BOEHRINGER INGELHEIM

2018

Annual Report

Value through Innovation

Boehringer Ingelheim

FINANCIAL HIGHLIGHTS

Amounts in EUR million, unless otherwise indicated	2018	2017	Change
Net sales	**17,498**	**18,056**	**–3%**
by region			
Europe	30%	32%	
Americas	46%	45%	
Asia, Australia, Africa	24%	23%	
by business			
Human Pharmaceuticals	72%	70%	
Animal Health	23%	22%	
Biopharmaceuticals	4%	4%	
Discontinued Operations	1%	4%	
Research and development	3,164	3,078	+3%
Personnel expenses	5,276	4,934	+7%
Average number of employees	50,370	49,610	+2%
Operating income	3,472	3,487	–0%
Operating income as % of net sales	19.8%	19.3%	
Group profit / loss	2,075	– 223	– 1,030%
as % of net sales	11.9%	– 1.2%	
Group equity	12,334	10,657	+16%
Return on Group equity	19.5%	– 2.0%	
Investments in tangible assets	950	872	+9%
Depreciation of tangible assets	552	521	+6%

SUMMARY REPORT

SUMMARY REPORT

2018

Boehringer Ingelheim

Top 4 products – Human Pharmaceuticals

Net Sales 2018	in millions of EUR	change
SPIRIVA®	2,412	– 15%
PRADAXA®	1,486	+3%
JARDIANCE®	1,461	+45%
TRAJENTA® / JENTADUETO®	1,397	+5%

Top 4 products – Animal Health

Net sales 2018	in millions of EUR	Change
NEXGARD®	610	+ 12%
FRONTLINE®	399	– 1%
INGELVAC CIROFLEX®	303	– 9%
HEARTGARD®	299	+ 5%

OVERVIEW

OUR COMPANY

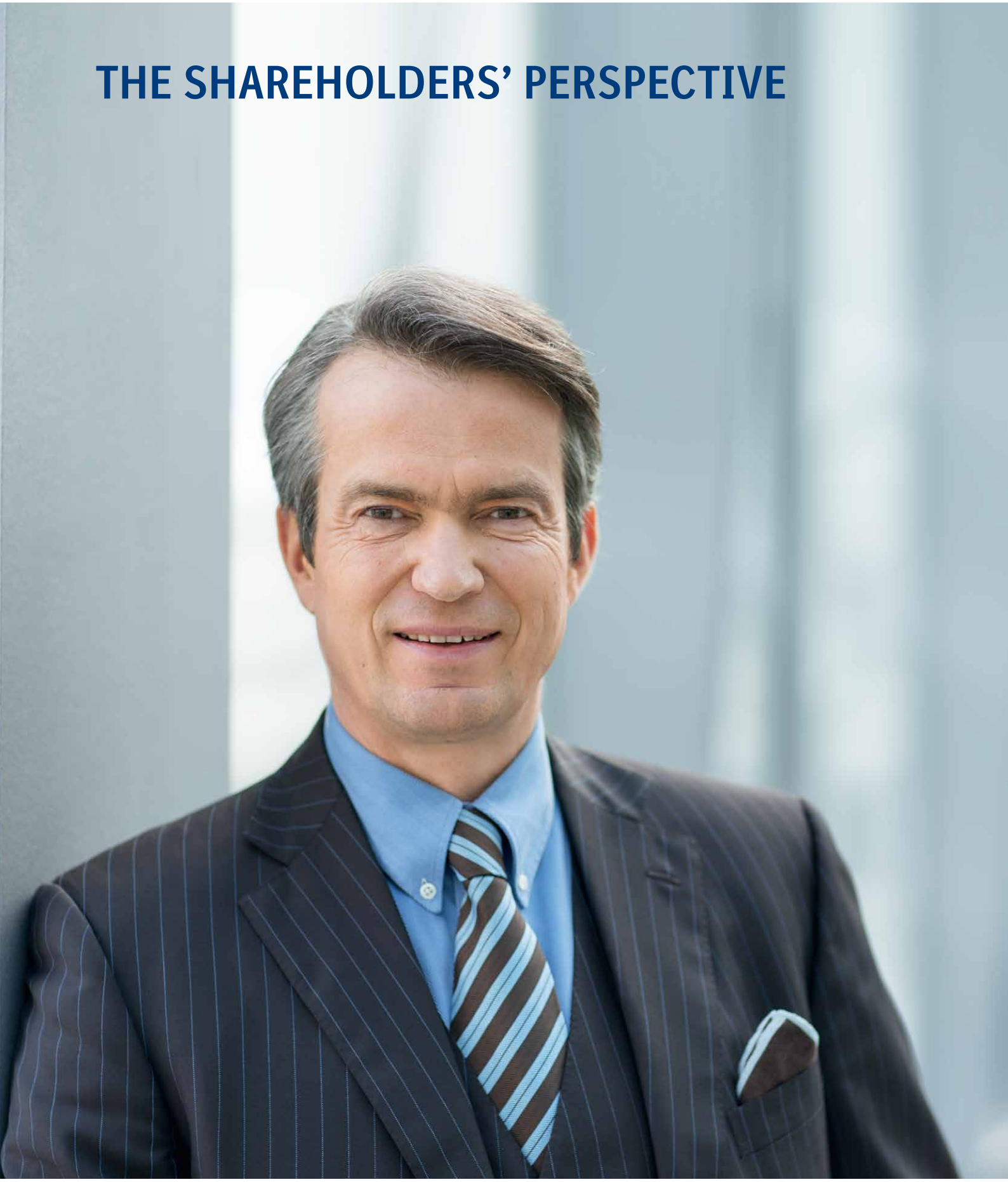
Improving the health and quality of life of patients is the goal of the research-driven pharmaceutical company Boehringer Ingelheim. The focus in doing so is on diseases for which no satisfactory treatment option exists to date. The company therefore concentrates on developing innovative therapies that can extend patients' lives. In animal health, Boehringer Ingelheim stands for advanced prevention.

Family-owned since it was established in 1885, Boehringer Ingelheim is one of the pharmaceutical industry's top 20 companies. Some 50,000 employees create value through innovation daily for the three business areas human pharmaceuticals, animal health and biopharmaceuticals. In 2018, Boehringer Ingelheim generated net sales of around 17.5 billion euros. R&D expenditure of almost 3.2 billion euros, corresponded to 18.1 per cent of net sales.

As a family-owned company, Boehringer Ingelheim plans in generations and focuses on long-term success, rather than short-term profit. The company therefore aims at organic growth from its own resources with simultaneous openness to partnerships and strategic alliances in research. In everything it does, Boehringer Ingelheim naturally adopts responsibility towards mankind and the environment.

CONTENT

THE SHAREHOLDERS' PERSPECTIVE



Dear Reader,

2018 was a successful year for Boehringer Ingelheim. Success for us means having reached more patients and thereby having delivered a significant contribution to human and animal health. The favourable figures for 2018, which the company documents in this annual report, also testify to this success.

Our primary objective is and remains to maintain Boehringer Ingelheim's independence. In order to be sustainable, we have to continue to remain competitive. For this we need innovations. Our readiness to invest more than the competition average in the research, development and production of innovative medicines, follows this knowledge – and at the same time mirrors the trust we place in Boehringer Ingelheim and all our employees.

Their high degree of commitment is decisive to our success. Shared guiding principles (Leitbild) and the goal of improving the health of humans and animals bind us together worldwide. The individuality of all of them characterises our culture and our values. All of them stand for the family-owned company Boehringer Ingelheim and help us to maintain our independence.

Our express thanks go to our employees who together have all contributed with great engagement and effort to realise our corporate goals.

signed by
Christian Boehringer
Chairman of the Shareholders' Committee

THE BOARD OF MANAGING DIRECTORS

Allan Hillgrove *Michel Pairet* *Hubertus von Baumbach*

Michael Schmelmer *Andreas Neumann* *Joachim Hasenmaier*

Dear Reader,

Over 50,000 employees worldwide share our enthusiasm for the task of improving the health of humans and animals through innovation and therapeutic breakthroughs. Today, we want to tell you how we realise this shared vision and what results we were able to achieve in the past year.

The year 2018 was a successful one for Boehringer Ingelheim. The reason for this was our focus on innovation: in a large number of our research projects – currently about 90 all in human pharmaceuticals – we pursue approaches with which we want to be first in the therapeutic class or in the indication. For us it is also decisive to conduct research in areas of unmet medical needs, where patients are dependent on innovations.

This focus – already the principle and foundation of our success at Boehringer Ingelheim for many decades – has provided the basis for the growth of our Human Pharmaceuticals business last year. Although the expiry of market exclusivity had a marked impact on the development of some of our biggest products, overall we were able to grow in line with local markets, and frequently even outgrow them considerably, thanks to the great therapeutic progress offered by our new products such as OFEV® or JARDIANCE®.

In the Animal Health area we have concluded the integration process and further merged both organisations. Prioritising customer needs ahead of our own optimisation has already enabled us to exceed market growth in year two of the new structure.

The Biopharmaceuticals business is also developing very favourably. In particular, progress in expanding capacity in Vienna, Austria, is today already visible to a large extent.

Numerous partnerships that reinforce our innovative core – equally in all business areas and across the whole value chain – have shown how well the specific competences of third parties combine with Boehringer Ingelheim's special capabilities and translate into patient benefit. The accompanying magazine highlights this transformation and takes a detailed look at the possibilities that digitalisation offers us.

Dear Reader, the past financial year was a successful one for Boehringer Ingelheim, also characterised by continual change. As in previous years, the basis for this was the trust of our customers and our partners - and especially the commitment of our employees. Their sense of responsibility and their entrepreneurial spirit have helped us to remain competitive. All of them deserve our thanks.

signed by
HUBERTUS VON BAUMBACH

signed by
JOACHIM HASENMAIER

signed by
ALLAN HILLGROVE

signed by
ANDREAS NEUMANN

signed by
MICHEL PAIRET

signed by
MICHAEL SCHMELMER

CORPORATE BODIES

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Chairman of the Shareholders' Committee

CHRISTOPH BOEHRINGER

ERICH VON BAUMBACH JR

ISABEL BOEHRINGER

DR MATHIAS BOEHRINGER

PROF. DR DR ANDREAS BARNER

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President, Hilti Foundation

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Innovation

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Member of the Board of Managing Directors,
Finance

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GROUP MANAGEMENT REPORT

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INFORMATION ABOUT THE GROUP

The Group's business model

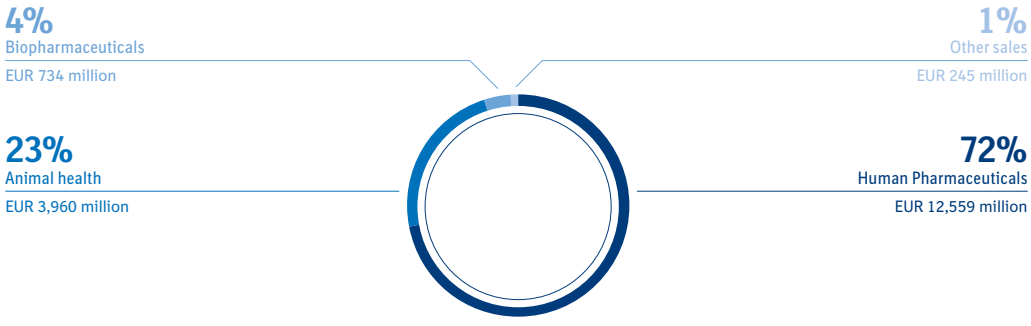
For over 130 years, Boehringer Ingelheim has pursued the goal of improving and preserving the quality of life and health of humans and animals. Headquartered in Ingelheim am Rhein, Germany, the company has been family-owned since its founding in 1885 and is among the 20 leading companies worldwide in its industry. As one of Germany's most research-intensive companies, Boehringer Ingelheim concentrates in particular on researching medicines and offering therapies for diseases for which satisfactory treatment options are currently unavailable and provides the entire value chain, starting from reasearch and development (R&D) through production and commercialisation of its products. Boehringer Ingelheim operates at a global level, with around 50,000 employees in the areas of human pharmaceuticals, animal health and biopharmaceuticals, which generated net sales of almost EUR 17.5 billion in 2018.

Human pharmaceuticals – in which the company's own medicines are already standard treatments in various therapeutic areas – represent the core focus of Boehringer Ingelheim's activities.

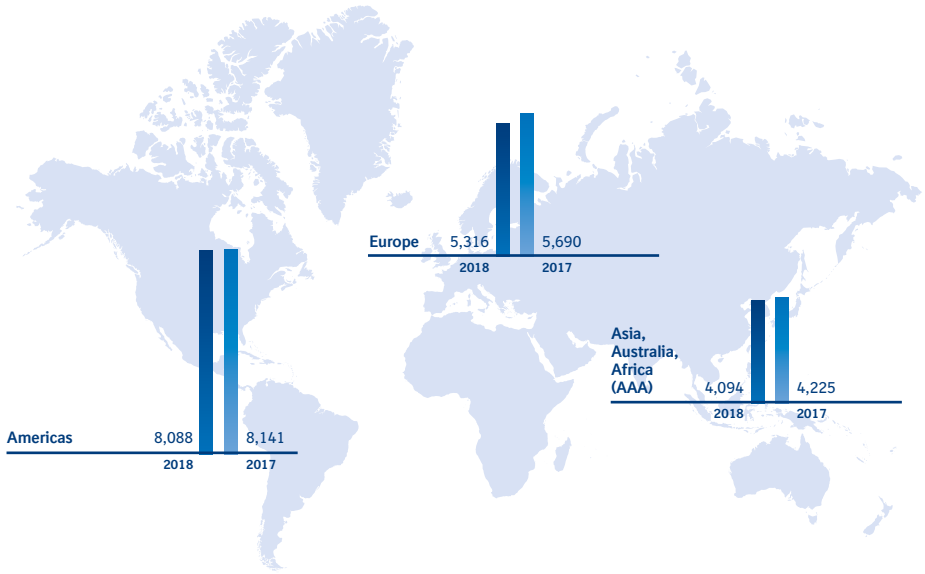
Integration of Merial successfully completed

Following the transaction on 1 January 2017, containing a swap of Boehringer Ingelheim's consumer health care business with Sanofi's animal health business (Merial), the integration of the new companies has now been successfully completed. Through the merger of Boehringer Ingelheim's existing animal health activities with Merial, the company's animal health business is now the market leader in Germany and, at the global level, the second-largest provider of veterinary vaccines and medicines.

NET SALES BY BUSINESS — **Group: EUR 17,498 million**



NET SALES BY REGION (IN EUR MILLION)



Boehringer Ingelheim continues to expand its existing product portfolio through further organic growth, including cooperation with external partners. Through the recent acquisition, the company's global research network has expanded to 13 countries with major facilities in Germany (Biberach, Hanover and Ingelheim), in the US (Ridgefield, Connecticut, Duluth, Georgia, and St. Joseph, Missouri), in Austria (Vienna) as well as in Japan (Kobe) and France (Lyon).

SPIRIVA® still biggest revenue contributor

In 2018, the company's biggest revenue contributor in the human pharmaceuticals business was once again SPIRIVA®, which is used to treat chronic obstructive pulmonary disease (COPD) and asthma. The following products also made significant contributions to Boehringer Ingelheim's success: PRADAXA® (used to prevent strokes in patients with atrial fibrillation and for the prevention and treatment of thromboembolic disorders); its type 2 diabetes products JARDIANCE® (winner of the Prix Galien International 2018 for the most innovative pharmaceutical product) and TRAJENTA®; and the medicine OFEV®. The latter medicine was introduced in 2015 and offers people with the rare, fatal respiratory disease idiopathic pulmonary fibrosis (IPF) for the first time a treatment option.

In the company's animal health business, the antiparasitic NEXGARD® is the strongest product in terms of net sales. Its other antiparasitics HEARTGARD® and FRONTLINE® and its established swine vaccine INGELVAC CIRCOFLEX®, which is used to treat porcine circovirus type 2, also played a key role in the success of the company's animal health business.

The biopharmaceuticals business is another important growth area for Boehringer Ingelheim. Boehringer Ingelheim's biopharmaceutical activities comprise the manufacture of own-brand marketable products (such as ACTILYSE®, METALYSE® and PRAXBIND®), and – as one of the world's leading companies – process development and commercial production of biopharmaceuticals for third-party industrial customers.

In the 2018 financial year, Boehringer Ingelheim once again achieved the majority of its sales in the Americas (46%) and Europe (30%) regions. The region of Asia/Australia/Africa (AAA) is of strategic significance for the Group's future growth, making up 24% of its sales. The three biggest markets, the USA, Japan and Germany, accounted for 52% of sales in 2018.

Research and Development

In line with its mission statement, Boehringer Ingelheim's goal is to research and develop innovative medicines and therapies for the treatment of diseases for which there are currently no satisfactory treatments available. The key emphasis here is on developing pharmaceuticals as well as new approaches and therapies to prevent, detect and treat chronic diseases more effectively. We focus on making a major contribution in areas where the need for treatment is high and on taking a leading position in the human pharmaceuticals business as well as in the field of animal health.

Research and development

	2018	2017	2016	2015	2014
Expenditure in EUR million	3,164	3,078	3,112	3,004	2,654
– as % of net sales	18.1	17.0	19.6	20.3	19.9
Human Pharmaceuticals expenditure in EUR million	2,780	2,714	2,870	2,780	2,333
– as % of Human Pharmaceuticals net sales	22.1	21.5	23.9	24.8	23.1
Average number of employees	8,566	8,589	8,055	7,895	8,104
Investments in tangible assets (without investments in infrastructure) in EUR million	136	71	92	77	78

We rely on partnerships with academic institutions, other biotech companies, public research institutions as well as a global research network comprising our own facilities in many different countries around the world. Moreover, in the field of development projects and technologies, our research activities are supplemented by important cooperation and licence agreements. Boehringer Ingelheim continued to expand its research network in 2018. Its acquisition of ViraTherapeutics GmbH represents a significant addition in the R&D of immuno-oncological therapies, which are based on the use of oncolytic viruses. In the area of cardiovascular further studies examining the effect of empagliflozin were launched in cooperation with Eli Lilly.

The company's own R&D portfolio, which is already broad, is supplemented by our partnerships. These are a key component of Boehringer Ingelheim's innovation strategy and complement the innovative prowess of our own R&D. They are also evidence of Boehringer Ingelheim's successful collaboration with third parties.

This can also be seen from the online portal opnMe, which gives researchers worldwide the opportunity to order molecules from Boehringer Ingelheim and then to use them without fear of infringing any patents. The researchers have the unique opportunity to start experiments and continue their own research. In addition, joint research projects are being developed from which new findings in drug development can be generated.

R&D SITES

AMERICAS

Brazil
1. Paulínia (AH)

Mexico
2. Guadalajara (AH)

USA
3. Ames (AH)
4. Athens / Colbert (AH)
5. Duluth (AH)
6. Fulton (AH)
7. Gainesville (AH)
8. North Brunswick (AH)
9. Ridgefield (HP)
10. Saint Joseph (AH)
11. Sioux Center (AH)

EUROPE

Germany
12. Biberach (HP)
13. Hanover (AH)
14. Ingelheim (AH)
15. Katharinenhof-Rohrdorf (AH)

Denmark
16. Kalundborg (AH)

France
17. Lyon (AH)
18. Saint Vulbas (AH)

Italy
19. Milan (HP)

The Netherlands
20. Lelystad (AH)

Austria
21. Vienna (HP)

ASIA / OCEANIA

Australia
22. Sydney (AH)

China
23. Shanghai (AH)
24. Taizhou (AH)

Japan
25. Kobe (HP)
26. Tokyo (AH)

New Zealand
27. Auckland (AH)

Digital laboratory BI X as innovation driver

In the second year of its existence, Boehringer Ingelheim's digital laboratory BI X now has 43 employees. Our experts for digital technologies are currently working on five innovative digital products. Last year, two of these were successfully handed over to their respective business in the past year: PetPro Connect, an app which connects pet owners with vets in the USA, and a collaboration platform for researchers (NTC Studio).

Boehringer Ingelheim's R&D activities are the basis for the company's sustainable success. Our innovative capability has played a key role in the Group's positive business development over the past years. In-house R&D – supplemented by external cooperation and partnerships – will also continue to be a top priority in the future.

In the 2018 financial year, we employed an average of 8,566 people at our R&D facilities. A total of almost EUR 3.2 billion was invested in the R&D of new medicines, corresponding to around 18% of the Group's net sales in 2018, which is slightly above the 2017 level, as expected.

Human Pharmaceuticals

Respiratory diseases

Since more than a century, we have been committed to improving the lives of people living with respiratory diseases. The scientific research for new therapeutic concepts to help patients in need continues to be of high importance for Boehringer Ingelheim. In 2018, our focus areas were chronic obstructive pulmonary disease (COPD), cystic fibrosis (CF), idiopathic pulmonary fibrosis (IPF), systemic sclerosis with interstitial lung disease (SSc-ILD) as well as other forms of progressive fibrosing interstitial lung diseases (PF-ILD).

Early in 2018, the results of the landmark DYNAGITO® trial were published in The Lancet Respiratory. The data from the 52-week trial show that in people with COPD, tiotropium/olodaterol lowers the rate of moderate-to-severe exacerbations compared to tiotropium monotherapy. These results contribute to our understanding of COPD exacerbations and the role of dual combination bronchodilator LAMA/LABA therapy in the management of COPD. Another focus topic in 2018 was the importance of physical activity for people living with COPD. Here, a number of studies were completed and published which investigated the effect of tiotropum/olodaterol compared to tiotropium monotherapy on physical activity related endpoints. Towards the end of the year, we started to receive the first national approvals for the new and enhanced RESPIMAT® inhaler, which will be launched in the first European countries starting in the first quarter of 2019.

At the European Respiratory Society International Congress 2018, we presented the final data for two important trials in idiopathic pulmonary fibrosis (IPF): the INPULSIS®-ON trial and the INSTAGE® trial. The results of INPULSIS®-ON indicate that safety and efficacy of nintedanib in IPF are maintained over more than four years and are consistent with prior findings from the INPULSIS® study programme. The INSTAGE® trial showed that efficacy and safety of nintedanib in patients with IPF and severe impairment in gas exchange, which are usually excluded from clinical trials, was consistent with that observed in patients with less advanced disease in earlier trials. Both trials were published in high-ranking medical journals (The Lancet Respiratory and The New England Journal of Medicine, respectively). In addition to communicating the new scientific data, a key effort in 2018 was to raise awareness for the need to diagnose and treat IPF as early as possible together with various stakeholders and partners as this remains a key challenge for affected patients.

In 2018, Boehringer Ingelheim became a founding member of the Open Source Imaging Consortium (OSIC), a statement of our commitment to advancing science and supporting innovation for the benefit of patients. The goal of OSIC is to develop digital imaging biomarkers for accurate imaging-based diagnosis, prognosis and prediction of response to therapy in IPF and other fibrosing interstitial lung diseases (ILDs).

