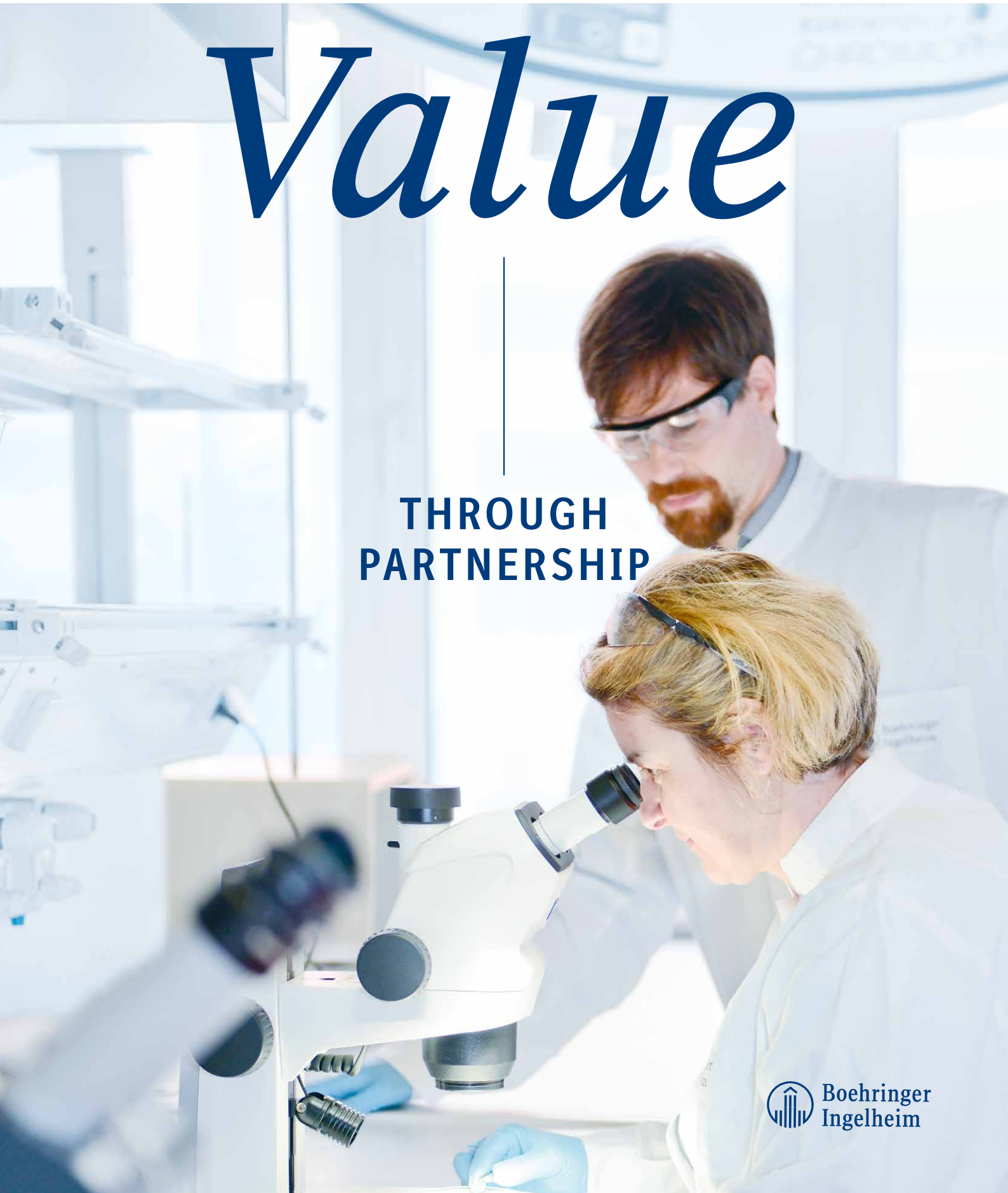
BOEHRINGER INGELHEIM
2016

Value

THROUGH PARTNERSHIP



Boehringer Ingelheim

CONTENTS

Value

THROUGH PARTNERSHIP

Today, the research-driven pharmaceutical company Boehringer Ingelheim focuses more than ever on a variety of partnerships. Intensive networking within the company is thereby just as important as the exchange and cooperation with external partners.

Boehringer Ingelheim is one of the world's 20 leading pharmaceutical companies. Headquartered in Ingelheim, Germany, Boehringer Ingelheim operates globally and currently has a total of some 50,000 employees. The focus of the family-owned company, founded in 1885, is researching, developing, manufacturing and marketing new medications of high therapeutic benefit to people and animals.

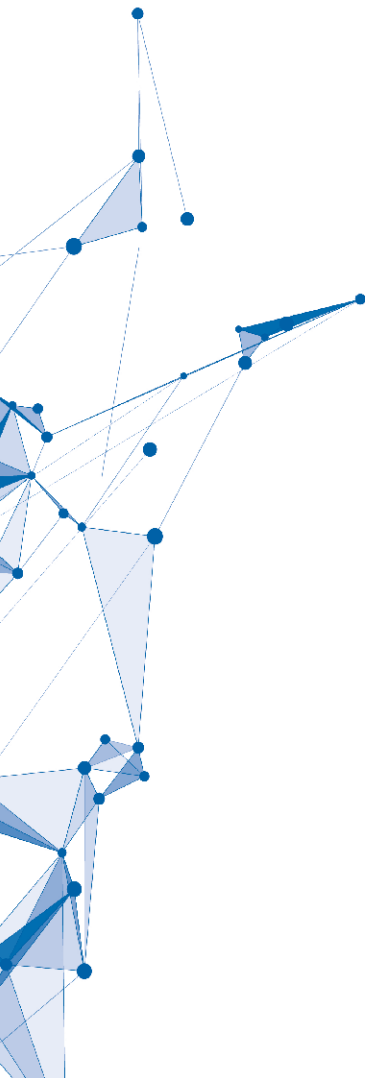
Embracing social responsibility is an important element of Boehringer Ingelheim's corporate culture. This includes worldwide commitment to social projects, such as the "Making More Health" initiative, as well as paying close attention to employees. Respect, equal opportunity and reconciling career and private life form the foundation of togetherness. The company also focuses on environmental protection and sustainability in everything it does.

In 2016, Boehringer Ingelheim achieved net sales of about 15.9 billion euros. R&D expenditure corresponds to 19.6 per cent of net sales.

WHY PARTNERSHIPS ARE IMPORTANT FOR BOEHRINGER INGELHEIM

For Boehringer Ingelheim today, partnerships are more important than ever. We asked the Chairman of the Shareholders' Committee and the Members of the Board of Managing Directors what value partnerships have for the company and how they contribute to success.

The establishment of the Scientific Department in cooperation with Heinrich Wieland in 1917 and cooperations with Pfizer, Novo and Geigy around 1950 with the aim of building up an international business, are just two important historic examples of partnerships. Partnerships will continue to play a significant role in future efforts to offer customers measurable, affordable therapeutic progress beyond purely innovative medicines. Only when the most innovative companies act together can we find solutions – and at the same time remain an independent, family-owned company.



»ACTING TOGETHER AND FINDING SOLUTIONS.«

CHRISTIAN BOEHRINGER
Chairman of the Shareholders' Committee

»IMPROVING OUR ABILITY TO INNOVATE AND COMPETE.«

HUBERTUS VON BAUMBACH
Chairman of the Board of Managing Directors

Partnering helps us to strengthen our capabilities and serve our customers better. Partners allow us to improve our ability to innovate, our ability to compete and to look beyond our own horizon. Partnering is decisive in building strong relations with our customers, better understanding their needs and allowing them to improve their results, hence bringing more health to patients.

In our Animal Health business partnerships have become vital for success in many key dimensions: we supply additional services to our customers in order to provide value beyond the product. Regarding R&D, we work together with several external partners to develop innovative technologies and research approaches. Many ideas for products and solutions are only possible in diverse teams combining different skills and capabilities worldwide. Building global hubs for intensified cooperation is therefore part of our Animal Health strategy that will be vastly accelerated through the integration of Merial.

»DEVELOPING INNOVATIVE TECHNOLOGIES AND RESEARCH APPROACHES.«

DR JOACHIM HASENMAIER
Member of the Board of Managing Directors with responsibility for Animal Health

»HAVING AN IN-DEPTH UNDERSTANDING OF OUR CUSTOMERS' NEEDS.«

ALLAN HILLGROVE
Member of the Board of Managing Directors with responsibility for Human Pharma

I see partnerships as central to the future success of Boehringer Ingelheim. For me, partnerships require, firstly, having an in-depth understanding of our customers' needs and then meeting these needs in a mutually beneficial way. Future partnerships are likely to include cooperating with payers and reimbursement bodies to define the value of our products to society, and being paid on the delivery of this value. Partnerships will also involve gaining expertise from outside the company and employing this to be more competitive and responsive.

»TOGETHER ACHIEVING OPTIMISED RESULTS.«

SIMONE MENNE
Member of the Board of Managing Directors with responsibility for Finance

Partnership means supporting each other by sharing knowledge and combining strengths. In the Finance Division this does not apply only to our external partners, but to our internal business partners in particular. Together with them, we can overcome the challenges of major projects and thereby achieve optimised results.

Partnerships are key to the success of our company. When I think about partnerships I think about partnerships both internally as well as externally, at all levels within and outside of our organisation. I think about partnerships with our customers, patients, stakeholders and our employees. If we work together, collaborate and foster an inclusive culture we will drive diverse thinking and innovation in our organisation. In a true partnership you are a team, striving for the same goal. TEAM is another way of saying "Together Everyone Achieves More".

»DRIVING DIVERSE THINKING AND INNOVATION.«

DR ANDREAS NEUMANN
Member of the Board of Managing Directors with responsibility for Human Resources

»BEING THE PARTNER OF CHOICE FOR EXTERNAL INNOVATORS.«

DR MICHEL PAIRET
Member of the Board of Managing Directors with responsibility for Innovation

Partnerships are the key to innovation. Discoveries are not made by individuals acting on their own. They usually begin with a single person's idea that is tested experimentally and, in discussions and exchange with other creative minds both internally and externally, is further developed into a true solution. Our aspiration at Boehringer Ingelheim is to be the partner of choice for external innovators. Establishing a creative and cooperative environment, bringing together scientists from diverse backgrounds, is the key to our ambition for breakthrough innovation valued by patients, their families and society.

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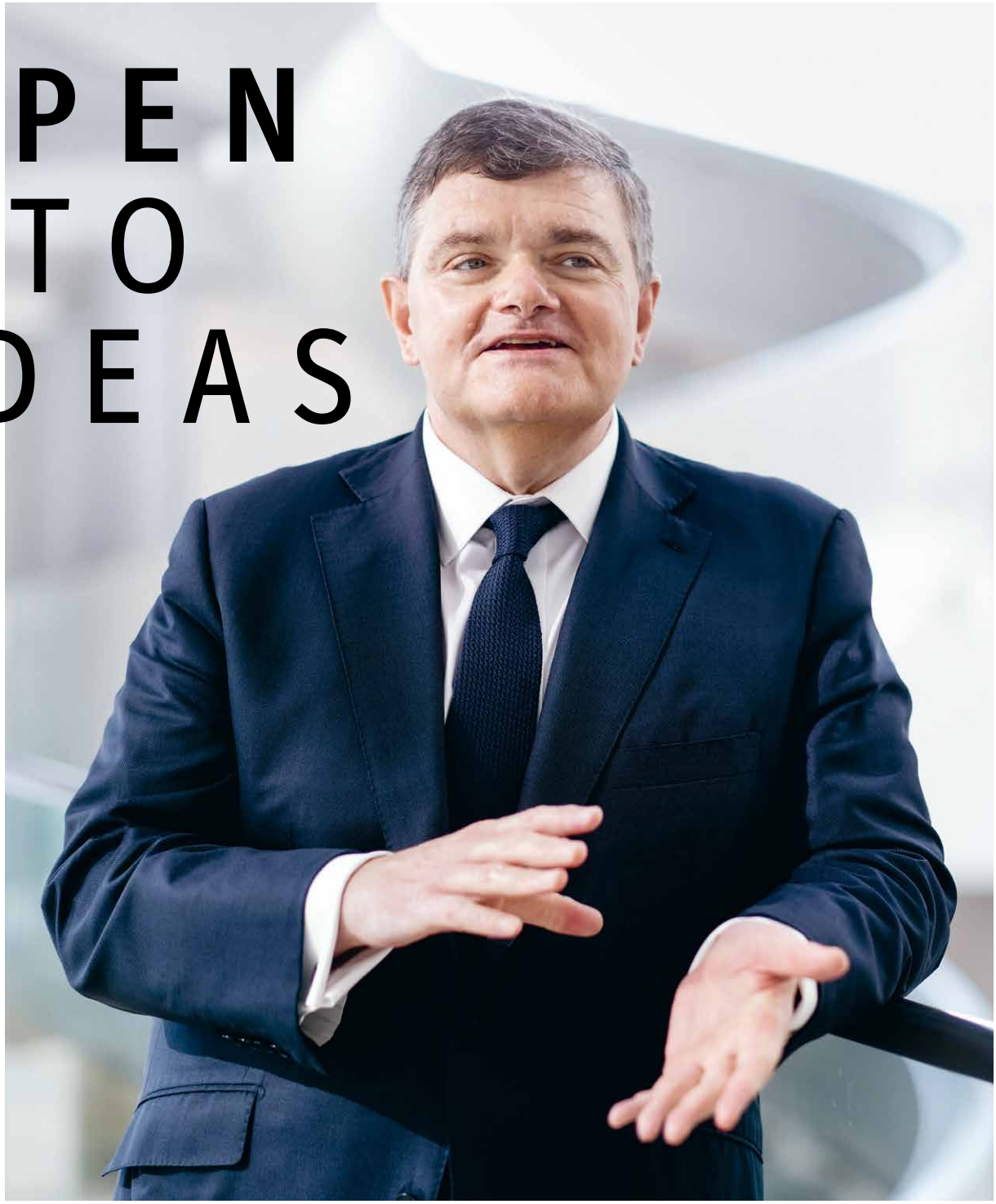
PROGRESS THROUGH PARTNERSHIP

For Boehringer Ingelheim as a research-driven pharmaceutical company, progress is essential to sustained success. Partnerships play an increasingly important role here: with external researchers, health insurers and, not least, the patients themselves. This is because progress for Boehringer Ingelheim first and foremost means helping people and animals with innovative medicines worldwide.

OPEN TO IDEAS



Developing new medicines calls for the power to innovate – and strong scientific partners: why Boehringer Ingelheim's new research strategy is backing open innovation, how interaction with external specialists is inspiring research, and what openness means for recruiting outstanding scientists.

Shortness of breath and a persistent cough: these are usually the first signs of chronic obstructive pulmonary disease (COPD). It is a truly widespread disease. A great number of people over the age of 40 are affected or at high risk. An estimated 210 million people worldwide suffer from it – the disease is thus more prevalent than diabetes. Experts estimate that in 2030, every third fatality will be attributable to COPD. The disease is incurable, but there are treatments that can improve the symptoms and thereby counter the dangerous downward spiral of increasing ailments and physical inactivity.

To help patients, researchers from Boehringer Ingelheim and Weill Cornell's Department of Genetic Medicine in the USA are now breaking completely new ground. Together, they are conducting research into how the deterioration of the small airways can be stopped or perhaps even reversed. This is one of the core causes of the disease. The experts from Weill Cornell, on the one hand, contribute a profound understanding of chronic pulmonary diseases and extensive experience of lung research. The team from Boehringer Ingelheim, on the other hand, has particular expertise when it comes to discovering and developing new respiratory therapies. "We complement each other perfectly – it's an excellent combination that enables us to rapidly translate new scientific findings into pharmaceutical research and development," says Dr Clive R. Wood. As Corporate Senior Vice President Discovery Research, Wood is essentially the company's head of research for human pharma.

DR CLIVE R. WOOD

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is Corporate Senior Vice President Human Pharma Discovery Research and has been working with Boehringer Ingelheim since 2014.

"Scientists from both academic research and the company share the passion for new discoveries and work together to translate them into new medicines," says Wood, explaining why partnerships like these are so promising. The researcher, who grew up and studied in the UK and then spent the majority of his career in the USA, has been working at Boehringer Ingelheim's headquarters in Ingelheim, Germany since 2014. "We're on the front line when new research fields emerge and are constantly engaged in intensive interactions with external experts."

This is 'open innovation' in the best sense, as Boehringer Ingelheim understands it. "We're looking for the medicines of the future," says Wood. "And we're open to the best new ideas and concepts to inspire our research and development from wherever they emerge. We are heading with our eyes open to precisely where innovation happens – be that internally or externally – and in this way are building an ideal cradle for innovation."

»WE'RE ON THE FRONT LINE WHEN NEW RESEARCH FIELDS EMERGE.«

In 2015, Boehringer Ingelheim reshaped its Discovery Research strategy. Research into new medicines has since been divided into four research areas: immunology and respiratory diseases, cardiometabolic diseases, oncology, and diseases of the central nervous system. The ability to modulate the body's own immune system has opened new exciting ways to treat cancer. Consequently, the Discovery Research organisation of Boehringer Ingelheim plans to further increase its investment in oncology with an additional research therapeutic area focused on immuno-oncology. Boehringer Ingelheim has also established overarching scientific platforms such as immune modulation to focus expertise and resources in areas cutting across multiple therapeutic areas. →

Boehringer Ingelheim's major global Research & Development sites for human pharmaceuticals.

With 'Research Beyond Borders', the company has also established a programme to explore emerging scientific approaches and technologies in collaboration with external partners both within and beyond its core research therapeutic areas.

Boehringer Ingelheim is committed to developing the next generations of pioneering medicines with the goal of improving the lives of patients with high medical need. "New insights into the pathways that drive diseases are critically important to identify the breakthrough medicines of the future," says Wood. "The creativity and commitment to such insights are centrally important to the 'drug-hunting' spirit."

Once a new drug target has been identified, researchers decide how best to approach it for therapeutic purposes. "From our history, we have developed exceptional abilities in discovering and developing small molecule drugs. These have contributed to our leading pipeline successes and I am sure will continue to be a critical core driver of our future success. However, large molecule drugs are also required to address a significant range of therapeutic targets. In more recent years, we have developed state-of-the art capabilities in protein biotherapeutics which are now delivering about one-quarter of new candidates in our early pipeline," says Wood.

»WHEN THE TIME IS RIGHT WE CAN GET FULLY INVOLVED.«

"Open innovation requires active two-way communication with the external world," he explains. "Whilst we must ensure appropriate protection of our innovations, there is an enormous amount of our work that can be shared." Wood believes that such external engagement and participation in the greater scientific community is essential to create and expand connections and facilitate the path to future opportunities. So he is convinced that scientific publications are crucial for communication among researchers and he encourages his colleagues at Boehringer Ingelheim to publish as many of their findings as possible. In 2016 alone, the company's researchers published several hundred scientific articles – many in prestigious journals. Wood is proud of this large number and believes it is a key performance indicator for innovation. It is also important for recruiting the next generations of talented scientists into the company. "Today the best young minds are attracted to publications in top journals to find those places doing the great science that brings new medicines to patients."

'Research Beyond Borders' serves as a radar for the next big wave of innovation: by collaborating with external research institutions, Boehringer Ingelheim ensures that its own scientists keep their fingers on the pulse, do not miss out on any new research methods that are emerging, and are connected with the best partners. Long-term partnerships with universities, such as Kyoto University in Japan and Harvard in the US (see page 15), are at the heart of 'Research Beyond Borders'.

Boehringer Ingelheim is also active in public private partnerships, such as the Structural Genomics Consortium, and is seeking solutions for the most difficult medical problems through crowdsourcing

projects. “In this way, we can keep an eye on topics that are still at an early conceptual stage,” Wood continues. “And, when the time is right, we’re ready to get fully involved.”

Immune modulation is an example of the scientific platform approach at Boehringer Ingelheim. “The immune system is a common denominator for many diseases across a wide variety of medical areas,” Wood explains. Previously, the company would have had to employ immunologists in all relevant therapeutic area teams. “Now we’ve brought them all together in a single unit instead.” Around 200 specialists are carrying out research to identify novel possibilities of influencing the immune system. An immune pathway that must be turned off in a disease such as autoimmunity – in which there is excessive activation of the immune system – may be the same pathway that must be turned on to fight cancer – in which there may be insufficient activation of the immune system. It creates enormous value when the scientists work together on these common problems as opposed to working in different organisational units. Immune modulation and the underlying mechanisms that drive fibrosis are examples of scientific platform approaches that Boehringer Ingelheim is currently exploring. However, Wood and his colleagues are already discussing further areas – regenerative medicine being one such possibility.

“A new culture of openness and mutually beneficial partnership in research now guides the company’s research and development,” Wood states. He mentions OFEV® as an outstanding example in the company. This is one of the medicines that is making a strong contribution to sales growth. With the tyrosine kinase inhibitor nintedanib, Boehringer Ingelheim’s oncology research division had originally developed a highly effective lung cancer medicine. “And then two talented scientists at our Biberach site in Germany hit upon the idea that the mechanisms that drive cancer might also be effective against idiopathic lung fibrosis,” he says. “This, of course, implied that the active ingredient nintedanib could be used for treating this disease.” They demonstrated this potential in a series of experiments and successfully argued for testing nintedanib in this additional indication. “The importance of common disease mechanisms has been shown to be important over and over again. An open mind and the ambition to help patients is at the heart of drug discovery.”

BOEHRINGER INGELHEIM’S RESEARCH & DEVELOPMENT

SINCE
1885
Boehringer Ingelheim has been committed to Research & Development

3.1
BILLION EUROS
Research & Development expenditure in 2016

8,055
PEOPLE
worked in Research & Development in 2016

In 2015, Boehringer Ingelheim reshaped its Discovery Research strategy.

