us to trust our team and build a sense of responsibility so that our focus is on our goals, not on our processes.
- **Structures and events to make our culture tangible.** These include onboarding events on the topic of culture, dialogue formats departments, including participation from Culture Campus team members, a buddy system and personal coaching.
- **Cultural ambassadors** who convey and exemplify our values and culture to promote integration following acquisitions or the establishment of new locations.

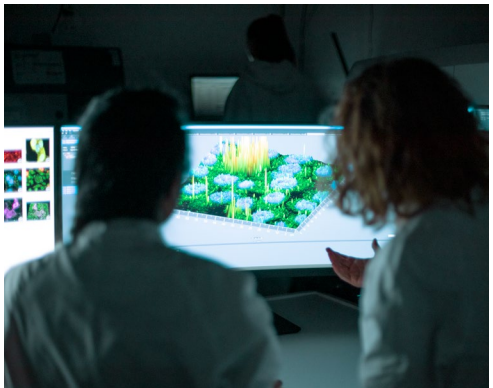
WE ARE GUIDED BY OUR VISION: FROM SCIENCE TO SURVIVAL







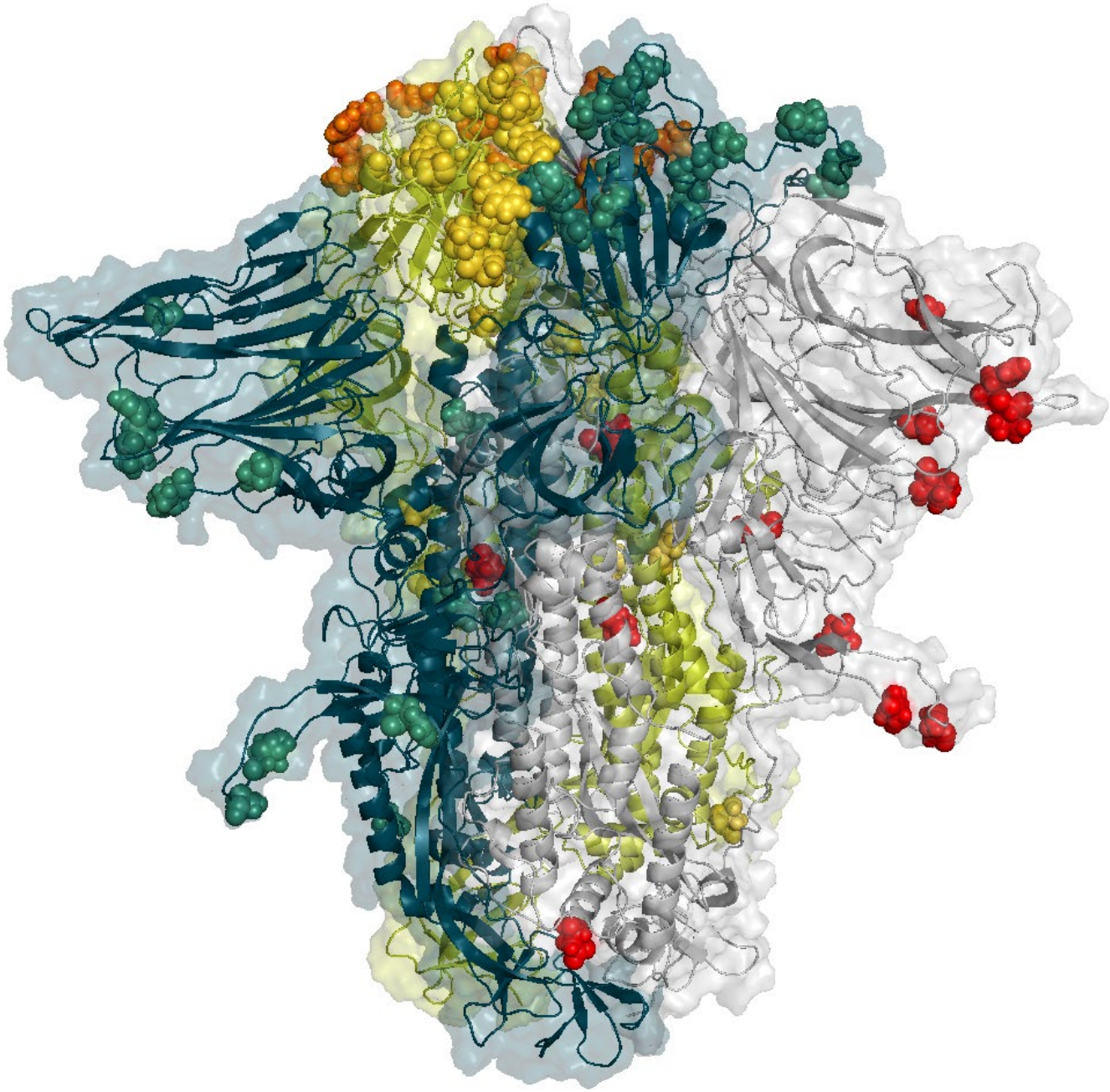




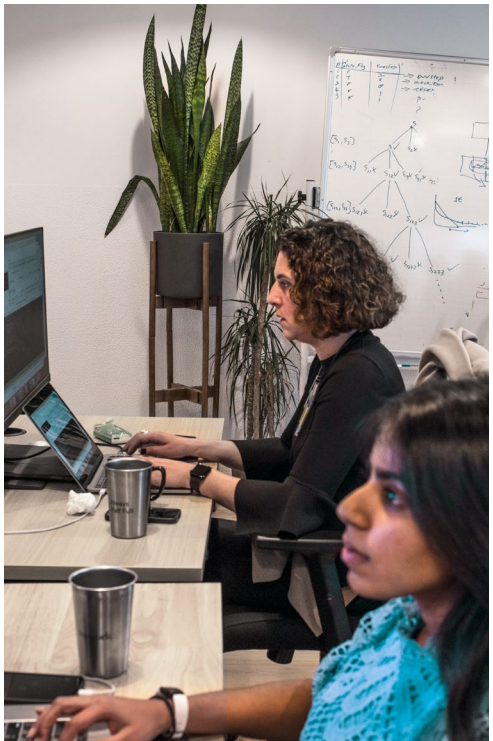
An IT landscape that makes innovation scalable

Since BioNTech was founded, the company has continuously invested in computer-based systems to analyze and process data. This is a prerequisite for developing individualized cancer therapies and making them available as potential treatments.

That is why we are investing in an appropriate digital infrastructure and capacities while also developing our own software in applications for which the market does not have a suitable solution. We want to make BioNTech a technology company where automation, digitalization, artificial intelligence (AI) and machine learning (ML) are seamlessly integrated into our work.



3D model of mutations on the spike protein of the Omicron BA.4 sublineage of SARS-CoV-2



Planned acquisition of a leading AI company

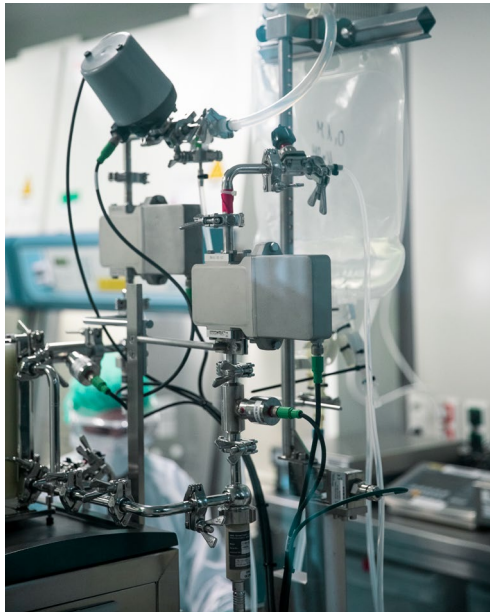
We announced the acquisition of InstaDeep Ltd. in January 2023. With the additional resources provided by InstaDeep, we aim to better integrate diverse and continuously evolving AI capabilities into our technologies, as well as into our drug discovery, manufacturing and delivery operations.

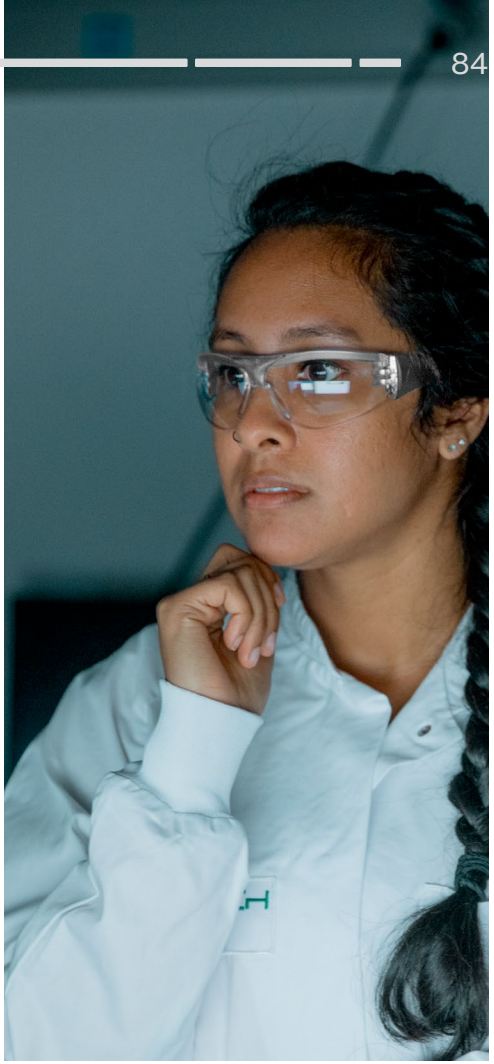
AI, ML and algorithms have been with us from early on. For example, the approach for fully individualized neoantigen-specific immunotherapies ("iNeST"[1]) is based on mRNA that encodes for several patient-specific neoepitopes. For the first patients treated with an individualized vaccine candidate in clinical trials in 2014, BioNTech manually selected the neoepitopes.

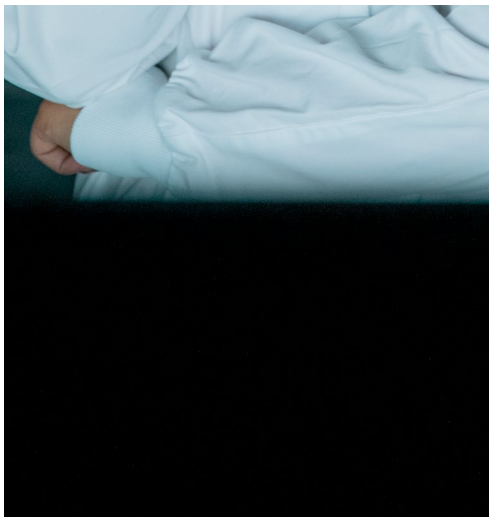
BioNTech invested early on in the development of ML-based algorithms to improve the determination of neoepitopes; the first results were published in the journal *Nature* in 2017. These algorithms were further improved in collaboration with InstaDeep.

(1) Program for developing personalized cancer vaccines initiated by BioNTech in 2012; in collaboration with Genentech (a member of Roche Group) since 2016.


°C to 8 °C after receipt.







CLINICAL STUDIES

IN MORE THAN 30 COUNTRIES WORLDWIDE

Innovation and access to medicines across borders

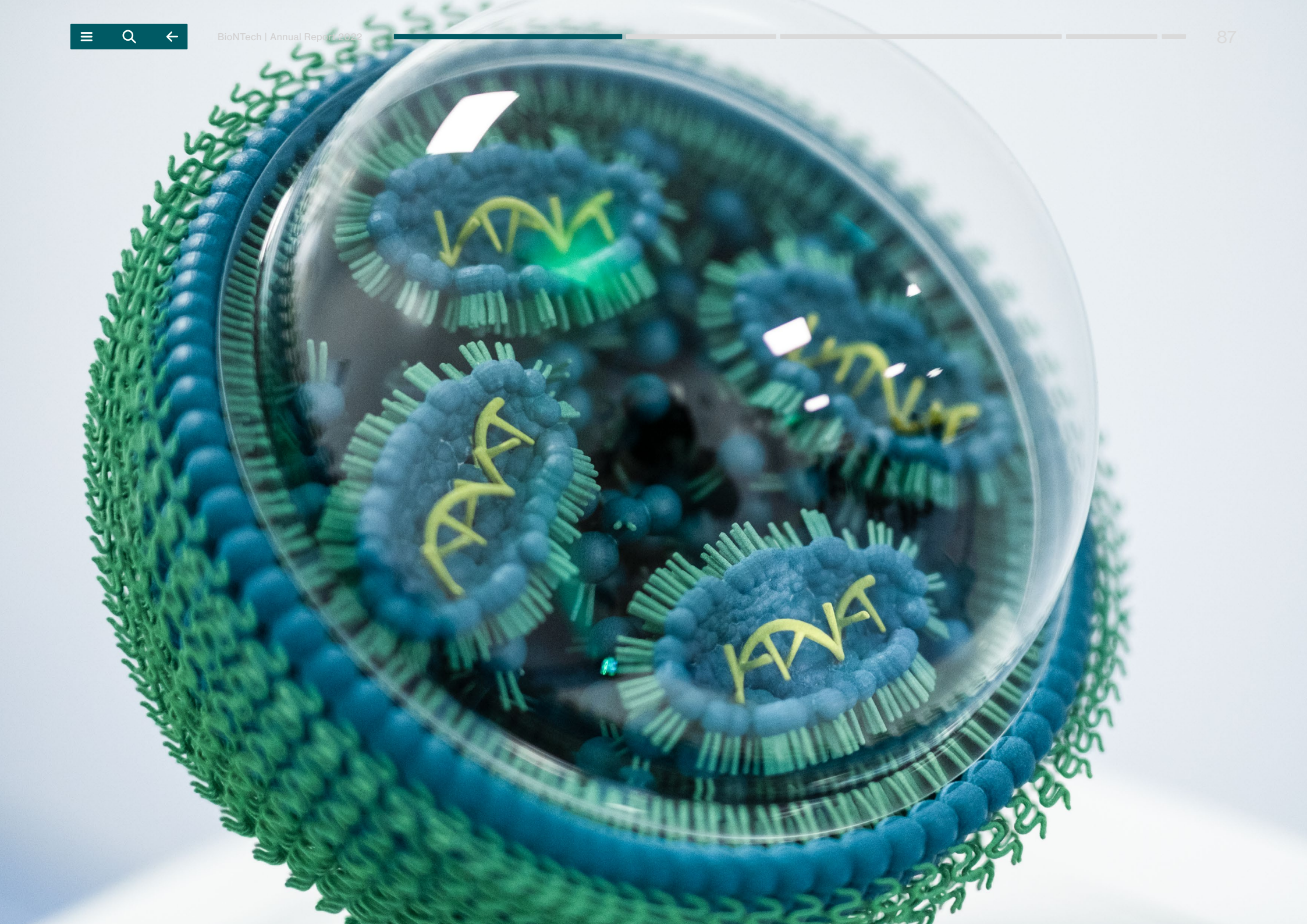
We are a company based in the heart of Europe. While we employ the majority of our staff in Germany and plan to continue creating jobs there, internationalization is part of our corporate strategy.

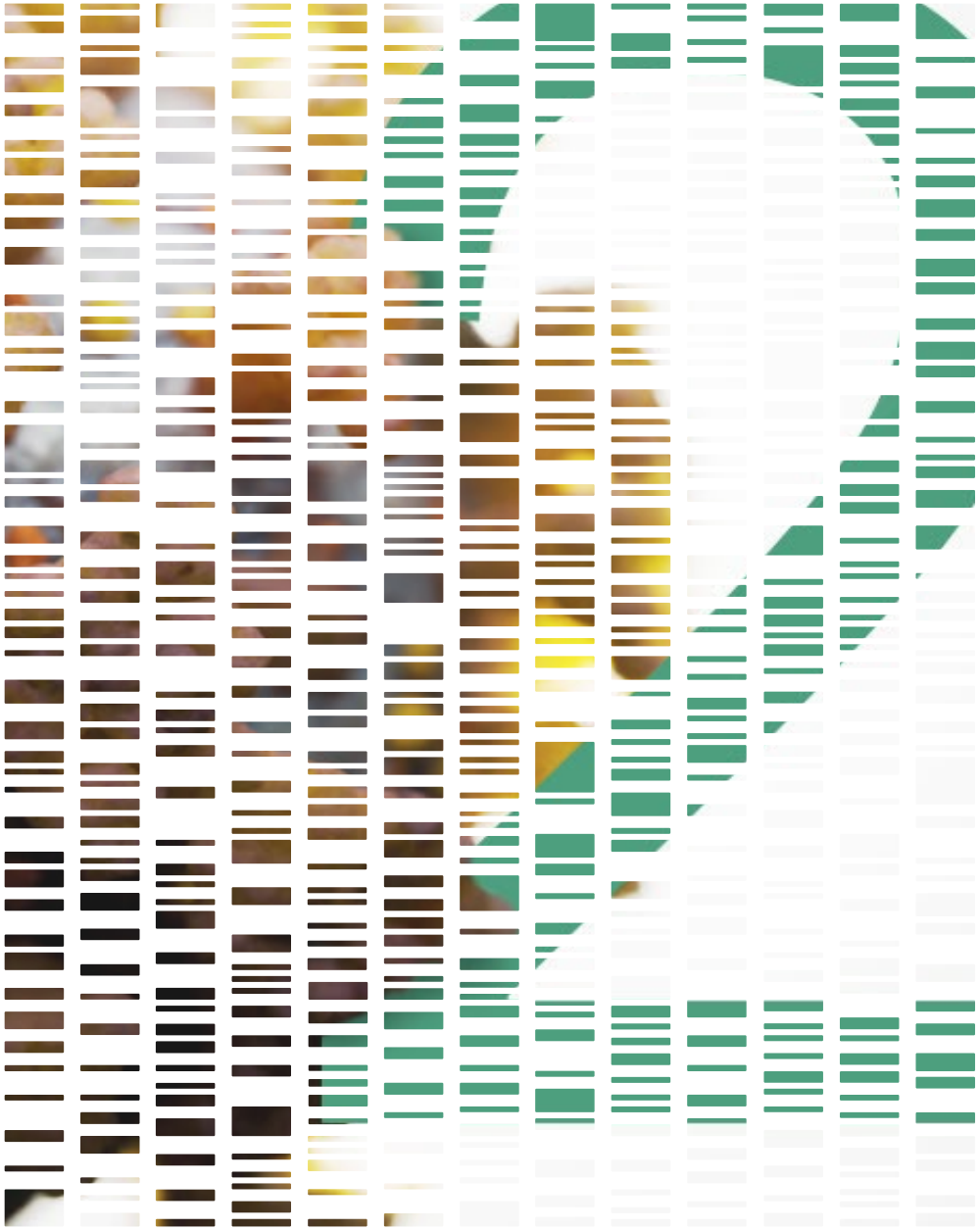
Our clinical trials are currently running in approximately 30 countries worldwide. Germany, the United Kingdom, Belgium, Spain and the United States are the countries in which we are particularly active with clinical trials.

Through acquisitions, the establishment of additional sites and the expansion of existing capacities, we are creating the necessary infrastructure to develop new product candidates, evaluate them clinically and manufacture them where they are needed. To this end, we have established subsidiaries across five continents.

These include, but are not limited to, the following examples:

- a subsidiary in Rwanda to set up our first mRNA manufacturing site in Africa;
- a subsidiary in Singapore, where we have acquired a site to be able to manufacture clinical- and commercial-scale mRNA therapies; and
- subsidiaries in Australia, Israel and the United Kingdom to support our research and development activities, which we carry out jointly with international experts.





2

SARS-CoV-2 is a member of the coronavirus family, a group of viruses named after the Latin word for “crown” due to their spike shape. The spikes on their surface are receptor proteins, which the viruses use to bind and infect human cells.

1 General Information on the BioNTech Group

Pursuant to Section 315 para. 5 of the German Commercial Code (HGB) in conjunction with Section 298 para. 2 HGB, this combined management report comprises both the group management report of BioNTech SE and its group companies (together "BioNTech" or the "Group") and the management report of BioNTech SE (also "the Company"), hereinafter also referred to as "BioNTech," the "Group," "we" or "us." The combined management report has been prepared in accordance with the Regulation on the Statute for a European Company (SE) in conjunction with the German Stock Corporation Act (AktG). The comments on the Group have been prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union; the comments on BioNTech SE have been prepared in accordance with the German Commercial Code (HGB). Unless otherwise stated, the statements in the combined management report relate to both the Group and BioNTech SE. In addition to the reporting on the Group, the development of BioNTech SE is explained in Section 3.

We prepare and publish our combined management report in euros and round figures to the nearest thousand or million euros. Accordingly, the figures presented as totals or as percentages in some tables may deviate slightly and the figures presented in the notes may not add up exactly to the totals presented. The rounding applied may differ from that published in previous years in other units.

1.1 Business Model

BioNTech is a next-generation immunotherapy company pioneering the development of therapies for cancer and other serious diseases. We combine a variety of advanced therapeutic platforms and bioinformatics tools to rapidly advance the development of novel biopharmaceuticals. The diversified portfolio of oncology product candidates includes individualized therapies as well as off-the-shelf mRNA-based drugs, innovative chimeric antigen receptor (CAR)-T cells, bispecific checkpoint immunomodulators, targeted cancer antibodies and small molecules. The breadth of immunotherapy technologies and expertise has led to the development of potential therapies for a range of rare diseases and infectious diseases, and the development of the COVID-19 vaccine, a first product to combat the COVID-19 pandemic.

A deep understanding of the human immune system is at the core of our innovations and has resulted in the discovery of four complementary drug classes:

- mRNA therapeutics
- Programmable cell therapies
- Next-generation antibodies
- Small molecule immunomodulators

In addition to research and development, our expertise also encompasses the field of bioinformatics, which is crucial for the production of individualized therapies. Here, we have developed a validated patient-centric bioinformatics process that enables the application of complex algorithms to patient data in the context of drug manufacturing.

In the past year, we continued to pursue our strategy of building world-leading capabilities in AI-driven drug discovery and development of next-generation immunotherapies and vaccines through sustainable investment and the expansion of strategic partnerships. Our aim is to address diseases with high medical need and to allow individualized cancer treatment.

Using a novel approach, we have developed turnkey, mobile, modular mRNA production facilities based on a container solution, our *BioNTainer*. These are designed to enable local and scalable vaccine production which can be tailored to the respective needs on site. We intend to make use of this approach to improve vaccine supply in Africa for Africa, where we will work with the African Union, for example.

Our business model is to develop, manufacture and market proprietary immunotherapies, either independently or in collaboration with partners, following regulatory approval. Under our COVID-19 vaccine program, we have entered into two strategic collaborations with major pharmaceutical companies, Pfizer Inc. of New York, United States, or Pfizer, and Fosun Pharmaceutical Industrial Development Co. Ltd. of Shanghai, China, or Fosun Pharma, which we continued to advance during the 2022 financial year. In selected cases, collaboration agreements are entered into with third parties for joint product development and joint product commercialization opportunities. This is an approach that may be applied to additional product candidates in the future. BioNTech maintains a culture of scientific excellence, publishes scientific achievements, findings and results in peer-reviewed publications and has a broad patent portfolio. BioNTech's intellectual property strategy also includes licenses from third parties in addition to its own patent portfolio.

Our consolidated revenues during the 2022 financial year includes commercial COVID-19 vaccine revenues in particular, in addition to research and development revenues from collaborations.

1.2 Legal and Organizational Structure

Legal Structure
BioNTech SE was founded in 2008 as a spin-off from Johannes Gutenberg University Mainz. The underlying broad technology and patent portfolio was built up over a period of more than 20 years.

BioNTech SE is the parent company of the BioNTech Group and is responsible for the management and development of the Group. BioNTech SE has its registered office in Mainz, Germany (An der Goldgrube 12, 55131 Mainz). In addition, as of the end of the 2022 financial year, the BioNTech Group included 33 group companies at six different locations in Germany, two different locations in the United States and one location each in Australia, Austria, China, Rwanda, Singapore, Turkey and the United Kingdom.

The following changes in the Group structure occurred during the 2022 financial year:

- In February 2022, BioNTech Innovation GmbH, Mainz, Germany, was founded, a wholly owned subsidiary of BioNTech SE.
- In July 2022, BioNTech BioNTainer Holding GmbH, Mainz, Germany, was founded, a wholly owned subsidiary of BioNTech SE.
- In August 2022, BioNTech Rwanda Ltd., Kigali, Rwanda, was founded, a wholly owned subsidiary of BioNTech BioNTainer Holding GmbH, itself a wholly owned subsidiary of BioNTech SE.
- In September 2022, BioNTech Idar-Oberstein Services GmbH, Idar-Oberstein, Germany, was founded, a wholly owned subsidiary of BioNTech SE.
- In September 2022, NT Security and Services GmbH, Mainz, Germany, was founded, a wholly owned subsidiary of BioNTech SE.

- In October 2022, BioNTech Australia Pty Ltd, Melbourne, Australia, was founded, a wholly owned subsidiary of BioNTech BioNTainer Holding GmbH, itself a wholly owned subsidiary of BioNTech SE.
- In November 2022, BioNTech Individualized mRNA Manufacturing GmbH i.G. (in establishment), Mainz, Germany, was founded, a wholly owned subsidiary of BioNTech SE.

All entities listed above are included in our consolidated financial statements for the year ended December 31, 2022.

The shares of BioNTech SE are publicly traded as American Depositary Shares (ADSs) on the Nasdaq Global Select Market.

Organizational Structure
As the parent company of the BioNTech Group, BioNTech SE has a dual management system: The Management Board, as the managing body, had six members as of December 31 and is appointed and monitored by the Supervisory Board. The Supervisory Board is elected by the Annual General Meeting. During the year ended December 31, 2022, our Supervisory Board was expanded by the appointment of Prof. Anja Morawietz, Ph.D. and Prof. Rudolf Staudigl, Ph.D. on June 1, 2022. In addition, Helmut Jeggle was reappointed as a Supervisory Board member by our Annual General Meeting on June 1, 2022 and was re-elected by the Supervisory Board as its Chair. As a result, the Supervisory Board consisted of six members as of the reporting date December 31, 2022. As of the reporting date December 31, 2022, there were 4,692 employees, of which 2,304 were employed by BioNTech SE (December 31, 2021: 3,138, of which 1,378 were employed by BioNTech SE) and an annual average of 4,104 employees in 2022, of which 1,936 were employed by BioNTech SE (previous year: 2,694, of which 1,181 were employed by BioNTech SE).

1.3 Commercialization

Our COVID-19 vaccine is based on our proprietary mRNA technology and has been fully licensed, granted conditional marketing approval, or approved or licensed for emergency or temporary use in more than 100 countries and regions worldwide, allowing more than four billion vaccine doses to be delivered worldwide by December 2022.

The COVID-19 vaccine development program was launched in late January 2020 in response to the COVID-19 pandemic. Under this program, two strategic collaborations with major pharmaceutical companies, Pfizer and Fosun Pharma, were completed and led to the first marketing approvals in December 2020. Clinical development continued during the 2022 financial year to obtain approvals for a broad population across many age groups.

We are the marketing authorization holder in the United States, the European Union (EU), the United Kingdom, Canada and other countries, and holder of emergency use authorizations or equivalents in the United States (jointly with Pfizer) and other countries. Pfizer has marketing and distribution rights worldwide with the exception of Germany, China and Turkey. We hold marketing and distribution rights in Germany and Turkey. Fosun Pharma has marketing and distribution rights in China, Hong Kong special administrative region, or SAR, Macau SAR and the region of Taiwan. The mRNA-based COVID-19 vaccine is marketed under the brand name COMIRNATY® in the EU, where we have received full marketing authorization.

We and Pfizer continuously expanded global vaccine manufacturing capabilities, structures and networks during the 2022 financial year to produce and distribute large volumes of the vaccine in high quality in a timely manner. Expertise from both companies was synergistically leveraged again in 2022. Through the continued expansion of our own manufacturing capacity combined with our mRNA manufacturing expertise acquired over nearly a decade, we had a significant stake in the joint manufacturing and distribution of the COVID-19 vaccine. Our manufacturing facility in Marburg, Germany, with a capacity of three billion vaccine doses, is now one of the largest mRNA vaccine production facilities in the world. In the 2022 financial year, we

continued to execute on plans with Pfizer to make our COVID-19 vaccine the global market leader and rolled out new formulations, pediatric vaccines and two Omicron BA.4/BA.5-adapted bivalent COVID-19 vaccines.

1.4 Research and Development

The BioNTech Approach
We are developing next-generation immunotherapies. Our diversified portfolio of oncology product candidates includes individualized therapies as well as off-the-shelf drugs based on four complementary drug classes:

- mRNA therapeutics
- Programmable cell therapies
- Next-generation antibodies
- Small molecule immunomodulators

Based on our extensive expertise in mRNA vaccine development and in-house manufacturing capabilities, we are developing various mRNA vaccine candidates for a range of infectious diseases and other serious diseases, including with collaboration partners, in addition to our diverse oncology pipeline.

mRNA therapeutics
We use messenger ribonucleic acid (mRNA) to transport genetic information into cells, where it is used to express proteins for therapeutic effect. Currently, we are developing a portfolio of immunotherapy approaches consisting of four different mRNA formats and three different formulations to derive five different platforms for the treatment of cancer. All these platforms are currently in clinical trials: (i) standard shared antigen immunotherapy (FixVac), (ii) individualized neoantigen-specific immunotherapy (iNeST) in collaboration with Genentech Inc., or Genentech, (iii) intratumoral immunotherapy and (iv) mRNA encoded specific cytokines (RiboCytokines). In addition, we are developing another platform using mRNA to express specific antibodies, RiboMabs, directly in the patient. Furthermore, our proprietary mRNA technology is also used to treat COVID-19, influenza and other infectious diseases and rare diseases. Our successfully commercialized COVID-19 vaccine is the first vaccine in the world based on mRNA technology to be approved for the market.

Programmable cell therapies
We are developing a range of cell therapies to modify the patient's T cells to target cancer-specific antigens – including chimeric antigen receptor or CAR-T cells, neoantigen-based T cell therapies and T cell receptor or TCR therapies. In addition, the mRNA-based FixVac platform will be applied in combination with the first CAR-T product candidate to improve the persistence of CAR-T cells in vivo. The first CARVac product candidate and the first product candidate for neoantigen-based T cell therapies are both currently in clinical trials.

Next-generation antibodies
In collaboration with Genmab A/S, Copenhagen, Denmark, or Genmab, we are developing next-generation bispecific antibodies that target immune checkpoints and modulate the patient's immune response to cancer. The first four product candidates from this collaboration are in clinical trials. In addition, BioNTech is exploring further targeted approaches for cancer antibodies using its own patents and research focus.

Small molecule immunomodulators
We are researching small molecule drugs to induce specific immunomodulation profiles. The goal is to enhance the activity of other drug classes by inducing specific and discrete patterns of immunomodulation. We currently have a small molecule Toll-like receptor 7 or TLR7 immunomodulator in clinical trials for the treatment of solid tumors.

Pipeline of Preclinical Programs and Clinical Product Candidates
Our diversified portfolio consists of product candidates from four drug classes focused on the treatment of cancer and infectious diseases. Currently, more than 25 product candidates are in over 30 clinical trials and more than 30 research programs. Our oncology pipeline currently comprises more than 20 product candidates. In

2022, we initiated four first-in-human clinical trials. Clinical data for key programs have been published in recent years and in 2022 we gained further important insights from clinical trial data. For example, results from the Phase 1 trial of BNT122, an iNeST product candidate, in the treatment of patients with pancreatic cancer showed a significant correlation between the immune response elicited by the cancer vaccine and delayed tumor recurrence. In addition, the results suggest a favorable safety profile. Follow-up data from the ongoing Phase 1/2 clinical trial of our product candidate BNT211, a novel CAR-T cell therapy approach, show encouraging signs of anti-tumor activity in the treatment of 22 patients with testicular cancer. And data from the Phase 1/2 clinical trial with our product candidate BNT312 (GEN1042), which we are developing with our collaboration partner Genmab, also show promising immune responses.

Collaborations

In addition to the strategic collaborations with Pfizer and Fosun Pharma entered into as part of the COVID-19 vaccine development program during the 2020 financial year and described above, as well as the ongoing academic collaboration with the University Hospital Mainz and Translational Oncology at the University Medical Center of Johannes Gutenberg-Universität Mainz gemeinnützige GmbH, or TRON, we have further developed the following collaborations with pharmaceutical and technology companies.

- Genentech: development of individualized neo-epitope-specific mRNA immunotherapies for the treatment of various cancers within our iNeST platform.
- Pfizer: development of an mRNA-based influenza vaccine and a combined mRNA-based influenza and COVID-19 vaccine as well as an mRNA-based herpes zoster virus vaccine.
- Genmab: development of novel monospecific and bispecific checkpoint immunomodulators.

Research and Development Employees and Expenses

As of the reporting date December 31, 2022, 1,786 employees, 1,259 of them at BioNTech SE (December 31, 2021: 1,179, 870 of them at BioNTech SE), were engaged in research and development. The increase mainly related to new hires needed to advance our basic scientific research, especially clinical research. Research and development expenses in the Group amounted to €1,537.0 million during the 2022 financial year (previous year: €949.2 million). The increase was mainly the result of higher costs incurred for the adaptation of our COVID-19 vaccine to new variants and for the further progress of clinical trials for other product candidates from our pipeline. The increase was further driven by an increase in wages, benefits and social security expenses resulting from an increase in headcount as well as higher expenses incurred under our share-based payment arrangements. Research and development expenses include the portion of costs attributable to us under the terms of the Pfizer collaboration agreement. Development costs are shared between us and Pfizer. The amount of shared development costs originally incurred by Pfizer and subsequently recharged to us was recorded in research and development expenses as purchased services, and Pfizer's reimbursement of the research and development expenses originally incurred by us was recorded as a reduction of research and development expenses.

2 Economic Report

2.1 Macroeconomic and Sector-Specific Conditions

The German economy proved resilient in 2022 despite difficult conditions due to energy price hikes and the impacts of the Ukraine war and, adjusted for inflation, grew by 1.8% year on year.(1) In 2021, the German economy grew by 2.6%.(1) For 2023, the federal government anticipates only minor growth of 0.2%.(2) The global economy grew by around 3.2%(3) in 2022. The International Monetary Fund (IMF) does not expect a global recession for 2023. While the year ahead will prove difficult again amid persistently high inflation, the employment markets are in good shape and consumer spending is therefore at a stable level. At 2.7%,(3) global economic growth is forecast to be slightly weaker than in 2023 than in 2022.

The German pharmaceutical industry expects a difficult environment in 2023 since demand for COVID-19 vaccines and medicines is on the decline, regulations imposed by policymakers will drive up costs and prices for energy and precursors are likely to be high. Revenues are forecast to fall by some 5%(4) compared to the previous year and production is expected to decrease by 1.8%.(4) In 2022, revenues rose by 6.5%(4) on the back of high demand for COVID-19 vaccines and production was up by 3.6%.(4)

The ongoing, albeit subsiding, COVID-19 pandemic shaped the macroeconomic situation in Germany in 2022 as it did in 2021 and 2020.(5) In addition, the World Health Organization (WHO) continues to classify the COVID-19 pandemic as a Public Health Emergency of International Concern and still believes COVID-19 vaccines to be of fundamental importance despite the pandemic being close to a turning point.(6)

With the development and advancement of the COVID-19 vaccine against diverse COVID-19 variants, as well as an early warning system designed to detect SARS-CoV2 risk variants more quickly, we are working with other companies, research institutes and governments to continue to contribute to the worldwide effort to overcome the global COVID-19 pandemic and protect against COVID-19. Our goal remains to make the vaccine available to a broad population worldwide.

Therapeutics in Immunotherapy
The global market for mRNA therapeutics was estimated to be worth $43 billion(7) in 2021 and, according to a forecast by Precedence Research, will expand at a compound annual growth rate of 13%(7) to around $128 billion(7) by 2030. Currently, mRNA vaccines are only approved for vaccination against COVID-19, yet there are many more under development, e.g. to combat cancer.(8) Statista Health Market Outlook estimates global revenue from cancer drugs at €159 billion(9) in 2022 with a share of 18%(9) of the total pharmaceutical market. In 2025, revenue is forecast to grow to €228 billion(9), capturing a 22%(9) share of the market.

(1) Source: https://www.destatis.de/DE/Themen/Wirtschaft/Volkswirtschaftliche-Gesamtrechnungen-Inlandsprodukt/Tabellen/bip-bubbles.html
(2) Source: https://www.bundesregierung.de/breg-de/aktuelles/jahreswirtschaftsbericht-2023-2160264#:~:text=In%20ihrem%20Jahreswirtschaftsbericht%202023%20erwartet,um%201%2C8%20Prozent%20wachsen.
(3) Source: https://www.tagesschau.de/wirtschaft/weltwirtschaft/iwf-prognose-weltwirtschaft-usa-101.html
(4) Source: https://www.aerzteblatt.de/nachrichten/140096/Pharmabranche-erwartet-Umsatzrueckgang
(5) Source: https://www.destatis.de/DE/Presse/Pressemitteilungen/2023/01/PD23_020_811.html
(6) Source: https://www.tagesschau.de/ausland/who-covid-19-notstand-101.html
(7) Source: https://www.precedenceresearch.com/mrna-therapeutics-market
(8) Source: https://www.vfa.de/de/arzneimittel-forschung/coronavirus/rna-basierte-impfstoffe-in-entwicklung-und-versorgung
(9) Source: https://de.statista.com/infografik/26720/geschaetzter-umsatz-mit-krebsmedikamenten-und-marktanteil-an-allen-therapiegebieten-weltweit/

Marketing approval, pricing, and reimbursement are highly regulated in healthcare. On the one hand, the strategy pursued by governments is to provide patients with highly effective and safe medicines in a timely manner. On the other hand, cost pressure on global healthcare systems has been increasing for years. Therefore, drug manufacturers not only need to demonstrate the efficacy and safety of their products to gain approval, but also need to demonstrate the cost-effectiveness of their new drug against the respective standard of care to gain reimbursability. The rapid development of the COVID-19 vaccine, based on BioNTech's proprietary mRNA technology, has demonstrated the potential of immunotherapies. The rapid, efficient and safe development was driven by BioNTech's decades of expertise in the research and development of mRNA-based vaccines. BioNTech's mRNA vaccine technology allows for faster development as well as shorter production cycles than would be possible with more traditional methods of vaccine production. This is critical in bringing a COVID-19 vaccine to market and meeting urgent medical needs.

2.2 Business Development Compared to the Forecast

The following table compares the forecast and actual figures of the BioNTech Group for the 2022 financial year:

	Forecast for the 2022 financial year *(published in Q4 2021 earnings presentation)*	**Revised forecast for the 2022 financial year** *(published in the Q3 2022 earnings presentation)*	**Results for the 2022 financial year**
Commercial COVID-19 vaccine revenues	€13 billion to €17 billion	€16 billion to €17 billion	€17,145.2 million
Research and development expenses	€1.4 billion to €1.5 billion	€1.4 billion to €1.5 billion	€1,537.0 million
Sales, general and administrative expenses	€450 million to €550 million	€450 million to €550 million	€544.2 million
Investments in property, plant, equipment and intangible assets	€450 million to €550 million	€450 million to €550 million	€363.3 million
Annual effective tax rate of the BioNTech Group	28%	27%	27.2%

Due to positive currency effects and strong revenues of our collaboration partners, which resulted in a higher share of gross profit, a total of €17.1 billion in commercial COVID-19 vaccine revenues was generated in the 2022 financial year. This was €0.1 billion above the upper end of the forecast range.

The research and development expenses anticipated for the 2022 financial year were at the upper end of the forecast range at €1.5 billion. This was primarily attributable to the vaccine doses of the Omicron BA.4/BA.5-adapted bivalent COVID-19 vaccines manufactured prior to marketing approval.

For the 2022 financial year, we expected sales, general and administrative expenses in the range of €450 million to €550 million. At €544.2 million, costs for the internal administrative and coordinative functions associated with the expansion of research and development, such as finance, human resources, or business development, were in line with the forecast. The costs were essentially driven by our fast and sustained growth, including the acceleration of our internal operating activities.

Investments in property, plant and equipment came to €363.3 million in the past financial year. The expenditures for the expansion and improvement of our research and development as well as the manufacturing facilities and investments in IT infrastructure were thus around €90 million below the lower end of the forecast range. This was mainly attributable to delays in and halted construction projects as have been prevalent in the entire construction sector due to global supply problems.

Our effective tax rate in the 2022 financial year was 27.2%, which met the revised November 2022 forecast of 27%.

2.3 Net Assets, Financial Position and Results of Operations of the Group

2.3.1 Results of Operations

Revenues

Our revenues, in addition to research and development revenues from collaborations, mainly include commercial COVID-19 vaccine revenues. Revenues from contracts with customers decreased by €1,666.1 million from €18,976.7 million during the 2021 financial year to €17,310.6 million during the 2022 financial year, as demand for our COVID-19 vaccine declined compared to the previous year and the strong revenue figures from the 2021 financial year could therefore not be achieved. Since December 2020, our COVID-19 vaccine has been fully licensed, granted conditional marketing approval, or approved or licensed for emergency or temporary use in more than 100 countries and regions worldwide, allowing more than four billion vaccine doses to be delivered worldwide by December 2022.

Accordingly, commercial revenues from the sale of our COVID-19 vaccine decreased by €1,661.6 million from €18,806.8 million during the 2021 financial year to €17,145.2 million during the 2022 financial year.

Sales to collaboration partners represent sales of products manufactured by us and transferred to partners. Whenever responsibilities in the manufacturing and supply process of the COVID-19 vaccine shift and the COVID-19 vaccine is transferred, the vaccine is sold from one partner to the other. Revenues from our collaboration partner Pfizer are significantly influenced by amounts due to write-offs of inventories as well as costs related to contracts with Contract Manufacturing Organizations (CMOs) included therein. The associated effects in the 2022 financial year amounted to €850.0 million (previous year: €31.0 million). During the 2022 financial year, revenues from selling drug product batches manufactured by us to collaboration partners increased by a total of €253.4 million from €970.9 million during the 2021 financial year to €1,224.3 million.

The allocation of marketing and distribution rights defines territories in which the collaboration partners act as a principal. Revenues from direct COVID-19 vaccine sales in our territories, Germany and Turkey, increased by €177.5 million from €3,007.2 million to €3,184.7 million during the 2022 financial year, compared to the previous year. The share of gross profit received by Pfizer as a collaboration partner based on our sales is recognized as cost of sales.

Based on Pfizer's and Fosun Pharma's COVID-19 vaccine sales in the collaboration partners' territories, we are eligible to receive a share of the respective gross profit on sales. This income is presented as a net figure in the statements of profit or loss and is recognized as collaboration revenue during the commercial phase. Compared to the previous year, revenues in this context increased by €2,092.5 million from €14,828.7 million to €12,736.2 million during the 2022 financial year.

Research and development revenues from collaborations increased by €13.3 million from €102.7 million during the 2021 financial year to €116.0 million during the 2022 financial year. The increase was mainly attributable to our collaborations with Pfizer (herpes zoster virus and influenza) and Sanofi S.A. (intratumoral mRNA-based therapies).

Cost of Sales

From the year ended December 31, 2021 to the year ended December 31, 2022, cost of sales increased by €83.5 million from €2,911.5 million to €2,995.0 million, mainly due to recognizing cost of sales from our COVID-19 vaccine sales, which included Pfizer's share of our gross profit on sales from transactions in which we act as principal. Our cost of sales contains inventory write-offs and expenses for production capacities derived from contracts with Contract Manufacturing Organizations, or CMOs, that became redundant. These effects were driven by the introduction of a new COVID-19 vaccine formulation, the switch from the monovalent vaccine to an Omicron-adapted bivalent vaccines and due to accelerating internal manufacturing capacities during the year ended December 31, 2022.

Research and Development Expenses
From the year ended December 31, 2021 to the year ended December 31, 2022, our research and development expenses increased by €587.8 million from €949.2 million to €1,537.0 million,

mainly due to expenses in connection with the development and production of our Omicron-adapted bivalent COVID-19 vaccines and from progressing the clinical studies for our pipeline candidates. The increase was further driven by an increase in wages, benefits and social security expenses resulting from an increase in headcount as well as higher expenses incurred under our share-based payment arrangements.

Sales and Marketing Expenses
From the year ended December 31, 2021 to the year ended December 31, 2022, sales and marketing expenses increased by €9.1 million from €50.4 million to €59.5 million,

mainly due to an increase in purchased services which we incurred in connection with progressing our COVID-19 vaccine commercial activities. Additionally, the increase is attributable to an increase in wages, benefits and social security expenses resulting from an increase in headcount.

General and Administrative Expenses
From the year ended December 31, 2021 to the year ended December 31, 2022, our general and administrative expenses increased by €198.9 million from €285.8 million to €484.7 million,

mainly due to increased expenses for purchased management consulting, IT and legal services as well as an increase in wages, benefits and social security expenses resulting mainly from an increase in headcount. Our business development transactions, such as patent and license purchases, also contributed to the increase in general and administrative expenses.

Other Operating Result
From the year ended December 31, 2021 to the year ended December 31, 2022, the other operating result decreased by €95.7 million from €504.0 million to €408.3 million.

In the 2022 financial year, a significant increase in gains from foreign exchange differences from the measurement of operating items was reflected in the other operating result (gains of €727.4 million during the 2022 financial year compared to €446.3 million in the previous year). The increase reflects the change in foreign exchange rates and is related to our U.S. dollar denominated trade receivables which were mainly incurred under our COVID-19 collaboration with Pfizer, U.S. dollar denominated trade payables as well as U.S. dollar denominated other financial liabilities which mainly relate to obligations incurred from our license agreements. To manage our transaction exposures, foreign currency forward contracts were entered into again during the year ended December 31, 2022; these contracts were not classified as hedging instruments, however. The increase in expenses from recording the change in fair value of foreign exchange forward contracts was higher than the increase in the aforementioned foreign currency differences from the measurement of operating items (expenses of €385.5 million during the 2022 financial year compared to €86.3 million in the previous year).

Finance Result
In contrast to the previous year, the finance result in the 2022 financial year comprises net finance income of €311.4 million (previous year: net finance expenses of €237.4 million), which is equivalent to an increase of €548.8 million.

Finance income during the 2022 financial year included €216.8 million fair value measurement adjustments of the derivative embedded within the mandatory convertible bond (previous year: finance expenses of €277.8 million). In February 2022, we gave notice to Temasek (Ellington Investments Pte. Ltd.), or Temasek, that we would exercise our early redemption option relating to the mandatory convertible bond; the bond was redeemed on March 1, 2022. The change in fair value was taken into account until the date of early redemption and was mainly driven by the change in our share price. In addition, €65.0 million in

foreign exchange gains were recognized on financial items such as our U.S. dollar bank accounts during the 2022 financial year as well as €48.5 million in interest income compared to €66.2 million in foreign exchange losses and €1.5 million in interest income in the previous year.

Income Taxes
Our tax expenses decreased by €1,234.2 million from €4,753.9 million in the previous year to €3,519.7 million in the 2022 financial year. Income taxes comprise current taxes of €3,629.6 million (previous year: €4,535.0 million) and deferred tax income of €109.9 million (previous year: deferred tax expense of €218.9 million). Current income taxes include corporate income taxes and trade taxes of our German income tax group and are based on the calculated taxable income. Taxable income is also net of deductible personnel expenses from our Employee Stock Ownership Plans. Due to the decision by the Supervisory Board on the settlement mechanism for the option rights at the end of September 2022, actual tax savings came to €406.1 million as of December 31, 2022. As the tax-deductible amount exceeds the amount of the related cumulative share-based payment expense, the income tax associated with the excess is recognized directly in equity in the amount of €374.1 million.

The deferred tax assets on tax losses that related to our German income tax group were utilized in full by the 2021 financial year. The deferred tax income in the 2022 financial year resulted from the recognition of deferred tax assets in connection with our Employee Stock Ownership Plans. We also recognized deferred taxes on temporary differences. As of December 31, 2022, we do not recognize deferred tax assets on the losses of our U.S. tax group, our other companies outside Germany and the German companies that are not part of the tax group.