In scleroderma (systemic sclerosis, SSc), we continued our efforts to support patients and create awareness for this rare disease with our "More than Scleroderma" campaign. The SENSCIS™ trial investigating the safety and efficacy of nintedanib in patients with systemic sclerosis-associated ILD has been completed. With more than 520 patients recruited, it is the largest randomised and placebo-controlled clinical trial in SSc to date. The results will be presented in 2019.

The INBUILD trial evaluating the efficacy and safety of nintedanib over 52 weeks in patients with Progressive fibrosing interstitial lung disease (PF-ILD) is ongoing. This trial includes a range of patients who have been diagnosed with interstitial lung disease except IPF but exhibit a similar progressive fibrosing phenotype, i.e. deterioration of respiratory symptoms, lung function or worsening of fibrosis on chest imaging, irrespective of the underlying diagnosis. This unique "basket" approach makes INBUILD the only trial including patients with different underlying diseases as varied as chronic hypersensitivity pneumonitis, rheumatoid arthritis associated ILD and sarcoidosis. The approach is based on the underlying hypothesis that the response to lung injury in some of these patients includes the development of fibrosis, which becomes progressive and self-sustaining independent of the initiating trigger. The results are expected in the course of 2019.

Oncology

At Boehringer Ingelheim, we are committed to fighting cancer to provide patients with new treatment options. We are dedicated to collaborating with the oncology community on a shared journey to deliver leading science. Our goal is first-in-class treatments with breakthrough potential that can transform the lives of patients and help win the fight against cancer. Our focus is on discovering, developing and accelerating novel therapeutic approaches that address unmet needs in lung and gastrointestinal cancers. To this end, we are conducting targeted research into therapies, immuno-oncology products and intelligent combination approaches that offer the greatest chance of success in the fight against cancer. In 2018, we have successfully advanced several of our research programmes into clinical development.

To further strengthen our oncology portfolio, we are actively seeking for scientific collaborations, innovative partnerships and strategic acquisitions with the goal to improve our understanding of cancer and transform patient lives. Our commitment to innovation has already resulted in important treatments for lung cancer, afatinib (GIOTRIF®/GILOTRIF®) and nintedanib (VARGATEF®).

Afatinib (GIOTRIF®/GILOTRIF®), a second-generation EGFR inhibitor for the treatment of a specific type of non-small cell lung cancer (NSCLC) patients and metastatic NSCLC of squamous histology, has been available to patients since 2013 and has become the standard of care in many markets in the approved indications. The results of GioTag, a real-world study to investigate how the use of front-line afatinib, followed by the next-line targeted treatment can extend the chemotherapy-free treatment time for patients, were first published in 2018. The study shows that using afatinib (GIOTRIF®/GILOTRIF®) followed by osimertinib, a third-generation EGFR inhibitor, provides a median of 27.6 months of chemotherapy-free regimen in patients with EGFR mutation-positive NSCLC. These results add to the comprehensive 'LUX-Lung' trial programme for afatinib of nine trials including head to head randomised trials versus first-generation treatments.

Boehringer Ingelheim's second marketed cancer drug is VARGATEF® (nintedanib) for the treatment of advanced non-small cell lung cancer (NSCLC) in combination with docetaxel in patients who were previously treated with chemotherapy. In December 2018, results from the real-world study VARGADO showed that nintedanib plus docetaxel could be an option after failure of immunotherapy in these patients. Nintedanib in combination with chemotherapy was also investigated in patients with malignant pleural mesothelioma (MPM) of epitheloid histology, a rare and aggressive type of cancer that is

strongly associated with exposure to asbestos. The data from the respective phase III trial, LUME-Meso, were presented in 2018 and showed that nintedanib in combination with standard chemotherapy did not extend the progression-free survival of patients with MPM.

Cardiovascular and metabolic diseases

Boehringer Ingelheim's therapeutic area of cardiovascular and metabolic diseases contains some of the company's core products.

Within the diabetes portfolio, and specifically with JARDIANCE® (empagliflozin), important research data were published and a range of new clinical trials and collaborations were announced in 2018.

In March, Boehringer Ingelheim and diabetes alliance partner Eli Lilly announced plans to expand the clinical trial programme for empagliflozin in chronic heart failure with the EMPERIAL trials. These trials will evaluate the effect of empagliflozin on exercise ability and heart failure symptoms in people with chronic heart failure independent of whether they have type 2 diabetes.

In April, the diabetes alliance initiated EMPA-KIDNEY. The clinical trial investigates the effects of empagliflozin on the progression of kidney disease and the occurrence of cardiovascular death in people with established chronic kidney disease, with and without diabetes. The study will be independently conducted, analysed and reported by the Medical Research Council Population Health Research Unit at the University of Oxford (MRC PHRU). In summer of 2018, data from the EASE phase III programme investigating the use of empagliflozin in combination with insulin therapy in adults with type 1 diabetes were published. Both randomised controlled trials met their primary endpoint. Based on the totality of the EASE data, Boehringer Ingelheim has initiated regulatory discussions for empagliflozin as adjunct to insulin for adults with type 1 diabetes. The European Medicines Agency (EMA) Committee for Medicinal Products for Human Use (CHMP) issued a positive opinion in July to update the labels of JARDIANCE® (empagliflozin), SYNJARDY® (empagliflozin and metformin) and GLYXAMBI® (empagliflozin and linagliptin) to include additional important data from the landmark EMPA-REG OUTCOME® trial on heart failure and kidney endpoints. The labels now also include results on the relative risk reduction in hospitalisation for heart failure by 35% and the relative risk reduction for new-onset or worsening of kidney disease by 39% with empagliflozin, compared with placebo, in people with type 2 diabetes and established cardiovascular disease.

At the European Association for the Study of Diabetes (EASD) congress in October, results from CARMELINA®, the first of two cardiovascular outcome trials for the DPP-4 inhibitor linagliptin (TRAJENTA®), were presented. CARMELINA® studied the impact of linagliptin on cardiovascular and kidney safety in adults with type 2 diabetes at high risk for heart and/or kidney disease. The study met its primary endpoint, with linagliptin demonstrating a similar cardiovascular safety profile compared to placebo when added to standard of care. CARMELINA® also included a key secondary composite endpoint, showing a similar kidney safety profile compared to placebo. The results of the second cardiovascular outcome trial CAROLINA® are expected for 2019. CAROLINA® evaluates the impact of treatment with linagliptin compared to the sulphonylurea, glimepiride, on top of standard of care, on cardiovascular safety in patients with early type 2 diabetes and increased cardiovascular risk or established cardiovascular complications.

Shortly after the EASD congress the American Diabetes Association (ADA) and the EASD published a Consensus Report recommending SGLT2 inhibitors, such as empagliflozin, to help manage cardiovascular outcomes in patients with type 2 diabetes. Empagliflozin is the only SGLT2 inhibitor recommended in the ADA 2018 Standards of Medical Care in Diabetes for reducing the risk of cardiovascular death in people with type 2 diabetes and established cardiovascular disease. Following this announcement, the American College of Cardiology (ACC) published a new Expert Consensus Decision Pathway (ECDP) also recommending empagliflozin as the preferred SGLT2 inhibitor for its proven benefit in reducing the risk of cardiovascular death in adults with type 2 diabetes and established cardiovascular disease. Worldwide, more than 50 treatment guidelines have now been updated to include findings from the EMPA-REG OUTCOME TRIAL® in their endorsement of type 2 diabetes treatments with proven cardiovascular benefits.

In October 2018, the journal Circulation published an analysis based on data from the EMPA-REG OUTCOME® trial which suggests that treatment with empagliflozin positively impacts life expectancy in adults with type 2 diabetes and established cardiovascular disease. Using actuarial methods, and assuming that the demonstrated beneficial effects of empagliflozin remain consistent with long-term use, empagliflozin was estimated to extend life expectancy by 1 to 4.5 years on average, depending on age, when compared with placebo.

At the American Heart Association (AHA) Scientific Sessions in November, initial effectiveness results from the first real-world evidence study with empagliflozin (EMPRISE) were presented, reinforcing the clinical results from the landmark EMPA-REG OUTCOME® trial.

Finally, to conclude a highly successful year for the diabetes products, JARDIANCE® (empagliflozin) was awarded the 2018 International Prix Galien “Best Pharmaceutical Product” award – the most prestigious honour in the field of pharmaceutical research and innovation, recognising the outstanding efforts and achievements of pharmaceutical R&D.

It was also a successful year for PRADAXA®. In October, the company presented primary results from two key trials, RE-SPECTESUS® and RE-SPECT CVT®at the World Stroke Congress in Montreal, Canada. RE-SPECTESUS® was the first trial to investigate dabigatran etexilate versus acetylsalicylic acid (ASA). Full results of both trials are expected to be published in 2019. Both primary analyses will contribute to the scientific community’s understanding of the diseases and add to the wealth of evidence supporting the established safety profile of PRADAXA®.

Diseases of the central nervous system (CNS)

Some of the most important neuropsychiatric diseases, such as Schizophrenia or Alzheimer’s disease as well as depression, continue to be the centre of Boehringer Ingelheim’s research in central nervous system diseases. Many companies and institutions have pulled out of CNS projects in the past years, the reason being that for many players in the field, setbacks seem to be more frequent than successes. At Boehringer Ingelheim, we remain true to our motto “#Commitment Never Stops” and we are optimistic that we can develop effective therapies for the treatment of neuropsychiatric diseases.

In such highly complex diseases like Schizophrenia, we focus on investigating the impaired glutamatergic signalling pathway present in a range of CNS diseases. Based on findings from a clinical trial in schizophrenia, we are investigating in particular how a specific mechanism of action could be used to prevent further deterioration after a first psychotic episode and to prevent relapses in schizophrenia.

Studies on the effect of GlyT1 inhibition on cognitive impairment in Alzheimer's disease and Schizophrenia are on track and we expect phase II clinical results within 2019.

Beyon that, clinical trials in depression investigating the effect of a substance that should influence the hyperactivity of certain brain regions, which are responsible for the impaired processing of negative stimuli, were started. Further substances are being investigated in earlier stages of development.

Immunology

Boehringer Ingelheim has been continuously developing its immunology R&D activities for some years now and is ramping up its capacities for a series of dermatological and gastroenterological indications.

Initial clinical testing results published in September 2018 in the field of dermatology suggest positive therapeutic potential for the active substance BI 655130, an interleukin 36 receptor antagonist, for a rare form of psoriasis known as generalised pustular psoriasis. Patients with these and other clearly visible inflammatory skin diseases, such as palmoplantar pustulosis (PPP) or neurodermitis (atopic dermatitis), frequently face considerable disruptions in their lives since these skin changes are not only painful, but also visible.

These and a series of other active substances, such as an ROR-gamma inhibitor, are currently at the clinical development stage and are showing initial signs of offering strong therapeutic potential for patients with various immunological diseases. Boehringer Ingelheim's development programme includes substances for the treatment of chronic inflammatory bowel diseases such as Crohn's disease and ulcerative colitis, and also lupus nephritis, for which there is a strong and as yet unmet medical need for more effective therapies.

Last year, the development of the substance risankizumab for the treatment of psoriasis, which originally resulted from our research activities, was completed in partnership with AbbVie. AbbVie has now submitted this substance to the regulatory authorities. This development and marketing partnership with AbbVie offers the best means of ensuring that the first interleukin inhibitor to emerge from Boehringer Ingelheim's research programme can be made available to the greatest possible number of patients.

With its broad-based pipeline and its substantial investments in immunology, Boehringer Ingelheim expects to significantly contribute to the better treatment of patients with immune diseases in the foreseeable future and will assume sole responsibility for development and marketing activities.

Animal Health

In its R&D work in the field of animal health, Boehringer Ingelheim concentrates on innovative vaccines and antiparasitics for the protection of livestock and pets, as well as on pharmaceutical products for the treatment of chronic diseases.

At our facilities in Europe, Asia, Oceania and North, Central and South America, we focus on research into new drugs and the development of future therapeutic solutions. Since many vaccines are based on local pathogens and pathogen variants, it is imperative that we are present in all key market regions with local R&D and production facilities.

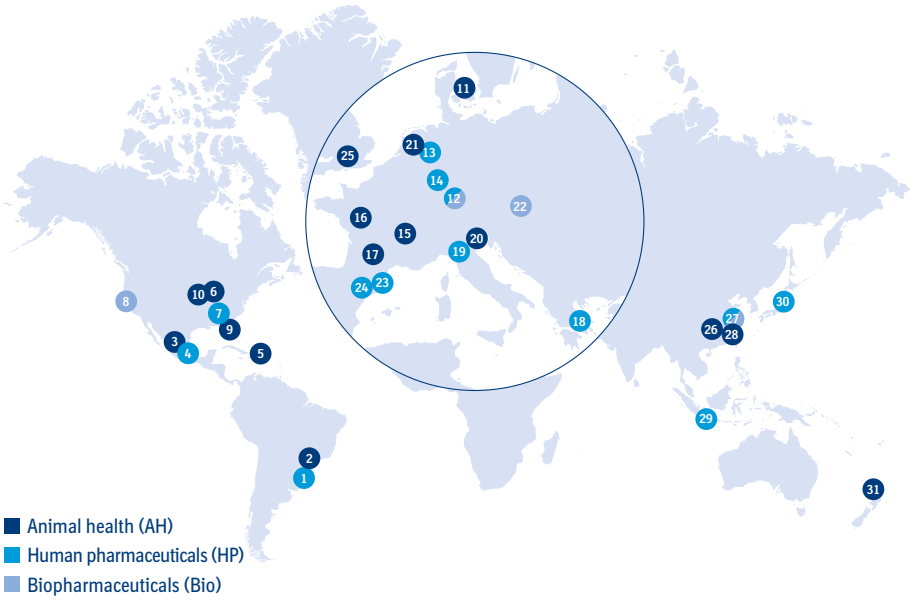
In the past year, we invested approximately EUR 38 million in new R&D plants and the expansion of existing facilities. In Lyon Porte-des-Alpes, France, we completed the construction of a EUR 70 million research building for over 200 employees, in order to bring our R&D activities and vaccine production together at a single facility. Another milestone was the spatial consolidation of our research activities in China through a EUR 19 million investment in the expansion of our research centre there. These investments demonstrate our commitment to strengthen animal health by means of innovative, preventive medicines and our intention to sustainably expand our leading position in this field.

In 2018, we initiated more than 400 clinical studies worldwide and received more than 300 product authorisations. In addition to our internal R&D, we analyse external projects or products and integrate them in our portfolio where appropriate. Obtaining approvals and expanding the geographical distribution of existing products are other important aspects of our R&D activities.

Biopharmaceuticals

In 2018, we decided to pursue our biosimilars activities, including potential partnerships, within the US market and to end development activities for other markets. We are concentrating on launching our approved biosimilar CYLTEZO® (adalimumab-adbm) on the US market.

PRODUCTION FACILITIES



AMERICAS

Brazil
1. Itapecerica (HP)
2. Paulínia (AH)

Mexico
3. Guadalajara (AH)
4. Xochimilco (HP)

Puerto Rico
5. Barceloneta (AH)

USA
6. Athens (AH)
7. Columbus (HP)
8. Fremont (Bio)
9. Gainesville (AH)
10. St. Joseph (AH)

EUROPE

Denmark
11. Kalundborg (AH)

Germany
12. Biberach (HP, Bio)
13. Dortmund (HP)
14. Ingelheim (HP)

France
15. Lyon (AH)
16. Saint-Herblon (AH)
17. Toulouse (AH)

Greece
18. Koropi (HP)

Italy
19. Fornovo (HP)
20. Noventa (AH)

The Netherlands
21. Lelystad (AH)

Austria
22. Vienna (Bio)

Spain
23. Malgrat (HP)
24. Sant Cugat (HP)

United Kingdom
25. Pirbright (AH)

ASIA / OCEANIA

China
26. Nanchang (AH)
27. Shanghai (HP, Bio)
28. Taizhou (AH)

Indonesia
29. Bogor (HP)

Japan
30. Yamagata (HP)

New Zealand
31. Auckland (AH)

Production

Human Pharmaceuticals

In the Human Pharmaceuticals business, production is responsible for the reliable supply of innovative, top-quality medicines at competitive prices for patients and customers. The ongoing development of the company's internal production facilities and our strategic cooperation with external manufacturers have established a modern, flexible market supply network which encompasses the entire value chain, from suppliers of starting materials to worldwide logistics and distribution of finished pharmaceutical products.

In 2018, this global network included 20 of Boehringer Ingelheim's own plants in 10 countries. The group now has four biopharmaceuticals facilities. It also has three plants for the manufacture of active pharmaceutical ingredients as well as 13 plants which manufacture finished pharmaceutical products. Boehringer Ingelheim's own production facilities concentrate on products which are of strategic importance for the company as well as state-of-the-art and in some cases unique manufacturing technologies. Partnerships with external manufacturers expand production capacities and focus on products which are already far advanced in terms of their life cycle.

20
facilities in 10 countries for human pharmaceuticals

Within the scope of the company's redesigned network, the increasing amounts produced for the company's antidiabetic product portfolio have now been transferred to facilities throughout the world, which are thus assuming an increasingly important role. For instance, production capacity has been increased for active pharmaceutical ingredients in Fornovo (Italy) and for finished pharmaceutical products in Koropi (Greece) and Xochimilco (Mexico). The company also initiated additional important investments in the development and transformation of capacities in its internal and external network. At its Ingelheim headquarters, the company began to implement a key investment in the industrialisation of newly developed medicines and the initial market supply of these medicines. At its Sant Cugat facility in Spain, the company made further progress in the construction of a plant to supply the market with RESPIMAT® technology-based inhalation medicines. At the same time, with the end of the product life cycle for AGGRENOX® the company closed its Biberach site's dedicated production plant.

Alongside the continued development of the company's production network, the ongoing development of its value chain management is another current area of focus. The implementation of the company's supply chain strategy has set in motion a process of transformation spanning the entire value chain, from the supplier to the customer ("end-to-end"). The goal is a highly integrated and flexible delivery chain which is fully transparent and can be efficiently controlled through modern digital technology.

Animal Health

Following the acquisition of Merial in 2017, teams from the two companies have been working together to create an environment that promises future success. In 2018, Boehringer Ingelheim Animal Health operated a network of 16 facilities in 11 countries which are dedicated to the manufacture of vaccines, finished pharmaceutical products and nutraceuticals. This industrial set-up is complemented by contract manufacturers, primarily in North and Central America as well as in Europe. We have defined a new network strategy in order to balance internal and external production subsequently to the integration of Merial and focus on core products in full alignment with business requirements. In addition to our production facility in Paulínia (Brazil), in the past year we invested in a new production line for our strong revenue contributor NEXGARD® at our Barceloneta (Puerto Rico) facility. Moreover, our production of vaccines for the foot-and-mouth disease has been expanded at a global level. Boehringer Ingelheim established a collaboration with two Chinese partners, aiming for the triplication of production of the much sought-after vaccine.

16
Animal Health facilities in 11 countries

One of the leading companies for industrial customers

Biopharmaceuticals

Boehringer Ingelheim pursues its biopharmaceutical activities at its facilities in Biberach (Germany), Vienna (Austria), Fremont, California (USA) and Shanghai (China). They comprise the manufacture of own-brand marketable products (such as ACTILYSE®, METALYSE® and PRAXBIND®), the manufacture of biopharmaceuticals for clinical testing and – as one of the world's market leaders – process development, launch preparation and commercial production of biopharmaceuticals for third-party industrial customers. 15 out of the top 20 pharmaceutical companies and innovative biotech firms are clients of Boehringer Ingelheim's biopharmaceuticals business. Boehringer Ingelheim covers the entire biopharmaceutical value chain, from genetic development of the production cell, followed by manufacturing the active substance and filling the finished pharmaceutical product, down to the product launch and the global market supply.

2018 saw an overall increase to almost full use of capacity at its network of industrial-scale production facilities. Besides many other products, Boehringer Ingelheim fulfilled at its Biberach (Germany) facility the increasing level of market demand for ACTILYSE® for the Chinese market in particular. At the company's facility in Fremont, California (USA), a third large-scale bioreactor was launched in 2018 and the market product of a customer was transferred. It will thus be possible to meet rising product demand within the network from both Biberach (Germany) and Fremont, California (USA). Moreover, at our large-scale cell culture plant in Biberach (Germany) and our large-scale microbial plant in Vienna (Austria), two further customer products were successfully approved by the international authorities. The expansion project (a new industrial-scale biopharmaceutical production facility) at Boehringer Ingelheim's site in Vienna (Austria) reached a further milestone, as the topping-out ceremony for this facility took place in the autumn of 2018. The company's commercial filling facility in Shanghai (China) was also successfully put into operation. For the local market and countries outside China, production and delivery began as scheduled, from GMP hospital products to finished pharmaceutical products. In addition, an application for approval of a customer product by the Chinese authorities was successfully completed. This was another important milestone in terms of the Chinese authorities' recognition of our Shanghai facility as a contract manufacturer (CMO).

Occupational safety and environmental protection

The protection of the employees and the environment, as well as the sustainable use of natural resources and the promotion of environmental awareness, are major components of our group's mission statement and are of prime importance to Boehringer Ingelheim. Compliance with social and environmental aspects has been firmly anchored in our corporate philosophy for many years now to ensure that we can achieve sustainability for future generations.

Group-wide, we have long established binding standards in terms of environmental protection and health and safety at work. These internal guidelines reflect the respective country-specific requirements. In many cases, they go far beyond the standards prescribed by law. In particular, we follow international standards and guidance documents and work in close cooperation with the relevant associations. Within Boehringer Ingelheim, the corporate department Environment, Health, Safety & Sustainability (EHS&S) is responsible for this particular strategic focus.

For Boehringer Ingelheim, 2018 continued to be characterised by the integration of Sanofi's animal health division (Merial) into our Group. In addition to safety and environmental risk assessments for the new facilities, integration audits were implemented and a training platform ("EHS Academy") was established in order to provide our employees with EHS&S training and develop their awareness of this field.

Technical support and regular EHS&S audits, both at Boehringer Ingelheim's internal facilities and at the premises of suppliers and contract manufacturers, ensure compliance with our own as well as international standards. The company continuously reviews the status of environmental protection and health and safety at work. Potential for improvement is identified on this basis.

To us, close coordination with stakeholders both within and outside the company is extremely important in advancing current topics that are relevant to our company. We are taking a stand and are formulating related position papers in order to achieve continuous and sustainable improvements worldwide, for the sake of our company. These topics range from the use of improved refrigerants and the use of certified natural resources to the careful handling of plastics.

Boehringer Ingelheim supports the United Nations (UN) sustainable development goals (SDGs) as well as the development of corresponding ISO standards, and is making its own contribution to sustainability. At the 24th UN Climate Change Conference in Katowice, Poland (Conference of the Parties, COP24) in 2018, EHS&S representatives of Boehringer Ingelheim participated once again.

Activities for futher CO_2 reduction

As our contribution towards reducing global greenhouse gas emissions, we continue to pursue the goal of reducing our entire CO_2e emissions by 20% by 2020 as compared with 2010 values. To achieve this goal and make further future-oriented reductions in our environmental footprint overall, our international BE GREEN initiative has been stepped up and further activities are planned.