EXPLORING NEW HORIZONS – TOGETHER WE ARE STRONGER

Transforming bright scientific ideas into new medicines for patients in need requires staying power—and, increasingly, also a strong international network of partners. This is why Boehringer Ingelheim is continually seeking strong partners all over the world to pursue new paths in drug discovery.

INNOVATION PARTNERSHIPS IN BOSTON

Boehringer Ingelheim has an office in Boston, USA with the goal of expanding its network of scientists and organisations. As an example, Boehringer Ingelheim is working with scientists at the Harvard Stem Cell Institute's Fibrosis Network in order to study new treatment options for fibrotic diseases.

Fibrosis is characterised by a pathological proliferation of fibrous connective tissue in organs. The Boehringer Ingelheim and Harvard University scientists carry out research into diseases such as idiopathic pulmonary fibrosis, chronic kidney failure and non-alcoholic steatohepatitis. They look for the pathophysiological mechanisms that are at the root of fibrosis and that could prove game-changing in treating fibrotic diseases. The advantages of this partnership are that the researchers are now able to pursue their work in much greater depth than before, leverage synergies and share resources efficiently.

Hair cells in the inner ear.

CROSSING BOUNDARIES

In 2015 Boehringer Ingelheim launched a new strategy for its global research organisation. It combines a focus on the company's own strengths with increased use of internal synergies and a bold commitment to external innovation. The 'Research Beyond Borders' initiative represents a new approach, with the aim to explore novel scientific approaches and innovative technologies within and beyond Boehringer Ingelheim's core therapeutic areas that could be future focus areas for the company.

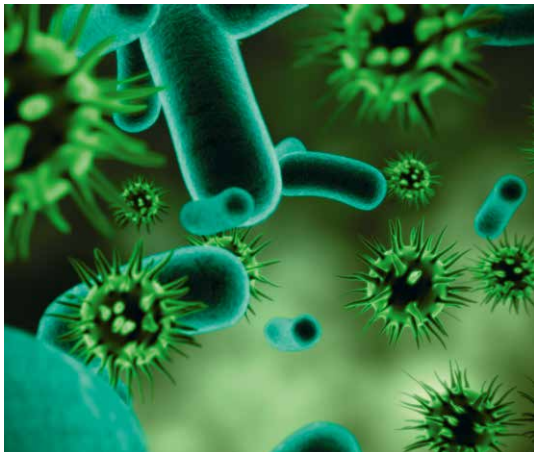
Life science research in Asia is rapidly growing in importance, offering significant new opportunities for pharmaceutical discovery research in particular areas of focus. Regenerative medicine is one of these areas of excellence. A three-year partnership with Kyoto University in Japan is now under way. Together, scientists from Boehringer Ingelheim and Kyoto University investigate novel therapeutic approaches to restore the hearing ability of people with disabling hearing loss. Over 360 million people live with this severe condition and 32 million of them are children. Due to the worldwide aging population, a dramatic increase in frequency of the condition is expected as hearing loss increases with age. There is no effective treatment that could restore hearing loss and sufferers have to rely on hearing aids.

The joint research team pursues a new idea, aiming to understand the mechanisms for the regeneration of damaged hair cells in the inner ear. In hearing-impaired people, these sensory cells no longer work properly. New therapeutic approaches are intended to restore them, overcoming the limitations of hearing aids.

Boehringer Ingelheim opened an office in September 2016 at Kyoto University's Medical Innovation Center to establish other collaborations with scientists in Japan.

To broaden Boehringer Ingelheim's research in the field of hearing loss, the 'Research Beyond Borders' team has recently launched another partnership with China Southeast University in Nanjing that will focus on complementary approaches to restoring the hearing ability.

Oncolytic viruses are among the most promising therapeutic approaches in cancer research.



COLLABORATION TO COMBAT CANCER

The goal of Boehringer Ingelheim's cancer research is to develop new therapies to improve patients' lives. To achieve this, the company continues to expand its network of partnerships with academic institutions and biotechnology companies. These relationships focus on early, emerging science and technology aimed at true breakthroughs in therapy. The needs of patients and caregivers as well as healthcare system requirements guide the researchers.

One example is the strategic partnership with ViraTherapeutics, a biotech company located in Innsbruck, Austria which investigates virus-based immunotherapeutics for cancer treatment. In April 2015, the Boehringer Ingelheim Venture Fund became the lead investor in ViraTherapeutics, as oncolytic viruses are among the most promising emerging therapeutic approaches in cancer research. Together, the two companies have pursued early-stage research examining cancer-destroying oncolytic viruses since September 2016.

Oncolytic viruses act by infecting and destroying cancer cells. This process also leads to the release of tumor antigens, which are normally hidden from the immune system in the body's cells. This so-called in situ vaccination effect triggers a sustained response of the adaptive immune system against tumour cells.

GUEST CONTRIBUTION

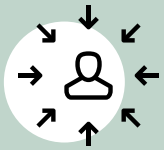
LEARNING FROM SCIENCE FICTION

Healthcare is set to undergo revolutionary changes. In just a few years' time, pills produced by a 3D printer will be part of everyday life – just like virtual-reality applications in hospitals. Healthcare companies must prepare for the new era by becoming patients' partners.

Anyone interested in what the future holds should read science fiction stories and watch science fiction films. While the future will not turn out quite like in *Star Trek* or the movie *Ex Machina*, such stories can serve as a valuable source of inspiration for us. Science fiction is the glue which binds today and tomorrow. It helps us with the exponential thinking we need to make meaningful assumptions about what the future is likely to bring. Linear thinking – which simply extrapolates current developments into the future – will not take us forward. This is already evident from a glance at the many industries that have undergone radical changes over the past few years due to the internet, such as retail and the media.

At first sight, the healthcare sector is facing an era of change. A real tsunami is approaching, but its full impact will only be felt in a few years. Many different examples give an idea of how severe these changes will be. Today, paralysed people are able to walk again thanks to an exoskeleton, 3D printers enable custom-fit casts and splints for individual patients, and there are plans for drones to deliver defibrillators to emergency patients should a doctor be unable to get there in time. All this would have been considered science fiction just a few years ago. Today, it is reality.

For those who are inspired by science fiction and are familiar with current trends in healthcare and information technology, and who think exponentially on this basis, several different trends can be identified that are highly likely to become reality over the next few years.



TREND 1: SELF-AWARE PATIENTS

Patients' self-image is already evolving. However, it will undergo an even more radical transformation. Not only are patients more self-aware and more critical of what doctors and pharmaceutical manufacturers tell them than they used to be. There is more intent on informing themselves – both prophylactically as well as about diseases they have been diagnosed with, and possible treatments. The internet enables patients to achieve a level of knowledge approaching that of doctors, if only they invest enough time. And what is more, ever more patients will in future insist on playing a more active role in deciding what happens to them. For companies in the healthcare sector and for doctors, this means adapting to the fact that patients will demand to be treated as partners.

TREND 2: VICTORY PARADE OF THE SENSORS

Sensors that measure and assess the vital functions of many people will spread rapidly over the next few years. So-called electronic tattoos are already available on the market. They continuously measure the body temperature, pulse rate and blood pressure of the person to whose skin the tattoo is attached. Sensors might soon be installed in bath-

rooms in people's homes. They could, for instance, analyse people's urine every day. This offers many new opportunities for health insurers; for example people who follow a health-conscious lifestyle could be offered discounts. Moreover, increasing numbers of people are seeking to optimise their health themselves. For example, they can record the number of deep sleep periods they have during the night – and adjust their daytime behaviour so as to achieve better recovery at night-time.

TREND 3: 3D PRINTING

Even now, cancer medications are frequently produced on a customised basis for each individual patient. In future, the same approach will be followed for many other medicines. Once a doctor has determined the right combination of active ingredients, he will send this data to a pharmacy, which will use a 3D printer to produce customised pills for the patient concerned. Initial trials using this method have already been successfully completed – they show that these pills even break down particularly quickly in the patient's body. Soon, 3D printers will no longer just be used to manufacture pills but also, for instance, to produce entire body parts, which patients will receive as transplants.

TREND 4: VIRTUAL TESTING OF NEW ACTIVE INGREDIENTS

Currently, pharmaceutical research companies have to conduct a laborious series of trials in order to test new active ingredients. This process takes many years and requires the participation of a large number of patients, who are often exposed to a certain degree of risk. This might soon be a thing of the past, however, thanks to computers that are able to process large amounts of data – experts call this "big data". In future, new active ingredients might thus undergo virtual testing without the involvement of actual patients. A further advantage is that computers could test thousands of different combinations of active ingredients within a very short space of time and identify the best ones. This would save pharmaceutical manufacturers a lot of time and bring new medicines onto the market much faster than in the past. It may even soon be possible to use artificial intelligence for testing active ingredients.

BERTALAN MESKÓ
MD, PhD

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also known as 'The Medical Futurist'

is an Amazon Top 100 author, keynote speaker and researcher. With more than 500 presentations (e.g. courses at the Harvard, Stanford and Yale universities; Singularity University's Futuremed course at NASA Ames campus and organisations including the ten biggest pharmaceutical companies), he is one of the top voices globally on healthcare technology. Dr Meskó was featured by dozens of top publishers, including CNN, National Geographic, Forbes, Time magazine, the BBC, and the New York Times.

TREND 5: AUGMENTED AND VIRTUAL REALITY

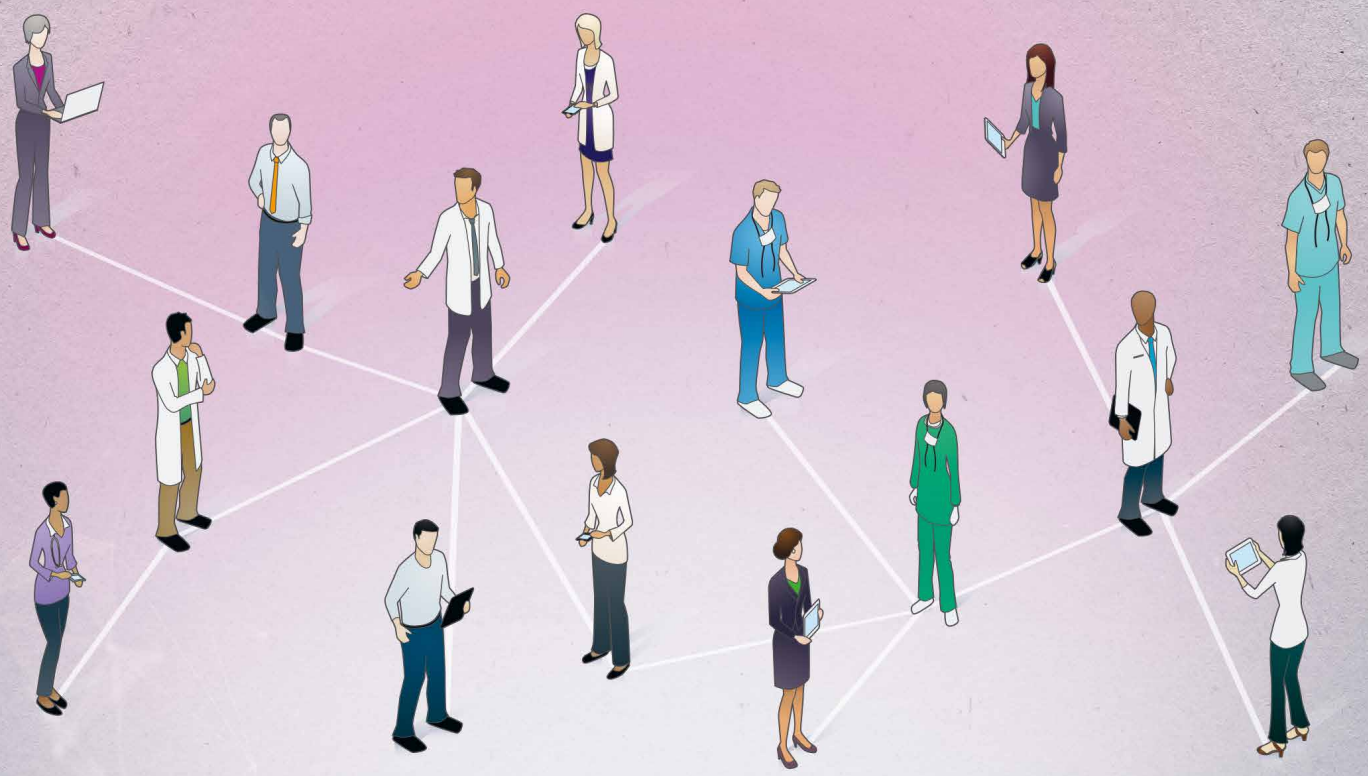
Augmented reality has been on everybody's lips for many months now due to the Pokémon Go smartphone game – in future, it will be an everyday occurrence in the healthcare industry. There are various possible applications: augmented reality will enable doctors to participate in operations – or even to perform them – remotely. Data glasses will enable significantly more effective shared training for junior medics than was possible in the past, such as in a virtual dissecting room. And during an operation performed under local anaesthetic, patients will wear data glasses that show them pictures of their home so that they feel at ease, despite the unfamiliar environment.

CONCLUSION

All of these radical changes have one thing in common: at first glance, they appear to be the consequences of a *technological* revolution. Yet in actual fact, they reflect a *cultural* revolution, above all, in the sense that people are at the heart of things. This is especially true of patients, who will enjoy a partnership of equals with the protagonists in healthcare. Their needs and wishes will shape the development of the healthcare sector as never before.

Healthcare companies must adapt so as to keep up with these rapid changes – and ideally help to push them forward themselves. To do so, they must welcome the new opportunities that information technology affords. They must ensure that new ideas are implemented quickly. They must urge the regulatory authorities to make rapid and pragmatic decisions. And, above all, they must transform their self-image. Even a big company will in future be increasingly less capable of safeguarding its success on its own. To achieve this, it will require a network of many partners, first and foremost among them: patients.

LONG-TERM PARTNERSHIPS TO BENEFIT PATIENTS



Partnerships are increasingly gaining importance throughout Boehringer Ingelheim. Professor Dr Dorothee Bartels has spent the last few months travelling around the USA on behalf of the company in order to forge close contacts with doctors, healthcare organisations and insurers. The epidemiologist's conclusion: "Nowadays, cooperation has to begin much earlier than it did just a couple of years ago – the objective is to build genuine, trustful and long-term partnerships."

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PROF. DR DOROTHEE BARTELS

has been Global Head of Epidemiology at Boehringer Ingelheim since 2010. She holds a Master's degree in epidemiology from Harvard School of Public Health, USA and a doctorate from Hanover Medical School, Germany where she is Professor of Epidemiology and Public Health. She has been Adjunct Professor at McGill University, Canada since 2013.

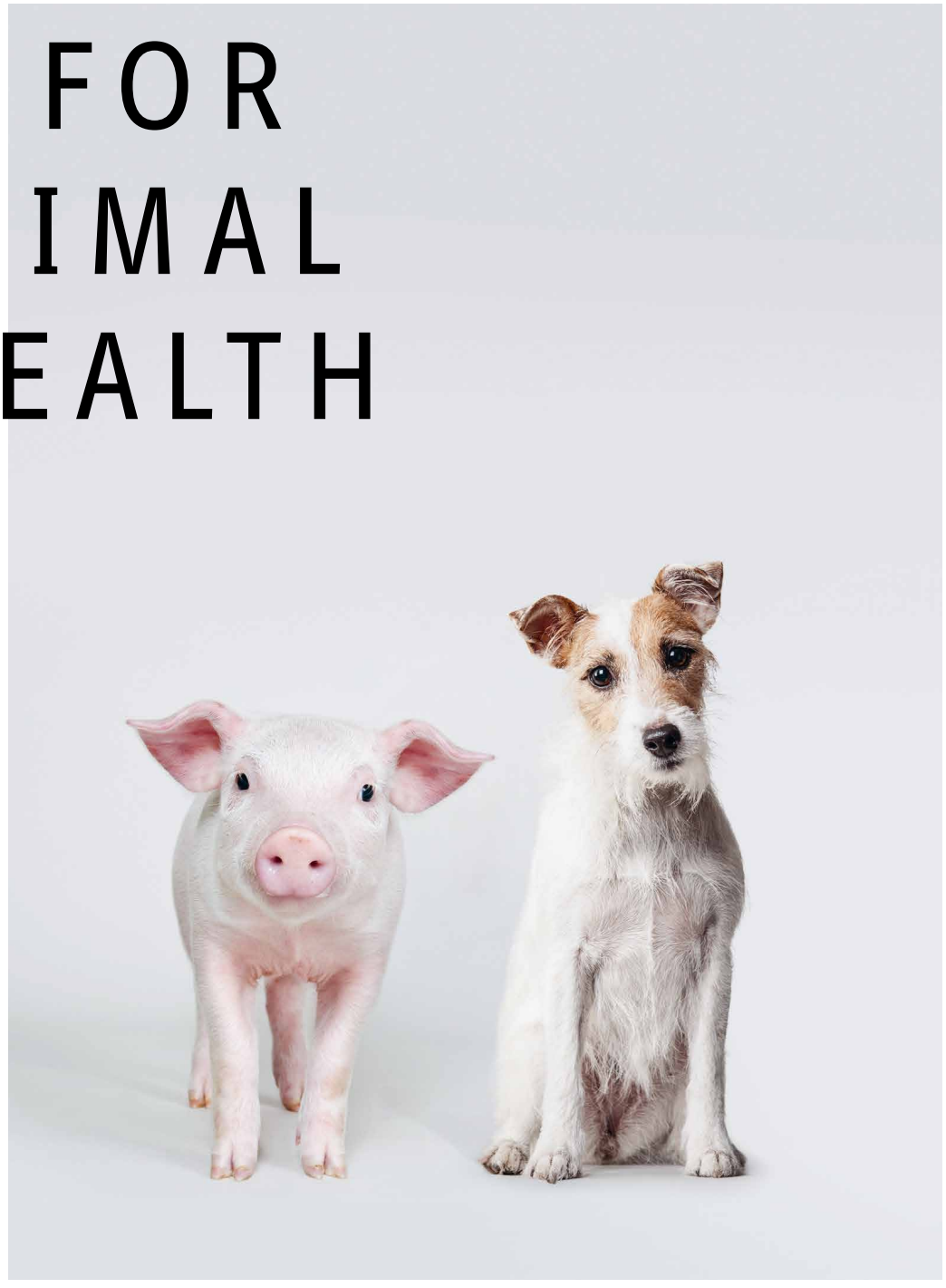
Prof. Bartels, what exactly is different today?
PROF. BARTELS Previously, as a pharmaceutical company, we only talked to health insurers or pharmacists shortly before the launch of a medicine – and then mainly about commercial issues such as pricing. Today, trustful partnerships start with disease-related discussions rather than with product-related discussions. Only in this way can we optimally pursue our common goal as partners: helping sick people with personalised medicines.

In practical terms, how do pharmaceutical companies notice this change?
PROF. BARTELS Today, health insurers no longer wish to pay per visit to the doctor or per prescription of medicines. Increasingly, their criterion is rather quality and whether a treatment was successful. For their relationship with pharmaceutical companies, this means that instead of pure volumes – that's to say discounts – insurers are now negotiating reimbursements which depend on the effectiveness and safety of a medicine for routine clinical use. So-called "value-based contracts" are therefore gaining ground. The paradigm shift is "from volume to value".

What role does personalised medicine play here?
PROF. BARTELS A critical one. Nowadays, the question is much more about which medicine is the best to help which individual patient. That's also the main reason why cooperation between health insurers and pharmaceutical companies must today begin much earlier. Until now, patients had frequently already been through a long ordeal before the right medicine was found, if at all. For patients, this is both a a great strain and possibly even life-threatening, while it's also very expensive for the health insurer. Today, we seek to jointly characterise patient groups very early on so as to be able to offer individual therapies. The analysis of data from routine clinical practice comes into play here. This is data already available prior to approval, from, for example, electronic medical records or claims data which can be used to identify and characterise patients with unmet medical need before launch. For this purpose, for example, we've licensed the same analytical platform as Humana, the fifth-largest health plan in the USA. We're now able to work jointly on Humana's patient data as well as on databases licensed by Boehringer Ingelheim – without any breach of data protection. This increases the data pool, helps with the search for suitable patient subgroups and enables close, partnership-based cooperation within the framework of evidence-based medicine.

So the model of a pharmaceutical company going solo is on the way out?
PROF. BARTELS I prefer to put it this way: in general, going solo is no longer expedient. Neither pharmaceutical companies nor health insurers, pharmacists, IT providers or patients' organisations are on their own able to improve human's health and achieve progress. That is only possible with joint effort, through trustful and long-term partnership-based cooperation.

PASSION FOR ANIMAL HEALTH



January 2017 saw our union with Sanofi's animal health business, Merial. The combined Boehringer Ingelheim Animal Health Business Unit is the world's second largest animal health operation, with over 10,000 employees, products available in more than 150 markets, and a global presence in 99 countries.

BY DR JOACHIM **HASENMAIER**, MEMBER OF THE BOARD OF MANAGING DIRECTORS WITH RESPONSIBILITY FOR ANIMAL HEALTH

The combined strength of Boehringer Ingelheim's and Sanofi's animal health organisations will improve our competitiveness in the animal health business, which is strategically important to our company. Complementary portfolios make our two businesses a perfect fit. Together, we can serve customers and partners even better by offering a broader range of health solutions in more countries, while continuing the excellent service delivery our customers expect.