Annual Result
During the 2022 financial year, a profit of €9,434.4 million (previous year: €10,292.5 million) was generated.

2.3.2 Financial Position

The objective of financial management is to safeguard capital and to provide liquidity for the growth of the companies. The proceeds from commercial sales of our COVID-19 vaccine have become our most important source of liquidity and resulted in a significant increase in cash and cash equivalents in the 2022 financial year. Scenario and cash flow planning are used to determine liquidity needs.

Capital Structure
As of December 31, 2022, our share capital comprised 248,552,200 voting bearer shares, of which 5,337,031 were held as treasury shares. The par value of our shares is €1.00 and each confers one voting right at the Annual General Meeting. The financing of ongoing clinical trials, as well as the development, build-up of production capacity and commercialization of new formulations and Omicron-adapted bivalent COVID-19 vaccines were primarily funded from cash flow from operating activities.

In January 2022, we entered into a new research, development and commercialization collaboration with Pfizer to develop a potential first mRNA-based vaccine for the prevention of shingles (herpes zoster virus, or HZV). In connection with this collaboration, Pfizer agreed to make an equity investment in us, acquiring 497,727 ordinary shares paying a total amount of €110.6 million. The issuance of 497,727 ordinary shares with the nominal amount of €0.5 million was registered with the commercial register (*Handelsregister*) on March 24, 2022.

In March 2022, we redeemed our mandatory convertible note by exercising our early redemption option, which was fulfilled in April 2022, by issuing 1,744,392 ordinary shares. The nominal amount of €1.8 million was recorded in share capital and, as a result of the transaction, the capital reserve increased by €233.2 million. The declaratory registration with the commercial register (*Handelsregister*) was made on May 20, 2022.

In March 2022, our Management Board and Supervisory Board authorized a share repurchase program of ADSs, pursuant to which we may repurchase ADSs in the amount of up to $1.5 billion over the

next two years. On May 2, 2022, the first tranche of our share repurchase program of ADSs, with a value of up to $1.0 billion, commenced. In November 2022, our Management Board and Supervisory Board authorized the second tranche of our share repurchase program of ADSs, with a value of up to $0.5 billion, commencing on December 7, 2022. During the year ended December 31, 2022, 6,945,513 ADSs were repurchased at an average price of $143.98, for total consideration of $1.0 billion (€986.4 million).

In June 2022, at the Annual General Meeting, our shareholders approved the proposed special cash dividend of €2.00 per ordinary share (including those held in the form of ADSs), which led to an aggregate payment of €484.3 million.

In the 2022 financial year, no ADSs were sold under the Sales Agreement entered into in 2020 with Jefferies LLC and SVB Leerink LLC (now known as SVB Securities LLC), as sales agents (previous year: 995,890 ADSs for gross proceeds of $200.0 million or €163.6 million). Through the at-the-market offering program, we may, in due course, sell ADSs embodying ordinary shares for aggregate gross proceeds of up to $500.0 million. As of December 31, 2022, the remaining capacity under the Sales Agreement was $207.1 million. Under the at-the-market offering program ADSs are sold via the stock exchange and therefore no shareholders' subscription rights are affected.

Investments
During the 2022 financial year, investments were made in particular in property, plant and equipment in the amount of €329.2 million (previous year: €127.5 million). The investments were mainly made in connection with new buildings in Germany, including the acquisition of the land and the laboratory and office building at our headquarters at An der Goldgrube 12 in Mainz, Germany, and the prepayment for the planned acquisition of a manufacturing facility in Singapore. Investments in intangible assets amounted to €34.2 million during the 2022 financial year (previous year: €10.1 million). In the 2022 financial year, there were no investments in intangible assets in connection with business combinations (previous year: €43.3 million in connection with the acquisition of the subsidiary BioNTech R&D (Austria) GmbH, Vienna).

Depreciation of property, plant and equipment amounted to €42.4 million during the 2022 financial year (previous year: €29.4 million). Amortization of intangible assets amounted to €22.0 million (previous year: €16.8 million).

Liquidity
As of December 31, 2022, our cash and cash equivalents amounted to €13,875.1 million compared to €1,692.7 million as of December 31, 2021. Primarily, the significant increase in the inflow of cash and cash equivalents during the 2022 financial year is due to the payments received from commercial sales of our COVID-19 vaccine and our share of the gross profit from commercial sales of the COVID-19 vaccine by our partner Pfizer included therein. We receive a large portion of these payments via our partner Pfizer in U.S. dollars, which exposes us to significant concentration and currency risks. Operating activities, which mainly include the share of gross profit received, as well as payments in connection with research and development activities, generated a positive cash flow from operating activities of €13,577.4 million (previous year: positive cash flow of €889.7 million).

For investing activities, we spent €35.3 million during the 2022 financial year (previous year: €566.1 million). In contrast to the investments described above, the decrease is mainly due to the repayment of time deposits of €375.2 million with a term of more than three months (previous year: payment of €375.2 million for investment in time deposits with a term of more than three months).

2.3.3 Net Assets

As of December 31, 2022, total assets amounted to €23,279.1 million compared to €15,830.8 million as of December 31, 2021. The increase mainly resulted from higher cash on hand and at banks from the sale of our COVID-19 vaccine and our COVID-19 collaboration with Pfizer, as well as the following developments:

Current and Non-Current Assets
Compared to December 31, 2021, non-current assets increased by €598.6 million from €758.5 million to €1,357.1 million as of December 31, 2022. The increase resulted primarily from investments in property, plant and equipment, rights of use and intangible assets, which were partly offset by depreciation and amortization, and the recognition of deferred tax assets.

The increase in current assets by €6,849.7 million from €15,072.3 million as of December 31, 2021 to €21,922.0 million as of December 31, 2022 resulted mainly from the increase in cash and cash equivalents, while receivables from our COVID-19 collaboration with Pfizer and receivables from our customers that we supply directly in our territory decreased due to lower demand at the end of the 2022 financial year.

Equity
Compared to December 31, 2021, equity increased by €8,161.9 million from €11,893.7 million to €20,055.6 million as of December 31, 2022. The increase mainly resulted from the profit during the 2022 financial year, partly offset by effects from the share repurchase program of €986.4 million, the distribution of the special cash dividend of €484.3 million and the settlement of Employee Stock Ownership Plans. The equity ratio increased by 11.1 percentage points to 86.2% (previous year: 75.1%).

Current and Non-Current Liabilities
Compared to December 31, 2021, liabilities decreased by €713.6 million from €3,937.1 million to €3,223.5 million as of December 31, 2022. The decrease is mainly attributable to income tax liabilities and the early redemption of the convertible bond. The decrease was partly offset by higher liabilities from wage taxes and social security expenses in connection with the settlement of the Employee Stock Ownership Plans (ESOP 2018 and LTI-plus).

2.4 Performance Indicators of the Group and BioNTech SE

2.4.1 Non-Financial Performance Indicators of the Group and BioNTech SE

Innovation was classified as a material non-financial performance indicator during the 2022 financial year in line with the materiality analysis on sustainability carried out in 2020 and the qualitative review of this analysis and the GAS 20 criteria, and is used for internal management.

We develop individualized immunotherapies using state-of-the-art technologies in the fight against cancer, infectious diseases and rare diseases. We support the United Nations Sustainable Development Goals (SDGs). In this context, research makes a relevant contribution to supporting the third United Nations Sustainable Development Goal (SDG 3): Ensure healthy lives and promote well-being for all people at all ages.

Progress in research achievements, such as the advancement and expanded commercialization of the COVID-19 vaccine, is a key performance indicator. We are working to clinically demonstrate the benefit of additional treatment approaches, further develop additional product candidates in the form of pivotal studies, and continuously expand collaborations and manufacturing capabilities to offer innovative treatments to patients around the world.

2.4.2 Financial Performance Indicators of the Group and BioNTech SE

The following financial performance indicators are in the focus of our operational business development management: we use the measures based on current exchange rates (not currency adjusted) and take effects from potential M&A activities or collaborations into account where these have been published.

Commercial COVID-19 vaccine revenues
These revenues include expected revenues related to our share of gross profit from sales by our collaboration partners in territories allocated to them based on marketing and distribution rights; expected revenues from direct COVID-19 vaccine sales to customers in our territories; and expected revenues from sales to our collaboration partners of products manufactured by us.

Revenue is heavily influenced by the volumes available under the collaboration and the agreed upon purchase quantities and serves as a performance indicator of our current commercial profitability.

See our comments on revenues under 2.3.1 Results of Operations for more information on the composition of the commercial COVID-19 vaccine revenues and the components contained therein.

Research and development expenses
Research and development expenses are an indicator of our future earnings potential, as this is highly dependent on the development of the clinical pipeline and the responsible use of the financial resources generated.

Sales, general and administrative expenses
These costs include sales and marketing costs as well as general and administrative costs. We use this measure to manage the costs associated with the expansion of the sales and marketing organization to ensure the necessary infrastructure and digital capacity for future market-ready products, as well as to manage the internal administrative and coordinative functions associated with the expansion of research and development, such as finance, human resources, or business development, with regard to the associated cost development.

Investments in property, plant and equipment and intangible assets
Capital expenditures for property, plant and equipment and intangible assets include expenditures for the acquisition of property, plant and equipment as well as expenditures for the acquisition of intangible assets and rights of use, unless they are made as part of business combinations. These mainly include expenditures for the expansion and improvement of our research and development and manufacturing facilities and investments in a state-of-the-art IT infrastructure to support the Company in all digitization projects.

Annual effective tax rate of the BioNTech Group
The effective tax rate is an important parameter as part of profitability and liquidity planning.

2.5 Overall Statement on the Business Development and Position of the Group and BioNTech SE

With our scientific research and work on the development of immunotherapies, we aim to improve human health worldwide by unlocking the full potential of the immune system to fight cancer, infectious diseases and other serious diseases. These activities still require high investments at this stage. In addition to financial metrics, we continue to measure our business success primarily by our research performance, and in particular by the achievement of the targets we have set. Together with collaboration partners, we have developed a solid and diversified oncology and infectious disease pipeline. Currently, more than 25 product candidates are in over 30 clinical trials and more than 30 research programs. In this respect, we further developed collaborations and made positive pipeline progress during the 2022 financial year, which is in line with expectations and planning. We are therefore well positioned to build on our positive performance in 2022 as we move into 2023 in what remains a challenging market environment.

3 Management Report of BioNTech SE

3.1 Supplementary Notes According to the German Commercial Code (HGB)

BioNTech SE is the parent company of the BioNTech Group and is headquartered in Mainz, Germany. In addition, as of the end of the 2022 financial year, the BioNTech Group included 33 group companies at six different locations in Germany, two different locations in the United States and one location each in Australia, Austria, China, Rwanda, Singapore, Turkey and the United Kingdom. Key management functions for the Group, such as corporate strategy, risk management, investment management tasks, executive and financial management, as well as communication with important target groups of the Group, are the responsibility of the Management Board of BioNTech SE. With its operating activities, in particular in connection with the two collaboration agreements with Pfizer and Fosun Pharma, which were concluded by BioNTech SE in the context of the COVID-19 vaccine program, BioNTech SE generated the major part of the Group's revenues.

BioNTech SE is not managed separately using its own performance indicators, as the Company is integrated into the group management system. The explanations given for the Group apply. The economic framework conditions of BioNTech SE essentially correspond to those of the BioNTech Group and are described in detail in Section 2.

3.2 Net Assets, Financial Position and Results of Operations of BioNTech SE

3.2.1 Results of Operations

	Years ended December 31,	
(in millions)	**2022**	**2021**
Revenues	12,514.5 €	14,933.8 €
Cost of sales	(1,615.7)	(1,642.0)
Gross profit	**10,898.8 €**	**13,291.8 €**
Research and development expenses	(1,519.7)	(816.2)
Selling expenses	(29.1)	(12.8)
General administrative expenses	(475.4)	(226.4)
Other operating income	1,041.3	638.9
Other operating expenses	(717.1)	(118.0)
Operating result	**9,198.8 €**	**12,757.3 €**
Income from profit transfer	2,863.3	2,691.6
Other interest and similar income	51.8	6.0
Interest and similar expenses	(30.9)	(19.1)
Expenses from loss transfer	(86.9)	(52.2)
Profit before taxes	**11,996.1 €**	**15,383.6 €**
Income taxes	(3,370.1)	(4,606.0)
Net income	**8,626.0 €**	**10,777.6 €**

Revenues
Revenues decreased by €2,419.3 million from €14,933.8 million during the 2021 financial year to €12,514.5 million during the 2022 financial year. Commercial revenues decreased due to lower demand for our COVID-19 vaccine and are largely attributable to revenue recognition under the collaboration agreement with Pfizer, to which BioNTech SE is a party.

Cost of Sales
From the year ended December 31, 2021 to the year ended December 31, 2022, cost of sales decreased by €26.3 million from €1,642.0 million to €1,615.7 million. Cost of sales primarily includes the share of our gross profit that Pfizer receives as a collaboration partner based on our sales. In addition, sales-related licensing costs for third-party intellectual property contribute to the cost of sales.

Research and Development Expenses
From the year ended December 31, 2021 to the year ended December 31, 2022, research and development expenses increased by €703.5 million from €816.2 million to €1,519.7 million, mainly due to expenses from the remittance of wage taxes and social security expenses from the exercise of our share-based payments. The increase was further driven by higher expenses from progressing the clinical trials for our pipeline candidates as well as an increase in wages, benefits and social security expenses resulting from an increase in headcount.

General and Administrative Expenses
From the year ended December 31, 2021 to the year ended December 31, 2022, our general and administrative expenses increased by €249.0 million from €226.4 million to €475.4 million, mainly due to the expenses from the remittance of wage taxes and social security expenses from the exercise of our share-based payments, increased expenses for purchased management consulting, IT and legal services as well as an increase in wages, benefits and social security expenses resulting mainly from an increase in headcount. Our business development transactions, such as patent and license purchases, also contributed to the increase in general and administrative expenses.

Other Operating Result
From the year ended December 31, 2021 to the year ended December 31, 2022, the other operating result decreased by €196.7 million from €520.9 million to €324.2 million. This item mainly included foreign currency gains from the translation of our U.S. dollar denominated trade receivables, which mainly arose from our COVID-19 collaboration with Pfizer. The offsetting effects mainly include expenses from foreign exchange forward contracts.

Finance Result
The finance result, comprising the effects of profit transfer and interest income and expenses, increased by €171.0 million compared to the previous year from €2,626.3 million to €2,797.3 million during the 2022 financial year. The increase resulted in particular from the rise in income from the profit transfer from affiliated companies (net profit transfer of €2,776.4 million; previous year: net profit transfer of €2,639.4 million). The net interest income included in the finance result improved by €34.0 million compared to the previous year from €13.1 million in interest expense to €20.9 million in interest income during the 2022 financial year.

Income Taxes
Income taxes amounted to €3,370.1 million during the 2022 financial year (previous year: €4,606 million). Income taxes comprise current taxes of €3,442.3 million (previous year: €4,533.7 million) and deferred tax income of €72.3 million (previous year: deferred tax expense of €72.3 million). The decrease is due to a reduced tax rate, lower revenue and income recognition related to our COVID-19 vaccine sales and includes corporate income taxes and trade taxes of our German income tax group based on calculated taxable income. Taxable income is also net of deductible personnel expenses from our share-based payments programs. In the HGB, or German GAAP accounts, the Supervisory Board decision on the ESOP 2018 resulted in a present obligation to settle in cash with regard to the wage tax from the exercise of the share-based payments. Consequently, in the German GAAP accounts, the difference between the value of the wage tax payment and the fair value corresponding to the pro rata rights was recognized as an additional expense as of the grant date. Our share-based payments programs resulted in aggregate

actual tax savings of €406.1 million. In light of the additional expense for the ESOP 2018 in the German GAAP accounts, only the income tax of €187.0 million for the amount of the tax deduction in excess of the expense was recognized directly in equity.

Annual Result
Net income of €8,626.0 million was reported during the 2022 financial year (previous year: €10,777.6 million).

3.2.2 Financial Position

The objective of the financial management of BioNTech SE is essentially identical to that of the Group and involves providing liquidity for the growth of the group companies.

Capital Structure
As of December 31, 2022, our share capital comprised 248,552,200 voting bearer shares, of which 5,337,031 were held as treasury shares. The capital reserve decreased by €578.4 million in connection with the exercise of our share-based payments. The change also includes the recharges from commitments in connection with the exercise of the share-based payments for employees of subsidiaries that are fulfilled by BioNTech SE.

Investments
Total investments of €703.5 million were made during the 2022 financial year (previous year: €352.9 million). The amount consisted of investments in property, plant and equipment amounting to €75.7 million (previous year: €26.9 million) and investments in intangible assets €31.8 million (previous year: €6.7 million) as well as investments in shares, loans to affiliated companies and shareholdings amounting to €596.0 million (previous year: €319.3 million), driven by financing for subsidiaries.

Depreciation of buildings, other equipment, furniture and fixtures amounted to €14.4 million in 2022 (previous year: €10.6 million). Amortization of intangible assets amounted to €12.0 million (previous year: €9.7 million).

Liquidity
As of December 31, 2022, BioNTech SE had cash and cash equivalents of €13,798.0 million compared to €1,396.8 million as of December 31, 2021. Essentially, the significant increase in the inflow of cash and cash equivalents during the 2022 financial year is due to the payments received from commercial sales of the COVID-19 vaccine under the collaboration agreement with Pfizer and to the COVID-19 vaccine sales of our subsidiary in our territories which BioNTech SE received under the profit and loss transfer agreements. We receive a large portion of these payments via our partner Pfizer in U.S. dollars, which exposes us to significant concentration and currency risks. Operating activities, which mainly include the share of gross profit received, as well as payments in connection with research and development activities, generated a positive cash flow from operating activities of €13,148.0 million (previous year: positive cash flow of €854.8 million).

3.2.3 Net Assets

(in millions)	December 31 2022	December 31 2021
Assets		
Fixed assets		
Intangible assets	71.9 €	52.8 €
Property, plant and equipment	99.9	47.0
Financial assets	1,279.7	755.6
Total fixed assets	**1,451.5 €**	**855.4 €**
Current assets		
Inventories	0.7	1.6
Receivables and other assets	7,273.3	13,114.9
Cash on hand and bank balances	13,798.0	1,396.8
Total current assets	**21,072.0 €**	**14,513.3 €**
Prepaid expenses	63.5	24.5
Total assets	**22,587.0 €**	**15,393.2 €**

(in millions)	December 31 2022	December 31 2021
Liabilities and shareholders' equity		
Equity		
Subscribed capital	248.6	246.3
Capital reserve	1,295.4	1,883.8
Treasury shares	(5.3)	(3.8)
Retained earnings	9,445.4	5,132.4
Accumulated profit	8,961.2	5,132.3
Total equity	**19,945.3 €**	**12,391.0 €**
Provisions		
Tax provisions	606.1	1,573.3
Other provisions	923.3	1,096.2
Total provisions	**1,529.4 €**	**2,669.5 €**
Liabilities		
Bonds	-	100.4
Trade accounts payable	57.2	55.1
Liabilities to affiliated companies	389.6	71.6
Other liabilities	651.6	13.4
Total liabilities	**1,098.4 €**	**240.5 €**
Deferred income	13.9	19.9
Deferred tax liabilities	-	72.3
Total liabilities and shareholders' equity	**22,587.0 €**	**15,393.2 €**

As of December 31, 2022, total assets amounted to €22,587.00 million compared to €15,393.2 million as of December 31, 2021. The increase mainly resulted from higher cash on hand and at banks from our COVID-19 collaboration with Pfizer and the payments received under the profit and loss transfer agreements derived from the COVID-19 vaccine sales of our subsidiaries, as well as the following developments:

Fixed Assets and Current Assets
Compared to December 31, 2021, fixed assets increased by €596.1 million from €855.4 million to €1,451.5 million as of December 31, 2022. Besides additions in intangible assets and property, plant and equipment, financial assets increased due to further financing transactions by subsidiaries.

Compared to December 31, 2021, current assets increased by €6,558.7 million from €14,513.3 million to €21,072.0 million as of December 31, 2022. The increase mainly resulted from higher cash on hand and at banks from our COVID-19 collaboration with Pfizer and the payments received under the profit and loss transfer agreements derived from the COVID-19 vaccine sales of our subsidiaries.

Equity
Compared to December 31, 2021, equity increased by €7,554.3 million from €12,391.0 million to €19,945.3 million as of December 31, 2022. The increase resulted primarily from the net income generated during the 2022 financial year. The equity ratio increased by 7.8 percentage points to 88.3% (2021: 80.5%).

Provisions and Liabilities
Compared to December 31, 2021, provisions and liabilities decreased by €282.2 million from €2,910.0 million to €2,627.8 million as of December 31, 2022, largely as a result of income tax liabilities. The decrease was partly offset by higher liabilities from wage taxes and social security expenses in connection with the settlement of the Employee Stock Ownership Plans (ESOP 2018 and LTI-plus).

3.3 Forecast, Opportunity and Risk Report

The business development of BioNTech SE is essentially subject to the same risks and opportunities as the BioNTech Group, as BioNTech SE participates in the risks of the group companies via its investments. As a result of the central financial management of the BioNTech Group, all financing transactions are essentially conducted via BioNTech SE. As the parent company of the BioNTech Group, BioNTech SE is integrated into our Group-wide risk management.

3.4 Relationships with Affiliated Companies

Final declaration of the Management Board of BioNTech SE on the report on relationships with affiliated companies for the 2022 financial year (dependent company report pursuant to Section 312 para. 3 sentence 3 AktG):

“According to the circumstances known to us at the time when the legal transactions were carried out or the actions were taken, BioNTech SE received appropriate consideration for each legal transaction and was not disadvantaged. In the financial year, no actions were taken or omitted at the instigation of or in the interests of ATHOS KG or its affiliated companies in the period from January 1 to December 31, 2022.”

4 Forecast, Opportunity and Risk Report

4.1 Forecast

We are part of the pharmaceutical and biotechnology industry, which stands out nationally and internationally for its innovative strength. Global demographic change and medical progress offer the industry solid growth prospects. Based on the Company's proprietary mRNA technology, we succeeded in becoming the first company worldwide to develop a highly effective and safe vaccine against COVID-19 in compliance with scientific standards within one year and to then successfully market it globally. This demonstrates our ability to develop and commercialize medicines and therapies based on innovative technologies that add great value for patients and society.

We expect commercial COVID-19 vaccine revenues of approximately €5.0 billion for the 2023 financial year.

The revenue forecast is based on various assumptions, including, but not limited to, the transition, expected to commence in 2023, from a market environment with purchase agreements between governments and vaccine manufacturers to commercial market orders and a regulatory recommendation to adapt the COVID-19 vaccines to the latest circulating variants or sublineages of SARS-CoV-2. Our estimated COVID-19 vaccine revenues reflect the deliveries anticipated under existing or promised supply agreements as well as expected sales from conventional commercial orders. We are currently renegotiating the supply agreement in place with the European Commission, with the option of rephasing deliveries of vaccine doses over several years and/or reducing quantities. While we anticipate an increase in demand due to a vaccine adaptation, we expect fewer primary vaccinations and a lower percentage of booster vaccinations within the population as a whole. We anticipate demand to be seasonal, with a clear shift in expected revenues into the second half of the year.

Revenue is heavily influenced by the volumes available under the collaboration and the agreed upon purchase quantities, to which we have adjusted our production capabilities accordingly. In addition to the further expansion of our mRNA production facilities in Marburg, we plan to continue building our own fully integrated mRNA production sites in Asia and Africa and also to deploy turnkey mRNA production facilities based on our *BioNTainer* container solution in other countries.

We aim to generate long-term sustainable revenues from the COVID-19 vaccine program by expanding access to the vaccine through broadening supply, broader based distribution with a well-known brand and continuous optimization of the vaccine. In addition to the released vaccine adapted to Omicron, we are working with Pfizer to create the conditions to flexibly adapt the vaccine to other potential future mutations if necessary, to optimize the formulations and to make the product accessible to additional patient groups through indication extensions.

With the successful production and commercialization of our COVID-19 vaccine, we have built up a wealth of expertise and a global network to develop, produce and commercialize future products worldwide. Our future earnings potential is highly dependent on the development of the clinical pipeline and the responsible use of the financial resources generated. We intend to reinvest the proceeds from the sale of our COVID-19 vaccine in our advanced clinical candidates and in the further expansion of our therapeutic platforms across all four drug classes. During the 2023 financial year, we expect to make significant progress in several clinical trials as well as data updates in numerous development programs. In connection with the expansion of our product pipeline in oncology and infectious diseases and the expansion into new areas such as autoimmune diseases, regenerative medicine and allergies, we expect our research and development expenses to continue to increase. In this context, we expect expenses of €2.4 billion to €2.6 billion for the 2023 financial year.

Costs are also expected to increase for the internal administrative and coordinative functions associated with the expansion of research and development, such as finance, human resources, or business development. For the 2023 financial year, we expect sales, general and administrative expenses in the range of €650 million to €750 million.

Investments in property, plant and equipment and intangible assets will also increase. For the 2023 financial year, we expect investments in property, plant, equipment and intangible assets in the range of €500 million to €600 million. This includes expenditures for the expansion and improvement of our research and development as well as the manufacturing facilities described above and investments in a state-of-the-art IT infrastructure to support the Company in all digitalization projects.

We anticipate a cash-effective tax rate of 27% for the 2023 financial year.

The extent to which the COVID-19 pandemic continues to impact our operations and what protective measures remain necessary depends on future developments regarding new variants, which are highly uncertain and cannot be predicted with certainty. We will continue to evaluate potential impacts and provide updates accordingly.

In 2022, we strengthened our technology platforms, our digital capabilities, and our infrastructure through sustainable investments, select strategic partnerships and acquisitions to bring long-term added value to patients, shareholders, and to society. The 2023 financial year will follow on seamlessly from this, with the aim of establishing ourselves as a leading company in the field of 21st century immunotherapies with a multi-platform strategy and a diversified product pipeline.

4.2 Risk Report

4.2.1 Risk Governance Framework and Risk Management System

Risk Governance Framework

As a next-generation immunotherapy company, we are exposed to numerous uncertainties and changes resulting, for example, from the fundamentally new research approach. In order to systematically manage risks, the governance structure of BioNTech is based around the three lines model. Our objective is to anticipate potential developments at an early stage and to systematically identify, assess and manage any resulting risks. It is equally important to recognize and exploit opportunities. From an operational perspective, activities in the *first line* are aimed at compliance with the requirements defined in the second line and application of controls as part of day-to-day operations. The *second line* comprises risk management as well as our internal control system (see 4.2.2 Internal Control System and Internal Audit) and our compliance and ethics program (see 5.4 Integrity and Ethics). This line determines risks, defines the control framework and specific policies. Internal Audit, which was newly implemented in the 2022 financial year, is the *third line* (see 4.2.2 Internal Control System and Internal Audit).

Risk Management System

As part of our risk governance framework, a functioning risk management system (RMS) is a central element of value-based corporate management for us.

Our company-wide risk management system records strategic, operational, financial, legal and reputational risks as well as the corresponding opportunities.

Risk Reporting

The aim is to identify, monitor and manage these risks at an early stage. Risks and their impact on the Company are presented transparently in order to enable effective management of these risks. We use internal and external sources of information for this purpose.

Central Risk Management prepares an overall risk report for the Management Board twice a year. The Management Board also informs the Audit Committee twice a year. The Audit Committee deals with this report in its meetings. If unexpected risks arise – in addition to the regular reporting of significant risks – these are reported directly to the Management Board. The Audit Committee of our Supervisory Board examines the effectiveness and adequacy of the risk management system and also calls on the newly created Internal Audit department for this purpose.

The enhancement of the risk management system was again the focus of the Management Board and Supervisory Board during the 2022 financial year, and methods and processes are continuously being refined.

Risk Identification
The risks recorded in the previous period were reassessed during the 2022 financial year. New risks were recorded and analyzed in the same way as in the previous year. Existing risks were reviewed and refined with regard to their substance and assessment, and adjusted where necessary.

The individual risks are assigned to risk owners, who are responsible for the management of these risks and who have the necessary competencies and level of responsibility to do so. The risk owners evaluate the individual risks quantitatively by determining the probability of occurrence and the expected impact on the value of the Company. In addition, the risks are expanded to include the dimensions of "reputational damage" and "legal relevance" and assessed qualitatively.

The risk survey process is generally carried out twice a year (in the first and third quarters). Ad hoc risks are continuously recorded and assessed.

Since the 2021 financial year, the risk survey has been supported by a risk management tool. Within the tool, risks are aggregated via a Monte Carlo simulation, evaluated using a value-at-risk approach and then managed according to the defined risk-bearing capacity.

We monitor identified risks continuously and respond to them in different ways. For each risk, we make an individual decision as to whether or not to accept the risk. Alternatively, we consider, for example, whether the risk can be covered (i.e. transferred) by insurance or whether it can be mitigated by other means.

Risk Assessment
Risks are assessed in monetary terms according to "probability of occurrence" and "damage potential." Probability of occurrence is rated on a scale ranging from "very unlikely" to "very likely," while damage potential is rated on a scale from "low" to "critical." Risks arise depending on the combined magnitude of the two factors and are classified as "high," "medium" or "low."

However, risks with a currently low estimated damage potential may have a greater impact in the future than currently assessed and are therefore continuously monitored by Central Risk Management.

4.2.2 Internal Control System and Internal Audit

Internal Control System
Our internal control system (ICS) is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external reporting purposes in accordance with International Financial Reporting Standards (IFRS) or the German Commercial Code (HGB). Having listed our share on the Nasdaq Global Select Market, we have established our internal control system based on SOX regulations (Sarbanes-Oxley Act Section 404).

The standard ICS process is depicted in an ICS lifecycle, comprising the six steps presented below that are carried out either consecutively or in parallel:

- Scoping phase
- Testing of effectiveness

- Discussion of test results
- Monitoring of activities
- Quality assurance of the self-assessments
- ICS reporting

The results of the testing are communicated regularly to the Management Board and Supervisory Board and approved in connection with the annual financial statements. The scope of the ICS is defined across all processes. The test results include financial reporting topics as well as further processes and topics from general areas, such as treasury, tax, IT, compliance and operational topics.

Based on the COSO model (Committee of Sponsoring Organizations of the Treadway Commission), our internal control system for financial reporting is divided into five components: control environment, risk assessment, control activities, information and communication, and monitoring of the internal control system.

The effectiveness of internal control over financial reporting is regularly reviewed and assessed against the COSO components in accordance with Section 404 SOX. As of December 31, 2022, the control system over financial reporting was assessed as effective by our Management Board.

Given systemic limitations, the design of internal control over financial reporting and the diligence of control implementation do not provide absolute assurance that the financial reporting objectives will be achieved and misstatements will always be prevented or detected.

Internal Audit
The Internal Audit function was newly implemented in the 2022 financial year. As an independent audit and consulting function without operational responsibility, Internal Audit performs audits of organizational units, processes, corporate functions and projects selected according to a risk-based approach on behalf of the Management Board and the Audit Committee. In 2022, auditees included the risk management system. Audit findings lead to agreed actions that are overseen by Internal Audit until they have been fully implemented.

4.2.3 Risks

Sustainability Risks
Since the 2022 financial year, Risk Performance and Corporate Social Responsibility (CSR) have worked together to identify material sustainability risks and integrate them into the company-wide risk management system. In 2022, the analyses focused on climate risks as identified by the Task Force on Climate-related Financial Disclosures (TCFD) and humans rights risks pursuant to the German Act on Corporate Due Diligence for the Prevention of Human Rights Violations in Supply Chains (LkSG), which has been applicable to BioNTech since January 1, 2023.

We plan to integrate climate-related topics (climate risks pursuant to the TCFD and targets in accordance with the Science Based Targets initiative or SBTi) into risk management on a continuous basis. In 2023, we will include potentially material financial and physical impacts of climate change in a separate category within corporate risk management. The sustainability report for the 2022 financial year contains an overview of the climate risks identified as being of relevance for us and of climate risk governance and strategy. Metrics and targets (not externally audited) for assessing and managing relevant climate-related risks are published in the 2022 Sustainability Report and on our website at www.biontech.de. The climate targets for 2030 in accordance with the SBTi were submitted to the SBTi for validation in 2022.

In 2022, we launched a gap analysis to assess the measures taken to date to address human rights risks with a focus on the risks stated in Section 2 para. 2 LkSG. This assessment, as preparation for a comprehensive risk analysis in accordance with Section 5 LkSG, comprised our own operations and our direct suppliers. The performance of a proactive risk analysis to identify potential human rights and environmental-related risks and incidents early on and mitigate them in a timely manner is a high priority for us. It will be

coordinated by the Human Rights Officer, the CSR team and Risk Management and performed with the support of Internal Audit. The risk analysis will be deployed both globally and in each country in which we operate and will be updated on an annual or ad hoc basis to evaluate potential risks in the event of significant changes in the Company's operations or business relationships. We carry out ad hoc risk assessments when concerns related to human rights and environmental risks arise.

Risks with the Greatest Impact

Risks from Strategic Transformation and Integration

We are in a constant process of strategic adjustments. If we cannot implement our plans as expected, we are exposed to certain risks. For example, the benefits of the measures may be less than originally estimated, they may have a later impact than anticipated, or they may not have any effect at all. Any of these factors – alone or in combination – could have a negative impact on our business, net assets, financial position and results of operations. The transformation is being addressed through various strategic initiatives, including in particular the expansion of existing departments and cross-disciplinary teams as well as the expansion of our tool support and the underlying process landscape. The risk is assessed as high.

Employees

Our workforce plays a crucial role in our transformation. The skills of our employees are an important factor for our business success. If we are unable to attract or retain a sufficient number of experts, this could have a negative impact on our business in the future. New processes and capacities are being developed and built up to counteract the bottleneck caused by the generally high market demand for the recruitment of new employees and relevant specialist staff. The risk is assessed as medium.

Legal, IP and Insurance

The legal risks that are currently relevant to us can be grouped into two categories: contractual risks and patent-related risks.

On the contractual side, we are confronted with possible breaches of contract. Different interpretations of the contracts, the claims regulated in them and the allocation of revenues and costs could lead to disputes. Where the recognition criteria are met, provisions are made to counter this risk. A medium residual risk remains.

In addition, in the normal course of business, we may from time to time unintentionally infringe protected intellectual property of others. These patent-related risks are countered by continuous monitoring of patent applications. In addition, in such cases, we continuously assess whether the related circumstances will change in the future, including whether it may be necessary to recognize a provision and whether there are potential indemnification claims against such allegations. The risk is assessed as medium.

Intentional or unintentional infringement of our intellectual property by third parties is currently classified as a low risk, but would have mainly long-term effects.

Due to the rapid growth of recent years, a gap in insurance management could arise. It is possible that not all events or different events are fully insured. Constant growth makes it difficult for insurance service providers to assess, coverage amounts and related premiums may be set too high or too low. We are in continuous exchange with insurance companies to find an acceptable solution regarding conditions and costs, a central insurance management function has been established and several insurance brokers are already engaged. Until the measures taken are fully implemented, management classifies the risk as medium.

Commercial Products

Our COVID-19 vaccine is our first commercial product on the market and is an effective component in the fight against the COVID-19 pandemic. Revenues projected on the basis of assumptions are subject to fluctuations and may thus fall short of our own expectations. These fluctuations can be caused, for example, by an incorrect assessment of market size or unforeseen changes in market demand. This also includes the pandemic status declared by the WHO for 2023 on which the adaptation of our vaccine doses and distribution channels and the guarantee of regular supply depend. Changes in the requirements for our vaccine, missed or delayed adaptation to new virus variants or even

superior products from competitors could also have an aggravating effect. Internal capacities are being built and expanded to address the complex landscape of emergency approvals, temporary approvals or conditional approvals. We continuously monitor and analyze market and industry developments in order to identify market entry barriers, growing competition or changes in health legislation at an early stage. In addition, we are in active exchange with government representatives, health insurance companies or other payers. The risk is classified as high.

The various contracts with our collaboration partners and the associated profit share are subject to certain expectations on our side. Despite various consultations and our own assessment, actual results may fall short of our expectations, e.g. due to lower revenues or market shares in our partners' regions as well as increased costs on our partners' side. In order to be able to better assess the developments, we are in intensive and constant exchange with our partners. The risk is classified as high.

Research & Development
There are currently more than 25 product candidates in over 30 clinical trials and more than 30 research programs; our main activity therefore continues to be research and development and the supervision of clinical trials. Naturally, this also involves the greatest risks. For scientific, procedural or regulatory reasons, product candidates may not be developed to market maturity, or only with a delay. Likewise, despite optimal preparation, unforeseeable complications or side effects may occur in the course of clinical trials, which in the worst case could lead to legal disputes and compensation payments.

The increasing number of candidates in our product pipeline also has a growing impact on the Company's risk situation. We constantly monitor the development of our industry and the market in order to address uncertain factors during the research and development of our candidates in oncology and infectious diseases (e.g. clinical care costs, the number of treatable patients, possible additional costs due to delays in clinical trials, a more difficult patient search due to the pandemic or an additional trial to collect additional data). The risk is assessed as high.

In connection with the continuation of clinical trials, we are in close contact with the clinical centers located in the countries affected by the COVID-19 pandemic and are continuously assessing the impact of the COVID-19 pandemic on clinical trials, expected timelines and costs. This led to delays in the relevant trials. We are constantly monitoring the development of our industry and the market in order to be able to take appropriate countermeasures. The availability and performance of suppliers, licensors and Contract Research Organizations (CROs) due to the impact of COVID-19 were only marginally affected.

Physical and IT Security
The continued visibility of the Company and the growing international presence have diversified security risks. Physical security risks include criminal threats against the assets of BioNTech, harassment of employees, unauthorized access and other undesired acts against BioNTech's operations. With a security transformation program and the implementation of corresponding physical security standards, BioNTech aims to achieve and uphold a globally consistent level of protection for all BioNTech representatives and assets.

The protection of our data and the security of our information also includes unauthorized access – from outside or inside – to our supply chain, infrastructure or intellectual property as well as extortionist acts or denial-of-service attacks, fraud and phishing. We take various measures to counteract these risks; for example, we continuously enhance or security policies and guidelines and perform IT risk and application security assessments; a vulnerability scanner and incident management function have been set up. The residual risk is classified as medium.

Compliance and Regulation
The rapid growth of recent years favors the risk of a delay in quarterly or annual financial statements. Increased media attention and regulatory requirements also have an impact on timelines, as does the interaction between internal departments and external collaboration partners as sources of information. The necessary processes and systems are being developed. The residual risk is classified as high.

The internal Customs department is currently being expanded to avoid the risk of incorrect customs declarations being issued unintentionally. The risk is assessed as low.

The withholding and deduction of taxes on remuneration for the transfer of the use or the permission to use rights, in particular copyrights and industrial property rights, is actively monitored by our Tax department. The risk is assessed as low.

In the area of compliance, the focus is on combating corruption, bribery and money laundering. In addition, we have processes in place as well as various training courses, guidelines and policies available to our employees to actively address cooperation with healthcare experts, conflicts of interest, unfair promotion of medical products, insider trading, discrimination and health and safety. The risk from any such misconduct is classified as low.

Another focus is placed on avoiding bribery and corruption. Due to established processes and training, the risk is rated as low.

Processes and responsibilities need to grow and adapt with rapid growth. It may not be possible to adequately meet the requirements of the Sarbanes-Oxley Act (U.S. federal law designed to improve reporting by companies using the U.S. public capital market). The confidence of the market or individual investors could be damaged. To counteract this, the internal control system is constantly being expanded and further developed. The risk is low.

Finance
A large part of the incoming payments are in U.S. dollars. Consequently, we incur an exchange rate risk for the funds required in euros. With the aim of preserving capital, surplus liquidity is invested at various banks and in money market funds with investment grade ratings, subject to limits defined in a risk policy. Any interest rate risks in this context may also lead to opportunities as a result of rising interest rates in the short term. We also identify exchange rate risks with regard to foreign currency investments. Exchange rate and interest rate fluctuations can reduce the value of our financial positions. We limit the effects of the identified risks with the help of a coordinated and consistently implemented risk strategy. As a matter of principle, forward exchange transactions are concluded as hedging instruments. Our risk strategy also takes into account natural hedging relationships. In addition, developments on the financial markets are continuously monitored to enable us to react to exceptional events at short notice. The risk is assessed as low.

External/Global risks
In times of ever new crises and global events occurring in rapid succession, strategic assessments focus increasingly on climate change and extreme weather events, such as floods or droughts, the pandemic or the current inflation. These also include current conflicts such as the Russia-Ukraine war and a potential further escalation and expansion of this conflict as well as potential trade wars or local conflicts in different regions of the world.

The impacts, including supply chain interruptions (e.g. due to import restrictions, supply shortages or low water levels in the Rhine) and scarcity of resources (e.g. the gas shortage) are being continuously monitored and assessed by our Business Continuity Management. The risk is assessed as low.

4.2.4 Assessment of the Internal Control System and Risk Management System by the Management Board

The company-wide risk situation is evaluated in half-yearly Management Board meetings. The results of the internal control process are presented to the Audit Committee once a quarter and an overall assessment is given of the adequacy and effectiveness of the ICS and RMS. On this basis, the Management Board is not aware of any indications that our ICS and RMS were not appropriate or not effective overall as of December 31, 2022.

We are convinced that we will be able to master challenges and take advantage of opportunities in the future without taking unjustifiably high risks. In doing so, we strive for a balanced relationship between opportunities and risks. Our aim is to increase added value for our stakeholders by analyzing and seizing new opportunities.

4.2.5 Assessment of the Overall Risk Situation by the Management Board

The assessment of the overall risk situation is the result of the consolidated consideration of all significant risk categories and individual risks.

At the time the management report was prepared, the aforementioned risks did not pose any threat to the continued existence of BioNTech SE and its affiliated subsidiaries.

4.3 Opportunity Report

In pursuit of our vision, we are focused on transforming the treatment of cancer and infectious diseases and creating long-term value for patients, society and our shareholders through innovative and personalized medicines and therapies that harness the full potential of the human immune system. Based on the key building blocks listed below, we believe we are well positioned to provide people around the world with access to our therapies and medicines and to ensure that they benefit from them.

Pipeline of Preclinical Programs and Clinical Product Candidates
Underpinning our vision is our understanding and long experience in mRNA, synthetic biology and other innovative technologies. We are working with a broad range of tools across multiple technology platforms, including a wide spectrum of potentially first-in-class therapeutic approaches, to provide individually tailored therapies for diverse disease forms and manifestations. We also use bioinformatics processes and algorithms to this end. Our platform is composed of patent-protected technologies in the drug classes mRNA therapeutics, programmable cell therapies, next-generation antibodies and small molecule immunomodulators.

Our diversified product portfolio represents a large repertoire of potential future market-ready products, which at the same time enables us to reduce the impact of product candidates that do not make it to market on the overall development of the Company. Currently, more than 25 product candidates are in over 30 clinical trials and more than 30 research programs. At the end of 2022, we commenced two Phase 1 clinical trials in infectious diseases: one for a product candidate against malaria and another for a product candidate against the herpes simplex virus. The first clinical trial for a product candidate against tuberculosis is expected to commence in the first half of 2023.

The rapid development, successful commercialization and delivery of our COVID-19 vaccine based on our proprietary mRNA technology has demonstrated the potential of immunotherapies. The speed and success of developing a vaccine based on mRNA technology has also demonstrated that not only can highly effective and safe vaccines be produced based on this technology, but that mRNA technology also enables faster product development and shorter production cycles than conventional vaccine technologies. In fall 2022, we succeeded in obtaining approval for a bivalent COVID-19 vaccine adapted to the Omicron variants BA.4 and BA.5. The lessons learned, including how to rapidly manufacture and adapt our vaccine to new viral variants, will now be leveraged for additional disease areas and product candidates. We currently have three commercial products: our COVID-19 vaccine COMIRNATY (BNT162b2) and the two Omicron-adapted vaccines BA.1 and BA.4/5. The ongoing development of the COVID-19 vaccine with respect to the Omicron variant and potential future viral variants provides us with the opportunity to continue to be the leading provider of COVID-19 vaccines, together with our partner Pfizer. In cooperation with Pfizer, in late 2022, we also commenced a Phase 1 clinical trial with our combined influenza and COVID-19 vaccine, which is also based on mRNA technology. The combined vaccine allows two severe respiratory diseases to be prevented by a single vaccine.

In oncology, we are exploring and exploiting novel targets and target combinations. Our goal is to extend the benefits of cancer immunotherapies to patient populations that cannot currently benefit from effective therapies. To increase the potential efficacy of our immunotherapies, we develop drug candidates that are precisely targeted. By combining compounds with synergistic mechanisms of action, such as the combination of our FixVac immunotherapy (CARVac) with our novel CAR-T therapies, we aim to increase drug activity and counteract resistance mechanisms.

We believe we are well positioned to develop the next generation of immunotherapies that have the potential to change treatment paradigms for therapies against cancer, infectious diseases and other serious diseases, and significantly improve clinical outcomes for patients.

Production

For the production of the COVID-19 vaccine, we established a global supply chain and production network from 2020 to 2022, in addition to expanding internal production capacities, in particular through the acquisition of the manufacturing site in Marburg. In 2023 and the following years, we will work at full speed to build or lease the laboratories, production facilities and office space necessary for the Company's further expansion, and further expand the partner network.

Since the beginning of 2023, a further manufacturing facility has been in operation in Marburg, where we are manufacturing plasmids for our clinical trials. A commercial manufacturing facility for plasmid DNA is also to be commissioned in late 2023. Establishing our own plasmid DNA production will enable us to manufacture the starting materials for mRNA- and cell-based drugs more flexibly and autonomously. In Mainz, the semi-automation of processes under the iNEST (individualized neoantigen-specific immunotherapy) program has resulted in the faster production of individualized mRNA cancer vaccines for clinical use.

We also plan to build our own fully integrated mRNA production sites in Asia and Africa with capacity to produce several hundreds of millions of doses of various mRNA-based vaccines. Our plans in Asia include building a fully integrated mRNA manufacturing facility in Singapore and our first regional headquarters for Southeast Asia. The state-of-the-art manufacturing facility is expected to be fully operational in mid-2024. The facility will be integrated into the Company's global production network and is an important building block for supplying the Asian region with our COVID-19 vaccine and other future products in oncology and infectious diseases. Using a novel approach, we have also developed turnkey mRNA production facilities based on a container solution called *BioNTainer*, which are designed to enable scalable mRNA vaccine production. Several shipping containers for our first *BioNTainer* finished construction in Europe, underwent quality checks, were prepared for shipment and arrived in Kigali, Rwanda, in March. The facility being established there will become a node in a decentralized and robust end-to-end manufacturing network in Africa. We have plans to ship further *BioNTainers* to Senegal and potentially South Africa. Vaccines to be manufactured in Africa will be dedicated to people residing in member states of the African Union.

Our continually growing global manufacturing capacity and our global COVID-19 vaccine supply chains and manufacturing network give us the opportunity to provide people around the world with fast and easy access to state-of-the-art medicines and therapies. In addition, the increasing digitalization and automation of business processes, supported by effective process management, creates opportunities for us to create additional value and increase efficiency.

Commercialization

Last year, we transformed from a pharmaceutical start-up to a globally operating, profitable and fully integrated biotechnology company thanks to the successful production and commercialization of our COVID-19 vaccine. The financial resources gained in 2022 put us in a good position to accelerate the expansion of our portfolio in the field of oncology and to open up further therapeutic areas and sales markets. In this way, we want to succeed in assuming a leading role in the rapidly growing market for immunotherapies in the coming years. With the commercial team created in 2020 and the establishment of two sales companies in Germany and Turkey, we are creating the necessary conditions to also be able to market future products worldwide on our own and thus significantly reduce our dependency on partners.

We are also building a digital commercial ecosystem to enable even better interaction with the Company's stakeholders, including a personalized customer journey, a sales performance program and a smart learning platform.