The roll-out of the BE SAFE safety initiative, which aims to further reduce the number of workplace accidents, also continued in 2018. Successful workshops with a focus on behaviour-based safety were held at several of the company's worldwide facilities. The "High Five for Safety" initiative defines five simple rules of behaviour which shall ensure improved occupational safety.

760
additional employees
in 2018

Employee reporting

In 2018, Boehringer Ingelheim employed 50,370 people on average worldwide. This represents an increase of 1.5% on the previous year. The number of staff increased in all of its regions.

Average number of employees by region

	2018	2017
Americas	12,986	12,890
Europe	26,758	26,300
Asia/Australia/Africa (AAA)	10,626	10,420
	50,370	49,610

A major success factor for the positive growth of the Group is its engaged and motivated staff. Accordingly, we are particularly committed to actively developing and supporting our employees. In order to be best prepared for the challenges ahead and as part of a comprehensive training system, we emphasise the acquisition of technical expertise and also promote social skills.

With the integration of various experiences, cultural backgrounds and personalities, Boehringer Ingelheim creates an openness to different approaches and opinions, living up to its corporate vision "Value through Innovation". As a global company, it is important to us that the diversity of the markets is reflected in our workforce. Creating a working environment that embraces diversity and differences is one of the pillars of the corporate culture of Boehringer Ingelheim and is a contributing factor to the company's success.

In addition to competitive salaries, Boehringer Ingelheim offers other benefits to its employees. These benefits include a range of company pension plans, flexible and home-based work options and numerous health-related benefits. As a significant segment of our corporate strategy, it is part of our Talent Management department's remit to ensure the employability of our staff, promote a wide range of opportunities for innovation at work, and motivate our employees to nurture their own talents and develop as individuals.

631
apprentices
in Germany

Vocational training has always been of major importance to Boehringer Ingelheim. As part of its understanding of social responsibility, the company offers career opportunities to a great number of young people. At the same time, we also tie a talented and well-qualified workforce of young professionals to the company against a backdrop of demographic change. In 2018, 204 young professionals started their careers with Boehringer Ingelheim in Germany in over 25 different scientific, technical and commercial fields, in training and dual-study courses. As of 31 December 2018, 631 young people were enrolled on our vocational training programme in Germany.

One of the company's aims is to strengthen the appeal of Boehringer Ingelheim as a top employer for our current and future employees. Boehringer Ingelheim was the recipient of various awards for its efforts in this area in 2018. We received top marks from the auditors of the international, independent Top Employers' Institute in the categories of salaries ("Compensation & Benefits") and employee development ("Performance Management"). We received this distinction for our facilities in Germany as well as for our facilities in China, Taiwan, Brazil, Russia, Spain, Poland and for the first time, Singapore. The number of country organisations that were awarded this rating was unprecedented. This is

evidence of the strong appeal and development opportunities at our company – both for employees and for potential recruits.

Social responsibility

Taking social responsibility is also an important aspect of our corporate culture. Our commitment to the well-being of our patients, employees and their families is the focus of a range of projects. In addition, we support people in need through various initiatives in countries and regions where we are active as a company. All of our company's activities also focus on protecting and maintaining the environment.

As in previous years, Boehringer Ingelheim continues to assist in providing support and in the integration of people who have fled their home country. It pursues a broad range of measures in this area: Boehringer Ingelheim employees in Germany are conducting workshops for refugees. In addition, the company has a partnership with the Deutsche Universitätsstiftung. Through this partnership, Boehringer Ingelheim sponsors the WELCOME scholarship programme, which supports students from crisis regions. The company also helps candidates from crisis regions and areas people are fleeing from to join our company by offering them apprenticeships or the opportunity to complete an introductory training year or an internship. Upon successfully completing internships, employees were once again offered permanent positions in the past year.

Making More Health as worldwide initiative

A major pillar of our social commitment is our Making More Health (MMH) initiative. Since its start in 2010, this has continuously developed as a social entrepreneurship movement, both within our company and externally. Socially entrepreneurial and sustainable activities are not limited to individual projects relating to various regions and issues. Instead, this initiative focuses on creatively connecting with local and international partners from different sectors. Networking across all traditional visible and invisible borders is a central element of a successful social movement, in order to identify, promote and implement innovative solutions for far-reaching and complex challenges in the health care sector. "Co-creation" as a bridge between social and commercial entrepreneurship brings together social entrepreneurs and non-profit organisations from the health care sector with Boehringer Ingelheim employees and their resources. To date, within the MMH network, Boehringer Ingelheim and Ashoka – one of the world's largest non-profit organisations – have together helped around 90 social entrepreneurs to reach approximately 9 million people worldwide in the area of health care.

The MMH initiative also aims to promote employees' commitment to social entrepreneurship in order to advance health care projects in many different countries, by working with local, external partners as well as colleagues from throughout Boehringer Ingelheim. MMH leadership programmes in rural southern India (Insights India); participation in online social intrapreneurship courses; opportunities to collaborate with social entrepreneurs in our MMH network as Executives in Residence; and an internal competition promoting employees' own projects have honed our staff's social entrepreneurial thinking and activities. We have also strengthened our networking philosophy through partnerships with non-profit organisations and social enterprises in the health care sector. A large number of local projects have taken place in which our employees are actively involved. Above all, improving health means understanding people's environment and their everyday challenges and offering solutions where they are needed. Health awareness, affordability, accessibility of health services and acceptance play a key role here. MMH plays a role in the university sector, with the goal of helping students and lecturers to learn more about socially entrepreneurial thinking and practical activities through the development of health care-related projects.

With the Angels Initiative, together with the European Stroke Organisation (ESO), the World Stroke Organisation (WSO), the Stroke Alliance for Europe (SAFE) and many other national stroke associations and companies, Boehringer Ingelheim has established a unique health initiative. The goal of this initiative is to improve stroke care in Europe and in emerging markets. More than 2,500 hospitals are already part of the Angels Initiative. In November 2018, this initiative received the prestigious "Health Collaboration" award in the "Service Delivery" category from the European Federation of Pharmaceutical Industries and Associations (EFPIA).

In 2018, Boehringer Ingelheim established and introduced a "LastMile" programme with support from the Global Alliance for Livestock Veterinary Medicines (GALVmed) and funding from the Bill & Melinda Gates Foundation. This integrated, solution-oriented initiative aims to respond to critical challenges in the field of animal health by ensuring the consistent availability of medical resources for animals in hard-to-access areas of sub-Saharan Africa. This initiative currently focuses on ruminants such as sheep, goats and cattle but is to be expanded to include poultry. Through this project, Boehringer Ingelheim helps small farmers in Africa to gain access to veterinary medicines. This underlines Boehringer Ingelheim's strong social commitment: we aim to have a positive impact on human and animal lives in areas where there is a particularly vital need for this.

Boehringer Ingelheim values and respects its employees' differences and actively promotes a diverse, cooperative and open working environment. We are conscious of the fact that the diversity of our markets and customers has to be be reflected in our workforce. For us, diversity makes for the right mix, but it is inclusion which brings out the best results from this mix. We therefore focus on encouraging an inclusive environment where this kind of diversity can thrive. Boehringer Ingelheim participated in the 6th German Diversity Day under the motto "Fly the Flag for Diversity" at its two largest German facilities, Ingelheim and Biberach. It has been an official member of the "Diversity Charter" since early 2016 and a PROUT EMPLOYER acknowledged by the PROUT AT WORK foundation since 2017.

REPORT ON ECONOMIC POSITION

Macroeconomic environment

In line with 2017, an worldwide economic growth rate of slightly below 4% was likewise registered in 2018. In the eurozone, economic output grew less strongly than in 2017, while the growth rate for the emerging markets and developing countries was on the same level as in the previous year, slightly below 5%. Due to the growth slowdown in the major economies a reduction in global growth is expected over the next few years. The continuously expanding emerging markets and developing countries will be unable to make up for this.

In the USA, as a result of increasing private consumption as well as investments in intellectual property and production wells in the oil and gas industry, the second-longest growth phase of the past 160 years continued. Strongly expansionary fiscal policy in the form of a tax reform at the start of 2018 also stimulated economic output, while at the same time increasing the funding deficit. The tariff increases resolved by the USA at the start of 2018, and the counter-tariffs introduced by the affected trading partners in response, had a negative impact on economic growth, although the economic repercussions were relatively limited due to the low proportion of overall trade volume.

Japan, the world's third-largest economy, recorded a decline in its gross domestic product in the first quarter of the year, despite its consistently low unemployment rate. This followed eight consecutive quarters of growth. Nevertheless, the economy managed to grow throughout the year, however, not as strongly as in 2017. This is attributable to the high rate of utilisation of existing capacities as well as a decrease in the growth of exports.

The Chinese economy continues to undergo a process of structural transformation, whereby the service sector is asserting itself in comparison with the manufacturing sector. The Chinese economy's rate of growth remains strong, driven by the government's high growth targets. However, it has weakened slightly compared with the previous years. This is also attributable to restrictive market access conditions for foreign companies in China, as well as external trade and political tensions with the USA.

Economic performance steadily increased in the Asian region as a whole due to strong economic growth in the emerging markets and developing countries in particular. On a global scale however, some emerging markets and developing countries provided grounds for concern. In Argentina and Turkey, relatively serious current account deficits, significant debt levels and high inflation rates triggered a devaluation of these countries' currencies. However, this has so far been limited to these countries, since other emerging markets hold high foreign currency reserves.

In terms of economic momentum, the eurozone recorded a negative development in 2018. This was due to an attenuation of foreign trade, which ended the export-driven boom of the past few years for now. A lack of qualified personnel and technical capacities resulted in supply-side bottlenecks in manufacturing industries in particular. In addition, factors such as the ongoing discussion over the introduction of tariffs on certain product groups as well as the EU's post-Brexit economic relationship with the United Kingdom negatively affected sentiment in the eurozone. On the other hand, the unemployment rate remained unchanged in the eurozone, despite the economic downturn. Inflation picked up over the course of the year due to rising energy prices and wage costs.

The German economy continued to grow over the past year, though this trend weakened appreciably from the summer to the end of the year. Reasons for this included production losses due to strikes and illness as well as problems in the German automotive industry. The weaker level of demand in the eurozone and the world economy's loss of impetus present enduring problems. These are having an additional adverse effect on foreign demand, which has already been negatively affected by economic conditions.

Inflation in Germany averaged 1.9% in 2018 and was thus close to the ECB's target level of 2%. Prices increased strongly compared with previous years due to an above-average increase in the price of food and luxury food items such as tobacco and beer, and sharply increased prices of heating oil and petrol.

The global economic upturn is expected to weaken in 2019. On the one hand, this reflects the fact that many of the advanced economies have already exhausted their production capacities and are also experiencing recruitment difficulties. On the other hand, it is expected that the USA's restrictive monetary policy will result in significantly worse financing terms in Latin America, which will decelerate the pace of economic growth. In addition, the positive effect of the USA's tax reform will gradually recede into the background.

Currency development

Average rate - basis: EUR 1	2018	2017	Effect on net sales (in EUR million)
USD	1.18	1.13	– 300
JPY	130.41	126.66	– 45
CNY	7.81	7.63	– 14
GBP	0.88	0.88	– 5
CAD	1.53	1.46	– 15
BRL	4.31	3.60	– 68

The global pharmaceuticals market registered growth of 5% in the 2018 financial year (IQVIA: The Global Use of Medicine in 2019 and Outlook to 2023). This trend was driven by rising demand in the industrialised countries for cancer medicines, products for the treatment of autoimmune diseases and anti-diabetic medicines. Due to the ageing population in the industrialised countries, the industry's growth remained stable and surpassed the growth of the previous year 2017.

Earnings position

Long-term and sustainably successful development forms the basis for securing the company's independence over the long term. Combined with stable earnings and sound financing, this is at the core of Boehringer Ingelheim's strategic focus. As in previous years, we based our approach on these principles.

Boehringer Ingelheim recorded net sales of EUR 17,498 million in the 2018 financial year, which corresponds to a decrease of 3.1% as compared with the previous year's level of EUR 18,056 million. The exchange rate developments on the foreign exchange markets and the associated exchange rate effects had a negative impact on sales growth in the biggest markets.

EUR
17.5
billion net sales

Currency adjusted, the Group's growth rate stood at + 0.6%. Leaving aside the discontinued operations (interim contracts and agreements which were signed in early 2017 following the exchange of businesses with Sanofi) which had contributed significantly to sales in 2017, operating sales from the company's core business areas – adjusted for currency effects – grew by 4.0%.

With sales of EUR 8,088 million and a share of around 46% of overall sales, the Americas region remains Boehringer Ingelheim's key sales market. The slight decline in sales resulted from negative currency effects in North and South America, which originary sales growth in North America could not offset. On a currency-adjusted basis, sales in the Americas region increased by 5.6% as compared with the previous year. The Europe region registered net sales of EUR 5,316 million and thus contributed 30% of the Group's net sales. This corresponds to a 6.6% decline in sales compared with 2017. This decrease was largely a consequence of lower than previous-year sales from discontinued operations. Currency effects had no significant impact here. The Asia/Australia/Africa (AAA) region realised only a slight growth of 0.5% on a currency-adjusted basis, as net sales declined particularly in Japan. Net sales of EUR 4,094 million were achieved in this region, corresponding to a share of almost 24% of the Group's total revenues.

Net sales by region (in EUR million)

	2018	2017	Change	currency adjusted
Americas	8,088	8,141	–0.7%	+5.6%
Europe	5,316	5,690	–6.6%	–6.0%
Asia/Australia/Africa (AAA)	4,094	4,225	–3.1%	+0.5%

In general, sales growth conformed to expectations. Supported by good results from clinical trials as well as by our external partners, we have been able to place promising new products on the market and successfully push ahead with well-established products. On the other hand, we are experiencing an increasingly difficult market situation with constantly challenging market access and growing price pressure in our key markets. Overall, the company has asserted itself well despite the difficult conditions and has laid the foundations for future growth.

The materials ratio (taking into consideration the change in inventory) has improved to 16.1% (2017: 20.9%). This resulted from the negative impact in the previous year of sales from the Merial companies' inventories which were assessed at market value. In addition, the relatively low-margin service and production agreements from discontinued operations (consumer health care business) was no longer included. Personnel expenses increased due to the increased number of employees, plus expenses for pension plans and similar obligations. Depreciation and amortisation also increased. This was mainly attributable to the write-down on intangible assets in the animal health business as well as impairment losses on tangible assets in France and Spain. In 2018, the operating income included extraordinary effects which totalled EUR –420 million (2017: EUR –309 million), mainly due to restructuring measures and integration costs. Overall, despite the positive operating trend for our core business, operating income was thus in line with the previous year's level which, considering extraordinary effects, met our expectations. Boehringer Ingelheim recorded an operating income of EUR 3,472 million, corresponding to a return on sales of 19.8%, which is 0.5 percentage points above the previous year's return on sales.

Key figures (in EUR million)	2018	2017	Change
Net sales	17,498	18,056	–3.1%
Operating income	3,472	3,487	–0.4%
Return on net sales	+19.8%	+19.3%	
Income before taxes	3,176	2,856	+11.2%
Income after taxes	2,075	–229	n.a.

Income before taxes increased by EUR 320 million or 11.2%, mainly due to improved holding income. The financial result reflects increased interest expenses due to pension commitments and similar obligations as well as losses from plan assets; in the previous year, it included gains from plan assets. The other financial result improved.

While tax expenses in 2017 were negatively affected by significant extraordinary effects resulting from the disposal of the consumer health care business as well as the tax reform in the USA, these negative factors were no longer applicable in 2018. We can therefore report a clearly positive income after tax once again.

It must be noted in this regard that under the provisions of German commercial law, shareholders' personal taxes arising from Group business activities may not be recognised as tax expenses. Instead, these taxes are presented as part of withdrawals from Group equity. Taking this specificity into account, the actual tax ratio is markedly higher than the figure shown in the profit and loss statement.

EUR **2.1** billion income after taxes

Despite difficult market conditions and adverse currency effects, Boehringer Ingelheim registered a positive development of the operating business in the 2018 financial year. Following the previous year, which was shaped by integration processes and extraordinary tax effects, we concluded the past year with income after taxes of EUR 2,075 million (2017: EUR –229 million).

Development of the businesses

In the past financial year, Boehringer Ingelheim's business activities were divided into the areas of Human Pharmaceuticals, Animal Health and Biopharmaceuticals.

Net sales by businesses (in EUR million)

	2018	2017	Change	currency adjusted
Human Pharmaceuticals	12,559	12,621	−0.5%	+3.3%
Animal Health	3,960	3,901	+1.5%	+5.6%
Biopharmaceuticals	734	678	+8.3%	+8.3%
Other sales	40	43	−7.0%	−4.3%
Discontinued Operations	205	813	−74.8%	−73.1%

Human Pharmaceuticals

3.3%
growth (currency adjusted) for human pharmaceuticals

With around 72% of total Group revenue, Human Pharmaceuticals is the main pillar of Boehringer Ingelheim's business activities. Net sales from this business amounted to EUR 12,559 million in 2018. This is equivalent to a change of − 0.5% (+ 3.3% currency adjusted) compared with the previous year. The positive currency-adjusted sales growth has resulted, in particular, from the successful placement of innovative products as well as the solid market position of established medicines. In 2018, the emerging markets and the US market were once again the key growth drivers for the human pharmaceuticals business. On the other hand, in many significant markets, price pressure − particularly on established medicines − and a relatively strong euro represent a difficult environment in which Boehringer Ingelheim has nonetheless managed to assert itself.

Our product SPIRIVA®, which is used to treat chronic obstructive pulmonary disease (COPD), was once again the biggest contributor to sales in 2018. It generated revenues of EUR 2,412 million in the reporting period, which was below the previous year's level (EUR 2,828 million) as a result of increasing price pressure.

Boehringer Ingelheim's second-strongest product in terms of sales, the anticoagulant PRADAXA®, registered sales of EUR 1,486 million in the past year, an increase compared with 2017 (+ 3.3%).

In the 2018 financial year, the type-2 diabetes medicine JARDIANCE® − winner of the Prix Galien International 2018 for the most innovative pharmaceutical product − once again recorded strong growth. We achieved sales of EUR 1,461 million with JARDIANCE® in the reporting period, which corresponds to an increase of 44.9% compared with the previous year's EUR 1,008 million.

Net sales (in EUR million)

	2018	2017	Change
SPIRIVA®	2,412	2,828	−14.7%
PRADAXA®	1,486	1,438	+3.3%
JARDIANCE®	1,461	1,008	+44.9%
TRAJENTA® / JENTADUETO®	1,397	1,333	+4.8%

With regard to the regional distribution of sales in the human pharmaceuticals business, the USA, with a share of 41%, was once again by far the largest market. Here, Boehringer Ingelheim generated sales of EUR 5,104 million, which corresponds to an increase of 0.2% compared with the previous year (+4.7% currency-adjusted).

Our second-biggest market, the EUCAN region (Europe, Canada, Australia, New Zealand), accounted for 32%, with revenues of EUR 3,971 million. Sales increased by 0.2% compared to 2017 (EUR 3,965 million). Exchange rate effects did not have any significant influence on the sales trend here.

In Japan, sales declined by 18.0% to EUR 1,160 million (2017: EUR 1,415 million), partly due to the expiry of a cooperation agreement for the product MICARDIS®.

Net sales by region (in EUR million)

	2018	2017	Change
USA	5,104	5,096	+0.2%
Europe/Canada/Australia/New Zealand (EUCAN)	3,971	3,965	+0.2%
Emerging Markets	2,324	2,145	+8.3%
Japan	1,160	1,415	−18.0%

Strong sales increase in growth markets

In the growth markets, sales increased by 8.3% to EUR 2,324 million (+16.5% currency-adjusted). Sales in the previous year had amounted to EUR 2,145 million here. In China, growth of almost 28% was achieved compared with 2017, resulting in sales of EUR 658 million.

Animal Health

Sales of products in the animal health business once again increased in 2018. They amounted to EUR 3,960 million and were thus 1.5% (+ 5.6% currency-adjusted) higher than in 2017.

Net sales (in EUR million)

	2018	2017	Change
NEXGARD®	610	546	+11.7%
FRONTLINE®	399	401	−0.5%
INGELVAC CIRCOFLEX®	303	333	−9.0%
HEARTGARD®	299	284	+5.3%

Growth driven by antiparasitics

As in the 2017 financial year, in the 2018 reporting period three antiparasitics and the vaccine INGELVAC CIRCOFLEX® were the company's four best selling medicines.

The product NEXGARD® once again generated the strongest sales with revenues of EUR 610 million (2017: EUR 546 million), thus recording growth of 11.7% compared with the previous year.

This is followed by another antiparasitic, FRONTLINE®, which registered a decrease of 0.5% from EUR 401 million (2017) to EUR 399 million due to adverse currency effects.

The product INGELVAC CIRCOFLEX®, which is used as a vaccine against porcine circovirus type 2, achieved EUR 303 million in sales in the 2018 financial year, which represents a decline of 9.0% on the previous year (EUR 333 million).

Net sales by region (in EUR million)

	2018	2017	Change
North America	1,726	1,664	+3.7%
Europe	978	970	+0.8%
Africa/Asia/Middle East/Oceania (METAsia)	971	954	+1.8%
Latin America	285	313	−8.9%

Biopharmaceuticals

Once again strong growth in Biopharmaceuticals

In the 2018 financial year, the biopharmaceuticals business maintained its position in the industrial customers segment. The order situation for the entire business has developed positively, resulting in high capacity utilisation for biopharmaceutical production. Sales increased from EUR 678 million in 2017 to EUR 734 million (+ 8.3%).

Financial position

(in EUR million)	2018
Financial funds as of 1.1.	**8,130**
Cash flow from operating activities	2,988
Cash flow from investing activities	– 1,403
Cash flow from financing activities	– 208
Change in financial funds from cash relevant transactions	**1,377**
Change in financial funds due to change of consolidated companies or exchange rate movements	– 53
Financial funds as of 31.12.	**9,454**

Boehringer Ingelheim's financial management instruments and methods are aimed at securing liquidity, minimising financial risks and optimising the cost of capital with an appropriate capital structure. Our financial activities are therefore geared towards supporting the business strategy.

Cash flow from operating activities amounted to EUR 2,988 million, which represents an increase of EUR 364 million in comparison to the previous year (EUR 2,624 million). Cash flow from investing activities declined considerably to EUR 1,403 million (2017: EUR 5,115 million), as the prior year was strongly affected by the cash settlement for the swap of businesses with Sanofi and tax payments resulting from the sale of our consumer health care business.

Significant investments

Investments are of particular importance to Boehringer Ingelheim from a strategic point of view. Continuous investment is a requirement for long-term development of the company and forms the basis for the profitable growth of our business activities. A total of EUR 1,073 million was invested in tangible and intangible assets in the year under review, representing an unchanged high level and a slight increase compared to 2017 (EUR 1,023 million). Furthermore, EUR 367 million have been deposited in plan assets for pension and similar obligations mainly in the USA.