The combined Animal Health team is committed to using our combined scale, resources and deep R&D capabilities to lead the industry in improving animal well-being. Welcoming Merial into the Boehringer Ingelheim family reflects our passion for animal health and commitment to making the industry even better at improving both human and animal health. We have combined two leading industry players with a common vision, which is to recognise the critical importance of serving animal health needs globally, with a focus on prevention. We know that when animals are healthy, humans are healthy too.

As a leader in vaccines and antiparasitics, we will continue our special focus on prevention while addressing the spectrum of treatment needs. We aim to develop new, effective medicines and diagnostics for diseases with high unmet medical needs. We will continue to invest in our existing market-leading positions in swine, equine and pets, while expanding our offering in cattle, poultry and other livestock.

We now have the increased expertise and resources to offer our customers more innovation and a wider set of products and services. We want to support farmers to raise and care for animals in a healthy, sustainable and financially viable way, which builds confidence with consumers.

»WE KNOW THAT WHEN ANIMALS ARE HEALTHY, HUMANS ARE HEALTHY TOO.«

We're committed to helping companion animals live longer and better, as most owners today have lifelong emotional connections with their pets and consider them family members. As a family-owned business, we can take a long-term perspective to achieve this for the benefit of our employees and customers.

Boehringer Ingelheim is committed to ensuring a smooth transition and business continuity as the organisations integrate. A deeply experienced new leadership team drawn from both Boehringer Ingelheim and Merial backgrounds will steer the Business Unit's strategy and bear out our commitment to customer and partner relationships and innovation in 2017 and beyond.

BOEHRINGER INGELHEIM ANIMAL HEALTH

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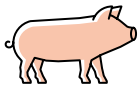
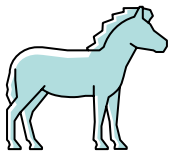
PETS

SWINE



EQUINE



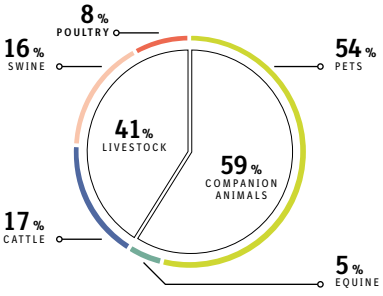
GLOBAL PLAYER

PRODUCTS AVAILABLE IN MORE THAN

150

COUNTRIES

SHARE



02

PARTNERSHIP BASED ON TRUST

Patients have to be able to trust in doctors and pharmaceutical companies together ensuring that they are provided with the best possible therapies as well as effective and safe medicines. Boehringer Ingelheim has striven to maintain this trust for over 130 years.

BACK TO A LIFE

At the age of 24, Anna Higgs suffered a serious stroke which paralysed one side of her body. The British woman struggled with the physical and psychological effects for many years. She knows that the path back to a life is easier if you have the right partners by your side.

Anna Higgs had been looking forward to a nice Christmas. She celebrated Christmas Day 2004 with her whole family in her father's house in Harlow, north of London. Anna's new-born son Henry, then just one month old, was also with them. But suddenly Anna didn't feel well and had difficulty speaking and also walking. Her family took her home and put her to bed. It was only the following morning that Anna's sister noticed that something was seriously wrong and called an emergency doctor. His devastating diagnosis: stroke, at the age of just 24.

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Anna Higgs at her home in Harlow.

»AT SOME POINT, ONE OF THE NURSES TOLD ME THAT I'D PROBABLY NEED AN ELECTRIC WHEELCHAIR WHEN I LEFT HOSPITAL. THAT TOTALLY KNOCKED ME OVER.«

The local hospital in Harlow only had a skeleton staff over Christmas. This meant that it was not possible to perform a magnetic resonance imaging (MRI) scan there. Anna was therefore transferred to another hospital further away for emergency treatment and initial tests. Even though her husband Craig, her parents and other relatives visited her every day, Anna became increasingly desperate. She could no longer move her right arm or her right leg, and no longer had any sight in her right eye. "I was really worried," says Anna. "The more I understood what had happened to me, the greater my fear. It looked as though my entire life hitherto was over." She would have liked to have looked after her young son, but that was not possible. Anna's husband Craig had no choice but to give up his job in order to stay at home.

Once the young mother had been transferred to her local hospital in Harlow two weeks later, she received physiotherapy every day. She initially concentrated on her right leg, since she wanted to learn to walk again as quickly as possible. But progress was slow and Anna repeatedly suffered bitter setbacks, such as contracting a hospital infection which weakened her further. "At some point, one of the nurses told me that I'd probably need an electric wheelchair when I left hospital," Anna remembers. "That totally knocked me over."

She spent six months in hospital. Afterwards, she could not go back to her old flat, as it was on the third floor. The local authority found her a flat on the ground floor. This was the start of a particularly difficult period for Anna. She had to learn to cope with everyday life, despite her paralysis. "That was extremely difficult with a small child," she says. "I had to use only my left hand for everything, including changing Henry's nappies." Although her family did all that they could to support her, Anna felt that she was on her own. In hospital, other people had looked after everything for her and there were clear times for

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She won the struggle for control of her leg and today Anna can walk normally again.

»DESPITE MY DIFFICULT SITUATION, I WAS ABLE TO GET A LOT DONE MYSELF AND ORGANISE THINGS.«

treatments and physiotherapy. "But almost immediately after I left hospital, communication broke down completely." From one moment to the next, Anna had to cope with everything on her own.

A complete mental breakdown followed. For two years, the young woman no longer left the house. "I had given up all hope," she says. "And I was seriously worried that I'd have another stroke." That was precisely what happened, but the second stroke was less severe than the first one.

The turning point came when Anna decided to take an antidepressant. Things slowly improved after this, and her deep despair faded into the background. Anna found the strength to fight. With iron discipline, she worked to regain control of her right leg. "My son helped me," she says. "I wanted to be able to treat him like any other mother treated her child. That was what motivated me." She won the struggle for control of her leg and today Anna can walk normally again. By contrast, the physiotherapy for her right arm was disappointing and she can hardly move it to this day. "At some point, I gave up because I had used up all my strength," the 36-year-old says. A few years ago, she had all of her right arm tattooed. "That way it at least looks nice, even if I can't use it," she jokes. Anna fought her way back to life. Despite her physical limitations, she took up dancing a few years ago. She now organises an annual dance and cabaret show in aid of a self-help group for stroke victims.

The support of her family and, above all, her relationship with her husband Craig have helped Anna to escape from the deep hole which she had fallen into after her stroke. However, her way back to a contented and independent life would have been much easier for her if she had been able to rely more on professional partners. "When you leave hospital after a serious stroke, you urgently need a safety net to fall into," she says. There is a need for doctors, carers and therapists who talk to one another, discuss things and follow a joint plan. As Anna knows all too well from her own experience, patients are hardly capable of dealing with things themselves in such situations.

Looking back, Anna actually thinks that she was lucky compared to others, despite her bad experience. "Because I was so young, I definitely got more help and attention than older patients." That was true not only of doctors and therapists, but also of her friends. Only recently, friends raised £2,000 to buy Anna a device which helps to strengthen the muscles in her right leg using electrical impulses.

Still, Anna knows that the fact that she has now regained a life she can enjoy is to a great extent due to herself. "Despite my difficult situation, I was able to get a lot done myself and organise things. This is because, fortunately, I'm a very open and direct person."

HELPING ANGELS

Strokes are on the rise around the globe. Over the past 20 years, there has been a significant increase in the number of patients. In 2013 alone, 10.3 million people worldwide were affected. Many patients lack access to a specialised hospital and therefore do not receive optimum treatment and care. Experts estimate that roughly every 30 minutes a stroke patient who could have been saved in a specialised hospital either dies or suffers serious complications.

Boehringer Ingelheim is helping to change this situation. The company's "Angels Initiative" works with leading organisations and experts to improve access to specialist stroke hospitals around the world. The initiative aims to build a community of at least 1,500 new stroke centres and specialised hospitals by 2019 in Europe alone. To this end, the initiative is training nurses and carers as stroke specialists, offers simulation-based training and equips hospitals with stroke boxes. This is in keeping with the motto of the Angels Initiative: "Giving life a chance".

WHAT IS A STROKE?

TIME IS BRAIN

A stroke is a disruption of the brain function of more than 24 hours. It is due to an insufficient supply of a brain region with oxygen.

CLOGGED BLOOD VESSEL

In 80 per cent of cases a blood vessel clogged by a clot (embolus) or calcification (arteriosclerosis) is the cause.

NO OXYGEN

The function of the affected brain area is temporarily or permanently impaired.

IN CASE OF STROKE – BE FAST

BALANCE

Loss of balance, headache or dizziness

EYES

Blurred vision

FACE

One side of the face is drooping

ARMS

Arm or leg weakness

SPEECH

Speech difficulty

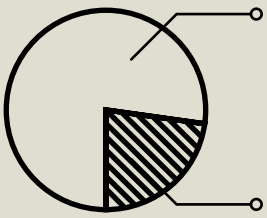
TIME

Time to call an ambulance immediately

FACTS ABOUT STROKE

Clot retrieval treatment increases the chance of a good outcome by more than

50%



17 MILLION strokes per year worldwide

5 MILLION of them cause disability

Source: www.worldstrokecampaign.org

STROKE IS TREATABLE

Stroke is a complex medical issue, but there are ways to significantly reduce its impact. Recognizing the signs of stroke early, treating it as a medical emergency with admission to a specialised stroke unit, and access to the best professional care can substantially improve outcomes.

WORKING TOGETHER TO COMBAT COUNTER-FEITING

The monitoring and traceability of medicines are of particular importance to Boehringer Ingelheim, as counterfeit products can endanger the health of patients. This is why the company works together with retailers and other manufacturers to make medicines more secure against counterfeiting. Boehringer Ingelheim also gives a high priority to pursuing any suspected cases.

Complaints resulting from suspicions of counterfeiting occur between 100 and 200 times a year. A doctor, pharmacist, hospital or patient contacts one of Boehringer Ingelheim's national subsidiaries to say that the packagings or the tablets look different to the usual ones. The batch number and expiry date details on the packaging do not match the details on the blister packs or on the bottle label, and possibly the expected effect is not experienced or there are unexpected side effects. In short, there is a suspicion that someone may have provided the doctors or patients with counterfeit medicine.

"In order for us to be able to investigate such cases, we ask that any suspicious products are sent to us. Only then will we be able to come to a reliable conclusion. In some cases, photos can already provide initial indications of counterfeiting," explains Johannes Schön, who is responsible for protection against counterfeiting at Boehringer Ingelheim. The products that are sent in will then be forwarded to the facility that manufactures the corresponding original for Boehringer Ingelheim. "Our colleagues there can compare the packaging with the retention samples and submit the products for chemical analysis," says Schön. In more than 90 per cent of cases, the suspicion turns out to be unfounded. However, if there is something amiss,

this can range from the manipulation of the expiry date on the packaging to complete counterfeiting of products with alien ingredients. "Luckily, our product portfolio isn't as badly affected by counterfeiting as those of other manufacturers," says Schön. This is because counterfeiters focus more on antimalarials, antibiotics and lifestyle products such as medicines to treat erectile dysfunction, dieting aids or hair restorers.

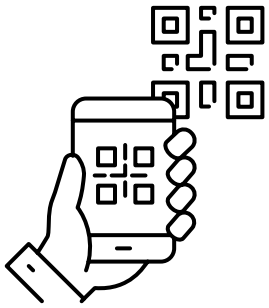
Counterfeit medicines represent a growing problem – not least because the internet makes it easy for criminals to trade in counterfeits: "Operation Pangea", which is coordinated every year by Interpol, seized more than five times as many counterfeit drugs and prohibited medicines in 2016 than in 2011, with almost ten times the value. Frequently, tablets or solutions contain no active ingredient at all. Sometimes, they do actually contain the active ingredient, but in much lower concentrations than they should. What is worse is that many criminals also use toxic substances to manufacture counterfeits.

MORE SUPPLY CHAIN SECURITY

Boehringer Ingelheim has been involved in combating counterfeit medicines for years – not only through the interdepartmental work of Johannes Schön and his colleagues, but also primarily by undertaking from the outset a whole range of measures to make the supply chain for medicines more secure. The company campaigned intensively for the implementation of the new Counterfeit Protection Directive of the European Union (EU) through the European Federation of Pharmaceutical Industries and Associations (EFPIA). This directive is due to be implemented across Europe by February 2019. While the precise regulations were being drawn up by EU politicians, Boehringer Ingelheim already started the implementation of the new regulations, piloting in Germany and Sweden.

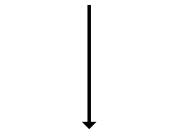
In partnership with a major competitor and with representatives of pharmaceutical, wholesale and pharmacists' associations, Boehringer Ingelheim launched the securPharm initiative in 2012. securPharm has developed a system for the unique labelling of medicine packaging. A data matrix code, familiar from train tickets for example, contains encrypted information about the manufacturer and the medicine, the batch number and expiry date. The same information is stored in a central database. As soon as a pharmacist scans a pack prior to selling it, the system checks whether the data is valid and records the sale of the product. "This means that no one can sell the same pack twice," explains Schön. "And the pharmacist recognises a pack with an incorrect code immediately."

HOW SECURPHARM WORKS



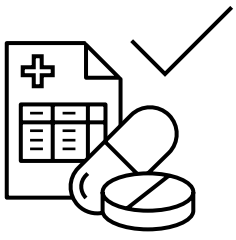
SCAN CODE

A pharmacist scans a pack prior to selling it.



DATABASE

The system checks whether the data is valid and records the sale of the product.



INFORMATION

The pharmacist recognises an original pack immediately.

ENORMOUS LEAD

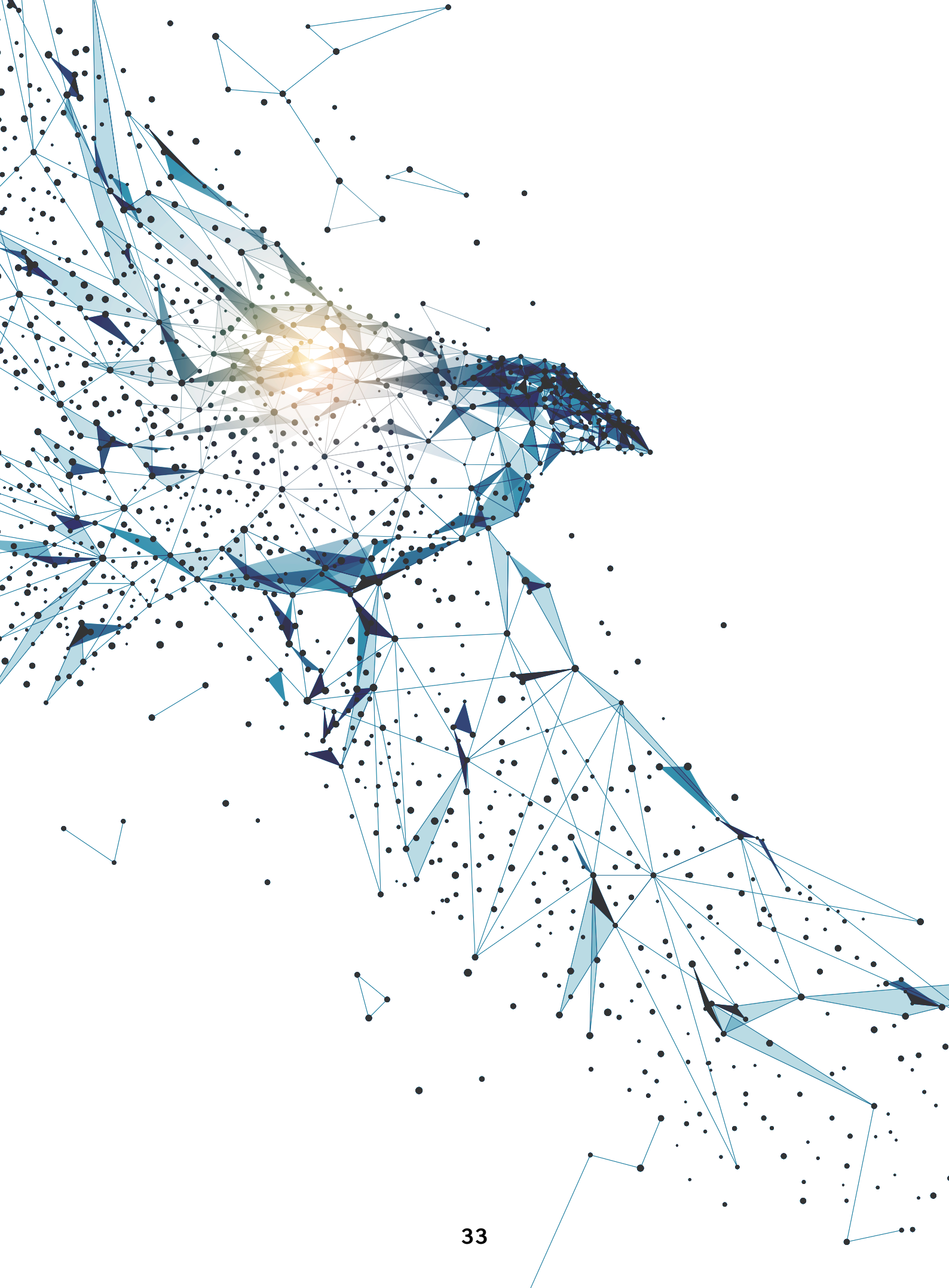
The securPharm system has been tested at around 400 pharmacies in Germany since January 2013, and 40 products from Boehringer Ingelheim now feature the code, with more in the pipeline. "When the EU directive makes these kinds of anti-counterfeit systems mandatory in 2019, we will already have an enormous lead," says Schön. The company also takes part in anti-counterfeit initiatives outside Germany, enabling, for example, the detailed tracking of delivery parcels and pallets. Special seals were designed to prevent packs from being opened unnoticed prior to sale.

Boehringer Ingelheim also puts emphasis on providing information. For instance, patients can also detect counterfeits if they keep a number of typical warning signs in mind. Is the seller trustworthy, or was the offer really too good to be true? Does the pack look as if it has been tampered with? Are there spelling mistakes in the text? Do the tablets or capsules differ from their usual colour or form? If a medicine actually tastes or smells different to usual, patients should make sure that they ask their pharmacist or contact the manufacturer directly – even more so in the absence of any effect or if the medicine produces unusual side effects. "Counterfeiters will keep trying," says Schön. "But together, we can make it as hard for them as possible."

03

PARTNERS NEED SPACE

An even balance between security and space is the best basis for good ideas that benefit patients. This principle is crucial to Boehringer Ingelheim's corporate culture. It is reflected not just in the respectful way in which employees – our most important partners in-house – are treated, but also in the company's social commitment to improved health worldwide.



POWERED BY OUR PEOPLE

Maria Tereno, Global Head of Diversity & Inclusion, discusses Boehringer Ingelheim's corporate culture with her colleague Shawn Liu, Global Head of Human Resources (HR) Strategy & Transformation: what it takes to motivate top, young talent, the role that leaders play, and the limits of individuality and diversity.

Ms Tereno, Mr Liu, why are employees so crucial to the success of Boehringer Ingelheim?

TERENO Quite simply because this company has always been driven by its capacity for innovation. The pharmaceutical industry is an increasingly competitive business. So it's more important than ever to remain innovative on a long-term basis – and that's only possible with dedicated, motivated employees.

LIU True. Successful companies focus particularly on people and on taking their well-being and engagement very seriously. We're proud that this has been part of who we are as a company for a long time. Across businesses, no matter whether in Human Pharma or Animal Health, and across countries, no matter whether in Europe, America or Asia, employees are at the very heart of our company worldwide.

So everything is perfect?

TERENO (laughs) Well, we do have a great corporate culture. But what's decisive is not our current success but that we continue to be successful in the coming years. As a company that operates worldwide, Boehringer Ingelheim has a highly diverse workforce. We've people from a wide range of nationalities in our organisation, with very different cultural backgrounds, from every age group and with different experiences. We can leverage this diversity to drive innovation and business growth.

What do you mean by that?

TERENO Strong, diverse teams are our most important resource, as they in particular can generate good ideas. Studies show that many companies discourage difference in their workforce: around 40 per cent of all marketable ideas are left on the table, mainly due to lack of endorsement. Diversity of thinking ensures a pipeline always filled with good ideas. This ultimately also leads to market share growth.

LIU Diversity of society and the workforce is simply a fact that cannot be ignored. To respond to diversity, we need to embrace inclusion in our culture as, without inclusion, diversity doesn't contribute all that much. In the worst case, it may even lead to chaos. We need a working environment that values partnership and diversity of thought in which colleagues trust one another and don't need to watch out for everything they say.

TERENO Exactly. Diversity is the mix and inclusion is making the mix work. Everybody needs to feel valued. We require an inclusive leadership culture where leaders can provide honest, constructive feedback and recognition on achievements. This can be as simple as, "Thank you, that was great work."

→

»WE MUST LEARN TO ENABLE OUR DIVERSE EMPLOYEES TO ACHIEVE THEIR BEST PERFORMANCE.«

LIU This leads to another important topic – "moments that matter". Boehringer Ingelheim employees have numerous interactions with the company and other colleagues within the company. Supervisor and employee performance feedback is one obvious example. As an organisation, we need to identify those critical moments that matter to employees and deal with them extremely well. To respond to the diversity of our workforce, we need to provide customised employee experience at those moments that matter. By doing so, we have the chance to engage each and everyone in the organisation to be the best they can.

What does that mean precisely?

TERENO People work in very different ways and are driven by different goals and ambitions. As a company, we must learn to enable our diverse employees to achieve their best performance. Naturally, it wouldn't be realistic to create individualised approaches to our about 50,000 employees. With our customised employee experience we aim to look at the different needs of different groups of employees and create tailored approaches about how each group works and performs at its best.

Let's talk more about inclusion. How can you successfully establish an inclusive culture?