In the future, we will continue to make use of opportunities to expand our own know-how to include promising complementary technologies such as artificial intelligence (AI) and machine learning (ML) and strengthen production capacities by making targeted acquisitions and investments in other companies. The planned acquisition of InstaDeep Ltd., headquartered in London, United Kingdom, which was announced in January 2023, will strengthen our pioneering position in the field of AI-powered drug discovery, design and development. In this context, the increased attention on our Company due to the successful development and production of a COVID-19 vaccine as well as its commercialization also offers the opportunity to enter into new partnerships with leading global companies, foundations and academic research institutions for the development and distribution of further products. At the beginning of 2023, we announced a planned strategic partnership with the UK government with the aim of providing personalized mRNA cancer therapies for patients, either in clinical trials or as authorized treatments. An R&D hub is to be established in Cambridge for this purpose.

Team and Corporate Culture

Standing behind the great successes of the past three years are our now more than 4,600 employees. In addition, we have a management team consisting of renowned scientists, experienced entrepreneurs and the biotechnology investors who support us. In order to be able to continue our successful development, it is of great importance for us to continue to attract the best minds to the Company in the future.

Both the Management Board and the Supervisory Board see the maintenance of our corporate culture, exemplified by “Project Lightspeed,” which has led to the rapid and successful development of our COVID-19 vaccine, as a fundamental part of our strategy to manage our expected future organizational growth. A “Culture Campus” we created brings together employees from a wide range of disciplines to work together to develop the culture based on the founding team’s vision.

The Group has identified key factors of our corporate culture based on a data-driven process: a strong sense of purpose, a focus on fostering contribution and responsiveness. Scientific rigor, innovation and passion drive us. We foster self-confidence in our staff, give them the ambition they need to be pioneers and push boundaries, and also take the time to celebrate our own successes. Cohesion is an important part of our culture, which focuses on collaboration, teamwork and a learning culture that sees both successes and failures as opportunities for growth. Despite our significant growth, we strive to remain adaptable, which is critical for innovation, efficiency and identifying opportunities and possibilities. Finally, we remain responsible, acting with integrity and making decisions based on sustainability, our values and scientific data.

The Culture Campus also examines the leadership principles that have made us successful and embeds them in our corporate culture for further success going forward. An onboarding program, consisting of a company-wide buddy program and induction events, has been set up for new hires to ensure that the Company remains a close-knit community in spite of its strong growth. We have also appointed cultural ambassadors who support and foster our corporate culture as well as create and actively participate in cross-functional networks. The first company-wide Culture Campus Dialog was held in 2022 and focused on our shared vision and mission. This involved reflecting on roles at both the individual and team level and identifying potential for improvement.

Thanks to our high profile in Germany and a corporate culture that has been developed with the close involvement of employees across all our disciplines, we have the opportunity to become a globally attractive employer for the best talent in both the scientific and administrative fields.

5 Corporate Governance Declaration Pursuant to Section 315d in Conjunction with Section 289f HGB

5.1 Declaration on the Corporate Governance Code Pursuant to Section 161 AktG

The German Stock Corporation Act (AktG) requires that the Management Board and Supervisory Board of German companies listed on a stock exchange regulated and supervised by a state-recognized body issue an annual declaration either (i) stating that the recommendations of the Corporate Governance Code, or "Code" have been complied with or (ii) listing the recommendations with which the Company has not complied and explaining the reasons for the deviation from the recommendations of the Corporate Governance Code (Declaration of Conformity). There is no obligation to comply with the recommendations or suggestions of the Corporate Governance Code. A listed company in this sense is obliged to further indicate in this annual declaration whether it intends to comply with the recommendations or to list the recommendations it does not intend to comply with in the future. This statement shall be made publicly available online.

If the company changes its policy with regard to certain recommendations between these annual statements, it must disclose this fact and explain the reasons for the deviation from the recommendations. Non-compliance with the suggestions also contained in the Corporate Governance Code in addition to the recommendations does not have to be disclosed.

Our Management Board and Supervisory Board have dealt in detail with the recommendations of the Corporate Governance Code and, on March 20, 2023, issued the following Declaration of Conformity pursuant to Section 161 para. 1 AktG, which, in accordance with the Code, is issued in connection with the Corporate Governance Declaration pursuant to Section 315d in conjunction with Section 289f HGB:

BioNTech SE has complied and will continue to comply with all recommendations of the German Corporate Governance Code as amended on April 28, 2022, with the exception of the points listed below.

- According to Item B.1 of the Code, the Supervisory Board shall take diversity in account in the composition of the Management Board. On May 4, 2020, the Supervisory Board of the Company set the target for the proportion of women on the Management Board at 25%. Mr. Jens Holstein was appointed to the Management Board as Chief Financial Officer on July 1, 2021. Prior to the appointment of Mr. Holstein, an extensive selection process took place with several female and male candidates. Mr. Holstein was appointed on the basis of his expertise, his many years of experience and his profile as Chief Financial Officer, and he was considered to be the most suitable candidate for the position of Chief Financial Officer and the best fit for the Company compared to all other candidates. In the past year, the contracts of individual Management Board members were renewed, but no new member was appointed. These decisions were made after careful consideration and discussion and were believed by the Supervisory Board to be in the Company's best interests. On March 8, 2023, the Supervisory Board again discussed the proportion of women on the Management Board and defined a target of 25%. The deadline by which this target is to be achieved was set at December 31, 2025. The Supervisory Board is working on the new diversity targets for the Management Board and will continue to take these into account in the future.
- According to Item C.1 of the Code, the Supervisory Board shall take diversity into account in its composition. The Supervisory Board was expanded in the 2022 financial year. Prof. Anja Morawietz, Ph.D.

and Prof. Rudolf Staudigl, Ph.D. were appointed to the Supervisory Board at our Annual General Meeting. As such, the target proportion of women on the Supervisory Board of 25% by December 31, 2022 was not achieved. A large number of candidates were interviewed ahead of the election recommendations to be made to the 2022 Annual General Meeting. At the time the invitation to the Annual General Meeting was published, two female candidates were on the shortlist. To ensure the best possible match with the required competence profile, after debating at length and giving due consideration to the interests of the Company, the Supervisory Board proposed Prof. Rudolf Staudigl, Ph.D. for election as an additional member of the Supervisory Board alongside Prof. Anja Morawietz, Ph.D. On March 8, 2023, the Supervisory Board again discussed the proportion of women on the Supervisory Board and defined a target of 25%. The deadline by which this target is to be achieved was set at December 31, 2025. Diversity is of central importance for the Supervisory Board and the Company and will be given special consideration in the forthcoming Supervisory Board elections.

According to Item C.7 of the Code, it is recommended that more than half of the members of the Supervisory Board be independent of the Company and its Management Board. Accordingly, a Supervisory Board member is independent of the Company and its Management Board if he or she has no personal or business relationship with the Company or its Management Board that may cause a substantial – and not merely temporary – conflict of interest. In assessing independence, the length of service on the Supervisory Board is to be taken into account, among other factors. Despite the fact that three out of six members of the Supervisory Board have exceeded the period of membership recommended in the Code, all members of the Supervisory Board are considered to be independent. The Supervisory Board considers it advantageous and essential for the Company to maintain the knowledge and experience currently available on the Supervisory Board. This includes many years of knowledge of the Company and its industry as well as comprehensive professional knowledge in the areas of finance, economics, science and the capital markets, which is particularly important in view of the current steady global growth and transformation of the Company. Due to the longstanding relationship with the Company and the existing economic independence from the Company, as well as the lack of other concerns that could cause possible conflicts of interest, the length of service of the three Supervisory Board members Helmut Jeggle, Michael Motschmann and Prof. Christoph Huber, M.D. does not prevent them from being independent. (see Item C.8 of the Code).

5.2 Composition and Working Practices of the Management Board, Supervisory Board and Committees

Two-Tiered Board Structure

We are a European public company with limited liability (*Societas Europaea* or SE) (also referred to as European stock corporation, and in the official terminology of the European legislation referred to as European public limited liability company), having its seat in Germany. We have chosen to have a two-tiered SE structure. Hence, our corporate bodies are the Management Board (*Vorstand*), the Supervisory Board (*Aufsichtsrat*) and the shareholders' meeting (*Hauptversammlung*). Our Management and Supervisory Boards are entirely separate, and, as a rule, no individual may simultaneously be a member of both boards.

Our Management Board is responsible for the day-to-day management of our business in accordance with applicable laws, our Articles of Association (*Satzung*) and the Management Board's internal rules of procedure (*Geschäftsordnung*). Our Management Board represents us in our dealings with third parties.

The principal function of our Supervisory Board is to supervise our Management Board. The Supervisory Board is also responsible for appointing and removing the members of our Management Board, representing us in connection with transactions between a current or former member of the Management Board and us, and granting approvals for certain significant matters.

Our Management Board and our Supervisory Board are solely responsible for, and manage, their own areas of competency (*Kompetenztrennung*); therefore, neither board may make decisions that, pursuant to applicable law, our Articles of Association or the internal rules of procedure are the responsibility of the other board. Members of both boards owe a duty of loyalty and care to us. In carrying out their duties, they are required to exercise the standard of care of a prudent and diligent businessperson. If they fail to observe the appropriate standard of care, they may become liable to us.

In carrying out their duties, the members of both boards must take into account a broad range of considerations when making decisions, including the interests of our shareholders, employees, creditors and, to a limited extent, the general public, while respecting the rights of our shareholders to be treated on equal terms. Additionally, the Management Board is responsible for implementing an internal monitoring system for risk management purposes.

Our Supervisory Board has comprehensive monitoring responsibilities. To ensure that our Supervisory Board can carry out these functions properly, our Management Board must, among other duties, regularly report to our Supervisory Board regarding our current business operations and future business planning (including financial, investment and personnel planning). In addition, our Supervisory Board or any of its members is entitled to request special reports from the Management Board on all matters regarding the Company, our legal and business relations with affiliated companies and any business transactions and matters at such affiliated companies that may have a significant impact on our position at any time.

Under German law, our shareholders have, as a general rule, no direct recourse against the members of our Management Board or the members of our Supervisory Board in the event that they are believed to have breached their duty of loyalty and care to us. Apart from when we are unable to fulfill our third-party obligations, tortious conduct to board members or other special circumstances, only we have the right to claim damages against the members of our two boards.

We may waive these claims to damages or settle these claims only if at least three years have passed since a claim associated with any violation of a duty has arisen and only if our shareholders approve the waiver or settlement at a shareholders' meeting with a simple majority of the votes cast, provided that no shareholders who in the aggregate hold one-tenth or more of our share capital oppose the waiver or settlement and have their opposition formally recorded in the meeting's minutes.

5.2.1 Supervisory Board

German law requires that the Supervisory Board consists of at least three members, while a company's articles of association may stipulate a certain higher number. Our Supervisory Board currently consists of six members. As we are not subject to co-determination, the members of our Supervisory Board are all elected by the shareholders' meeting in accordance with the provisions of the SE Regulation and the German Stock Corporation Act (*Aktiengesetz*).

The following table sets forth the names and functions of the current members of our Supervisory Board, their ages as of December 31, 2022, their terms (which expire on the date of the relevant year's general shareholders' meeting) and their principal occupations and other relevant Supervisory Board mandates outside of our Company:

Name (function)	Age	Term expires	Principal occupation (other relevant Supervisory Board mandates)
Helmut Jeggle (Chair of the Supervisory Board)	52	2026	Managing partner and entrepreneurial venture capital investor of Salvia GmbH (Supervisory Board member 4SC AG, AiCuris AG, AFFiRiS AG, APK AG and Tonies SE)
Ulrich Wandschneider, Ph.D. (Deputy Chair of the Supervisory Board)	61	2023	Managing director of beebusy capital GmbH and independent consultant to companies in the life science and healthcare sector
Prof. Christoph Huber, M.D. (Supervisory Board member)	78	2023	Professor emeritus at the Johannes Gutenberg University Mainz (Deputy Chair of the Supervisory Board Tirol Kliniken GmbH)
Prof. Anja Morawietz, Ph.D. (Supervisory Board member since June 2022)	45	2026	Certified Public Accountant and Management Consultant, Professor of External Accounting and General Business Administration at the Nuremberg University of Applied Sciences Georg Simon Ohm
Michael Motschmann (Supervisory Board member)	65	2023	Member of the Management Board and head of equity investments of MIG Capital AG (Supervisory Board member AFFiRiS AG, APK AG, HMW-Emissionshaus AG and HMW-Innovations AG)
Prof. Rudolf Staudigl, Ph.D. (Supervisory Board member since June 2022)	68	2026	Independent consultant (Member of the Supervisory Board of TÜV Süd Aktiengesellschaft, member of the Supervisory Board of Groz-Beckert KG (Deputy Chair))

The business address of the members of the Supervisory Board is the same as the business address of BioNTech: An der Goldgrube 12, 55131 Mainz, Germany.

The competence profile of the members of the Supervisory Board is as follows:

Qualification/name (function)	Helmut Jeggle (Chair of the Supervisory Board)	Ulrich Wandschneider, Ph.D. (Deputy Chair of the Supervisory Board)	Prof. Christoph Huber, M.D. (Supervisory Board member)	Prof. Anja Morawietz, Ph.D. (Supervisory Board member since June 2022)	Michael Motschmann (Supervisory Board member)	Prof. Rudolf Staudigl, Ph.D. (Supervisory Board member since June 2022)
(Biotech) industry experience	x	x	x		x	x
(Biotech) industry sales and marketing	x	x				
Management		x				
Innovation, research and development		x	x			
Accounting, auditing and controlling (including sustainability reporting)	x	x		x	x	x
Compliance, internal controls and risk management		x		x	x	x
Human resources		x	x		x	x
Digitalization	x	x		x	x	
International experience/ relevant markets	x	x	x	x	x	x
CSR/sustainability		x		x		
Elected to the Supervisory Board of the Company for the first time	2008	2018	2008	2022	2008	2022
End of term	2026	2023	2023	2026	2023	2026
Independence	x	x	x	x	x	x
Year of birth	1970	1961	1944	1977	1957	1954
Gender	m	m	m	f	m	m

German law does not require the majority of our Supervisory Board members to be independent and neither our Articles of Association (*Satzung*) nor the rules of procedure for our Supervisory Board provide otherwise. As per our Supervisory Board's assessment, an appropriate number of shareholder representatives on the Supervisory Board (i.e. the entire Supervisory Board) are independent if the Supervisory Board has two independent members. In addition to Ulrich Wandschneider, Ph.D., Prof. Anja Morawietz, Ph.D. and Prof. Rudolf Staudigl, Ph.D., the Supervisory Board considers Helmut Jeggle, Michael Motschmann and Prof. Christoph Huber, M.D. to be independent irrespective of the fact that they will soon have been members of the Supervisory Board for a period of more than 14 years. As stated in the declaration to the German Corporate Governance Code, or the Corporate Governance Code, (*Entsprechenserklärung*) published by the Company on March 20, 2023 pursuant to Section 161 para. 1 of the German Stock Corporation Act (*Aktiengesetz*), which in accordance with the Corporate Governance Code is issued in connection with the Declaration pursuant to Section 315d in conjunction with Section 289f of the German Commercial Code (HGB), the length of membership of the three named Supervisory Board members does not stand in the way of their independence. However, the rules of procedure for our Supervisory Board provide that the Supervisory Board should have an independent member with expertise in the field of accounting, internal control processes and auditing. Ulrich Wandschneider, Ph.D., Prof. Anja Morawietz, Ph.D. and Prof. Rudolf Staudigl, Ph.D. fulfill this role.

Under European law, a member of a supervisory board of an SE may be elected for a maximum term to be specified in the articles of association, which must not exceed six years. Re-election, including repeated re-election, is permissible. The shareholders' meeting may specify a term of office for individual members or all of the members of our Supervisory Board which is shorter than the standard term of office and, subject to statutory limits, may set different start and end dates for the terms of members of our Supervisory Board. Our Articles of Association provide for a term of approximately five years, depending on the date of the annual general shareholders' meeting in the year in which the term of the relevant member is to expire.

The shareholders' meeting may, at the same time as it elects the members of the Supervisory Board, elect one or more substitute members. The substitute members replace members who cease to be members of our Supervisory Board and take their place for the remainder of their respective terms of office. Currently, no substitute members have been elected or have been proposed to be elected.

Members of our Supervisory Board may be dismissed at any time during their term of office by a resolution of the shareholders' meeting adopted by at least a simple majority of the votes cast. In addition, any member of our Supervisory Board may resign at any time by giving one month's written notice – or, in the event of cause, giving written notice with immediate effect – of his or her resignation to the Management Board.

Our Supervisory Board elects a chairperson and a deputy chairperson from its members. The deputy chairperson exercises the chairperson's rights and obligations whenever the chairperson is unable to do so. The members of our Supervisory Board have elected Mr. Helmut Jeggle as chairperson and Dr. Ulrich Wandschneider as deputy chairperson, each for the term of their respective membership on our Supervisory Board.

The Supervisory Board meets at least twice each calendar half-year. Our Articles of Association provide that a quorum of the Supervisory Board members is present if at least three of its members participate in the vote. Members of our Supervisory Board are deemed present if they attend the meeting via telephone or other (electronic) means of communication (including via video conference) or submit their written vote through another member. Additionally, our Articles of Association allow for resolutions to be taken via telephone or other (electronic) means of communications (including via video conference).

Resolutions of our Supervisory Board are passed by the vote of a simple majority of the votes cast unless otherwise required by law, our Articles of Association or the rules of procedure of our Supervisory Board. In the event of a tie, the chairperson of the Supervisory Board has the casting vote. Our Supervisory Board is not permitted to make management decisions, but in accordance with European

and German law and in addition to its statutory responsibilities, it has determined that certain matters require its prior consent, including:

- entering into certain large transactions;
- creating or holding any interest in businesses (except wholly owned subsidiaries) or disposing of shares in businesses (except for a sale of JPT);
- issuing shares from authorized capital, unless the shares are issued pursuant to a redemption of stock appreciation rights; and
- acquiring treasury shares in return for valuable consideration.

The remuneration of the members of the Supervisory Board is described in the remuneration report, which is prepared for the 2022 financial year in accordance with the requirements of Section 162 AktG and published on the website.

Each member of the Supervisory Board shall disclose any conflicts of interest to the Supervisory Board, especially those that may arise from providing advice or holding any offices or board positions at customers, suppliers, creditors or other third parties. Material conflicts of interest that are not merely temporary and that are specific to a particular Supervisory Board member shall result in this particular member leaving office. Our Supervisory Board also puts in place adequate measures to limit, prevent or resolve conflicts of interest in accordance with applicable legal requirements and the Company's Conflicts of Interest Policy.

Our Supervisory Board conducted a self-assessment for the year ended December 31, 2022. It covered all key aspects of the Supervisory Board's work, including its committees, its composition, its competence profile, its main topics and its relationship with the Management Board. The results of the self-assessment have already been evaluated and will subsequently be presented to the Supervisory Board. According to the self-assessment, the Supervisory Board, its committees and the Management Board continue to operate at a professional and cooperative level. No fundamental need for change was identified.

Supervisory Board Practices

Decisions are generally made by our Supervisory Board as a whole, however decisions on certain matters may be delegated to committees of our Supervisory Board to the extent permitted by law. The chairperson, or if he or she is prevented from doing so, the deputy chairperson, chairs the meetings of the Supervisory Board and determines the order in which the agenda items are discussed, the method and order of voting, as well as any adjournment of the discussion and passing of resolutions on individual agenda items after a due assessment of the circumstances. Our Supervisory Board may designate further types of actions as requiring its approval.

In addition, each member of the Supervisory Board is obliged to carry out his or her duties and responsibilities personally, and such duties and responsibilities cannot be generally and permanently delegated to third parties. However, the Supervisory Board and its committees have the right to appoint independent experts for the review and analysis of specific circumstances in accordance with its control and supervision duties under applicable European and German law. We would bear the costs of any such independent experts that are retained by the Supervisory Board or any of its committees.

Pursuant to Section 107 para. 3 of the German Stock Corporation Act (*Atkiengesetz*), the Supervisory Board may form committees from among its members and charge them with the performance of specific tasks. The committees' tasks, authorizations and processes are determined by the Supervisory Board. Where permissible by law, important powers of the Supervisory Board may also be transferred to committees.

The Supervisory Board has established an Audit Committee, a Compensation, Nominating and Governance Committee and a Capital Markets Committee by resolution. Set forth in the table below are the members of the Audit Committee, the Compensation, Nominating and Corporate Governance Committee and the Capital Markets Committee during the year ended December 31, 2022.

Name of Committee	Members until December 31, 2022
Audit Committee	Ulrich Wandschneider, Ph.D. (Chair), Prof. Christoph Huber, M.D. and Michael Motschmann
Compensation, Nominating and Corporate Governance Committee	Michael Motschmann (Chair), Prof. Christoph Huber, M.D. and Ulrich Wandschneider, Ph.D.
Capital Markets Committee	Helmut Jeggle (Chair) and Michael Motschmann

As of January 1, 2023, the members of the Audit Committee, the Compensation, Nominating and Corporate Governance Committee and the Capital Markets Committee appointed from January 1, 2023 have been updated as set forth in the table below.

Name of Committee	Members since January 1, 2023
Audit Committee	Prof. Anja Morawietz, Ph.D. (Chair), Ulrich Wandschneider, Ph.D. and Prof. Rudolf Staudigl, Ph.D.
Compensation, Nominating and Corporate Governance Committee	Michael Motschmann (Chair), Prof. Christoph Huber, M.D. and Prof. Rudolf Staudigl, Ph.D.
Capital Markets Committee	Helmut Jeggle (Chair), Prof. Anja Morawietz, Ph.D. and Michael Motschmann

Audit Committee

Our Audit Committee for the year ended December 31, 2022 comprised Ulrich Wandschneider, Ph.D. (Chair), Prof. Christoph Huber, M.D. and Michael Motschmann. As of January 1, 2023, our Audit Committee comprises Prof. Anja Morawietz, Ph.D. (Chair), Ulrich Wandschneider, Ph.D. and Prof. Rudolf Staudigl, Ph.D. The Audit Committee assists the Supervisory Board in overseeing the accuracy and integrity of our financial statements, our accounting and financial reporting processes and audits of our financial statements, the effective functioning of our internal control system, our risk management system, our compliance with legal and regulatory requirements, our independent auditor's qualifications and independence, the performance of the independent auditor and the effective functioning of our internal audit functions, and, subject to certain limitations, adopts and implements pertinent decisions on behalf of the Supervisory Board. The Audit Committee's duties and responsibilities to carry out its purpose, include, among others:

- making a recommendation to the Supervisory Board with respect to the proposal for the appointment of the auditors;
- considering the commissioning of the audit engagement, as well as the compensation, retention and oversight of the independent auditor;
- evaluating the qualifications, independence and quality of performance of the independent auditor;
- reviewing and pre-approving the audit and non-audit services to be performed by the independent auditor;
- reviewing and discussing the annual audit plan, as well as critical accounting policies and practices to be used with the independent auditor and management;
- discussing and determining additional areas of audit focus, as appropriate;
- reviewing and discussing with the independent auditor and management the adequacy and effectiveness of our internal accounting controls and critical accounting policies;
- reviewing and discussing with the independent auditor and management the results of our annual audit;
- reviewing non-financial reporting;
- reviewing the effectiveness of the compliance management system;

- reviewing and discussing any quarterly or annual earnings announcements with the independent auditor and management;
- reviewing any related party transactions and reviewing and monitoring potential conflict of interest situations on an ongoing basis for compliance with our policies and procedures; and
- overseeing procedures for the receipt, retention and treatment of complaints received regarding accounting, internal accounting controls or auditing matters.

Within the limits of applicable European and German law, the Audit Committee shall have the resources and authority appropriate to discharge its duties and responsibilities, including the authority to select, retain, terminate, and approve the fees and other engagement terms of special or independent counsel, accountants or other experts and advisors, as it deems necessary or appropriate for so discharging its duties and responsibilities, without seeking approval of the Management Board or Supervisory Board.

In addition, Prof. Anja Morawietz, Ph.D, as Chair of the Audit Committee, Prof. Rudolf Staudigl, Ph.D. and Ulrich Wandschneider, Ph.D. have the specialist knowledge and experience in the field of accounting and expertise in the field of auditing as required by the German Corporate Governance Code. In the field of accounting, this includes in particular knowledge and experience in applying accounting principles and internal control and risk management systems and, in the field of auditing, specific knowledge and experience in financial statement audits. Michael Motschmann, who was a member of the Audit Committee alongside Ulrich Wandschneider, Ph.D. and Prof. Christoph Huber, Ph.D. until December 31, 2022, also has this knowledge. Furthermore, Ulrich Wandschneider, Ph.D. and Prof. Anja Morawietz, Ph.D. have knowledge in sustainability reporting and in auditing such reports.

Compensation, Nominating and Corporate Governance Committee
Our Compensation, Nominating and Corporate Governance Committee for the year ended December 31, 2022 consisted of Michael Motschmann (Chair), Prof. Christoph Huber, M.D. and Ulrich Wandschneider, Ph.D. As of January 1, 2023 our Compensation, Nominating and Corporate Governance Committee comprises Michael Motschmann (Chair), Prof. Christoph Huber, M.D. and Prof. Rudolf Staudigl, Ph.D. The Compensation, Nominating and Corporate Governance Committee's duties and responsibilities to carry out its purpose include, among others:

- preparing and discussing with management policies relating to the remuneration of the members of our Management Board;
- reviewing and supervising corporate goals and objectives for the remuneration of the members of the Management Board, including evaluation of the performance of the members of the Management Board in light of these goals and proposals to the Supervisory Board for remuneration based on such evaluations;
- reviewing all equity-based compensation plans and arrangements and making recommendations to the Supervisory Board regarding such plans;
- assisting with identifying and recruiting candidates to fill positions on the Management Board and the Supervisory Board;
- considering any corporate governance issue that arises and developing appropriate recommendations for the Supervisory Board; and
- overseeing the evaluation of the Supervisory Board and reporting on its performance and effectiveness.

Capital Markets Committee
Our Capital Markets Committee for the year ended December 31, 2022 consisted of Helmut Jeggle (Chair) and Michael Motschmann. As of January 1, 2023, our Capital Markets Committee comprises Helmut Jeggle (Chair), Michael Motschmann and Prof. Anja Morawietz, Ph.D. The Capital Markets Committee advises and makes recommendations to the Supervisory Board on issues in connection with capital measures and takeover, merger and acquisition activities. Its responsibilities include the following tasks:

- overseeing the activities of the Company relating to its capital structure and capital raising, including preparation for and implementation of public offerings and share issuances; and
- overseeing the activities of the Company relating to takeovers, mergers and acquisitions activities.

5.2.2 Management Board

Our Supervisory Board determines the exact number of members of our Management Board, which must consist of at least two members. Pursuant to the Articles, the Supervisory Board may also appoint a chairperson or a spokesman of the Management Board. Prof. Ugur Sahin, M.D. has been appointed the chair of the Management Board.

Name	Age	Term expires	Position (main responsibilities)
Prof. Ugur Sahin, M.D.	57	2026	Chief Executive Officer (Research and Development, Scientific Collaborations, Patent Filings, Quality Assurance and Project Management)
Jens Holstein	59	2025	Chief Financial Officer (Finance, Human Resources, Risk Management and Purchasing)
Sean Marett	57	2024	Chief Business Officer and Chief Commercial Officer (Business Development, Alliance Management, Marketing and Sales, Legal and Intellectual Property)
Sierk Poetting, Ph.D.	49	2026	Chief Operating Officer (Production, IT, Laboratories and Infrastructure, and Internal Communications)
Ryan Richardson	43	2026	Chief Strategy Officer (Corporate Strategy, Capital Market Responsibility and Investor Relations)
Prof. Özlem Türeci, M.D.	55	2025	Chief Medical Officer (Clinical Development, Regulatory and Medical Affairs)

The members of our Management Board are appointed by our Supervisory Board for a term of up to five years. They are eligible for reappointment or extension, including repeated reappointment and extension, after the completion of their term in office, in each case again for up to an additional five years. Under certain circumstances, such as a serious breach of duty or a vote of no confidence by the shareholders in a shareholders' meeting, a member of the Management Board may be removed from office by our Supervisory Board prior to the expiration of his or her term.

The members of our Management Board conduct the daily business of the Company in accordance with applicable laws, our Articles of Association and the rules of procedure for the Management Board adopted by our Supervisory Board. They are generally responsible for the management of our Company and for handling our daily business relations with third parties, the internal organization of our business and communications with our shareholders.

A member of the management board of an SE governed by German law may not deal with or vote on matters relating to proposals, arrangements or contractual agreements between himself or herself and the company, and a member of our Management Board may be liable to us if he or she has a material interest in any contractual agreement between the Company and a third party which is not disclosed to and approved by our Supervisory Board.

The rules of procedure for our Management Board provide that certain matters require a resolution of the entire Management Board, in addition to transactions for which a resolution adopted by the entire Management Board is required by law or required by our Articles of Association. In particular, the entire Management Board shall decide on, among others:

- the budget plan for the following year, which is to be presented by the Management Board to the Supervisory Board by December 20 of each year;
- reporting to the Supervisory Board;
- all measures and transactions that require the Supervisory Board's approval;
- all measures and transactions relating to a business area that is of extraordinary importance to us or involving an extraordinary economic risk;
- taking on new lines of business or discontinuing existing lines of business;
- acquisitions or sales of interests or holdings; and
- certain large transactions.

The remuneration of the members of the Management Board is described in the remuneration report, which is prepared for the 2022 financial year in accordance with the requirements of Section 162 AktG and published on the website.

5.3 Objectives for the Composition of the Management Board Pursuant to Section 76 para. 4 AktG and of the Supervisory Board Pursuant to Section 111 para. 5 AktG and Diversity Policy

Our social aspirations in our core business are complemented by good corporate governance. In this context, the staffing of the Management Board and Supervisory Board as well as long-term succession planning must be appropriately adapted to the needs of the Company. In addition to the professional and personal qualifications of the members of the Management Board and the Supervisory Board, we take diversity and the appropriate participation of women into account in the composition of both bodies. Furthermore, we pay attention to a balanced age structure to ensure long-term succession planning and have set the maximum age of Management Board members at 70 years and Supervisory Board members at 80 years. The Management Board and the Supervisory Board are of the opinion that the current composition takes full account of the objectives thus defined for the composition of these bodies.

On May 4, 2020, the Supervisory Board set the target for the proportion of women on the Management Board at 25% and on the Supervisory Board at 25% in accordance with Section 111 para. 5 AktG. The deadline by which this target is to be achieved was set at December 31, 2022. On March 8, 2023, the Supervisory Board again discussed the proportion of women on the Management Board and the Supervisory Board and defined a target of 25% for each board. The deadline by which this target is to be achieved was set at December 31, 2025.

In addition, the Supervisory Board has developed a competence profile for the entire Board. The competence profile takes into account the following areas: general (biotech) industry experience, experience in sales and marketing, management, innovation, research and development, accounting, auditing and controlling (including sustainability reporting), compliance, internal control and risk management, human resources, digitalization, international experience/relevant markets and CSR/sustainability. When making appointments to the entire Board, the Supervisory Board always strives to fill out this competence profile.

In our Management Board, which currently consists of six members, Prof. Özlem Türeci, M.D., assumes the function of Chief Medical Officer. Thus, the current female quota of the Management Board is still 17%. The composition of our Management Board has remained unchanged since the appointment of Jens Holstein as Chief Financial Officer in the 2021 financial year. Several Management Board contracts with existing members were renewed in the 2022 financial year in order to maintain a stable structure and expertise on the Management Board. The decision to reappoint individual Management Board members was taken after consideration of all relevant aspects for the Company and was deemed to be in the best interests of the Company in terms of its continuity and a sustainable and long-term focus. Since no further female member was appointed before the deadline on December 31, 2022, the target percentage for female representation on the Management Board of 25% by December 31, 2022 was not achieved. Nonetheless, diversity is a focus topic and will be given greater consideration going forward.

Prof. Anja Morawietz, Ph.D. has been a member of our Supervisory Board since 2022, which also consists of six members at present. The current percentage of women on the Supervisory Board is therefore 17%, which is short of the target of 25%. The Supervisory Board had hoped to achieve this target by adding two members to the Supervisory Board. Two female candidates were on the shortlist until the final stages. To ensure the best possible match with the required competence profile, after debating at length, the Supervisory Board proposed Prof. Rudolf Staudigl, Ph.D. for election as an additional member of the Supervisory Board alongside Prof. Anja Morawietz Ph.D. Diversity is of central importance for us and will be given special consideration in the Supervisory Board elections scheduled for the coming year.

In accordance with Section 76 para. 4 AktG, the Management Board also decided on April 29, 2020 on the target number of women in management positions. The share of women in members of the top management level below the Management Board and the second highest management level below the Management Board is to be at least 30% in each case. The respective target figure is to be reached by December 31, 2022, at the latest. On March 8, 2023, the Management Board discussed the topic again and defined a target of 30% for the proportion of women in management positions in the top and second highest management levels below the Management Board. The deadline by which this target is to be achieved at both management levels was set at December 31, 2025.

As of December 31, 2022, a total of 38% (previous year: 43%) of the members of the top management level below the BioNTech Management Board are women. At the second highest management level below the Management Board, 40% (previous year: 52%) of the positions at BioNTech are held by women as of December 31, 2022. The targets were therefore achieved in both the 2021 and the 2022 financial years.

5.4 Integrity and Ethics

Compliance & Business Ethics
BioNTech has implemented a fully-fledged compliance and ethics program consisting of three typical compliance program elements: prevention, detection and response.

Prevention
The Compliance & Business Ethics department makes all applicable policies and guidelines, as well as a number of relevant tools, available to employees through the BioNTech Best Practices (BxP) Hub. The BxP Hub is also used for digital training (e-learnings, online videos, etc.). Furthermore, employees can use this platform to register potential conflicts of interest as well as gifts and invitations from external parties, both received and given. Interactions with healthcare organizations are also documented there. The Compliance & Business Ethics department ensures the prevention of compliance risks by proactively communicating with employees and advising on all risky business relationships.

Detection
Through continuous monitoring and audits, risks are identified at an early stage and addressed by the Compliance & Business Ethics department. Monitoring and audits therefore not only mean looking for errors and violations, but also checking holistically in which areas the compliance processes can be improved. Of course, the Compliance & Business Ethics department also offers employees the opportunity to report violations and risks of any kind through the "Contact Point for Ethics Protection" in the BxP Hub – anonymously and without negative consequences.

Response
In cases of suspicion, the Compliance & Business Ethics department conducts internal investigations. If breaches of rules are identified, they are analyzed for any procedural weaknesses in order to remedy them. Disciplinary measures are initiated in the event of serious violations.

The resources for the further development and implementation of the compliance program were significantly increased in 2022. For example, the number of employees in the Compliance & Business Ethics department was increased by five colleagues in 2022. In addition, three teams were created. This is to ensure that the Compliance & Business Ethics department is able to cope with the growing organization and to adequately address any new risks that may arise. Overall responsibility for the compliance program lies with the Management Board. The Audit Committee receives regular reports on the functioning of the compliance program.

In addition to the core tasks carried out by the Compliance & Business Ethics department, the Company has established a Compliance Advisory Committee (CAC) composed of senior staff from various functions such as Quality Assurance, Legal, Finance, Controlling and Operations to address potential compliance risks in a concerted and cross-functional manner. The CAC reviews and discusses all new policies to ensure cross-functional alignment.

Code of Business Conduct & Ethics
The Code of Business Conduct & Ethics applies to all members of the Supervisory Board, members of the Management Board, managing directors of the group companies and employees of BioNTech and is available online at www.biontech.de. It is considered to be the fundamental basis for conduct when performing activities for/on behalf of BioNTech. It provides an overview of the general requirements that reflect compliance with laws, regulations and BioNTech internal policies. It covers, among other topics, human rights, anti-discrimination, patient safety, data protection, occupational safety, anti-corruption and fair competition. The Code is communicated to all BioNTech employees and all employees are required to sign that they understand and will comply. If an employee violates the Code of Business Conduct & Ethics, this may result in a number of disciplinary consequences, up to and including termination of employment.

Conflicts of Interest Policy
BioNTech has adopted a Conflicts of Interest Policy which sets forth the procedures by which the Company manages potential and actual conflicts of interest. Under the Conflicts of Interest Policy, which applies to all of our Supervisory Board members, Management Board members, directors of BioNTech's group companies and employees

of the Company, any actual, potential or perceived conflict of interest must be disclosed in the BxP Hub mentioned above. If the conflict is transactional in nature and involves a member of the Management Board, the Management Board or the Supervisory Board, as the case may be, with the abstention of the conflicted member, shall decide whether to approve the transaction.

Anti-Bribery and Anti-Corruption (ABAC) Policy
BioNTech is committed to eliminating all forms of corruption, including extortion and bribery. BioNTech underlined these principles by signing the UN Global Compact in March 2020.

The Company has an Anti-Bribery and Anti-Corruption Policy (ABAC); employees are required to read and sign the ABAC Policy. In addition, the ABAC clauses are part of every contract entered into with high-risk business partners (sales intermediaries, third parties acting on behalf of BioNTech). For BioNTech, bribery – no matter by whom, at what level, in what organization – is never acceptable.

In addition, the Company has implemented a due diligence process for third parties that addresses potential ABAC risks. Based on certain criteria, high-risk third parties are screened for potential risks. Once the third-party due diligence process has been utilized, the Legal department includes ABAC provisions in the relevant contracts as a standard measure to mitigate ABAC risk from third parties acting on behalf of BioNTech.

Donation Policy
A donation strategy was developed by the Corporate Social Responsibility (CSR) team and approved directly by the Management Board. A Donation Policy was approved and implemented by the Management Board on November 1, 2020. The policy defines donations and the approval process for donations made by BioNTech. Donations must be within the scope of the defined donation strategy and policy and are reviewed and approved individually by Company's Corporate Social Responsibility (CSR) department and the Compliance Advisory Committee.

All donations are reviewed against the following basic requirements:

- The donation is made to a charitable or non-profit organization and not to an individual or for-profit company. Donations are not made to healthcare organizations.
- Donations to public hospitals or polyclinics in developing countries or countries experiencing a humanitarian crisis are permitted as an exception and subject to review by Compliance.
- There are no parallel (business) relationships between BioNTech and the organization receiving the donation.
- BioNTech may not receive parallel benefits from the receiving organization, including affiliated organizations.
- The donation does not serve the personal interests of any individual.
- The donation does not directly/specifically serve the commercial interests of BioNTech.
- The receiving organization is duly registered or accredited under applicable local laws to receive donations.

6 Remuneration Report

The remuneration report for the 2022 financial year is prepared in accordance with the requirements of Section 162 AktG and published on the website at www.biontech.de.

7 Non-Financial Report

Since our founding, we have focused on our vision of harnessing the power of the immune system to combat human disease and major health burdens for which no or inadequate medical therapies are currently available. This approach has led to a robust and diversified product pipeline in oncology and infectious diseases.

We support the United Nations Sustainable Development Goals (SDGs). Our research and development work makes an important contribution to the United Nations' third Sustainable Development Goal (SDG 3): To ensure healthy lives and promote well-being at all ages. Target 3.3 (communicable diseases) and Target 3.B (vaccines and medicines) are of particular significance for us. This is in line with our core commitment to global social responsibility. At the heart of our business practices is the goal of ensuring that people around the globe benefit from our research and innovations. As part of this effort, we continue to focus on urgent medical needs and fair and equitable access to new medicines.

Climate Strategy

We see climate protection as a core element of our commitment to sustainability. If humanity does not succeed in limiting global warming to 1.5 °C compared to pre-industrial levels, severe consequences for people and nature all over the world are to be expected. We therefore support the global agreement on climate change, or Paris Agreement adopted at the 21st United Nations Climate Change Conference, or COP 21 at the end of 2015 and the UN's 13th Sustainable Development Goal (SDG 13) to take immediate action to address the climate crisis and its impacts.

We are addressing the climate crisis by minimizing the impact of our business activities and reducing greenhouse gas (GHG) emissions in operations and throughout the value chain. Based on the requirements of the Science Based Targets Initiative (SBTi) and after consultation with the Supervisory Board, the Management Board set binding emission reduction targets during the first quarter of 2022. For the Company's scope 1 and 2 GHG emissions, a target absolute reduction of 42% by 2030 (target amount: 1.9 kt CO_2e) compared to a 2021 baseline (3.2 kt CO_2e) was set. For scope 3 GHG emissions, a supplier engagement target was adopted. This will require BioNTech's key suppliers that account for at least two third of the scope 3 GHG emissions to set their own science-based short- to medium-term climate goals in accordance with the requirements of the SBTi. This scope 3 target is to be achieved by 2026 at the latest.

In order to achieve these short- to medium-term science-based climate goals, BioNTech will integrate the targets for reducing its GHG emissions in its growth and investment planning, supply chain management and day-to-day operations. We are aware that this will involve additional investment and increased operating and personnel expenses. In September 2022, the Energy & Sustainability Projects (ESP) department was established under the umbrella of the BioNTech Site Service unit (BSS). The new department's brief includes operationalizing the decarbonization goals.

We are aware of the effects of the climate crisis on our business and incorporate this risk outlook into our holistic climate strategy. For this purpose, in the 2022 financial year, we analyzed and identified climate-related risks based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The TCFD was founded in 2015 by the Financial Stability Board and has developed recommendations on how to mitigate the risks of climate change and make use of the opportunities presented. In 2022, we conducted a qualitative and quantitative scenario analysis covering our entire value chain and focusing on both transition risks and physical risks. We have started to integrate the insights from the analysis into our risk management and our processes and plan to continue doing so in 2023.

Further information on our climate strategy, the goals we have set and our specific reduction measures are presented in the 2022 Sustainability Report and published on our website at www.biontech.de.

Human Rights Obligations

Motivated by the Guiding Principles on Business and Human Rights adopted by the United Nations in 2011 (UN Guiding Principles), many national action plans (NAP) for human rights due diligence in business have been developed worldwide. The German federal government adopted the German NAP in 2016. This was followed by the German Act on Corporate Due Diligence for the Prevention of Human Rights Violations in Supply Chains, or the German Supply Chain Act (LkSG), which came into force on January 1, 2023. BioNTech is monitoring the fast-moving regulatory developments on the topic of human rights in all countries in which the Company and strategic suppliers operate.

BioNTech first pledged its commitment to the basic principles of human rights in 2016 on the basis of the Universal Declaration of Human Rights and the fundamental principles of the International Labour Organization (ILO). In a new edition of the 2020 Code of Business Conduct & Ethics, the Company has pledged its commitment to the Universal Declaration of Human Rights, the fundamental principles of the International Labour Organization (ILO), the Guiding Principles of the United Nations on Business and Human Rights (UNG) and the ten principles of the UN Global Compact to which we became a signatory in 2020. In 2022, BioNTech launched a gap analysis to assess the current measures to address human rights with a focus on the risks stated in Section 2 para. 2 LkSG. Details on BioNTech's human rights risk management in accordance with the LkSG have been published in the Risk Report (Section 4.2) and in the 2022 Sustainability Report.

ESG Ratings

Our efforts were recognized by Institutional Shareholder Services' responsible investment arm, ISS ESG (Environmental, Social, Governance) in 2021: ISS ESG awarded BioNTech a "Prime" ESG rating ("C+" rating, top 10% of the industry) following the publication of the first sustainability report for the 2020 financial year. In 2022, the rating was upgraded to "B-." The "Prime" rating and the "top 10% of the industry" benchmark were confirmed.

The S&P Global Corporate Sustainability Assessment (S&P CSA) gave us an overall score of 20 out of 100 as a non-participating company in 2021 (S&P Global ESG Score). These are companies that are only rated based on publicly available information and do not actively participate in the CSA. In 2022, the first year in which we participated actively, the overall score improved compared to the previous year to 32 points.

The rating agency Morningstar Sustainalytics published its first ESG risk rating for BioNTech in November 2022. We achieved a scope of 22.3 (medium risk). Compared to our industry peers (pharmaceuticals), BioNTech ranks in the top 11%; in the biotechnology subsector, it ranks in the top 7% of the companies assessed by Sustainalytics.

CSR Management

Our CSR management, including the fields of action and the material CSR topics, is presented in detail in the separate 2022 Sustainability Report and made available online at www.biontech.de.

With the publication of relevant and material sustainability information, we address all stakeholders and especially investors with high expectations regarding the environmental, social and governance (ESG) performance of companies.

8 Events After the Reporting Period

A detailed description of the events after the reporting period can be found in the notes to the consolidated financial statements and the annual financial statements of BioNTech SE.

Mainz, March 27, 2023

BioNTech SE

Prof. Ugur Sahin, M.D.
Chief Executive Officer

Jens Holstein
Chief Financial Officer

Sean Marett
Chief Business Officer and Chief Commercial Officer

Sierk Poetting, Ph.D.
Chief Operating Officer

Ryan Richardson
Chief Strategy Officer

Prof. Özlem Türeci, M.D.
Chief Medical Officer

Ribosomes use mRNA as a template for protein synthesis. To do so, they translate the genetic code of the mRNA into a specified string of amino acids, which grows into a long chain that folds to form a protein. The specific protein structure determines its function in the cell.

3

Consolidated Statements of Profit or Loss

		Years ended December 31,		
(in millions, except per share data)	Note	2022	2021	2020
Revenues				
Commercial revenues	6	€17,194.6	€18,874.0	€303.5
Research & development revenues	6	116.0	102.7	178.8
Total revenues		**€17,310.6**	**€18,976.7**	**€482.3**
Cost of sales	7.1	(2,995.0)	(2,911.5)	(59.3)
Research and development expenses	7.2	(1,537.0)	(949.2)	(645.0)
Sales and marketing expenses	7.3	(59.5)	(50.4)	(14.5)
General and administrative expenses	7.4	(484.7)	(285.8)	(94.0)
Other operating expenses	7.5	(407.0)	(94.4)	(2.4)
Other operating income	7.6	815.3	598.4	250.5
Operating income / (loss)		**€12,642.7**	**€15,283.8**	**€(82.4)**
Finance income	7.7	330.3	67.7	1.6
Finance expenses	7.8	(18.9)	(305.1)	(65.0)
Profit / (loss) before tax		**€12,954.1**	**€15,046.4**	**€(145.8)**
Income taxes	8	(3,519.7)	(4,753.9)	161.0
Profit for the period		**€9,434.4**	**€10,292.5**	**€15.2**
Earnings per share				
Basic profit for the period per share		€38.78	€42.18	€0.06
Diluted profit for the period per share		€37.77	€39.63	€0.06

The accompanying notes form an integral part of these consolidated financial statements.

Consolidated Statements of Comprehensive Income

		Years ended December 31,		
(in millions)	Note	2022	2021	2020
Profit for the period		**€9,434.4**	**€10,292.5**	**€15.2**
Other comprehensive income				
Other comprehensive income that may be reclassified to profit or loss in subsequent periods, net of tax				
Exchange differences on translation of foreign operations		11.2	8.4	(11.1)
Net other comprehensive income / (loss) that may be reclassified to profit or loss in subsequent periods		**€11.2**	**€8.4**	**€(11.1)**
Other comprehensive loss that will not be reclassified to profit or loss in subsequent periods, net of tax				
Net gain on equity instruments designated at fair value through other comprehensive income		10.5	–	–
Remeasurement income / (loss) on defined benefit plans		0.6	0.3	(0.3)
Net other comprehensive income / (loss) that will not be reclassified to profit or loss in subsequent periods		**€11.1**	**€0.3**	**€(0.3)**
Other comprehensive income / (loss) for the period, net of tax		**€22.3**	**€8.7**	**€(11.4)**
Comprehensive income for the period, net of tax		**€9,456.7**	**€10,301.2**	**€3.8**

The accompanying notes form an integral part of these consolidated financial statements.