After the topping-out ceremony in autumn 2018 for the expansion of production in Vienna (Austria) for the strongly growing biopharmaceutical business represents the biggest single investment in the history of Boehringer Ingelheim and is well underway, with a further 500 jobs to be created. In 2018 alone, about EUR 180 million has been invested into the facility that has been a significant site for the Group for decades.

An important investment also took place in the business of human pharmaceuticals. Despite the disposal of our chemical production site in Malgrat, Spain beginning of 2019, whose new proprietor will in future be incorporated into our production network as an external strategic partner, Spain remains an important site of the Boehringer Ingelheim Group. In 2018, more than EUR 45 million has been invested into a project that comprises the production of cartridges used in RESPIMAT® products and their filling as well as the packaging for the global distribution in Sant Cugat, Spain.

A further important investment was made in the animal health business. In March 2018, groundbreaking for a new production facility, which will focus on the production of avian vaccines, has begun in Lyon Porte-des-Alpes (France) and is expected to offer employment to more than 40 people. This investment follows to the rising demand of vaccines for the foot-and-mouth disease, resulting from higher poultry consumption.

The cash outflow from financing activities in the amount of EUR 208 million mainly includes payments to the shareholders and interest paid. Overall, after taking currency effects and changes within the group of consolidated companies into consideration, this led to an increase in the Boehringer Ingelheim Group's financial funds of EUR 1,324 million to EUR 9,454 million.

Net assets position

(in EUR million)	31.12.2018	31.12.2017	Change	Change in %
Assets				
Intangible and tangible assets	9,400	9,239	161	
Financial assets	6,058	5,830	228	
Fixed assets	**15,458**	**15,069**	**389**	**+2.6%**
Inventories	3,312	3,087	225	
Trade accounts receivable	3,540	3,146	394	
Other receivables and other current assets	1,033	1,360	−327	
Cash and cash equivalents	4,303	3,071	1,232	
Current assets	**12,188**	**10,664**	**1,524**	**+14.3%**
Other assets	3,242	2,653	589	
Total assets	**30,888**	**28,386**	**2,502**	**+8.8%**
Equity and liabilities				
Group equity	**12,334**	**10,657**	**1,677**	**+15.7%**
Provisions for pensions and similar obligations	4,712	4,289	423	
Tax provisions and other provisions	9,040	8,439	601	
Accounts payable and loans	2,142	2,004	138	
- of which greater than 5 years:	20	134	−114	
Liabilities	**15,894**	**14,732**	**1,162**	**+7.9%**
Other liabilities and difference from capital consolidation	2,660	2,997	−337	
Total equity and liabilities	**30,888**	**28,386**	**2,502**	**+8.8%**

In the 2018 financial year, Boehringer Ingelheim's total assets amounted to EUR 30.888 million, which is an increase of EUR 2,502 million as compared with the previous year. A significant reason for this was the development of the financial funds which rose by EUR 1,232 million as a result of the positive cash flow. An increase in deferred tax assets, working capital (trade receivables and inventories) and fixed assets contributed to the rise as well.

Despite depreciation, amortisation and impairments, a high investment activity, the initial consolidation of the ViraTherapeutics GmbH and positive currency effects led to a slight increase in tangible and intangible assets of around 2%. The financial assets also went up by around 4% due to a reversal on an impairment loss in the previous year.

Inventories and trade receivables grew significantly by 10% (EUR 619 million) as a result of higher working capital in the USA, the emerging markets (especially in China) and in Japan. Other receivables and other current assets decreased mainly due to lower tax prepayments in the USA, France and Germany. The increase in other assets arose from higher deferred tax assets based on temporary differences in fixed assets as well as higher plan assets for pensions and similar obligations in the USA.

Increased equity ratio in spite of higher balance sheet total

The increase in Group equity by EUR 1,677 million is the result of the Group profit in 2018 as well as positive currency effects that surpassed withdrawals by the shareholders. Group equity as of 31 December 2018, amounted to EUR 12,334 million. The equity ratio improved to about 40% (31 December 2017: 38%). In addition to equity, pension provisions and long-term liabilities are also at the Group's disposability in the long term. The total of these three items amounted to EUR 17,066 million in 2018, representing a share of 55% of the total assets. Consequently, long-term disposable capital covers all intangible and tangible assets as well as the working capital.

Pension provisions increased due to a higher actuarial interest rate and the utilisation of updated mortality tables. Provisions for discounts and guarantees in the USA and tax provisions in Germany went up in comparison to the previous reporting year as well. While the trade accounts payable and liabilities to banks slightly decreased in 2018, other liabilities increased due to higher tax liabilities in Germany. Other liabilities declined mainly due to the reversal of the difference from capital consolidation and lower deferred tax liabilities from temporary differences in fixed assets.

Boehringer Ingelheim's positive development in the 2018 financial year is also reflected in its net asset position. Boehringer Ingelheim remains a soundly financed and profitable company.

REPORT ON OPPORTUNITIES AND RISKS

Opportunities and risk management

When assessing the risks in the context of holistic opportunities and risk management, we also endeavour to take into account the resulting opportunities. Opportunities management is based on the strategies and objectives of the company, individual businesses and operating business units and is an integral part of the Group-wide planning and management systems. Those responsible for the businesses and functions bear direct responsibility for the early and systematic identification, analysis and use of opportunities. For Boehringer Ingelheim as a research-driven and innovative pharmaceutical company, the current R&D activities are considered a relevant opportunity. Relevant projects have already been illustrated in the research and development chapter.

The aim of the risk management system implemented at Boehringer Ingelheim is to identify business-specific risks and, in particular, risks that jeopardise the continued existence of the company as early as possible, to assess them and to reduce them to a reasonable level by means of suitable measures. The persons responsible for the key businesses and functions are as well included in the process of calculating and assessing risks. The Group-wide risk and information system ensures that all identified risks are analysed and assessed carefully. Following an appropriate classification into various categories, adequate risk management measures are initiated and their implementation is consistently monitored.

In the year under review, internal auditing performed targeted routine audits as well as extraordinary audits around the world. In addition to adherence to legal requirements and internal Group guidelines, the main focal points were the functionality of systems, the effectiveness of internal controls for the prevention of loss of assets, and the efficiency of structures and processes. Corresponding adjustments or optimisations were initiated as necessary.

Individual risks

The most important risks to which Boehringer Ingelheim is exposed are broken down into the following specific categories: financial risks, legal risks, production and environmental risks, personnel risks and industry-specific risks.

Risks are identified below as being “concrete” when they appear to be controllable by means of specific management procedures. The term “abstract” is used in the case of risks that cannot be completely controlled, even by means of targeted management procedures, regardless of the probability of their occurrence.

Financial risks

Relevant financial risks are broken down as follows: currency risks, credit and country-specific risks, as well as financial investment and shareholding risks.

Currency risks

The global orientation of our business activities is subject to opportunities and risks due to exchange rate volatility, particularly with regard to the US dollar and Japanese yen. The Group monitors and quantifies these risks at regular intervals, making them predictable for future business by means of relevant hedging strategies and appropriate financial instruments, such as forward exchange contracts. The resultant risks are subsequently designated as being concrete and controllable and therefore limited.

Credit and country-specific risks

Boehringer Ingelheim is exposed to various credit and country-specific risks as a result of its international business activities. From the portfolio of trade accounts receivable and trade accounts payable, we have not identified any extraordinary risks for the Group beyond the usual level in the sector. The same applies to possible default risks for receivables, which are largely hedged against economic and political risks. We will continue to carefully track credit and country-specific risks to be in a position to respond to negative changes in a timely manner. These risks, which we consider moderate, are therefore regarded as concrete.

Financial investment and shareholding risks

The Group pursues a defensive investment strategy in the management of its financial assets. This is reflected in the orientation of its portfolio, which is focused on European Economic and Monetary Union (EMU) government bonds with top credit ratings and short-term investments at selected banks. This results in a concrete, controllable and thus limited risk – but therefore only limited opportunities – for the major part of the financial investments. The net book value of some of the strategic investments in related companies is affected by market and business circumstances, which leads to a higher volatility of the fair market value. All specific risks have been covered by respective impairments in the consolidated financial statements.

Legal risks

The business activities of the Group are exposed to legal risks. A distinction is made between regulatory, liability and patent protection risks.

Regulatory risks

Boehringer Ingelheim is exposed to risks arising from legal disputes and proceedings as well as official investigations. As the legal or administrative decisions in ongoing or future proceedings cannot be predicted, we regard the resultant risks as being abstract and high.

Liability risks

The marketing and sale of pharmaceuticals are exposed to a potential product liability risk. Boehringer Ingelheim currently has product liability insurance for the Company's risk profile. There is absolutely no guarantee, however, that this insurance coverage can be maintained at reasonable cost and acceptable conditions, or that it is sufficient to protect Boehringer Ingelheim against a claim or loss, or against all potential claims or losses. In case it is foreseeable that the product liability insurance does not cover or only partially covers a specific liability risk, the remaining risk exposure has been covered by a provision. We therefore see a moderate risk for the Group here.

Furthermore, product liability claims could tie up substantial financial resources and management capacity and be detrimental to the company's image in the event that the market considers the product to be unsafe or ineffective as a result of unexpected side effects. We see this as a moderate and abstract risk.

Patent protection risks

Protection of innovations through trademark, brand and patent rights is of particular importance to Boehringer Ingelheim as a research company. These commercial protective rights are increasingly the target of attacks and breaches. We have taken the necessary precautions to allow us to detect threats at an early stage and, by commencing appropriate countermeasures, defend our legal position using all legal means available to us so that these moderate risks are regarded as concrete.

Production and environmental risks

Our quality management system and compliance processes are continuously optimised in close cooperation with the relevant authorities in order to ensure compliance with cGMP standards (current good manufacturing practices). Risks in this area continue to be of high significance to the Group and are classified as abstract.

In order to guarantee the supply of our products to the market, we have implemented measures that guarantee reliable and high-quality supplies for internal and external customers. In addition to supplier management on the procurement side, this also involves building up internal standby capacities. As a result, we see the risk as concrete.

Risks in the areas of environment, health, safety and sustainability (EHS&S) are pre-emptively minimised by ensuring global adherence to our high safety standards. Appropriate emergency plans have been drawn up for possible incidents of any kind and are practised and subjected to comprehensive quality testing at regular intervals. As a result of these measures, these risks are classed as concrete and limited.

Personnel risks

Boehringer Ingelheim, as other companies, is exposed to demographic change and the resultant risk of being affected by a lack of appropriately qualified personnel. This potential risk can have a substantial impact on the company's business activities. It has therefore been included in the long-term planning process for many years and has gained strategic significance as a result.

Boehringer Ingelheim counters the risk by means of a comprehensive personnel concept. In the context of global personnel management, this also presents the Group with opportunities. Regardless of their ethnic background, gender or religion, we offer all company employees development opportunities based on their vocational skills, social expertise, personal aptitudes and willingness to take on responsibility in accordance with the needs of the company. In view of the counter-measures described above, the risk is regarded as moderate and concrete.

Industry-specific risks

Boehringer Ingelheim is exposed to business risks specific to the pharmaceutical industry. Some of these risks materialised in the past financial year and are increasing in significance as a result of their impact on Boehringer Ingelheim. They will continue to be classed as significant and abstract.

In addition to the loss of exclusivity of products established on the market and risks associated with the development and registration of new products, the industry-specific risks increasingly include changing and restrictive requirements relating to pricing and reimbursement on many sales markets. Frequently, the prices of pharmaceutical products are subject not only to state monitoring and regulation, but also to price pressure from cheaper generic drugs caused by the state reimbursement systems. Boehringer Ingelheim is therefore keeping a close eye on the various changes in its sales markets and takes appropriate measures in response to current developments.

Overall statement on the risk situation

From a current perspective, we are not aware of any risks that alone or in conjunction with other risks could lead to a lasting impairment of the company's net assets, financial or earnings position that could jeopardise the continued existence of Boehringer Ingelheim.

REPORT ON EXPECTED DEVELOPMENTS

Boehringer Ingelheim can look back on a successful 2018 financial year in which we achieved our ambitious targets – both in absolute figures and in comparison with our competitors – and laid the foundations for sustainable development and long-term growth.

We demonstrated the consistent focus of our business on innovation-oriented fields by the strategic exchange of Sanofi's animal health business (Merial) and Boehringer Ingelheim's consumer health care business. The transaction was successfully closed on 1 January 2017. Through this transaction, we improved the competitiveness of our animal health business in the industry's important growth markets. The animal health business is growing in the second year following integration of the Merial business. We have successfully managed the demanding task of incorporating this organisation with many products, new customers and processes. We expect this to provide the Group with further growth momentum in the future.

Further sales growth expected

The increasingly difficult market environment and increased unpredictability of doing business poses major challenges for the entire pharmaceutical industry and will continue to require significant attention from Boehringer Ingelheim in 2019, too. With regard to competitiveness, it is even more important, therefore, that we retain our scope for growth and innovation as well as our financial ability to act so that we can continue to be successful on the market in the future. In view of the many change processes in healthcare systems, which are faced with ageing populations and increasing price pressure in many major markets, we only expect to see low growth impetus for the pharmaceutical industry in the coming year. On a comparable basis (adjusted for currency and extraordinary effects), we expect to see a slight increase in net sales for Boehringer Ingelheim in 2019.

R&D expenses remain continuously high, in line with our strategy to drive growth and promote new products in the future primarily with products from our own R&D facilities. We invest in this area with care after close investigation of the therapeutic benefit and the associated prospects for success. The replenishment of innovative medicines in our research pipeline shows short-, mid- and long-term growth potential. For 2019, we envisage a slight increase in our investments in the R&D of new pharmaceuticals.

In addition to patent expiry and attacks on patents, the major challenges facing the research-driven pharmaceutical industry are the increasing amount of investment in R&D as well as bigger hurdles and increased costs associated with product approvals. In this context, the increasing cost pressure in healthcare systems as outlined above must also be particularly emphasised. The systems are increasingly unwilling to substantially and adequately reward high investments in the development of new medicines and the value contribution to increasing the efficiency of the system as a whole. As a result, there is significant price pressure in all major markets for prescription medicines. In conjunction with longer planning and development cycles for new products, this makes business less predictable and requires us to recognise and seize opportunities quickly on the one hand, while subjecting costs and strategies to continual monitoring and adjustments on the other hand. To this end, we have launched initiatives over the past few years to accelerate our reaction to changes and to reduce organisational complexities as well as to lower our cost base in order to create potential for investments and to secure the company's long-term success. With the difficult market environment on the one hand, and the potential resulting from the measures we have introduced as well as promising new product launches on the other hand, we plan to see a 2019 operating income which is on a comparable basis (adjusted for currency and extraordinary effects) slightly above last year's level.

Boehringer Ingelheim well positioned for the future

As a family-owned company, Boehringer Ingelheim's primary aim is to maintain the group's independence and competitiveness. As such, long-term and sustainable organic growth still takes precedence over short-term profit targets. We are confident that we will achieve our ambitious targets in all of our businesses thanks to our great innovative strength based on a comprehensive portfolio of prospective products, our global presence and the support of our highly qualified and motivated employees. We will stand by our vision "Value through Innovation" and develop and bring to market innovative products in areas of high unmet medical need and therapeutic approaches where we aim to be first. The aim of our endeavours is to make new medicines available that will allow the treatments of humans and animals more effectively than is currently possible.

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CONSOLIDATED FINANCIAL STATEMENTS

OVERVIEW OF SELECTED CONSOLIDATED COMPANIES

C.H. BOEHRINGER SOHN AG & CO. KG, INGELHEIM AM RHEIN

BOEHRINGER INGELHEIM VETMEDICA GMBH, INGELHEIM AM RHEIN

ARGENTINA
D
- Boehringer Ingelheim Animal Health Argentina S.A., *Buenos Aires*

AUSTRALIA
D R
- Boehringer Ingelheim Animal Health Australia Pty. Ltd., *North Ryde*

BELGIUM
D
- Boehringer Ingelheim Animal Health Belgium S.A., *Brussels*

BRAZIL
D P R
- Boehringer Ingelheim Animal Health do Brasil Ltda., *São Paulo*

CANADA
D
- Merial Canada, Inc., *Burlington*

CHINA
D P R
- Nanchang Boehringer Ingelheim Animal Health Co., Ltd., *Nanchang*
- Boehringer Ingelheim Animal Health (Shanghai) Co., Ltd., *Shanghai*

DENMARK
D P R
- Boehringer Ingelheim Animal Health Denmark A/S, *Copenhagen*

FRANCE
D P R
- Merial S.A.S., *Lyon*

GREAT BRITAIN
D P
- Boehringer Ingelheim Animal Health UK Limited, *Bracknell*

ITALY
D P
- Boehringer Ingelheim Animal Health Italia S.p.A., *Milan*

JAPAN
D R
- Boehringer Ingelheim Animal Health Japan Co., Ltd., *Tokyo*

MEXICO
D
- Boehringer Ingelheim Animal Health México S.A. de C.V., *Mexico City*

NETHERLANDS
D P
- Boehringer Ingelheim Animal Health Netherlands B.V., *Alkmaar*

NEW ZEALAND
D P R
- Boehringer Ingelheim Animal Health New Zealand Ltd., *Manukau City*

PUERTO RICO
P
- Boehringer Ingelheim Animal Health Puerto Rico LLC, *Barceloneta*

SOUTH AFRICA
D
- Boehringer Ingelheim Animal Health South Africa Pty Ltd., *Randburg*

SOUTH KOREA
D
- Boehringer Ingelheim Animal Health Korea Ltd., *Seoul*

SPAIN
D
- Boehringer Ingelheim Animal Health España, S.A., *Barcelona*

TAIWAN
D
- Boehringer Ingelheim Animal Health Taiwan Co., Ltd., *Taipei*

THAILAND
D
- Boehringer Ingelheim Animal Health (Thailand) Limited, *Bangkok*

USA
D P R
- Boehringer Ingelheim Animal Health USA, Inc., *Wilmington, Delaware*

GERMANY
D P R
- Boehringer Ingelheim Corporate Center GmbH, *Ingelheim am Rhein*
- Boehringer Ingelheim GmbH, *Ingelheim am Rhein*
- Boehringer Ingelheim Pharma GmbH & Co. KG, *Ingelheim am Rhein*
- Boehringer Ingelheim microParts GmbH, *Dortmund*
- Boehringer Ingelheim Venture Fund GmbH, *Ingelheim am Rhein*
- Boehringer Ingelheim Biopharmaceuticals GmbH, *Ingelheim am Rhein*
- Boehringer Ingelheim Veterinary Research Center GmbH & Co. KG, *Hanover*
- Boehringer Ingelheim Middle East and Africa GmbH, *Ingelheim am Rhein*

D *Distribution*

P *Production*

R *Research and Development*

C.H. BOEHRINGER SOHN GRUNDSTÜCKSVERWALTUNG GMBH & CO. KG, INGELHEIM AM RHEIN

BOEHRINGER INGELHEIM INTERNATIONAL GMBH, INGELHEIM AM RHEIN

ARGENTINA D P
- Boehringer Ingelheim S.A., *Buenos Aires*

AUSTRALIA D P
- Boehringer Ingelheim Pty. Ltd., *North Ryde*

AUSTRIA D P R
- Boehringer Ingelheim RCV GmbH & Co. KG, *Vienna*
- Forschungsinstitut für molekulare Pathologie Gesellschaft mbH, *Vienna*

BELGIUM D
- SCS Boehringer Ingelheim Comm.V., *Brussels*

BRAZIL D P
- Boehringer Ingelheim do Brasil Química e Farmaceutica Ltda., *São Paulo*
- Solana Agro Pecuária Ltda., *Arapongas*

CANADA D
- Boehringer Ingelheim (Canada) Ltd., *Toronto*

CHILE D
- Boehringer Ingelheim Ltda., *Santiago de Chile*

CHINA D P R
- Boehringer Ingelheim Shanghai Pharmaceuticals Co., Ltd., *Shanghai*
- Boehringer Ingelheim Biopharmaceuticals (China) Co., Ltd., *Shanghai*
- Boehringer Ingelheim (China) Investment Co., Ltd., *Shanghai*
- Boehringer Ingelheim International Trading (Shanghai) Co., Ltd., *Shanghai*
- Boehringer Ingelheim Vetmedica (China) Co., Ltd., *Taizhou*

COLOMBIA D
- Boehringer Ingelheim S.A., *Santa Fé de Bogotá*

CZECH REPUBLIC D
- Boehringer Ingelheim, spol. s.r.o., *Prague*

DENMARK D
- Boehringer Ingelheim Danmark A/S, *Copenhagen*

ECUADOR D
- Boehringer Ingelheim Del Ecuador Cia. Ltda., *Quito*

FINLAND D
- Boehringer Ingelheim Finland Ky, *Espoo*

FRANCE D
- Boehringer Ingelheim France S.A.S., *Paris*

GREAT BRITAIN D
- Boehringer Ingelheim Ltd., *Bracknell*

GREECE D P
- Boehringer Ingelheim Ellas A.E., *Athens*

HONG KONG D
- Boehringer Ingelheim (Hong Kong) Ltd., *Hong Kong*

INDIA D
- Boehringer Ingelheim India Private Ltd., *Mumbai*

INDONESIA D P
- PT Boehringer Ingelheim Indonesia, *Jakarta*

ISRAEL D
- Boehringer Ingelheim Israel Ltd., *Tel Aviv*

ITALY D P R
- Boehringer Ingelheim Italia S.p.A., *Milan*
- Bidachem S.p.A., *Fornovo S. Giovanni*

JAPAN D P R
- Nippon Boehringer Ingelheim Co., Ltd., *Tokyo*
- Boehringer Ingelheim Seiyaku, *Yamagata*
- Boehringer Ingelheim Japan, Inc., *Tokyo*

MEXICO D P R
- Boehringer Ingelheim Mexico S.A. de C.V., *Mexico City*
- Boehringer Ingelheim Vetmedica S.A. de C.V., *Guadalajara*

NETHERLANDS D
- Boehringer Ingelheim B.V., *Alkmaar*

NEW ZEALAND D
- Boehringer Ingelheim (N.Z.) Ltd., *Auckland*

NORWAY D
- Boehringer Ingelheim Norway KS, *Asker*

PHILIPPINES D
- Boehringer Ingelheim (Philippines), Inc., *Manila*

POLAND D
- Boehringer Ingelheim Sp. z o.o., *Warsaw*

PORTUGAL D
- Unilfarma-Uniao Internacional de Laboratórios Farmacêuticos, Lda., *Lisbon*

RUSSIAN FEDERATION D
- OOO Boehringer Ingelheim, *Moscow*

SOUTH AFRICA D
- Ingelheim Pharmaceuticals (Proprietary) Ltd., *Randburg*

SOUTH KOREA D
- Boehringer Ingelheim Korea Ltd., *Seoul*
- Boehringer Ingelheim Vetmedica Korea Ltd., *Seoul*

SPAIN D P
- Boehringer Ingelheim España S.A., *Barcelona*

SWEDEN D
- Boehringer Ingelheim Aktiebolag, *Stockholm*

SWITZERLAND D
- Boehringer Ingelheim (Schweiz) GmbH, *Basel*

TAIWAN D
- Boehringer Ingelheim Taiwan Ltd., *Taipei*

THAILAND V
- Boehringer Ingelheim (Thai) Limited, *Bangkok*

TURKEY D
- Boehringer Ingelheim Ilaç Ticaret A.S., *Istanbul*

USA D P R
- Boehringer Ingelheim Pharmaceuticals, Inc., *Wilmington, Delaware*
- Boehringer Ingelheim Fremont, Inc., *Wilmington, Delaware*
- Boehringer Ingelheim USA Corporation, *Wilmington, Delaware*

VIETNAM D
- Boehringer Ingelheim Animal Health Vietnam Limited Liability Company, *Ho Chi Minh City*

CONSOLIDATED BALANCE SHEET

Assets (in EUR million)	Notes [1]	31.12.2018	31.12.2017
Intangible assets	(3.1)	5,120	5,372
Tangible assets	(3.2)	4,280	3,867
Financial assets	(3.3)	6,058	5,830
Fixed assets		**15,458**	**15,069**
Inventories	(3.4)	3,312	3,087
Accounts receivable and other assets	(3.5)	4,573	4,506
Cash and cash equivalents		4,303	3,071
Current assets		**12,188**	**10,664**
Prepaid expenses		377	334
Deferred tax assets		2,784	2,307
Exceeding amount of plan assets		81	12
Total assets		**30,888**	**28,386**

Equity and liabilities (in EUR million)	Notes [1]	31.12.2018	31.12.2017
Shareholders' capital		178	178
Group reserves		12,453	10,868
Balance sheet currency conversion difference		– 298	– 388
Equity attributable to the parent company		**12,333**	**10,658**
Non-controlling interests		1	– 1
Group equity		**12,334**	**10,657**
Difference from capital consolidation		**1,511**	**1,729**
Provisions	(3.6)	13,752	12,728
Accounts payable and loans	(3.7)	2,142	2,004
Liabilities		**15,894**	**14,732**
Deferred income		463	514
Deferred tax liabilities		686	754
Total equity and liabilities		**30,888**	**28,386**

[1] For explanations, see relevant section in the notes to the consolidated financial statements.