TERENO First, leaders and teams need to consciously demonstrate inclusive behaviours aiming to foster innovative ideas. Secondly, our organisation needs to continuously create the right framework and infrastructure so that people with different personal and family backgrounds can make their best contribution to the company. Simple examples that are in place in Germany are childcare or flexible working hours. Another possibility could be by allowing time for special "innovation labs" where people meet in order to work together creatively on projects. This is, by the way, one of the key projects in development by the global Diversity & Inclusion Office.

Let's turn to one of the challenges in today's HR work. Is Boehringer Ingelheim finding enough young talent? After all, the company does have an excellent reputation.

LIU Very true. However, that alone is not enough, unfortunately. We're in a "war for talent", and we have to accept that genuine talents are now able to

MARIA TERENO

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has been in charge of Boehringer Ingelheim's global Diversity & Inclusion Office since March 2016.

Brazilian by birth and with Japanese and Portuguese roots, she has a Master of Business Administration from the University of Toronto. She joined Boehringer Ingelheim in Brazil in 2001; her roles included Brand Management and Head of Marketing for various products globally and locally. In October 2013, she was appointed Regional Business Head for Human Pharma for Japan and Australia. In this role, she was part of the team that developed the "People Strategy", which is one of the company's core priorities.

choose their ideal employer. So we can't simply sit back and "recruit" employees in the traditional way. Instead, we need to think about how we "sell" our jobs and opportunities to talented people. It's increasingly important, particularly in emerging markets. To achieve this, we need to underline what we are offering: a working environment that values diversity, with challenging and interesting roles, and development and career opportunities. And, above all, the fact that we treat our employees with respect.

The "best employer" awards that Boehringer Ingelheim regularly picks up must surely help?

LIU They're certainly helpful, particularly from a branding perspective. However, we don't see it just as a "brand" thing, it's actually an accumulation of many good efforts to treat employees well at Boehringer Ingelheim, like the few aspects I've just mentioned.

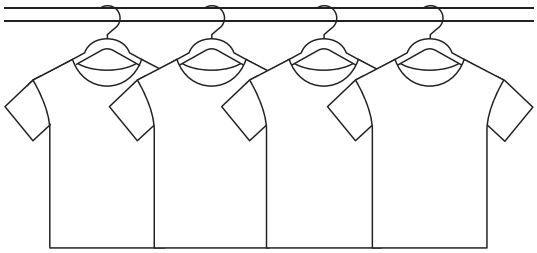
What about gender diversity and female leadership?

TERENO First of all, diversity is not just about gender, although, however, gender is the most visible diversity dimension to be leveraged. We should increase the gender balance in our leadership to reflect our diverse markets and customers: 80 per cent of all healthcare decisions in the family are taken by women. We've great female leadership talents, we need to continue to foster their development, but most important, develop our female talent pipeline. Another diversity opportunity is leveraging the different generations, ranging from the baby boomers, now around the age of 60, who are very fit and have an enormous amount of knowledge and experience, to the "millennials", now around the age of 30, who are developing in their career and are the potential talent of the future. →

A PARADIGM SHIFT

from giving people equal access and benefits
to tailored choices for different people
who have different needs and different expectations.

FROM ONE SIZE FITS ALL



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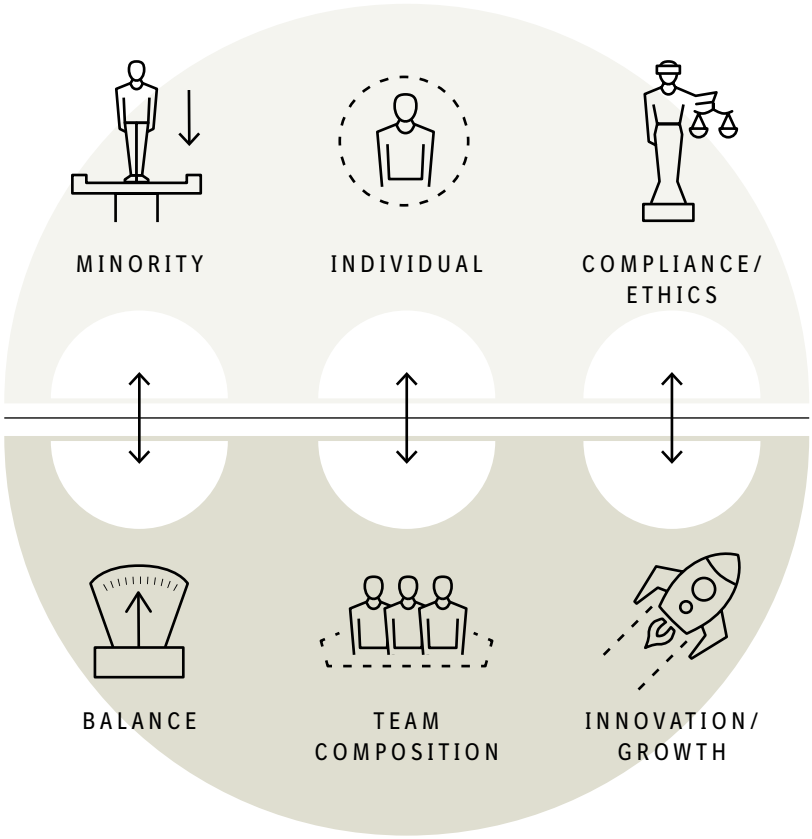
TO CUSTOMISATION



»DIVERSITY IS THE MIX AND INCLUSION IS MAKING THE MIX WORK.«

Where are the limits of diversity then? Surely, not everyone can do and get whatever they want?
TERENO No, of course not. That would produce the chaos which Shawn previously mentioned. First of all, everyone has to understand and strive for achieving the same goals. Everyone has to accept that we need results. And lastly, we need to make sure that our colleagues all enjoy working together in teams.

LIU There are also our company values, which we'll not give up under any circumstances. We've colleagues from many different countries and with many different nationalities, and we treat cultural background, age and gender, etc. all equally. But we don't have any room for anyone who opposes our values – respect, trust, empathy and passion.
TERENO We aim to set a good example on the Human Resources team …
LIU (laughs) Exactly. Some of our meetings involve passionate debates. But we always benefit from the exchanges.

Where are the big challenges for HR strategy?
LIU Primarily, we're concentrating strategically on those areas in which we can actually create a competitive advantage for Boehringer Ingelheim: effective leadership, customised employee experience and a diverse and inclusive organisation. At the same time, we need to run HR like a business – the day-to-day activities that are similar in most companies: staff records, recruitment or staff IT, just to name a few. It's about customer satisfaction, continuous improvement and professionalism.

»WE'RE CONCENTRATING ON AREAS IN WHICH WE CAN ACTUALLY CREATE A COMPETITIVE ADVANTAGE.«

SHAWN LIU

↓

has been Global Head of HR Strategy & Transformation at Boehringer Ingelheim since January 2016. Before, the Chinese manager held several leadership roles at Boehringer Ingelheim both at country and corporate level.

Previously, he worked in several consulting and industrial Fortune 500 organisations. He has been with Boehringer Ingelheim for more than six years. In his new role, he works with his colleagues to achieve greater effectiveness and efficiency in the work of HR and to secure a strategic role in the company.

Thank you both. One last question: What would you like to have achieved in five years' time?

TERENO I hope that in five years' time, Boehringer Ingelheim continues to be as competitive as it is today. For that we need our best talents. Leveraging diversity and inclusion is one way to attract and retain them.

LIU In five years' time, I'd really like to see Boehringer Ingelheim become a true pioneer and innovator, not only in business, but also in people management. And as long as we keep marching on both the effectiveness and efficiency fronts of human resource management, we'll get there.

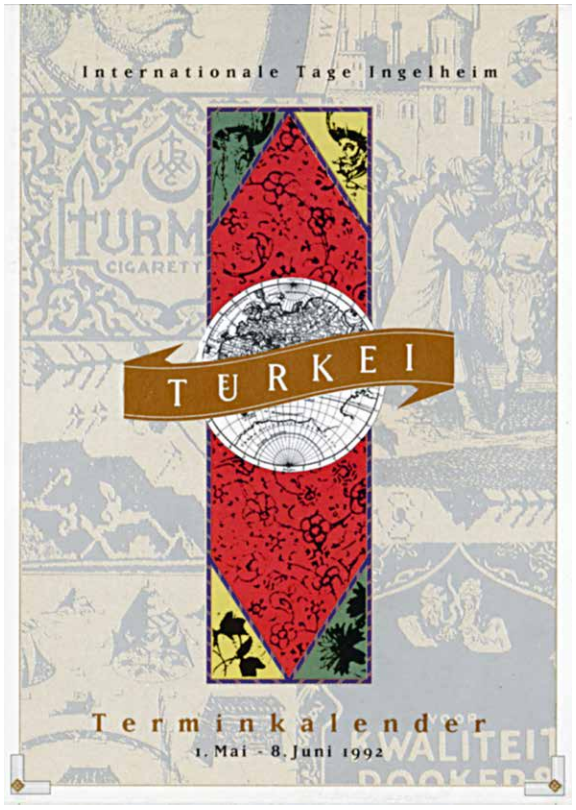
SUCCESS FROM TRADITION

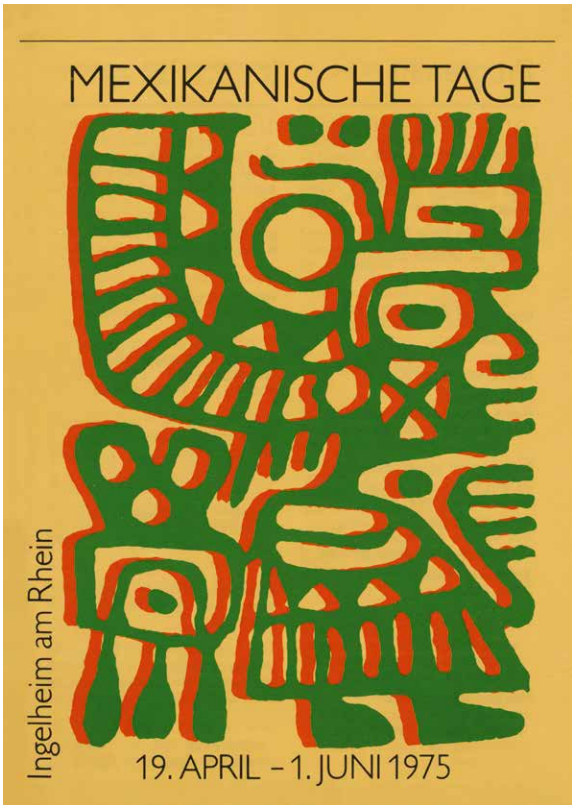
»The history of Boehringer Ingelheim is a history shaped by long-term, strong, successful partnerships. From the very first days, social interaction had been important to the founder of the company – interaction based on respectful and trusting cooperation within the company and with outside partners. This has marked our corporate culture, which puts people first. Partnerships arise when people are ready to assist one another and to help one another in order to mutually progress. At the same time, it is also important to create the necessary space for personal development. Boehringer Ingelheim has worked according to this principle for over 130 years.«

CHRISTIAN BOEHRINGER
Chairman of the Shareholders' Committee

SPACE FOR MORE HEALTH

According to the World Health Organisation (WHO), 42 per cent of Mexico's rural population mainly rely on wood as fuel for heating and cooking. Burning wood produces large quantities of harmful substances such as small soot particles, which directly enter the lungs. As most houses are very poorly ventilated, the soot concentration in them exceeds by up to one hundred times the level at which it is no threat to health. Constantly breathing in these soot particles indoors can result in diseases for those affected – mainly women and children – for example in COPD, asthma and lung cancer. Together with the "Fondo para la Paz" charity, Boehringer Ingelheim in Mexico has set the goal of not only improving the quality of life of patients with respiratory diseases but also of tackling the causes. To this end, Boehringer Ingelheim has since 2007 installed more than 1,600 ecological stoves in poorer communities in Mexico, enormously improving the lives of more than 6,000 people. The project also reduces greenhouse gases and delivers an improved carbon footprint.





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Space for culture: in 1959, Ernst Boehringer established the “International Days” in Ingelheim, Germany in order to provide an insight into the life and culture of other nations and peoples. Since then, the annual series of cultural events has guided visitors through history and around the globe, from Greek antiquity to the modern era.

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Space for patient empowerment: Boehringer Ingelheim employees in the USA have long served as volunteers at a local Americares free clinic for people without health insurance. In 2016, the Boehringer Ingelheim Cares Foundation and Americares launched a new health coach programme there that grew out of community conversations about unmet needs. Health coaches who speak Spanish and English work one-on-one with patients with chronic diseases, such as high blood pressure, high cholesterol or diabetes, and help them develop action plans to reach their health goals.

Space for more togetherness: every year, people with disability and Boehringer Ingelheim employees celebrate a togetherness festival at the company's Biberach site in Germany. They come together to get to know one another, exchange views and learn from each other. For over ten years, Boehringer Ingelheim has been partnering a local social organisation for people with disability in Biberach. More than 150 employees have since worked as volunteers on various projects. →

↑

Space for good ideas: why not use open source technology to manufacture electronically controlled artificial limbs at low cost? In 2015, the “FunMove” team from South Korea took first place with this good idea in the “Making More Health Changemaker” competition. The background to this project is that in South Korea, artificial limbs are generally much too expensive in relation to the average income level. Boehringer Ingelheim launched this competition in 2014 together with the charitable organisation Ashoka.

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Space for creativity: since 2010, Boehringer Ingelheim has supported the “People with disability paint” (Behinderte Menschen malen) project initiated by the State Office for Social Affairs, Young People and Care in Mainz, Germany. One highlight is the annual exhibition in the company’s staff restaurant in Ingelheim, where people with disability present their paintings.

Space for the family: already before the First World War, Boehringer Ingelheim began building flats and houses near the plant site in Ingelheim, Germany for employees with their families. →

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Space for team spirit: on the occasion of the company's 25th anniversary in 1910, this photomontage of all of the company's employees was made. The picture was a present from the workforce to Albert Boehringer and hung for many years above his desk.

Space for rest and relaxation: as one of the first companies in Germany, Boehringer Ingelheim in 1910 introduced paid holidays for employees.

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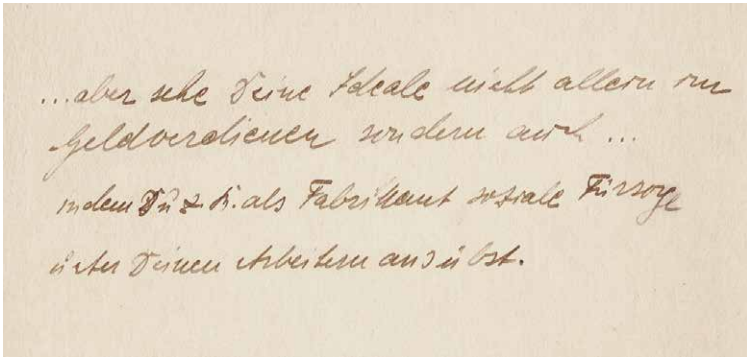

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Space for ideals: in September 1913, Albert junior, the older son of the company's founder, wrote a letter to his brother Ernst, who was still at school at the time. Among other things, he advised his younger brother, "Don't perceive your ideals solely in making money, but also in the common good, in which, for example, you as an industrialist practice social welfare among your workers."

IF YOU HAVE ANY QUERIES OR COMMENTS,PLEASE DO NOT HESITATE TO CONTACT US.

↓

Boehringer Ingelheim GmbH
Binger Straße 173
55216 Ingelheim
Germany
Telephone + 49 6132 77-0
Fax + 49 6132 72-0

CONTACT

Corporate Division Communications and Public Affairs
E-mail press@boehringer-ingelheim.com
Internet www.boehringer-ingelheim.com

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BOEHRINGER INGELHEIM

2016

ANNUAL REPORT

Value through Innovation

Boehringer Ingelheim

FINANCIAL HIGHLIGHTS

Amounts in millions of EUR, unless otherwise indicated	2016	2015	Change
Net sales	**15,850**	**14,798**	**+7%**
by region			
Europe	32%	28%	
Americas	41%	47%	
Asia, Australia, Africa	27%	25%	
by business			
Prescription Medicines	76%	76%	
Consumer Health Care	10%	10%	
Animal Health	9%	9%	
Biopharmaceuticals	4%	4%	
Industrial Customers and other sales	1%	1%	
Research and development	3,112	3,004	+4%
Personnel expenses	4,570	4,518	+1%
Average number of employees	45,692	47,501	−4%
Operating income	2,872	2,269	+27%
Operating income as % of net sales	18.1%	15.3%	
Group profit	1,853	1,577	+18%
as % of net sales	11.7%	10.7%	
Group equity	11,327	9,603	+18%
Return on Group equity	19.3%	19.4%	
Cash flow	2,484	2,605	−5%
Investments in tangible assets	645	591	+9%
Depreciation of tangible assets	516	475	+9%

SUMMARY REPORT

2016

Boehringer Ingelheim

Top 4 products – Prescription Medicines

Net sales 2016	in millions of EUR	Change
SPIRIVA®	2,995	−16%
PRADAXA®	1,385	+8%
TRAJENTA® / JENTADUETO®	1,128	+24%
MICARDIS®	959	+0%

Top 4 products – Consumer Health Care

Net sales 2016	in millions of EUR	Change
DULCOLAX®	237	+5%
BUSCOPAN®	236	+6%
PHARMATON®	145	+4%
MUCOSOLVAN®	136	−19%

OVERVIEW

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OUR COMPANY

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The Boehringer Ingelheim Group is one of the world's 20 leading pharmaceutical companies. Headquartered in Ingelheim, Germany, Boehringer Ingelheim operates globally with 143 affiliates and a total of more than 45,600 employees in 2016. The focus of the family-owned company, founded in 1885, is researching, developing, manufacturing and marketing new medications of high therapeutic value for human and veterinary medicine.

Social responsibility is an important element of the corporate culture at Boehringer Ingelheim. This includes worldwide involvement in social projects, such as the initiative "Making More Health" and caring for the employees. Respect, equal opportunities and reconciliation of work and family life form the foundation of the mutual cooperation. In everything it does, the company focuses on environmental protection and sustainability.

CONTENT

THE SHAREHOLDERS' PERSPECTIVE

↑

Christian Boehringer, *Chairman of the Shareholders' Committee*

Dear Reader,

As independent entrepreneurs, Boehringer Ingelheim's shareholders together aim to contribute to improved health for people and animals. A global workforce of around 50,000 people now shares this ambition.

The maxims of keeping the company in family ownership and of maintaining its independence, as well as its readiness to focus on core businesses where we can secure our competitiveness through organic growth, have been an anchor across generations.

The past few years have been characterised by agility, momentum and the willingness to change. Time and again in Boehringer Ingelheim's more than 130-year history there have been such phases when our markets have been shaped by major changes. At these times especially, our shareholders' readiness to bear entrepreneurial risks has successfully enabled our employees to explore new avenues.

The strength of our company lies in its capacity for innovation. This is the key to our competitiveness. Innovation sometimes results from a few major steps, but most often from many small steps along the value chain.

The shareholders are only able to create a long-term, reliable framework. Innovation and the will to change are borne by our employees. Clear targets and space for implementation create the foundation on which our employees are prepared to take responsibility for adopting new paths and making their personal contributions.

2016 was a successful year for Boehringer Ingelheim in which our company recorded profitable growth. The success of the past year is the success of all of our employees – the result of their tireless commitment to Boehringer Ingelheim. On behalf of the shareholders, I would like to take this opportunity to express our heartfelt thanks.

signed by
CHRISTIAN BOEHRINGER
Chairman of the Shareholders' Committee

KEY ASPECTS 2016

↑

Andreas Neumann, Simone Menne, Joachim Hasenmaier, Hubertus von Baumbach, Allan Hillgrove, Michel Pairet *(left to right), the Board of Managing Directors*

Dear Reader,

If you compare the Group of today with Boehringer Ingelheim of just a few years ago, you will observe significant changes. As part of a comprehensive transformation, we have focused on human pharmaceuticals, animal health and manufacturing biopharmaceutical products. Correspondingly, we have further developed our corporate structure, aligning it with these business units.

Value through innovation drives us forward. Our persistently high investment in research and development, as in previous years, is proof of Boehringer Ingelheim's clear focus on innovation.

Value chains are changing and require new networks. Our capacity for innovation and partnerships here combine as a crucial success factor. We will therefore seek to collaborate with partners even more intensely than in the past. Our goal is to continue to make a significant contribution to human and animal health in the future, thereby serving our customers' interests.

In the current financial year, we will focus on implementing the steps outlined above. By acquiring Merial at year-end, we have reached the last milestone for the realignment of our animal health business. The outcome of months of successful effort is a globally highly competitive organisation. Integration of our two animal health organisations will now have a high priority in order to consistently expand our new market position.

In our human pharmaceuticals business, we are continuously working on safeguarding the market success of our new and established medicines. The further innovative concepts in our portfolio fill us with confidence.

PRAXBIND® was brought onto the market in many countries in 2016. It enables doctors in rare emergency situations to reverse the effect of the PRADAXA® oral anticoagulant in a few minutes. PRADAXA® is thereby the only product in its class which offers this option.

In the field of diabetes, we are continuing to work highly successfully with our alliance partner Eli Lilly and Company. Through our cardiovascular long-term outcome study EMPA-REG OUTCOME®, we have been able to demonstrate that JARDIANCE® for the treatment of type 2 diabetes significantly reduces the risk of dying of cardiovascular diseases. It has even been approved by the US Food and Drug Administration. The European authorities have also seen the huge potential of JARDIANCE® and have updated their product information.

Another milestone will be the ground-breaking for the expansion of our biopharmaceutical production site in Vienna (Austria) which we want to expand considerably. Due to the competence that we have developed over many decades, biopharmaceutical production is an increasingly significant and recognised cornerstone of our company.