Consolidated Statements of Financial Position

(in millions) Assets	Note	December 31, 2022	December 31, 2021
Non-current assets			
Intangible assets	11	€219.7	€202.4
Property, plant and equipment	10	609.2	322.5
Right-of-use assets	19	211.9	197.9
Other financial assets	12	80.2	21.3
Other non-financial assets	14	6.5	14.4
Deferred tax assets	8	229.6	–
Total non-current assets		**€1,357.1**	**€758.5**
Current assets			
Inventories	13	439.6	502.5
Trade and other receivables	12	7,145.6	12,381.7
Other financial assets	12	189.4	381.6
Other non-financial assets	14	271.9	113.4
Income tax assets	8	0.4	0.4
Cash and cash equivalents	12	13,875.1	1,692.7
Total current assets		**€21,922.0**	**€15,072.3**
Total assets		**€23,279.1**	**€15,830.8**

Continued on next page

Consolidated Statements of Financial Position

(in millions)

Equity and liabilities	Note	December 31, 2022	December 31, 2021
Equity			
Share capital	15	248.6	246.3
Capital reserve	15	1,828.2	1,674.4
Treasury shares	15	(5.3)	(3.8)
Retained earnings		18,833.0	9,882.9
Other reserves	16	(848.9)	93.9
Total equity		**€20,055.6**	**€11,893.7**
Non-current liabilities			
Lease liabilities, loans and borrowings	12	176.2	171.6
Other financial liabilities	12	6.1	6.1
Income tax liabilities	8	10.4	4.4
Provisions	17	8.6	184.9
Contract liabilities	6	48.4	9.0
Other non-financial liabilities	18	17.0	12.8
Deferred tax liabilities	8	6.2	66.7
Total non-current liabilities		**€272.9**	**€455.5**
Current liabilities			
Lease liabilities, loans and borrowings	12	36.0	129.9
Trade payables	12	204.1	160.0
Other financial liabilities	12	785.1	1,190.4
Refund liabilities	6	24.4	90.0
Income tax liabilities	8	595.9	1,568.9
Provisions	17	367.2	110.2
Contract liabilities	6	77.1	186.1
Other non-financial liabilities	18	860.8	46.1
Total current liabilities		**€2,950.6**	**€3,481.6**
Total liabilities		**€3,223.5**	**€3,937.1**
Total equity and liabilities		**€23,279.1**	**€15,830.8**

The accompanying notes form an integral part of these consolidated financial statements.

Consolidated Statements of Changes in Stockholders' Equity

(in millions)	Note	Share capital	Capital reserve	Treasury shares	Retained earnings	Other reserves[1]	Total equity
As of January 1, 2020		**€232.3**	**€686.7**	**€(5.5)**	**€(424.8)**	**€4.8**	**€493.5**
Profit for the period		–	–	–	15.2	–	€15.2
Other comprehensive loss		–	–	–	–	(11.4)	€(11.4)
Total comprehensive profit / (loss)		**€ –**	**€ –**	**€ –**	**€15.2**	**€(11.4)**	**€3.8**
Issuance of share capital		14.0	861.0	0.7	–	–	€875.7
Transaction costs		–	(33.2)	–	–	–	€(33.2)
Share-based payments	17 ⊕	–	–	–	–	32.0	€32.0
As of December 31, 2020		**€246.3**	**€1,514.5**	**€(4.8)**	**€(409.6)**	**€25.4**	**€1,371.8**
Profit for the period		–	–	–	10,292.5	–	€10,292.5
Other comprehensive income		–	–	–	–	8.7	€8.7
Total comprehensive income		**–**	**–**	**–**	**10,292.5**	**8.7**	**€10,301.2**
Issuance of treasury shares	16 ⊕	–	162.6	1.0	–	–	€163.6
Transaction costs		–	(2.7)	–	–	–	€(2.7)
Share-based payments	17 ⊕	–	–	–	–	59.8	€59.8
As of December 31, 2021		**€246.3**	**€1,674.4**	**€(3.8)**	**€9,882.9**	**€93.9**	**€11,893.7**
Profit for the period		–	–	–	9,434.4	–	€9,434.4
Other comprehensive income		–	–	–	–	22.3	€22.3
Total comprehensive income		**€ –**	**€ –**	**€ –**	**€9,434.4**	**€22.3**	**€9,456.7**
Issuance of share capital	15 ⊕	0.5	67.1	–	–	–	€67.6
Redemption of convertible note	12 ⊕	1.8	233.2	–	–	–	€235.0
Share repurchase program	15 ⊕	–	(979.5)	(6.9)	–	–	€(986.4)
Transaction costs		–	(0.1)	–	–	–	€(0.1)
Dividends	15 ⊕	–	–	–	(484.3)	–	€(484.3)
Share-based payments	16 ⊕	–	833.1	5.4	–	(1,519.8)	€(681.3)
Current and deferred taxes	8 ⊕	–	–	–	–	554.7	€554.7
As of December 31, 2022		**€248.6**	**€1,828.2**	**€(5.3)**	**€18,833.0**	**€(848.9)**	**€20,055.6**

(1) Includes foreign currency translation reserve which was presented separately in prior periods.

Consolidated Statements of Cash Flows

	Years ended December 31,		
(in millions)	**2022**	**2021**	**2020**
Operating activities			
Profit for the period	€9,434.4	€10,292.5	€15.2
Income taxes	3,519.7	4,753.9	(161.0)
Profit before tax	**€12,954.1**	**€15,046.4**	**€(145.8)**
Adjustments to reconcile profit before tax to net cash flows:			
Depreciation and amortization of property, plant, equipment, intangible assets and right-of-use assets	123.3	75.2	38.7
Share-based payment expenses	108.6	93.9	32.1
Net foreign exchange differences	625.5	(387.5)	41.3
Loss on disposal of property, plant and equipment	0.6	4.6	0.6
Finance income excluding foreign exchange differences	(265.3)	(1.5)	(1.6)
Finance expense excluding foreign exchange differences	18.9	305.2	22.3
Movements in government grants	0.3	(89.0)	92.0
Other non-cash income / (loss)	–	(2.2)	1.7
Unrealized net (gain) / loss on derivative instruments at fair value through profit or loss	(241.0)	57.3	–
Working capital adjustments:			
Decrease / (increase) in trade and other receivables, contract assets and other assets	4,369.9	(11,808.1)	(247.9)
Decrease / (increase) in inventories	62.9	(438.4)	(49.8)
Increase in trade payables, other financial liabilities, other liabilities, contract liabilities, refund liabilities and provisions	85.7	1,516.1	204.6
Interest received	29.3	1.2	1.4
Interest paid	(21.5)	(12.2)	(3.6)
Income tax received / (paid), net	(4,222.1)	(3,457.9)	0.5
Share-based payments	(51.8)	(13.4)	–
Net cash flows from / (used in) operating activities	**€13,577.4**	**€889.7**	**€(13.5)**

Continued on next page

Consolidated Statements of Cash Flows

	Years ended December 31,		
(in millions)	**2022**	**2021**	**2020**
Investing activities			
Purchase of property, plant and equipment	(329.2)	(127.5)	(66.0)
Proceeds from sale of property, plant and equipment	0.6	3.4	1.2
Purchase of intangible assets and right-of-use assets	(34.1)	(26.5)	(19.4)
Acquisition of subsidiaries and businesses, net of cash acquired	–	(20.8)	(60.6)
Purchase of financial instruments	(47.8)	(19.5)	–
(Investment) / proceeds from maturity of other financial assets	375.2	(375.2)	–
Net cash flows used in investing activities	**€(35.3)**	**€(566.1)**	**€(144.8)**
Financing activities			
Proceeds from issuance of share capital and treasury shares, net of costs	110.5	160.9	753.0
Proceeds from loans and borrowings	0.8	–	156.0
Repayment of loans and borrowings	(18.8)	(52.6)	(1.6)
Payments related to lease liabilities	(41.1)	(14.1)	(12.7)
Share repurchase program	(986.4)	–	–
Dividends	(484.3)	–	–
Net cash flows from / (used in) financing activities	**€(1,419.3)**	**€94.2**	**€894.7**
Net increase in cash and cash equivalents	12,122.8	417.8	736.4
Change in cash and cash equivalents resulting from exchange rate differences	59.6	64.7	(45.3)
Cash and cash equivalents at the beginning of the period	1,692.7	1,210.2	519.1
Cash and cash equivalents at December 31	**€13,875.1**	**€1,692.7**	**€1,210.2**

The accompanying notes form an integral part of these consolidated financial statements.

Notes to the Consolidated Financial Statements

1 Corporate Information

BioNTech SE is a limited company incorporated and domiciled in Germany. American Depositary Shares (ADS) representing BioNTech SE's ordinary shares have been publicly traded on Nasdaq Global Select Market since October 10, 2019. The registered office is located in Mainz, Germany (An der Goldgrube 12, 55131 Mainz). BioNTech SE is registered in the commercial register B of the Mainz Local Court under the number HRB 48720. These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as endorsed by the European Union (EU), and give a true and fair view of the financial position and results of operations of the Group in accordance with International Financial Reporting Standards (IFRS) and the results of operation of BioNTech SE and its subsidiaries, hereinafter also referred to as "BioNTech," the "Group," "we" or "us".

Our consolidated financial statements for fiscal year 2022 were prepared by the Management Board on March 27, 2023.

2 Significant Accounting Policies

2.1 Basis of Preparation

General
The consolidated financial statements have been prepared on a going concern basis in accordance with the IFRS as issued by the International Accounting Standards Board (IASB) as endorsed by the European Union and applied on a mandatory basis, and with the supplementary requirements of German commercial law pursuant to Section 315e of the German Commercial Code (HGB).

We prepare and publish our consolidated financial statements in Euros and round numbers to thousands or millions of Euros, respectively. Accordingly, numerical figures shown as totals in some tables may not be exact arithmetic aggregations of the figures that preceded them and figures presented in the explanatory notes may not add up to the rounded arithmetic aggregations. Rounding applied may differ from rounding published in different units in the previous years.

Segment Information
Decisions with respect to business operations and resource allocations are made by our Management Board, as the chief operating decision maker (CODM) based on BioNTech as a whole. Accordingly, we operate and make decisions as a single operating segment, which is also our reporting segment.

2.2 Basis of Consolidation

The consolidated financial statements comprise the financial statements of BioNTech SE and its controlled investees (subsidiaries).

The Group controls an investee if, and only if, the Group has

- power over the investee *(i.e.*, existing rights that give it the current ability to direct the relevant activities of the investee);
- exposure, or rights, to variable returns from its involvement with the investee; and
- the ability to use its power over the investee to affect its returns.

Generally, there is a presumption that a majority of voting rights results in control.

Whether an investee is controlled is re-assessed if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when control is obtained over the subsidiary and ceases when control over the subsidiary is lost.

The profit / (loss) and each component of other comprehensive income / (loss) for the period are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the consolidated financial statements of subsidiaries to bring their accounting policies in line with the Group's accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

If control over a subsidiary is lost, the related assets (including goodwill), liabilities, non-controlling interests and other components

of equity are derecognized, while any resultant gain or loss is recognized in the consolidated statements of profit or loss. Any investment retained is recognized at fair value.

2.3 Summary of Significant Accounting Policies

2.3.1 Business Combinations and Goodwill

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, which is measured at acquisition date fair value, and the amount of any non-controlling interests in the acquiree.

Goodwill is initially measured at cost as the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests and any previous interest held over the net identifiable assets acquired and liabilities assumed.

Costs related to executing business combinations are recognized when they are incurred and are classified as general and administrative expenses.

After initial recognition, goodwill is tested at least annually or when there is an indication for impairment. See Note 2.3.14. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill has been allocated to a cash-generating unit (CGU) and part of the operation within that unit is disposed of, the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed in these circumstances is measured based on the relative values of the disposed operation and the portion of the cash-generating unit retained.

2.3.2 Current versus Non-Current Classifications

Assets and liabilities in the consolidated statements of financial position are presented based on current or non-current classification.

An asset is current when it is either: (i) expected to be realized or intended to be sold or consumed in the normal operating cycle, (ii) held primarily for the purpose of trading, (iii) expected to be realized within twelve months after the reporting period or (iv) cash or cash equivalents, unless it is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period. All other assets are classified as non-current.

A liability is current when it is either: (i) expected to be settled in the normal operating cycle, (ii) held primarily for the purpose of trading, (iii) due to be settled within twelve months after the reporting period, or (iv) there is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period. The terms of the liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification. The Group classifies all other liabilities as non-current.

Deferred tax assets and liabilities are classified as non-current assets and liabilities, respectively.

2.3.3 Fair Value Measurement

Fair value is a market-based measurement. For some assets and liabilities, observable market transactions or market information is available. For other assets and liabilities, observable market transactions or market information might not be available. When a price for an identical asset or liability is not observable, another valuation technique is used. To increase consistency and comparability in fair value measurements, there are three levels of the fair value hierarchy:

- Level 1 contains the use of quoted prices in active markets for identical assets or liabilities.

- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability either directly or indirectly.
- Level 3 inputs are unobservable.

Within this hierarchy, estimated values are made by management based on reasonable assumptions, including other fair value methods.

For assets and liabilities that are recognized in the financial statements at fair value on a recurring basis, we determine whether transfers have occurred between levels in the fair value hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

For the purpose of fair value disclosures, classes of assets and liabilities have been determined on the basis of the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy, as explained above.

2.3.4 Revenue from Contracts with Customers

Revenue

Identification of the Contract

We generate revenues from collaboration and license agreements, which contain multiple elements, including licenses to use, research, develop, manufacture and commercialize candidates and products, research and development services as well as obligations to develop and manufacture preclinical and clinical material and products. We determined that those collaboration and license agreements qualify as contracts with customers. A contract is an agreement between two or more parties that establishes enforceable rights and obligations.

Identification of Performance Obligations

Our customer contracts often include bundles of licenses, goods and services. If the granting of a license is bundled together with delivering of goods and or the rendering of services, it is assessed whether these agreements are comprised of more than one performance obligation. A performance obligation is only accounted for as the grant of a license if the grant of a license is the sole or the predominant promise of the performance obligation.

Determining Transaction Prices

We apply judgement when determining the consideration that is expected to be received. If the consideration in an agreement includes a variable amount, we estimate the amount of consideration to which we will be entitled in exchange for transferring the goods to the customer. At contract inception, the variable consideration is estimated based on the most likely amount of consideration expected from the transaction and constrained until it is highly probable that a significant revenues reversal in the amount of cumulative revenues recognized will not occur when the associated uncertainty with respect to the variable consideration is subsequently resolved. The estimated revenues are updated at each reporting date to reflect the current facts and circumstances.

Allocation of Transaction Prices

If a contract with a customer contains more than one performance obligation, the transaction price is allocated to each performance obligation based on relative standalone selling prices. We have established the following hierarchy to determine the standalone selling prices.

- Where standalone selling prices for offered licenses, goods or services are observable and reasonably consistent across customers, our standalone selling price estimates are derived from our respective pricing history. However due to the limited number of customers and the limited company history this approach can rarely be used.
- Where sales prices for an offering are not directly observable or highly variable across customers, we follow a cost-plus-margin approach.
- For offerings that have highly variable pricing and lack substantial direct costs to estimate based on a cost-plus-margin approach, we allocate the transaction price by applying a residual approach.

Judgment is required when estimating standalone selling prices.

Recognition of Revenues

For each separate performance obligation, it is evaluated whether control is transferred either at a point in time or over time. For performance obligations that are satisfied over time, revenues are recognized based on a measure of progress, which depicts the performance in transferring control to the customer. Under the terms of our licensing arrangements, we provide the licensee with a research and development license, which represents a right to access our intellectual property as it exists throughout the license period (as our intellectual property is still subject to further research). Therefore, the promise to grant a license is accounted for as a performance obligation satisfied over time as our customers simultaneously receive and consume the benefits from our performance.

Earnings based on the collaboration partners' gross profit, which is shared under the respective collaboration agreements, are recognized based on the sales-based or usage-based royalty exemption; i.e. when, or as, the underlying sales occur, which is when the performance obligation has been satisfied. As described further in Note 3 certain judgment is applied when accounting for the collaboration agreements.

Revenue arrangements that involve two or more partners who contribute to the provision of a specific good or service to a customer are assessed in terms of principal-agent considerations in order to determine the appropriate treatment for the transactions between us and the collaborator and the transactions between us and other third parties. The classification of transactions under such arrangements is determined based on the nature and contractual terms of the arrangement along with the nature of the operations of the participants. Any consideration related to activities in which we are considered the principal, which includes being in control of the good or service before such good or service is transferred to the customer, are accounted for as gross revenues. Any consideration related to activities in which we are considered the agent, are accounted for as net revenues.

Revenues from the sale of pharmaceutical and medical products (*e.g.,* COVID-19 vaccine sales and other sales of peptides and retroviral vectors for clinical supply) are recognized when we transfer control of the product to the customer. Control of the product normally transfers when the customer gains physical possession and we have not retained any significant risks of ownership or future obligations with respect to the product. In general, payments from customers are due within 30 days after invoice. However, with respect to our collaboration with Pfizer Inc., or Pfizer, there is a significant time lag between when revenues are recognized and the payments are received. The contractual settlement of the gross profit share has a temporal offset of more than one calendar quarter. As Pfizer's fiscal quarter for subsidiaries outside the United States differs from ours, it creates an additional time lag between the recognition of revenues and the payment receipt.

For certain contracts, the finished product may temporarily be stored at our location under a bill-and-hold arrangement. Revenues from bill-and-hold arrangements are recognized at the point in time when the customer obtains control of the product and all of the following criteria have been met: (i) the arrangement is substantive; (ii) the product is identified separately as belonging to the customer; (iii) the product is ready for physical transfer to the customer; and (iv) we do not have the ability to use the product or direct it to another customer. In determining when the customer obtains control of the product, we consider certain indicators, including whether title and significant risks and rewards of ownership have transferred to the customer and whether customer acceptance has been received.

Contract Balances

Contract Assets

A contract asset is the right to consideration in exchange for goods or services transferred to the customer. If we transfer goods or services to a customer before the customer pays the respective consideration or before payment is due, a contract asset is recognized for the earned consideration that is conditional.

Trade Receivables
A receivable represents our right to an amount of consideration that is unconditional *(i.e.*, only the passage of time is required before payment of the consideration is due).

Contract Liabilities
A contract liability is the obligation to transfer goods or services to a customer for which we have received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before we transfer goods or services to the customer, a contract liability is recognized when the payment is made or when the payment is due (whichever is earlier). Contract liabilities are recognized as revenue when we fulfill our performance obligations under the contract.

Refund Liabilities
A refund liability is a consideration which has been received but which will need to be refunded to the customer in the future as it represents an amount to which we are ultimately not entitled under the contract. A refund liability is measured at the amount of consideration received (or receivable) to which we do not expect to be entitled (i.e., amounts not included in the transaction price). We update our estimates of refund liabilities (and the corresponding change in the transaction price) at the end of each reporting period.

2.3.5 Government Grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with. When the grant relates to an expense item, it is recognized as other income on a systematic basis over the periods that the related costs, for which the grant is intended to compensate, are expensed. When the grant relates to an asset, it is recognized as deferred income within the consolidated statements of financial position. Other income is subsequently recognized in our consolidated statements of profit or loss over the useful life of the underlying asset subject to funding.

2.3.6 Taxes

Current Income Tax
Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted at the reporting date in the countries where the Group operates and generates taxable income.

In addition, current income taxes presented for the period include adjustments for uncertain tax payments or tax refunds for periods not yet finally assessed by tax authorities, excluding interest expenses and penalties on the underpayment of taxes. In the event that amounts included in the tax return are considered unlikely to be accepted by the tax authorities (uncertain tax positions), a provision for income taxes is recognized.

Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

Deferred Tax
Deferred tax is provided using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- when the deferred tax liability arises from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; or
- in respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, the carry forward of unused tax credits and any unused tax losses. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, the carry forward of unused tax credits and unused tax losses can be utilized, except:

- when the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; or
- in respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year in which the asset is realized, or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Unrecognized deferred tax assets are re-assessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Recognition of Taxes
Current and deferred tax items are recognized similarly to the underlying transaction either in profit or loss, other comprehensive income or directly in equity.

Current tax assets and current tax liabilities are offset if, and only if, we have a legally enforceable right to set off the recognized amounts and intend either to settle on a net basis, or to realize the asset and settle the liability simultaneously. Deferred tax assets and deferred tax liabilities are only offset when we have a legally enforceable right to set off current tax assets and current tax liabilities and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority on either (i) the same taxable entity or (ii) different taxable entities, which intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

Sales Tax
Expenses and assets are recognized net of sales tax, except when the sales tax incurred on a purchase of assets or services is not recoverable from the taxation authority.

The net amount of sales tax recoverable from, or payable to, the taxation authority is included as part of receivables or payables in the consolidated statements of financial position.

Future tax legislation
Based on the Organisation for Economic Co-operation and Development (OECD) Base Erosion and Profit Shifting (BEPS) project to tackle tax avoidance the OECD/G20 Inclusive Framework (an association of about 140 countries) decided to introduce a global minimum taxation for large multinational groups (so-called Pillar 2). The Global Anti-Base Erosion Rules shall ensure large multinational groups pay a minimum level of tax on the income arising in each jurisdiction where they operate. In December 2021, the OECD published so-called OECD Model Rules, which serve as a draft bill for implementation into national domestic law, followed by guidelines and commentaries published in March 2022. In December 2022, the EU adopted a corresponding EU directive (EU 2022/2523), which obliges EU member states to transpose the rules into national domestic law.

The date of application of the national domestic law in Germany is scheduled for the fiscal year 2024. Subsequent, when the OECD Model Rules has entered into force in Germany, the Group will be obliged to file top-up tax information returns for all entities which are part of the group, beginning with the fiscal year 2024. If in any jurisdiction the

effective tax rate is below the minimum rate (15%) the Group may be subject to the so-called top-up tax or a so-called qualified domestic minimum top-up tax. To date, no jurisdiction in which the Group operates has transposed the OECD Model Rules into national domestic law and entered into force. The Group closely follows the progress of the legislative process in each country in which the Group operates.

2.3.7 Foreign Currencies

Our consolidated financial statements are presented in Euros, which is also our functional currency. For each entity, the Group determines the functional currency, and items included in the consolidated financial statements of such entities are measured using that functional currency. We use the direct method of consolidation and, on disposal of a foreign operation, the gain or loss that is reclassified to the consolidated statements of profit or loss reflects the amount that arises from using this method.

Transactions and Balances
Transactions in foreign currencies are initially recorded by the Group's entities at their respective functional currency spot rates at the date the transaction first qualifies for recognition.

Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot rates of exchange at the reporting date.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions.

In determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) on the derecognition of a non-monetary asset or non-monetary liability relating to advance consideration, the date of the transaction is the date on which the Group initially recognizes the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, the Group determines the transaction date for each payment or receipt of advance consideration.

Foreign Currency Translation
Foreign currency translation effects from the translation of operating activities include foreign exchange differences arising on operating items such as trade receivables and trade payables and are either shown as other operating income or expenses on a cumulative basis. Foreign currency translation effects presented within finance income and expenses include foreign exchange differences arising on financing items such as loans and borrowings as well as foreign exchange differences arising on cash and cash equivalents and are either shown as finance income or expenses on a cumulative basis.

Foreign Currency Translation on Consolidation
Upon consolidation, the assets and liabilities of foreign operations are translated into Euros at the rate of exchange prevailing at the reporting date and the transactions recorded in their consolidated statements of profit or loss are translated at exchange rates prevailing at the dates of the transactions.

The exchange differences arising on translation for consolidation are recognized in other comprehensive income. On disposal of a foreign operation, the component of other comprehensive income relating to that particular foreign operation is reclassified to profit or loss.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising upon the acquisition are treated as assets and liabilities of the foreign operation and translated at the spot rate of exchange at the reporting date.

2.3.8 Cash Dividend

We recognize a liability to pay a dividend when the distribution is authorized. As per the corporate laws of Germany, a distribution is authorized when it is approved by the general shareholder meeting. A corresponding amount is recognized directly in equity.

2.3.9 Property, Plant and Equipment

Construction in progress is stated at cost. Property, plant and equipment are stated at cost, net of accumulated depreciation and accumulated impairment losses, if any. Such cost includes the cost of replacing part of the property, plant and equipment if the recognition criteria are met. All other repair and maintenance costs are expensed as incurred.

Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets, as follows:

Property, plant and equipment	Useful life (years)
Buildings	10-33
Equipment, tools and installations	5-18

Operating and business equipment has a useful life of 1-10 years and is reported under equipment, tools and installations due to immateriality.

An item of property, plant and equipment initially recognized is derecognized upon disposal (*i.e.*, at the date the recipient obtains control) or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the consolidated statements of profit or loss when the asset is derecognized.

The residual values, useful lives and methods of depreciation of property, plant and equipment are reviewed at each financial year-end and adjusted prospectively, if appropriate.

2.3.10 Leases

At the inception of a contract, we assess whether the contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, we assess whether:

- the contract involves the use of an identified asset – this may be specified explicitly or implicitly and should be physically distinct or represent substantially all of the capacity of a physically distinct asset. If the supplier has a substantive substitution right, then the asset is not identified;
- we have the right to obtain substantially all of the economic benefits from the use of the asset throughout the period of use; and
- we have the right to direct the use of the asset. We possess this right when we hold the decision-making rights that are most relevant to changing how and for what purpose the asset is used. In rare cases where the decision about how and for what purpose the asset is used is predetermined, the Group has the right to direct the use of the asset if either:
  - we have the right to operate the asset; or
  - we designed the asset in a way that predetermines how and for what purpose it will be used.

At inception or on reassessment of a contract that contains a lease component, the consideration in the contract is allocated to each lease component on the basis of their relative standalone prices. However, for leases of land and buildings in which it is a lessee, we have elected not to separate non-lease components, and instead account for the lease and non-lease components as a single lease component.

We recognize a right-of-use asset and a lease liability at the lease commencement date.

The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of the costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received by the Group.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset and the end of the lease term. The estimated useful lives of right-of-use assets are determined on the same basis as those of property, plant and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the incremental borrowing interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the incremental borrowing rate is used as the discount rate.

Lease payments included in the measurement of the lease liability comprise the following:

- fixed payments, including in-substance fixed payments;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as of the commencement date;
- amounts expected to be payable under a residual value guarantee; and
- the exercise price under a purchase option that is reasonably certain to be exercised, lease payments in an optional renewal period if it is reasonably certain that the extension option is exercised, and penalties for early termination of a lease unless it is reasonably certain that the contract is not terminate early.

The lease liability is subsequently measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the estimate of the amount expected to be payable under a residual value guarantee, or if we change our assessment of whether we will exercise a purchase, extension or termination option. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount of the right-of-use asset or is recorded in the consolidated statements of profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Right-of-use assets are presented separately and lease liabilities are presented in "Financial Liabilities" in the consolidated statements of financial position.

Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets or shorter lease term, as follows:

Right-of-use assets	Useful life or shorter lease term (years)
Buildings	2-25
Equipment, tools and installations	2-5
Production facilities	2-3
Automobiles	3-4

Short-Term Leases and Leases of Low-Value Assets
We have elected not to recognize right-of-use assets and lease liabilities for short-term leases of machinery that have a lease term of 12 months or less or leases of low-value assets. We recognize the lease payments associated with these leases as an expense in the consolidated statements of profit or loss on a straight-line basis over the lease term.

2.3.11 Intangible Assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses.

The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized generally on a straight-line basis over the useful life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at the end of each reporting period at the least. The amortization expense on intangible assets with finite lives is recognized in the consolidated statements of profit or loss in the expense category that is consistent with the function of the intangible assets.

A summary of the useful lives applied to the Group's intangible assets is as follows:

Intangible assets	Useful life (years)
Intellectual property rights	8-20
Licenses	3-20
Software	3-8

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment at least annually, or when there is an indication for impairment, either individually or at the level of a cash-generating unit (see Note 2.3.14 for further details). The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

We have classified advanced payments on intangible assets as intangible assets, which are not yet ready for use. Advanced payments on intangible assets are tested for impairment on an annual basis.

An intangible asset is derecognized upon disposal (*i.e.*, at the date the recipient obtains control) or when no future economic benefits are expected from its use or disposal. Any gain or loss arising upon derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the consolidated statements of profit or loss.

Research and Development Costs
Research costs are expensed as incurred. Development expenditures on an individual project are recognized as an intangible asset if, and only if, all of the following six criteria can be demonstrated:

- the technical feasibility of completing the intangible asset so that the asset will be available for use or sale;
- the intention to complete the project;
- the ability and intention to use or sell the asset;
- how the asset will generate future economic benefits;
- the availability of resources to complete the asset; and
- the ability to reliably measure the expenditure during development.

Due to the inherent risk of failure in pharmaceutical development and the uncertainty of approval, management has determined that these criteria are not met in the biotech sector until regulatory approval has been obtained. The related expenditure is reflected in the consolidated statements of profit or loss in the period in which the expenditure is incurred.

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortization and accumulated impairment losses. Amortization of the asset begins

when development is complete and the asset is available for use. It is amortized over the period of expected future benefit. Amortization is recorded in cost of sales. During the period of development, the asset is tested for impairment annually.

2.3.12 Financial Instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

i) Financial Assets
Initial Recognition and Measurement
Financial assets mainly include trade receivables, cash and cash equivalents, cash deposits with an original term of six months recognized as other financial assets as well as equity investments. Financial assets are initially measured at fair value and – depending on their classification – subsequently measured at amortized cost, fair value through other comprehensive income (OCI) or fair value through profit or loss.

Subsequent Measurement
The measurement of financial assets depends on their classification, as described below.

Financial Assets measured at Amortized Cost
Financial assets at amortized cost include trade receivables. With respect to trade receivables, we applied the practical expedient which means that they are measured at the transaction price determined under IFRS 15. Refer to the accounting policies in Note 2.3.4. Other financial assets are measured at amortized costs since they are held to collect contractual cash flows, which are solely payments of principal and interest. Gains and losses are recognized in our consolidated statements of profit or loss when the financial asset is derecognized, modified or impaired.

Financial Assets designated at Fair Value through OCI (Equity Instruments)
Upon initial recognition, we can irrevocably elect to classify equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity under IAS 32 and are not held for trading. The classification is determined on an instrument-by-instrument basis. Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognized as other income in the consolidated statements of profit or loss when the right of payment has been established. Equity instruments designated at fair value through OCI are not subject to impairment assessment. We elected to irrevocably classify our non-listed and listed equity investments under this category. They are recognized using trade date accounting.

Financial Assets at Fair Value through Profit or Loss
Derivatives not designated as hedging instruments are measured at fair value through profit or loss. A financial asset exists if the derivative has a positive fair value.

Derecognition
A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized (i.e., removed from the consolidated statements of financial position) when the rights to receive cash flows from the asset have expired or have been transferred in terms of fulfilling the derecognition criteria.

Impairment of Financial Assets
An allowance for expected credit losses (ECLs) is considered for all non-derivative financial debt investments including cash, time deposits and debt securities of the Group. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all of the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

For trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognizes a loss allowance

based on lifetime ECLs at each reporting date. We have established an ECL-model that is based on the probability of default (PD), considers the respective country default probabilities and takes the maturities into account. For the PD of companies, we use the maturities of the trade receivables and the scoring of the companies.

ii) Financial Liabilities
Financial liabilities are generally measured at amortized cost using the effective-interest method. Derivatives with negative fair values not designated as hedging instruments and liabilities for contingent consideration in business combinations are measured at fair value.

All financial liabilities are recognized initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

Financial liabilities measured at amortized cost, include loans and borrowings, trade payables and other financial liabilities. They are measured at amortized cost using the effective interest rate (EIR) method. Gains and losses are recognized in the consolidated statements of profit or loss when the liabilities are derecognized as well as through the EIR amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the consolidated statements of profit or loss.

Derecognition
A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognized in the consolidated statements of profit or loss.

iii) Expenses and Income from Exchange Forward Contracts
Effects from foreign exchange forward contracts, which are measured at fair value through profit or loss, are either shown as other operating income or expenses on a cumulative basis and might switch between those two positions during the year-to-date reporting periods.

2.3.13 Inventories

Inventories are valued at the lower of cost and net realizable value.

Costs incurred in bringing each product to its present location and condition are accounted for as follows:

- raw materials and supplies: purchase cost on a first-in / first-out basis; or
- unfinished goods and finished goods: cost of direct materials and labor, including both internal manufacturing and third-party contract manufacturing organizations, or CMOs, and a proportion of manufacturing overheads based on the normal operating capacity, but excluding borrowing costs.

Net realizable value is the estimated selling price in the ordinary course of business less estimated costs of completion and the estimated costs necessary to make the sale. Write-offs are recorded if inventories are expected to be unsaleable, do not fulfill the specification defined by our quality standards or if its shelf-life has expired. For inventories subject to the collaboration partners' gross profit share mechanism, we consider the contractual compensation payments in the estimate of the net realizable value.

2.3.14 Impairment of Non-Financial Assets

At each reporting date, we assess whether there is an indication that a non-financial asset may be impaired. Goodwill is tested for impairment at least annually as of October 1. Impairment is determined for goodwill by assessing the recoverable amount of each cash-generating unit (or group of CGUs) to which the goodwill relates. If any indication exists, or when annual impairment testing is performed, we estimate the asset's or CGU's recoverable amount. The recoverable amount is the higher of an asset's or CGU's fair value less costs of disposal and its value in use. The recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. In case the asset is not generating independent cash inflows the impairment test is performed for the smallest group of assets that generate largely independent cash inflows from other assets (CGU). When the carrying amount of an asset or cash-generating unit exceeds its recoverable amount, the asset or the non-current assets of the CGU are considered impaired and written down to their recoverable amount.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs of disposal, recent market transactions and our market capitalization are taken into account.

If a value in use is determined it is based on detailed budgets and forecast calculations, which are prepared separately for each of our cash-generating units to which the individual assets are allocated. These budgets and forecast calculations generally cover a period of at least five years. A long-term growth rate is calculated and applied to project future cash flows after the last year of the detailed planning period.

Impairment losses are recognized in the consolidated statements of profit or loss in expense categories consistent with the function of the impaired asset.

For assets excluding goodwill, an assessment is made at each reporting date to determine whether there is an indication that previously recognized impairment losses no longer exist or have decreased. If such indication exists, the asset's or cash-generating unit's recoverable amount is estimated. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the consolidated statements of profit or loss.

2.3.15 Cash and Cash Equivalents

Cash and cash equivalents comprise cash at banks and on hand and short-term investments we consider to be highly liquid (including deposits and money market funds) with an original maturity of three months or less, that are readily convertible to a known amount of cash and subject to an insignificant risk of changes in value. Deposits with an original maturity of more than three months are recognized as other financial assets.

2.3.16 Provisions

Provisions are recognized when there is a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. When we expect some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognized as a separate asset, but only when the reimbursement is virtually certain.

A provision is also recognized for certain contracts with suppliers for which the unavoidable costs of meeting the obligations exceed the economic benefits expected to be received. The economic benefits considered in the assessment comprise the future benefits we are

directly entitled to under the contract as well as the anticipated future benefits that are the economic consequence of the contract if these benefits can be reliably determined.

The expense relating to a provision is presented in the consolidated statements of profit or loss net of any reimbursement.

2.3.17 Share-Based Payments

Employees (and others providing similar services) receive remuneration in the form of share-based payments, which are settled in equity instruments (equity-settled transactions) or in cash (cash-settled transactions).

In accordance with IFRS 2, share-based payments are generally divided into cash-settled and equity-settled. Both types of payment transactions are measured initially at their fair value as of the grant date. The fair value is determined using an appropriate valuation model, further details of which are given in Note 16. Rights granted under cash-settled transactions are remeasured at fair value at the end of each reporting period until the settlement date. The cost of share-based payment awards is recognized over the relevant service period, applying either the straight-line method or the graded vesting method, where applicable.

These costs are recognized in cost of sales, research and development expenses, sales and marketing expenses or general and administrative expenses, together with a corresponding increase in equity (other reserves) or other liabilities, over the period in which the service is provided (the vesting period). The cumulative expense recognized for cash- and equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired, and also reflects the best estimate of the number of equity instruments that will ultimately vest.

If we have a choice of settling either in cash or by providing equity instruments, the rights granted are accounted for as an equity-settled transaction, unless there is a present obligation to settle in cash.

If, due to local tax regulations, an amount is withheld for the employee's tax obligations and paid directly to the tax authorities in cash on the employee's behalf, the entire share-based payment program remains an equity-settled plan based on the IFRS 2 classification. Accordingly the amount withheld for the employee's tax obligations expected to be paid directly to the tax authorities is reclassified from Other reserves to Other non-financial liabilities.

2.3.18 Treasury Shares

We apply the par value method to our repurchases of outstanding American Depositary Shares, or ADSs. Accordingly, the nominal value of acquired treasury shares is deducted from equity shown in a separate category, Treasury Shares. Any premium paid in excess of the nominal value of a repurchased ADS is deducted from capital reserves. On the trade date, we recognize a liability and on the settlement date, we settle in cash. We recognize the foreign exchange differences that may occur between trade and settlement date as profit or loss.

2.4 Standards Applied for the First Time

In 2022, the following potentially relevant new and amended standards and interpretations became effective, but did not have an impact on our consolidated financial statements:

Standards / Interpretations	Date of application
Amendments to IFRS 3 Business Combinations: Reference to the Conceptual Framework	January 1, 2022
Amendments to IAS 37 Provisions, Contingent Liabilities and Contingent Assets: Onerous Contracts – Cost of Fulfilling a Contract Amendments to IAS 37	January 1, 2022
Amendments to IAS 16 Property, Plant and Equipment: Proceeds before Intended Use	January 1, 2022
Annual Improvements to IFRS Standards 2018-2020	January 1, 2022

2.5 Standard Issued but Not Yet Effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the financial statements and that might have an impact on our financial statements are disclosed below. We have not adopted any standards early and intend to adopt these new and amended standards and interpretations, if applicable, when they become effective.

Standards / Interpretationen	Date of application
IFRS 17 Insurance Contracts	January 1, 2023
Amendments to IFRS 17 Insurance Contracts	January 1, 2023
Amendments to IAS 1 and IFRS Practice Statement 2: Disclosure of Accounting Policies	January 1, 2023
Amendments to IAS 8 Accounting policy changes: Definition of Accounting Estimates	January 1, 2023
Amendments to IAS 12 Income Taxes: Deferred Tax related to Assets and Liabilities arising from a Single Transaction	January 1, 2023
Amendments to IAS 1 Presentation of Financial Statements: Classification of Liabilities as Current or Non-Current[1]	January 1, 2024
Amendments to IAS 1 Presentation of Financial Statements: Non-current Liabilities with Covenants[1]	January 1, 2024
Amendments to IFRS 16 Leases: Lease Liability in a Sale and Leaseback[1]	January 1, 2024

(1) Standards had not yet been endorsed in the European Union at the time of publication.

We do not expect a significant impact of the application of any of these standards and amendments.

3 Significant Accounting Judgments, Estimates and Assumptions

The preparation of the consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, the accompanying disclosures and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

Significant accounting judgement as well as key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are described below. We based our assumptions and estimates on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising that are beyond the control of the Group. Such changes are reflected in the assumptions when they occur.

Revenues from Contracts with Customers
We applied the following judgments, estimates and assumptions that significantly affect the determination of the amount and timing of revenues from contracts with customers:

Identification and Determination of Performance Obligations
We generate revenues from collaboration and license agreements, which contain multiple elements, including licenses to use, research, develop, manufacture and commercialize candidates and products, research and development services as well as obligations to develop and manufacture preclinical and clinical material and products. We determined that those collaboration and license agreements qualify as contracts with customers. A contract is an agreement between two or more parties that establishes enforceable rights and obligations. At inception of each agreement, we apply judgment when determining which promises represent distinct performance obligations. If promises are not distinct, they are combined until the bundle of promised goods and services is distinct. For some agreements, this results in accounting for goods and services promised in a collaboration and license agreement as a single performance obligation with a single measure of progress. For these combined performance obligations, we assess which of these promises is the predominant promise to determine the nature of the performance obligation. When licenses are granted, we determined that the grant of the license is the predominant promise within the combined performance obligations. It is assessed that we grant our customers a right to access or a right to use our intellectual property due to the collaboration and license agreements.

Measurement of the Transaction Price
Our collaboration and license agreements often include variable considerations, which are contingent on the occurrence or non-occurrence of a future event *(i.e.*, reaching a certain milestone). When determining deferred revenues of a collaboration and license agreement, we need to estimate the amount of consideration to which we will be entitled in exchange for transferring the promised goods or services to our customers.

As there are usually only two possible outcomes (i.e., milestone is reached or not), we have assessed that the method of the most likely amount is the best method to predict the amount of consideration to which we will be entitled. At contract inception, the most likely amount for milestone payments is estimated to be zero. We have assessed that the likelihood of achieving the respective milestone decreases depending on how far the expected date of achieving the milestone lies in the future. At each reporting date, we use judgment to determine when to include variable consideration in the transaction

price, such that it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognized will not occur when the associated uncertainty with respect to the variable consideration is subsequently resolved. We have concluded that future milestone payments are fully constrained at the end of the current fiscal year.

Future milestone payments would become unconstrained at the satisfaction of the milestone event, specifically a development event, a regulatory approval or achievement of a sales milestone.

Allocation of the Transaction Price to Performance Obligations and Revenue Recognition as Performance Obligations are Satisfied
We allocate the transaction price to performance obligations based on their relative standalone selling prices, which are generally based on our best estimates and interpretations of facts and circumstances of each contractual agreement and may require significant judgment to determine appropriate allocation.

Upfront payments and reimbursement for expenses are initially deferred on our consolidated statements of financial position. We assessed that no significant financing component exists within our collaboration agreements since the overall business purpose of advanced payments is to support the payment structure other than to provide a significant benefit of financing. For performance obligations in which the costs vary based on progress, an input-based measure considering cost incurred depicts most reliably the progress of the related research activities. In other cases, revenue recognition on a straight-line basis may most reliably depict our performance toward complete satisfaction. If the contractual activities progress, the achievement of development milestones will be used to measure the progress toward complete satisfaction. We evaluate the measure of progress each reporting period and, if necessary, adjust the measure of performance and related revenue recognition. Any such adjustments are recorded on a cumulative catch-up basis, which would affect revenues and net loss in the period of adjustment.

Upon successfully commercializing a pharmaceutical product, the collaboration and license agreements also provide for additional profit-sharing or tiered royalties earned when customers recognize net sales of licensed products as well as sales milestone payments. Revenue is recognized based on the sales-based or usage-based royalty exemption; *i.e.*. when, or as, the underlying sales occur, which is when the performance obligation has been satisfied.

Principal-Agent Considerations
Collaboration agreements that involve two or more partners who contribute to the provision of a specific good or service to a customer are assessed in terms of principal-agent considerations. Under our current collaboration agreements, the allocation of marketing and distribution rights defines territories in which the collaboration partner acts as a principal respectively. We recognize revenue net based on the collaboration partners' gross profit in territories where the partner is responsible for supply and on a gross basis when directly supplying our customers in our territories when control has been transferred. Amounts paid to collaboration partners for their share of our profits earned where we are the principal in the transaction are recorded as cost of sales.

Pfizer Agreement Characteristics
With respect to our collaboration with Pfizer, commercial revenues are recognized based on our collaboration partners' gross profit from COVID-19 vaccine sales, which is shared under the respective collaboration agreement. In determining commercial revenues pursuant to this collaboration agreement, we are reliant on our collaboration partner for details regarding its gross profit for the period at hand. Certain of the information which our collaboration partner provides us with to identify the gross profit are, by necessity, preliminary and subject to change.

Pfizer's gross profit shares are calculated based on sales and include consideration of transfer prices. The latter includes manufacturing and shipping costs, which represent standard prices and include mark-ups on manufacturing costs as specified by the terms of the agreement. Manufacturing and shipping cost variances were considered as far as those have been identified. Nevertheless, those input parameters may be adjusted once actual costs are determined. The sales as reported by Pfizer have been used to estimate license obligations in terms of royalties and sales milestones. Sales milestones and

royalties are recognized as they are earned by the partners. Sales milestones are shared equally, while royalty payments are borne by the partners on the basis of revenues in the territories for which the partners are responsible and subsequently deducted as cost under the gross profit shared. The estimated royalty fees applied to net sales reflect the license obligations to the extent currently identified from third party contractual arrangements. Changes in estimates are accounted for prospectively, when determined.

Manufacturing cost variances include expenses from unused contract manufacturing capacities and overstock inventories finally scrapped. As only materialized costs – which means manufacturing capacities finally lapsed or inventories finally scrapped – are cash-effectively shared with the partner, the gross profit share impact is anticipated once assessed as highly probable to occur. Any changes to this assessment will be recognized prospectively.

Pfizer's determination of manufacturing and shipping costs also affects the transfer prices that have been charged to COVID-19 vaccine supplies that it manufactures and supplies to us and may be subject to adjustment whenever manufacturing and shipping cost variances are identified. Likewise, our own cost of sales and the respective gross profit share owed to our partner may be adjusted prospectively, when changes are determined.

For the carrying amounts of the revenue recognition-related contract balances, see Note 6. Judgment is required in determining whether a right to consideration is unconditional and thus qualifies as a receivable.

Provisions and Contingencies
We are currently confronted with claims and legal proceedings. Those include claims from third parties demanding indemnification for purported infringement of third party's patent or other intellectual proprietary rights as well as product liability claims. For these matters we assess whether provisions must be recorded and whether contingencies must be reported.

Due to uncertainties relating to these matters, provisions and contingencies are based on the best information available.

Significant judgment is required in the determination of whether and when a provision is to be recorded and what the appropriate amount for such provision should be. Notably, judgment is required in the following areas:

- Determining whether an obligation exists
- Determining the probability of outflow of economic benefits
- Determining whether the amount of an obligation is reliably estimable
- Estimating the amount of the expenditure required to settle the present obligation

At the end of each reporting period, we reassess the potential obligations related to our pending claims and litigation and adjust our respective provisions and contingencies to reflect the current best estimate. In addition, we monitor and evaluate new information that we receive after the end of the respective reporting period, but before the Consolidated Financial Statements are authorized for issue, to determine whether this provides additional information regarding conditions that existed at the end of the reporting period. Changes to the estimates and assumptions and outcomes that differ from these estimates and assumptions, could require material adjustments to the carrying amounts of the respective provisions recorded and additional provisions.

The expected timing or amounts of any outflows of economic benefits resulting from these lawsuits and claims are uncertain and difficult to estimate or even not estimable, as they generally depend on the duration of the legal proceedings and settlement negotiations required to resolve the litigation and claims and the unpredictability of the outcomes of legal disputes in several jurisdictions.

Disclosures in respect of third-party claims and litigation for which no provisions have been recognized are made in the form of contingent liabilities, unless a potential outflow of resources is considered remote. It is not practicable to estimate the financial impact of

contingent liabilities due to the uncertainties around lawsuits and claims as outlined above.

For further disclosures and carrying amounts relating to provisions and contingencies, see *Note 17*.

Research and Development Expenses
The nature of our business and primary focus of our activities, including development of our platforms and manufacturing technologies, generate a significant amount of research and development expenses. Research costs are expensed as incurred. Development expenditures on an individual project are recognized as an intangible asset if, and only if, the capitalization criteria are met. We have entered into agreements under which third parties grant licenses to us. If those licenses grant access to technologies, both parties jointly perform research or development activities and both are exposed to significant risks and rewards of the activities, costs incurred with the agreements are not treated differently from costs related to own product candidates. If the agreements grant us rights to use certain patents and technologies that meet the definition of an identifiable asset, they are treated as acquired intangible assets. Based on our assessment we have concluded that, due to the inherent risk of failure in pharmaceutical development and the uncertainty of approval, these criteria are regularly not met before regulatory approval is achieved. The related expenditure is reflected in the consolidated statements of profit or loss in the period in which the expenditure is incurred. Sales-based milestone or royalty payments incurred under license agreements relating to self-developed intangibles after the approval date of the respective pharmaceutical product are recognized as expenses as incurred. Prior to initial regulatory approval, costs relating to production of pre-launch products which do not fulfill capitalization criteria are expensed as research and development expenses in the period incurred.