CONSOLIDATED PROFIT AND LOSS STATEMENT

(in EUR million)	Notes [1]	2018	2017
Net sales	(4.1)	**17,498**	**18,056**
Changes in finished goods and work in process		244	–291
Other own work capitalised		13	16
Other operating income	(4.2)	1,872	3,411
Total revenues		**19,627**	**21,192**
Cost of materials	(4.3)	–3,058	–3,474
Personnel expenses	(4.4)	–5,276	–4,934
Amortisation of intangible assets and depreciation of tangible assets	(4.5)	–1,089	–963
Other operating expenses	(4.6)	–6,732	–8,334
Operating income		**3,472**	**3,487**
Financial income	(4.7)	–654	–330
Holding income	(4.8)	358	–301
Income before taxes		**3,176**	**2,856**
Income taxes [2]	(4.9)	–1,101	–3,085
Income after taxes		**2,075**	**–229**
Net income/loss	(4.10)	2,075	–229
Non-controlling interests		0	6
Group profit/loss		**2,075**	**–223**

[1] For explanations, see relevant section in the notes to the consolidated financial statements.
[2] Due to legal requirements the shareholders' personal taxes arising from group business activities are shown as withdrawals from the group reserves.

CASH FLOW STATEMENT

(in EUR million)	2018
Income after taxes (including non-controlling interests)	2,075
Amortisation / reversal of write-downs of intangible assets and depreciation / reversal of write-downs of tangible assets	1,081
Change in provisions for pensions and similar obligations (without acquiring or generating of plan assets)	711
Change in other provisions	414
Other non-cash income and expenses	−515
Gain from disposals of consolidated companies	−4
Gain/loss from disposals of fixed assets	−1
Grants received	−7
Change in inventories	−229
Change in accounts receivable and other assets not related to investing or financing activities	−478
Change in trade accounts payable and other liabilities not related to investing or financing activities	8
Interest income/interest expenses	93
Other income from investments	−13
Income/expenses of extraordinary magnitude or significance	−87
Income taxes	1,101
Income taxes paid	−1,161
Cash flow from operating activities	**2,988**
Payments to acquire intangible fixed assets	−123
Payments to acquire tangible fixed assets	−950
Payments to acquire financial fixed assets [1)]	−43
Payments to acquire or generate plan assets	−367
Investments in consolidated companies	−99
Proceeds from disposals of intangible fixed assets	0
Proceeds from disposals of tangible fixed assets	12
Proceeds from disposals of financial fixed assets [1)]	33
Cash receipts relating to the purchase price adjustment of consolidated companies	7
Cash receipts of extraordinary magnitude or significance	96
Interest received	18
Income from dividends	13
Cash flow from investing activities	**−1,403**

CASH FLOW STATEMENT

(in EUR million)	2018
Cash receipts from grants	7
Interest paid	–62
Cash payments from shareholders of the parent company	62
Cash payments to shareholders of the parent company	–217
Proceeds from loans / cash repayments of loans	2
Cash flow from financing activities	**–208**
Change in financial funds from cash relevant transactions	**1,377**
Changes in financial funds due to change of consolidated companies	5
Changes in financial funds due to exchange rate movements	–58
Financial funds [2] as of 1.1.	**8,130**
Financial funds [2] as of 31.12.	**9,454**

[1] Excl. investment securities.
[2] Cash and cash equivalents and investment securities within fixed assets.
(+) = source of funds, (-) = use of funds

STATEMENT OF CHANGES IN GROUP EQUITY

(in EUR million)	Shareholders' capital [1]	Group reserves [2]	Balance sheet currency conversion difference	Equity attributable to the parent company	Non-controlling interests	Group equity
Balance as of 31.12.2016	**178**	**11,220**	**–71**	**11,327**	**0**	**11,327**
Withdrawals	0	–145	0	–145	0	–145
Net loss	0	–223	0	–223	–6	–229
Changes in consolidated companies	0	16	–21	–5	5	0
Currency effects	0	0	–296	–296	0	–296
Balance as of 31.12.2017	**178**	**10,868**	**–388**	**10,658**	**–1**	**10,657**
Contributions	0	62	0	62	0	62
Withdrawals	0	–544	0	–544	0	–544
Net income	0	2,075	0	2,075	0	2,075
Changes in consolidated companies	0	–8	–2	–10	2	–8
Currency effects	0	0	92	92	0	92
Balance as of 31.12.2018	**178**	**12,453**	**–298**	**12,333**	**1**	**12,334**

[1] The shareholders' capital consists of the equity of C.H. Boehringer Sohn AG & Co. KG and C.H. Boehringer Sohn Grundstücksverwaltung GmbH & Co. KG. The shareholders' capital consists only of the limited partner's capital contribution.
[2] The shareholders' personal taxes arising from group business activities are shown as withdrawals from the group reserves.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1 Principles and methods

1.1 General principles

The consolidated financial statements of Boehringer Ingelheim for the 2018 financial year were prepared in accordance with Section 264a of the German Commercial Code (HGB), in line with the legal requirements to prepare consolidated financial statements under Section 290 et seq. HGB.

In accordance with Section 297 (1) HGB, the consolidated financial statements consist of the consolidated balance sheet, the consolidated profit and loss statement, the notes to the consolidated financial statements, the cash flow statement and the statement of changes in equity.

The consolidated financial statements were prepared in euros in accordance with Section 298 (1) in conjunction with Section 244 HGB.

To improve the clarity and transparency of the consolidated financial statements, individual items of the consolidated balance sheet and the consolidated profit and loss statement have been combined. These items are presented and explained separately in the notes. The additional disclosures required for the individual items can also be found in the notes.

1.2 Registry information

The parent company is registered under the name C.H. Boehringer Sohn AG & Co. KG, with its headquarters in Ingelheim am Rhein, in the commercial register of Mainz district court under the number HRA 21732.

1.3 Information on the group of consolidated companies

The parent company of the Boehringer Ingelheim Group is C.H. Boehringer Sohn AG & Co. KG, Ingelheim am Rhein. Boehringer AG, Ingelheim am Rhein, is the sole, personally liable, managing shareholder of this company.

Besides C.H. Boehringer Sohn AG & Co. KG, there is C.H. Boehringer Sohn Grundstücksverwaltung GmbH & Co. KG, Ingelheim am Rhein, whose general partner is controlled by C.H. Boehringer Sohn AG & Co. KG.

The Boehringer Ingelheim Group consists of a total of 176 affiliated companies in Germany and abroad. The consolidated financial statements of C.H. Boehringer Sohn AG & Co. KG include 152 fully consolidated subsidiaries. C.H. Boehringer Sohn Grundstücksverwaltung GmbH & Co. KG is consolidated as a special purpose entity because the majority of the risks and rewards from its business activities is attributable to C.H. Boehringer Sohn AG & Co. KG. In the remaining subsidiaries, C.H. Boehringer Sohn AG & Co. KG, directly or indirectly, holds a majority of the voting rights.

In accordance with Section 296 (2) HGB, 21 affiliated companies were not included in the consolidation in the reporting year, as they are individually and collectively insignificant to the Group's net assets, financial and earnings position. The total amount of the sales, equity and net income for the year of the affiliated companies not included in consolidation accounts for less than 1% of the aggregated Group financial statements totals. For two further affiliated companies, there are ongoing restrictions on control due to the terms of the articles of association. These companies were also not consolidated in accordance with Section 296 (1) No. 1 HGB.

The total number of affiliated companies decreased by five compared to the previous year:

- One new company was founded.
- One company was acquired.
- Six companies lost their separate legal identity through merger.
- One affiliated company was liquidated.

ViraTherapeutics GmbH, Innsbruck, was acquired on 10 September 2018.

The following subsidiaries were exempt from the duty to prepare and disclose annual financial statements and management reports in accordance with Section 264 (3) HGB:

- Boehringer Ingelheim GmbH, Ingelheim am Rhein
- Boehringer Ingelheim Europe GmbH, Ingelheim am Rhein
- Boehringer Ingelheim Secura Versicherungsvermittlungs GmbH, Ingelheim am Rhein
- Boehringer Ingelheim Grundstücksgesellschaft mbH, Ingelheim am Rhein
- Boehringer Ingelheim Finanzierungs GmbH, Ingelheim am Rhein
- Boehringer Ingelheim R&D Beteiligungs GmbH, Ingelheim am Rhein
- Boehringer Ingelheim Venture Fund GmbH, Ingelheim am Rhein
- Boehringer Ingelheim Invest GmbH, Ingelheim am Rhein

The following subsidiaries were exempt from the duty to prepare and disclose annual financial statements and management reports in accordance with Section 264b HGB:

- C.H. Boehringer Sohn AG & Co. KG, Ingelheim am Rhein
- C.H. Boehringer Sohn Grundstücksverwaltung GmbH & Co. KG, Ingelheim am Rhein
- Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim am Rhein
- Boehringer Ingelheim Veterinary Research Center GmbH & Co. KG, Hanover

Two joint ventures have been included at cost instead of either using the proportionate method or the equity method due to their lack of significance.

In accordance with Section 311 (2) HGB, associated companies were not valuated using the equity method due to their lack of significance.

1.4 Consolidation methods

For inventories and fixed assets, receivables, liabilities, and income and expense items, transactions between the companies included in consolidation were eliminated as part of debt consolidation procedures in accordance with Section 303 HGB, procedures to eliminate intercompany profits in accordance with Section 304 HGB and income and expenses consolidation procedures in accordance with Section 305 HGB.

The acquisition method was applied when including subsidiaries in the consolidation for the first time in accordance with Section 301 HGB. Companies were included in the consolidation for the first time on the date at which the company became a subsidiary.

The book value of the shares held by the parent company was offset against the corresponding equity of the subsidiary. Equity was carried at the amount of the fair value of the assets, liabilities, prepaid expenses and deferred income and special reserves included in the consolidated financial statements as at the time of consolidation. Any remaining positive balance was recorded as goodwill; any remaining negative balance was recorded as a difference from capital consolidation.

1.5 Currency translation

Assets and liabilities resulting from foreign currency transactions were translated using the average spot exchange rate as at the balance sheet date. The realisation principle (Section 298 (1) in conjunction with Section 252 (1) No. 4 half-sentence 2 HGB) and the historical cost convention (Section 298 (1) in conjunction with Section 253 (1) sentence 1 HGB) were applied to items with a remaining term of more than one year.

In these consolidated financial statements, the financial statements of foreign subsidiaries domiciled in a state outside the eurozone that are denominated in a foreign currency have been converted into euros in accordance with Section 308a HGB using the modified closing date rate method.

Using the modified closing date rate method, the asset and liability items of the annual financial statements prepared in foreign currency were translated into euros using the average spot exchange rate as at the balance sheet date, with the exception of equity, which was translated using the historical rate. Items included in the profit and loss statement were translated into euros using the average rate. The resulting translation difference was reported within consolidated equity below the reserves in “Balance sheet currency conversion difference”.

The exchange rates for the Group’s most important currencies changed as follows during the reporting year (basis: EUR 1):

	Closing rate		Average annual rate	
	31.12.2018	31.12.2017	2018	2017
US dollar	1.15	1.20	1.18	1.13
Japanese yen	125.85	135.01	130.41	126.66
Chinese renminbi	7.88	7.80	7.81	7.63
Pound sterling	0.89	0.89	0.88	0.88

2 Accounting policies

2.1 Fixed assets

Acquired intangible assets and tangible fixed assets are carried at cost, less scheduled straight-line amortisation and depreciation, considering technical and economic circumstances. This is based on the following useful lives:

Intangible assets	2 to 15 years
Buildings	20 years
Technical equipment and machinery	10 years
Other equipment, operating and office equipment	3 to 10 years

Only straight-line depreciation and amortisation are used in the consolidated financial statements. Additional write-downs are recorded to reflect impairments when the value of assets has been considered permanently impaired. Manufacturing costs include materials and labour manufacturing costs, an appropriate portion of materials and labour overheads, and the depreciation of fixed assets (to the extent caused by production). Manufacturing costs do not include financing costs.

All capitalised intangible assets have finite useful lives.

A useful life of ten years was applied to the goodwill for ViraTherapeutics GmbH, acquired this year, as past experience of products and sales markets together with the business conditions of ViraTherapeutics GmbH indicates that this presents a true and fair view.

Financial assets primarily include investment securities, shareholder rights and loans and were carried at the lower of cost or fair market value, if impaired. Once the reasons for the impairment made in previous financial years no longer existed, appropriate write-ups were made.

2.2 Current assets, prepaid expenses, deferred charges and exceeding amount of plan assets

Inventories are carried at the lower of cost or fair market value.

Raw materials, consumables and supplies are capitalised at the lower of average acquisition prices or fair market value on the balance sheet date.

Finished goods and work in progress are measured at manufacturing cost on the basis of individual calculations, taking into account the directly attributable costs of materials, direct labour costs, special direct costs, and an appropriate portion of material and production overhead costs and production-related depreciation.

Goods for resale are valued at the lower of either acquisition cost or fair market value.

All identifiable risks in inventories arising from above-average storage periods, diminished marketability and lower replacement costs were taken into account by recording appropriate valuation adjustments.

Inventories are valued loss-free, i. e. deductions were made from the expected sales prices to reflect costs yet to be incurred.

Receivables and other assets were recognised at cost less allowances for specific risks and general credit risk. Low-interest or non-interest-bearing receivables with a term of more than one year were discounted.

Cash and cash equivalents, consisting of cash, balances at banks and cheques were recognised at the lower of cost or fair market value.

Prepaid expenses recorded in accordance with Section 250 (1) HGB include expenses paid in advance in respect of a defined period of time after the balance sheet date.

Deferred income recorded in accordance with Section 250 (2) HGB include proceeds that represent income relating to a defined period of time after the balance sheet date.

The fair market value of plan assets and the corresponding present value of pension obligation have been offset according to German GAAP. The exceeding amount of plan assets has been capitalised separately.

2.3 Difference from capital consolidation

The difference from capital consolidation reported on 31 December 2018 was primarily a result of the business swap of Boehringer Ingelheim's consumer health care business and Sanofi's animal health business, which was completed on 1 January 2017. This resulted in a difference from capital consolidation of EUR 1,986 million. The difference is amortised over an estimated period of 15 years. The remaining balance of the difference amounted to EUR 1,495 million at 31 December 2018.

The difference from capital consolidation reported on 31 December 2018 also included an amount arising from the acquisition of a US company in 2011. The original difference amounted to EUR 157 million. The difference is amortised over an estimated period of ten years. The remaining balance of this difference amounted to EUR 16 million at 31 December 2018.

The income from the release of the difference arising from capital consolidation is included in other operating income. The release is made corresponding to the amortisation of those assets of the acquired company identified in the purchase price allocation not previously recognised in that company's balance sheet.

2.4 Group reserves

Group reserves include the retained earnings of the consolidated subsidiaries from prior and current years and consolidation entries that affect earnings.

2.5 Provisions

Tax provisions and other provisions include all uncertain liabilities and expected losses from executory contracts. They were carried at the amount required to settle the obligation based on reasonable prudent commercial judgement (i. e. including future cost and price increases). Provisions with a remaining maturity of more than one year were discounted using the matched-term, average market interest rate. In the case of pension provisions, this interest rate results from the last ten years average and in the case of other provisions, from the last seven years average (in accordance with the Rückstellungsabzinsungsverordnung – German Regulation on the Discounting of Provisions).

2.6 Accounts payable and loans

Accounts payable and loans were recognised at settlement amount.

2.7 Deferred taxes

To calculate deferred taxes arising from temporary or quasi-permanent differences between the carrying amounts of assets, liabilities, prepaid expenses and deferred income in the group financial statements and their carrying amounts for tax purposes or tax loss carryforwards, the amounts of the resulting tax benefits and expenses at the time that the differences will reverse were measured using tax rates specific to the respective consolidated company (4% - 39%). Deferred tax balances are not discounted. Differences due to consolidation measures in accordance with Sections 300 to 305 HGB were also measured using the company specific tax rates applicable at the time of the expected reversal of the difference. Deferred tax assets on loss carryforwards were taken into account if it is likely that they will be used within the next five years.

Deferred tax assets and liabilities were reported without offsetting.

3 Notes to the consolidated balance sheet

3.1 Intangible assets

(in EUR million)	Acquired concessions/ similar rights	Goodwill	Advance payments	Total
Acquisition/manufacturing costs				
Balance as of 1 January 2017	**1,815**	**6**	**12**	**1,833**
Currency conversion difference	−625	−1	−1	−627
Changes in consolidated companies	5,635	0	−1	5,634
Additions	137	0	14	151
Disposals	−290	0	−1	−291
Reclassifications	4	0	−4	0
Balance as of 31 December 2017	**6,676**	**5**	**19**	**6,700**
Currency conversion difference	182	0	0	182
Changes in consolidated companies	80	24	0	104
Additions	102	0	21	123
Disposals	−145	0	0	−145
Reclassifications	13	0	−14	−1
Balance as of 31 December 2018	**6,908**	**29**	**26**	**6,963**
Accumulated amortisation				
Balance as of 1 January 2017	**1,280**	**3**	**0**	**1,283**
Currency conversion difference	−72	0	0	−72
Changes in consolidated companies	−164	0	0	−164
Additions	442	0	0	442
Write-ups	0	0	0	0
Disposals	−161	0	0	−161
Reclassifications	0	0	0	0
Balance as of 31 December 2017	**1,325**	**3**	**0**	**1,328**
Currency conversion difference	36	0	0	36
Changes in consolidated companies	0	0	0	0
Additions	537	0	0	537
Write-ups	0	0	0	0
Disposals	−58	0	0	−58
Reclassifications	0	0	0	0
Balance as of 31 December 2018	**1,840**	**3**	**0**	**1,843**
Book value as of 31 December 2017	**5,351**	**2**	**19**	**5,372**
Book value as of 31 December 2018	**5,068**	**26**	**26**	**5,120**

3.2 Tangible assets

(in EUR million)	Land and buildings	Technical facilities and machines	Other facilities/ operating equipment	Advance payments/ construction in progress	Total
Acquisition/manufacturing costs					
Balance as of 1 January 2017	**2,962**	**3,147**	**2,153**	**468**	**8,730**
Currency conversion difference	–170	–101	–77	–34	–382
Changes in consolidated companies	802	536	18	162	1,518
Additions	50	88	135	599	872
Disposals	–134	–132	–175	–58	–499
Reclassifications	117	179	64	–360	0
Balance as of 31 December 2017	**3,627**	**3,717**	**2,118**	**777**	**10,239**
Currency conversion difference	34	24	18	1	77
Changes in consolidated companies	0	1	0	0	1
Additions	62	88	124	676	950
Disposals	–19	–52	–101	–1	–173
Reclassifications	221	192	69	–481	1
Balance as of 31 December 2018	**3,925**	**3,970**	**2,228**	**972**	**11,095**
Accumulated depreciation					
Balance as of 1 January 2017	**1,698**	**2,296**	**1,691**	**0**	**5,685**
Currency conversion difference	–88	–65	–58	0	–211
Changes in consolidated companies	376	318	12	0	706
Additions	141	218	162	0	521
Write-ups	0	0	0	0	0
Disposals	–72	–109	–148	0	–329
Reclassifications	1	–1	0	0	0
Balance as of 31 December 2017	**2,056**	**2,657**	**1,659**	**0**	**6,372**
Currency conversion difference	22	18	15	0	55
Changes in consolidated companies	0	0	0	0	0
Additions	162	232	158	0	552
Write-ups	–3	–5	0	0	–8
Disposals	–13	–48	–95	0	–156
Reclassifications	–1	3	–2	0	0
Balance as of 31 December 2018	**2,223**	**2,857**	**1,735**	**0**	**6,815**
Book value as of 31 December 2017	**1,571**	**1,060**	**459**	**777**	**3,867**
Book value as of 31 December 2018	**1,702**	**1,113**	**493**	**972**	**4,280**

3.3 Financial assets

(in EUR million)	Investments in affiliated companies	Loans to affiliated companies	Investments in related companies	Advance payments	Investment securities	Other loans	Total
Acquisition/manufacturing costs							
Balance as of 1 January 2017	**7**	**0**	**965**	**18**	**5,000**	**196**	**6,186**
Currency conversion difference	0	0	−1	−2	−1	−20	−24
Changes in consolidated companies	0	0	16	−16	0	0	0
Additions	0	0	16	0	107	14	137
Disposals	0	0	−5	0	−30	−17	−52
Reclassifications	0	0	0	0	0	0	0
Balance as of 31 December 2017	**7**	**0**	**991**	**0**	**5,076**	**173**	**6,247**
Currency conversion difference	0	0	0	0	2	3	5
Changes in consolidated companies	0	0	0	0	0	0	0
Additions	5	0	31	0	117	7	160
Disposals	0	0	−21	0	−29	−145	−195
Reclassifications	0	0	0	0	0	0	0
Balance as of 31 December 2018	**12**	**0**	**1,001**	**0**	**5,166**	**38**	**6,217**
Accumulated amortisation							
Balance as of 1 January 2017	**0**	**0**	**75**	**0**	**16**	**3**	**94**
Currency conversion difference	0	0	−1	0	−1	0	−2
Changes in consolidated companies	0	0	0	0	1	0	1
Additions	0	0	324	0	1	0	325
Write-ups	0	0	−1	0	0	0	−1
Disposals	0	0	0	0	0	0	0
Reclassifications	0	0	0	0	0	0	0
Balance as of 31 December 2017	**0**	**0**	**397**	**0**	**17**	**3**	**417**
Currency conversion difference	0	0	0	0	0	0	0
Changes in consolidated companies	0	0	0	0	0	0	0
Additions	0	0	2	0	1	0	3
Write-ups	0	0	−256	0	−3	0	−259
Disposals	0	0	−2	0	0	0	−2
Reclassifications	0	0	0	0	0	0	0
Balance as of 31 December 2018	**0**	**0**	**141**	**0**	**15**	**3**	**159**
Book value as of 31 December 2017	**7**	**0**	**594**	**0**	**5,059**	**170**	**5,830**
Book value as of 31 December 2018	**12**	**0**	**860**	**0**	**5,151**	**35**	**6,058**

As in the previous year, the “Other loans” item does not include any loans to shareholders.