In the medium term, we will give priority to the further development of our human and animal health product portfolio. Further technological development will lead to fundamental changes in the healthcare sector, too, and we intend to take part in shaping them.

In the long term, we want to achieve significant progress wherever there is an urgent need for major therapeutic advances. In the past, we have time and again been able to help patients through innovative medicines – in the prevention and acute treatment of strokes, Parkinson's disease or severe pulmonary diseases, lung cancer and, not least, diabetes. Drawing on these successes, we are confident of our future ability also to take away the fear associated with diseases such as Alzheimer's or schizophrenia.

In the past year, the changes outlined above have posed significant challenges for the organisation. They have entailed major personal changes for many people. Unaffected by these enormous additional efforts, we were able to close the financial year very successfully. We would like to take this opportunity to thank all of our employees for their commitment, their creativity and their passion for Boehringer Ingelheim.

signed by
HUBERTUS VON BAUMBACH

signed by
JOACHIM HASENMAIER

signed by
ALLAN HILLGROVE

signed by
SIMONE MENNE

signed by
ANDREAS NEUMANN

signed by
MICHEL PAIRET

CORPORATE BODIES

Shareholders' Committee

CHRISTIAN BOEHRINGER
Chairman of the Shareholders' Committee

CHRISTOPH BOEHRINGER

ERICH VON BAUMBACH JR

ISABEL BOEHRINGER

DR MATHIAS BOEHRINGER

PROF. DR DR ANDREAS BARNER (FROM 01.07.2016)

Advisory Board

EGBERT APPEL
Chairman of the Advisory Board
Trustee, Martin Hilti Family Trust
President, Hilti Foundation

KURT BECK
Former Minister-President

DR NIKOLAUS VON BOMHARD (from 01.07.2016)
Chairman of the Board of Management
Münchener Rückversicherungs-Gesellschaft

DR ANDREAS KREIMEYER
Former member of the Board of Executive Directors and Research Executive Director BASF SE

JAN RINNERT
Chairman of the Board of Management
Heraeus Holding GmbH

Board of Managing Directors

HUBERTUS VON BAUMBACH
Chairman of the Board (from 01.07.2016)
Corporate Board Division Finance (until 31.08.2016)

PROF. DR DR ANDREAS BARNER
Chairman of the Board (until 30.06.2016)

DR WOLFGANG BAIKER (until 30.06.2016)
Corporate Board Divisions Biopharmaceuticals and Operations

DR JOACHIM HASENMAIER
Corporate Board Division Animal Health
Corporate Board Division Consumer Health Care (until 31.12.2016)

ALLAN HILLGROVE
Corporate Board Division
Pharma Marketing and Sales (until 30.06.2016)
Corporate Board Division Human Pharma (from 01.07.2016)

SIMONE MENNE
Corporate Board Division Finance (from 01.09.2016)

DR ANDREAS NEUMANN
Corporate Board Division Human Resources

DR MICHEL PAIRET
Corporate Board Division Research and non-clinical Development (until 30.06.2016)
Corporate Board Division Innovation (from 01.07.2016)

GROUP MANAGEMENT REPORT 2016

GROUP MANAGEMENT REPORT 2016

INFORMATION ABOUT THE GROUP

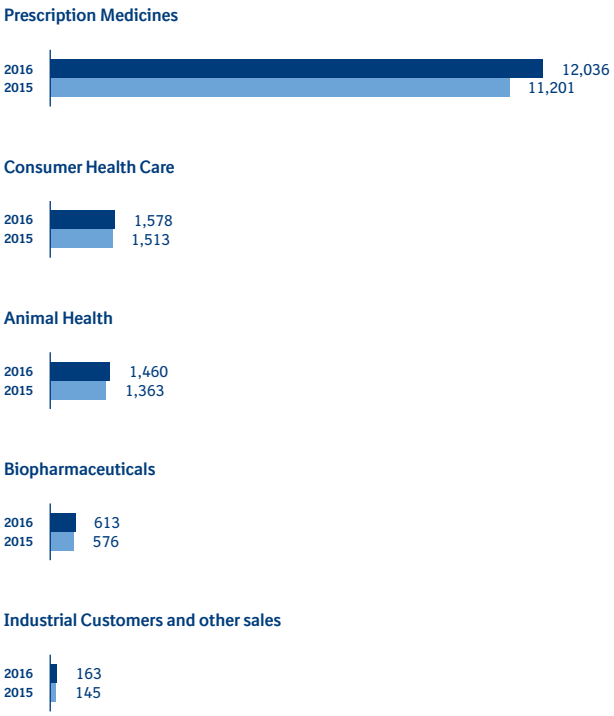
The Group's business model

Boehringer Ingelheim is a family-owned company which was established in 1885 and is based in Ingelheim, Germany. The focus of the company is on the research and development, production and sale of innovative pharmaceuticals improving health and quality of life and contributing great therapeutic benefit to both human medicine and animal health. With 143 affiliated companies and more than 45,600 employees worldwide, the Group achieved net sales of EUR 15.9 billion in 2016, making it one of the world's top 20 pharmaceutical companies. In the 2016 financial year, Boehringer Ingelheim's business activities covered prescription medicines, consumer health care, animal health, biopharmaceuticals and industrial customers. At the start of 2017, the exchange of Boehringer Ingelheim's consumer health care business (CHC) for Sanofi's animal health business (Merial) took place as scheduled and is thus not included in the figures for the financial year 2016. This step marks the successful conclusion of this strategic transaction, which was started through exclusive negotiations in December 2015.

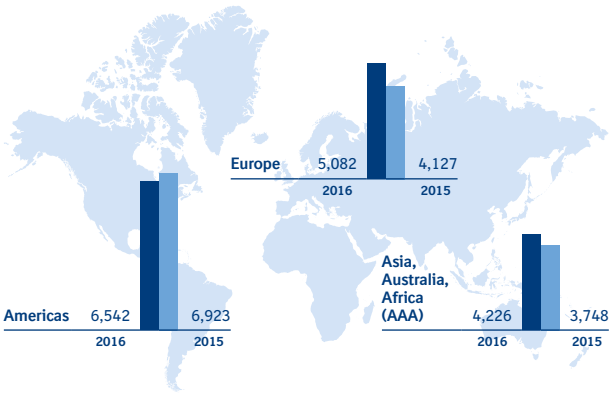
Prescription medicines form the core of Boehringer Ingelheim's activities. Medicines from Boehringer Ingelheim have long been standard treatments for cardiovascular diseases, respiratory disorders, oncology, diseases of the central nervous system and immunology. In 2016, the company's biggest revenue contributor was once again SPIRIVA®, which is used to treat chronic obstructive pulmonary disease (COPD) and asthma. Moreover, PRADAXA®, which is used to prevent strokes in patients with atrial fibrillation, as well as for the prevention and treatment of thromboembolic disorders, and TRAJENTA® and JARDIANCE®, which remain on an impressive trajectory and are used to treat type 2 diabetes, also made significant contributions to Boehringer Ingelheim's success. OFEV®, which was newly introduced in 2015 and which offers people with the rare, fatal respiratory disease idiopathic pulmonary fibrosis (IPF) a new treatment option, also achieved strong growth.

The business aim of Boehringer Ingelheim is to continue to drive forward with the innovative development of its existing product portfolio through organic growth,

Net sales by business (in EUR million)



Net sales by region (in EUR million)



in cooperation with its external partners. To do this, Boehringer Ingelheim operates a global research network with major facilities in Biberach, Hanover and Ingelheim (Germany), Ridgefield and St. Joseph (USA) and in Vienna (Austria), supported by two smaller facilities in Kobe (Japan) and Milan (Italy).

Within consumer health care, DULCOLAX®, BUSCOPAN®, PHARMATON® and MUCOSOLVAN® were among the company's best selling medicines in the past financial year.

Animal health is another major pillar of Boehringer Ingelheim's business. The swine vaccine INGELVAC CIRCOFLEX®, used to treat porcine circovirus type 2, is the most significant product in animal health in terms of sales. To boost its competitiveness in this area over the long term, Boehringer Ingelheim acquired the animal health business (Merial) of the French company Sanofi in January 2017.

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®), the process development of new biological entities (NBEs) and biosimilars, and – as one of the world's leading companies – process development and contract manufacturing in commercial production for third-party industrial customers.

Once again, Boehringer Ingelheim achieved the majority of its sales in 2016 in the Americas (41%) and Europe (32%) regions. However, revenue from the region of Asia / Australia / Africa (AAA) is also gaining significance, making up 27% of the Group's total net sales in 2016. The three biggest markets, the USA, Japan and Germany accounted for around 53% of sales last year.

Research and development (R&D)

In line with its mission statement, Boehringer Ingelheim's primary goal is to research and develop innovative medicines and therapies for the treatment of diseases for which there are as yet no satisfactory treatments available. Our aim at all times is to make a major contribution in areas where the need for treatment is high and to occupy a leading position in major indication areas.

To achieve this aim, Boehringer Ingelheim can, besides its own R&D activities, draw on a global network comprising academic groups, public research institutions and biotech companies. In addition, we are expanding our product portfolio with partnership agreements and the systematic inlicensing of technologies and products. In the year under review, for example, Boehringer Ingelheim agreed a long-term partnership for the development of a next-generation oncolytic virus platform with the Austrian company ViraTherapeutics, with a purchase option agreement entitling Boehringer Ingelheim to acquire ViraTherapeutics upon completion of phase I of clinical development.

Boehringer Ingelheim's R&D activities are the basis for the company's success. Together with our innovative prowess, it has been the primary driver behind the Group's positive growth in recent years. In-house research and development – supplemented by external cooperation and partnerships – will also continue to be a top priority in the future.

In the 2016 financial year, we employed an average of 8,055 people at our R&D sites. A total of more than EUR 3.1 billion was invested in the research and development of new medicines, corresponding to 19.6% of the Group's net sales and thus, as forecast, to the same level as the previous year.

Research and development	2016	2015	2014	2013	2012
Expenditure in EUR million	3,112	3,004	2,654	2,743	2,795
– as % of net sales	19.6	20.3	19.9	19.5	19.0
Prescription Medicines expenditure in EUR million	2,870	2,780	2,333	2,444	2,563
– as % of Prescription Medicines net sales	23.8	24.8	23.1	22.4	22.5
Average number of employees	8,055	7,895	8,104	7,741	7,492
Investments in tangible assets (without investments in infrastructure) in EUR million	92	77	78	114	139

Human pharmaceuticals

Boehringer Ingelheim carried out research and development in 2016 for its prescription medicines businesses at facilities in the USA, Germany, Austria, Italy and Japan.

The key focus of our research work in 2016 was on the following indication areas:

- Immunology and respiratory disorders
- Cardiometabolic diseases (cardiovascular and metabolic diseases)
- Oncology and immuno-oncology
- Diseases of the central nervous system

Expenditure for R&D in prescription medicines accounted for 23.8% of net sales generated in this business.

In 2016, Boehringer Ingelheim continued to pursue intensive research into chronic respiratory disorders such as asthma, COPD and IPF, to be able to offer affected patients the best possible treatment.

A key goal of COPD therapy is to enable patients to remain physically active for longer. In September 2016, the findings of the phase III study PHYSACTO® were presented at the congress of the European Respiratory Society (ERS). They show that the combination of SPIOLTO® RESPIMAT®, physical training and a change of behaviour significantly improved the functional capacity of COPD patients. The PHYSACTO® study forms part of the TOviTO® trial programme, which examines the efficacy and safety of SPIOLTO® RESPIMAT® in treating COPD.

A further key treatment goal in this therapeutic area is to reduce the risk of exacerbations. Two post-hoc analyses of the WISDOM study published in 2016 suggested that the gradual reduction in the dosage of inhaled corticosteroids (ICS) did not result in an increased risk of exacerbation in most patients if they continued to receive SPIRIVA® (tiotropium) and an LABA (salmeterol). This only appeared to harm a small group of patients with severe or very severe COPD, an increased eosinophil blood count and frequent exacerbations.

The new large-scale DYNAGITO® study is also examining the effect of SPIOLTO® RESPIMAT® by comparison to SPIRIVA® RESPIMAT® in the case of COPD exacerbations. The first results are expected in 2017.

The TOviTO® trial programme and the WISDOM study are part of the current study evidence which has served as the basis for the updated position paper of the GOLD committee (Global Initiative for Chronic Obstructive Lung Disease) on the treatment of COPD. The GOLD update 2017 recommends therapy with a long-acting anticholinergic (LAMA) and a long-acting beta2-agonist (LABA), the combination as included in SPIOLTO® RESPIMAT®, for a broad range of COPD patients in GOLD stages B to D.

The clinical UniTinA-Asthma® trial programme, which examined SPIRIVA® (tiotropium) RESPIMAT® in asthma, was completed in 2016. The new data supplement the existing evidence and confirm that SPIRIVA® RESPIMAT® is well-tolerated and effective for many asthma patients with continuing symptoms, despite a basic therapy of

inhaled corticosteroids (ICS) and/or long-acting beta-agonists (LABA).

The phase II and large-scale UniTinA-Asthma® trial programme included 18 clinical studies worldwide at more than 150 study centres with over 6,000 patients, including 1,800 children and young people aged between 1 and 17.

New post-hoc analyses were presented at the annual meeting of the American Academy of Allergy, Asthma & Immunology (AAAAI). They demonstrated that SPIRIVA® RESPIMAT® is effective as an add-on therapy in addition to other basic therapies, irrespective of the individual subtype of an allergic asthma.

These data were supported by the publication of a new analysis of the PrimoTinA-Asthma® studies, which showed that SPIRIVA® RESPIMAT® is effective independently of a broad range of baseline characteristics, if used as an add-on therapy in patients who continue to display symptoms despite ICS/LABA.

A further pooled data analysis of seven studies (phase II and phase III) found that the safety and tolerability profile of SPIRIVA® RESPIMAT®, as an add-on therapy for at least ICS, was comparable with that of a placebo.

At the annual meetings of the American Thoracic Society (ATS) and the European Respiratory Society (ERS), data from the paediatric studies of the UniTinA-Asthma® programme showed that SPIRIVA® RESPIMAT® is also effective, in addition to a basic therapy for children and young people with symptomatic asthma between the ages of 6 and 17, and for children with symptomatic asthma, is already well-tolerated from the age of one.

These new data form part of applications in the EU and the USA with the goal of extending the indications for SPIRIVA® RESPIMAT® in the case of asthma.

In the EU, SPIRIVA® RESPIMAT® is approved for the treatment of adults who continue to display asthma symptoms, despite ICS/LABA therapy. In the USA, SPIRIVA® RESPIMAT® is approved for use with children 12 years of age and older and was included in the "Global Strategy for Asthma Management and Prevention" of the Global Initiative for Asthma (GINA) in 2016.

Since its market approval in 2014, more than 20,000 patients worldwide suffering from IPF have been treated with OFEV® (nintedanib).

In 2016, new analyses of the pivotal phase III INPULSIS® studies and the INPULSIS-ON® follow-up study, as well as data from everyday practice provided further evidence of the efficacy of OFEV® for a broad range of patients. These analyses showed that OFEV® consistently slowed the course of the disease, with a considerable reduction in the rate of FVC decline, while also significantly reducing the risk of acute IPF exacerbations. The INPULSIS®-ON follow-up study also confirmed the side-effects profile of INPULSIS® in the case of a maximum exposure time of more than four years. No new safety concerns were identified here.

Moreover, in June 2016 the first of 350 IPF patients were enrolled in a new study. This international phase IV study (INMARK™) is investigating the effect of OFEV® on the change in certain biomarkers in the blood and examines whether biomarkers can predict the individual clinical course of IPF.

With SENSCIS™ (Safety and Efficacy of Nintedanib in Systemic SClerosIS), the largest-ever study of sufferers of systemic sclerosis (SSc) who have developed interstitial lung disease (ILD) in connection with this, Boehringer Ingelheim is continuing to pursue its commitment to examine the potential that OFEV® offers for other forms of progressive fibrotic interstitial lung diseases. In September 2016, the European Commission (EC) and the U.S. Food and Drug Administration (FDA) both granted nintedanib orphan drug status for the treatment of SSc-ILD.

In July 2016, Boehringer Ingelheim pooled its cardiovascular and metabolic diseases therapeutic areas to create the new, combined therapeutic area cardiometabolic diseases.

A key milestone in the past year was the inclusion of the EMPA-REG OUTCOME® study data in the product characteristics information for JARDIANCE® (empagliflozin) in countries around the world, including in the USA and Canada. In January 2017, the European Commission decided to include these data in the European product characteristics information. Further subanalyses of the EMPA-REG OUTCOME® study were presented at major international congresses over the course of the year. An analysis which examined the effect of JARDIANCE® on new or deteriorating kidney disease was presented at the American Diabetes Association (ADA) 76th Scientific Sessions and published in the *New England Journal of Medicine* at the same time. In order to pursue further research into the potential of JARDIANCE® in the field of cardiovascular disease, Boehringer Ingelheim and Eli Lilly announced that they would initiate two new clinical studies in 2017. These two sister studies are intended to examine empagliflozin for the treatment of chronic cardiac insufficiency in patients with and without diabetes. The other studies underway in the company's diabetes portfolio are progressing to schedule. They include the two cardiovascular outcome trials for TRAJENTA® (linagliptin) CARMELINA® and CAROLINA®. Both JARDIANCE® and TRAJENTA® are jointly marketed by Boehringer Ingelheim and Eli Lilly.

In the field of anticoagulation, further data from clinical practice have been published for PRADAXA® (dabigatran etexilat). This includes an independent analysis of data from clinical practice provided by authors who work for the U.S. Food and Drug Administration. The initial findings of phase II of the GLORIA-AFTM register study were presented at various congresses over the course of the year. Two randomised clinical studies for PRADAXA®, RE-DUAL PCI® and RE-CIRCUIT® completed their recruitment of patients in 2016. The results will be presented at medical congresses in 2017 and will provide further insights into the efficacy and safety profile of PRADAXA®. These studies examined patients undergoing percutaneous coronary intervention (PCI) with a stent implantation (RE-DUAL PCI®) and patients with atrial fibrillation ablation (RE-CIRCUIT®). For PRAXBIND® (idarucizumab), the specific drug for the reversal of the anticoagulant effect of PRADAXA®, updated data from the RE-VERSE AD® study and from subanalyses were presented at various congresses. PRAXBIND® is now approved in more than 50 countries worldwide.

In the indication area oncology Boehringer Ingelheim has successfully advanced research and development of its pipeline compounds and marketed treatments, with the aim of providing new treatment options that may offer patients added therapeutic value and contribute to quality of life improvements.

In 2016, we made huge progress in the highly competitive lung cancer market while also continuing our activities in the area of research and development for other cancers where the need for treatment is high. Afatinib (GIOTRIF®/ GILOTRIF®), a second-generation medicine for the treatment of a specific type of non-small cell lung cancer (NSCLC), has been available to patients since 2013. This product became a market leader in many markets in 2016. The results of two major studies from the LUX-Lung trial programme and the commitment of Boehringer Ingelheim's teams worldwide played a key role here. In the LUX-Lung 8 study, afatinib was compared with erlotinib (Tarceva®) for patients with squamous cell carcinoma of the lung. An improved overall survival rate with afatinib therapy was demonstrated, with a safety profile comparable with that of previous studies. These data resulted in the approval of afanitib in this new indication. Moreover, data from the further advanced LUX-Lung 7 study were presented in 2016 which confirmed an improved profile for patients by comparison with gefitinib (Iressa®).

In the second half of 2016, Boehringer Ingelheim decided to return the rights for the joint development and marketing of olmutinib, a third-generation active substance for the treatment of NSCLC, to Hanmi Pharmaceuticals. This decision was made following a reassessment of all the clinical data for olmutinib and while considering the current progress in the area of lung cancer with a positive EGFR mutation.

Boehringer Ingelheim's second product on the market for the treatment of advanced NSCLC, nintedanib (VARGATEF®), was approved in further markets worldwide in 2016. To examine the effect of nintedanib on other types of cancer, the pivotal LUME-Meso phase III study for malignant pleural mesothelioma, a rare type of cancer triggered by contact with asbestos over a period of many years, began in 2016.

In addition to the products already approved, significant progress was made in the oncological development pipeline in 2016. The company has established a series of important partnerships and strategic agreements on both sides of the Atlantic, with the goal of further strengthening its oncology portfolio. This has already delivered important results in clinical development.

In the therapeutic area of the central nervous system, Boehringer Ingelheim focuses in its research on identifying the functions in the brain that are responsible for key symptoms of the main psychiatric illnesses. These include schizophrenia, Alzheimer's disease and depression.

We continue to operate in a complex research field in which a number of other companies have recently suffered setbacks. However, we are confident that our symptom-based approach will help to develop effective therapies that may be useful for a whole range of diseases. Therefore, we are focussing on initially achieving a better understanding of the biology of the brain as well as of its relevant circuitry.

Our research portfolio includes substances which influence the disruption of the glutamatergic signalling pathway which occurs in the case of cognitive impairments. In connection with this, we are examining substances, such as phosphodiesterase inhibitors, which influence the transmission of signals in the brain through cAMP and/or cGMP.

Boehringer Ingelheim has been active in the area of immunology research and development for many years and is set to invest in this important therapeutic area and to expand its capacities.

In order to drive forward the two substances in its portfolio that have made the most progress, Boehringer Ingelheim signed a global cooperation agreement with AbbVie in March 2016. The substances risankizumab and BI 655064 are being examined for various immunological diseases (e.g. psoriasis and Crohn's disease). This development and marketing partnership offers the best means of ensuring that these two medicines reach the largest possible number of the right patients and thereby achieve their full potential.