Share-Based Payments
Determining the fair value of share-based payment transactions requires the most appropriate valuation for the specific program, which depends on the underlying terms and conditions. We used valuation models like a binomial or Monte-Carlo simulation model for the measurement of the cash- and equity-settled transactions' fair value considering certain assumption relating to, *e.g.,* the volatility of stock price, the determination of an appropriate risk-free interest rate, expected dividends and the probability of reaching a minimum hurdle to exercise the relevant options. For awards which were granted prior to the initial public offering, at a time where no quoted market prices existed, the valuation model assumptions included the option's underlying share price. For awards which were granted post the initial public offering, the grant date's share prices on the Nasdaq Global Select Market were included in the valuation.

A retention assumption is applied when estimating the number of equity instruments for which service conditions are expected to be satisfied and will be revised in case material differences arise. Ultimately, a true-up to the number satisfied until settlement date will be recorded.

For further disclosures relating to share-based payments, see *Note 16*.

Embedded Derivatives
Defining the fair value of the embedded derivative which was bifurcated from the convertible note, as host contract, requires significant judgment. We used the Cox-Rubinstein binomial tree model when determining the fair value of the conversion right, the embedded derivative which was bifurcated from the convertible note, as host contract. The primary inputs used in the model include stock price volatility, credit spreads, risk-free interest rate and foreign exchange forward rates. Stock price volatility is based on our implied volatility, credit risk is model implied and adjusted for movement in credit spreads for B-rated corporates at each valuation date, the risk-free interest rate is based on currency specific time congruent IBOR and swap rates whereas the foreign exchange forward rates are based on observable market data.

For further disclosures relating to financial instruments, see *Note 12*.

Income Taxes

We are subject to income taxes in more than one tax jurisdiction. Due to the increasing complexity of tax laws and the corresponding uncertainty regarding the legal interpretation by the fiscal authorities, tax calculations are generally subject to an elevated amount of uncertainty. To the extent necessary, possible tax risks are taken into account in the form of provisions.

We do not recognize or impair deferred tax assets when it is unlikely that a corresponding amount of future taxable profit will be available against which the deductible temporary differences, tax loss carry forwards and tax credits can be utilized. When determining whether sufficient future taxable profit will be available against which the deductible temporary differences, tax loss carry forwards and tax credits can be utilized, significant management judgment is required. This includes management's assessment on the character and amounts of taxable future profits, the periods in which those profits are expected to occur, and the availability of tax planning opportunities. As a matter of policy, convincing evidence supporting the recognition of deferred tax assets is required if an entity has suffered a loss in either the current or the preceding periods.

Our management continued to determine that deferred tax assets on tax losses carried forward that relate to subsidiaries which have a loss making history cannot be recognized. This includes the assessment that those subsidiaries neither have any taxable temporary difference nor any tax planning opportunities available that could support the recognition of deferred tax assets.

For further disclosures relating to deferred taxes, see *Note 8*.

4 Group Information

Information about Subsidiaries
The consolidated financial statements include the following subsidiaries:

Name	Country of incorporation	Registered office	% equity interest December 31, 2022	% equity interest December 31, 2021
BioNTech BioNTainer Holding GmbH	Germany	Mainz[2]	100 %	n/a[1]
BioNTech Cell & Gene Therapies GmbH	Germany	Mainz[2]	100 %	100 %
BioNTech Delivery Technologies GmbH	Germany	Halle[2]	100 %	100 %
BioNTech Diagnostics GmbH	Germany	Mainz[2]	100 %	100 %
BioNTech Europe GmbH	Germany	Mainz[2]	100 %	100 %
BioNTech Individualized mRNA Manufacturing GmbH i.G.	Germany	Mainz[2]	100 %	n/a[1]
BioNTech Innovation GmbH	Germany	Mainz[2]	100 %	100 %
BioNTech Innovative Manufacturing Services GmbH	Germany	Idar-Oberstein[2]	100 %	100 %
BioNTech Idar-Oberstein Services GmbH	Germany	Idar-Oberstein[2]	100 %	n/a[1]
BioNTech Manufacturing GmbH	Germany	Mainz[2]	100 %	100 %
BioNTech Manufacturing Marburg GmbH	Germany	Marburg[2]	100 %	100 %
BioNTech Innovation and Services Marburg GmbH	Germany	Marburg[2]	100 %	100 %
JPT Peptide Technologies GmbH	Germany	Berlin[2]	100 %	100 %
NT Security and Services GmbH	Germany	Mainz[2]	100 %	n/a[1]
reSano GmbH	Germany	Mainz[2]	100 %	100 %
BioNTech Real Estate Holding GmbH	Germany	Holzkirchen[2]	100 %	100 %
BioNTech Real Estate Verwaltungs GmbH	Germany	Holzkirchen[2]	100 %	100 %
BioNTech Real Estate GmbH & Co. KG	Germany	Holzkirchen[2]	100 %	100 %

Continued on next page

Group Information

Name	Country of incorporation	Registered office	% equity interest December 31, 2022	% equity interest December 31, 2021
BioNTech Real Estate An der Goldgrube GmbH & Co. KG	Germany	Holzkirchen[2]	100 %	100 %
BioNTech Real Estate Haus Vier GmbH & Co. KG	Germany	Holzkirchen[2]	100 %	100 %
BioNTech Real Estate Adam-Opel-Straße GmbH & Co. KG	Germany	Holzkirchen[2]	100 %	100 %
BioNTech Real Estate An der Goldgrube 12 GmbH & Co. KG	Germany	Holzkirchen[2]	100 %	100 %
BioNTech Australia Pty Ltd	Australia	Melbourne	100 %	n/a[1]
BioNTech R&D (Austria) GmbH	Austria	Vienna	100 %	100 %
BioNTech (Shanghai) Pharmaceuticals Co. Ltd.	China	Shanghai	100 %	100 %
BioNTech Rwanda Ltd.	Rwanda	Kigali	100 %	n/a[1]
BioNTech Pharmaceuticals Asia Pacific Pte. Ltd.	Singapore	Singapore	100 %	100 %
BioNTech Turkey Tıbbi Ürünler Ve Klinik Araştirma Ticaret Anonim Şirketi	Turkey	Istanbul	100 %	100 %
BioNTech UK Limited	United Kingdom	London (previously Reading)	100 %	100 %
BioNTech Research and Development, Inc.	United States	Cambridge	100 %	100 %
BioNTech USA Holding, LLC	United States	Cambridge	100 %	100 %
BioNTech US Inc.	United States	Cambridge	100 %	100 %
JPT Peptide Technologies Inc.	United States	Cambridge	100 %	100 %

(1) Has been incorporated during the year ended December 31, 2022.
(2) Subsidiary makes use of the exemption of Sections 264 para. 3 and 264b HGB for the 2022 financial year.

All entities listed above are included in our consolidated financial statements.

Parent Company

ATHOS KG, Holzkirchen, Germany is the sole shareholder of AT Impf GmbH, Munich, Germany, and beneficial owner of the following percentage of ordinary shares in BioNTech at the dates as indicated. ATHOS KG via AT Impf GmbH has de facto control over BioNTech based on its substantial shareholding, which practically enabled it to exercise the majority of voting rights to pass resolutions at our Annual General Meeting, or AGM.

			Ownership of ordinary shares in BioNTech (in %)	
Name	Country of incorporation	Registered office	December 31, 2022	December 31, 2021
AT Impf GmbH	Germany	Munich	43.42%	43.75%

Entity with significant Influence over the Group

Medine GmbH, Mainz, owned the following percentage of ordinary shares in BioNTech at the following dates as indicated:

			Ownership of ordinary shares in BioNTech (in %)	
Name	Country of incorporation	Registered office	December 31, 2022	December 31, 2021
Medine GmbH	Germany	Mainz	17.38%	17.11%

5 Business Combinations

Business Combinations during the year ended December 31, 2021
BioNTech R&D (Austria) GmbH, or BioNTech Austria (previously PhagoMed Biopharma GmbH)
On October 1, 2021, BioNTech Austria, an Austrian biotechnology company, specialized in the development of a new class of antibacterials, was fully acquired to expand our infectious disease portfolio capabilities.

The total consideration comprised an upfront consideration of €50.0 million (less acquired debt) of which €23.2 million are considered remuneration and will be recognized as personnel expense over a three-year period in which services are to be provided. An additional consideration of maximum €100.0 million is dependent the achievement of certain clinical development milestones. At the acquisition date, the contingent consideration was recognized with its fair value of €5.5 million and is presented as non-current financial liabilities in the consolidated statements of financial position (see Note 12).

The final fair values and values in accordance with IFRS 3 of the identifiable net assets of BioNTech Austria as of the date of acquisition were as follows:

(in millions)	**Fair value recognized on acquisition** BioNTech R&D (Austria) GmbH
Assets	
Intangible assets	€43.3
Other non-financial assets non-current and current	1.5
Total assets	**€44.8**
Liabilities	
Other non-financial liabilities non-current and current	15.4
Total liabilities	**€15.4**
Total identifiable net assets at fair value	**€29.4**
Bargain purchase	(2.2)
Consideration transferred	**€27.2**
Consideration	
Cash paid	21.7
Contingent consideration liability	5.5
Total consideration	**€27.2**

(in millions)	BioNTech R&D (Austria) GmbH
Transaction costs of the acquisition (included in cash flows from operating activities)	€(0.5)
Net cash acquired (included in cash flows used in investing)	0.9
Cash paid (included in cash flow used in investing activities)	(21.7)
Net cash flow on acquisition	**€(21.3)**

The intangible assets comprise a pre-clinical candidate, PM-477 as well as a platform.

A bargain purchase of €2.2 million was recognized in other operating income.

The consolidated statements of profit or loss include the results of BioNTech Austria since the acquisition date. From the date of acquisition through December 31, 2021, BioNTech Austria did not have any significant impact on the operating income or the revenues of the Group. The same applies if the transaction had occurred at the beginning of the reporting period.

6 Revenues from Contracts with Customers

6.1 Disaggregated Revenue Information

Set out below is the disaggregation of the Group's revenues from contracts with customers:

	Years ended December 31,		
(in millions)	**2022**	**2021**	**2020**
Commercial revenues	**€17,194.6**	**€18,874.0**	**€303.5**
COVID-19 vaccine revenues	17,145.2	18,806.8	270.5
Sales to collaboration partners[1]	*1,224.3*	*970.9*	*61.4*
Direct product sales to customers	*3,184.7*	*3,007.2*	*20.6*
Share of collaboration partners' gross profit and sales milestones	*12,736.2*	*14,828.7*	*188.5*
Other sales	49.4	67.2	33.0
Research & development revenues from collaborations	**116.0**	**102.7**	**178.8**
Total	**€17,310.6**	**€18,976.7**	**€482.3**

(1) Represents sales to our collaboration partners of products manufactured by us and reflects manufacturing costs and variances to the extent identified.

During the year ended December 31, 2022, revenues recognized from Pfizer Inc., or Pfizer (€13,795.8 million) and the German Federal Ministry of Health (€3,020.5 million), each account for more than 10% of total revenues. During the year ended December 31, 2021, revenues recognized from Pfizer (€15,500.0 million) and the German Federal Ministry of Health (€1,945.6 million) account for more than 10% of total revenues. During the year ended December 31, 2020, revenues recognized from Genentech (€49.2 million) and Pfizer (€371.5 million), accounted for more than 10% of total revenues. During the year ended December 31, 2022, based on the geographic region in which our customers and collaboration partners are located we mainly recognized revenues in the United States (€12,709.7 million) and Germany (€3,031.0 million). During the year ended December 31, 2021, the main geographic regions were United States (€14,636.5 million), Germany (€2,241.9 million) and Belgium (€675.0 million). During the year ended December 31, 2020, the main geographic regions were United States (€381.9 million) and Belgium (€56.2 million).

Commercial Revenues

During the year ended December 31, 2022, commercial revenues were recognized from the supply and sales of our COVID-19 vaccine worldwide. We are the marketing authorization holder in the United States, the European Union, the United Kingdom, Canada and other countries, and holder of emergency use authorizations or equivalents in the United States (jointly with Pfizer) and other countries, submissions to pursue regulatory approvals in those countries where emergency use authorizations or equivalent were initially granted are ongoing. Pfizer has marketing and distribution rights worldwide with the exception of China, Germany and Turkey. Shanghai Fosun Pharmaceutical (Group) Co., Ltd, or Fosun Pharma has marketing and distribution rights in China, Hong Kong special administrative region, or SAR, Macau SAR and the region of Taiwan. The allocation of marketing and distribution rights defines territories in which the collaboration partners act as a principal.

Sales to Collaboration Partners
Sales to collaboration partners represent sales of products manufactured by us to collaboration partners. Whenever responsibilities in the manufacturing and supply process of the COVID-19 vaccine shift and the COVID-19 vaccine is transferred, the vaccine is sold from one partner to the other. Under the collaboration with Pfizer, from time to time, those sales are significantly influenced by amounts due to write-offs of inventories as well as costs related to production capacities derived from contracts with Contract Manufacturing Organizations (CMOs) that became redundant. Those costs represent accrued manufacturing variances and are charged to our partner once finally materialized. These manufacturing variances are reflected as transfer price adjustment once identified and assessed highly probable. Sales to collaboration partners during the years ended December 31, 2022, 2021 and 2020, amounted to €1,224.3 million, €970.9 million and €61.4 million, respectively. During the years ended December 31, 2022, and 2021 those sales included €850.0 million and €31.0 million, respectively, related to the aforementioned manufacturing variances. (Nil with respect to sales during the year ended December 31, 2020).

Direct Product Sales to Customers
By supplying our territories during the years ended December 31, 2022, 2021 and 2020, we recognized €3,184.7 million, €3,007.2 million and €20.6 million of revenues, respectively, from direct COVID-19 vaccine sales in Germany and Turkey. The share of gross profit that we owe our collaboration partner Pfizer based on our sales is recognized as cost of sales.

Share of Collaboration Partners' Gross Profit and Sales Milestones
Based on COVID-19 vaccine sales in the collaboration partners' territories, we are eligible to receive a share of their gross profit, which represents a net figure and is recognized as collaboration revenue during the commercial phase, together with sales milestones that are recorded once the underlying thresholds are met. When determining the gross profit, manufacturing cost variances either reflected as transfer price adjustment as described above, or resulting from costs highly probable to be incurred by the partner were considered. During the year ended December 31, 2022, €12,736.2 million gross profit share has been recognized as revenues. During the year ended December 31, 2021 €14,352.1 million gross profit share and €476.6 million of sales milestones have been recognized as revenues. During the year ended December 31, 2020, we recognized €188.5 million gross profit share has been recognized as revenues.

Research and Development Revenues from Collaborations
During the year ended December 31, 2022, research and development revenues were mainly derived from our collaborations with Pfizer, Genentech Inc., or Genentech, and Sanofi S.A, or Sanofi. This includes revenues derived from our new research, development and commercialization collaboration with Pfizer to develop a potential first mRNA-based vaccine for the prevention of shingles (herpes zoster virus, or HZV) which we entered during the year ended December 31, 2022.

During the year ended December 31, 2021, research and development revenues were mainly derived from our collaborations with Genentech and Pfizer.

During the year ended December 31, 2020, research and development revenues were mainly derived from our collaborations with Pfizer and Genentech.

The revenues from contracts with customers disclosed above were recognized as follows:

	Years ended December 31,		
(in millions)	**2022**	**2021**	**2020**
Timing of revenue recognition			
Goods and services transferred at a point in time	€4,447.2	€4,034.3	€108.8
Goods and services transferred over time	127.2	113.7	185.0
Revenue recognition applying the sales-based or usage-based royalty recognition constraint model[(1)]	12,736.2	14,828.7	188.5
Total	**€17,310.6**	**€18,976.7**	**€482.3**

(1) Represents sales based on the share of the collaboration partners' gross profit and sales milestones.

6.2 Contract Balances

(in millions)	December 31, 2022	December 31, 2021
Trade and other receivables	€7,145.6	€12,381.7
Contract liabilities	125.5	195.1
Refund liabilities	24.4	90.0

Trade and other receivables significantly decreased from €12,381.7 million to €7,145.6 million and predominantly comprise trade receivables from our COVID-19 collaboration with Pfizer as well as our direct product sales to customers in our territory. The contractual settlement of the gross profit share has a temporal offset of more than one calendar quarter. As Pfizer's fiscal quarter for subsidiaries outside the United States differs from ours, it creates an additional time lag between the recognition of revenues and the payment receipt. Consequently, as of December 31, 2022, our trade receivables included, in addition to the profit share for the fourth quarter of 2022, trade receivables which related to the gross profit share for the third quarter of 2022. The payment settling our gross profit share for the third quarter of 2022 (as defined by the contract) in the amount of €1,816.5 million was received from our collaboration partner subsequent to the end of the reporting period as of January 12, 2023.

Contract liabilities mainly include upfront fees received from our major collaboration and license agreements as well as advance payments received for future COVID-19 vaccine sales and other sales. The contract liabilities from collaboration and commercial supply agreements as of December 31, 2022, comprise €65.7 million remaining upfront fees from collaboration agreements, and €56.3 million of advance payments for future COVID-19 vaccine sales (as of December 31, 2021: €61.9 million of remaining upfront fees from collaborations as well as €131.9 million of advance payments for future COVID-19 vaccine sales).

During the year ended December 31, 2022, the contract liabilities changed as revenues were recognized from contract liabilities outstanding at the beginning of the year by progressing our research and development collaboration agreements as well as partially reclassified into refund liabilities (during the year ended December 31, 2021: decrease in contract liabilities by fulfilling commercial performance obligations and progressing our research and development collaboration agreements).

The refund liabilities relate to our collaboration partner and represent consideration which has been received but which will need to be refunded to the collaboration partner.

Set out below is the amount of revenue recognized for the periods indicated:

	Years ended December 31,		
(in millions)	2022	2021	2020
Amounts included in contract liabilities at the beginning of the year	€63.1	€73.7	€58.9

6.3 Performance Obligations

The contract liabilities allocated to the remaining performance obligations from collaboration or commercial supply agreements (unsatisfied or partially unsatisfied) as of year-end are as follows:

(in millions)	December 31, 2022	December 31, 2021
Within one year	€77.1	€186.1
More than one year	48.4	9.0
Total	**€125.5**	**€195.1**

7 Income and Expenses

7.1 Costs of Sales

	Years ended December 31,		
(in millions)	2022	2021	2020
Cost of sales related to COVID-19 vaccine revenues	€2,960.1	€2,855.6	€35.6
Cost related to other sales	34.9	55.9	23.7
Total	**€2,995.0**	**€2,911.5**	**€59.3**

During the year ended December 31, 2022, cost of sales increased compared to the year ended December 31, 2021, mainly due to recognizing cost of sales from our COVID-19 vaccine sales, which included the share of gross profit that we owe our collaboration partner Pfizer based on our sales. In addition, cost of sales was impacted by expenses arising from inventory write-offs and expenses for production capacities derived from contracts with Contract Manufacturing Organizations, or CMOs, that became redundant. The effects were driven by the introduction of a new COVID-19 vaccine formulation, the switch from the monovalent vaccine to our Omicron-adapted bivalent COVID-19 vaccines and due to accelerating internal manufacturing capacities during the year ended December 31, 2022.

During the year ended December 31, 2021, cost of sales increased compared to the year ended December 31, 2020, mainly due to recognizing cost of sales from our COVID-19 vaccine sales, which included the share of gross profit that we owe our collaboration partner Pfizer based on our sales.

7.2 Research and Development Expenses

	Years ended December 31,		
(in millions)	2022	2021	2020
Purchased services	€621.6	€572.6	€359.9
Wages, benefits and social security expense	385.9	233.1	126.3
Laboratory supplies	398.0	53.8	107.8
Depreciation and amortization	49.3	32.9	30.2
Other	82.2	56.8	20.8
Total	**€1,537.0**	**€949.2**	**€645.0**

During the year ended December 31, 2022, research and development expenses increased compared to the year ended December 31, 2021, mainly due to expenses in connection with the development and production of our Omicron-adapted bivalent COVID-19 vaccines and from progressing the clinical studies for our pipeline candidates. The increase was further driven by an increase in wages, benefits and social security expenses resulting from an increase in headcount as well as expenses incurred under our share-based-payment arrangements.

During the year ended December 31, 2021, research and development expenses increased compared to the year ended December 31, 2020, mainly due to increased research and development expenses from the BNT162 clinical trials launched and conducted in the year ended December 31, 2021, recorded as purchased services with respect to those expenses, which are initially incurred by Pfizer and subsequently charged to us under the collaboration agreement. The increase was further driven by an increase in wages, benefits and social security expenses resulting from an increase in headcount, recording expenses incurred under our share-based-payment arrangements as well as from recognizing inventor remuneration expenses.

7.3 Sales and Marketing Expenses

	Years ended December 31,		
(in millions)	2022	2021	2020
Purchased services	€24.0	€26.5	€10.9
IT costs	11.2	5.0	0.2
Wages, benefits and social security expense	7.8	4.3	1.6
Other	16.5	14.6	1.8
Total	**€59.5**	**€50.4**	**€14.5**

During the year ended December 31, 2022, sales and marketing expenses increased compared to the year ended December 31, 2021, mainly due to increased expenses for IT consulting and an increase in wages, benefits and social security expenses resulting from an increase in headcount.

During the year ended December 31, 2021, sales and marketing expenses increased compared to the year ended December 31, 2020, mainly due to an increase in purchased service which we incurred in connection with our COVID-19 vaccine commercial activities.

7.4 General and Administrative Expenses

	Years ended December 31,		
(in millions)	2022	2021	2020
Wages, benefits and social security expense	€145.9	€90.5	€33.0
Purchased services	143.9	70.2	26.0
IT and office equipment	88.1	25.1	7.4
Insurance premiums	21.3	30.4	4.8
Other	85.5	69.6	22.8
Total	**€484.7**	**€285.8**	**€94.0**

During the year ended December 31, 2022, general and administrative expenses increased compared to the year ended December 31, 2021, mainly due to increased expenses for IT consulting and IT services, increased expenses for purchased management consulting and legal services as well as an increase in wages, benefits and social security expenses resulting mainly from an increase in headcount. Our business development transactions also contributed to the increase in general and administrative expenses.

During the year ended December 31, 2021, general and administrative expenses increased compared to the year ended December 31, 2020, mainly due to an increase in wages, benefits and social security expenses resulting from an increase in headcount and expenses incurred under the share-based payment arrangements, increased expenses for purchased management consulting and legal services as well as higher insurance premiums caused by increased business volume.

7.5 Other Operating Expenses

	Years ended December 31,		
(in millions)	2022	2021	2020
Loss on derivative instruments at fair value through profit or loss	€385.5	€86.3	€ –
Other	21.5	8.1	2.4
Total	**€407.0**	**€94.4**	**€2.4**

During the year ended December 31, 2022, the other expenses increased compared to the year ended December 31, 2021, mainly from recording the change in fair value of foreign exchange forward contracts that were entered into during the year ended December 31, 2022, to manage some of our transaction exposures but were not designated as hedging instruments under IFRS.

During the year ended December 31, 2021, the other operating expenses increased compared to the year ended December 31, 2020, mainly from recording the change in fair value of foreign exchange forward contracts.

7.6 Other Operating Income

	Years ended December 31,		
(in millions)	2022	2021	2020
Foreign exchange differences, net	€727.4	€446.3	€ –
Government grants	1.4	137.2	239.0
Gain on derivative instruments at fair value through profit or loss	–	5.7	–
Other	86.5	9.2	11.5
Total	**€815.3**	**€598.4**	**€250.5**

During the year ended December 31, 2022, the other income increased compared to the year ended December 31, 2021, which was mainly due from recognizing foreign exchange differences arising on operating items. The foreign exchange differences included in operating income primarily arose from valuing our U.S. dollar denominated trade receivables which were mainly incurred under our COVID-19 collaboration with Pfizer, U.S. dollar denominated trade payables as well as U.S. dollar denominated other financial liabilities which mainly relate to obligations incurred from our license agreements.

During the year ended December 31, 2021, the other income increased compared to the year ended December 31, 2020, which was mainly due from recognizing foreign exchange differences and government grant funding. The government grant funding mainly related to an initiative by the German Federal Ministry of Education (*Bundesministerium für Bildung und Forschung*, or the BMBF) to support our COVID-19 vaccine program, BNT162. During the year ended December 31, 2021, the final draw downs were made. The government funding from the BMBF amounted in total to €375.0 million during the years ended December 31, 2021, and 2020.

7.7 Finance Income

	Years ended December 31,		
(in millions)	2022	2021	2020
Fair value adjustments of financial instruments measured at fair value	€216.8	€ –	€ –
Foreign exchange differences, net	65.0	66.2	–
Interest income	48.5	1.5	1.6
Total	**€330.3**	**€67.7**	**€1.6**

During the year ended December 31, 2022, the finance income increased compared to the year ended December 31, 2021, mainly due to final fair value measurement adjustments of the derivative embedded within the convertible note upon the early redemption of the convertible note as of March 1, 2022, the redemption date, as well as increased interest income from our bank deposits.

7.8 Finance Expenses

	Years ended December 31,		
(in millions)	2022	2021	2020
Interest expenses related to financial assets	€11.1	€2.5	€ –
Interest expenses related to lease liabilities	5.1	2.9	2.0
Amortization of financial instruments	2.7	21.9	3.1
Fair value adjustments of financial instruments measured at fair value	–	277.8	17.3
Foreign exchange differences, net	–	–	42.6
Total	**€18.9**	**€305.1**	**€65.0**

During the year ended December 31, 2022, the finance expenses decreased compared to the year ended December 31, 2021, mainly due to final settlement of the derivative embedded within the convertible note which led to financial income whereas during the year ended December 31, 2021, expenses in the amount of €277.8 million were derived from the respective fair value measurement adjustment.

7.9 Employee Benefits Expense

	Years ended December 31,		
(in millions)	2022	2021	2020
Wages and salaries	€544.8	€345.9	€160.7
Social security costs	58.6	31.7	17.9
Pension costs	2.1	1.2	0.8
Total	**€605.5**	**€378.8**	**€179.4**

Wages and salaries include, among other things, expenses for share-based payments.

8 Income Tax

Income tax for the years ended December 31, 2022, December 31, 2021, and December 31, 2020, comprised current income taxes, other taxes and deferred taxes. We are subject to corporate taxes, the solidarity surcharge and trade taxes. Our corporate tax rate in the reporting year remained unchanged (15.0%) as did the solidarity surcharge (5.5%) whereas the average trade tax rate changed resulting in a combined income tax rate of 27.25% in the year ended December 31, 2022 (during the years ended December 31, 2021 and 2020: 30.72% and 30.79%, respectively). Deferred taxes are calculated at a rate of 27.2%. Deferred taxes for Austria are calculated at a corporate tax rate of 25.0%. Austria's decrease of its corporate tax rate down to 23.0% in 2024 will be recognized from 2023 onwards. BioNTech USA Holding, LLC is subject to Federal Corporate Income Tax (21.0%) as well as State Income Tax in various state jurisdictions (effective rate of 4.7%). The deferred tax rates calculations basis remained unchanged compared to the previous period.

The following table illustrates the current and deferred taxes for the periods indicated:

	Years ended December 31,		
(in millions)	**2022**	**2021**	**2020**
Current income taxes	€3,629.6	€4,535.0	€ –
Deferred taxes	(109.9)	218.9	(161.0)
Income taxes	**€3,519.7**	**€4,753.9**	**€(161.0)**

The following table reconciles the expected income taxes to the actual current income taxes and deferred taxes as presented in the table above. The expected income taxes were calculated using the combined income tax rate of BioNTech SE applicable to the Group and mentioned above which was applied to profit before taxes to calculate the expected income taxes.

	Years ended December 31,		
(in millions)	**2022**	**2021**	**2020[1]**
Profit / (Loss) before tax	**€12,954.1**	**€15,046.4**	**€(145.8)**
Expected tax credit / (benefit)	€3,529.7	€4,622.5	€(44.9)
Effects			
Deviation due to local tax basis	8.9	9.1	0.6
Deviation due to deviating income tax rate (Germany and foreign countries)	7.3	9.4	1.3
Change in valuation allowance	30.6	3.0	(26.2)
Effects from tax losses	23.2	19.5	(90.4)
Change in deferred taxes due to tax rate change	(2.3)	(7.5)	–
Non-deductible expenses	2.5	90.5	0.8
Non tax-effective income	(87.9)	(0.3)	–
Non tax-effective share-based payment expenses	8.7	15.5	9.8
Tax-effective equity transaction costs	–	(1.2)	(10.2)
Adjustment prior year taxes	(31.5)	(2.9)	0.3
Non-tax effective bargain purchase	–	(0.7)	(2.2)
Other effects	30.5	(3.0)	0.1
Income taxes	**€3,519.7**	**€4,753.9**	**€(161.0)**
Effective tax rate	**27.2%**	**31.6%**	**n.m.[2]**

(1) Certain amounts have been combined in the prior period to conform with the current period presentation.
(2) The information is not meaningful due to the loss before tax in the respective period.

The non-tax effective income of €87.9 million mainly contained the finance income effect of the final fair value measurement adjustments of the derivative embedded within the convertible note upon the early redemption of the convertible note as of March 1, 2022.

On November 15, 2018, we established a share option program pursuant to which we were permitted to grant selected employees and our Management Board options to receive shares in the Company. The program is designed as an Employee Stock Ownership Plan, or ESOP. We offered the participants a certain number of rights, or option rights, subject to their explicit acceptance. Grants under the ESOP took place from November 2018 until December 2019. An exercise of option rights in accordance with the terms of the ESOP gives a participant the right to obtain shares against payment of the exercise price. By way of an updated decision of the Supervisory Board at the end of September 2022 compared to the initial settlement mechanism, an ESOP settlement may be made by delivery to the participant of such number of ADSs equal to the net value of the exercised option rights after deduction of (i) the exercise price and (ii) the applicable wage taxes (including solidarity surcharge thereon and church tax, if applicable) and social security contributions resulting from such exercise. The respective number of ADS shall be settled with ADS acquired in the course of the share repurchase program. The applicable wage taxes (including solidarity surcharge thereon and church tax, if applicable) and social security contributions resulting from such exercise are paid in cash directly to the respective authorities. Tax expenses on the settlement are only recognized once the option rights have been exercised. After considering the settlement in the three months ended December 31, 2022, a deferred tax asset remained in our consolidated statement of financial position of €33.4 million which relates to future settlements. As the current tax effect resulting from the settlement exceeded the amount of the related cumulative remuneration expense, the current tax associated with the excess was directly recognized in equity in the amount of €368.8 million.

The settlement mechanism of the LTI-plus program (see Note 16.1 for plan details) in the course of the three months ended December 31, 2022, led to a decrease in payable income taxes in the amount of €14.0 million. Thereof current income taxes in the total amount of €8.7 million were recognized in our consolidated financial statements of profit or loss to the extent expenses have been recognized with an effect of profit and loss in the past. As the current tax effect resulting from the settlement exceeded the amount of the related cumulative remuneration expense, the current tax associated with the excess was directly recognized in equity in the amount of €5.3 million.

The current actual tax savings associated with the excess were directly recognized in equity in a total amount of €374.1 million. Considering these tax amounts directly recognized in equity when calculating an effective tax rate, the tax rate would be decreased by about three percentage points.

Taxes

Deferred taxes for the periods indicated relate to the following:

Year ended December 31, 2022 *(in millions)*	January 1, 2022	Recognized in P&L	Recognized in OCI	Recognized directly in equity	December 31, 2022
Fixed assets	€(6.5)	€22.3	€ –	€ –	€15.8
Right-of-use assets	(47.5)	(8.3)	–	–	(55.8)
Inventories	1.8	147.1	–	–	148.9
Trade and other receivables	(95.6)	(67.1)	–	–	(162.7)
Contract liabilities	10.6	(20.6)	–	–	(10.0)
Lease liabilities, loans and borrowings	71.8	(9.0)	–	–	62.8
Net employee defined benefit liabilities	0.9	(0.5)	0.3	–	0.7
Share-based payments	–	8.5	–	179.9	188.4
Other provisions	6.3	4.7	–	–	11.0
Other (incl. deferred expenses)	1.6	59.9	–	–	61.5
Tax losses / tax credits	70.9	28.6	–	–	99.5
Deferred tax assets net (before valuation adjustment)	**€14.3**	**€165.6**	**€0.3**	**€179.9**	**€360.1**
Valuation adjustment	(81.0)	(55.7)	–	–	(136.7)
Deferred tax assets / (liabilities), net (after valuation adjustment)	**€(66.7)**	**€109.9**	**€0.3**	**€179.9**	**€223.4**
Thereof deferred tax assets	**€ –**	**€58.9**	**€ –**	**€179.9**	**€238.8**
Thereof deferred tax liability	**€(66.7)**	**€60.2**	**€0.3**	**€ –**	**€(6.2)**

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Year ended December 31, 2021 *(in millions)*	January 1, 2021	Recognized in P&L	Recognized in OCI	Acquisition of subsidiaries and businesses	December 31, 2021
Fixed assets	€5.6	€(1.3)	€ –	€(10.8)	€(6.5)
Right-of-use assets	(30.0)	(17.5)	–	–	(47.5)
Inventories	1.0	0.8	–	–	1.8
Trade and other receivables	(3.0)	(92.6)	–	–	(95.6)
Lease liabilities	–	–	–	–	–
Lease liabilities, loans and borrowings	25.9	45.9	–	–	71.8
Contract liabilities	23.4	(12.8)	–	–	10.6
Net employee defined benefit liabilities	0.8	0.1	–	–	0.9
Other provisions	1.5	4.8	–	–	6.3
Other (incl. deferred expenses)	10.6	(9.0)	–	–	1.6
Tax losses / tax credits	175.7	(106.8)	–	2.0	70.9
Deferred tax assets net (before valuation adjustment)	**€211.5**	**€(188.4)**	**€ –**	**€(8.8)**	**€14.3**
Valuation adjustment	(50.5)	(30.5)	–	–	(81.0)
Deferred tax assets / (liabilities), net (after valuation adjustment)	**€161.0**	**€(218.9)**	**€ –**	**€(8.8)**	**€(66.7)**

As of December 31, 2022, our accumulated tax losses comprised tax losses of German entities not within the tax group (as of December 31, 2022: BioNTech BioNTainer Holding GmbH and BioNTech Idar-Oberstein Services GmbH, NT Security and Services GmbH, BioNTech Real Estate Verwaltungs GmbH and the Real Estate partnerships; as of December 31, 2021: BioNTech Innovation and Services Marburg GmbH, BioNTech Innovation GmbH, BioNTech Real Estate Verwaltungs GmbH and the Real Estate partnerships) and U.S. tax group. Up until the year ended December 31, 2021, our accumulated tax losses also comprised those of the German tax group. Our accumulated tax losses for the periods indicated amounted to the following:

	Years ended December 31,		
(in millions)	2022	2021	2020
Corporate tax	€352.3	€272.0	€596.4
Trade tax	204.1	170.6	513.6

	Years ended December 31,		
(in millions)	2022	2021	2020
Federal tax credits	€10.5	€4.0	€0.8
State tax credits	4.1	1.6	0.3

Up until the year ended December 31, 2022, deferred tax assets on tax losses had not been recognized, as there was not sufficient probability in terms of IAS 12 that there would have been future taxable profits available against which the unused tax losses could have been utilized.

During the year ended December 31, 2021, deferred tax assets on tax losses which had been recognized for the losses incurred by the German tax group were fully utilized (as per the end of each quarter during the year ended December 31, 2021, a proportionate amount of the deferred tax assets related to the tax loss carryforward was utilized). The change in deferred taxes was also supplemented by deferred taxes on temporary differences.

Since December 2020, our COVID-19 vaccine has been fully approved, granted conditional marketing authorization, or approved or authorized for emergency or temporary use in over 100 countries and regions worldwide, which resulted in recognition of revenues from the commercial sale of pharmaceutical products for the first time. Therefore as of December 31, 2020, it was considered highly probable that taxable profits for the German tax group would be available against which the tax losses could be utilized. On this basis, we had recognized deferred tax assets and liabilities with a net amount of €161.0 million for the cumulative tax losses and temporary differences determined for the German tax group as of December 31, 2020.

The intended settlement mechanism of Option Rights of the Chief Executive Officer Grant (see Note 16.4 for plan details) led, based on IAS 12, to a deferred tax asset in the total amount of €153.6 million as of December 31, 2022. Thereof a deferred tax asset in the amount of €6.4 million is recognized as income taxes in our consolidated statements of profit or loss to the extent expenses have been recognized with an effect of profit and loss in the past. In accordance with IAS 12.68c, the remainder in the amount of €147.2 million is recognized directly in equity as other reserves in our consolidated statements of changes in stockholders' equity.

As of December 31, 2022, we have not recognized deferred tax assets for unused tax losses and temporary differences at amount of €136.7 million (December 31, 2021: €81.0 million December 31, 2020 €50.5 million) as there is not sufficient probability in terms of IAS 12 that there will be future taxable income available against which the unused tax losses and temporary differences can be utilized.

These amounts included tax losses at an amount of €304.0 million U.S. federal tax losses and €184.6 million US state tax losses (December 31, 2021: €238.1 million U.S. federal tax losses and €147.4 million U.S. state tax losses, December 31, 2020: €136.8 million U.S. federal tax losses and €60.9 million U.S. state tax losses) related to the US tax group, thereof €24.0 million U.S. federal losses and thereof €179.0 million U.S. state tax losses that begin to expire at various dates beginning in 2033. All other material unused tax losses and temporary differences can be carried forward indefinitely.

9 Earnings per Share

Basic earnings per share (EPS) is calculated by dividing the profit for the year attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year.

Diluted EPS is calculated by dividing the profit attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares that would be issued on conversion of all the dilutive potential ordinary shares into ordinary shares.

The following table reflects the income and share data used in the basic and diluted EPS calculations:

	Years ended December 31,		
(in millions)	2022	2021	2020
Profit attributable to ordinary equity holders of the parent for basic earnings	**€9,434.4**	**€10,292.5**	**€15.2**
Weighted average number of ordinary shares outstanding for basic EPS	**243.3**	**244.0**	**235.4**
Effects of dilution from share options	6.5	15.7	13.1
Weighted average number of ordinary shares outstanding adjusted for the effect of dilution	**249.8**	**259.7**	**248.5**
Earnings per share			
Basic profit for the period per share	€38.78	€42.18	€0.06
Diluted profit for the period per share	€37.77	€39.63	€0.06

10 Property, Plant and Equipment

(in millions)	Land and buildings	Equipment, tools and installations	Construction in progress and advance payments	Total
Acquisition and production costs				
As of January 1, 2021	**€61.3**	**€142.4**	**€81.6**	**€285.3**
Additions	20.0	44.3	63.2	127.5
Disposals	(0.8)	(15.1)	(1.7)	(17.6)
Reclassifications	23.1	25.8	(48.9)	–
Currency differences	0.5	0.7	0.1	1.3
Acquisition of subsidiaries and businesses	–	0.2	–	0.2
As of December 31, 2021	**€104.1**	**€198.3**	**€94.3**	**€396.7**
As of January 1, 2022	104.1	198.3	94.3	396.7
Additions	100.2	46.7	182.3	329.2
Disposals	–	(1.1)	(0.5)	(1.6)
Reclassifications	12.0	28.2	(40.2)	–
Currency differences	0.7	0.9	(0.4)	1.2
As of December 31, 2022	**€217.0**	**€273.0**	**€235.5**	**€725.5**

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(in millions)	Land and buildings	Equipment, tools and installations	Construction in progress and advance payments	Total
Cumulative depreciation and impairment charges				
As of January 1, 2021	**€10.4**	**€47.9**	**€ –**	**€58.3**
Depreciation	4.4	25.0	–	29.4
Disposals	(0.6)	(13.1)	–	(13.7)
Currency differences	–	0.2	–	0.2
As of December 31, 2021	**€14.2**	**€60.0**	**€ –**	**€74.2**
As of January 1, 2022	14.2	60.0	–	74.2
Depreciation	7.8	34.6	–	42.4
Disposals	–	(0.4)	–	(0.4)
Currency differences	–	0.1	–	0.1
As of December 31, 2022	**€22.0**	**€94.3**	**€ –**	**€116.3**

(in millions)	Land and buildings	Equipment, tools and installations	Construction in progress and advance payments	Total
Carrying amount				
As of December 31, 2021	**€89.9**	**€138.3**	**€94.3**	**€322.5**
As of December 31, 2022	**€195.0**	**€178.7**	**€235.5**	**€609.2**

11 Intangible Assets

(in millions)	Goodwill	Concessions, licenses, in-process R&D and similar rights	Advance payments	Total
Acquisition costs				
As of January 1, 2021	€53.7	€147.2	€6.0	€206.9
Additions	–	5.9	4.2	10.1
Disposals	–	(8.5)	(1.2)	(9.7)
Reclassifications	–	1.2	(1.2)	–
Currency differences	4.1	2.5	–	6.6
Acquisition of subsidiaries and businesses	–	43.3	–	43.3
As of December 31, 2021	**€57.8**	**€191.6**	**€7.8**	**€257.2**
As of January 1, 2022	57.8	191.6	7.8	257.2
Additions	–	22.8	11.4	34.2
Disposals	–	(0.1)	–	(0.1)
Reclassifications	–	6.1	(6.1)	–
Currency differences	3.4	1.9	–	5.3
As of December 31, 2022	**€61.2**	**€222.3**	**€13.1**	**€296.6**

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Intangible Assets

(in millions)	Goodwill	Concessions, licenses, in-process R&D and similar rights	Advance payments	Total
Cumulative amortization and impairment charges				
As of January 1, 2021	**€ –**	**€43.4**	**€ –**	**€43.4**
Amortization	–	16.8	–	16.8
Disposals	–	(5.5)	–	(5.5)
Currency differences	–	0.1	–	0.1
As of December 31, 2021	**€ –**	**€54.8**	**€ –**	**€54.8**
As of January 1, 2022	–	54.8	–	54.8
Amortization	–	22.0	–	22.0
Disposals	–	(0.1)	–	(0.1)
Currency differences	–	0.2	–	0.2
As of December 31, 2022	**€ –**	**€76.9**	**€ –**	**€76.9**

(in millions)	Goodwill	Concessions, licenses, in-process R&D and similar rights	Advance payments	Total
Carrying amount				
As of December 31, 2021	**€57.8**	**€136.8**	**€7.8**	**€202.4**
As of December 31, 2022	**€61.2**	**€145.4**	**€13.1**	**€219.7**

Goodwill and Intangible Assets with Indefinite Useful Lives

	CGU Immunotherapies		External Product Sales of JPT		Total	
(in millions)	As of December 31, 2022	As of December 31, 2021	As of December 31, 2022	As of December 31, 2021	As of December 31, 2022	As of December 31, 2021
Goodwill	€60.7	€57.3	€0.5	€0.5	€61.2	€57.8

For the year ended December 31, 2022, we have total Goodwill of €61.2 million, which relates almost completely to the CGU immunotherapies. The CGU immunotherapies focus on the development of therapies to address a range of rare and infectious diseases and include our broad pipeline that includes mRNA-based immune activators, antigen-targeting T cells and antibodies, and defined immunomodulators of various immune cell mechanisms.

The recoverable amount of the CGU immunotherapies has been determined based on a fair value less cost of disposal (FVLCD) derived from our market capitalization as observable input parameter. As a result of the analysis, management did not identify an impairment for this CGU.

We concluded that no reasonable possible change of the recoverable amount would cause the carrying amount of the CGU Immunotherapies to exceed its recoverable amount.

Non-Current Assets by Region

As of December 31, 2022, non-current assets comprised €188.0 million intangible assets, property, plant and equipment, right-of-use assets and other assets of our subsidiaries incorporated in the United States (as of December 31, 2021: €139.7 million). The remaining non-current assets mainly relate to subsidiaries incorporated in Germany.

12 Financial Assets and Financial Liabilities

12.1 Capital Risk Management

Our capital management objectives are designed primarily to finance our growth strategy.

Our treasury committee reviews the total amount of cash on a regular basis. As part of this review, the committee considers the total cash and cash equivalents, the cash outflow, currency translation differences and refinancing activities. We monitor cash using a burn rate. The cash burn rate is defined as the average monthly net cash flow from operating and investing activities during a financial year.

(in millions)	December 31, 2022	December 31, 2021
Cash at banks and on hand	**€1,325.2**	**€1,092.7**
Cash equivalents	**12,549.9**	**600.0**
Bank deposits	9,401.0	600.0
Money market funds	3,148.9	–
Total	**€13,875.1**	**€1,692.7**

In general, the aim is to maximize the financial resources available for further research and development projects.

Since December 1, 2021, we have an investment and asset management policy in place that contains policies and processes for managing cash, which requires that our investment portfolio shall be maintained in a manner that minimizes risk of the invested capital. These risks include mainly credit risk and concentration risk. The portfolio must provide liquidity in a timely manner to accommodate operational and capital needs. The portfolio is managed efficiently by the Treasury department.

We are not subject to externally imposed capital requirements. Our capital management objectives were achieved in the reporting year.

12.2 Categories of Financial Instruments

Financial Assets: Financial Assets at Amortized Cost and at Fair Value through OCI and Profit or Loss
Set out below, is an overview of financial assets at amortized cost and at fair value through OCI and profit or loss, other than cash and cash equivalents, held by the Group as of the dates indicated:

Financial assets *(in millions)*	December 31, 2022	December 31, 2021
Derivatives not designated as hedging instruments		
Foreign exchange forward contracts	€183.7	€5.7
Equity instruments designated at fair value through OCI		
Non-listed equity investments	57.1	19.5
Listed equity investments	20.0	–
Financial assets at amortized cost		
Trade and other receivables	7,145.6	12,381.7
Cash deposit with an original term of six months	–	375.2
Other financial assets	8.8	2.5
Total	**€7,415.2**	**€12,784.6**
Total current	7,335.0	12,763.3
Total non-current	80.2	21.3

Derivatives Not Designated as Hedging Instruments
Derivatives not designated as hedging instruments relate to foreign exchange forward contracts that were entered into during the years ended December 31, 2022, and 2021, to manage some of our foreign currency exposures. The foreign exchange forward contracts are measured at fair value through profit or loss and are intended to reduce the exposure to foreign currency risk resulting from trade receivables denominated in U.S. dollar.

Equity Instruments Designated at Fair Value through OCI
In January 2022, we acquired 13.0% of the shares (fully diluted as of closing) of Crescendo Biologics Ltd., a private, clinical-stage immuno-oncology company developing novel, targeted T-cell enhancing Humabody therapeutics headquartered in Cambridge, United Kingdom. The equity investment complements a collaboration to develop novel immunotherapies for the treatment of patients with cancer and other diseases.

In November 2022, we acquired 8.3% of the shares (fully diluted as of closing) leading to 7.1% of the voting rights, of Ryvu Therapeutics S.A., a listed clinical-stage drug discovery and development company focused on novel small-molecule therapies that address emerging targets in oncology headquartered in Krakow, Poland. The equity investment complements a multi-target research collaboration to develop multiple small molecule programs targeting immune modulation in cancer and potentially other disease areas.

In accordance with IFRS 9, we elected to present changes in fair value of these equity investments in OCI to avoid fluctuation to be disclosed in our consolidated financial statements of profit or loss.

In connection with the agreement announced in January 2023, under which we plan to acquire, subject to the satisfaction of customary closing conditions and certain regulatory approvals, all remaining shares of InstaDeep Ltd., or InstaDeep, a leading global technology company in the field of artificial intelligence ("AI") and machine learning. The fair value of our stake in InstaDeep which was initially acquired during the year ended December 31, 2021, was remeasured based on the preliminary estimate of the expected purchase price.

Since the acquisition date, no material gains and losses on our equity investments in Crescendo Biologics Ltd. and Ryvu Therapeutics S.A. have occurred.

Financial Assets at Amortized Cost

Trade and other receivables remained outstanding as of December 31, 2022, mainly due to the contractual settlement of the gross profit share under our COVID-19 collaboration with Pfizer as described in Note 6.2 as well as from our direct product sales to customers in our territory.

