

# GROUP MANAGEMENT REPORT

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# GROUP MANAGEMENT REPORT

## 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 research 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.

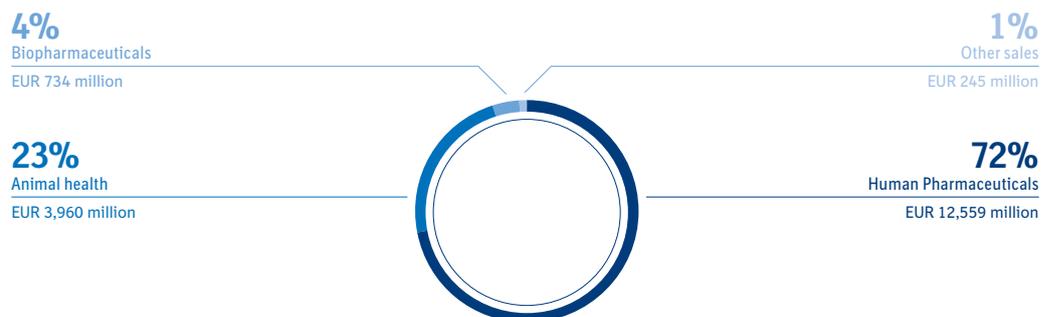
Human pharmaceuticals – in which the company's own medicines are already standard treatments in various therapeutic areas – represent the core focus of Boehringer Ingelheim's activities.

### 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).

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.

**SPIRIVA® still biggest revenue contributor**

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

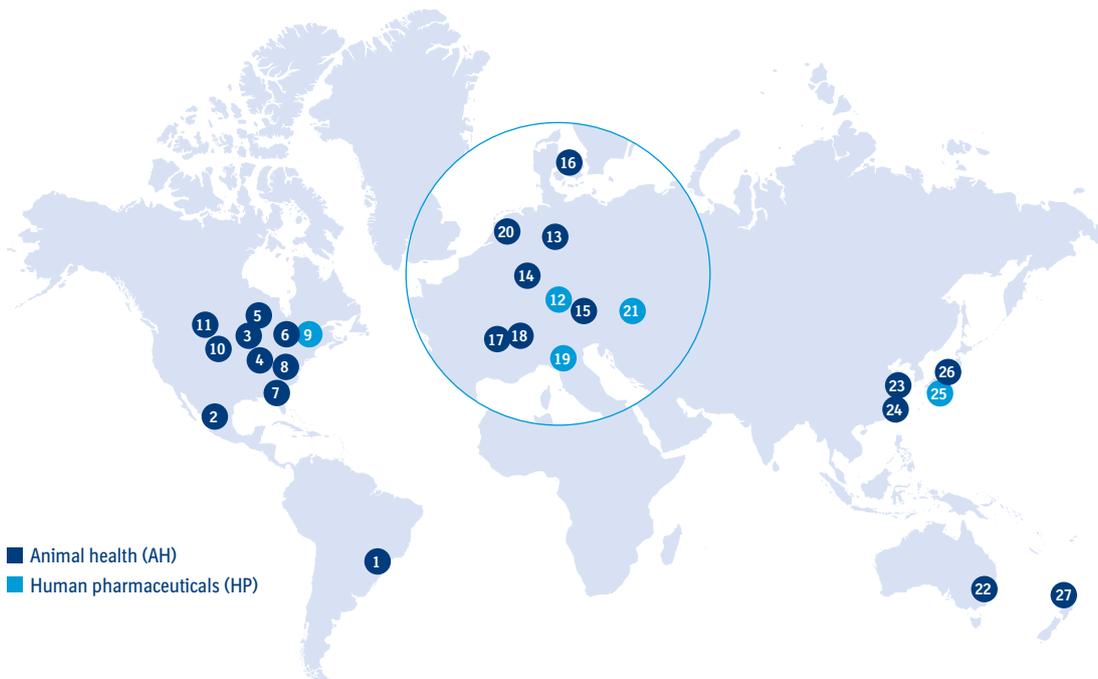
	2018	2017	2016	2015	2014
Expenditure in EUR million	3,164	3,078	3,112	3,004	2,654
– as % of net sales	18.1	17.0	19.6	20.3	19.9
Human Pharmaceuticals expenditure in EUR million	2,780	2,714	2,870	2,780	2,333
– as % of Human Pharmaceuticals net sales	22.1	21.5	23.9	24.8	23.1
Average number of employees	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 (AH)
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)

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.

Digital laboratory BI X  
as innovation driver

## Respiratory diseases

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

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 tiotropium/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.

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.

## Oncology

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 epithelioid 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 (ECCDP) 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®.

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.

Diseases of the  
central nervous  
system (CNS)

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.

Beyond 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.

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.

**20**  
facilities in  
10 countries for human  
pharmaceuticals

**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.

As our contribution towards reducing global greenhouse gas emissions, we continue to pursue the goal of reducing our entire CO<sub>2</sub>e 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.

Activities for further  
CO<sub>2</sub> reduction

**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.

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.

Making More Health as  
worldwide initiative

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 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 ordinary 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

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.

**3.3%**  
growth (currency  
adjusted) for human  
pharmaceuticals

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%

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.

Growth driven by antiparasitics

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

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%).

Once again strong growth in Biopharmaceuticals

## Financial position

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

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 %
<b>Assets</b>				
Intangible and tangible assets	9,400	9,239	161	
Financial assets	6,058	5,830	228	
<b>Fixed assets</b>	<b>15,458</b>	<b>15,069</b>	<b>389</b>	<b>+2.6%</b>
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	
<b>Current assets</b>	<b>12,188</b>	<b>10,664</b>	<b>1,524</b>	<b>+14.3%</b>
Other assets	3,242	2,653	589	
<b>Total assets</b>	<b>30,888</b>	<b>28,386</b>	<b>2,502</b>	<b>+8.8%</b>
<b>Equity and liabilities</b>				
<b>Group equity</b>	<b>12,334</b>	<b>10,657</b>	<b>1,677</b>	<b>+15.7%</b>
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	
<b>Liabilities</b>	<b>15,894</b>	<b>14,732</b>	<b>1,162</b>	<b>+7.9%</b>
Other liabilities and difference from capital consolidation	2,660	2,997	- 337	
<b>Total equity and liabilities</b>	<b>30,888</b>	<b>28,386</b>	<b>2,502</b>	<b>+8.8%</b>

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.

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.

Boehringer Ingelheim  
well positioned  
for the future