Several other active substances are in the early clinical development stage and are already showing signs of offering strong therapeutic potential for patients with various immunological diseases, such as inflammatory bowel disease or lupus nephritis.

Animal health

In its research and development work in the field of animal health, Boehringer Ingelheim concentrates on innovative vaccines for the protection of livestock and pets, as well as on pharmaceutical products focusing on the treatment of pets' chronic diseases.

At our facilities in the USA, Germany, China, Mexico, Japan, Denmark and India, 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 key market regions with local R&D and production facilities.

In the past year, we again invested in the expansion of existing facilities, as well as the construction of a centre for clinical research in China. In Ames (Iowa, USA) – an established site for animal health research – the company has moved into a new research building, which offers space for around 100 employees, in the immediate vicinity of Iowa State University. These investments demonstrate the company's commitment and its intention to sustainably strengthen its position in animal health.

A large number of extensive pivotal clinical studies were launched in 2016 and, in some cases, have already been

successfully completed. This serves as the cornerstone for further regulatory submissions in 2017. In addition to our internal research and development, external projects and products are also assessed and in some cases integrated into our portfolio. Activities for the preservation of existing products and for the expansion of their geographical distribution are another important aspect of our R&D work.

Globally, Boehringer Ingelheim's animal health business received 70 new product authorisations in 2016.

Biopharmaceuticals

Boehringer Ingelheim is committed to its strategic decision of actively entering into the biosimilars business and thereby increasing the access to high-quality biologics for patients around the world. Biosimilars will increase the range of treatment options for doctors and their patients in the health sector while providing a vital contribution to the efficiency of health care systems throughout the world to patients' benefit. We are currently concentrating, in particular, on our first biosimilar monoclonal antibodies in immunology and oncology. Here, two biosimilar candidates are at the late clinical development stage: BI 695501, a biosimilar candidate for Humira® (adalimumab) and BI 695502, a biosimilar candidate for Avastin® (bevacizumab).

In November 2016, we published the first results of our pivotal phase III study for BI 695501. In this study, BI 695501 demonstrated a similar level of efficacy and safety in comparison to Humira® (adalimumab) for patients with rheumatoid arthritis. BI 695501 has now been accepted for review by the relevant regulatory authorities in the USA and Europe (the FDA and the EMA). In 2016, we also published data from a phase I study for the biosimilar candidate BI 695502. They demonstrate bio-equivalence between BI 695502 and the reference product Avastin® (bevacizumab). The ongoing pivotal phase III study is examining the safety and efficacy of BI 695502 in comparison to Avastin® for patients with advanced, non-small cell lung cancer.

Production

Human pharmaceuticals

The overarching aims in the production of human pharmaceuticals are the reliable market launch of our products and the routine care of our patients using high-quality pharmaceuticals at competitive prices. Therefore, Boehringer Ingelheim optimised its supply strategy in 2015. In early 2016, the company began to implement this strategy throughout its value chain and at all of its facilities.

With the motto "From Volume to Value", our supply network is set to be rigorously focused and made more flexible in the next few years to reflect the requirements of our businesses. At our own production facilities, we manufacture the products of particular relevance to our Group or whose manufacturing technology requires unique expertise. We operated 19 own production facilities in nine countries in the year under review. These can be divided into eleven pharmaceutical, three chemical and four biopharmaceutical facilities, as well as one production facility for medical products.

Our own production capacities are supplemented by external contract manufacturers, which primarily focus on the manufacture of products that are in an advanced stage of their life cycle. This ensures a reliable and competitive supply of prescription medicines and consumer health care products. The close cooperation with external partners secures Boehringer Ingelheim access to technologies that are not currently available in our internal production portfolio and enables us to focus our investments on those products that are particularly relevant for us.

Boehringer Ingelheim therefore primarily invested in additional production capacity for the respiratory disease products SPIRIVA® HANDIHALER® and the RESPIMAT® platform in 2016. To cover the increasing demand for our anti-diabetic portfolio, Boehringer Ingelheim invested a further EUR 30 million in the production facilities in Mexico City and Koropi (Greece).

Animal health

In the field of animal health, Boehringer Ingelheim is primarily active with a production network comprising four facilities for manufacturing vaccines and one facility for nutraceuticals. This is supplemented by contract manufacturers, primarily in North and Central America as well as Europe. With the construction of a new Chinese facility in Taizhou continuing apace in 2016, an Asian location will soon join our production network. As a major component of our animal health growth strategy, this facility will focus on the manufacture of vaccines against porcine diseases for the Chinese market.

Biopharmaceuticals

The biopharmaceutical activities of Boehringer Ingelheim in Germany (Biberach), Austria (Vienna), the USA (Fremont) and China (Shanghai) comprise the manufacture of own-brand marketable products (such as ACTILYSE®, METALYSE® and PRAXBIND®), the process development of NBEs and biosimilars, and – as one of the world's leading companies – process development and contract manufacturing in commercial production for third-party industrial customers. Thereby, Boehringer Ingelheim covers the entire biopharmaceutical value chain from genetic development of the cell, followed by manufacturing of the active substance and of the finished pharmaceutical product down to the product launch and global market supply.

In 2016, use of capacity at production facilities was again at a very high level. Boehringer Ingelheim met increasing demand for ACTILYSE®. Our active substance PRAXBIND® was launched on further markets in the past financial year, following its successful market introduction in the USA and Europe in 2015.

Moreover, our industrial-scale cell culture facility in Biberach was approved for the manufacture of a further customer market product. The expansion project (a new industrial-scale biopharmaceutical production facility) at our site in Vienna reached further milestones, such as the award of its first official permits, enabling the ground breaking ceremony in 2017. Our commercial facility in Shanghai (China) for various biopharmaceutical development services for Chinese and international customers will go into operation as planned in the first quarter of 2017.

Occupational safety and environmental protection

The protection of the employees, the facilities and the environment, as well as the sustainable use of natural resources and the promotion of environmental awareness are major components of our company's mission statement and are of prime importance to Boehringer Ingelheim. Compliance with social and environmental aspects has been anchored in our corporate philosophy for many years now. The company strives to maintain natural resources and advocates environmental awareness both within and outside the company. Observing social and ecological concerns is the only way to ensure that we can achieve sustainable economic success for future generations.

Group-wide, our company has developed binding standards in terms of environmental protection, 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.

Within Boehringer Ingelheim, Corporate Department Environment, Health, Safety & Sustainability (EHS&S) is responsible for our conceptual focus. For Boehringer Ingelheim, 2016 was characterised by the negotiations with Sanofi on the exchange of Boehringer Ingelheim's consumer health care business for Sanofi's animal health division, Merial. From the very start, Corporate EHS&S monitored the negotiations in order to ensure compliance with the company's EHS&S duty of care. In addition, a comprehensive environmental due diligence process was implemented for the facilities. Regular EHS&S audits, both at Boehringer Ingelheim's internal facilities and at the premises of suppliers and contract manufacturers, likewise ensure compliance with our own as well as with international standards (Pharmaceutical Supply Chain Initiative, PSCI). This programme is supplemented by the code of conduct for all relevant suppliers. The status of environmental protection and occupational safety is con-

tinuously reviewed and potential for improvement is identified on this basis.

As part of our sustainability efforts, we took part in an independent assessment of our performance by EcoVadis in 2016, for which we were awarded a silver medal. A further example of our continuous improvements in the field of environmental protection is our extensive work to analyse and decontaminate the soil at our Ingelheim site in Germany.

As our contribution towards reducing global CO_2 emissions, we have set ourselves the goal of reducing our entire CO_2 emissions by 20% by 2020 as compared with 2010 values. As part of our Group-wide BE GREEN initiative, we have achieved a reduction of 15% (per m^2 of floor space) to date through energy savings and reductions in emissions.

The health and safety of our employees is a high priority at Boehringer Ingelheim. This is reflected in our international safety standards and in the safety culture that we practise. The Group-wide BE SAFE initiative, which aims to further reduce the number of workplace accidents, has been rolled out in a second wave since 2016, with a focus on safety in our global sales organisation. In 2016, our global accident frequency rate (AFR) amounted to 1.8 accidents per million hours worked. This represents a further reduction of 0.1 points.

Employee reporting

In 2016, Boehringer Ingelheim employed 45,692 people worldwide. This represents a decrease of – 3.8% on the previous year. From a regional perspective, the number of staff in America was reduced, mainly due to the sale of our US generics business, while the number of employees in Europe increased and remained stable in the AAA region.

Average number of employees by region	2016	2015
Americas	11,469	13,623
Europe	24,164	23,817
Asia/Australia/Africa (AAA)	10,059	10,061
	45,692	47,501

A major success factor for the positive growth of the Group is its innovative and motivated staff. Accordingly, we are very 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 do not only set great store by the acquisition of technical expertise but also by promoting 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 vision “Value through Innovation”. As a global company, it is important to Boehringer Ingelheim that the diversity of the markets is reflected in its 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 further state-of-the-art benefits to its employees. These benefits include company pension plans, flexible and home-based work options and numerous health-related benefits. As a significant component of our corporate strategy, it is part of our talent management to ensure the employability of our staff, promote a wide range of opportunities for innovation at work, and motivate our employees to develop as individuals.

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 secure a talented and well-qualified workforce of young professionals against a backdrop of demographic change. In 2016, 224 young professionals started their careers with

Boehringer Ingelheim in Germany in over 27 different scientific, technical and commercial fields. More than 700 young people are currently enrolled on our 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 2016. We received top marks from the auditors of the international, independent Top Employers' Institute in major HR categories, such as "talent strategy and executive development", "staff planning" and "performance management and onboarding". 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 beyond our business activities 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, particularly 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. In 2016, the German chemical industry association presented Boehringer Ingelheim with its Responsible Care Award for the company's own power station at its Ingelheim facility and the associated long-term improvement in its carbon footprint.

A major pillar of our social commitment is our MMH initiative. For over six years, Boehringer Ingelheim has been in partnership with Ashoka, a global nonprofit organisation. The aim of this partnership is to integrate health as a major factor in people's lives around the world, including their families and their social environment. It aims to identify and support promising ideas for improving health. In order to achieve this, Making More Health currently promotes more than 80 selected social entrepreneurs around the world, who are attempting to come up with effective solutions in the healthcare sector.

Social commitment within the company is also encouraged at Boehringer Ingelheim. Our employees in more than 30 countries work on the MMH initiative. In the MMH Youth Venture project, entrepreneurial skills are developed by working together on designing social entrepreneurship projects, actively supported by mentors from our workforce. The initiative is supported by the Executive in Residence (EiR) and MMH Insight India staff development programmes. As part of a network of partnerships with nonprofit organisations and social entrepreneurs in the healthcare sector, this programme gives young managers the opportunity to support the participants at their project facilities for a specific period of time and to jointly develop and implement projects. The goal is to develop and promote a socially aware and innovative approach to business and to integrate new perspectives and approaches in everyday business.

As a manufacturer with tradition and high expertise in the field of stroke therapy and prevention, Boehringer Ingelheim is promoting broader public awareness and improved care. Together with patient organisations and politics, Boehringer Ingelheim has been providing information on the causes and consequences of strokes, options for their prevention and how to act in case of an emergency for more than 13 years. Last year, Boehringer Ingelheim was once again involved in the "Herzenssache Schlaganfall" (taking stroke to heart) awareness-raising initiative and organised various projects and awareness-raising events. The initiative, which was launched by Boehringer Ingelheim in 2010, promotes projects that raise awareness of atrial fibrillation and the associated risk of stroke, as well as improving public perception. With its "Herzenssache Lebenszeit" (taking life to heart) awareness-raising campaign throughout Germany, Boehringer Ingelheim, together with various foundations and associations in the stroke and diabetes fields, is providing information on the risks associated with these two widespread diseases and the possibilities for their prevention, through events in more than 120 towns and cities. The goal is to reduce the number of new cases.

To improve the European system for handling strokes, Boehringer Ingelheim in 2016 set up the "Angels Initiative"

together with the European Stroke Organisation (ESO) , with the goal of developing a European network of clinics equipped to handle strokes.

Boehringer Ingelheim has always actively supported research, science and culture. It continuously affirms this strategy through its partnerships with academic institutions. In addition to supporting scientific activities, scientists are also awarded the annual Boehringer Ingelheim FENS Research Award for neuroscience, or the Heinrich Wieland Prize for research into biologically active substances and systems.

REPORT ON ECONOMIC POSITION

Macroeconomic environment

In 2016, the global economy grew by 2.5% on the previous year, and thereby fell slightly short of the previous year's increase as well as the expected trend.

The major industrialised countries' economic recovery continued in 2016. While the unexpected Brexit vote did temporarily increase uncertainty on the financial markets, the effects on the real economy have been limited to date. In the eurozone and Japan especially, economic output rose faster than production potential. The expansionary monetary policy of the European Central Bank and the Bank of Japan, as well as their decision to implement a negative interest-rate policy and to expand their bond-buying programmes, acted as a stimulus. The economic situation for the emerging economies also largely stabilised in 2016. China and India, in particular, strengthened their economic output. Due to the stabilisation of commodity prices, the end of recession was in sight in Russia and Latin America.

For 2017, the global economy is expected to maintain a moderate growth rate of 2.8%. The United States as well as Japan and the eurozone are expected to maintain their stable levels of growth. For the emerging economies, too, the ongoing process of stabilisation is expected to continue.

Positive economic development continued in 2016 in Germany, with economic output rising by 1.9%. The upturn was supported, in particular, by significantly greater private and public consumer spending as well as housing investments. Moreover, the increase in consumer spending also improved the situation on the labour market, meaning that the number of people in employment increased. With a growth rate of 3.3%, the rise in exports fell short of the previous year's level and thereby reflects the still quite subdued economic recovery processes of the country's key trading partners.

With a view to 2017, we can assume that the positive economic growth in Germany will continue, with forecast growth of around 1.4%. The slowdown in growth by comparison with the previous year is mainly attributable to the decrease in the number of working days in 2017. Only a weak growth in global trade will prevent further economic expansion in Germany.

With an average rate of inflation of 0.5% in 2016, prices in Germany decreased compared with the previous year, as measured by the consumer price index. The rate of inflation for the whole eurozone was 1.1% and, thus, higher than the previous year.

In addition to the euro, the major currencies for the Boehringer Ingelheim Group are the US dollar (USD) and the Japanese yen (JPY). At the end of the year, the euro devalued sharply against the US dollar but, as in the previous year, fluctuated between USD/EUR 1.04 (December) and USD/EUR 1.16 (May) overall.

The euro fluctuated relatively strongly against the Japanese yen in the past financial year. After reaching an annual high in January (JPY/EUR 132), the euro devalued significantly against the yen over the course of the year (low: JPY/EUR 111 in July), followed by an upward revaluation in the fourth quarter.

The global pharmaceuticals market registered growth of around 6% in the 2016 financial year. 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 and the increasing level of prosperity in the emerging economies, the industry's growth remained stable, albeit slightly weaker than in previous years.

Course of business

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.

The year 2016 was characterised by significant changes for Boehringer Ingelheim; these were changes that also represented important steps for the company's future. The completion of the exchange of our consumer health care business (CHC) for Sanofi's animal health business (Merial) at the turn of the year was the biggest change within our business portfolio of the past few years. This transaction will significantly improve our future market position in the field of animal health and establish us in future as one of the largest global players in this segment.

In addition, ownership of our US generics business was transferred to Hikma Pharmaceuticals PLC in the first quarter of 2016. A corresponding sales agreement had been signed in July 2015.

Together with the company AbbVie Boehringer Ingelheim agreed on a long-term global collaboration for the development of two compounds in the therapeutic area immunology.

Boehringer Ingelheim recorded net sales of EUR 15,850 million in the 2016 financial year, which corresponds to an increase of 7.1% compared with the previous year's figure of EUR 14,798 million. The exchange rate developments on the foreign exchange markets and the associated exchange rate effects had only a slight impact. Currency adjusted, Boehringer Ingelheim's growth rate stood at 7.3%.

With sales of EUR 6,542 million, the Americas region represents around 41% of our total sales and remains the biggest market for Boehringer Ingelheim. The decline of 5.5% in sales compared with the previous year is mainly due to the sale of our US generics business. Strong growth was recorded once more in the Asia/Australia/Africa (AAA) region with 12.8%. Boehringer Ingelheim achieved revenues of EUR 4,226 million in this region, corresponding to a stable share of around 27% of the Group's total revenues. The Europe region showed high sales growth (+23.1%) to EUR 5,082 million. This also reflects the payment received for development and marketing rights within the scope of the company's cooperation with AbbVie in the field of immune diseases. The Group made 32% of its sales in Europe.

Net sales by region (in EUR million)	2016	2015	Change	currency adjusted
Americas	6,542	6,923	–5.5%	–1.6%
Europe	5,082	4,127	+23.1%	+19.0%
Asia/Australia/Africa (AAA)	4,226	3,748	+12.8%	+9.7%

In general, sales growth conformed to expectations. Supported by good results from clinical trials, 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 of the USA, Japan and Europe. Overall, the company has asserted itself well despite the difficult conditions and has laid the foundations for future growth.

Boehringer Ingelheim recorded an operating income of EUR 2,872 million, corresponding to a return on sales of 18.1%, which is 2.8 percentage points above the previous year's return on sales. The operating income includes significant positive and negative extraordinary effects compared with the previous year and was increased in absolute terms by EUR 603 million.

Key figures (in EUR million)	2016	2015	Change
Net sales	15,850	14,798	+7.1%
Operating income	2,872	2,269	+26.6%
Return on net sales	18.1%	15.3%	

Results from operations

In the past financial year, Boehringer Ingelheim's business activities were divided into prescription medicines, consumer health care, animal health, biopharmaceuticals and industrial customers.

Net sales by businesses (in EUR million)	2016	2015	Change	currency adjusted
Prescription Medicines	12,036	11,201	+7.5%	+7.4%
Consumer Health Care	1,578	1,513	+4.3%	+5.5%
Animal Health	1,460	1,363	+7.1%	+8.5%
Biopharmaceuticals	613	576	+6.4%	+6.4%
Industrial Customers and other sales	163	145	+12.4%	+12.8%

Prescription medicines

With around 76% of total revenue, prescription medicines is the main pillar of Boehringer Ingelheim's business activities. In 2016, revenues from prescription medicines amounted to EUR 12,036 million. This is equivalent to a change of around +7.5% (+7.4% currency adjusted) compared with the previous year. As well as the successful placement of innovative products and the good market position of established medicines, the positive sales growth is due to the receipt of a payment agreed within the scope of the company's cooperation with AbbVie in the field of immune diseases. We are continuing to experience increasing price pressure, however, particularly for established medicines, in a number of major markets. Overall, Boehringer Ingelheim was again able to assert itself well in this difficult environment in 2016 and has laid the foundations for further growth.

As in previous years, SPIRIVA®, which is used to treat chronic obstructive pulmonary disease (COPD), was once again the biggest contributor to sales in 2016. It achieved revenues of EUR 2,995 million within the reporting period, but thus fell short of the level of the previous year (EUR 3,553 million). On the company's biggest sales market, the USA, in particular, sales of SPIRIVA® fell significantly due to price pressure.

The second biggest sales contributor for Boehringer Ingelheim, the anticoagulant PRADAXA®, recorded sales of EUR 1,385 million, which corresponds to an increase over the 2015 level (+7.6%).

At EUR 1,128 million, the medicine TRAJENTA®, which is used for the treatment of type 2 diabetes, achieved sales in excess of one billion euros for the first time in 2016 (+24.1%).

OFEV®, which offers people with the rare, fatal respiratory disease idiopathic pulmonary fibrosis (IPF) a new treatment option and achieved product authorisation in 2015, generated sales of EUR 613 million (+70.9%).

Net sales (in EUR million)	2016	2015	Change
SPIRIVA®	2,995	3,553	−15.7%
PRADAXA®	1,385	1,287	+7.6%
TRAJENTA® / JENTADUETO®	1,128	909	+24.1%
MICARDIS®	959	956	+0.3%

With regard to the regional distribution of sales, the Americas, with a share of around 45%, were once more by far the largest market. In this region, Boehringer Ingelheim generated net sales of EUR 5,362 million, which corresponds to a change of −4.5% compared with the previous year (−3.3% currency adjusted) and was impacted by the sale of our US generics business.

The second-biggest market, Europe, accounted for 28%, with revenues of EUR 3,383 million. Sales thus increased compared with 2015 (EUR 2,729 million) and were not subject to any significant exchange rate effects.

Net sales by region (in EUR million)	2016	2015	Change
Americas	5,362	5,613	−4.5%
Europe	3,383	2,729	+24.0%
Asia/Australia/Africa (AAA)	3,291	2,838	+16.0%

The Asia/Australia/Africa (AAA) region achieved sales of EUR 3,291 million, which is equivalent to about 27% of total sales of prescription medicines. This region showed an increase of +16.0% as compared with last year (+10.7% currency adjusted).

Consumer health care

In consumer health care, sales increased by +4.3% compared with the previous year (+5.5% currency adjusted). In this business, Boehringer Ingelheim generated revenues amounting to EUR 1,578 million.

In 2016, the biggest sales contributors in the consumer health care segment were DULCOLAX®, BUSCOPAN®, PHARMATON® and MUCOSOLVAN®. All products generated revenue of significantly more than EUR 100 million each. As in the previous year, DULCOLAX® was the biggest seller, with sales of EUR 237 million (+5.3%). BUSCOPAN® also showed an increase (+5.8%) in the past financial year and generated sales of EUR 236 million. Positive results were also achieved with PHARMATON®, with sales increasing by 3.6% to EUR 145 million.