3.4 Inventories

(in EUR million)	31.12.2018	31.12.2017
Raw materials and supplies	626	575
Unfinished goods	1,602	1,547
Finished goods and goods for resale	1,071	951
Advance payments to suppliers	13	14
	3,312	**3,087**

3.5 Accounts receivable and other assets

(in EUR million)	31.12.2018	Residual term over 1 year	31.12.2017	Residual term over 1 year
Trade accounts receivable	3,540	0	3,146	1
Receivables from affiliated companies	24	0	29	0
Receivables from related companies	27	0	28	0
Other assets	982	67	1,303	79
	4,573	**67**	**4,506**	**80**

The “Other assets” item included receivables from shareholders of around half a million euro (previous year: EUR 87 million).

Receivables from affiliated companies almost exclusively consisted of receivables from loans.

Receivables from related companies primarily consisted of trade accounts receivable.

3.6 Provisions

(in EUR million)	31.12.2018	31.12.2017
Pension provisions and similar obligations	4,712	4,289
Tax provisions	1,812	1,750
Other provisions	7,228	6,689
	13,752	**12,728**

Provisions for pensions and similar obligations

The provisions for pensions and similar obligations were determined on the basis of actuarial calculations using the projected unit credit method, taking into account future adjustments in salaries and pensions.

In addition to local biometric data (e.g. for Germany, mortality tables 2018 G published by Prof. Dr Klaus Heubeck which have been adjusted for group-specific death probabilities and invalidity rates), pension obligations in the significant countries were calculated on the basis of the following actuarial parameters:

(in % as of 31 December 2018)	Germany	USA	Japan
Discount rate	3.21	4.20	1.23
Salary increase	3.50	4.00	4.18
Pension increase	1.88	3.00	0.00

Discounting rates were determined by reference to average market rates for 15-year maturities in accordance with the German Regulation on the Discounting of Provisions of 11 March 2016. The interest rates used to discount significant foreign pension obligations (USA and Japan) were determined with comparable parameters, in line with the German Regulation on the Discounting of Provisions of 11 March 2016.

The difference calculated in accordance with Section 253 (6) HGB amounts to EUR 767 million.

The plan assets intended solely to cover pension and similar obligations that are unavailable to all other creditors (plan assets as defined in Section 246 (2) sentence 2 HGB) were measured at fair market value, which is essentially derived from stock market prices, and offset against the underlying pension and similar obligations. The fair market value of the plan assets on the balance sheet date was EUR 1,845 million. The related amount of pension obligations and similar obligations was EUR 6,477 million. Gains and losses from plan assets and interest expense relating to pension and similar obligations were offset in accordance with Section 246 (2) sentence 2 HGB. In total, EUR 81 million in losses from plan assets and EUR 562 million in interest expense relating to pension and similar obligations are included under “Interest expense relating to pensions and similar obligations and other provisions” within the financial result.

Tax provisions

The tax provisions also include provisions for double taxation risks, which have resulted following the implementation of the action plans of the Organisation for Economic Co-operation and Development (OECD) as part of their international initiative known as the “Action Plan on Base Erosion and Profit Shifting” (BEPS).

Other provisions

Other provisions mainly include provisions for discounts and guarantees, personnel-related provisions, provisions for outstanding invoices, as well as provisions for litigation, legal claims and compensation for damages.

3.7 Accounts payable and loans

(in EUR million)	Residual term less than 1 year	greater than 1 year	of which greater than 5 years	31.12.2018	31.12.2017	Residual term less than 1 year
Bank loans	412	8	0	420	439	373
Other accounts payable	1,685	37	20	1,722	1,565	1,381
of which:						
- Trade accounts payable	*852*	*3*	*0*	*855*	*880*	*875*
- Advance payments received	*142*	*22*	*13*	*164*	*131*	*131*
- Accounts payable to affiliated companies	*4*	*5*	*5*	*9*	*6*	*1*
- Accounts payable to related companies	*1*	*0*	*0*	*1*	*1*	*1*
*- Other liabilities**	*686*	*7*	*2*	*693*	*547*	*373*
	2,097	**45**	**20**	**2,142**	**2,004**	**1,754**

* Of which:

- from taxes (EUR million)	*225*	*189*
- social security liabilities (EUR million)	*40*	*37*

As in the previous year, there were no liabilities secured by mortgages or similar collateral rights on the balance sheet date.

At the end of the year, there were liabilities to shareholders of EUR 255 million (previous year: EUR 22 million). These are presented within the “Other liabilities” item.

Accounts payable to affiliated companies include loans amounting to EUR 4 million (previous year: EUR 5 million) and trade accounts payable amounting to EUR 5 million (previous year: EUR 1 million).

4 Notes to the consolidated profit and loss statement

The structure of the consolidated profit and loss statement was based on the total cost format. Other taxes are included in other operating expenses.

4.1 Net sales

by businesses (in EUR million)	2018	2017
Human Pharmaceuticals	12,559	12,621
Animal Health	3,960	3,901
Biopharmaceuticals	734	678
Other sales	40	43
Dicontinued Operations	205	813
	17,498	**18,056**

by geographic region (in EUR million)	2018	2017
Europe	5,316	5,690
of which: Germany	888	982
Americas	8,088	8,141
of which: USA	6,924	6,861
Asia/Australia/Africa	4,094	4,225
of which: Japan	1,323	1,601
	17,498	**18,056**

4.2 Other operating income

Other operating income includes income from currency translation of EUR 783 million (previous year: EUR 1,040 million).

4.3 Cost of materials

(in EUR million)	2018	2017
Costs of raw material, supplies and goods for resale	2,172	2,431
Expenditure on services	886	1,043
	3,058	**3,474**

4.4 Personnel expenses

(in EUR million)	2018	2017
Wages and salaries	4,260	4,078
Social benefits and retirement benefits	1,016	856
of which: retirement benefits	305	154
	5,276	**4,934**

All interest effects of the measurement of the provisions for pensions and similar obligations were shown as a separate item of financial income.

Average headcount	2018	2017
Production	16,380	16,361
Administration	5,964	5,826
Marketing and Sales	18,762	18,123
Research and Development	8,566	8,589
Apprentices	698	711
	50,370	**49,610**

The allocation of employees among their different functions was restated for 2017 as many former Merial employees were not allocated to their respective function in the first year that Merial was consolidated, but rather reported within Administration.

4.5 Amortisation of intangible assets and depreciation of tangible assets

Amortisation of intangible assets and depreciation of tangible fixed assets include extraordinary write-downs of EUR 116 million (previous year: EUR 16 million).

4.6 Other operating expenses

Other operating expenses include expenses from currency translation of EUR 779 million (previous year: EUR 2,060 million).

In addition, other items included in operating expenses are mainly the charges made to record provisions for legal risks and restructuring, as well as third-party services for research, development, medicine and marketing purposes, administrative expenses, fees and contributions, commissions, rent, freight and expenses for repairs carried out by third parties.

4.7 Financial income

(in EUR million)	2018	2017
Interest expense relating to pensions and similar obligations and other provisions	– 665	– 321
Other interest expense and similar expenditure	– 149	– 153
Interest expense and similar expenditure	**– 814**	**– 474**
Amortisation of and loss on disposal of financial fixed assets and short-term investments	– 1	– 1
Income from other investment securities and from long-term loans	104	104
Other interest income and similar income	57	41
	– 654	**– 330**

4.8 Holding income

(in EUR million)	2018	2017
Write-downs on financial fixed assets	– 2	– 324
Write-ups of financial fixed assets	256	1
Income from related companies	104	22
of which: from disposal of related companies	91	10
	358	**– 301**

4.9 Income taxes

(in EUR million)	2018	2017
Current income taxes	1,588	2,333
Deferred taxes	– 487	752
	1,101	**3,085**

Current income taxes primarily include the corporation and trade tax expenses of the consolidated companies.

The total balance of deferred tax assets at the balance sheet date amounted to EUR 2,784 million (previous year: EUR 2,307 million). Deferred tax assets primarily arise on the difference between the book values of provisions for pension obligations and for discounts, tax goodwill, intangible fixed assets, inventories and on tangible fixed assets. Deferred tax liabilities of EUR 686 million (previous year: EUR 754 million) were recorded. These primarily relate to differences between the book values of intangible fixed assets, tangible fixed assets, inventories and provisions.

4.10 Net income

The net income for 2018 was positively influenced by prior-period operating income (mainly from the reversal of other provisions and tax refunds for prior years) of EUR 352 million (previous year: EUR 724 million) and negatively influenced by prior-period operating expenses (mainly due to additional payment of taxes for prior years) of EUR 511 million (previous year: EUR 170 million).

5 Notes to the cash flow statement

The cash flow statement shows the changes in cash and cash equivalents (cash and long-term investment securities that can be sold at any time) of the Boehringer Ingelheim Group resulting from cash inflows and outflows in the reporting year. In accordance with the German Accounting Standard on the cash flow statement (DRS 21), the cash flow statement has been broken down according to cash flows from operating activities and cash flows from investing and financing activities.

The changes in the balance sheet items of the affiliated companies included were translated using average rates for the year. As on the balance sheet, cash and cash equivalents are carried at the closing rate. The effect of exchange rate changes on cash and cash equivalents has been shown separately.

The financial funds also include financial assets with a remaining maturity exceeding three months on the date of acquisition which can be converted into cash in the short term.

The financial funds as of 31 December 2018 comprised the following items:

(in EUR million)	2018
Cash and cash equivalents	4,303
Financial assets	5,151
	9,454

The financial funds included EUR 492 million in restricted funds at the balance sheet date.

6 Other disclosures

6.1 Contingent liabilities

(in EUR million)	31.12.2018	31.12.2017
Liabilities from guarantees	21	21
Warranties and the granting of securities for third-party liabilities	235	159
	256	**180**

The risk of utilisation of these contingent liabilities is assessed as low on account of the good net assets, financial and earnings position.

6.2 Other financial commitments and off-balance sheet transactions

(in EUR million)	31.12.2018	31.12.2017
Rental and lease obligations	512	445
Residual other financial commitments	1,465	1,392
of which: pension-related	**10**	**0**

There are rental and lease obligations of EUR 512 million (previous year: EUR 445 million), EUR 12 million of which (previous year: EUR 11 million) relate to long-term rental obligations with non-consolidated affiliated companies.

The purpose of the lease agreements is the lower capital commitment compared to acquired property and the absence of the resale risk. Risks could arise from the term of the lease should it not be possible to continue to utilise the properties fully, of which there are no indications at this time.

Residual other financial commitments include future expenditure-effective investments of EUR 1,125 million (previous year: EUR 1,120 million).

6.3 Derivative financial instruments and valuation units

Due to its extensive international structure, the Boehringer Ingelheim Group is highly dependent on developments in the world's currencies and interest rates. To hedge these risks, particularly those emerging from goods, services and financing, currency forwards and options are generally used for currency risks. Interest rate swaps and options are used for interest rate risks.

The use of derivative financial instruments and the organisational processes are set out in internal guidelines. There is a strict separation between trading, processing, documentation and control.

Risk positions are regularly tracked, analysed and measured in a special Group-wide financial report. The positions entered into are periodically re-evaluated and monitored. The fair value of the derivative financial instruments is calculated using generally accepted market valuation methods (currency forwards based on the present value method) taking into account the market data as of the balance sheet date.

Provisions of EUR 49 million were recognised for currency forwards not included in hedge accounting for which there was a negative fair value within one currency as at the balance sheet date. In line with the imparity principle, positive fair values within one currency were not recognised.

On the balance sheet date, the derivative financial instruments not included in hedge accounting valuation units were as follows:

	Nominal value		Fair value	
(in EUR million)	31.12.2018	31.12.2017	31.12.2018	31.12.2017
Foreign exchange forward contracts	3,906	4,105	– 27	– 23

To the extent that the requirements for hedge accounting of foreign currency forward exchange contracts with highly probable forecasted transactions in accordance with Section 254 HGB were met, the foreign currency forward exchange contracts were not recognised in the balance sheet in line with the net hedge presentation method.

The following accounting policies apply to the recognition of valuation groups in accordance with Section 254 HGB:

Economic hedges are accounted for in the financial statements by the use of valuation units. The valuation units are recognised for each foreign currency based on the net amount of highly probable forecasted transactions and currency forwards that match the forecasted net cash flow in terms of maturity, nominal amount and foreign currency (macro hedge). The highly probable forecasted transactions (incoming and outgoing payments for planned sales and purchases) are derived from company planning. Ex-post analysis of planning has shown that the planned transactions are highly probable.

The opposing changes in value of the hedged item and the hedging instrument are fully offset as the critical terms (maturity, nominal amount and foreign currency) match. An effective hedge can therefore be assumed both prospectively and retrospectively. The critical term match method is exclusively used to measure the prospective and retrospective effectiveness of hedges. Excess amounts under hedging transactions are not included in the valuation units.

As at 31 December 2018, hedges for highly probable forecasted net cash flows were recognised as follows:

January to December 2019:

Net cash flow (in EUR million)		Foreign exchange forward contracts (in EUR million)			
	Nominal value		Nominal value		Fair value
USD	1,460	USD	−1,453	USD	−39
JPY	720	JPY	−481	JPY	−6
AUD	127	AUD	−113	AUD	2
MXN	103	MXN	−62	MXN	−2
CAD	266	CAD	−116	CAD	1
GBP	153	GBP	−109	GBP	1

January to December 2020:

Net cash flow (in EUR million)		Foreign exchange forward contracts (in EUR million)			
	Nominal value		Nominal value		Fair value
USD	1,505	USD	−880	USD	−34
JPY	711	JPY	−361	JPY	−8
AUD	24	AUD	−16	AUD	0
MXN	14	MXN	−11	MXN	−1
CAD	44	CAD	−16	CAD	0
GBP	56	GBP	−39	GBP	0

January to December 2021:

Net cash flow (in EUR million)		Foreign exchange forward contracts (in EUR million)			
	Nominal value		Nominal value		Fair value
USD	1,495	USD	−384	USD	−13
JPY	709	JPY	−188	JPY	−5

January to February 2022:

Net cash flow (in EUR million)		Foreign exchange forward contracts (in EUR million)			
	Nominal value		Nominal value		Fair value
USD	186	USD	–51	USD	–2
JPY	88	JPY	–26	JPY	–1

For the year 2019, there were also hedge accounting valuation units from long and short positions of derivatives. The offsetting nominal values amount to +/– EUR 64 million from Japanese yen.

Furthermore, as at 31 December 2018, valuation units for foreign currency receivables were recognised as follows:

Receivables (in EUR million)		Foreign exchange forward contracts (in EUR million)			
	Nominal value		Nominal value		Fair value
RUB	100	RUB	–53	RUB	3
PLN	54	PLN	–15	PLN	0

The amount of the hedged foreign currency risk correlates to the relative change in the exchange rate between the planning date and the realisation date of the forecast transactions. If all currencies were to appreciate or depreciate against the euro by 10.0%, there would be a foreign currency risk of plus or minus EUR 782 million without hedging.

6.4 Research and development expenses

(in EUR million)	2018	2017
Research and development expenses	3.164	3.078

Non-capitalised research and development expenses include, amongst other items, the costs associated with clinical studies.

6.5 Shareholdings

The list of companies included in the consolidated financial statements and the list of shareholdings presented in accordance with Section 313 (2) HGB are included in the audited consolidated financial statements submitted to the German Federal Gazette.

6.6 Subsequent events

Since the end of the 2018 financial year, we have not become aware of any events that are of material significance to the Group or that could lead to a reappraisal of its net assets, financial and earnings position.

6.7 Total auditor fees

Total fees charged to the Group by the auditor for the financial year amounted to EUR 7.3 million. EUR 1.6 million of this relates to audits of financial statements, EUR 1.7 million to tax advisory services and EUR 4.0 million to other services.

Ingelheim am Rhein, 5 March 2019
Boehringer AG

Board of Managing Directors

Hubertus von Baumbach	Joachim Hasenmaier
Allan Hillgrove	Dr Andreas Neumann
Dr Michel Pairet	Michael Schmelmer

INDEPENDENT AUDITOR'S REPORT

To C.H. Boehringer Sohn AG & Co. KG, Ingelheim am Rhein

Qualified Audit Opinion on the Consolidated Financial Statements and Audit Opinion on the Group Management Report

We have audited the consolidated financial statements of C.H. Boehringer Sohn AG & Co. KG, Ingelheim am Rhein, and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2018, and the consolidated profit and loss statement, cash flow statement and statement of changes in group equity for the financial year from 1 January to 31 December 2018, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of C.H. Boehringer Sohn AG & Co. KG for the financial year from 1 January to 31 December 2018.

In our opinion, on the basis of the knowledge obtained in the audit,

- except for the effects of the matter described in section "Basis for the Qualified Audit Opinion on the Consolidated Financial Statements and the Audit Opinion on the Group Management Report" the accompanying consolidated financial statements comply, in all material respects, with the requirements of German commercial law and give a true and fair view of the assets, liabilities and financial position of the Group as at 31 December 2018 and of its financial performance for the financial year from 1 January to 31 December 2018, in accordance with German Legally Required Accounting Principles, 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.

Pursuant to Section 322 (3) sentence 1 HGB [Handelsgesetzbuch "German Commercial Code"], we declare that, except for the qualification of the audit opinion on the consolidated financial statements mentioned, our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and the group management report.

Basis for the Qualified Opinion on the Consolidated Financial Statements and the Audit Opinion on the Group Management Report

Contrary to Section 314 (1) number 6 letters a) and b) HGB the total remuneration granted to the members and the former members of the board of managing directors as well as the pension provisions recognized and not recognized for the former members of the board of managing directors are not disclosed in the notes to the consolidated financial statements.

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Section 317 HGB and the German Generally Accepted Standards of 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 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

Management is responsible for the other information. The other information comprises the annual report, with the exception of the audited consolidated financial statements and group management report and our auditor's report.

Our opinions on the consolidated financial statements and on the 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.

Responsibilities of Management for the Consolidated Financial Statements and the Group Management Report

Management is responsible for the preparation of consolidated financial statements that comply, in all material respects, with the requirements of German commercial law and 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 German Legally Required Accounting Principles. In addition, management is responsible for such internal control as they, in accordance with German Legally Required Accounting Principles, have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is 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, provided no actual or legal circumstances conflict therewith.

Furthermore, management is 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, management is 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.

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 Section 317 HGB and in compliance with the German Generally Accepted Standards of 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 judgement and maintain professional scepticism 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 for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- 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 management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of management's 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 German Legally Required Accounting Principles.

- 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 [German] law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by management in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management 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.

Frankfurt / Main, 5 March 2019

KPMG AG
Wirtschaftsprüfungsgesellschaft

Original German version signed by

Kneisel	Krauß
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

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PRODUCT PORTFOLIO
A SELECTION

RESPIRATORY DISEASES

Respiratory diseases are very common. Chronic obstructive pulmonary disease (COPD) and bronchial asthma are among the most prevalent chronic diseases and a frequent cause of morbidity and premature deaths worldwide.

Idiopathic pulmonary fibrosis (IPF) is a rare disease which is severely debilitating and ultimately lethal.

COPD

COPD is a chronic disease of the lungs that causes coughing, excessive mucus production and dyspnea and ultimately destroys the lung tissue. The alveoli and thus gas exchange are the most affected. This leads to a limitation of airflow, causing shortness of breath and other respiratory symptoms. The airflow limitation is only partially reversible and usually worsens over time, leading to disability and ultimately to death. Symptoms such as excess cough and breathlessness are the main reasons why COPD is very stressful for patients. Lung emphysema and chronic bronchitis are the main manifestations of COPD.

COPD is caused by continuous damage to the lungs resulting from inhaling pollutants, primarily cigarette smoke. However, other factors also need to be considered including indoor and outdoor air pollution. The course of COPD, which is a disease that occurs in the second half in a human's life, is characterised by an accelerated loss of lung function compared to normal ageing and by occasional sudden worsening of symptoms and function referred to as acute exacerbations. This can lead to a downward spiral of worsening symptoms and thus further inactivity.

Bronchial asthma

Bronchial asthma is a chronic inflammatory disorder of the airways. The inflammation is accompanied by airway hyperresponsiveness, which leads to a narrowing of the airways and recurrent episodes of wheezing, breathlessness and coughing. These symptoms occur particularly at night or in the early hours of the morning. It is now known that asthma can be triggered by genetic and environmental factors (e.g. allergens and viral infections). Unlike COPD, asthma can occur very early in childhood; it can also be present in adolescents or adults. Asthma is often underestimated as an easy-to-manage condition. However, almost one in two patients with asthma still experience symptoms while receiving maintenance therapy, putting them at increased risk of potentially life-threatening asthma exacerbations. In addition, patients often adjust their daily lives to accommodate their conditions and avoid physical exertion in day-to-day activities, which has a negative impact on quality of life.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Chronic obstructive pulmonary disease (COPD)	SPIRIVA® SPIRIVA® HANDIHALER® SPIRIVA® RESPIMAT®	*tiotropium bromide* 	Maintenance treatment of patients with COPD (including chronic bronchitis and emphysema), maintenance treatment of associated dyspnoea and for prevention of exacerbations.
– Bronchial asthma	SPIRIVA® RESPIMAT®	*tiotropium bromide* 	An add-on maintenance bronchodilator treatment in patients aged six years and older with severe asthma who experienced one or more severe asthma exacerbations in the past year.* * SPIRIVA® RESPIMAT® *is approved for use in asthma in the EU, Japan, the USA and many other countries. The label varies by country. Please refer to the local product information.*
– Chronic obstructive pulmonary disease (COPD)	SPIOLTO® RESPIMAT® STIOLTO® RESPIMAT® INSPIOLTO® RESPIMAT®	*tiotropium bromide, olodaterol hydrochloride* 	Maintenance treatment of airflow obstruction in patients with chronic obstructive pulmonary disease (COPD).
– Chronic obstructive pulmonary disease (COPD)	STRIVERDI® RESPIMAT®	*olodaterol hydrochloride* 	Maintenance treatment of patients with chronic obstructive pulmonary disease (COPD).
– Reversible bronchospasms associated with obstructive airway diseases	COMBIVENT® RESPIMAT®	*ipratropium bromide, salbutamol, sulphate* 	A combination of a short-acting anticholinergic and beta-adrenergic for the management of reversible bronchospasms associated with obstructive airway diseases in patients requiring more than one bronchodilator.
– Chronic obstructive pulmonary disease (COPD) – Chronic bronchitis – Bronchial asthma	ATROVENT®	*ipratropium bromide* 	Prevention and treatment of shortness of breath in patients with chronic obstructive pulmonary disease (COPD) and mild to moderate bronchial asthma in adulthood and childhood as a supplement to beta-agonists in cases of acute asthma.
– Chronic obstructive airway disorders	BERODUAL® BRONCHODUAL® DUOVENT®	*ipratropium bromide, fenoterol hydrobromide* 	Prevention and treatment of symptoms in chronic obstructive airway disorders with reversible airflow limitation such as bronchial asthma and especially chronic bronchitis with or without emphysema.