Financial Liabilities: Financial Liabilities at Amortized Cost and at Fair Value through Profit or Loss (including Loans and Borrowings and Other Financial Liabilities)

Set out below, is an overview of financial liabilities, other financial liabilities and trade payables held by the Group as of the dates indicated:

Lease liabilities, loans and borrowings *(in millions)*	**December 31, 2022**	**December 31, 2021**
Lease liabilities	€210.1	€181.6
Convertible note – host contract[1]	–	99.7
Loans and borrowings	2.1	20.2
Total	**€212.2**	**€301.5**
Total current	36.0	129.9
Total non-current	176.2	171.6

(1) The convertible note was fully redeemed by exercising our early redemption option as of March 1, 2022, the redemption date.

Other financial liabilities *(in millions)*	December 31, 2022	December 31, 2021
Derivatives not designated as hedging instruments		
Convertible note – embedded derivative[1]	€ –	€308.7
Foreign exchange forward contracts	–	63.0
Financial liabilities at fair value through profit or loss		
Contingent consideration	6.1	6.1
Total financial liabilities at fair value	**€6.1**	**€377.8**
Trade payables and other financial liabilities at amortized cost, other than loans and borrowings		
Trade payables	204.1	160.0
Other financial liabilities	785.1	818.7
Total trade payables and other financial liabilities at amortized cost, other than loans and borrowings	**€989.2**	**€978.7**
Total other financial liabilities	**€995.3**	**€1,356.5**
Total current	989.2	1,350.4
Total non-current	6.1	6.1

(1) The convertible note was fully redeemed by exercising our early redemption option as of March 1, 2022, the redemption date.

Total financial liabilities *(in millions)*	December 31, 2022	December 31, 2021
Lease liabilities, loans and borrowings	€212.2	€301.5
Other financial liabilities	995.3	1,356.5
Total	**€1,207.5**	**€1,658.0**
Total current	1,025.2	1,480.3
Total non-current	182.3	177.7

Loans and Borrowings

June 2020 Private Placement – Convertible Note

A fund associated with Temasek (Ellington Investments Pte. Ltd.), or Temasek, and another accredited investor participated in a private investment which we refer to as the June 2020 Private Placement. The private placement included an investment in a four-year mandatory convertible note and an investment in ordinary shares and closed as of August 28, 2020, following the satisfaction of customary closing conditions. The private placement included an investment in ordinary shares (see Note 15) and a €100.0 million investment in a four-year mandatory convertible note with a coupon of 4.5% per annum and a conversion premium of 20% above its reference price. As of closing, the convertible note had been classified as a financial liability according to IAS 32 because the conversion features of the note lead to a conversion into a variable number of shares and is measured at amortized cost since the fair value option was not applied. On initial recognition, the financial liability was measured at the present value of the contractually determined future cash flows discounted at the effective interest rate of 9.0%. The financial liability was subsequently measured at amortized cost by using the effective interest rate method, reflecting actual and revised estimated contractual cash flows until extinguished upon conversion. In February 2022, we gave notice to Temasek that we would exercise our early redemption option and fully redeemed the convertible note on March 1, 2022, the redemption date. As of the redemption date, the conversion features provided for in the contract initially identified as a combined embedded derivative were finally measured at fair value through profit and loss and recognized as finance income in our consolidated statements of profit or loss. During April 2022, the early redemption was fulfilled by issuing the number of our ordinary shares calculated pursuant to the early redemption provisions of the convertible note (see Note 15), plus paying a fractional share and accrued but unpaid interest up to (but excluding) the redemption date.

Derivatives Not Designated as Hedging Instruments

Derivatives not designated as hedging instruments relate to foreign exchange forward contracts that were entered into during the years ended December 31, 2022, and 2021, to manage some of our foreign currency exposures. The foreign exchange forward contracts are

measured at fair value through profit or loss and are intended to reduce the exposure to foreign currency risk resulting from trade receivables denominated in U.S. dollar.

Other Financial Liabilities at Amortized Cost
Other financial liabilities at amortized cost mainly include obligations derived from license agreements which are being incurred with respect to our COVID-19 vaccine sales in our and the collaboration partners' territories where we and our partners are using third party intellectual property. In addition, other financial liabilities at amortized cost comprise obligations from services received but not yet invoiced.

12.3 Fair Values

Fair values of cash and cash equivalents, trade receivables, trade payables and other current financial assets and liabilities approximated their carrying amounts as of December 31, 2022 and December 31, 2021, largely due to the short-term maturities of these instruments.

The fair values of financial instruments measured at fair value were reassessed on a quarterly basis. The money market funds, or MMFs, which are recognized as cash and cash equivalents, are valued using quoted prices on the valuation date in active markets (Level 1). The change in the derivative's fair value related to the equity investment of Pfizer (see Note 15) was derived from our share price development between contract signing and closing (Level 1). As described above, as of the redemption date, the fair value of the derivative embedded in our convertible note was finally assessed by applying the Cox-Ross-Rubinstein binomial tree model which is based on significant observable inputs (Level 2) and described in further detail in Note 15. The foreign exchange forward contracts are valued using valuation techniques, which employ the use of foreign exchange spot and forward rates (Level 2). The fair values of listed equity investments are measured based on the stock prices of the listed companies (Level 1). The fair values of non-listed equity investments are measured based on observable inputs, e.g., based on multiple analyses (Level 2). The initial fair value of contingent considerations determined at acquisition was based on cash flow projections (unobservable Level 3 input factors) and remained valid since no material changes of the underlying performance criteria have occurred.

12.4 Financial Instruments Risk Management Objectives and Policies

Our financial liabilities comprise lease liabilities, loans and borrowings, trade and other payables as well as hedging liabilities. The main purpose of these financial liabilities is to enable our operations. Our principal financial assets include mainly cash and trade receivables that derive directly from our operations.

We are exposed to market risk, credit risk and liquidity risk. Our Management Board oversees the management of these risks.

The treasury committee provides assurance to our Management Board that our financial risk activities are governed by appropriate policies and procedures and that financial risks are identified, measured and managed in accordance with our policies and risk objectives. The Management Board reviews and agrees policies for managing each of these risks, which are summarized below.

12.5 Market Risks

Market risks address the risks that the fair value or future cash flows of a financial instrument will fluctuate due to changes in market prices. Market risks comprise three types of risk: interest risks, foreign currency risks and other price risks. Financial instruments affected by market risks include financial assets like trade and other receivables, cash and cash equivalents as well as financial liabilities like trade payables and other financial liabilities. We do not consider interest risks as well as other price risks as material risks for us.

The sensitivity analysis in the following sections is related to the position as of December 31, 2022 and December 31, 2021.

There were no material changes in the way the risks were managed and valued during the years ended December 31, 2022, and 2021. Because of the significantly higher cash balances the market risk exposure on counterparty risk has increased.

Foreign Currency Risks

Foreign currency risks address the risks that the fair value or future cash flows of an exposure will fluctuate because of changes in foreign exchange rates. We are subject to currency risks, as our income and expenditures are denominated in Euro and the U.S. dollar. As such, we are exposed to exchange rate fluctuations between these currencies. Cash inflows denominated in U.S. dollar mainly result from generating proceeds under our collaboration agreements which significantly increased in the past year. Our commercial revenues are primarily collaboration revenues from earnings based on our partners' gross profit, which is shared under the respective collaboration agreements and represents payments we receive in U.S. dollar. Cash outflows dominated in U.S. dollar mainly result from amounts spent on research and development activities as well as expanding our global footprint further. Especially when funds are required in Euros, we are exposed to foreign currency exchange risks. With the aim of preserving capital, surplus liquidity is invested carefully for example into foreign currency investments. Exchange rate fluctuations can reduce the value of our financial positions. We limit the effects of the identified risks by means of a coordinated and consistently implemented risk strategy. Besides applying natural hedging relationships where possible, a matter of principle, foreign exchange forward contracts are concluded as instruments to mitigate foreign currency exchange risk associated with foreign currency-denominated payments. However, the foreign exchange forward contracts which we entered were not designated as hedging instruments under IFRS.

The carrying amount of the monetary assets and liabilities denominated in U.S. dollar at the dates indicated are as follows:

(in millions)	December 31, 2022	December 31, 2021
Cash and cash equivalents in U.S. dollar	€1,487.4	€436.2
Monetary assets in U.S. dollar	7,098.5	11,895.5
Monetary liabilities and provisions in U.S. dollar	1,527.8	656.7
Total	**€7,058.1**	**€11,675.0**

The following tables demonstrate the sensitivity to a reasonably possible change in U.S. dollar exchange rates or U.S. dollar forward rates, with all other variables held constant. The impact on our profit before tax is due to changes in the fair value of monetary assets and liabilities. The exposure to foreign currency changes for all other currencies is not material.

1 € =		Closing rate		Average rate	
Currency	Country	2022	2021	2022	2021
U.S. dollar	United States	1.0666	1.1326	1.0530	1.1827

(in millions)	Change in U.S. dollar rate	Effect on profit / (loss) before tax	Effect on pre-tax equity
2022	+5 %	€(195.2)	€(191.5)
	-5 %	215.7	211.7
2021	+5 %	(329.5)	(328.5)
	-5 %	364.3	363.0

12.6 Credit Risk Management

Credit risks address the risks that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. We are exposed to credit risks from our operating activities, including deposits with banks and financial institutions, foreign exchange transactions and trade and other receivables.

Trade and Other Receivables

Our exposure to credit risks of trade receivables is primarily related to transactions with corporate customers in the biopharma / biotech industry that operate in the United States or Germany as well as governments which are customers established in connection with fulfilling our commercial obligations in our territories as defined under our current COVID-19 collaboration agreements. An analysis of the aging of receivables and the creditworthiness of customers is used to evaluate this risk at each reporting date. We follow risk control procedures to assess the credit quality of our customers taking into account their financial position, past experience and other factors. The compliance with credit limits by corporate customers is regularly monitored by us.

As of December 31, 2022, the outstanding trade receivables were mainly due from our collaboration partner Pfizer. Besides well-established pharmaceutical companies and governmental institutions, to a smaller extent, our other customers are medical universities, other public institutions and peers in the biopharma industry, which all have very high credit ratings. Due to this customer portfolio, the credit risk on trade receivables is generally very low. We have not incurred bad debt expense and do not expect that this will change with respect to the trade receivables outstanding as of December 31, 2022.

Generally, if overdue by more than 90 days and not subject to enforcement activity, trade receivables are considered for write-offs. The maximum exposure to credit risk at the reporting date is the carrying value of each class of financial assets disclosed in Note 12.2. The expected credit risk on trade receivables and other financial assets derived from applying the simplified approach in calculating expected credit losses was estimated to be not material as of December 31, 2022, and December 31, 2021. We do not hold collateral as security.

Cash and Cash Equivalents as well as Cash Deposits with an Original Term of Three Months and MMFs
Credit risks from balances with banks and financial institutions are managed by our Treasury department in accordance with our investment and asset management policy.

Credit risk stemming from cash and cash equivalents, cash deposits with an original term of three months as well as from MMFs is very low due to its demand feature and the high credit rating of the respective banks.

The maximum exposure to credit risk for the components of the consolidated statements of financial position as of December 31, 2022, and December 31, 2021, are the carrying amounts as illustrated in Note 12.1 and Note 12.2.

12.7 Liquidity Risk

We plan to invest heavily in R&D as we make a strong drive to build out our global development organization and diversify our therapeutic area footprint. Additionally, we plan to enhance capabilities through complementary acquisitions, technologies, infrastructure and manufacturing. Our liquidity management ensures the availability of cash and cash equivalents, short term financial instruments for operational activities and further investments through appropriate budget planning. In addition, a sufficient level of cash and cash equivalents, which is managed centrally, is always maintained to finance the operational activities.

We monitor liquidity risks using a liquidity planning tool.

Ultimately, the responsibility for liquidity risk management lies with our Management Board, which has established an appropriate approach to managing short-, medium- and long-term financing and liquidity requirements. We manage liquidity risks by holding appropriate reserves, as well as by monitoring forecasted and actual cash flows and reconciling the maturity profiles of financial assets and liabilities.

Risk Concentration
Concentrations arise when the number of counterparties is small or when a larger number of counterparties is engaged in similar business activities, or activities in the same geographical region, or has economic features that would cause their ability to meet contractual obligations to be affected similarly by changes in economic, political or other conditions. Concentrations indicate the relative sensitivity of our performance to developments affecting a particular industry.

The maturity profile of our financial liabilities based on contractual undiscounted payments is summarized as follows:

Year ended December 31, 2022 *(in millions)*	Less than 1 year	1 to 5 years	More than 5 years	Total
Loans and borrowings	€ –	€2.1	€ –	**€2.1**
Trade and other payables	204.1	–	–	**204.1**
Lease liabilities	40.5	112.9	79.1	**232.5**
Contingent consideration	–	–	6.1	**6.1**
Other financial liabilities	785.1	–	–	**785.1**
Total	**€1,029.7**	**€115.0**	**€85.2**	**€1,229.9**

Year ended December 31, 2021 *(in millions)*	Less than 1 year	1 to 5 years	More than 5 years	Total
Loans and borrowings	€2.6	€11.5	€6.1	**€20.2**
Trade and other payables	160.0	–	–	**160.0**
Lease liabilities	31.3	89.1	88.9	**209.3**
Contingent consideration	–	–	6.1	**6.1**
Foreign exchange forward contracts	63.0	–	–	**63.0**
Other financial liabilities	818.7	–	–	**818.7**
Total	**€1,075.6**	**€100.6**	**€101.1**	**€1,277.3**

12.8 Changes in Liabilities Arising from Financing Activities

Year ended December 31, 2022 *(in millions)*	January 1, 2022	Cash flows	Acquisition of subsidiaries and businesses	Changes in fair value	New leases and disposals	Reclassification	Other	December 31, 2022
Current obligations under lease contracts	€27.9	€(41.1)	€ –	€ –	€14.8	€33.3	€1.1	**€36.0**
Non-current obligations under lease contracts	153.7	–	–	–	52.6	(33.3)	1.1	**174.1**
Loans and borrowings	119.9	(18.0)	–	–	–	–	(99.8)[1]	**2.1**
Convertible note – embedded derivative	308.7	–	–	–	–	–	(308.7)[1]	–
Total	**€610.2**	**€(59.1)**	**€ –**	**€ –**	**€67.4**	**€ –**	**€(406.3)**	**€212.2**

(1) Related to the early redemption of our convertible note during the year ended December 31, 2022, as further described in Note 15.

Year ended December 31, 2021 *(in millions)*	January 1, 2022	Cash flows	Acquisition of subsidiaries and businesses	Changes in fair value	New leases and disposals	Reclassification	Other	December 31, 2022
Current obligations under lease contracts	€6.1	€(14.1)	€ –	€ –	€22.1	€13.4	€0.4	**€27.9**
Non-current obligations under lease contracts	78.1	–	–	–	87.7	(13.4)	1.3	**153.7**
Loans and borrowings	155.9	(52.6)	1.3	–	–	–	15.3	**119.9**
Convertible note – embedded derivative	30.9	–	–	277.8	–	–	–	**308.7**
Total	**€271.0**	**€(66.7)**	**€1.3**	**€277.8**	**€109.8**	**€ –**	**€17.0**	**€610.2**

13 Inventories

(in millions)	December 31, 2022	December 31, 2021
Raw materials and supplies	€409.7	€248.3
Unfinished goods	21.0	84.5
Finished goods	8.9	169.7
Total	**€439.6**	**€502.5**

During the year ended December 31, 2022, inventory write-offs to net realizable value and reserves related to our COVID-19 vaccine amounting to €484.6 million were recognized in cost of sales due to the switch from the BNT162b2 vaccine to an Omicron-adapted bivalent vaccine and further raw materials reserves recognized with respect to our excess stock, compared to €194.6 million in the previous period. The inventories valued at net realizable value in our consolidated statements of financial position as of December 31, 2022, consider contractual compensation payments. We have not pledged any inventories as securities for liabilities. During the years ended December 31, 2022, and 2021, costs of inventories in the amount of €1,550.6 million and €1,255.1 million, respectively, were recognized as cost of sales.

14 Other Non-Financial Assets

(in millions)	December 31, 2022	December 31, 2021
Sales tax receivable	€93.8	€26.7
Deferred expenses	88.7	62.1
Prepayments related to CRO and CMO contracts	35.3	22.8
Prepayments related to service contracts	31.3	6.5
Other	29.3	9.7
Total	**€278.4**	**€127.8**
Total current	271.9	113.4
Total non-current	6.5	14.4

15 Issued Capital and Reserves

As of December 31, 2022, the number of shares outstanding was 243,215,169. This amount excludes 5,337,031 shares held in treasury. For the year ended December 31, 2021, the number of shares outstanding was 242,521,489, excluding 3,788,592 shares held in treasury.

Second Tranche Share Repurchase Program
In November 2022, our Management Board and Supervisory Board authorized the second tranche of our share repurchase program of ADSs, with a value of up to $0.5 billion, commencing on December 7, 2022.

Capital Transactions During the Year Ended December 31, 2022
In January 2022, we announced a new research, development and commercialization collaboration with Pfizer to develop a potential first mRNA-based vaccine for the prevention of shingles (herpes zoster virus, or HZV). In connection with this collaboration, Pfizer agreed to make an equity investment in us, acquiring 497,727 ordinary shares paying a total amount of €110.6 million. The issuance of 497,727 ordinary shares with the nominal amount of €0.5 million was registered with the commercial register (*Handelsregister*) on March 24, 2022. The equity investment which was issued in a foreign currency represents a derivative from the date of signing until the date of closing of the transaction. From the fair value measurement of this derivative, €43.0 million were recognized in finance income in our consolidated statements of profit or loss during the year ended December 31, 2022. At closing date, in February 2022, this derivative and the agreed investment amount were recognized in our capital reserve and, taking an increase in share capital of €0.5 million into account, led to a net increase of the capital reserve of €67.1 million in our consolidated statements of financial position.

In March 2022, we redeemed our convertible note by exercising our early redemption option (see Note 12), which was fulfilled in April 2022, by issuing 1,744,392 ordinary shares. The nominal amount of €1.8 million was recorded in share capital and, finally, as a result of the transaction, the capital reserve increased by €233.2 million in our consolidated statements of financial position. The declaratory registration with the commercial register (*Handelsregister*) was made on May 20, 2022.

In June 2022, at the Annual General Meeting, our shareholders approved the proposed special cash dividend of €2.00 per ordinary share (including those held in the form of ADSs), which led to an aggregate payment of €484.3 million.

In March 2022, our Management Board and Supervisory Board authorized a share repurchase program of ADSs, pursuant to which we may repurchase ADSs in the amount of up to $1.5 billion over the next two years. On May 2, 2022, the first tranche of our share repurchase program of ADSs, with a value of up to $1.0 billion, commenced. In November 2022, our Management Board and Supervisory Board authorized the second tranche of our share repurchase program of ADSs, with a value of up to $0.5 billion, commencing on December 7, 2022. During the year ended December 31, 2022, ADSs were repurchased at an average price of $143.98, for total consideration of $1.0 billion (€986.4 million).Repurchased ADSs were used to satisfy settlement obligations under our share-based payment arrangements.

In November and December 2022, the ESOP 2018 and LTI-plus awards were settled by transferring ordinary shares previously held in treasury to the entitled employees and Management Board members (see Note 16).

Capital Transactions During the Year Ended December 31, 2021
In November 2020, we entered into a sales agreement, or the Sales Agreement, with Jefferies LLC and SVB Leerink LLC (now known as SVB Securities LLC), as sales agents, to establish an at-the-market offering program, pursuant to which we may sell, from time to time, ADSs representing ordinary shares for aggregate gross proceeds of up to $500.0 million. During the year ended December 31, 2021, we

sold 995,890 ADSs, each representing one of our ordinary shares and previously held in treasury, under the Sales Agreement. During the year ended December 31, 2021, the aggregate gross proceeds were $200.0 million (€163.6 million). We did not sell any ADS during year ended December 31, 2022. As of December 31, 2022, the remaining capacity under the Sales Agreement is still $207.1 million. Under the at-the-market offering program ADSs are sold via the stock exchange and therefore no shareholders' subscription rights are affected. As a result of the transaction, treasury shares in the amount of €1.0 million were issued and the capital reserve increased by €162.6 million during the year ended December 31, 2021. Costs of €2.7 million related to the equity transaction were recorded in equity as deduction from the capital reserve.

16 Share-Based Payments

During the years ended December 31, 2022, 2021, and 2020, our share-based payment arrangements led to the following expenses:

		Years ended December 31,		
(in millions)	Note	2022	2021	2020
Expense arising from equity-settled share-based payment arrangements		€46.5	€61.0	€32.1
Employee Stock Ownership Plan	16.5	*13.8*	*20.2*	*17.1*
Chief Executive Officer Grant	16.4	*3.1*	*5.9*	*11.3*
Management Board Grant[1]	16.3	*4.3*	*2.4*	*2.7*
BioNTech 2020 Employee Equity Plan for Employees Based Outside North America	16.1	*25.3*	*32.5*	*1.0*
Expense arising from cash-settled share-based payment arrangements		61.5	32.7	0.7
Employee Stock Ownership Plan	16.5	*53.4*	*6.3*	–
Management Board Grant[1]	16.2, 16.3	–	*3.6*	*0.7*
BioNTech Restricted Stock Unit Plan for North America Employees	16.1	8.1	*22.8*	–
Total		**€108.0**	**€93.7**	**€32.8**
Cost of sales		3.0	7.0	1.1
Research and development expenses		84.6	60.5	24.9
Sales and marketing expenses		0.8	0.5	0.1
General and administrative expenses		19.6	25.7	6.7
Total		**€108.0**	**€93.7**	**€32.8**

(1) In May 2021 and 2022, phantom options were granted under the Management Board Grant for the years 2021 and 2022 which led to a modification from equity-settled to cash-settled share-based payment arrangement and a reclassification of €1.1 million and €3.3 million between equity and non-current other liabilities, respectively. Expenses incurred before and after the modification dates have been disclosed as equity-settled or cash-settled share-based payment arrangement, respectively. The amount includes expenses incurred with respect to a one-time signing bonus granted to Jens Holstein as of his appointment to the Management Board (see Note 20.2).

During the years ended December 31, 2022, 2021, and 2020, our share-based payment arrangements led to a cash outflow of €51.8 million, €13.4 million and nil million, respectively. We expect to settle equity-settled share-based payment arrangements under the Chief Executive Officer Grant (see Note 16.4) and under the Employee Stock Ownership Plan (see Note 16.5) on a net basis by delivering to the participant a number of ADSs equal to the net value of the exercised option rights after deduction of (i) the exercise price and (ii) the applicable wage taxes (including solidarity surcharge thereon and church tax, if applicable) and social security contributions resulting from such exercise. This reduces the dilutive impact of the respective rights. If all of the rights outstanding as of December 31, 2022, will be exercised accordingly, the cash outflow to the tax authority in 2023 would amount to approximately €360.0 million (based on the share price as of December 31, 2022).

16.1 BioNTech Employee Equity Plan

BioNTech 2020 Employee Equity Plan for Employees Based Outside North America (Equity-Settled)

Description of Share-Based Payments

In December 2020, we approved the BioNTech 2020 Employee Equity Plan for employees based outside North America, or the European Plan. Under the European Plan, Restricted Stock Units, or RSUs, are offered to our employees. As of the grant date in February 2021, the European Plan was implemented for the calendar year 2020 by entering into award agreements with our employees under the LTI 2020 program. In addition, further award agreements were entered into under the LTI-plus program with employees who did not participate in the Employee Stock Ownership Plan, or ESOP. In January 2022 and December 2022, the European Plan was granted for the calendar years 2021 and 2022, the LTI 2021 and LTI 2022 program, respectively. RSUs issued under the LTI 2020, LTI 2021 and LTI 2022 programs vest annually in equal installments over respective waiting periods of four years commencing in December 2020, December 2021 and December 2022, respectively. RSUs issued under the LTI-plus program vested annually in equal installments over the waiting period of two years, which elapsed in December 2022. Hence, during the year ended December 31, 2022, the LTI-plus awards were settled by transferring shares previously held in treasury, see Note 15. All programs were classified as equity-settled as we have the ability to determine the method of settlement.

Measurement of Fair Values

The fair values of the awards issued under the European Plan were based upon the price of our ADSs representing ordinary shares at grant date.

Reconciliation of Outstanding Share-Options

	LTI-plus program	LTI 2020 program	LTI 2021 program	LTI 2022 program
As of January 1, 2021	396,938	252,766	–	–
Forfeited / Modified	(24,927)	(10,350)	–	–
Granted / Allocated	–	–	110,036	–
As of December 31, 2021	372,011	242,416	110,036	–
As of January 1, 2022	372,011	242,416	110,036	–
Forfeited / Modified	(7,932)	(7,111)	(5,428)	–
Granted / Allocated	–	–	–	396,110
Exercised[1]	(364,079)	–	–	–
As of December 31, 2022	–	**235,305**	**104,608**	**396,110**
thereof vested	–	119,291	27,365	–
thereof un-vested	–	116,014	77,243	396,110

(1) The closing price of an American Depositary Share of BioNTech on Nasdaq on December 15, 2022, the settlement date, converted from USD to Euro using the exchange rate published by the German Central Bank (Deutsche Bundesbank) on the same day was €171.40.

Inputs Used in Measurement of the Fair Values at Grant Dates

	LTI-plus program	LTI 2020 program	LTI 2021 program	LTI 2022 program
Weighted average fair value	87.60	92.21	203.22	165.03
Waiting period (in years)	2.0	4.0	4.0	4.0

BioNTech 2020 Restricted Stock Unit Plan for North America Employees (Cash-Settled)

Description of Share-Based Payments

In December 2020, we approved the BioNTech 2020 Restricted Stock Unit Plan for North America Employees, or the North American Plan. Under the North American Plan, RSUs are offered to our employees. These RSUs vest over four years, with 25% vesting one year after the service commencement date and the remainder vesting in equal quarterly installments thereafter. The first awards under the North American Plan were granted in February 2021. The service date for these awards is the date as of which the employee became employed by BioNTech US. During the years ended December 31, 2022, and 2021, further awards were granted under the North American Plan, which included awards granted to new hire employees and ongoing recurring awards to existing employees on the approximate anniversary of each employee's start date of employment with BioNTech US. As these RSUs are intended to be cash-settled upon vesting, the awards were defined as a cash-settled share-based payment arrangement. During the years ended December 31, 2022, 2021, and 2020, the exercise of RSUs resulted in a cash outflow of €9.4 million, €10.1 million and nil million, respectively.

As of December 31, 2022, the liability related to these awards amounted to €13.4 million (€13.0 million as of December 31, 2021).

16.2 Management Board Grant – Short-Term Incentive (Cash-Settled)

The service agreements with our Management Board provide for a short-term incentive compensation which is an annual performance-related bonus for the years of their respective service periods.

50% of those yearly awards are paid out one year after the achievement of the performance targets for the respective bonus year has been determined subject to an adjustment relative to the performance of the price of the American Depositary Shares representing our ordinary shares during that year (second installment). The second installments represent cash-settled share-based payment arrangements. The fair values of the liabilities are recognized over the awards' vesting periods beginning when entering or renewing service agreements, i.e., being the service commencement date, until each separate determination date and are remeasured until settlement date. As of December 31, 2022, the liability related to these awards amounted to €2.3 million (€1.0 million as of December 31, 2021).

16.3 Management Board Grant Long-Term Incentive (Partly Equity-Settled, Partly Cash-Settled)

Description of Share-Based Payments

The service agreements with our Management Board provide for long-term incentive compensation (Management Board Grant - LTI) through an annual grant of options to acquire BioNTech shares during their respective service periods. The options granted each year will be subject to the terms and conditions of the respective authorizations of the Annual General Meeting creating our Employee Stock Ownership Plan (ESOP) and the applicable option agreement thereunder.

The options will vest annually in equal installments over four years commencing on the first anniversary of the allocation date and will be exercisable four years after the allocation date. The vested options can only be exercised if each of the following performance criteria has been achieved: (i) at the time of exercise, the current price is equal to or greater than the threshold amount (that is, the exercise price, provided that such amount increases by seven percentage points on each anniversary of the allocation date); (ii) at the time of exercise, the current price is at least equal to the target price (that is, (a) for the twelve-month period starting on the fourth anniversary of the allocation date, $8.5 billion divided by the total number of the ordinary shares outstanding immediately following the initial public offering (other than ordinary shares owned by BioNTech), and (b) for each twelve-month period starting on the fifth or subsequent anniversary of the allocation date, 107% of the target share price applicable for the prior twelve-month period); and (iii) the closing price for the fifth trading day prior to the start of the relevant exercise window is higher than the exercise price by at least the same percentage by which the Nasdaq Biotechnology Index or a comparable successor index as

of such time is higher than such index was as of the last trading day before the allocation date. Following the expiry of the waiting period, option rights may be exercised during the exercise windows as set out in the ESOP agreement. The option rights can be exercised up to ten years after the allocation date. If they have not been exercised by that date, they will be forfeited without compensation.

The right to receive options generally represents an equity-settled share-based payment arrangement. The allocation of the number of issued options in 2020 occurred in February 2020. In May 2021 and May 2022, phantom options equivalent to the number of options the Management Board members would have been entitled to receive for 2021 and 2022 were granted under the Management Board Grant which led to a modification from equity-settled to cash-settled share-based payment arrangement and a reclassification of €1.1 million and €3.3 million between equity and non-current other liabilities as of the respective allocation dates. As of December 31, 2022, the assessment of options expected to be allocated in future years was based on estimated allocation dates in the middle of the respective years.

Measurement of Fair Values

A Monte-Carlo simulation model has been used to measure the fair values at the (estimated) allocation dates of the Management Board Grant. This model incorporates the impact of the performance criteria regarding share price and index development described above. The parameters used for measuring the fair values as of the respective (estimated) allocation dates were as follows:

	Allocation date February 2020	Allocation date May 12, 2021[1]	Allocation date May 17, 2021[1]	Allocation date May 2022[1]
Weighted average fair value	€10.83	€54.51	€50.69	€65.99
Weighted average share price	€28.20	€174.51	€185.92	€153.16
Exercise price[2]	€28.32	€173.66	€175.16	€142.60
Expected volatility (%)	36.6%	46.5%	46.5%	44.4%
Expected life (years)	4.8	4.6	4.6	5.8
Risk-free interest rate (%)	1.6%	3.8%	3.8%	3.9%

(1) Classified as cash-settled share-based payment arrangement; all other share-based payment arrangements are classified as equity-settled.
(2) The share options allocated as of February 2020 and the phantom share options allocated as of May 2021 and 2022 are subject to an effective exercise price cap.

	Estimated allocation date 2023	Estimated allocation date 2024	Estimated allocation date 2025	Estimated allocation date 2026
Weighted average fair value[1]	€63.84	€57.06	€54.80	€49.70
Weighted average share price[1]	€140.84	€140.84	€140.84	€140.84
Exercise price[1]	€142.95	€148.51	€155.51	€161.62
Expected volatility (%)	43.1%	38.3%	38.2%	38.5%
Expected life (years)[1]	5.8	5.8	5.8	5.8
Risk-free interest rate (%)	3.9%	3.9%	3.9%	3.9%

(1) Valuation parameter for estimated allocation dates derived from the Monte-Carlo simulation model.

For the awards allocated as of February 2020, the exercise price for each option is $30.78 (€28.32), calculated using the foreign exchange rate published by the German Central Bank (*Deutsche Bundesbank*) as of the grant date. The share options allocated as of February 2020 are subject to an effective exercise price cap, which means that the exercise price shall be adjusted to ensure that the current price of an ADS as of the exercise date does not exceed 800% of the exercise price. Our Supervisory Board reserves the right to limit the economic benefit from the exercise of the options to extent the result from extraordinary events or developments. For the awards allocated as of May 12, 2021, May 17, 2021, and May 31, 2022 the exercise prices are $185.23 (€173.66), $186.83 (€175.16) and $152.10 (€142.60), respectively (all amounts calculated as of December 31, 2022, using the foreign exchange rate as published by the German Central Bank (*Deutsche Bundesbank*)). For the awards with estimated allocation dates, the exercise prices of options expected to be allocated have been derived from the Monte-Carlo simulation model. Those will be adjusted until the actual allocation has occurred and the exercise price has ultimately been determined. The phantom share options allocated as of May 2021 and 2022 are subject to the effective exercise price cap. In addition, the maximum compensation that the Management Board members are entitled to receive under those relevant agreements together with other compensation components received by each such board member in the respective grant year is capped at €20.0 million for Ugur Sahin as Chief Executive Officer (CEO) and €10.0 million for all other Management Board members. Expected volatility was based on an evaluation of the historical volatilities of comparable companies over the historical period commensurate with the expected option term. The expected term was based on general option holder behavior for employee options.

Reconciliation of Outstanding Share-Options

The (phantom) share options allocated and expected to be allocated to our Management Board as of December 31, 2022, are presented in the table below.

	Allocation date February 2020	Allocation date May 12, 2021[1]	Allocation date May 17, 2021[1]	Allocation date May 2022[1]
(Phantom) share options outstanding (expected to be allocated)	248,096	45,279	6,463	86,118
thereof allocated and vested but subject to performance and waiting requirements	*124,048*	*11,320*	*1,616*	—
thereof allocated and un-vested	*124,048*	*33,959*	*4,847*	*86,118*
Weighted average exercise price (€)	28.32	173.66	175.16	142.60

(1) Classified as cash-settled share-based payment arrangement; all other share-based payment arrangements are classified as equity-settled.

	Estimated allocation date 2023[1]	Estimated allocation date 2024[1]	Estimated allocation date 2025[1]	Estimated allocation date 2026[1]
(Phantom) share options outstanding (expected to be allocated)	97,436	93,785	63,251	48,705
Weighted average exercise price (€)	142.95	148.51	155.51	161.62

(1) Valuation parameter derived from the Monte-Carlo simulation model.

For the awards with estimated allocation dates, the numbers of options expected to be allocated have been derived from a Monte-Carlo simulation model. Those will be adjusted until the actual allocation has occurred and the number of options granted has ultimately been determined.

As of December 31, 2022, the share options allocated and expected to be allocated under our equity-settled share-based payment arrangements had a remaining weighted average expected life of 4.0 years (as of December 31, 2021: 3.6 years).

As of December 31, 2022, the liability related to the phantom option awards amounted to €5.6 million (€3.2 million as of December 31, 2021).

16.4 Chief Executive Officer Grant (Equity-Settled)

Description of Share-Based Payments
In September 2019, we granted Prof. Ugur Sahin, M.D., an option to purchase 4,374,963 of our ordinary shares, subject to Prof. Sahin's continuous employment with us. The options' exercise price per share is the Euro translation of the public offering price from our initial public offering, €13.60 ($15.00), which is subject to the effective exercise price cap and the maximum cap mechanism. Under the exercise price cap the exercise price shall be adjusted to ensure that the current price of an ADS as of the exercise date does not exceed 800% of the exercise price. Under the maximum cap mechanism the maximum economic benefit receivable in respect of any exercised option, is capped at $240.00. As a result, the effective exercise price will not increase above a Euro amount equivalent to $30.00. The options vest annually in equal installments after four years commencing on the first anniversary of the initial public offering and will be exercisable four years after the initial public offering. The vested option rights can only be exercised if and to the extent that each of the following performance criteria has been achieved: (i) at the time of exercise, the current price is equal to or greater than the threshold amount (that is, the exercise price, provided that such amount increases by seven percentage points on each anniversary of the allocation date); (ii) at the time of exercise, the current price is at least equal to the target price (that is, (a) for the twelve-month period starting on the fourth anniversary of the allocation date, $8.5 billion divided by the total number of the shares outstanding immediately following the initial public offering (other than shares owned by us), and (b) for each twelve-month period starting on the fifth or subsequent anniversary of the allocation date, 107% of the target share price applicable for the prior twelve-month period); and (iii) the closing price for the fifth trading day prior to the start of the relevant exercise window is higher than the exercise price by at least the same percentage by which the Nasdaq Biotechnology Index or a comparable successor index as of such time is higher than such index was as of the last trading day before the allocation date. Following the expiry of the waiting period, option rights may be exercised during the exercise windows as defined by our ESOP. The option rights can be exercised up to ten years after the allocation date. If they have not been exercised by that date, they will be forfeited without compensation.

Measurement of Fair Values
A Monte-Carlo simulation model has been used to measure the fair value at the grant date of the Chief Executive Officer Grant. This model incorporates the impact of the performance criteria regarding share price and index development described above in the calculation of the award's fair value at grant the date. The inputs used in the measurement of the fair value at grant the date of the Chief Executive Officer Grant were as follows:

	Grant date October 9, 2019
Weighted average fair value	€5.63
Weighted average share price	€13.60
Exercise price	€13.60
Expected volatility (%)	41.4%
Expected life (years)	5.4
Risk-free interest rate (%)	1.5%

Expected volatility was based on an evaluation of the historical volatilities of comparable companies over the historical period commensurate with the expected term. The expected term was based on general option holder behavior for employee options.

Reconciliation of Outstanding Share-Options
During the years ended December 31, 2022, and 2021, no further options were granted or forfeited. As of December 31, 2022, 75% of the options have vested but are subject to waiting requirements.

As of December 31, 2022, the share options outstanding had a remaining weighted average expected life of 2.1 years (as of December 31, 2021: 3.1 years).

16.5 Employee Stock Ownership Plan (Partly Equity-Settled, Partly Cash-Settled)

Description of Share-Based Payments

Based on an authorization of the general meeting on August 18, 2017, we established a share option program under which we granted selected employees options to receive our shares. The program is designed as an Employee Stock Ownership Plan, or ESOP. We offered the participants a certain number of rights by explicit acceptance by the participants. The exercise of the option rights in accordance with the agreement gives the participants the right to obtain shares against payment of the exercise price. With respect to the Management Board members, other than Ryan Richardson, who was not a Management Board member at the time the options were granted, the options are subject to the effective exercise price cap as well as the maximum cap mechanism. Under the exercise price cap the exercise price shall be adjusted to ensure that the current price of an ADS as of the exercise date does not exceed 800% of the exercise price. Under the maximum cap mechanism, the maximum economic benefit receivable in respect of any exercised option, is capped at $240. As a result, the effective exercise price will not increase above a Euro amount equivalent to $30.00. The option rights (other than Prof. Özlem Türeci's, M.D., and Ryan Richardson's options) generally fully vest after four years and can only be exercised if: (i) the waiting period of four years has elapsed; and (ii) at the time of exercise, the average closing price of the shares of the Company or the average closing price of the right or certificate to be converted into an amount per share on the previous ten trading days preceding the exercise of the option right exceeds the strike price by a minimum of 32%, with this percentage increasing by eight percentage points as of the fifth anniversary of the respective issue date and as of each subsequent anniversary date. Following the expiry of the waiting period, option rights may be exercised within a period of four weeks from the date of the Annual General Meeting or the publication of the annual financial statements, the semi-annual report or our most recent quarterly report or interim report (exercise windows). The option rights can be exercised up to eight years after the allocation date. If they have not been exercised by that date, they will be forfeited without compensation.

By way of a shareholders' resolution of the general meeting on August 19, 2019, the authorization to issue such option rights was amended such that, in order for the options to be exercisable, the average closing price of the Company's shares or the average closing price of the right or certificate to be converted into an amount per share on the ten trading days immediately preceding the exercise must exceed the strike price by a minimum of 28%, with this percentage increasing by seven percentage points as of the fifth anniversary of the issue date and as of each subsequent anniversary date. Also, in addition to the aforementioned requirements, the exercise is only possible if the share price (calculated by reference to the price of the ordinary share underlying the ADS) has performed similar to or better than the Nasdaq Biotechnology Index. The changes made do not affect option rights already issued.

Measurement of Fair Values

The fair value of the ESOP has been measur≠ed using a binomial model. Service conditions attached to the arrangement were not taken into account in measuring the fair value.

The share options can only be exercised by the grantee if the price of the share is equal or greater to the threshold amount as defined in the arrangement. Moreover, the option rights can only be exercised if the IPO has occurred. Both conditions have been incorporated into the fair value at the grant date.

The inputs used in the measurement of the fair values at the grant date of the ESOP were as follows:

	Grant date November 15, 2018	Grant dates between February 21 and April 3, 2019	Grant dates between April 29 and May 31, 2019	Grant date December 1, 2019
Weighted average fair value	€7.41	€6.93	€7.04	€9.49
Weighted average share price	€14.40	€15.72	€16.03	€19.84
Exercise price[1]	€10.14	€15.03	€15.39	€15.82
Expected volatility (%)	46.0%	46.0%	46.0%	46.0%
Expected life (years)	5.8	6.0	6.0	5.5
Risk-free interest rate (%)	0.1%	0.1%	0.1%	0.1%

(1) With respect to the Management Board members, other than Ryan Richardson who was not a Management Board member at the time the options were granted, the options are subject to the effective exercise price cap as well as the maximum cap mechanism.

Expected volatility has been based on an evaluation of the historical and the implied volatilities of comparable companies over the historical period commensurate with the expected term. The expected term has been based on general option holder behavior for employee options.

Reconciliation of Outstanding Share-Options (Equity-Settled)
Set out below is an overview of changes to share options outstanding and number of ordinary shares underlying these options that occurred during the periods indicated:

	Share options outstanding	Number of ordinary shares underlying options	Weighted average exercise price (€)[1]
As of January 1, 2021	645,892	11,626,056	10.23
Forfeited	(3,885)	(69,932)	10.14
As of December 31, 2021	**642,007**	**11,556,124**	**10.23**
As of January 1, 2022	642,007	11,556,124	10.23
Modified[2]	(1,040)	(18,720)	10.14
Exercised[3]	(583,383)	(10,500,890)	10.14
As of December 31, 2022	**57,584**	**1,036,514**	**11.10**
thereof vested	*48,331*	*869,960*	*10.14*
thereof un-vested	*9,253*	*166,554*	*15.29*

(1) With respect to the Management Board members, other than Ryan Richardson who was not a Management Board member at the time the options were granted, the options are subject to the effective exercise price cap as well as the maximum cap mechanism.
(2) Rights have been modified to cash-settled rights, all other terms remained unchanged.
(3) The average closing price of an American Depositary Share of BioNTech on Nasdaq weighted over the various settlement dates converted from USD to Euro using the exchange rate published by the German Central Bank (Deutsche Bundesbank) on the same days was €160.44.

The Supervisory Board determined in September 2022 that the ESOP settlement in November and December 2022 would be made by delivery of shares (in the form of ADSs) equal to the net value of the exercised option rights after deduction of (i) the exercise price and (ii) the applicable wage taxes (including solidarity surcharge thereon and church tax, if applicable) and social security contributions resulting from such exercise. The respective number of ADSs was settled with treasury shares. The applicable wage taxes (including solidarity surcharge thereon and church tax, if applicable) and social security contributions resulting from and withheld upon the exercise amounted to €724.0 million and were paid in January 2023 in cash directly to the respective authorities. The settlement mechanism decision did neither change the rights as such nor did it change the classification as equity-settled option rights.

As of December 31, 2022, the share options outstanding under our equity-settled share-based payment arrangements had a remaining weighted average expected life of 1.8 years (as of December 31, 2021: 2.7 years).

Development of Share-Options (Cash-Settled)

During the year ended December 31, 2022, 343,854 phantom options were granted under the ESOP which each gives the participants the right to receive a cash-payment equal to the difference between an exercise closing price (average closing price of an American Depositary Share of BioNTech on Nasdaq over the last ten trading days preceding the exercise date) and the exercise price. Generally, the options' exercise prices are €10.14. Contemporaneous with the exercise of the equity-based option rights in November and December 2022, 289,168 cash-settled phantom option rights were exercised and resulted in a cash outflow of €42.2 million. The average closing prices (10-day averages) of an American Depositary Share of BioNTech on Nasdaq weighted over the various settlement dates converted from USD to Euro using the exchange rate published by the German Central Bank (*Deutsche Bundesbank*) on the same days was €155.39. As of December 31, 2022, 131,853 cash-settled option rights remained outstanding. As of December 31, 2022, the liability related to cash-settled share-based payment option rights under the ESOP program amounted to €14.5 million (€3.1 million as of December 31, 2021), of which €11.2 million (nil as of December 31, 2021) related to rights already vested (partly subject to performance and waiting requirements). The liability is based on the fair value of the respective rights. The fair value is measured using a binomial model consistent with the grant date fair value measurement of the equity-based option rights described above which is updated on every reporting date.

17 Provisions and Contingencies

Provisions

(in millions)	December 31, 2022	December 31, 2021
Obligations from onerous CMO contracts	€235.5	€ –
Legal proceedings	0.1	177.9
Other	140.2	117.2
Total	**€375.8**	**€295.1**
Total current	367.2	110.2
Total non-current	8.6	184.9

As of December 31, 2022, our current provisions included €235.5 million (nil as of December 31, 2021) of obligations for production capacities derived from contracts with Contract Manufacturing Organizations, or CMOs, that became redundant as a direct result of the introduction of a new COVID-19 vaccine formulation, the switch from the BNT162b2 vaccine to an Omicron-adapted bivalent vaccine and due to increased internal manufacturing capacities during the year ended December 31, 2022. The related expenses were recognized in cost of sales in our consolidated statements of profit or loss. The change of €235.5 million compared to the previous period related to additions.

Provisions for legal proceedings mainly related to purported obligations arising out of certain contractual disputes unrelated to the below mentioned patent proceedings (€177.9 million as of December 31, 2021), were mainly released due to the favorable outcome of such proceeding received in March 2023 and treated as an adjusting event.

As of December 31, 2022, our current provisions included €140.2 million in other obligations mainly comprising inventor remunerations as well as customs and duties (€117.2 million as of December 31, 2021, mainly comprising inventor remunerations as well as customs and duties). The change of €23.0 million compared to the previous period related mainly to additions.

Contingencies

Our contingencies include, but are not limited to, intellectual property disputes and product liability and other product-related litigation. From time to time, in the normal course and conduct of our business, we may be involved in discussions with third parties about considering, for example, the use and/or remuneration for use of such third party's intellectual property. As of December 31, 2022, none of such intellectual property-related considerations that we have been notified of and for which potential claims could be brought against us or our subsidiaries in the future, fulfill the criteria for recording a provision. We are subject to an increasing number of product liability claims. Such claims often involve highly complex issues related to medical causation, correctness and completeness of product information (Summary of Product Characteristics/package leaflet) as well as label warnings and reliance thereon, scientific evidence and findings, actual and provable injury, and other matters. These complexities vary from matter to matter. As of December 31, 2022, none of these claims fulfill the criteria for recording a provision. Substantially all of our contingencies are subject to significant uncertainties and, therefore, determining the likelihood of a loss and/or the measurement of any loss can be complex. Consequently, we are unable to estimate the range of reasonably possible loss. Our assessments, which result from a complex series of judgments about future events and uncertainties, are based on estimates and assumptions that have been deemed reasonable by management, but that may prove to be incomplete or inaccurate, and unanticipated events and circumstances may occur that might cause us to change those estimates and assumptions. We currently do not believe that any of these matters will have a material adverse effect on our financial position, and will continue

to monitor the status of these and other claims that may arise. However, we could incur judgments, enter into settlements or revise our expectations regarding the outcome of matters, which could have a material adverse effect on our results of operations and/or our cash flows in the period in which the amounts are accrued or paid. We will continue to evaluate whether, if circumstances were to change in the future, the recording of a provision may be needed and whether potential indemnification entitlements exist against any such claim.

Certain pending matters to which we are a party are discussed below.

Alnylam Proceedings
In March 2022, Alnylam Pharmaceuticals, Inc., or Alnylam, filed a lawsuit against Pfizer and Pharmacia & Upjohn Co. LLC in the U.S. District Court for the District of Delaware alleging that an existing patent owned by Alnylam, U.S. Patent No. 11,246,933, or the '933 Patent, is infringed by the cationic lipid used in *Comirnaty*, and seeking monetary relief, which is not specified in their filings. We filed a counterclaim to become party to the Alnylam proceeding, and in June 2022, Alnylam added to its claims allegations that we induced infringement of the '933 Patent. Additionally, in July 2022, Alnylam filed a lawsuit against us, our wholly owned subsidiary, BioNTech Manufacturing GmbH, Pfizer and Pharmacia & Upjohn Co. LLC in the U.S. District Court for the District of Delaware alleging that we also induced infringement of a newly issued patent, U.S. Patent No. 11,382,979, or the '979 Patent, which is a continuation of the '933 Patent. The two lawsuits were consolidated on July 28, 2022 and are currently pending.