Net sales (in EUR million)	2016	2015	Change
DULCOLAX®	237	225	+5.3%
BUSCOPAN®	236	223	+5.8%
PHARMATON®	145	140	+3.6%
MUCOSOLVAN®	136	168	–19.0%

Of all the regions, Europe generated the highest sales of EUR 582 million. This corresponds to a 37% share of global sales in the consumer health care business. As such, sales here were up by 1.0% on last year.

The AAA region ended the 2016 financial year with sales amounting to EUR 548 million and an increase of 8.3% compared with the previous year (+4.2% currency adjusted). This market therefore accounted for just under 35% of Boehringer Ingelheim's consumer health care business.

The Americas region, the third largest sales market in the consumer health care business, ended the financial year with a raise in revenues of +3.9% (+11.4% currency adjusted) compared with the previous year, achieving total sales of EUR 448 million.

Animal health

Revenues from products in the animal health business increased to EUR 1,460 million in 2016, corresponding to a +7.1% increase on the previous year (+8.5% currency adjusted). Sales of products for livestock accounted for the largest share of this, EUR 1,028 million, corresponding to around 70% of the entire animal health segment. In the pet segment, revenues amounted to EUR 432 million.

Net sales (in EUR million)	2016	2015	Change
INGELVAC CIRCOFLEX®	283	281	+0.7%
INGELVAC® PRRS	114	99	+15.2%
METACAM®	106	101	+5.0%
DURAMUNE®	100	88	+13.6%

The growth of the animal health segment was most significant in the Americas region. Accounting for about 50% of total sales, the biggest sales market for Boehringer Ingelheim in this business grew by 4.4% (+5.9% currency adjusted) to EUR 729 million. In the US market, the most important country for Boehringer Ingelheim, sales increased by 5.9% to EUR 612 million.

Boehringer Ingelheim also saw revenues grow in Europe in 2016, increasing to EUR 394 million, or a rise of 7.7% (+10.1% currency adjusted), and accounting for 27% of total revenues of the animal health business. Sales increased in every country, particularly in Germany.

With an increase of 13.1% (+12.8% currency adjusted), the AAA region also reported positive growth compared with the previous year, recording sales of EUR 337 million, which corresponds to around 23% of Boehringer Ingelheim's total animal health sales. China in particular was able to achieve a growth of +9.1%, with net sales amounting to EUR 108 million.

Biopharmaceuticals

Sales for 2016 in biopharmaceutical contract manufacturing amounted to EUR 613 million, which represents growth of + 6.4% compared with the previous year.

Industrial customers and other sales

The industrial customer business consists of our third-party businesses in the field of pharmaceutical and chemical production and sales of pharma chemicals. Sales of EUR 163 million were achieved in 2016, corresponding to an increase in revenue of 12.4% compared with the previous year.

Presentation of expenditure and income

Operating expenses at Boehringer Ingelheim increased to EUR 15,492 million in the 2016 financial year, representing a rise of 10.7% compared with the previous year. Cost of materials were 7.2% higher than the previous year (EUR 2.466 million), coming in at EUR 2,643 million. The corresponding cost of materials ratio makes up 16.7%. Personnel expenses amounted to EUR 4,570 million (+ 1.2%), corresponding to a personnel cost ratio of 28.8%, which was − 1.7 percentage points lower than the previous year.

Depreciation and amortization recorded an increase of EUR 34 million (+ 5.8%) to EUR 620 million. Other operating expenses rose by 19.2% compared with the previous year, coming in at EUR 7,659 million. Among other items, this cost category includes commission and licence payments that are dependent on sales.

The operating income amounted to EUR 2,872 million, which was 26.6% up on the previous year (EUR 2,269 million). It was influenced by significant positive and negative extraordinary and one-time effects (sale of US generic business; license payments AbbVie; expenses for legal risks) and was, adjusted by these effects, on previous year's level. Thus, the operating income met our expectations.

In the reporting period, the financial result amounted to EUR − 76 million, which is EUR 527 million above the previous year. This was largely due to the effect from changes in interest rates related to the conversion of the average interest rate for discounting pension plan obligations.

Income before taxes developed in line with the operating and financial result, increasing to EUR 2,792 million. Tax expenses amounted to EUR 943 million. The increase in comparison to 2015 (EUR 273 million) particularly results from higher results of the US companies and provision for tax risks . 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 extraordinary effect into account, the actual tax ratio is markedly higher than the figure shown in the profit and loss statement.

In the 2016 financial year, the group profit of Boehringer Ingelheim totalled EUR 1,853 million, corresponding to an increase of 17.5% on the previous year's level of EUR 1,577 million.

Financial position

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

As a global company, exchange rate volatility has a significant impact on Boehringer Ingelheim's financial performance. The importance of our US business and the associated supply relationships mean that the exchange rate development of the US dollar constitutes the greatest individual risk. Within the framework of Group-wide financial reporting, foreign exchange risk is calculated and hedged through derivative financial instruments. The nature and scope of these measures are set out in our Group guidelines and are regularly discussed and approved by the relevant committee in a standardised process.

Investments are of great importance to Boehringer Ingelheim from a strategic point of view. Continuous investment is a requirement for long-term success and the development of the company and forms the basis for the profitable growth of our business divisions.

A total of EUR 697 million was invested in tangible and intangible assets in the year under review.

In the 2016 financial year, Boehringer Ingelheim invested further EUR 40 million in the expansion of production capacity for the RESPIMAT® Soft Mist™ inhaler at its Dortmund and Ingelheim facilities in Germany. Boehringer Ingelheim microParts GmbH in Dortmund manufactures the RESPIMAT® Soft Mist™ inhalation system, which is then filled with the relevant active substances from the pharmaceutical production facility in Ingelheim, ready for global sales.

Boehringer Ingelheim once again invested in the significant growth market of China. The Group continued its investment programme for the expansion of its biopharmaceutical and animal health manufacturing facilities in Shanghai and Taizhou.

The investments made in the research facilities in Germany, Austria and the USA during 2016 reflect the top priority of research and development in the fields of human and animal medicines for Boehringer Ingelheim.

Cash flow amounted to EUR 2,484 million in 2016. This represents a decline of 4.6% on 2015. Cash flow from operating activities increased by EUR 656 million to EUR 2,888 million, which was mainly due to the receipt of a payment agreed within the scope of the company's cooperation with AbbVie in the field of immune diseases. As in previous years, this meant that investments could be financed entirely through funds generated by the company itself. A total of EUR 645 million was invested in tangible assets and EUR 52 million in intangible assets. In terms of cash flow from financing activities, we recorded an outflow of funds amounting to EUR 1,027 million. This was mainly due to loan repayments. Overall, the changes in cash flow led to an increase in liquidity of EUR 1,789 million to EUR 11,989 million (+ 17.5%).

Net assets

In the 2016 financial year, Boehringer Ingelheim's total assets amounted to EUR 26,139 million, an increase of EUR 2,854 million (+ 12.3%) compared with the previous year. Tangible and intangible assets totalled EUR 3,595 million.

As at the end of the year, financial investments amounted to EUR 6,092 million, which corresponds to an increase of EUR 159 million on the previous year's value. Inventories showed growth of 5.1% to EUR 2,610 million. Trade receivables declined by EUR 162 million to EUR 3,055 million in 2016. Liquid funds, including securities within current assets, stood at EUR 7,005 million (previous year: EUR 4,536 million).

Due to the aforementioned changes in cash and cash equivalents, Group equity amounted to EUR 11,327 million and therefore more than fully covers tangible and intangible assets. In addition to equity, the pension provisions and long-term liabilities are also available to the Group in the long term. The total of these three items amounted to EUR 15,762 million in 2016, representing a share of 60.3% of the total assets. Consequently, long-term disposable capital covers all intangible and tangible assets, inventories and trade receivables.

While other provisions were 30.6% higher than last year at EUR 6,450 million, liabilities were reduced by 20.5% to EUR 1,984 million during the previous year.

The status already shown in the financial position remains resoundingly positive on both the balance sheet and in the respective balance sheet ratios. To sum up, Boehringer Ingelheim's net assets, financial and earnings position confirm its credentials as a soundly financed and profitable company.

RISK REPORT

Risk and opportunity management

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.

When assessing the risks in the context of holistic risk management, we also endeavour to take into account the resulting opportunities. Opportunity 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 research and development activities are naturally considered a relevant opportunity. Relevant projects have already been illustrated in the research and development chapter.

The persons responsible for the key businesses and functions are 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 countermeasures 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 sector-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 themselves broken down as follows: currency risks, credit and country-specific risks, as well as the management of financial investment risks.

Currency risks

The global orientation of our business activities results in currency 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 therefore controllable.

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 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 are therefore regarded as concrete.

Management of financial investment 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, so that this results in a concrete and thus controllable risk.

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.

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.

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 regard this risk as abstract.

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 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) in future. 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.

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 risk can have a substantial impact on the company's business activities. This potential risk has therefore been included in the long-term planning process for many years and has acquired strategic significance as a result. Boehringer Ingelheim counters the risk by means of a comprehensive personnel concept. 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 countermeasures described above, the risk is regarded as concrete.

Sector-specific risks

Boehringer Ingelheim is exposed to business risks specific to the pharmaceutical industry. Some of these risks materialised in the past financial year (changes to the healthcare system in the USA) and are increasing in significance as a result of their impact on Boehringer Ingelheim. They will continue to be classed as 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, these 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 has already has responded to current developments with respective cost-saving and efficiency-improving measures.

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 an impairment of the company's assets, financial position or earnings which could jeopardise the continued existence of Boehringer Ingelheim.

REPORT ON EXPECTED DEVELOPMENTS

The year under review was an intense and challenging time for Boehringer Ingelheim, during which we laid the foundations for the sustainable development and long-term growth of our company with several major decisions.

The consistent focus of our business on innovation-oriented fields is attested by the strategic exchange of Sanofi's animal health business (Merial) and Boehringer Ingelheim's consumer health care business (CHC). The contract for this exchange was signed in June 2016 and the transaction was successfully closed on 1 January 2017. This transaction will improve the competitiveness of our animal health business in the industry's important growth markets. We will establish ourselves as one of the largest global players in this business, and we will be able to offer our customers worldwide even more innovation and added value at a very high level by pooling the complementary product portfolios of Merial and Boehringer Ingelheim, the existing technology platforms for vaccines and anti-parasitics, as well as pharmaceutical speciality products.

Besides increasing political unreliableness and volatility, the difficult market environment and increased unpredictability of doing business posed major challenges for the entire pharmaceutical industry and will continue to require significant attention from Boehringer Ingelheim in 2017, too. With regard to competitiveness, it is all the more important, therefore, that we retain our scope for growth and innovation so that we can continue to be successful on the market in the future.

With regard to the many changes in healthcare systems and the increasing price pressure, particularly for well-established medicines in many major markets, and with regard to increasing challenges to market access for new products, we only expect to see low growth impetus for the pharmaceutical industry in the coming year. Boehringer Ingelheim has asserted itself despite the difficult condi-

tions and has laid the foundations for further growth. Through the integration of Merial's business, we assume that sales in our animal health division will more than double in 2017 compared with the previous year, which will more than make up for the countervailing effect of the sale of the company's consumer health care business to Sanofi. This will make a significant contribution to the considerable year-on-year increase in revenues that we expect to see in overall terms in the current financial year, after adjustment for currency effects.

Research and development costs remained high in 2016, in keeping with our strategy to drive growth and promote new products in the future primarily with products from our own research and development facilities. We invest in this area with care after close investigation of the therapeutic benefit and the associated prospects for success. Our comprehensive portfolio of prospective products with promising study outcomes, along with newly approved products with significant sales potential, justifies our high level of investment in research and development. In 2017, we plan to invest in the research and development of new pharmaceutical products at a similar level to the year under review, based on our current business structure.

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, it is the increasing cost pressure in the healthcare system that should be singled out in particular, leading to decreasing willingness to adequately recognise large amounts invested into the development of new medicines. As a result, there is price pressure in all major markets for prescription medicines. This, in conjunction with longer planning and development cycles for new products, makes business less predictable and requires us to recognise and seize opportunities quickly on the one hand, while subjecting strategies and structures to continual monitoring and adjustments on the other. To this end, we have instigated initiatives over the past few years to accelerate our reaction to change 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, we plan to see a 2017 operating income before special factors that is at last year's level, based on our current business structure. As for the results in 2016 we expect a considerable impact of major one-off effects on the 2017 results, essentially due to the sale of our consumer health care business and simultaneously the acquisition of Sanofi's animal health business. Overall, we anticipate a strengthening of the overall Group's financial capability by integrating the Merial business.

As a family-run company, Boehringer Ingelheim's primary aim is to maintain the firm'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 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. Current product launches and expansions in emerging markets will boost growth in all our areas of business. We will stand by our vision "Value through Innovation", research and develop innovative products that offer high medical benefits and bring them to the market. The aim of our endeavours is to make new medicines available that will enable doctors to treat patients more effectively than is currently possible.

CONSOLIDATED FINANCIAL STATEMENTS 2016

OVERVIEW OF THE MAJOR CONSOLIDATED COMPANIES

C. H. BOEHRINGER SOHN AG & CO. KG*

BOEHRINGER INGELHEIM GMBH

GERMANY [D] [P] [R]

- Boehringer Ingelheim Pharma GmbH & Co. KG, *Ingelheim*
- Boehringer Ingelheim Vetmedica GmbH, *Ingelheim*
- Boehringer Ingelheim microParts GmbH, *Dortmund*
- Boehringer Ingelheim Biopharmaceuticals GmbH, *Ingelheim*
- Boehringer Ingelheim Veterinary Research Center GmbH & Co. KG, *Hanover*

BOEHRINGER INGELHEIM EUROPE GMBH

AUSTRIA [D] [P] [R]

- Boehringer Ingelheim RCV GmbH & Co. KG, *Vienna*
- Boehringer Ingelheim Pharma Ges.m.b.H., *Vienna*

CZECH REPUBLIC [D]

- Boehringer Ingelheim s.r.o., *Prague*

FINLAND [D]

- Boehringer Ingelheim Finland Ky, *Espoo*

NORWAY [D]

- Boehringer Ingelheim Norway KS, *Asker*

POLAND [D]

- Boehringer Ingelheim Sp.zo.o., *Warsaw*

BOEHRINGER INGELHEIM INTERNATIONAL GMBH

AUSTRIA [R]

- Forschungsinstitut für Molekulare Pathologie Gesellschaft mbH, *Vienna*

BELGIUM [D]

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

CHINA [D] [P]

- Boehringer Ingelheim International Trading (Shanghai) Co. Ltd., *Shanghai*

PHILIPPINES [D]

- Boehringer Ingelheim (Phil.), Inc., *Manila*

[D] *Distribution*
[P] *Production*
[R] *Research and Development*

*Sole, personally liable, managing shareholder: Boehringer AG

C. H. BOEHRINGER SOHN GRUNDSTÜCKSVERWALTUNG GMBH & CO. KG

BOEHRINGER INGELHEIM AUSLANDSBETEILIGUNGS GMBH

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

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

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

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

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

CHINA
D P
- Boehringer Ingelheim Shanghai Pharmaceuticals Co. Ltd., *Shanghai*
- Boehringer Ingelheim (China) Investment Co. Ltd., *Shanghai*
- Boehringer Ingelheim Vetmedica (China) Investment Co. Ltd., *Shanghai*
- Boehringer Ingelheim Animal Health Operations (China) Co. Ltd., *Taizhou*

COLOMBIA
D P
- Boehringer Ingelheim S.A., *Bogotá*

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

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

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

GREECE
D P
- Boehringer Ingelheim Ellas AE, *Athens*

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

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

IRELAND
D
- Boehringer Ingelheim Ireland Limited, *Dublin*

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

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

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

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

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

PORTUGAL
D
- Boehringer Ingelheim Lda., *Lisbon*
- Unilfarma Lda., *Lisbon*

SINGAPORE
D
- Boehringer Ingelheim Singapore Pte. Ltd., *Singapore*

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

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

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

SWEDEN
D
- Boehringer Ingelheim AB, *Stockholm*

SWITZERLAND
D
- Boehringer Ingelheim (Schweiz) GmbH, *Basel*
- *Pharmaton S.A., Lugano*

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

THAILAND
D
- Boehringer Ingelheim (Thai) Ltd., *Bangkok*

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

UNITED KINGDOM
D
- Boehringer Ingelheim Ltd., *Bracknell*

USA
D P R
- Boehringer Ingelheim Corp., *Ridgefield, Connecticut*
- Boehringer Ingelheim Pharmaceuticals, Inc., *Ridgefield, Connecticut*
- Boehringer Ingelheim USA Corporation, *Ridgefield, Connecticut*
- Boehringer Ingelheim Vetmedica, Inc., *St. Joseph, Missouri*
- Boehringer Ingelheim Fremont, Inc., *Fremont, California*

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

CONSOLIDATED BALANCE SHEET

Assets (in millions of EUR)	Notes [1]	31.12.2016	31.12.2015
Intangible assets	(3.1)	550	606
Tangible assets	(3.2)	3,045	3,264
Financial assets	(3.3)	6,092	5,933
Fixed assets		**9,687**	**9,803**
Inventories	(3.4)	2,610	2,483
Accounts receivable and other assets	(3.5)	4,083	4,178
Securities		402	1,327
Cash and cash equivalents		6,603	3,209
Current assets		**13,698**	**11,197**
Deferred charges and prepaid expenses		334	163
Deferred taxes		2,420	2,122
Total assets		**26,139**	**23,285**

Liabilities and equity (in millions of EUR)	Notes [1]	31.12.2016	31.12.2015
Shareholders‘ capital		178	178
Group reserves		9,367	7,938
Balance sheet currency conversion difference		–71	–94
Group profit		1,853	1,577
Equity attributable to the parent company		**11,327**	**9,599**
Non-controlling interests		0	4
Group equity		**11,327**	**9,603**
Difference from capital consolidation		**52**	**71**
Provisions	(3.6)	11,937	10,300
Accounts payable and loans	(3.7)	1,984	2,495
Liabilities		**13,921**	**12,795**
Deferred charges		543	573
Deferred taxes		296	243
Total liabilities and equity		**26,139**	**23,285**

[1] For explanation, see relevant section in the Notes to the consolidated financial statements.

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

CONSOLIDATED PROFIT AND LOSS STATEMENT

(in millions of EUR)	Notes [1]	2016	2015
Net sales	(4.1)	15,850	14,798
Changes in finished goods and work in process		198	177
Other own work capitalized		10	7
Other operating income	(4.2)	2,306	1,283
Total revenues		**18,364**	**16,265**
Cost of materials	(4.3)	−2,643	−2,466
Personnel expenses	(4.4)	−4,570	−4,518
Amortisation of intangible assets and depreciation of tangible assets	(4.5)	−620	−586
Other operating expenses	(4.6)	−7,659	−6,426
Operating income		**2,872**	**2,269**
Financial income	(4.7)	−76	−603
Holding income	(4.8)	−4	183
Income before taxes		**2,792**	**1,849**
Income taxes [2]	(4.9)	−943	−273
Income after taxes		**1,849**	**1,576**
Net income	(4.10)	1,849	1,576
Non-controlling interest		4	1
Group profit		**1.853**	**1.577**

[1] For explanation, see relevant section in the Notes to the consolidated financial statements.
[2] Due to legal requirements the disclosure of the shareholders' personal taxes arising from consolidated business activities as tax expenses is not allowed. These taxes are shown as withdrawals from the accrued group capital.

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

CASH FLOW STATEMENT

(in millions of EUR)	2016
Income after taxes (including third-party share)	1,849
Amortisation of intangible assets and depreciation of tangible assets [1]	620
Change in provisions for pensions	15
Cash flow	**2,484**
Change in other provisions	755
Other non-cash income and expenses	–46
Income due to divestiture of consolidated companies	–577
Gain / loss on disposals of fixed assets	35
Change in inventories	–249
Change in accounts receivable and other assets not related to investing or financing activities	–315
Change in trade accounts payable and other liabilities not related to investing or financing activities	151
Interest income / interest expenses (net)	10
Other income from investments	–11
Income/expenses of extraordinary magnitude or significance	170
Income taxes	943
Cash receipts of extraordinary magnitude or significance	525
Income taxes paid	–987
Cash flow from operating activities	**2,888**
Investments in intangible assets	–52
Investments in tangible assets	–645
Investments in non-current financial assets [1]	–50
Proceeds from disposals of tangible assets	12
Proceeds from disposals of non-current financial assets [1]	25
Cash receipts due to divestiture of consolidated companies	467
Interest received	99
Income from dividends	11
Cash flow from investing activities	**–133**

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

CASH FLOW STATEMENT

(in millions of EUR)	2016
Cash receipts from grants	7
Interest paid	– 109
Cash payment to owners of parent entity	– 203
Cash repayments of loans	– 722
Cash flow from financing activities	**– 1,027**
Change in liquid funds from cash relevant transactions	**1,728**
Changes in liquid funds due to exchange rate movements	61
Financial funds [2] as of 1.1.	**10,200**
Financial funds [2] as of 31.12.	**11,989**

[1] Excl. fixed-asset securities
[2] Liquid funds, securities within fixed and current assets
(+) = source of funds, (-) = use of funds

STATEMENT OF CHANGES IN GROUP EQUITY

(in millions of EUR)	Shareholders' capital [1]	Accrued group capital	thereof currency effects	Equity attributable to the parent company	Non-controlling interest	thereof currency effects	Group equity
Balance as of 31.12.2014	**178**	**7,931**	**– 142**	**8,109**	**2**	**1**	**8,111**
Contributions	0	0	0	0	3	0	3
Withdrawals	0	– 135	0	– 135	0	0	– 135
Net income	0	1,577	0	1,577	– 1	0	1,576
Other changes	0	48	48	48	0	0	48
Balance as of 31.12.2015	**178**	**9,421**	**– 94**	**9,599**	**4**	**1**	**9,603**
Contributions	0	0	0	0	0	0	0
Withdrawals	0	– 152	0	– 152	0	0	– 152
Net income	0	1,853	0	1,853	– 4	0	1,849
Other changes	0	27	23	27	0	0	27
Balance as of 31.12.2016	**178**	**11,149**	**– 71**	**11,327**	**0**	**1**	**11,327**

[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. as of 31.12.2016, the capital consists only of the limited partner's capital contribution. The shareholders' personal taxes arising from consolidated business activities are shown as withdrawals from the accrued group capital.
Items of the statement of changes in equity that show no value due to rounding in millions of EUR will be disclosed.
The shareholders' capital includes only limited partners as of 31. December 2016. A negative capital account of one limited partner with the amount of EUR 6 million was shown as a net item within the consolidated retained earnings. The liability of this limited partner reinstated in the amount of EUR 10,000.