RESPIRATORY DISEASES (CONTINUED)

Idiopathic pulmonary fibrosis (IPF)

IPF is a chronic progressive lung disease associated with a markedly reduced life span and affecting as many as 14 – 43 people per 100,000 worldwide. IPF is characterised by progressive scarring of lung tissue and a loss of lung function over time. Development of scarred tissue is called fibrosis. Over time, as the tissue thickens and stiffens with scarring, the lungs lose their ability to take in and transfer oxygen into the bloodstream, and vital organs do not get enough oxygen. As a result, individuals with IPF experience shortness of breath, even when resting, and often have difficulty coping with the demands of everyday life due to their limited physical capacity.

Acute IPF exacerbations are defined as rapid deteriorations of symptoms and lung function within days or weeks. These events can occur at any point in the course of the disease, even at first presentation, and are associated with high mortality. All patients with IPF are at risk of acute IPF exacerbations.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Bronchial asthma	BEROTEC®	*fenoterol hydrobromide* 	Symptomatic treatment of acute asthma attacks. Prophylaxis of exercise-induced asthma bronchiale. Symptomatic treatment of allergic and non-allergic asthma bronchiale and other conditions with reversible airway narrowing, e.g. chronic obstructive bronchitis.
– Bronchial asthma – Allergic rhinitis	ALESION® FLURINOL®	*epinastine hydrochloride* 	Prophylactic treatment of patients with bronchial asthma. Prophylaxis and symptomatic treatment of allergic rhinitis.
– Idiopathic pulmonary fibrosis (IPF)	OFEV®	*nintedanib* 	Treatment of patients with idiopathic pulmonary fibrosis (IPF).

CARDIOVASCULAR AND METABOLIC DISEASES

Cardiovascular (CV) disease is the leading cause of death worldwide and is still increasing in prevalence. Currently, it is responsible for nearly one in three deaths worldwide. One key risk factor for developing cardiovascular disease is the presence of diabetes: people with type 2 diabetes are two to four times more likely to develop cardiovascular disease than people without diabetes, and as a result, their life expectancy is up to 12 years shorter. Proper control of diabetes and other treatable risk factors is therefore vital for the prevention of cardiovascular events.

Stroke

Stroke is the rapidly developing loss of brain functions caused by a disrupted blood flow to the affected brain tissue. This can be due to ischaemia (lack of blood supply) caused by thrombosis or embolism, or due to bleeding (hemorrhagic stroke). As a result, the affected area of the brain is unable to function and the damage quickly becomes permanent, if untreated. A stroke is an acute event requiring emergency diagnosis and intervention. Worldwide, stroke is one of the leading causes of death and long-term disability.

Symptoms of a transient ischaemic attack (TIA) are similar to stroke, but last for only a few minutes or hours and do not result in permanent neurological damage. As a TIA may precede a stroke, emergency medical care and subsequent preventive treatment may be necessary.

Atrial fibrillation

Atrial fibrillation (AF) is the most common sustained heart rhythm condition, affecting approximately 2% of the total population. One in four adults over 40 develops AF in their lifetime. Patients with AF are at higher risk of developing blood clots in their upper left heart chamber, which can cause a stroke if the clot breaks loose and travels to the brain. AF leads to a five-fold increase in the risk of stroke, resulting in up to three million patients worldwide suffering AF-related strokes each year. For patients with AF, the risk of stroke can be reduced by appropriate anticoagulation therapy.

Prevention and treatment of venous thromboembolism

Venous thromboembolism (VTE) is an umbrella term that encompasses deep vein thrombosis (DVT) and pulmonary embolism (PE). DVT occurs when a thrombus (blood clot) forms in a deep vein, most commonly in the leg, and partially or completely blocks the flow of blood. As the thrombus grows, a portion may break away from the main clot and travel in the circulatory system to the lungs. The lodging of a blood clot in the arteries of the lung is called a PE. VTE is a serious disorder with potentially fatal consequences.

Patients undergoing orthopaedic surgery are at considerable risk of developing DVT, and chronic venous insufficiency and/or pulmonary hypertension may develop in the longer term. To prevent VTE events and their consequences after orthopaedic surgery, patients should receive some kind of thromboprophylaxis. Patients who have already suffered from VTE require anticoagulant treatment for secondary prevention of a recurrent thromboembolic event.

Reversing anticoagulation

Anticoagulation therapy offers important benefits for patients at risk of thromboembolic events. However, even though rare, there may be situations when rapid reversal of anticoagulation is medically necessary, e.g. if a patient taking an anticoagulant is involved in a severe car accident and needs emergency surgery.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Stroke prevention in atrial fibrillation – Primary prevention of venous thromboembolic events after orthopaedic surgery – Treatment and secondary prevention of venous thromboembolic events	PRADAXA® PRADAXAR® PRAZAXA®	*dabigatran etexilate* 	Prevention of strokes and blood clots in patients with atrial fibrillation. Primary prevention of venous thromboembolic events (VTE) in adults after elective total hip or knee replacement surgery. Treatment of deep vein thrombosis (DVT) and pulmonary embolism (PE), and secondary prevention of recurrent DVT and PE in adults.
– Specific reversal of PRADAXA® (dabigatran etexilate)	PRAXBIND®	*idarucizumab* 	PRAXBIND® is a specific reversal agent for dabigatran and is indicated in adult patients treated with PRADAXA® (dabigatran etexilate) when rapid reversal of its anticoagulant effects is required: for emergency surgery/ urgent procedures; in life-threatening or uncontrolled bleeding.
– Hypertension – Cardiovascular morbidity and mortality prevention	MICARDIS®	*telmisartan* 	Treatment of hypertension. For the reduction of the risk of myocardial infarction (heart attack), stroke or death from cardiovascular (CV) causes in patients 55 years of age or older at high risk of developing major CV events who are unable to take ACE inhibitors (USA). For the reduction of cardiovascular morbidity in patients with manifest atherothrombotic cardiovascular disease (history of coronary heart disease, stroke or peripheral arterial disease), or patients with type 2 diabetes mellitus with documented target organ damage (EU).
– Hypertension	MICARDISPLUS® MICARDIS® PLUS MICARDIS® HCT CO-MICARDIS®	*telmisartan; hydrochlorothiazide* 	Treatment of hypertension alone or with other antihypertensive agents, to lower blood pressure. Lowering blood pressure reduces the risk of fatal and nonfatal cardiovascular events, primarily strokes and myocardial infarctions. Not indicated for initial therapy (US). Treatment of essential hypertension. MICARDISPLUS® fixed dose combination is indicated in adults whose blood pressure is not adequately controlled on telmisartan alone (EU).
– Hypertension	TWYNSTA® MICAMLO® MICARDIS® AMLO MICARDIS® DUO	*telmisartan, amlodipine* 	Treatment of hypertension alone or with other antihypertensive agents. As initial therapy in patients likely to need multiple antihypertensive agents to achieve their blood pressure goals (USA). Add-on therapy in adult patients with not adequately controlled blood pressure on amlodipine, and replacement therapy in adult patients receiving telmisartan and amlodipine from separate tablets (EU).

CARDIOVASCULAR AND METABOLIC DISEASES (CONTINUED)

Hypertension and cardiovascular diseases

Hypertension (high blood pressure) is a chronic disease in which the blood pressure is chronically elevated. Hypertension is also one of the major risk factors for stroke, heart attacks, heart failure and chronic renal failure. The primary goal of anti-hypertensive treatment is to prevent such cardiovascular events and to reduce the risk of cardiovascular mortality.

Acute myocardial infarction

An acute myocardial infarction, or heart attack, occurs when a thrombus (blood clot) suddenly prevents blood flow to an area of the heart muscle. Unless the blood flow is restored quickly, the affected section of heart muscle becomes permanently damaged. Heart attacks are one of the most common causes of death in industrialised countries.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Acute ischaemic stroke – Acute myocardial infarction – Acute massive pulmonary embolism – Catheter clearance due to thrombotic occlusion	ACTILYSE® ACTILYSE® CATHFLO®	*alteplase* 	Fibrinolytic treatment of acute ischaemic stroke, acute myocardial infarction, acute massive pulmonary embolism. Fibrinolytic treatment of occluded catheters.
– Secondary prevention of stroke or transient ischaemic attacks (TIA)	AGGRENOX® ASASANTIN® ASASANTIN® RETARD	*dipyridamole, acetylsalicylic acid* 	Prevention of stroke following an initial first stroke, or transient ischaemic attacks (TIA).
– Acute myocardial infarction	METALYSE®	*tenecteplase* 	Fibrinolytic treatment of acute myocardial infarction.
– Hypertension	CATAPRESAN® CATAPRES® CATAPRESSAN® CATAPRES-TTS®	*clonidine; clonidine hydrochloride* 	Treatment of hypertension.
– Hypertension	MOTENS®	*lacidipine* 	Treatment of hypertension.

CARDIOVASCULAR AND METABOLIC DISEASES (CONTINUED)

Diabetes

Type 2 diabetes is a chronic, progressive condition associated with elevated blood sugar levels that can cause long-term complications if not treated. An estimated four million deaths worldwide every year are linked directly to the long-term effects of diabetes. Type 2 diabetes is the most common form of the disease and accounts for up to 95% of all cases in the developed world. Currently, more than 425 million people in the world live with diabetes, which represents an enormous burden on health care systems globally. Without effective prevention and management strategies, it is estimated that the number of cases will reach 629 million by 2045.

In addition, type 2 diabetes is one of the major risk factors for cardiovascular disease. Life expectancy of people with type 2 diabetes at high cardiovascular risk decreases, on average, by up to 12 years.

Overall, around half of deaths in people with type 2 diabetes are caused by concomitant cardiovascular disease, indicating a high unmet medical need.

In addition to cardiovascular disease, serious complications of diabetes include:

- Nephropathy, culminating in renal failure requiring dialysis
- Retinopathy with potential loss of vision
- Peripheral neuropathy with the risk of developing foot ulcers and potentially requiring foot or leg amputations
- Autonomic neuropathy, which can cause gastrointestinal, genitourinary and cardiovascular symptoms and sexual dysfunction.

INDICATIONS	BRAND NAMES*	ACTIVE INGREDIENTS	
– Type 2 diabetes mellitus	TRAJENTA® TRADJENTA® TRAZENTA® TRAYENTA®	*linagliptin*	Treatment of adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control, used in monotherapy (if metformin is not tolerated or contraindicated) or in combination therapy.
– Type 2 diabetes mellitus	JENTADUETO® TRAYENTA DUO® TRAJENTA DUO® TRAJENTAMET®	*linagliptin, metformin hydrochloride*	Treatment of adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control when treatment with metformin does not lead to sufficient control or when patients are treated with TRAJENTA® (linagliptin) and metformin.
– Type 2 diabetes mellitus	JARDIANCE® JARDIANZ®	*empagliflozin*	Treatment of adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control and to reduce the risk of cardiovascular death in adults with type 2 diabetes mellitus and established cardiovascular disease.* ** USA indication, December 2016. The label varies by country. Please refer to the local product information.*
– Type 2 diabetes mellitus	SYNJARDY® JARDIANCE DUO®	*empagliflozin, metformin hydrochloride*	Treatment of adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control when treatment with both empagliflozin and metformin hydrochloride is appropriate.* ** USA indication, December 2016. The label varies by country. Please refer to the local product information.*
– Type 2 diabetes mellitus	GLYXAMBI®	*empagliflozin, linagliptin*	Treatment of adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control in adults with type 2 diabetes mellitus when both empagliflozin and linagliptin are appropriate treatments.* ** USA indication, March 2015. The label varies by country. Please refer to the local product information.*

* Diabetes portfolio in collaboration with Eli Lilly and Company.

ONCOLOGY

Cancer is a threat to global health. In 2018, an estimated 18 million new cases of cancer were diagnosed worldwide and 9.6 million people died from cancer, nearly one in six global deaths (WHO World Cancer Factsheet 2018). The most common diagnosed cancer types were lung cancer (nearly 12%), breast cancer (nearly 12%), colorectal cancer (10%), prostate cancer (7%) and stomach cancer (6%).

Lung cancer

Lung cancer refers to malignant abnormal cell growth inside the lung tissue, forming a cluster or tumour. It is the most common cancer with an estimated 2.1 million new cases per year worldwide (2018). Smoking is the primary cause of the disease, contributing to almost 90% of the cases.

Recently, however, the incidence of lung cancer among non-smokers has increased. Lung cancer has a poor prognosis, with 1.8 million deaths per year, representing nearly 20% of all cancer deaths. Lung cancer symptoms are unspecific so that the disease may take many years to appear. Late diagnosis in an advanced stage of the disease results in an often dismal prognosis, with only 10 – 15% of lung cancer patients surviving five years or more following diagnosis.

Lung cancer is more than just one disease. There are different subtypes such as small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). More than ten different molecular genetic aberrations (mutations) present in the tumour have been identified. By focusing on molecular changes that are specific to the respective subtype of lung cancer, targeted therapies have become more effective than other treatments. They show a survival benefit and are at the same time less harmful to normal cells, thereby reducing side effects.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS		
– Non-small cell lung cancer (NSCLC)	GIOTRIF® GILOTRIF®	*afatinib*		First-line treatment of patients with metastatic non-small cell lung cancer (NSCLC) whose tumours have activating epidermal growth factor receptor (EGFR) mutations. For the treatment of patients with locally advanced or metastatic NSCLC of squamous histology progressing on or after platinum-based chemotherapy.
– Non-small cell lung cancer (NSCLC)	VARGATEF®	*nintedanib*		Combination therapy with docetaxel for the treatment of adult patients with locally advanced, metastatic or local non-small cell lung cancer (NSCLC) of adenocarcinoma tumour histology after first-line chemotherapy.

DISEASES OF THE CENTRAL NERVOUS SYSTEM

Mental and neurological diseases such as depression and Parkinson's disease significantly impact patients and their families and are also a substantial burden to society.

Parkinson's disease

Parkinson's disease (PD) is a degenerative disorder of the central nervous system. Patients usually notice motor symptoms like hand tremor (shaking) as their first sign of the disease, which may progress to include shaking of the arms, legs or head. Other motor symptoms that may develop over time include stiffness that often results in loss of facial expression and a gradual slowing or loss of motion, or "freezing". About 30 – 40% of patients also suffer from non-motor symptoms associated with PD, such as depression and sleep disorders. The primary symptoms are the result of a lack of the neurotransmitter dopamine in distinct areas of the human brain.

Restless legs syndrome (RLS)

Restless legs syndrome (RLS) is a common neurological disorder characterised by an uncontrollable urge to move the legs, primarily occurring in the evening and night hours. It is usually accompanied by unpleasant and sometimes painful sensations in the legs as well as disturbed sleep resulting in daytime tiredness or sleepiness. The sensations are felt deep within the legs and are described as creeping, crawling or aching.

INFECTIOUS DISEASES

HIV infection/AIDS

Acquired immune deficiency syndrome (AIDS) is a set of symptoms and infections resulting from the damage to the human immune system caused by the human immunodeficiency virus (HIV). If untreated, infection with HIV progressively reduces the effectiveness of the immune system and leaves individuals susceptible to opportunistic infections and tumours. Babies of infected mothers are at risk of getting the virus during pregnancy, childbirth or breastfeeding.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Parkinson's disease (PD) – Restless legs syndrome (RLS)	SIFROL® MIRAPEX® MIRAPEXIN® PEXOLA®	*pramipexole* 	Symptomatic treatment of idiopathic Parkinson's disease. It may be used as monotherapy or in combination with levodopa. Symptomatic treatment of idiopathic moderate to severe restless legs syndrome.
– Sleep disorders	LENDORMIN®	*brotizolam* 	Short-term treatment of disorders of initiating and maintaining sleep. Insomnia requiring pharmacological intervention.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– HIV/AIDS	VIRAMUNE® VIRAMUNE XR®	*nevirapine* 	For the combination therapy of HIV-1 infection and (in several countries) for the prevention of mother-to-child transmission of HIV-1 in pregnant women who are not taking antiretroviral therapy at time of labour. Prolonged release tablets for once-daily dosing within combination therapy.
– HIV/AIDS	APTIVUS®	*tipranavir* 	Indicated for combination antiretroviral treatment of HIV-1-infected patients, co-administered with 200 mg of ritonavir, who are treatment-experienced and infected with HIV-1 strains resistant to more than one protease inhibitor.

LIVESTOCK - SWINE

Infectious respiratory diseases

INGELVAC CIRCOFLEX® is the first single-dose piglet vaccine for the control of porcine circovirus disease (PCVD). This vaccine provides significant reduction of mortality in the acute phase of PCVD as well as improved growth rates in the chronic phase of the disease. INGELVAC CIRCOFLEX® protects with minimal systemic adverse reactions or injection site swellings and can be used during gestation and lactation. Our INGELVAC® PRRS products are licensed for active immunisation against the respiratory and reproductive form of porcine reproductive and respiratory syndrome (PRRS).

INGELVAC MYCOFLEX® provides proven safety, efficacy and rapid onset of long-lasting immunity against Mycoplasma hyopneumoniae (M. hyo.) with a single dose. INGELVAC MYCOFLEX® contains the IMPRANFLEX® adjuvant which allows for fresh mixing with INGELVAC CIRCOFLEX® to form FLEXCOMBO®.

INGELVAC PROVENZA® protects against multiple IAV-S strains and decreases nasal shedding, providing protection before pigs are most vulnerable.

Infectious enteric diseases

ENTERISOL® ILEITIS is the first and only oral live vaccine against ileitis, globally the most prevalent enteric disease in swine caused by Lawsonia intracellularis. It is licensed to improve weight gain and to reduce growth variability associated with the disease. ENTERISOL® ILEITIS helps to reduce the total antimicrobial use in pork production.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Infectious respiratory diseases	INGELVAC CIRCOFLEX®	*recombinant vaccine (porcine circovirus type 2, PCV 2)* 	For the active immunisation of pigs over the age of two weeks against porcine circovirus type 2 to reduce mortality, clinical signs – including weight loss – and lesions in lymphoid tissues associated with porcine circovirus diseases (PCVD). In addition, vaccination has been shown to reduce PCV 2 nasal shedding, viral load in blood and lymphoid tissues, and duration of viraemia.
– Infectious respiratory diseases	INGELVAC® PRRS MLV INGELVAC PRRSFLEX® EU REPROCYC® PRRS EU	*attenuated live vaccine (PRRS virus type 2, type 1)* 	Depending on the product, for the active immunisation of pigs at various ages against porcine reproductive and respiratory syndrome virus (PRRSV).
– Infectious respiratory diseases	INGELVAC MYCOFLEX®	*inactivated vaccine (Mycoplasma hyopneumoniae)* 	For the active immunisation of pigs from the age of three weeks to reduce lung lesions following infections with Mycoplasma hyopneumoniae.
– Infectious respiratory diseases	INGELVAC PROVENZA®	*attenuated live influenza vaccine (LAIV)* 	For the vaccination of pigs one day of age or older against influenza virus strains H1N2 and H3N2.
– Infectious enteric diseases	ENTERISOL® ILEITIS	*attenuated live vaccine (Lawsonia intracellularis)* 	For the active immunisation of pigs from the age of three weeks against intestinal lesions caused by Lawsonia intracellularis infection and to reduce growth variability and loss of weight gain associated with the disease.

LIVESTOCK – CATTLE/RUMINANTS

Our cattle/ruminants business is a global leader in antiparasitic brands such as IVOMEC®, LONGRANGE® and EPRINEX®. These world renowned parasiticides treat and protect grazing animals from the harmful effects of internal and external parasites.

ZACTRAN® treats cattle with bacterial pneumonia and sheep with digital dermatitis infections.

BOVELA® is for active immunisation of cattle of three months of age in terms of reproductive infectious diseases.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Internal and external parasites of cattle	IVOMEC®	*ivermectin* 	Depending on formulation, the product is for the treatment of nematodes, lice, mites, ticks, flies, lungworms and liver flukes.
– Internal and external parasites of cattle	LONGRANGE®	*eprinomectin, long-acting* 	The Theraphase™ technology used to develop this formulation of eprinomectin allows a single treatment to last up to 100–150 days – long enough to break the parasite life cycle and effectively reduce parasite burdens on the pasture. LONGRANGE® is effective in the control of most internal and external parasites of cattle: gastrointestinal roundworms, lungworms, grubs, mites.
– Internal and external parasites of ruminants	EPRINEX®	*eprinomectin* 	Depending on formulation, the product is for the treatment of nematodes, lice, mites, ticks, flies and lungworms in cattle and sheep.
– Bacterial causes of respiratory disease and interdigital dermatitis (footrot)	ZACTRAN®	*gamithromycin* 	Depending on species indication (and country of registration), the product is for the treatment and metaphylaxis control of respiratory disease in cattle caused by key bacteria (Mannheimia, Pasteurella, Histophilus and Mycoplasma) and footrot disease in sheep caused by key bacteria (Fusobacterium and Dichelobacter).
– Reproductive infectious diseases in cattle	BOVELA®	*bovine viral diarrhoea (BVD) types 1 and 2* 	Reduces hyperthermia and minimises the reduction of leukocyte count caused by bovine viral diarrhoea virus (BVDV-1 and BVDV-2); reduces virus shedding and viraemia caused by BVDV-2 and prevents the birth of persistently infected calves caused by transplacental infection.

LIVESTOCK - CATTLE/RUMINANTS (CONTINUED)

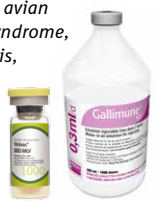
Our vaccine PYRAMID®/PRESPONSE® is part of our expanding portfolio of respiratory and reproductive vaccines to prevent diseases that affect livestock.