We believe we have strong defenses against the allegations claimed relative to each of the patents and intend to vigorously defend ourselves in the proceedings mentioned above. However, our analysis of Alnylam's claims is ongoing and complex, and we believe the outcome of the suit remains substantially uncertain. Taking into account discussions with our external lawyers, we do not consider the probability of an outflow of resources to be sufficient to recognize a provision at the balance sheet date. In our opinion, these matters constitute contingent liabilities as of the balance sheet date. However, it is currently impractical for us to estimate with sufficient reliability the respective contingent liabilities.

CureVac Proceedings
In July 2022, CureVac AG, or CureVac, filed a lawsuit against us and our wholly owned subsidiaries, BioNTech Manufacturing GmbH and BioNTech Manufacturing Marburg GmbH, in the Düsseldorf Regional Court, alleging *Comirnaty*'s infringement of one European patent, EP1857122B1, or the EP'122 Patent, and three Utility Models DE202015009961U1, DE202015009974U1, and DE202021003575U1. Later in July 2022, we and Pfizer filed a complaint for a declaratory judgment in the U.S. District Court for the District of Massachusetts, seeking a judgment of non-infringement by *Comirnaty* of U.S. Patent Nos. 11,135,312, 11,149,278 and 11,241,493. In August 2022, CureVac added European Patent EP3708668B1, or the EP'668 Patent, to its German lawsuit. In September 2022, we and Pfizer filed a declaration of non-infringement and revocation action against the EP'122 Patent and the EP'668 Patent in the Business and Property Courts of England and Wales. In addition, we filed a nullity action in the Federal Patent Court of Germany seeking a declaration that the EP'122 Patent is invalid. Lastly, on November 11, 2022, we filed cancellation actions seeking the cancellation of the three German Utility Models in the German Patent and Trademark Office. All of the proceedings are currently pending.

We believe we have strong defenses against the allegations claimed relative to each of the patents and utility models and intend to vigorously defend ourselves in the proceedings mentioned above. However, our analysis of CureVac's claims is ongoing and complex, and we believe the outcome of the suit remains substantially uncertain. Taking into account discussions with our external lawyers, we do not consider the probability of an outflow of resources to be sufficient to recognize a provision at the balance sheet date. In our opinion, these matters constitute contingent liabilities as of the balance sheet date. However, it is currently impractical for us to estimate with sufficient reliability the respective contingent liabilities.

Moderna Proceedings

In August 2022, ModernaTX, Inc., or Moderna, filed three patent infringement lawsuits against us and Pfizer related to *Comirnaty*. Moderna filed a lawsuit against us and Pfizer and our wholly owned subsidiaries, BioNTech Manufacturing GmbH, BioNTech Europe GmbH and BioNTech Manufacturing Marburg GmbH, Pfizer Manufacturing Belgium NV, Pfizer Ireland Pharmaceuticals and Pfizer Inc. in the Düsseldorf Regional Court alleging *Comirnaty*'s infringement of two European Patents, 3590949B1, or the EP'949 Patent and 3718565B1, or the EP'565 Patent. Moderna filed a second lawsuit asserting infringement of the EP'949 Patent and EP'565 Patent against us and our wholly owned subsidiaries, BioNTech Manufacturing GmbH, BioNTech Europe GmbH and BioNTech Manufacturing Marburg GmbH, Pfizer Limited, Pfizer Manufacturing Belgium NV and Pfizer Inc. in the Business and Property Courts of England and Wales. Additionally, Moderna filed a lawsuit in the United States District Court for the District of Massachusetts against us and our wholly owned subsidiaries BioNTech Manufacturing GmbH and BioNTech US Inc. and Pfizer Inc. alleging infringement of U.S. Patent Nos. 10,898,574, 10,702,600 and 10,933,127 and seeking monetary relief, which was not specified in the filings. In September 2022, we and Pfizer filed a revocation action in the Business and Property Courts of England and Wales requesting revocation of the EP'949 Patent and EP'565 Patent. Later in September 2022, Moderna filed a lawsuit against us and our wholly owned subsidiary BioNTech Manufacturing GmbH and Pfizer B.V., Pfizer Export B.V., C.P. Pharmaceuticals International C.V. and Pfizer Inc. in the District Court of The Hague alleging *Comirnaty's* infringement of the EP '949 Patent and EP'565 Patent. All of the proceedings are currently pending.

We believe we have strong defenses against the allegations claimed relative to each of the patents and intend to vigorously defend ourselves in the proceedings mentioned above. However, our analysis of Moderna's claims is ongoing and complex, and we believe the outcome of the suit remains substantially uncertain. Taking into account discussions with our external lawyers, we do not consider the probability of an outflow of resources to be sufficient to recognize a provision at the balance sheet date. In our opinion, these matters constitute contingent liabilities as of the balance sheet date. However, it is currently impractical for us to estimate with sufficient reliability the respective contingent liabilities.

18 Other Non-Financial Liabilities

(in millions)	December 31, 2022	December 31, 2021
Liabilities from wage taxes and social securities expenses	€761.8	€3.8
Liabilities to employees	50.6	30.2
Liabilities from share-based payment arrangements	36.2	20.6
Other	29.2	4.3
Total	**€877.8**	**€58.9**
Total current	860.8	46.1
Total non-current	17.0	12.8

Liabilities from wage taxes and social security expenses mainly include obligations that became due upon settlement of our share-based payment arrangements for the respective employees and members of the Management Board as further described in Note 16.

19 Leases

19.1 Amounts Recognized in the Consolidated Statements of Financial Position

Right-of-Use Assets

The following amounts are presented as right-of-use assets within the consolidated statements of financial position as of the dates indicated:

(in millions)	December 31, 2022	December 31, 2021
Buildings	€206.5	€175.0
Production facilities	3.0	19.4
Other operating equipment	2.4	3.5
Total	**€211.9**	**€197.9**

Additions to the right-of-use assets during the year ended December 31, 2022, were €118.3 million (during the year ended December 31, 2021: €126.5 million).

Lease Liability

The following amounts are included in loans and borrowings as of the dates indicated:

(in millions)	December 31, 2022	December 31, 2021
Current	€36.0	€27.9
Non-current	174.1	153.7
Total	**€210.1**	**€181.6**

19.2 Amounts Recognized in the Consolidated Statements of Profit or Loss

Depreciation Charge of Right-of-Use Assets

	Years ended December 31,		
(in millions)	2022	2021	2020
Buildings	€35.2	€14.7	€4.7
Production facilities	23.1	14.0	1.6
Other operating equipment	0.5	0.3	–
Total depreciation charge	**€58.8**	**€29.0**	**€6.3**
Interest on lease liabilities	5.1	2.9	2.0
Expense related to short-term leases and leases of low-value assets	27.1	9.5	1.2
Total amounts recognized in profit or loss	**€91.0**	**€41.4**	**€9.5**

19.3 Amounts Recognized in the Consolidated Statements of Cash Flows

During the year ended December 31, 2022, the total cash outflow for leases amounted to €46.2 million (during the year ended December 31, 2021: €17.0 million; during the year ended December 31, 2020: €14.7 million).

19.4 Extension Options

The Group has several lease contracts that include extension options. These options are negotiated by management to provide flexibility in managing the leased-asset portfolio and align with the Group's business needs. Management exercises judgement in determining whether these extension options are reasonably certain to be exercised. The undiscounted potential future lease payments, which relate to periods after the exercise date of renewal options and are not included in lease liabilities, amount to up to €163.1 million as of December 31, 2022, considering terms up until 2049 (as of December 31, 2021: €82.8 million considering terms up until 2049).

20 Related Party Disclosures

20.1 Parent and Ultimate Controlling Party

ATHOS KG, Holzkirchen, Germany is the sole shareholder of AT Impf GmbH, Munich, Germany and beneficial owner of our ordinary shares. ATHOS KG via AT Impf GmbH has de facto control over BioNTech based on its substantial shareholding, which practically enabled it to exercise the majority of voting rights to pass resolutions at our Annual General Meeting, or AGM. Entities controlled by ATHOS KG mainly provide rental and property management activities and sell property, plant and equipment to us.

20.2 Transactions with Key Management Personnel

In June 2022, at the Annual General Meeting, our shareholders voted to reappoint Helmut Jeggle as a member of the Supervisory Board and appointed two additional Supervisory Board members, Prof. Dr. Anja Morawietz and Prof. Dr. Rudolf Staudigl. In a meeting following the AGM, the Supervisory Board re-elected Helmut Jeggle as its Chair. All three members will serve in their roles until the 2026 AGM.

Key Management Personnel Compensation

Our key management personnel has been defined as the members of the Management Board and the Supervisory Board. Key management personnel compensation is comprised of the following:

	Years ended December 31,		
(in millions)	2022	2021	2020
Management Board	**€15.0**	**€20.4**	**€23.7**
Fixed compensation	2.9	2.2	1.9
Short-term incentive – first installment	0.6	0.6	0.5
Short-term incentive – second installment[1]	0.7	1.2	0.6
Other performance-related variable compensation[2]	0.1	–	–
Share-based payments (incl. long-term incentive)[3]	10.7	16.4	20.7
Supervisory Board	**0.5**	**0.4**	**0.4**
Total compensation paid to key management personnel	**€15.5**	**€20.8**	**€24.1**

(1) The fair value of the second installment of the short-term incentive compensation which has been classified as cash-settled share-based payment arrangement was determined pursuant to the regulations of IFRS 2 "Share-based Payments." This table shows the pro-rata share of personnel expenses for the respective financial year that are recognized over the award's vesting period beginning as of the service commencement date (date when entering or renewing service agreements) until each separate determination date and are remeasured until settlement date.

(2) Includes a one-time signing and retention cash payment agreed when renewing the service agreement agreed with Sean Marett.

(3) The fair value of the share-based payments was determined pursuant to the regulations of IFRS 2 "Share-based Payments." This table shows the pro-rata share of personnel expenses resulting from stock-based compensation for the respective financial year. During the years ended December 31, 2022, and 2021, the amounts included expenses derived from a one-time signing bonus of €800,000 granted to Jens Holstein as of his appointment to the Management Board by awarding 4,246 phantom shares. The phantom shares vest in four equal installments on July 1 of 2022, 2023, 2024, and June 30, 2025 but will only be settled in cash on July 1, 2025. The cash payment is subject to an effective settlement closing price cap. This means that the settlement closing price shall effectively be adjusted to ensure that the current price of an ADS as of the settlement date does not exceed 800% of the closing price applied when the award was initially granted. In addition, the total cash payment under the award shall not exceed €6.4 million. During the year ended December 31, 2020, the amount included expenses from a bonus arrangement agreed with Ryan Richardson in advance of his appointment to the Management Board. During the year ended December 31, 2020, the arrangement was modified from an all-equity share-based payment arrangement into a partly cash- and partly equity-settled share-based payment arrangement including 4,534 ordinary shares which were issued during the year ended December 31, 2021. Management Board members participate in our ESOP program (see Note 16).

During the year ended December 31, 2022, 5,152,410 option rights granted to our Management Board under the ESOP 2018 program vested and became exercisable (option rights allocated to Ryan Richardson and Özlem Türeci had already vested in 2019 but continued to be subject to performance and waiting requirements; Jens Holstein did not participate in the ESOP 2018 program as he had not joined our company at the time it was allocated). Of such vested option rights, 4,921,630 options were exercised during the year ended December 31, 2022 by paying the option exercise price of €19.78 weighted over the Management Board members (for all Management Board members, apart from Ryan Richardson who was not a Management Board member at the time the option rights were allocated, exercise prices are subject the effective exercise price cap and the maximum cap mechanism as described in Note 16.5). As of December 31, 2022, Sean Marett still holds 230,780 option rights which can only be exercised during the exercise windows as defined by our ESOP and if certain performance conditions are fulfilled as of the date the relevant option rights are exercised. The average closing price of an American Depositary Share of BioNTech on Nasdaq weighted over the Management Board's settlement dates converted from USD to Euro using the exchange rate published by the German Central Bank (Deutsche Bundesbank) on the same days was €160.65.

Key Management Personnel Transactions
A number of key management personnel, or their related parties, hold positions in other companies that result in them having control or significant influence over these companies. A number of these companies have entered into transactions with us during the year.

We purchased various goods and services from Translationale Onkologie an der Universitätsmedizin der Johannes Gutenberg-Universität Mainz gemeinnützige GmbH, or TRON.

The aggregate value of transactions related to key management personnel was as follows for the periods indicated:

	Years ended December 31,		
(in millions)	2022	2021	2020
Purchases of various goods and services from TRON[1]	€ –	€ –	€10.1
Total	**€ –**	**€ –**	**€10.1**

(1) We purchased various goods and services from TRON, an institute where Prof. Ugur Sahin, M.D., served as Managing Director. TRON is no longer considered to be a related party for the years ended December 31, 2022, and 2021, as the criteria for such classification are no longer fulfilled.

20.3 Related Party Transactions

The total amount of transactions with ATHOS KG or entities controlled by it was as follows for the periods indicated:

	Years ended December 31,		
(in millions)	2022	2021	2020
Purchases of various goods and services from entities controlled by ATHOS KG	€0.3	€0.9	€2.3
Purchases of property and other assets from entities controlled by ATHOS KG	62.5	–	2.3
Total	**€62.8**	**€0.9**	**€4.6**

On December 22, 2022, we entered into a purchase agreement with Santo Service GmbH, pursuant to which we acquired the real estate property An der Goldgrube 12 and the existing laboratory and office building including any movable assets for a total consideration of €62.5 million. The purchase price was paid during the year ended December 31, 2022. Santo Service GmbH is wholly owned by AT Impf GmbH, that is controlled by ATHOS KG.

The outstanding balances of transactions with ATHOS KG or entities controlled by them were as follows as of the periods indicated:

(in millions)	December 31, 2022	December 31, 2021
ATHOS KG	€ –	€0.3
Total	**€ –**	**€0.3**

None of the balances are secured and no bad debt expense has been recognized in respect of amounts owed by related parties.

21 Number of employees

The average number of employees is:

	Years ended December 31,		
Quarterly average number of employees by function	2022	2021	2020
Clinical Research & Development	243	137	113
Scientific Research & Development	1.302	875	586
Operations	1.240	863	490
Quality	383	322	184
Support Functions	828	431	218
Commercial & Business Development	108	66	33
Total	**4.104**	**2.694**	**1.624**

The number of employees as of the balance sheet date is:

	Years ended December 31,		
Number of employees by function as of the reporting date	2022	2021	2020
Clinical Research & Development	274	153	128
Scientific Research & Development	1.512	1.026	661
Operations	1.365	1.036	699
Quality	413	301	234
Support Functions	983	539	276
Commercial & Business Development	145	83	49
Total	**4.692**	**3.138**	**2.047**

22 Fees for Auditors

The following fees were recognized for the services provided by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft for the fiscal years ended December 31, 2022 and December 31, 2021:

	Years ended December 31,	
(in millions)	**2022**	**2021**
Audit fees	€2.9	€1.9
Audit-related fees	0.4	0.7
Tax fees	0.2	0.5
All other fees	0.2	0.1
Total fees for professional audit services and other services	**€3.7**	**€3.2**

23 Corporate Governance

The declaration of conformity pursuant to Section 161 para. 1 of the German Stock Corporation Act (*Aktiengesetz*) is issued in accordance with the Corporate Governance Code in connection with the corporate governance declaration pursuant to Section 315d in conjunction with Section 289f HGB and can be found in the combined management report of BioNTech SE.

24 Events After the Reporting Period

Acquisition of InstaDeep Ltd.
On January 10, 2023, we and InstaDeep Ltd., or InstaDeep, a leading global technology company in the field of artificial intelligence ("AI") and machine learning ("ML"), announced that we have entered a share purchase agreement, or SPA, under which we will acquire 100% of the remaining shares in InstaDeep, excluding the shares already owned by us (see Note 12.2). InstaDeep will operate as our UK-based global subsidiary and will continue to provide its services to clients around the world in diverse industries, including in the Technology, Transport & Logistics, Industrial and Financial Services sectors. Additionally, the acquisition is planned to enable the creation of a fully integrated, enterprise-wide capability that leverages AI and machine learning technologies across our therapeutic platforms and operations.

The completion of the acquisition is conditional on the satisfaction of several customary closing conditions and regulatory approvals as defined in the SPA. The acquisition of InstaDeep is expected to close in the first half of 2023 and will be accounted for as a business combination using the acquisition method of accounting.

The transaction includes a total upfront consideration of approximately £362 million (€413.4 million) in cash and our shares to acquire 100% of the remaining InstaDeep shares. Therefore, the final upfront consideration at the closing date will depend e.g., on the final proportion of cash payments and shares and on the development of our share price. In addition, InstaDeep shareholders will be eligible to receive additional performance-based future milestone payments up to approximately £200 million (€228.4 million, both amounts in British pound translated into Euro, using the foreign exchange rate as published by the German Central Bank (*Deutsche Bundesbank*) as of March 20, 2023).

Strategic collaboration with OncoC4, Inc.
On March 20, 2023, we and OncoC4, Inc., or OncoC4, a clinical-stage biopharmaceutical company dedicated to the discovery and development of novel biologicals for cancer treatment, announced a strategic collaboration to co-develop and commercialize novel checkpoint antibody for the treatment of cancer. Under the terms of the agreement, we receive an exclusive worldwide license for development and commercialization of OncoC4's anti-CTLA-4 monoclonal antibody candidate, ONC-392. OncoC4 will receive a $200 million (€186.6 million, the amount in U.S. dollar is translated into Euro using the foreign exchange rate as published by the German Central Bank (*Deutsche Bundesbank*) as of March 20, 2023) upfront payment and is eligible to receive development, regulatory and commercial milestone payments as well as tiered royalties. Together with OncoC4 we will jointly develop ONC-392 as monotherapy and in combination therapy with anti-PD1 in various solid tumor indications and will equally share development costs for such studies. We additionally plan to combine ONC-392 with our proprietary oncology product candidates. The transaction is expected to be closed in the first half of 2023, subject to customary closing conditions and regulatory clearances.

Second Tranche Share Repurchase Program
Between January 1, and up until March 17, 2023, the date when the trading plan for the second tranche of our share repurchase program expired, the following repurchases under the program have occurred:

Second Tranche ($0.5 billion)

Period	Number of ADSs purchased	Average price paid per ADS	Total number of ADSs purchased	Approximate value of ADSs that may yet be purchased (in millions)
December 2022[1]	–	– $ (– €)	–	500,0 $ (500,0 €)
January 2023	618,355	142,26 $ (131,12 €)	618.355	412,0 $ (418,9 €)
February 2023	857,620	138,05 $ (129,06 €)	1.475.975	293,6 $ (308,2 €)
March 2023[2]	745,196	128,49 $ (121,08 €)	2.221.171	197,9 $ (218.0 €)
Total	**2,221,171**			

(1) Beginning December 7, 2022.
(2) Ending March 17, 2023.

New share buyback program
On March 27, 2023, it was decided to launch a new share repurchase program under which we may purchase ADSs, each representing one ordinary share, with a value of up to $0.5 billion for the period until the end of 2023.

Mainz, March 27, 2023

BioNTech SE

Prof. Ugur Sahin, M.D.
Chief Executive Officer

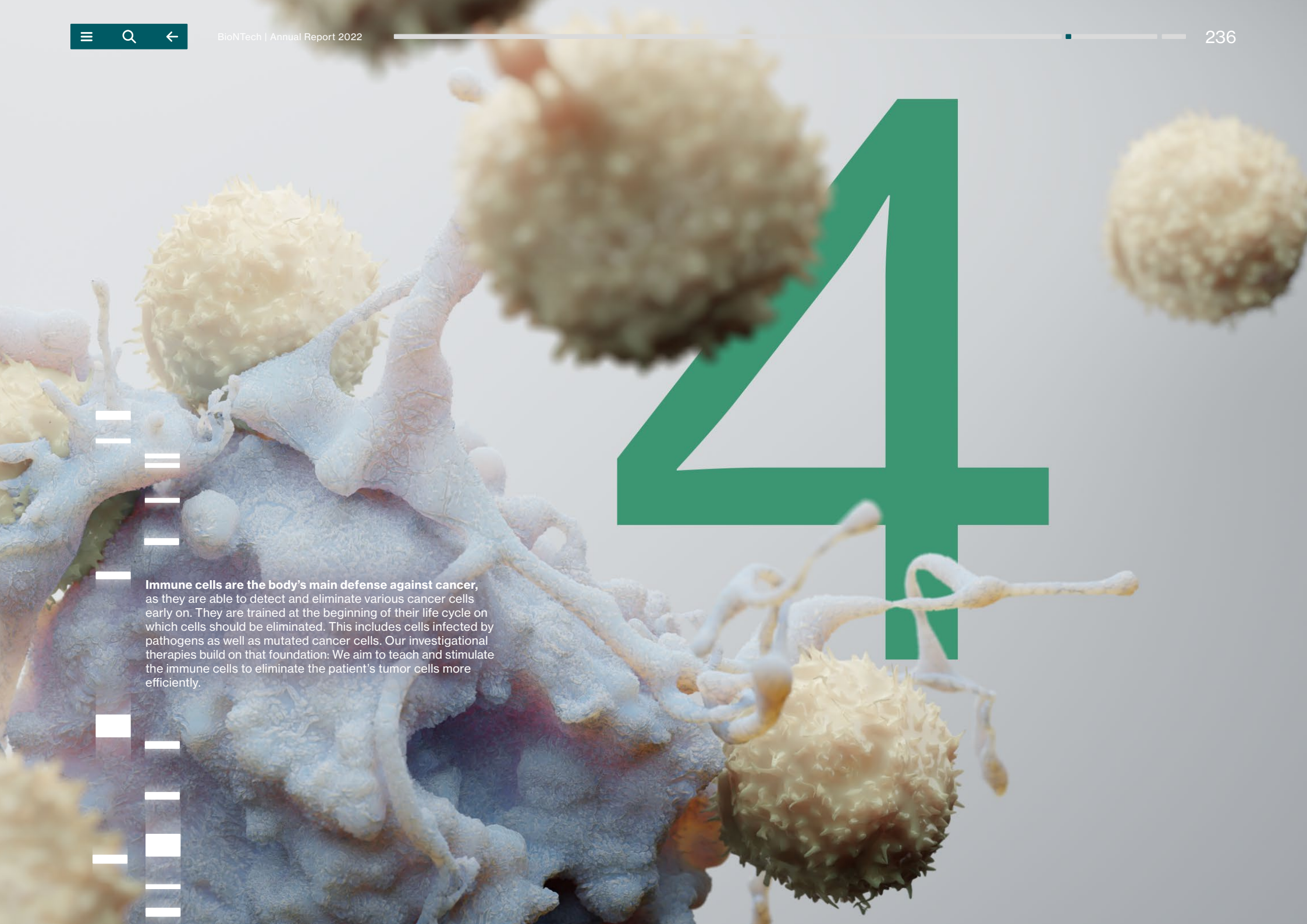
Jens Holstein
Chief Financial Officer

Sean Marett
Chief Business Officer and
Chief Commercial Officer

Sierk Poetting, Ph.D.
Chief Operating Officer

Ryan Richardson
Chief Strategy Officer

Prof. Özlem Türeci, M.D.
Chief Medical Officer



4

Immune cells are the body's main defense against cancer, as they are able to detect and eliminate various cancer cells early on. They are trained at the beginning of their life cycle on which cells should be eliminated. This includes cells infected by pathogens as well as mutated cancer cells. Our investigational therapies build on that foundation: We aim to teach and stimulate the immune cells to eliminate the patient's tumor cells more efficiently.

A. Remuneration Report

The remuneration report describes the structure and individualized amount of the compensation components of the Management Board and Supervisory Board of BioNTech SE, hereinafter also referred to as "BioNTech", the "Group", "we" or "us", as well as the remuneration system applied for the year ended December 31, 2022.

The report is aligned with the requirements of Sec. 162 German Stock Corporation Act (AktG), the recommendations of the German Corporate Governance Code as amended on April 28, 2022. The disclosures in our Remuneration Report are explicitly not expense-related and do not follow the IFRS regulations as published in our consolidated financial statements or the German Commercial Code (HGB) regulations as published in the statutory financial statements of BioNTech SE.

Our Management Board and Supervisory Board have jointly agreed to engage our auditors to perform a formal audit of the report.

We prepare and publish this report in Euros and round numbers to thousands or millions of Euros, respectively. Accordingly, numerical figures shown as totals in some tables may not be exact arithmetic aggregations of the figures that preceded them, and figures presented in the explanatory notes may not precisely add up to the rounded arithmetic aggregations.

B. Review of the Year Ended December 31, 2022

The year ended December 31, 2022 was a year in which we continued to translate our vision into strong performance. We and Pfizer developed and launched two Original/Omicron-adapted bivalent vaccines, expanded *Comirnaty*'s label to include pediatrics and other populations for primary and booster vaccination, converted conditional or emergency approvals to full marketing authorizations, and between us invoiced sales of over 2 billion doses of *Comirnaty*. As of December 2022, our original COVID-19 vaccine product has been authorized or approved for emergency or temporary use or granted marketing authorization in more than 100 countries and regions worldwide and our efforts have resulted in more than 4 billion doses shipped globally. In 2022, we executed on five key strategic objectives to strengthen our technology platforms, digital capabilities, and infrastructure through sustainable investments, strategic partnerships and tactical acquisitions to bring long-term value to patients and other stakeholder groups. For example, we continued pushing forward our vision to harness the power of the immune system to fight human diseases and expanded our pipeline by accelerating our late-stage oncology programs and starting clinical trials in the area of infectious diseases. In addition, during the past year we have further accelerated our initiatives building word-leading capabilities in Artificial Intelligence (AI)-driven drug discovery and development of next-generation immunotherapies and vaccines to ultimately allow individualize cancer care. We have established offices around the globe and entered new strategic partnerships to further strengthen and expand our multimodal immunotherapy portfolio and deliver breakthrough precision medicines for patients. We grew robustly and rapidly and have welcomed many new colleagues along the way. These achievements, along with the transformation plans which were developed during the year ended December 31, 2022, will allow us to seize a once-in-a-generation opportunity to transform medicine going forward.

During the year ended December 31, 2022, there were no changes to the composition of our Management Board while service agreements with Prof. Ugur Sahin, M.D., Sean Marett, Ryan Richardson and Prof. Özlem Türeci, M.D. were renewed. Following various effective renewals, all service agreements with current Management Board members encompass terms with end dates that fall between December 31, 2024 and December 31, 2026. During the year ended December 31, 2022, we expanded our Supervisory Board by appointing Prof. Anja Morawietz, Ph.D. and Prof. Rudolf Staudigl, Ph.D. at our Annual General Meeting, or AGM, on June 1, 2022. Furthermore, Helmut Jeggle was reappointed as a Supervisory Board member before his term ended by our Annual General Meeting on June 1, 2022 and was re-elected by the Supervisory Board as its Chair in a meeting following the AGM. Helmut Jeggle's, Anja Morawietz' and Rudolf Staudigl's current appointment to our Supervisory Board will end upon the AGM in 2026.

At the Annual General Meeting on June 1, 2022, the compensation amounts of our Supervisory Board members were slightly adjusted, while generally retaining the system for the compensation of Supervisory Board members. When extending service agreements with members of our Management Board during the year ended December 31, 2022, the Management Board compensation system was applied and the amount of certain compensation components were increased.

The elements of the compensation system and the actual compensation according to Sec. 87a AktG are presented below.

C. Remuneration of Supervisory Board Members

The remuneration system of our Supervisory Board as included in our Articles of Association is structured as 100% fixed compensation. While retaining the system for the compensation of Supervisory Board members, the compensation of Supervisory Board members was slightly increased during the year ended December 31, 2022 to account for additional workload. The new provisions were approved by the Annual General Meeting on June 1, 2022.

Pursuant to Sec. 113 para. 3 AktG, as amended by the Act Implementing the Second Shareholder Rights Directive, the Annual General Meeting of a listed company must pass a resolution on the compensation of the members of the Supervisory Board at least every four years.

Retroactively, from January 1, 2022, the members of the Supervisory Board receive an annual compensation of €70,000, the Chair €210,000 and the Vice Chair €105,000. The Chair of the Audit Committee shall receive an additional annual compensation of €30,000. The respective Chair of another committee shall receive an additional annual compensation of €15,000. An ordinary committee member shall receive an additional annual remuneration of €5,000 per committee.

Members of the Supervisory Board who are only members of the Supervisory Board for part of the financial year or who chair or vice-chair the Supervisory Board or the Audit Committee or another committee shall receive the respective compensation on a pro-rata basis. The same applies insofar as this regulation or this regulation in a specific version is only in force during part of the financial year. Hence, for the members of the Supervisory Board who joined in 2022, namely Anja Morawietz and Rudolf Staudigl, the remuneration was applied on a pro-rata basis from July 5, 2022, the date of entry of the corresponding amendment to the Articles of Association in our Commercial Register.

All members of the Supervisory Board are reimbursed for their expenses.

The remuneration of our Supervisory Board for the years ended December 31, 2022, and 2021 was paid out during December 2022 and December 2021. The fixed compensation and the remuneration for committee activities of our Supervisory Board members is considered owed and granted in the respective financial year in which the underlying services were performed.

The compensation granted and owed to our Supervisory Board members during the years ended December 31, 2022, and 2021 are presented in the following table:

in thousands	Helmut Jeggle *Chair*	Ulrich Wandschneider, Ph.D. *Vice Chair*	Prof. Christoph Huber, M.D.	Prof. Anja Morawietz, Ph.D.	Michael Motschmann	Prof. Rudolf Staudigl, Ph.D.
Base Compensation						
2022	€210	€105	€70	€35	€70	€35
2021	177	88	59	–	59	–
Committee Compensation						
2022	15	35	10	–	25	–
2021	4	24	–	–	4	–
Total						
2022	**€225**	**€140**	**€80**	**€35**	**€95**	**€35**
2021	**€181**	**€112**	**€59**	**€ –**	**€63**	**€ –**

If the reimbursement of expenses or the compensation is subject to value-added tax, the value-added tax shall be paid in addition.

The Supervisory Board members are included in our D&O liability insurance and are co-insured at our expense.

The current appointments of our Supervisory Board will end with the Annual General Meeting during the respective year set forth below:

- Helmut Jeggle: 2026
- Ulrich Wandschneider: 2023
- Christoph Huber: 2023
- Anja Morawietz: 2026
- Michael Motschmann: 2023
- Rudolf Staudigl: 2026

D. Remuneration of Management Board Members

1. Remuneration System

1.1 Remuneration System Philosophy

The compensation structure of the Company's Management Board is designed to promote corporate governance and is oriented towards the Company's sustainability and long-term development. The compensation is therefore also linked to ethical, ecological and social criteria, which reflects our overall strategy and culture. The compensation system therefore sets incentives for the sustainable, long-term development of the Company as a whole and for the long-term commitment of the Management Board members. The compensation system is designed to be clear and comprehensible. It is aligned with the requirements of the AktG and the recommendations of the German Corporate Governance Code as amended on April 28, 2022 and ensures that the Company's Supervisory Board can react to organizational changes and flexibly take into account changing market conditions.

1.2 Responsibility for Determining the Remuneration of the Management Board

The Supervisory Board is responsible for determining the structure of the compensation system (including targets and caps). On the basis of the compensation system, the Supervisory Board determines the specific compensation of the individual Management Board members. Within the framework of what is legally permissible, the Supervisory Board wishes to offer the members of the Management Board compensation that is both in line with the market and competitive in order to continue to attract and retain outstanding individuals in the future.

When determining the specific compensation, the Supervisory Board ensures that the compensation of the Management Board is appropriate and in line with market customary standards.

1.3 Involvement of the Annual General Meeting

The compensation system adopted by the Supervisory Board shall be submitted to the Annual General Meeting for approval. Pursuant to Sec. 120a para. 1 AktG, the Annual General Meeting (AGM) of a listed company shall resolve on the approval of the system for the compensation of the members of the Management Board presented by the Supervisory Board whenever there is a significant change to the compensation system, but at least every four years. The remuneration system for the members of the Management Board is to be submitted to the Annual General Meeting for approval again at the latest in 2025. A resolution confirming the compensation is permissible. Taking the requirements of Sec. 87a para. 1 AktG into account, the Supervisory Board adopted a compensation system for the members of the Management Board on May 7, 2021. The compensation system for members of the Management Board was approved by the AGM on June 22, 2021 and becomes effective whenever new service agreements are entered into, existing service agreements are extended or specific compensation components are initiated.

The comprehensive remuneration system as approved by the AGM on June 22, 2021 is available online on our website www.biontech.de.

2. Compensation Components, Target Total Compensation and further Provisions

The following table gives an overview of the compensation components as well as the target total compensation and other provisions as foreseen by our comprehensive remuneration system as approved by the AGM on June 22, 2021, which is available online on our website www.biontech.de.

	Basis of Assessment / Parameters	Strategic Reference
Non-Performance related Compensation		
Fixed compensation	Fixed contractually agreed compensation paid in twelve equal monthly installments.	The compensation of the Management Board is based on customary market standard. It is also in line with their duties and performance, as well as the situation and success of the Group.
Fringe benefits	Mainly allowances for health and long-term care insurance and supplementary insurance, non-cash benefits from bicycles and travel allowances.	
Performance-related Compensation		
Short-term performance-related variable compensation (short-term incentive, STI)	Target bonus Limit on payout amount: up to a maximum of 60% of the amount of fixed compensation; Performance criteria: Company targets and ESG targets; Of the STI, 50% is payable in cash in the month following approval of the consolidated financial statements; Of the STI, 50% is payable in cash one year after the end of the financial year to which the STI relates and subject to an adjustment in relation to the share price development one year following the date, when the STI achievement is determined.	Incentivizes strong annual (non-financial and financial) performance as the foundation of the Group's long-term strategy and sustainable value creation with achieving strategic sustainability targets.

Continued on next page

	Basis of Assessment / Parameters	Strategic Reference
Non-Performance related Compensation (continuation)		
Long-term performance-related variable compensation (long-term incentive, LTI)	Stock Option Program and/or Restricted Stock Unit Program (RSUP); Performance targets: Relative share price development and absolute share price development; Waiting period: Four years after allocation of the stock options or allocation of the remaining restricted stock units.	The regular LTI is intended to promote the Management Board's long-term commitment to the Group and its sustainable growth. Therefore, the performance targets of the LTI are linked to the Group's long-term share price development.
Other Compensation Rules		
Target total compensation	For each Management Board member for the upcoming financial year the Supervisory Board sets Target Total Compensation corresponding to the sum of fixed compensation (~40%), target STI (~20%) and target LTI (~40%, each as percentage of the Target Total Compensation). Relative to the Target Total Compensation the individual compensation components shall reflect the following percentage ranges. Chief Executive Officer Fixed compensation: 25-35% Variable compensation: 65-75% Target STI: 12-18% Target LTI: 50-60% Other Management Board members Fixed compensation: 35-45% Variable compensation: 55-65% Target STI: 17-23% Target LTI: 30-40%	Sets targets to the compensation of the Management Board to ensure a well-weighted combination between fixed and variable compensation components.
Maximum compensation	Maximum compensation for the financial year in accordance with Sec. 87a para. 1 sentence 2 no. 1 AktG: Chief Executive Officer (CEO): €20 million Other Management Board members: €10 million Maximum compensation can only be achieved if the value of the stock options granted under the LTI at the time of exercise of the stock options is at least eight times the exercise price.	Caps the compensation of Management Board members to avoid uncontrollably high payouts and thus disproportionate costs and risks for the Group.

Continued on next page

	Basis of Assessment / Parameters	Strategic Reference
Other Compensation Rules (continuation)		
Further provisions	Supervisory Board mandates within the BioNTech group: fully compensated for with the compensation as a member of the Management Board. Supervisory Board mandates outside the BioNTech group: Supervisory Board has to approve and decides within the scope of the approval whether and to what extent compensation is to be offset against the compensation of the Management Board member.	Further provisions also function as a cap in case of different mandates within the BioNTech Group to avoid uncontrollably payouts and risks for the Group.
Claw-back and malus rules	Service contracts of Management Board members to be newly concluded or extended and the terms and conditions of the Stock Option Plans and the RSUPs will contain so-called malus and claw-back provisions entitling the Company to withhold or reclaim variable compensation components in whole or in part in the event of a breach by the Management Board member concerned of internal company policies or statutory obligations. Service contracts of Management Board members to be newly concluded or extended and the terms and conditions of the Stock Option Plan will in future contain a provision obliging Management Board members to repay variable compensation already paid out if it transpires after payment that the basis for calculating the amount paid out was incorrect.	Ensures sustainable corporate development and ensures avoiding taking inappropriate risks.
Severance payment cap	In the event of premature termination, Management Board members are granted a severance payment in the amount of the compensation expected to be owed by the Company for the remaining term of the employment contract, up to a maximum of two years' compensation.	Caps the compensation of Management Board members in the case of premature termination to avoid uncontrollably high payouts and risks for the Group.

3 Terms of the Current Service Agreements

The following sets forth the termination dates of the current service agreements of our Management Board:

- Prof. Ugur Sahin, M.D.: December 31, 2026
- Jens Holstein: June 30, 2025
- Sean Marett: December 31, 2024
- Sierk Poetting, Ph.D.: November 30, 2026
- Ryan Richardson: December 31, 2026
- Prof. Özlem Türeci, M.D.: May 31, 2025

4 Review of the Appropriateness of Management Board Compensation for the Year Ended December 31, 2022

Our current remuneration system was derived from a thorough review performed by our Supervisory Board considering the major transformational changes we underwent in the past and was approved as of June 22, 2021. The service agreements with our Management Board, which were extended during the years ended December 31, 2021 and 2022 until dates as outlined in section 3, were designed to comply with the remuneration system.

During the year ended December 31, 2022, we conducted a review of the remuneration system of the Management Board to ensure appropriateness and to challenge the compensation of the members of the Management Board. Taking the market position of BioNTech into account, our Management Board's compensation was assessed from a market perspective. We engaged an external and independent compensation consultant to assess the compensation level and structure in line with the rules of our comprehensive remuneration system as approved by the AGM on June 22, 2021, which is available online on our website www.biontech.de. The analysis showed that our remuneration system, with its targets for the members of the Management Board and the caps on their remuneration, complies with market standards and the German Corporate Governance Code (GCGC). The Supervisory Board will continue to examine the remuneration system on a regular basis and critically review the need for adjustments in light of sustained internal and external developments.

5 Remuneration during the Year Ended December 31, 2022

5.1 Target Total and Maximum Compensation

The target total compensation (TTC) for the Management Board for the years ended December 31, 2022, and 2021 is presented in the tables below. The following table discloses the compensation instruments and their essential compliance with the percentage ranges defined for target total compensation in our remuneration system.

	Prof. Ugur Sahin, M.D. Years ended December 31,				Jens Holstein[1] Years ended December 31,			
	2022		2021		2022		2021	
	in thousands	in % of TTC	in thousands	in % of TTC	in thousands	in % of TTC	in thousands	in % of TTC
Non-performance related compensation								
Fixed compensation	€360	28%	€360	28%	€550	39%	€275	39%
Fringe benefits	6	– %	6	– %	7	– %	3	– %
Performance-related compensation								
Short-term incentive	180	14%	180	14%	300	21%	150	21%
Management Board Grant - LTI	750	58%	750	58%	550	39%	275	39%
Target Total Compensation (TTC)	**€1,296**	**100%**	**€1,296**	**100%**	**€1,407**	**100%**	**€703**	**100%**

(1) Jens Holstein was appointed to the Management Board as Chief Financial Officer (CFO) on July 1, 2021. His compensation excludes the one-time signing bonus granted to him at the time of his appointment to the Management Board.

	Sean Marett[2]				Sierk Poetting, Ph.D.			
	Years ended December 31,				Years ended December 31,			
	2022		2021		2022		2021	
	in thousands	in % of TTC	in thousands	in % of TTC	in thousands	in % of TTC	in thousands	in % of TTC
Non-performance related compensation								
Fixed compensation	€513	37%	€400	43%	€550	39%	€376	44%
Fringe benefits	8	1%	22	2%	4	– %	4	– %
Performance-related compensation								
Short-term incentive	300	22%	200	22%	300	21%	180	21%
Management Board Grant - LTI	550	40%	300	33%	550	39%	300	35%
Target Total Compensation (TTC)	**€1,371**	**100%**	**€922**	**100%**	**€1,404**	**100%**	**€860**	**100%**

(2) Sean Marett's compensation excludes the one-time signing and retention cash payment granted to him at the time of the extension of his service agreement.

	Ryan Richardson				Prof. Özlem Türeci, M.D.			
	Years ended December 31,				Years ended December 31,			
	2022		2021		2022		2021	
	in thousands	in % of TTC	in thousands	in % of TTC	in thousands	in % of TTC	in thousands	in % of TTC
Non-performance related compensation								
Fixed compensation	€340	42%	€320	42%	€518	38%	€360	43%
Fringe benefits	27	3%	16	2%	–	– %	–	– %
Performance-related compensation								
Short-term incentive	170	21%	160	21%	300	22%	180	21%
Management Board Grant - LTI	280	34%	260	34%	550	40%	300	36%
Target Total Compensation (TTC)	**€817**	**100%**	**€756**	**100%**	**€1,368**	**100%**	**€840**	**100%**

Starting with the phantom share options issued in May 2021 (see section 5.5) the agreements include a maximum limit on the total compensation that the Management Board members are entitled to receive together with other compensation components received by each such board member in the respective grant year to €20.0 million for our Chief Executive Officer (CEO) and €10.0 million for all other Management Board members. It is not important when the respective compensation element will be paid out, but for which financial year it was granted.

5.2 Fixed Compensation and Fringe Benefits

The fixed compensation is paid out in twelve monthly installments as a salary. Other components of the fixed compensation include fringe benefits such as allowances for health and long-term care insurance and supplementary insurance, non-cash benefits for bicycles and travel allowances. The Management Board benefits from our D&O insurance policy. The expenses of our D&O insurance are not considered compensation, as it is concluded in our own interest covering risks for our Management Board, our Supervisory Board as well as senior executives and managing directors of BioNTech group entities.

During the years ended December 31, 2022, and 2021, the fixed compensation of Ugur Sahin was €360,000. Effective January 1, 2023, subsequent to the end of the reporting period covered by this remuneration report, Ugur Sahin's annual fixed compensation was increased to €700,000. Effective as of his appointment to the Management Board on July 1, 2021, Jens Holstein's annual fixed compensation was €550,000. Hence, during the years ended December 31, 2022 and 2021, his effective annual fixed compensation amounted to €550,000 and €275,000, respectively. Effective April 1, 2022, Sean Marett's annual fixed compensation was increased from €400,000 to €550,000. Hence, during the years ended December 31, 2022 and 2021, his effective annual fixed compensation amounted to €512,500 and €400,000, respectively. Effective December 1, 2021, Sierk Poetting's annual fixed compensation was increased from €360,000 to €550,000. Hence, during the years ended December 31, 2022 and 2021, his effective annual fixed compensation amounted to €550,000 and €375,833, respectively. During the years ended December 31, 2022 and 2021 the fixed compensation of Ryan Richardson was €340,000 and €320,000, respectively. Effective January 1, 2023, subsequent to the end of the reporting period covered by this remuneration report, Ryan Richardson's annual fixed compensation was increased to €550,000. Effective March 1, 2022, Özlem Türeci's annual fixed compensation was increased from €360,000 to €550,000. Hence, during the years ended December 31, 2022 and 2021, her effective annual fixed compensation amounted to €518,333 and €360,000 respectively.

5.3 Short-Term Incentive Compensation (STI)

The STI is a performance-related bonus with a one-year assessment period. The compensation system provides for STI amounts up to a maximum of 60% of the amount of the fixed compensation per year. The payout amount of the short-term incentive compensation depends on the achievement of certain financial and non-financial performance criteria of the Group in a particular financial year, which goals are set uniformly for all members of the Management Board.

A detailed description of the STI and potential performance targets are included in our comprehensive remuneration system as approved by the AGM on June 22, 2021, which is available online on our website www.biontech.de.

During the year ended December 31, 2021, the maximum short-term incentive compensation for Ugur Sahin, Sean Marett, Sierk Poetting, Ryan Richardson and Özlem Türeci was €180,000, €200,000, €180,000, €160,000 and €180,000 which, considering the 2021 target achievement of 100%, led to the respective annual bonus amounts for the year ended December 31, 2021. Following the effective extension of their respective service agreements, the maximum short-term incentive compensation for Sean Marett, Sierk Poetting and Özlem Türeci was increased to €300,000, each which, considering the 2022 target achievement of 85%, led to €255,000, each as annual bonus amounts of the year ended December 31, 2022. The maximum short-term incentive compensation for Ugur

Sahin and Ryan Richardson amounted to €180,000 and €170,000 during the year ended December 31, 2022 leading to annual bonus amounts of €153,000 and €144,500, respectively. Effective January 1, 2023, subsequent to the end of the reporting period covered by this remuneration report Ugur Sahin's and Ryan Richardson's maximum short-term incentive compensation was increased to €350,000 and €300,000, respectively. Starting with his appointment to the Management Board on July 1, 2021, the maximum short-term incentive compensation for Jens Holstein was defined as €300,000 which led to an effective annual bonus of €150,000 and €255,000 for the years ended December 31, 2021 and 2022, respectively.

During the year ended December 31, 2022, as part of the extension of his service agreement, Sean Marett received a one-time signing and retention cash payment in the amount of €60,000.

Subsequent to the end of the reporting period covered by this remuneration report, the Supervisory Board, upon the recommendation of the Compensation, Nomination and Corporate Governance Committee, approved a special payment in the gross amount of €600,000 to Jens Holstein. The special payment is made to honor Mr. Holstein's exceptional performance and is considered having a recognizable future-related benefit for the Company. Of this payment, €150,000 net of costs and expenses shall be used to purchase BioNTech shares.

The following table summarizes the overall target achievement and the resulting annual bonus payout amount per Management Board member.

		Compensation Corridor			STI Payment (in thousand)	
Short-Term Incentive Compensation (STI) for the year ended December 31, 2022	Relative to fixed compensation (in %)	Lower Limit (0%)	Upper Limit (100%)	Overall Target Achieve-ment	Thereof First Install-ment to be paid out in April 2023	Thereof Second Install-ment deferred and to be paid out in March 2024[1]
Prof. Ugur Sahin, M.D.	50%	–	180	85%	77	77
Jens Holstein	55%	–	300	85%	128	128
Sean Marett	58%	–	300	85%	128	128
Sierk Poetting, Ph.D.	55%	–	300	85%	128	128
Ryan Richardson	50%	–	170	85%	72	72
Prof. Özlem Türeci, M.D.	58%	–	300	85%	128	128

(1) Deferred amount is dependent on the share price development during the year following the determination date in March 2023.

The performance targets defined by our Supervisory Board for the year ended December 31, 2022 were derived from the strategic and operational objectives of the Company rather than financial performance, as continued development was the main emphasis in the year ended December 31, 2022. As shown in the table below, the ambitious and measurable performance targets include various Company Goals as well as an Environment, Social and Corporate Governance, or ESG, Target and were defined in line with the applicable compensation system.

The determination on the actual achievement of the performance targets, which was made by the Supervisory Board in its reasonable discretion at the beginning of the 2023 financial year, is shown in the following table and explained below.

	Performance Targets 2022 Financial Year	Relative Weighting	Weighted Achievement
Company Goals	Advance and diversity our Innovation pipeline to serve a larger patient population	25%	21%
Company Goals	Help fight the pandemic by broadening access to Comirnaty worldwide	25%	24%
Company Goals	Enable full integration and further growth across the entire organization	15%	12%
Company Goals	Become a truly digital-first company	15%	13%
ESG Target	Become a sustainable guardian of the world	20%	15%
	Total	**100%**	**100%**

During the year ended December 31, 2022, we advanced and diversified our innovation pipeline in order to serve a larger patient population; i.e., we advanced our oncology and infectious disease pipeline by progressing various programs into and within the clinic. Furthermore, we helped to fight the pandemic by broadening access to Comirnaty worldwide, i.e., by successfully marketing our COVID-19 vaccine globally. We also enabled full integration and further growth across the entire organization, which included transforming our IT function to achieve our goal to become a truly digital-first company. Additionally, during the year ended December 31, 2022, we became a sustainable guardian of the world, while we were, for example, able to maintain our ISS ESG "Prime" rating. The determination on the actual achievement of the performance targets by the Supervisory Board for the year ended December 31, 2022 was 85%.