METACAM® is a non-steroidal anti-inflammatory drug (NSAID), helping to minimise losses from inflammation and tissue damage in animals suffering from disease, hence addressing the need for maintained profitability and the concern for farm animal well-being.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Infectious respiratory diseases and reproductive disorders in cattle	PYRAMID® PRESPONSE®	*family of multivalent vaccine combinations including different modified live viruses: bovine viral diarrhoea (BVD) types 1 and 2, infectious bovine rhinotracheitis (IBR), parainfluenza 3 (PI3) and bovine respiratory syncytial virus (BRSV), and bacteria: Pasteurella multocida, Mannheimia haemolytica, L. canicola, L. grippotyphosa, L. hardjo, L. icterohaemmorrhagiae and L. pomona* 	The PYRAMID®/PRESPONSE® family of vaccines provides broad coverage for BVD types 1 and 2, IBR, BRSV, PI3 and Mannheimia haemolytica with only a single dose. They contain the MetaStim®* adjuvant system to enhance the animal's response for greater protection (US and Canada only). ** MetaStim® is a registered trademark of Zoetis Services LLC*
– Pain and inflammatory disorders	METACAM®	*meloxicam* 	For the treatment of mastitis in lactating cows and for the control of pain associated with dehorning or surgery. It is also indicated for use in calves affected by diarrhoea and in cattle suffering from respiratory disease.

LIVESTOCK - POULTRY

Our poultry vaccine portfolio consists of a significant range of live and inactivated vaccines for broilers, layers and breeder hens, providing protection against the most critical viral and bacterial diseases like avian influenza, infectious bronchitis, Newcastle disease, infectious bursal disease, egg drop syndrome and avian coryza. This portfolio of preventive products helps producers worldwide to provide safe, affordable, abundant and sustainable high-quality poultry meat and eggs.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Various viral and bacterial diseases in poultry	GALLIMUNE® GALLIVAC® VOLVAC®	*polyvalent attenuated live and inactivated vaccine containing antigens for vaccination against avian influenza, Newcastle disease, avian coryza, egg drop syndrome, infectious bronchitis, infectious bursal disease, gallibacterium anatis* 	For vaccination of healthy chickens against diseases caused by the included antigens. For the prevention of the most common diseases in broiler chickens and diseases responsible for losses in egg production in layers.
– Infectious bursal disease and Marek's disease	VAXXITEK® HVT + IBD	*serotype 3, live Marek's disease vector, live vHVT013-69 recombinant virus (and diluent)* 	To prevent mortality and to reduce clinical signs and lesions of infectious bursal disease. The onset of protection is from two weeks and the protection extends to nine weeks. To reduce mortality, clinical signs and lesions of Marek's disease. The onset of protection is four days. A single vaccination is sufficient to provide reliable protection during the risk period.
– Newcastle disease (ND)	AVINEW®	*live Newcastle disease virus, VG/GA-AVINEW strain* 	In broiler chickens from one day of age: active immunisation against Newcastle disease to reduce mortality and clinical signs associated with the disease. In future layer and future breeder pullets from the age of four weeks: priming for active immunisation against egg drop caused by Newcastle disease before vaccination with an inactivated vaccine (strain Ulster 2C) prior to the beginning of lay.
– Marek's disease	PREVEXXION™ RN	*live herpes virus chimera, serotype 1, strain RN1250* 	The vaccine is recommended for in ovo vaccination of 18 to 19-day-old embryonated chicken eggs to protect against the very virulent Marek's disease.
– Newcastle and Marek's diseases	NEWXXITEK™ HVT+ND	*live Marek's disease vectored virus, serotype 3, that contains a gene insert from Newcastle disease; the vaccine includes a diluent* 	The vaccination of 18 to 19-day-old embryos and one-day-old chickens is effective against Marek's disease and Newcastle disease.

VETERINARY PUBLIC HEALTH (VPH)

We work with governments and private partners towards improving control and eradicating diseases such as foot-and-mouth disease, bluetongue virus and rabies.

Our foot-and-mouth vaccines portfolio works for the active immunisation of cattle, sheep or pigs to reduce clinical signs and mortality following exposure to foot-and-mouth disease (FMD) virus.

RABISIN® is an inactivated vaccine against rabies, available as a clear colourless suspension for injection.

BTV PUR® is a multi-strain vaccine used for active immunisation of sheep and cattle to prevent viraemia and to reduce clinical signs caused by bluetongue virus.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Foot-and-mouth disease (FMD)	AFTOPOR® AFTOVAXPUR® AFTOVAX® AFTOBOV® OLEOSA AFTOVAXPUR® DOE	*mix of inactivated FMD virus antigens out of the widest range of vaccine strains* 	FMD vaccines with highly potent and purified antigens (AFTOPOR®, AFTOVAXPUR®, AFTOBOV® OLEOSA) have potential marker properties that allow differentiation between infected and vaccinated animals (DIVA) for endemic or emergency situations. AFTOVAXPUR® DOE is suitable for emergency situations only.
– Rabies	RABISIN® RABORAL V-RG®	*Rabisin: inactivated and adjuvanted rabies glycoproteins* *Raboral V-RG: vaccina-vectored rabies vaccine* 	RABISIN® is used for the active immunisation of dogs and cats to reduce mortality and clinical signs due to rabies infection. Immunity has been demonstrated one month after vaccination and has been shown to persist up to the next re-vaccination dose. RABORAL V-RG® is an oral rabies recombinant vaccine that protects raccoons and coyotes against rabies, thereby reducing the risk of exposure to rabies to humans and domestic animals. It is only sold to government agencies conducting rabies control programs.
– Bluetongue	BTV PUR®	*Mix of inactivated bluetongue virus* 	Active immunisation of sheep to prevent viraemia and to reduce clinical signs caused by bluetongue virus serotypes 1, 2, 4 and/or 8 (combination of maximum 2 serotypes). Active immunisation of cattle to prevent viraemia caused by bluetongue virus serotypes 1, 2, 4 and/or 8, and to reduce clinical signs caused by bluetongue virus serotypes 1, 4 and/or 8 (combination of maximum 2 serotypes). Onset of immunity has been demonstrated three weeks (or five weeks in sheep for BTV2) after the primary vaccination course for BTV-1, BTV-2 (cattle), BTV-4 and BTV-8 serotypes.

COMPANION ANIMALS - HORSE

Our main horse products focus on the prevention and treatment of parasite infestations, management solutions for chronic diseases, and vaccines. Our equine portfolio also includes a range of flagship products for the treatment of joint disease, colic and respiratory disease, for pain management, and nutraceuticals.

PRASCEND® is indicated for the treatment of pituitary pars intermedia dysfunction (PPID), which is also known as equine Cushing's disease. Clinical signs of PPID are hypertrichiosis, laminitis, change in body conformation and lack of performance. Treatment with PRASCEND® is life-long.

VETERA® vaccines are the first US vaccine portfolio to include multiple convenient combinations of disease protection for horses from as young as four months of age. The vaccines protect against as many as nine infectious organisms including influenza, herpes, the West Nile virus, tetanus and others. This enables customised protection for each horse with limited needle injections.

GASTROGARD® ULCERGARD® is indicated for the treatment and prevention of equine gastric ulcers, which is one of the most common diseases in horses. GASTROGARD® is supplied in an easy-to-use oral paste form and has been the first choice for treatment of gastric ulcers since its launch in 1999. ULCERGARD® in the USA is the preventive of choice for horses with an increased risk of developing gastric ulcers.

EQVALAN®/ZIMECTERIN® contains ivermectin, a leading ingredient that controls a wide variety of important internal parasites, including bots and benzimidazole-resistant small strongyles, in an easy-to-administer oral paste. EQVALAN®/ZIMECTERIN® is approved for adult horses and foals as young as six weeks of age.

EQVALAN® DUO/GOLD, ZIMECTERIN® GOLD combines ivermectin with praziquantel, an ingredient that specifically controls tapeworms.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Pituitary pars intermedia dysfunction (PPID)	PRASCEND®	*pergolide mesylate* 	Symptomatic treatment of clinical signs associated with pituitary pars intermedia dysfunction (PPID, also known as equine Cushing's disease).
– Combination vaccine against up to nine common diseases in horses	VETERA®	*Eastern, Western and Venezuelan encephalomyelitis, tetanus, West Nile virus, equine herpes virus, equine influenza viruses* 	For vaccination of healthy horses as an aid in the prevention of diseases caused by the included antigens (US and Canada only).
– Equine gastric ulcers	GASTROGARD® ULCERGARD®	*omeprazole* 	For treatment and prevention of gastric ulcers and prevention of recurrence of gastric ulcers in horses and foals four weeks of age and older.
– Internal parasites	EQVALAN® ZIMECTERIN® EQVALAN® GOLD EQVALAN® DUO ZIMECTERIN® GOLD	*ivermectin* *ivermectin, praziquantel* 	For treatment and prevention of parasitic infestations in horses and donkeys due to large and small strongyles, ascarids. GOLD/DUO includes treatment against tapeworms.

COMPANION ANIMALS – PETS

Our pets portfolio offers diverse solutions for some of the most important needs of canine and feline health including industry-leading parasiticides, vaccines, and therapeutics to address major chronic diseases: heart failure, kidney diseases, hypertension, epilepsy and osteoarthritis.

For more than 20 years, FRONTLINE® has been a leader in flea and tick control on dogs and cats, and is one of the most trusted brands in animal health.[1] FRONTLINE® continues to bring innovation to the category, with the recent launch of FRONTLINE TRI-ACT®, which features repellency and insecticidal efficacy on many disease-carrying flying insects and which decreases the risk of transmission of vector-borne pathogen.[2]

NEXGARD® contains the active ingredient afoxolaner and was the first oral medication that treats both fleas and ticks in dogs. Because of its efficacy and palatable, beef-flavoured soft chew formulation, NEXGARD® is currently the best-selling pet medication in the animal health industry.[3]

NEXGARD SPECTRA® combines the flea and tick efficacy of afoxolaner in NEXGARD® with a broad-spectrum deworming ingredient, milbemycin oxime, in the same beef-flavoured chew. NEXGARD SPECTRA® is not only effective in treating fleas and ticks, but also protects dogs against deadly parasites such as heartworm and lungworm as well as gastrointestinal parasites.

HEARTGARD® plus contains the active ingredients ivermectin and pyrantel in a soft beef chew. When given monthly, ivermectin is effective in preventing deadly heartworm disease. Pyrantel is effective in the treatment and control of round worms as well as hookworms. HEARTGARD® was launched in 1987 as the first monthly heartworm preventative and is still the best-selling heartworm preventative in the world.[4]

BROADLINE® offers pet owners all-in-one convenience providing confidence that their cat has the broadest possible protection. It protects cats against the broadest spectrum of internal and external parasites, including adult fleas, flea eggs, flea larvae, ticks, heartworms, hookworms, roundworms and tapeworms.

As the first of a new class of heart treatments termed inodilators, VETMEDIN® has been shown to significantly improve clinical signs and extend life expectancy in dogs with congestive heart failure originating from dilated cardiomyopathy or valvular insufficiency (mitral and/or tricuspid regurgitation). Recent studies have also shown that when used preclinically in appropriate asymptomatic cases of either dilated cardiomyopathy in Doberman pinschers or valvular insufficiency, VETMEDIN® significantly delays the onset of clinical signs of congestive heart failure.

[1] Data on file.
[2] A novel combination of fipronil and permethrin (Frontline Tri-Act®/Frontect®) reduces risk of transmission of Babesia canis by Dermacentor reticulatus and of Ehrlichia canis by Rhipicephalus sanguineus ticks to dogs. Jongejan et al. Parasites & Vectors (2015) 8:602.
[3] Data on file.
[4] Data on file.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Antiparasitic: canine/feline external parasites	FRONTLINE® FRONTLINE COMBO® FRONTLINE PLUS® FRONTLINE TRI-ACT® FRONTECT®	*fipronil* *fipronil/S-methoprene* *fipronil/permethrin*	FRONTLINE® is indicated for the treatment and prevention of fleas, ticks and chewing lice in dogs and cats, and aids in the control of sarcoptic mange in dogs. FRONTLINE PLUS®/ FRONTLINE COMBO® is indicated for the treatment and prevention of fleas, ticks and chewing lice in dogs and cats. Also breaks the flea life cycle by preventing the development of immature stages. It aids in the control of sarcoptic mange in dogs. FRONTLINE TRI-ACT®/FRONTECT® is indicated for the treatment and prevention of flea and tick infestations where repellent (anti-feeding) activity is necessary against sandflies, biting flies and/or mosquitos. For dogs only.
– Antiparasitic: canine external parasites	NEXGARD®	*afoxolaner*	NEXGARD® is delivered in a highly palatable beef-flavoured chew that kills adult fleas and is indicated for the treatment and prevention of flea infestations and the treatment and control of tick infestations in dogs and puppies for one month.
– Antiparasitic: canine internal and external parasites	NEXGARD SPECTRA®	*afoxolaner, milbemycin oxime*	NEXGARD SPECTRA® is delivered in a highly palatable beef-flavoured chew that kills adult fleas and is indicated for the treatment and prevention of flea and tick infestations. Prevents heartworm disease and treats and controls hookworm, roundworm, whipworm and lungworm infestations in dogs and puppies.
– Antiparasitic: canine internal parasites	HEARTGARD® PLUS	*ivermectin, pyrantel*	For use in dogs to prevent canine heartworm disease by eliminating the tissue stage of heartworm larvae for a month (30 days) after infection, and for the treatment and control of roundworms and hookworms.
– Antiparasitic: feline internal and external parasites	BROADLINE®	*fipronil, (s)-methoprene, eprinomectin, praziquantel*	Protects cats against the broadest spectrum of internal and external parasites including adult fleas, flea eggs, flea larvae, ticks, heartworms, hookworms, roundworms, and tapeworms.
– Congestive heart failure	VETMEDIN®	*pimobendan*	Treatment of canine congestive heart failure originating from dilated cardiomyopathy or valvular insufficiency (mitral and/or tricuspid regurgitation). Treatment of dilated cardiomyopathy in the preclinical stage (asymptomatic with an increase in left ventricular end-systolic and end-diastolic diameter) in Doberman Pinschers. Treatment of dogs with myxomatous mitral valve disease (MMVD) in the preclinical stage (asymptomatic with a systolic mitral murmur and evidence of increased heart size) to delay the onset of clinical symptoms of heart failure.

COMPANION ANIMALS - PETS (CONTINUED)

METACAM® is a non-steroidal anti-inflammatory drug (NSAID). It is available as an oral suspension, tablets and injectable solution for dogs and as an oral suspension and injectable solution for cats. In dogs, the indications include the alleviation of inflammation and pain in both acute and chronic musculoskeletal disorders as well as the reduction of pain following surgery. In cats, the indications include the alleviation of inflammation and pain in acute and chronic musculoskeletal disorders, as well as for the alleviation of mild to moderate postoperative pain. The variety of formulations offers veterinarians and owners the flexibility to use the formulation they prefer in individual cases to manage the various levels of inflammation and pain associated with the licensed indications.

SEMINTRA® is the first-ever licensed angiotensin receptor blocker (ARB) for veterinary use. It provides a proven, convenient and safe compliance solution for cats, cat owners and vets. SEMINTRA® is available as 4mg/ml and 10mg/ml oral solution. SEMINTRA® (4mg/ml) was first launched in 2013 for the reduction of proteinuria associated with chronic kidney disease (CKD) in cats. In 2018, SEMINTRA® (10mg/ml) was launched for the control (US)/treatment (EU) of feline systemic hypertension. It is the first vet-licensed product for feline hypertension in the US.

Our pet vaccine product portfolio includes the PUREVAX® feline vaccines formulated to provide effective protection without the use of adjuvants and RECOMBITEK®, providing targeted protection for dogs through recombinant technology.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Pain and inflammatory diseases	METACAM®	*meloxicam* 	In dogs, METACAM® is used to reduce post-operative pain and inflammation following orthopaedic (e.g. fracture operation) and soft tissue surgery. In cats, METACAM® is used to reduce postoperative pain and inflammation, e.g. after ovario-hysterectomy (spay operation), orthopaedic and minor soft tissue surgery. Moreover, it is used for the alleviation of pain and inflammation in acute and chronic muscu-loskeletal disorders (dogs and cats).
– Chronic kidney disease (CKD) in cats – Hypertension in cats	SEMINTRA®	*telmisartan* 	4mg/ml – Management of chronic kidney disease (CKD) in cats: for reduction of proteinuria associated with CKD in cats. 10mg/ml – Hypertension: indicated for the treatment (EU)/control (US) of feline systemic hypertension.
– Feline vaccines portfolio	PUREVAX®	*feline herpes virus* *feline calicivirus* *feline panleukopenia virus* *chlamydophila felis* *recombinant vectored feline leukemia virus* *recombinant vectored rabies virus* 	PUREVAX® is the only fully adjuvant-free feline vaccine range and provides: • Optimised safety profile with adjuvant-free protection for all components; • Powerful immune response without adjuvant, thanks to its innovative canarypox technology for FeLV and rabies; • An easy fit to all cat lifestyles, allowing compliance with feline vaccination guidelines; • Sustained protection up to three years for the rabies component.
– Canine vaccines portfolio	RECOMBITEK®* *(*in the US and others)*	*recombinant vectored canine distemper virus,* *canine parvovirus,* *canine adenovirus type 2,* *canine parainfluenza virus,* *coronavirus,* *leptospira Canicola,* *leptospira grippotyphosa,* *leptospira icterohaemorrhagiae,* *leptospira Pomona,* *recombinant borrelia burgdorferi,* *bordetella bronchiseptica* 	RECOMBITEK® offers a complete line of canine vaccines with: • Proven efficacy against distemper in the presence of maternal antibodies;* • Concentrated Parvo with demonstrated protection against major circulating strains CPV-2a, 2b, 2c;* • Prevention of disease and shedding against leptospirosis;* • Targeted, advanced science – without the need for adjuvants. RECOMBITEK® lyme: The only vaccine that contains OspA in a non-adjuvant formulation. REKOMBITEK® oral bordatella: Effective and safe protection made easy. **Data on file*

C.H. Boehringer Sohn AG & Co. KG, Ingelheim

COMPARISON OF BALANCE SHEET AND FINANCIAL DATA 2009 – 2018

(in EUR million)

Assets (as of December 31)	2009	2010	2011	2012	2013
Intangible assets	745	736	710	682	582
Tangible assets	3,219	3,314	3,442	3,103	2,887
Financial assets	1,699	3,168	3,953	4,222	4,737
Fixed assets	**5,663**	**7,218**	**8,105**	**8,007**	**8,206**
Inventories	1,801	1,850	1,998	2,095	2,083
Accounts receivable and other assets (incl. prepaid expenses, deferred taxes and exceeding amount of plan assets)	3,663	4,047	4,652	4,814	5,131
Liquid funds	3,877	3,118	3,903	2,374	2,879
Current and other assets	**9,341**	**9,015**	**10,553**	**9,283**	**10,093**
Total assets	**15,004**	**16,233**	**18,658**	**17,290**	**18,299**

Equity and Liabilities (as of December 31)	2009	2010	2011	2012	2013
Shareholders' capital	178	178	178	178	178
Group reserves (incl. balance sheet currency conversion difference)	3,964	5,408	5,812	4,763	5,619
Group profit	1,759	888	1,476	1,237	1,324
Equity attributable to the parent company	**5,901**	**6,474**	**7,466**	**6,178**	**7,121**
Non-controlling interests	179	0	0	0	1
Group equity	**6,080**	**6,474**	**7,466**	**6,178**	**7,122**
Difference from capital consolidation	**0**	**0**	**157**	**134**	**104**
Provisions (incl. deferred taxes)	5,731	6,598	7,402	7,749	7,817
Liabilities (incl. deferred income)	3,193	3,161	3,633	3,229	3,256
Total liabilities (incl. deferred taxes and deferred income)	**8,924**	**9,759**	**11,035**	**10,978**	**11,073**
Total equity and liabilities	**15,004**	**16,233**	**18,658**	**17,290**	**18,299**

Summary of selected financial data	2009	2010	2011	2012	2013
Net sales	12,721	12,586	13,171	14,691	14,065
Operating income	2,239	1,896	2,272	1,853	2,114
Operating income as % of net sales	17.6	15.1	17.3	12.6	15.0
Income after taxes	1,764	888	1,476	1,237	1,324
Income after taxes as % of net sales	13.9	7.1	11.2	8.4	9.4
Return on equity (in %)	37.4	15.0	22.8	16.6	21.4
Equity ratio (in %)	39.3	39.9	40.0	35.7	38.9
Cash flow from operating activities	2,391	2,056	2,570	2,170	1,819
Financial funds	5,384	6,113	7,711	6,467	7,514
Personnel expenses	3,221	3,358	3,664	4,024	4,071
Personnel expenses as % of net sales	25.3	26.7	27.8	27.4	28.9
Average number of employees	41,534	42,224	44,094	46,228	47,492
Research and development expenses	2,215	2,453	2,516	2,795	2,743
R&D expenses as % of net sales	17.4	19.5	19.1	19.0	19.5
Investments in tangible assets	630	519	458	562	558
Depreciation of tangible assets	470	498	535	793	640

2014	2015	2016	2017	2018
592	606	550	5,372	5,120
3,070	3,264	3,045	3,867	4,280
5,312	5,933	6,092	5,830	6,058
8,974	**9,803**	**9,687**	**15,069**	**15,458**
2,237	2,483	2,610	3,087	3,312
5,546	6,463	6,837	7,159	7,815
3,294	4,536	7,005	3,071	4,303
11,077	**13,482**	**16,452**	**13,317**	**15,430**
20,051	**23,285**	**26,139**	**28,386**	**30,888**

2014	2015	2016	2017	2018
178	178	178	178	178
6,884	7,844	9,296	10,703	10,080
1,047	1,577	1,853	– 223	2,075
8,109	**9,599**	**11,327**	**10,658**	**12,333**
2	4	0	– 1	1
8,111	**9,603**	**11,327**	**10,657**	**12,334**
91	**71**	**52**	**1,729**	**1,511**
8,840	10,543	12,233	13,482	14,438
3,009	3,068	2,527	2,518	2,605
11,849	**13,611**	**14,760**	**16,000**	**17,043**
20,051	**23,285**	**26,139**	**28,386**	**30,888**

2014	2015	2016	2017	2018
13,317	14,798	15,850	18,056	17,498
2,140	2,269	2,872	3,487	3,472
16.1	15.3	18.1	19.3	19.8
1,046	1,576	1,849	– 229	2,075
7.9	10.7	11.7	– 1.3	11.9
14.7	19.4	19.3	– 2.0	19.5
40.4	41.2	43.3	37.5	39.9
2,015	2,232	2,888	2,624	2,988
8,507	10,200	11,989	8,130	9,454
4,116	4,518	4,570	4,934	5,276
30.9	30.5	28.8	27.3	30.2
47,743	47,501	45,692	49,610	50,370
2,654	3,004	3,112	3,078	3,164
19.9	20.3	19.6	17.0	18.1
548	591	645	872	950
449	475	516	521	552

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