The first installment of the STI for the year ended December 31, 2022, will be paid out in April 2023, the month after approval of the consolidated financial statements. The first installment of the STI for the year ended December 31, 2022 was considered granted and owed in 2022, the year in which the activity, to which the remuneration relates, has been performed. The first installment of the STI for the year ended December 31, 2021 was considered granted and owed in 2021 and was paid out in April 2022.

The second installment of the STI for the year ended December 31, 2022 was also considered granted and owed in 2022, as the Management Board had already completely performed the activity to which it relates. It will be paid out in February 2024 subject to an adjustment due to the share-price development. The second installment of the STI for the year ended December 31, 2021 was considered granted and owed in 2021 and was paid out in February 2023 with adjustments due to the share-price development.

The second installment of the STI is subject to adjustments in relation to the development of the share price between the determination date, when the STI achievement is determined, and the respective anniversary of that date (i.e., in the event of an increase or decrease in the share price, the payment amount is multiplied by the factor of the development of the share price).

5.4 Share-Based Payments (incl. Long-Term Incentive (LTI) and other one-time programs)

The service agreements with our Management Board provide for long-term incentive compensation (Management Board Grant - LTI) through an annual grant of options to acquire BioNTech shares during their respective service periods. Those yearly LTI programs are in line with our comprehensive remuneration system as approved by the AGM on June 22, 2021, which is available online on our website www.biontech.de. The options granted each year will be subject to the terms and conditions of the respective authorizations of the Annual General Meeting creating our Employee Stock Ownership Plan (ESOP) and the applicable option agreement thereunder (see section 5.5 below).

During the year ended December 31, 2021, the number of options granted to Ugur Sahin, Sean Marett, Ryan Richardson and Özlem Türeci was calculated based on a target value of €750,000, €300,000, €260,000 and €300,000, respectively. Following the renewal of their respective service agreements, the target value for the number of options to be granted each year to Sean Marett, Sierk Poetting and Özlem Türeci was increased from €300,000 to €550,000. Hence during the year ended December 31, 2022, the number of options granted to Ugur Sahin, Sean Marett, Sierk Poetting, Ryan Richardson and Özlem Türeci was calculated based on a target value of €750,000, €550,000, €550,000, €280,000 and €550,000, respectively. Beginning on January 1, 2023, the target for the number of options to be granted each year for Ugur Sahin and Ryan Richardson was increased to €1,050,000 and €550,000, respectively. The number of options to be granted each year to Jens Holstein is based on a target value of €550,000, which was applied during the year ended December 31, 2022. During the year ended December 31, 2021, the number of options to be granted to Jens Holstein was calculated using a pro rata value of €275,000. In each case the target values are divided by the amount by which a certain target share price exceeds the exercise price.

As of his appointment, the Supervisory Board granted Jens Holstein a one-time signing bonus of €800,000 by awarding 4,246 phantom shares. The phantom shares vest in four equal installments on July 1 of 2022, 2023, 2024, and June 30, 2025 but will only be settled in cash on July 1, 2025. The cash payment is subject to an effective settlement closing price cap. This means that the settlement closing price shall effectively be adjusted to ensure that the current price of an ADS as of the settlement date does not exceed 800% of the closing price applied when the award was initially granted. In addition, the total cash payment under the award shall not exceed €6.4 million.

In the past, one-time share-based payment arrangements were entered into with our Management Board members, which include the Employee Stock Ownership Plan (ESOP) (granted in 2018) and the Chief Executive Officer Grant (granted in 2019), which are explained in detail in section 5.5 below.

During the year ended December 31, 2022, option rights granted under the ESOP 2018 (November 15, 2022 for all Management Board members except Ryan Richardson who was not a Management Board member at the time the option rights were allocated and September 16, 2022 for Ryan Richardson) vested and became exercisable (option rights allocated to Ryan Richardson and Özlem Türeci had already vested in 2019 but continued to be subject to performance and waiting requirements). During the exercise period, the options rights remain subject to performance conditions which have to be fulfilled as of the date the relevant option rights are exercised. In addition, the yearly portion of 25% of the Chief Executive Officer Grant (October 9, 2022) and the yearly portion of 25% of our 2020 and 2021 LTI programs, (February 13, 2022 and May 12 for all Management Board members except Jens Holstein as well as May 17, 2022 for Jens Holstein) vested but continue to be subject to performance and waiting requirements. In addition, during the year ended December 31, 2022, the yearly portion of 25% of the one-time signing bonus for Jens Holstein vested which continues to be subject to waiting requirements. During the year ended December 31, 2021, the yearly portion of 25% of the Chief Executive Officer Grant (October 9, 2021) and the yearly portion of 25% our 2020 LTI program (February 13, 2021) vested but continued to be subject to performance and waiting requirements.

The benefits from our share-based payment arrangements (incl. long-term incentive) are considered granted and owed when the awards are settled. For further explanations see section 5.6. During the year ended December 31, 2022, this definition applies to the option rights granted under the Employee Stock Ownership Plan 2018, to the extent they have been exercised and were settled. With respect to the ESOP, the table Remuneration Granted and Owed (see section 5.6) shows the implied market value calculated using the closing price of an American Depositary Share of BioNTech on Nasdaq on the respective last day preceding the exercise dates converted from USD to Euro using the exchange rates published by the German Central Bank (Deutsche Bundesbank) on the same days as well as using the effective exercise price and maximum cap mechanism for all Management Board members (except Ryan Richardson who was not a Management Board member at the time the option rights were allocated). The implied market value may vary from the benefit in kind. During the year ended December 31, 2021, no share-based payment arrangements (incl. long-term incentive) were considered granted and owed.

5.5 Additional Disclosures on Share-Based Payment Instruments

In accordance with Sec. 162 para. 1 no. 3 AktG, the table below provides an overview of the share options and other share-based payment instruments allocated to our Management Board and outstanding as of December 31, 2022.

	Grant Date / Allocation Date	Number of Ordinary Shares Underlying Share Options / Number of Phantom Share Options [1]	Option Exercise Price (€)[7]	Earliest Option Exercise Date[9]	Option Expiration Date	Name of the Program
Prof. Ugur Sahin, M.D.	11/15/2018	–	10.14	11/15/2022	11/15/2026	ESOP 2018
	10/09/2019[2]	4,374,963	13.60	10/9/2023	10/9/2029	CEO Grant 2019
	2/13/2020[3]	97,420	28.32	2/13/2024	2/13/2030	LTI 2020[10]
	5/12/2021[4]	17,780	173.66	5/12/2025	5/12/2031	LTI 2021[10]
	5/31/2022[5]	19,997	142.60	5/31/2026	5/31/2032	LTI 2022[10]
Jens Holstein	5/17/2021	6,463	175.16	5/17/2025	5/17/2031	LTI 2021[10]
	7/1/2021[8]	4,246	n/a[8]	7/1/2025[8]	n/a[8]	Signing Bonus
	5/31/2022[5]	14,664	142.60	5/31/2026	5/31/2032	LTI 2022[10]
Sean Marett	11/15/2018	230,780[6]	10.14	11/15/2022	11/15/2026	ESOP 2018
	2/13/2020[3]	38,968	28.32	2/13/2024	2/13/2030	LTI 2020[10]
	5/12/2021[4]	7,112	173.66	5/12/2025	5/12/2031	LTI 2021[10]
	5/31/2022[5]	14,664	142.60	5/31/2026	5/31/2032	LTI 2022[10]
Sierk Poetting, Ph.D.	15/11/2018	–	10.14	11/15/2022	11/15/2026	ESOP 2018
	2/13/2020[3]	38,968	28.32	2/13/2024	2/13/2030	LTI 2020[10]
	5/12/2021[4]	7,112	173.66	5/12/2025	5/12/2031	LTI 2021[10]
	5/31/2022[5]	14,664	142.60	5/31/2026	5/31/2032	LTI 2022[10]
Ryan Richardson	9/16/2018	–	10.14	9/16/2022	9/16/2026	ESOP 2018
	2/13/2020[3]	33,772	28.32	2/13/2024	2/13/2030	LTI 2020[10]
	5/12/2021[4]	6,163	173.66	5/12/2025	5/12/2031	LTI 2021[10]
	5/31/2022[5]	7,465	142.60	5/31/2026	5/31/2032	LTI 2022[10]
Prof. Özlem Türeci, M.D.	11/15/2018	–	10.14	11/15/2022	11/15/2026	ESOP 2018
	2/13/2020[3]	38,968	28.3	2/13/2024	2/13/2030	LTI 2020[10]
	5/12/2021[4]	7,112	173.66	5/12/2025	5/12/2031	LTI 2021[10]
	5/31/2022[5]	14,664	142.60	5/31/2026	5/31/2032	LTI 2022[10]

(1) 18-for-1 stock split of our ordinary shares, which became effective on September 18, 2019 upon registration with the commercial register *(Handelsregister)* is reflected in share amounts granted in advance.

(2) Options vest in four equal installments on October 9 of 2020, 2021, 2022 and 2023 but will not become exercisable before the expiry of the waiting period on October 9, 2023 and can only be exercised during the exercise windows as defined by our ESOP.

(3) Options vest in four equal installments on February 13 of 2021, 2022, 2023 and 2024 but will not become exercisable before the expiry of the waiting period on February 13, 2024 and can only be exercised during the exercise windows as defined by our ESOP.

(4) Options were issued as phantom share options and vest in four equal installments on May 12 of 2022, 2023, 2024 and 2025 for all Management Board members but Jens Holstein and May 17 of 2022, 2023, 2024 and 2025 for Jens Holstein. The options will not become exercisable before the expiry of the waiting period on May 12, 2025 and May 17, 2025, respectively.

(5) Options were issued as phantom share options and vest in four equal installments on May 31, 2023, 2024, 2025 and 2026 for all Management Board members. The options will not become exercisable before the expiry of the waiting period on May 31, 2026.
(6) Initially granted options (610,110) fully vested on November 15, 2022. Options which remain outstanding (230,780) can only be exercised during the exercise windows as defined by our ESOP and if certain performance conditions are fulfilled as of the date the relevant option rights are exercised.
(7) All options are subject to an effective exercise price cap. This means that the exercise price shall effectively be adjusted to ensure that the current price of an ADS as of the exercise date does not exceed 800% of the exercise price. With respect to the ESOP 2018 and the CEO Grant 2019 agreements, the maximum economic benefit receivable in respect of any exercised, is capped at $240.00. As a result, the effective exercise price will not increase above a Euro amount equivalent to $30.00. With respect to the LTI 2020 agreements, a value for the maximum cap mechanism may be determined by the Supervisory Board in the future. With respect to the phantom share options issued under the LTI 2021 and 2022 agreements, the maximum compensation that the Management Board members are entitled to receive under such agreements, together with other compensation components received by each such board member in the respective grant year, shall not exceed €20.0 million for Ugur Sahin as Chief Executive Officer (CEO) and €10.0 million for all other Management Board members.
(8) As of July 1, 2021 when Jens Holstein was appointed to the Management Board as Chief Financial Officer (CFO), the Supervisory Board granted Jens Holstein a one-time signing bonus as outlined in section 5.4. n/a = not applicable
(9) Indicates end of the respective waiting periods, additional restrictions with respect to exercise windows may apply.
(10) Management Board Grant (Long-Term Incentive) in the respective years.

Management Board Grant (Long-Term Incentive)

The service agreements with our Management Board provide for long-term incentive compensation (Management Board Grant - LTI) through an annual grant of options to acquire BioNTech shares during their respective service periods. The options granted each year will be subject to the terms and conditions of the respective authorizations of the Annual General Meeting creating our Employee Stock Ownership Plan (ESOP) and the applicable option agreement thereunder. The allocation of the number of issued options in 2020 occurred in February 2020. In May 2021 and May 2022, phantom options equivalent to the number of options the Management Board members would have been entitled to receive for 2021 and 2022 were granted under the Management Board Grant.

For the awards allocated as of February 2020, the exercise price for each option is $30.78 (€28.32), calculated using the foreign exchange rate published by the German Central Bank (Deutsche Bundesbank) as of the grant date. The share options allocated as of February 2020 are subject to an effective exercise price cap, which means that the exercise price shall be adjusted to ensure that the current price of an ADS as of the exercise date does not exceed 800% of the exercise price. Our Supervisory Board reserves the right to limit the economic benefit from the exercise of the options to extent the result from extraordinary events or developments. For the awards allocated as of May 12, 2021, May 17, 2021, and May 31, 2022 the exercise prices are $185.23 (€173.66), $186.83 (€175.16) and $152.10 (€142.60), respectively (all amounts calculated as of December 31, 2022, using the foreign exchange rate as published by the German Central Bank (Deutsche Bundesbank)). The phantom share options allocated as of May 2021 and 2022 are subject to the effective exercise price cap. In addition, the maximum compensation that the Management Board members are entitled to receive under those relevant agreements together with other compensation components received by each such board member in the respective grant year is capped at €20.0 million for Ugur Sahin as Chief Executive Officer (CEO) and €10.0 million for all other Management Board members. The options will vest annually in equal installments over four years commencing on the first anniversary of the allocation date and will be exercisable four years after the allocation date. The vested options can only be exercised if each of the following performance criteria has been achieved: (i) at the time of exercise, the current price is equal to or greater than the threshold amount (that is, the exercise price, provided that such amount increases by seven percentage points on each anniversary of the allocation date); (ii) at the time of exercise, the current price is at least equal to the target price (that is, (a) for the twelve-month period starting on the fourth anniversary of the allocation date, $8.5 billion divided by the total number of the ordinary shares outstanding immediately following the initial public offering (other than ordinary shares owned by BioNTech), and (b) for each twelve-month period starting on the fifth or subsequent anniversary of the allocation date, 107% of the target share price applicable for the prior twelve-month period); and (iii) the closing price for the fifth trading day prior to the start of the relevant exercise window is higher than the exercise price by at least the same percentage by which the Nasdaq Biotechnology Index or a comparable successor index as of such time is higher than such index was as of the last trading day before the allocation date. Following the expiry of the waiting period, option rights may be exercised during the exercise windows as set

out in the ESOP agreement. The options rights can be exercised up to ten years after the allocation date. If they have not been exercised by that date, they will be forfeited without compensation.

The tables below show the development and the outstanding number of share options as of and between the dates indicated:

Management Board Grant (LTI 2020)

Number of Ordinary Shares Underlying Share Options	Prof. Ugur Sahin, M.D.	Jens Holstein[1]	Sean Marett	Sierk Poetting, Ph.D.	Ryan Richardson	Prof. Özlem Türeci, M.D.
As of December 31, 2021	97,420	–	38,968	38,968	33,772	38,968
Exercised	–	–	–	–	–	–
As of December 31, 2022	97,420	–	38,968	38,968	33,772	38,968

(1) Jens Holstein was appointed to the Management Board as Chief Financial Officer (CFO) on July 1, 2021. The Management Board Grant (LTI 2020) is not available for Jens Holstein due to the fact that, by the time it was allocated, Jens Holstein had not joined our company.

Management Board Grant (LTI 2021)

Number of Phantom Share Options	Prof. Ugur Sahin, M.D.	Jens Holstein	Sean Marett	Sierk Poetting, Ph.D.	Ryan Richardson	Prof. Özlem Türeci, M.D.
As of December 31, 2021	17,780	6,463	7,112	7,112	6,163	7,112
Exercised	–	–	–	–	–	–
As of December 31, 2022	17,780	6,463	7,112	7,112	6,163	7,112

Management Board Grant (LTI 2022)

Number of Phantom Share Options	Prof. Dr. med. Ugur Sahin	Jens Holstein	Sean Marett	Dr. Sierk Poetting	Ryan Richardson	Prof. Dr. med. Özlem Türeci
As of December 31, 2021	–	–	–	–	–	–
Allocated	19,997	14,664	14,664	14,664	7,465	14,664
Exercised	–	–	–	–	–	–
As of December 31, 2022	19,997	14,664	14,664	14,664	7,465	14,664

The following is a presentation of the one-time programs that were approved prior to the adoption of the remuneration system during the year ended December 31, 2021:

Chief Executive Officer Grant 2019

In September 2019, we granted Prof. Ugur Sahin, M.D. an option to purchase 4,374,963 of our ordinary shares, subject to Prof. Sahin's continuous employment with us. The options' exercise price per share is the Euro translation of the public offering price from our initial public offering, $15.00 (€13.60) which is subject to the effective exercise price cap and the maximum cap mechanism. Under the exercise price cap the exercise price shall be adjusted to ensure that the current price of an ADS as of the exercise date does not exceed 800% of the exercise price. Under the maximum cap mechanism, the maximum economic benefit receivable in respect of any exercised option, is capped at $240. As a result, the effective exercise price will not increase above a Euro amount equivalent to $30. The options will vest annually in equal installments after four years commencing on the first anniversary of our initial public offering and will be exercisable four years after our initial public offering. The vested option rights can only be exercised if and to the extent that each of the following performance criteria has been achieved: (i) at the time of exercise, the current price is equal to or greater than the threshold amount (that is, the exercise price, provided that such amount increases by seven percentage points on each anniversary of the allocation date); (ii) at the time of exercise, the current price is at least equal to the target price (that is, (a) for the twelve-month period starting on the fourth anniversary of the allocation date, $8.5 billion divided by the total number of the shares outstanding immediately following the initial public offering (other than shares owned by us), and (b) for each twelve-month period starting on the fifth or subsequent anniversary of the allocation date, 107% of the target share price applicable for the prior twelve-month period); and (iii) the closing price for the fifth trading day prior to the start of the relevant exercise window is higher than the exercise price by at least the same percentage by which the Nasdaq Biotechnology Index or a comparable successor index as of such time is higher than such index was as of the last trading day before the allocation date. Following the expiry of the waiting period, option rights may be exercised during the exercise windows as defined by our ESOP. The option rights can be exercised up to ten years after the allocation date. If they have not been exercised by that date, they will be forfeited without compensation.

Employee Stock Ownership Plan 2018

Based on an authorization of the general meeting on August 18, 2017, we established a share option program under which we granted selected employees options to receive our shares. The program is designed as an Employee Stock Ownership Plan, or ESOP. We offered the participants a certain number of rights by explicit acceptance by the participants. The exercise of the option rights in accordance with the agreement gives the participants the right to obtain shares against payment of the exercise price. With respect to the Management Board members, other than Ryan Richardson, who was not a Management Board member at the time the options were granted, the options are subject to the effective exercise price cap as well as the maximum cap mechanism. Under the exercise price cap the exercise price shall be adjusted to ensure that the current price of an ADS as of the exercise date does not exceed 800% of the exercise price. Under the maximum cap mechanism, the maximum economic benefit receivable in respect of any exercised option, is capped at $240. As a result, the effective exercise price will not increase above a Euro amount equivalent to $30.00. The option rights (other than Prof. Özlem Türeci's, M.D., and Ryan Richardson's options) generally fully vest after four years and can only be exercised if: (i) the waiting period of four years has elapsed; and (ii) at the time of exercise, the average closing price of the shares of the Company or the average closing price of the right or certificate to be converted into an amount per share on the previous ten trading days preceding the exercise of the option right exceeds the strike price by a minimum of 32%, with this percentage increasing by eight percentage points as of the fifth anniversary of the respective issue date and as of each subsequent anniversary date. Following the expiry of the waiting period, option rights may be exercised within a period of four weeks from the date of the Annual General Meeting or the publication of the annual financial statements, the semi-annual report or our most recent quarterly report or interim report (exercise windows). The option rights can be exercised up to eight years after the allocation date. If they have not been exercised by that date, they will be forfeited without compensation.

By way of a shareholders' resolution of the general meeting on August 19, 2019, the authorization to issue such option rights was amended such that, in order for the options to be exercisable, the average closing price of the Company's shares or the average closing price of the right or certificate to be converted into an amount per share on the ten trading days immediately preceding the exercise must exceed the strike price by a minimum of 28%, with this percentage increasing by seven percentage points as of the fifth anniversary of the issue date and as of each subsequent anniversary date. Also, in addition to the aforementioned requirements, the exercise is only possible if the share price (calculated by reference to the price of the ordinary share underlying the ADS) has performed similar to or better than the Nasdaq Biotechnology Index. The changes made do not affect option rights already issued.

The Supervisory Board determined in September 2022 that the ESOP settlement in November and December 2022 would be made by delivery of shares (in the form of ADSs) equal to the net value of the exercised option rights after deduction of (i) the exercise price and (ii) the applicable wage taxes (including solidarity surcharge thereon and church tax, if applicable) and social security contributions resulting from such exercise. The respective number of ADSs was settled with treasury shares.

The table below shows the development and the outstanding number of share options as of and between the dates indicated:

ESOP 2018

Number of Ordinary Shares Underlying Share Options	Prof. Ugur Sahin, M.D.	Jens Holstein[1]	Sean Marett	Sierk Poetting, Ph.D.	Ryan Richardson	Prof. Özlem Türeci, M.D.
As of December 31, 2021	1,830,348	–	610,110	610,110	149,508	1,952,334
Exercised	(1,830,348)	–	(379,330)	(610,110)	(149,508)	(1,952,334)
As of December 31, 2022	–	–	230,780	–	–	–

(1) Jens Holstein was appointed to the Management Board as Chief Financial Officer (CFO) on July 1, 2021. The one-time ESOP 2018 program is not available for Jens Holstein due to the fact that by the time it was allocated, Jens Holstein had not joined our company.

Except for Sean Marett, all Management Board members exercised all their option rights during the year ended December 31, 2022. As of December 31, 2022, Sean Marett still holds 230,780 option rights which can only be exercised during the exercise windows as defined by our ESOP and if certain performance conditions are fulfilled as of the date the relevant option rights are exercised. The members of the Management Board mainly remain invested in most of the shares resulting from the settlement and therefore hold an important stake in our company's future.

5.6 Remuneration Granted and Owed during the Year Ended December 31, 2022

The total compensation granted or owed according to Sec. 162 para. 1 AktG to all members of the Management Board for the years ended December 31, 2022, and 2021 are presented in the table below. Compensation is considered granted if it either has been received by the Management Board members or the activities, to which the remuneration relates, have been performed. Compensation is considered owed, if the compensation components are legally due, but have not yet been received by the Management Board members. Hereinafter, when the earlier of one of the definitions applies, compensation is referred to only as being "granted and owed." The Institute of Public Auditors in Germany, Incorporated Association (*Institut der Wirtschaftsprüfer*, IDW) has presented two interpretations for the presentation, according to which, in interpretation 1, remuneration is only shown as granted and owed in the year in which it is received (inflow principle; *"Zuflussprinzip"*). According to interpretation 2, remuneration may also be disclosed in the remuneration report for the financial year in which the activity underlying the compensation was performed (vesting principle; *"Erdienungsprinzip"*). The Supervisory Board, together with the Management Board, has decided to apply interpretation 2 for short-term compensation components such as fixed compensation and short-term incentives (STI) and interpretation 1 for share-based payments (incl. long-term incentives (LTI)). This approach which deviates from interpretation 1 is chosen because it allows a fair presentation of the actual benefits, which are, for example, subject to final underlying share price developments.

As outlined in section 5.4, during the year ended December 31, 2022, the options granted one-time under the Employee Stock Ownership Plan 2018, or ESOP 2018 vested and became exercisable (option rights allocated to Ryan Richardson and Özlem Türeci had already vested in 2019 but continued to be subject to performance and waiting requirements). During the exercise period, the options rights remain subject to performance conditions which have to be fulfilled as of the date the relevant option rights are exercised. The benefits from our share-based payment arrangements (incl. long-term incentive) are considered granted and owed when the awards are settled. During the year ended December 31, 2022, this definition applies to the option rights granted under the Employee Stock Ownership Plan 2018, to the extent they have been exercised and were settled.

The amounts shown as share-based payments (including long-term incentives) in the table below are based on the implied market value at the time the awards fulfill the "granted and owed" definition. The ESOP 2018 program, designed in line with market standards, comprises provisions as outlined in section 5.5 that include an effective exercise price cap mechanism as well as a maximum cap mechanism. Although those cap mechanisms were applied, our unique and outstanding share price development, which incurred between the time the awards were granted and the time they were settled, led to extraordinary high amounts shown below. The share price was driven by our extraordinary revenues and net profit increases over the past three financial years. Those were unprecedented and driven by the COVID pandemic but also largely attributable to the exceptional performance and contribution of the Management Board as a whole, including their determination to help fighting the pandemic since early 2020. The amounts shown below cannot be seen as payments to the Management Board, as the exercise was settled by delivering American Depositary Shares, or ADSs, representing our ordinary shares. The members of the Management Board mainly remain invested in most of the shares resulting from the after-tax settlement and therefore hold an important stake in our company's future.

in thousands	Prof. Ugur Sahin, M.D.	Jens Holstein[1]	Sean Marett	Sierk Poetting, Ph.D.	Ryan Richardson	Prof. Özlem Türeci, M.D.
Fixed compensation						
2022	€360	€550	€513	€550	€340	€518
2021	360	275	400	376	320	360
Fringe benefits[2]						
2022	6	7	8	4	27	–
2021	6	3	22	4	16	–
Short-term incentive – first installment[3]						
2022	77	128	128	128	72	128
2021	90	75	100	90	80	90
Short-term incentive – second installment[4]						
2022	77	128	128	128	72	128
2021	90	75	100	90	80	90
Other performance-related variable compensation[5]						
2022	–	–	60	–	–	–
2021	–	–	–	–	–	–
Share-based payments (incl. long-term incentive)[6]						
2022						
Management Board Grant - LTI	–	–	–	–	–	–
ESOP 2018	257,076[7]	–	53,479[7]	86,015[7]	22,555[7]	274,209[7]
Other share-based payment arrangements	–	–	–	–	–	–
2021						
Management Board Grant - LTI	–	–	–	–	–	–
ESOP 2018	–	–	–	–	–	–
Other share-based payment arrangements	–	–	–	–	–	–
Total						
2022	**€257,596**	**€813**	**€54,316**	**€86,825**	**€23,066**	**€274,983**
2021	**€546**	**€428**	**€622**	**€560**	**€496**	**€540**

(1) Jens Holstein was appointed to the Management Board as Chief Financial Officer (CFO) effective as of July 1, 2021.

(2) Includes social security, health and additional insurance, company bike and travel expenses. Other fringe benefits, e.g. costs for security services, which are integral to the performance of business duties, are not included in the amount.

(3) The STI of a given year is always paid out in two installments over two years. The first installment of the STI for the year ended December 31, 2022, will be paid out in April 2023, the month after approval of the consolidated financial statements. The first installment of the STI for the year ended December 31, 2022 was considered granted and owed in 2022, the year in which the activity, to which the remuneration relates, has been performed. The first installment of the STI for the year ended December 31, 2021 was considered granted and owed in 2021 and was paid out in April 2022.

(4) The second installment of the STI for the year ended December 31, 2022 was also considered granted and owed in 2022, as the Management Board had already completely performed the activity to which it relates. It will be paid out in February 2024 subject to an adjustment due to the share-price development. The second installment of the STI for the year ended December 31, 2021 was considered granted and owed in 2021 and was paid out in February 2023 with adjustments due to the share-price development. The amounts ultimately paid were as follows: Prof. Ugur Sahin, M.D. €77 thousand, Jens Holstein €64 thousand, Sean Marett €86 thousand, Sierk Poetting, Ph.D. €77 thousand, Ryan Richardson €68 thousand and Prof. Özlem Türeci, M.D. €77 thousand.

(5) During the year ended December 31, 2022, as part of the extension of his service agreement, Sean Marett received a one-time signing and retention cash payment in the amount of €60,000.

(6) Explanations of our share-based payment arrangements are given in section 5.5 and include the LTI arrangements, the ESOP 2018, the CEO Grant 2019 and a one-time signing bonus agreed with Jens Holstein as outlined in detail under section 5.4. The benefits from our share-based payment arrangements (incl. long-term incentive) are considered granted and owed when the awards are settled. During the year ended December 31, 2022, this definition applies to the option rights granted under the Employee Stock Ownership Plan 2018, to the extent they have been exercised and were settled. During the year ended December 31, 2021, no share-based payment arrangements (incl. long-term incentive) were considered granted and owed.

(7) The amounts shown are related to the option rights granted one-time under the ESOP 2018. The table shows the implied market value calculated using the closing price of an American Depositary Share of BioNTech on Nasdaq on the respective last day preceding the exercise dates converted from USD to Euro using the exchange rates published by the German Central Bank (Deutsche Bundesbank) on the same days as well as using the effective exercise price and maximum cap mechanism for all Management Board members (except Ryan Richardson who was not a Management Board member at the time the option rights were allocated). The implied market value may vary from the benefit in kind. Our unique and outstanding share price development, which incurred between the time the awards were granted and the time they were settled, led to extraordinary high amounts. The amounts cannot be seen as payments to the Management Board, as the exercise was settled by delivering ADSs, representing our ordinary shares. The members of the Management Board mainly remain invested in most of the shares resulting from the after-tax settlement and therefore hold an important stake in our company's future.

For the years ended December 31, 2022, and 2021 we did not make use of the malus and claw-back provisions, which would entitle us to withhold or reclaim variable STI compensation components in whole or in part, as no event incurred which would be considered a breach in this respect.

For the years ended December 31, 2022, and 2021, there was no event of termination of the Management Board service contracts. According to this, we did not use the termination related rules and regulations, i.e., outstanding variable compensation components to the period up to termination shall be granted and in the event of premature termination due to revocation of the appointment, the Board member shall receive a severance payment.

A detailed description of the malus and claw-back as well as termination provisions are included in our comprehensive remuneration system as approved by the AGM on June 22, 2021, which is available online on our website www.biontech.de.

E. Information on the Relative Development of the Compensation of the Management Board, the Compensation of the Employees and the Development of the Company's Earnings

The table below shows the relative development of the compensation granted and owed to the Supervisory Board and Management Board members, the average compensation of our employees and selected key earning indicators for the periods as indicated.

Selected key earning indicators considered by Sec. 162 para. 1 no. 2 AktG generally measure the development of earnings on the basis of revenues, operating income/ (loss) of the BioNTech Group (IFRS) and net income (HGB) of BioNTech SE. Considering our operational and financial development, our key earnings indicators increased exceptionally and changed significantly during the year ended December 31, 2021 compared to the prior-year period. Therefore, the development of those indicators relative to our Supervisory and Management Board members' compensation is not considered meaningful.

The remuneration of our members of the Management Board increased significantly comparing the 2022 and 2021 financial year, mainly since the options granted one-time under the Employee Stock Ownership Plan 2018 vested and became exercisable (option rights allocated to Ryan Richardson and Özlem Türeci had already vested in 2019 but continued to be subject to performance and waiting requirements). To the extent exercised and settled, during the year ended December 31, 2022 the option rights granted under the Employee Stock Ownership Plan 2018 are considered granted and owed. As outlined in section 5.6, the remuneration is based on the implied market value at the time the options are considered granted and owed in terms of Sec. 162 AktG. Our unique and outstanding share price development, which incurred between the time the awards were granted and the time they were settled, led to extraordinary high amounts. Therefore, the development of the remuneration of the members of the Management Board is mainly not considered meaningful.

The presentation of the average compensation of employees is based on the compensation of BioNTech Group employees, without apprentices. The average employee compensation is calculated using the average full-time equivalent at the beginning and end of the respective period. From December 31, 2019 to December 31, 2022, the number of full-time equivalent employees employed by the Group increased from 1,310 to 4,530 respectively.

In order to be in line with the compensation of the Management Board members, the compensation of the workforce also corresponds in principle to the granted and owed compensation within the meaning of Section 162 para. 1 sentence 1 AktG and is shown with and without share-based payment compensation (during the year ended December 31, 2021, no share-based payment arrangements (incl. long-term incentive) were considered granted and owed with respect to the Management Board). The compensation comprises the total expenses for wages, benefits and social security contributions. Also for our workforce, share-based payment programs are considered with their implied market value, to the extent considered granted and owed during the years ended December 31, 2022, and 2021 (applies to the ESOP 2018 and the LTI-plus program awarded to employees who did not participate in the ESOP 2018). The share-based payment

compensation was calculated using the closing price of an American Depositary Share of BioNTech on Nasdaq on the respective last day preceding the various exercise dates (ESOP 2018) or on December 15, 2022 (LTI-plus settlement day) converted from USD to Euro using the exchange rate published by the German Central Bank (Deutsche Bundesbank) on the respective days. The implied market values may vary from the benefit in kind.

The compensation of the workforce has increased significantly comparing the 2022 and 2021 financial years as the option rights and restricted stock units granted one-time under the ESOP 2018 and LTI-plus programs were considered granted and owed during the year ended December 31, 2022. Considering the compensation of the workforce without the share-based payment consideration, it still increased notably as, in addition to actual salary increases (10%), the development is also related to one-time bonuses and a changed personnel structure in connection with new hires.

in %	Change 2022 vs. 2021	Change 2021 vs. 2020
Management Board		
Prof. Ugur Sahin, M.D.	n.m.[7]	–
Jens Holstein[8]	n.m.[8]	n.m.[8]
Sean Marett	n.m.[7]	2
Sierk Poetting, Ph.D.	n.m.[7]	2
Ryan Richardson	n.m.[7]	2
Prof. Özlem Türeci, M.D.	n.m.[7]	(1)
Supervisory Board		
Helmut Jeggle	24	21
Ulrich Wandschneider, Ph.D.	25	18
Prof. Christoph Huber, M.D.	36	18
Prof. Anja Morawietz, Ph.D.[1]	–	–
Michael Motschmann	51	26
Prof. Rudolf Staudigl, Ph.D.[1]	–	–
Earnings indicators		
Revenues from contracts with customers (IFRS BioNTech Group)	(9)	n.m.[2]
Operating income/ (loss) (IFRS BioNTech Group)	(17)	n.m.[3]
Net income (HGB BioNTech SE)	(20)	n.m.[4]
Compensation of the workforce		
Total workforce[5]	272	17
Total workforce excl. share-based payments	35	5

(1) Anja Morawietz and Rudolf Staudigl were appointed to the Supervisory Board on June 1, 2022. Therefore, a comparison with the prior year is not possible.
(2) Revenues changed significantly from €482,3 million in the year ended December 31, 2020 to €18,976.7 million during the year ended December 31, 2021.
(3) Operating profit / (loss) changed significantly from an operating loss of €82,4 million in the year ended December 31, 2020 to a €15,283.8 million operating profit during the year ended December 31, 2021.

(4) Net income (HGB) changed significantly from a €128.4 million net loss during the year ended December 31, 2020 to €10,777.6 million net income during the year ended December 31, 2021. The information on net income (HGB) is not representative for the Group but is considered to be a key earning indicator in terms of Sec. 162 para. 1 no. 2 AktG.

(5) The average employee compensation is based on the compensation of BioNTech Group employees including social security contributions and the implied market value from share-based payment arrangements, which are considered granted and owed during the year ended December 31, 2022. The average employee compensation is calculated using the average full-time equivalent at the beginning and end of the periods indicated.

(6) n.m. not meaningful.

(7) The remuneration of our members of the Management Board has increased significantly comparing the 2022 and 2021 financial year, as the options granted one-time under the Employee Stock Ownership Plan 2018 vested and became exercisable (option rights allocated to Ryan Richardson and Özlem Türeci had already vested in 2019 but continued to be subject to performance and waiting requirements). To the extent exercised and settled, during the year ended December 31, 2022 the option rights granted under the Employee Stock Ownership Plan 2018 are considered granted and owed. As outlined in section 5.6, the remuneration is based on the implied market value at the time the options are considered granted and owed in terms of Sec. 162 AktG and, our unique and outstanding share price development, which incurred between the time the awards were granted and the time they were settled, led to extraordinary high amounts. Therefore, the development of the remuneration of the members of the Management Board is mainly not considered meaningful. The compensation changes in % between 2022 and 2021 financial year for the members of the management board is the following: Prof. Ugur Sahin, M.D. 47,079, Sean Marett 8,632, Sierk Poetting, Ph.D. 15,404, Ryan Richardson 4,550, Prof. Özlem Türeci, M.D. 50,823.

(8) Jens Holstein was appointed to the Management Board as Chief Financial Officer (CFO) on July 1, 2021. His remuneration for the year ended December 31, 2021 was granted on a pro-rata basis. Therefore, a comparison with the prior year is not meaningful (comparing the 2022 and 2021 financial year) or not possible (comparing the 2021 and 2020 financial year).

F. Conclusion on Remuneration System for the Year Ended December 31, 2022

The year ended December 31, 2022 was a year in which we continued to translate our vision into strong performance and during which our Management Board remained constant, while our Supervisory Board was supplemented by the addition of Prof. Anja Morawietz, Ph.D. and Prof. Rudolf Staudigl, Ph.D., who joined the Supervisory Board as of July 5, 2022. During the year ended December 31, 2022, the service agreements with Prof. Ugur Sahin, M.D., Sean Marett, Ryan Richardson and Prof. Özlem Türeci, M.D. were renewed.

To promote the business strategy and the long-term development of BioNTech, we examined our remuneration system during the year ended December 31, 2022. We engaged an external and independent compensation consultant to assess the compensation level and structure in line with the rules of our comprehensive remuneration system as approved by the AGM on June 22, 2021, which is available online on our website www.biontech.de.

The analysis showed that our remuneration system, with its targets for the members of the Management Board and the caps on their remuneration, complies with market standards and the German Corporate Governance Code (GCGC). Together with the Management Board, the Supervisory Board has followed the IDW interpretations for the presentation of remuneration in accordance with Sec. 162 of the German Stock Corporation Act *(AktG)*, according to which short-term compensation components such as fixed compensation and short-term incentives (STI) are presented in accordance with interpretation 2 (vesting principle; *"Erdienungsprinzip"*) and share-based payments (incl. long-term incentives (LTI) are presented in accordance with IDW interpretation 1 (inflow principle; *"Zuflussprinzip"*). During the year ended December 31, 2022, the ESOP 2018 program, which was granted one-time prior to our initial public offering (IPO), vested and became exercisable. During the exercise period, the options rights remain subject to performance conditions which have to be fulfilled as of the date the relevant option rights are exercised.. Our unique and outstanding share price development, which incurred between the time the awards were granted and the time they were settled, led to extraordinary high amounts in the compensation of our members of the Management Board and a also large number of selected employees during the year ended December 31, 2022. With respect to the members of the Management Board we are pleased that they mainly remain invested in most of the shares resulting from the after-tax settlement of our ESOP 2018 program and therefore hold an important stake in our company's future.

During the year ended December 31, 2022, the remuneration of our Supervisory Board members was slightly adjusted to account for the increased complexity and additional workload, while retaining the system of the fixed compensation of Supervisory Board members.

Based on the overall analysis, the Supervisory Board comes to the conclusion that the remuneration system for the Management Board and Supervisory Board as adopted at the Annual General Meeting was applied in all aspects during the year ended December 31, 2022. All agreements with the Management Board contribute to our business strategy.

Mainz, March 26, 2023

BioNTech SE

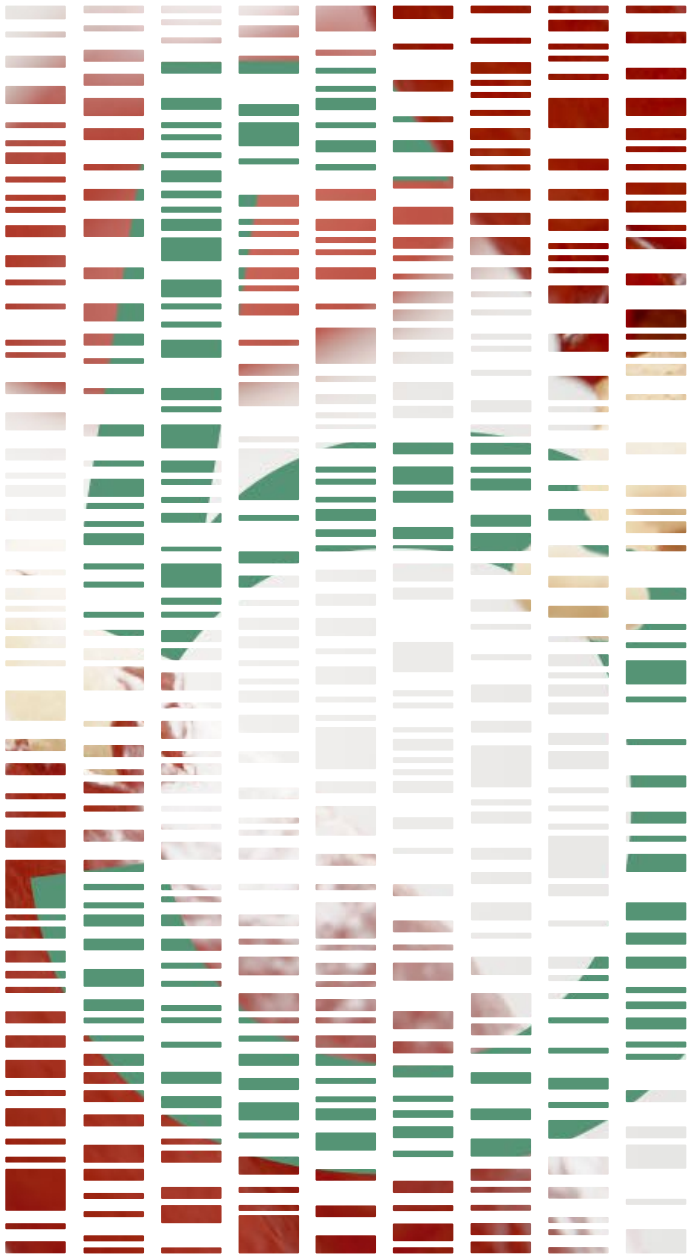
For the Management Board

Prof. Ugur Sahin, M.D.
Chief Executive Officer

Jens Holstein
Chief Financial Officer

For the Supervisory Board

Helmut Jeggle
Chair of the Supervisory Board



Malaria-causing parasites from the *Plasmodium* group go through a complex life cycle, including the transfer from mosquitos to humans. Symptomatic disease in humans begins when the parasite starts infecting red blood cells. The parasites divide inside the host's red blood cells, causing them to burst open. The released parasites bind and infect other red blood cells.

Independent auditor's report

To BioNTech SE

Opinions
We have audited the consolidated financial statements of BioNTech SE, Mainz, and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2022, and the consolidated income statement, consolidated statement of other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the fiscal year from 1 January to 31 December 2022, and notes to the financial statements, including a summary of significant accounting policies. In addition, we have audited the combined group management report of BioNTech SE for the fiscal year from 1 January to 31 December 2022. In accordance with the German legal requirements, we have not audited the group statement on Group corporate governance declaration pursuant to Secs. 315d HGB ["Handelsgesetzbuch": German Commercial Code] in section 5 of the combined group management report. In addition, we have not audited the content of the non-management report disclosures contained in sections 4.2.2 and 4.2.4 based on recommendation A.5 of the German Corporate Governance Code (GCGC 2022) and the non-financial report contained in section 7 of the combined group management report, which contains non-management report disclosures.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (3) in conjunction with (1) HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at 31 December 2022 and of its financial performance for the fiscal year from 1 January to 31 December 2022, and

- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. We do not express an opinion on the content of the statement on corporate governance or on the sections 4.2.2, 4.2.4 and 7 of the combined management report referred to above.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions
We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the Group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit

evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Other information

The Supervisory Board is responsible for the report of the Supervisory Board in the "Report of the Supervisory Board" section. The executive directors and the Supervisory Board are responsible for the declaration pursuant to Sec. 161 AktG ["Aktiengesetz": German Stock Corporation Act] on the German Corporate Governance Code, which is part of the Group corporate governance declaration. In all other respects, the executive directors are responsible for the other information. The other information comprises the aforementioned corporate governance declaration and the sections 4.2.2, 4.2.4 and 7 of the Group management report. The other information also comprises parts to be included in the annual report, of which we received a version prior to issuing this auditor's report, in particular:

- Non-financial report,
- Report of the Supervisory Board,
- Remuneration report,

but not the consolidated financial statements, not the management report disclosures whose content is audited and not our auditor's report thereon.

Furthermore, the other information includes other components intended for the annual report which are expected to be made available to us after the audit opinion has been issued, in particular:

- the letter from the Executive Board to the shareholders,
- the multi-year overview of business development.

Our opinions on the consolidated financial statements and on the combined group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the executive directors and the supervisory board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec 315e (3) in conjunction with (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are

responsible for financial reporting based on the going concern basis of accounting, unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting a material misstatement resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group

management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (3) in conjunction with (1) HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information. ·

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report of the independent auditor on the audit of the remuneration report pursuant to Sec. 162 (3) AktG

To BioNTech SE

Opinion
We have audited the formal aspects of the remuneration report of BioNTech SE, Mainz, for the fiscal year from 1 January to 31 December 2022 to determine whether the disclosures required by Sec. 162 (1) and (2) AktG ["Aktiengesetz": German Stock Corporation Act] have been made therein. In accordance with Sec. 162 (3) AktG, we have not audited the content of the remuneration report.

In our opinion, the disclosures required by Sec. 162 (1) and (2) have been made in the accompanying remuneration report in all material respects. Our opinion does not cover the content of the remuneration report.

Basis for the opinion
We conducted our audit of the remuneration report in accordance with Sec. 162 (3) AktG and in compliance with the IDW Auditing Standard: Audit of the Remuneration Report in Accordance with Sec. 162 (3) AktG (IDW AuS 870). Our responsibilities under this provision and standard are further described in the "Responsibilities of the auditor" section of our report. As an audit firm, we applied the IDW Standard on Quality Management: Requirements for Quality Management in the Audit Firm (IDW QS 1). We complied with the professional obligations pursuant to the WPO ["Wirtschaftsprüferordnung": German Law Regulating the Profession of Wirtschaftsprüfer (German Public Auditor)] and the BS WP/vBP ["Berufssatzung für Wirtschaftsprüfer/vereidigte Buchprüfer": Professional Charter for German Public Accountants/German Sworn Auditors] including the requirements regarding independence.

Responsibilities of the management board and supervisory board
The management board and supervisory board are responsible for the preparation of the remuneration report and the related disclosures in compliance with the requirements of Sec. 162 AktG. In addition, they are responsible for such internal control as they determine is necessary to enable the preparation of a remuneration report and the related disclosures that are free from material misstatement, whether due to fraud or error.

Responsibilities of the auditor
Our objectives are to obtain reasonable assurance about whether the disclosures required by Sec. 162 (1) and (2) AktG are made in the remuneration report in all material respects and to express an opinion thereon in a report.

We planned and performed our audit so as to determine the formal completeness of the remuneration report by comparing the disclosures made in the remuneration report with the disclosures required by Sec. 162 (1) and (2) AktG. In accordance with Sec. 162 (3) AktG, we have not audited the accuracy of the disclosures, the completeness of the individual disclosures or the fair presentation of the remuneration report.

Consideration of misrepresentations
In connection with our audit, our responsibility is to read the remuneration report considering the knowledge obtained in the audit of the financial statements and, in doing so, remain alert for indications of whether the remuneration report contains misrepresentations in relation to the accuracy of the disclosures, the completeness of the individual disclosures or the fair presentation of the remuneration report.

If, based on the work we have performed, we conclude that there is a misrepresentation, we are required to report that fact. We have nothing to report in this regard.

Cologne, March 28, 2023

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Titus Zwirner
Wirtschaftsprüfer
[German Public Auditor]

Andreas Weigel
Wirtschaftsprüfer
[German Public Auditor]

FINANCIAL CALENDAR 2023

MAY 08, 2023	First Quarter Earnings
MAY 25, 2023	Annual General Meeting
AUG. 07, 2023	Second Quarter Earnings
NOV. 06, 2023	Third Quarter Earnings

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