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

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1 Principles and methods

1.1 General principles

The consolidated financial statements of Boehringer Ingelheim for the 2016 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 and a group management report under Section 290 et seq. HGB. The provisions of the German Act on Transformation of the EU Directive (BilRUG) were applied for the first time.

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 euro 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, in the commercial register of Mainz district court under the number HRA 21732.

1.3 Information on companies included in the consolidation

The parent company of the Boehringer Ingelheim Group is C. H. Boehringer Sohn AG & Co. KG, Ingelheim. Boehringer AG, Ingelheim, 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 whose general partner is controlled by C. H. Boehringer Sohn AG & Co. KG.

The Boehringer Ingelheim Group consists of a total of 143 affiliated companies in Germany and abroad. In addition to C. H. Boehringer Sohn AG & Co. KG and C. H. Boehringer Sohn Grundstücksverwaltung GmbH & Co. KG, a further 119 companies in which C. H. Boehringer Sohn AG & Co. KG directly or indirectly holds the majority of voting rights have been included in the consolidated financial statements under full consolidation rules.

In accordance with Section 296 (2) HGB, 20 companies were not included in the consolidation in the reporting year, as they are individually and collectively insignificant in terms of the net assets, financial position and Group earnings. The total amount of the sales, equity and net income for the year of the companies not included in consolidation account for less than 1% of the aggregated Group financial statements totals. For two companies there are ongoing restrictions on control due to the terms of the articles of association. These companies were not consolidated in accordance with Section 296 (1) No. 1 HGB. Associate companies have not been valued as "at equity" in accordance with Section 311 (2) HGB due the lack of significance.

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

- Four companies were founded.
- Two companies were sold.
- Two companies were merged
- Two companies were liquidated.

The US-American companies Roxane Laboratories, Inc., Ohio and Boehringer Ingelheim Roxane, Inc., Ohio were sold with effective date 29th Februar 2016. As of the day of sale the net assets of these two companies amounted to EUR 542 million. This amount comprises tangible and intangible assets amounting to EUR 336 million, inventories amounting to EUR 138 million, receivables and other assets amounting to EUR 312 million, provisions amounting to EUR 200 million and liabilities amounting to EUR 44 million. The effects from the sale of these companies have been commented in the respective notes to the profit and loss statement, if significant.

The following subsidiaries were exempted from the reporting and disclosure obligations of Section 264 (3) HGB:

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

The following subsidiary companies 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
- C. H. Boehringer Sohn Grundstücksverwaltung GmbH & Co. KG, Ingelheim
- Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim
- C. H. Boehringer Selbstmedikation KG, Ingelheim
- Boehringer Ingelheim Veterinary Research Center GmbH & Co. KG, Hanover

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 revaluation method was applied when including subsidiary companies 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 carrying amount of the shares held by the parent company was offset against the corresponding equity of the subsidiary. Equity is 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 balance after offsetting was capitalised as goodwill.

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 halfsentence 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 which are denominated in a foreign currency have been converted into euro in accordance with Section 308 a 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 generally reported within consolidated equity below the reserves in “Balance sheet currency conversion difference”. For annual financial statements from countries with hyperinflation, expected foreign currency effects have already been recognised within the currency translation in accordance with section 256 a HGB on financial statement II level to improve the true and fair view of the consolidated financial statements. 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	
	31.12.2016	31.12.2015	2016	2015
US dollar	1.05	1.09	1.11	1.11
Japanese yen	123.40	131.07	120.33	134.28
Pound sterling	0.86	0.73	0.82	0.73
Canadian dollar	1.42	1.51	1.47	1.42

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 determined under consideration of the 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. Production 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).

All capitalised intangible assets have finite useful lives.

A useful life of ten years was applied to the goodwill for Boehringer Ingelheim Korea Ltd., acquired in 2007, as past experience of products and sales markets together with the business conditions of Boehringer Ingelheim Korea Ltd. indicates that this presents a true and fair view.

Financial assets essentially included shareholder rights, securities and loans and are carried at the lower of cost or fair market value, if impaired.

2.2 Current assets and prepaid expenses

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 production 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 share of production and materials overhead costs and depreciation.

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

All identifiable risks in inventory assets 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.

Securities classified as current assets include other securities and were recognised at the lower of cost or quoted/market prices on the reporting date.

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

Deferred charges and 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 charges recorded in accordance with Section 250 (2) HGB include proceeds which represent income in respect of a defined period of time after the balance sheet date.

2.3 Difference from capital consolidation

The difference from capital consolidation was recognised following acquisitions on 31 March 2011 and 1 August 2012 in which the value of the net assets acquired exceeded the purchase prices that were paid. The value of the negative difference from the acquisition of companies amounted to EUR 157 million as of 1 January 2012, and was increased by the acquisition of the company acquired on 1 August 2012 by a further EUR 11 million. The negative difference from the acquisition of companies is amortised over an estimated period of ten years. The release of the negative difference from the acquisition of companies of EUR 19 million in the 2016 financial year to EUR 52 million is shown under other operating income. The release is consistent with the depreciation and amortisation of the excess assets at the date of acquisition.

2.4 Group reserves

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

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 and in the case of other provisions from the last seven years (in accordance with the Rückstellungsabzinsungsverordnung - German Regulation on the Discounting of Provisions).

2.6 Liabilities

Liabilities 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 charges in the commercial balance sheet 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 (12% – 40%). 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 millions of EUR)	Acquired concessions/ similar rights	Goodwill	Advance payments	Total
Procurement/manufacturing costs				
Balance as of 1.1.2015	**1,637**	**574**	**3**	**2,214**
Currency conversion difference	106	1	−1	106
Changes in consolidated companies	0	0	0	0
Additions	56	0	13	69
Disposals	−49	−5	0	−54
Reclassifications	6	0	0	6
Balance as of 31.12.2015	**1,756**	**570**	**15**	**2,341**
Currency conversion difference	37	0	0	37
Changes in consolidated companies	−21	0	0	−21
Additions	43	0	9	52
Disposals	−13	−564	0	−577
Reclassifications	13	0	−12	1
Balance as of 31.12.2016	**1,815**	**6**	**12**	**1,833**
Accumulated depreciation				
Balance as of 1.1.2015	**1,059**	**562**	**1**	**1,622**
Currency conversion difference	58	0	0	58
Changes in consolidated companies	0	0	0	0
Additions	106	5	0	111
Write-ups	0	0	0	0
Disposals	−49	−5	0	−54
Reclassifications	−1	0	−1	−2
Balance as of 31.12.2015	**1,173**	**562**	**0**	**1,735**
Currency conversion difference	27	0	0	27
Changes in consolidated companies	−13	0	0	−13
Additions	99	5	0	104
Write-ups	0	0	0	0
Disposals	−6	−564	0	−570
Reclassifications	0	0	0	0
Balance as of 31.12.2016	**1,280**	**3**	**0**	**1,283**
Book value as of 31.12.2015	**583**	**8**	**15**	**606**
Book value as of 31.12.2016	**535**	**3**	**12**	**550**

3.2 Tangible assets

(in millions of EUR)	Land and buildings	Technical facilities and machines	Other facilities/ operating equipment	Advance payments/ construction in progress	Total
Procurement/manufacturing costs					
Balance as of 1.1.2015	**3,037**	**3,201**	**2,072**	**413**	**8,723**
Currency conversion difference	127	76	53	17	273
Changes in consolidated companies	0	0	0	0	0
Additions	49	73	117	352	591
Disposals	−296	−276	−148	−2	−722
Reclassifications	63	140	32	−241	−6
Balance as of 31.12.2015	**2,980**	**3,214**	**2,126**	**539**	**8,859**
Currency conversion difference	41	23	20	0	84
Changes in consolidated companies	−218	−227	−54	−122	−621
Additions	94	93	137	321	645
Disposals	−32	−60	−118	−26	−236
Reclassifications	97	104	42	−244	−1
Balance as of 31.12.2016	**2,962**	**3,147**	**2,153**	**468**	**8,730**
Accumulated depreciation					
Balance as of 1.1.2015	**1,760**	**2,295**	**1,598**	**0**	**5,653**
Currency conversion difference	72	53	39	0	164
Changes in consolidated companies	0	0	0	0	0
Additions	117	199	159	0	475
Write-ups	−7	−4	0	0	−11
Disposals	−284	−268	−136	0	−688
Reclassifications	0	1	1	0	2
Balance as of 31.12.2015	**1,658**	**2,276**	**1,661**	**0**	**5,595**
Currency conversion difference	27	17	15	0	59
Changes in consolidated companies	−113	−140	−40	0	−293
Additions	153	199	164	0	516
Write-ups	0	0	0	0	0
Disposals	−27	−56	−109	0	−192
Reclassifications	0	0	0	0	0
Balance as of 31.12.2016	**1,698**	**2,296**	**1,691**	**0**	**5,685**
Book value as of 31.12.2015	**1,322**	**938**	**465**	**539**	**3,264**
Book value as of 31.12.2016	**1,264**	**851**	**462**	**468**	**3,045**

3.3 Financial assets

(in millions of EUR)	Investments in affiliated companies	Loans to affiliated companies	Investments in related companies	Advance payments	Investment securities	Other loans	Total
Procurement/manufacturing costs							
Balance as of 1.1.2015	**4**	**0**	**137**	**0**	**5,243**	**23**	**5,407**
Currency conversion difference	−1	0	2	0	17	0	18
Changes in consolidated companies	0	0	0	0	0	0	0
Additions	0	0	8	0	628	11	647
Disposals	−1	0	−1	0	−31	−7	−40
Reclassifications	0	0	0	0	0	0	0
Balance as of 31.12.2015	**2**	**0**	**146**	**0**	**5,857**	**27**	**6,032**
Currency conversion difference	1	0	0	1	−2	7	7
Changes in consolidated companies	4	0	0	0	0	0	4
Additions	0	0	845	17	628	12	1,502
Disposals	0	0	−26	0	−1,327	−6	−1,359
Reclassifications	0	0	0	0	−156	156	0
Balance as of 31.12.2016	**7**	**0**	**965**	**18**	**5,000**	**196**	**6,186**
Accumulated amortisation							
Balance as of 1.1.2015	**0**	**0**	**62**	**0**	**30**	**3**	**95**
Currency conversion difference	0	0	0	0	1	0	1
Changes in consolidated companies	0	0	0	0	0	0	0
Additions	0	0	3	0	1	0	4
Write-ups	0	0	0	0	0	0	0
Disposals	0	0	0	0	−1	0	−1
Reclassifications	0	0	0	0	0	0	0
Balance as of 31.12.2015	**0**	**0**	**65**	**0**	**31**	**3**	**99**
Currency conversion difference	0	0	0	0	0	0	0
Changes in consolidated companies	0	0	0	0	0	0	0
Additions	0	0	21	0	7	0	28
Write-ups	0	0	0	0	−9	0	−9
Disposals	0	0	−11	0	−13	0	−24
Reclassifications	0	0	0	0	0	0	0
Balance as of 31.12.2016	**0**	**0**	**75**	**0**	**16**	**3**	**94**
Book value as of 31.12.2015	**2**	**0**	**81**	**0**	**5,826**	**24**	**5,933**
Book value as of 31.12.2016	**7**	**0**	**890**	**18**	**4,984**	**193**	**6,092**

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

3.4 Inventories

(in millions of EUR)	31.12.2016	31.12.2015
Raw materials and supplies	510	560
Unfinished goods	1,244	1,084
Finished goods and goods for resale	845	838
Advance payments to suppliers	11	1
	2,610	**2,483**

3.5 Accounts receivable and other assets

(in millions of EUR)	31.12.2016	Residual term over 1 year	31.12.2015	Residual term over 1 year
Trade accounts receivable	3,055	1	3,217	2
Receivables from affiliated companies	34	0	1	0
Receivables from related companies	31	0	20	0
Other assets	963	26	940	29
	4,083	**27**	**4,178**	**31**

The “Other assets” item includes receivables from shareholders of EUR 111 million (previous year: EUR 13 million).

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

Receivables from related companies essentially consist of trade accounts receivable.

3.6 Provisions

(in millions of EUR)	31.12.2016	31.12.2015
Pension provisions and similar obligations	4,285	4,248
Tax provisions	1,202	1,113
Other provisions	6,450	4,939
	11,937	**10,300**

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 2005 G published by Prof. Dr Klaus Heubeck), pension obligations in the significant countries were calculated on the basis of the following actuarial parameters:

(in % as of 31 December 2016)	Germany	USA	Japan
Discount rate	4.00	4.68	1.58
Salary increase	3.75	4.00	3.44 - 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 589 million. The equivilant amount resulting from the modified period of the interest discount's rate from seven to ten years was offset against income from plan assets as well as interest expenses resulting from the increase of the provision.

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 1,560 million. The related amount of pension obligations and similar obligations was EUR 5,845 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 62 million earnings from plan assets and EUR 126 million interest expense relating to pension and similar obligations are included in the financial result.

Tax provisions

The tax provisions also include provisions for double taxation risks, which have significantly increased following the implementation into national tax law of the actions 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).

3.7 Accounts payable and loans

(in millions of EUR)	Residual term less than 1 year	greater than 1 year	greater than 5 years	31.12. 2016	31.12. 2015	Residual term less than 1 year
Bank loans	221	84	0	305	1,003	496
Other accounts payable	1,481	198	150	1,679	1,492	1,286
of which:						
- Trade accounts payable	*902*	*1*	*0*	*903*	*759*	*759*
- Advance payments received	*99*	*0*	*0*	*99*	*51*	*51*
- Accounts payable to affiliated companies	*6*	*5*	*5*	*11*	*90*	*90*
- Accounts payable to related companies	*2*	*0*	*0*	*2*	*1*	*1*
*- Other liabilities**	*472*	*192*	*145*	*664*	*591*	*385*
	1,702	**282**	**150**	**1,984**	**2,495**	**1,782**

* Of which:

- from taxes (EUR million)	*188*	*149*
- social security liabilities (EUR million)	*21*	*17*

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 99 million (previous year: EUR 52 million). These are presented within “Other liabilities”.

Accounts payable to affiliated companies include loans amounting to EUR 6 million (previous year: EUR 89 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.

The reported net sales are not comparable with the figures of the previous year as a result of the first-time application of the German Act on Transformation of the EU Directive (BilRUG). If Section 277 (1) HGB following the BilRUG amendments had been applied in the previous year, the net sales for the previous year would have amounted to EUR 14,842 million. Other operating income would have decreased by the same amount.

In order to provide a better insight into the earnings position, expenditure on services were reclassified from other operating expenses to material expenses. To improve comparability the previous year's figure was also adjusted in the amount of EUR 355 million.

Revenues include EUR 525 million from one-off payments received in connection with a cooperation agreement. Other operating income includes exceptional income from the sale of two US subsidiaries of EUR 578 million. In addition, the group result of the fiscal year was impacted by expenses from the increase in provisions for legal and tax risks at the amount of EUR 695 million.

4.1 Net sales

by business and business segment (in millions of EUR)	2016	2015
Prescription Medicines	12,036	11,201
Consumer Health Care	1,578	1,513
Animal Health	1,460	1,363
Biopharmaceuticals	613	576
Industrial Customers and other sales	163	145
	15,850	**14,798**

by geographic region (in millions of EUR)	2016	2015
Europe	5,082	4,127
of which: Germany	*956*	*902*
Americas	6,542	6,923
of which: USA	*5,360*	*5,746*
Asia / Australia / Africa	4,226	3,748
of which: Japan	*2,127*	*1,846*
	15,850	**14,798**

Net sales of the reporting period included net sales of the deconsolidated companies Roxane Laboratories, Inc., Ohio and Boehringer Ingelheim Roxane, Inc., Ohio amounting to EUR 75 million (previous year: EUR 496 million).

4.2 Other operating income

Other operating income includes income from currency translation of EUR 409 million (previous year: EUR 446 million).

4.3 Cost of Materials

(in millions of EUR)	2016	2015
Costs of raw material, supplies and goods for resale	1,763	1,561
Expenditure on services	880	905
	2,643	**2,466**

Cost of materials of the reporting period included cost of materials of the deconsolidated companies Roxane Laboratories, Inc., Ohio and Boehringer Ingelheim Roxane, Inc., Ohio amounting to EUR 26 million (previous year: EUR 255 million).

4.4 Personnel expenses

(in millions of EUR)	2016	2015
Wages and salaries	3,722	3,762
Social benefits and retirement benefits	848	756
of which: retirement benefits	*230*	*143*
	4,570	**4,518**

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

Average headcount	2016	2015
Production	13,414	14,200
Administration	5,237	5,350
Marketing and Sales	18,265	19,234
Research and Development	8,055	7,895
Apprentices	721	822
	45,692	**47,501**

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 59 million (previous year: EUR 4 million).

4.6 Other operating expenses

Other operating expenses include expenses from currency translation of EUR 548 million (previous year: EUR 637 million).

In addition, other operating expenses also include the increase of 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.

Other operating expenses of the reporting period included other operating expense of the deconsolidated companies Roxane Laboratories, Inc., Ohio and Boehringer Ingelheim Roxane, Inc., Ohio amounting to EUR 30 million (previous year: EUR 314 million).

4.7 Financial income

(in millions of EUR)	2016	2015
Interest expense relating to pensions and similar obligations and other provisions	– 79	– 667
Other interest expense and similar expenditure	– 194	– 113
Interest expense and similar expenditure	**– 273**	**– 780**
Amortisation of and loss on disposal on financial assets and short-term investments	– 7	– 1
Income from other investment securities and from long-term loans	165	136
Other interest income and similar proceeds	39	42
	– 76	**– 603**

4.8 Holding income

(in millions of EUR)	2016	2015
Write-offs on financial assets	– 21	– 3
Income from related companies	17	186
of which from disposal of related companies	*6*	*185*
	– 4	**183**

4.9 Income taxes

(in millions of EUR)	2016	2015
Income taxes	1,160	765
Deferred taxes	– 217	– 492
	943	**273**

Current income taxes essentially include the corporation and trade tax expenses of the companies included in consolidation.

As a result of the conclusion of profit transfer agreements, significant German corporations have been included in the trade and corporation tax group of the parent company C. H. Boehringer Sohn AG & Co. KG since 1 January 2004. As the income taxes of the shareholders of C. H. Boehringer Sohn AG & Co. KG incurred on operating income cannot be reported in the consolidated profit and loss statement, the tax

expenses represent only the trade income tax of the affected companies . The same applies primarily to other fully consolidated German partnerships.

Total deferred tax assets amounted to EUR 2,420 million as at the balance sheet date (previous year: 2,122 million). Deferred tax assets primarily relate to differences in the carrying amounts recognised for provisions for pensions and rebates, intercompany elimination, claims relating to losses carried forward and tax credit, fixed assets and inventories. Deferred tax liabilities of EUR 296 million (previous year: EUR 243 million) were recognised. These primarily relate to the differences in the carrying amounts of tangible assets, inventories and provisions.

4.10 Net income

The net income for 2016 was positively influenced by prior-period operating income (essentially from the reversal of other provisions) of EUR 381 million (previous year: EUR 303 million) and negatively influenced by prior-period operating expenses of EUR 217 million (previous year: EUR 262 million).

5 Notes to the cash flow statement

The cash flow statement shows the changes in cash and cash equivalents (cash and long-term securities and investments classified as current assets that can be sold at any time) of the Boehringer Ingelheim Group resulting from cash in- and outflows in the reporting year. In accordance with German Accounting Standard 21 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 comprise financial assets with a remaining maturity in excess of 3 months on date of acquisition. This financial assets can be converted into cash in short-term.

The financial funds as of 31.12.2016 comprise the following items:

(in millions of EUR)	2016
Cash and cash equivalents	6,603
Securities	402
Financial assets	4,984
	11,989

The financial funds as of 31.12.2016 include cash equivalents of EUR 162 million, which were restricted on disposal.

Furthermore, a payment was made on an escrow account of EUR 4.208 million. This escrow account is included in the financial funds as of 31.12.2016.

During the financial year, interest of EUR 99 million (previous year: EUR 108 million) was received and EUR 109 million (previous year: EUR 65 million) of interest was paid. Tax payments amounted to EUR 987 million (previous year: EUR 685 million).

In the course of the sale of the US generic business Boehringer Ingelheim received shares with a value of EUR 824 million. The shares are shown as investments in related companies at year-end.

6 Other disclosures

6.1 Contingent liabilities

(in millions of EUR)	31.12.2016	31.12.2015
Liabilities from guarantees, bills and cheque guarantees, warranties and the granting of security for third-party liabilities	59	69

The risk of utilisation of the individual contingent liabilities is estimated as follows:

The risk of utilisation of guarantees for the liabilities of affiliated companies to banks is rated as low on account of the solid net assets, financial position and results of operations of the subsidiaries in question.

6.2 Other financial commitments and off-balance sheet transactions

(in millions of EUR)	31.12.2016	31.12.2015
Rental and leasing obligations	276	325
Purchase commitment	476	670
	752	**995**

There are obligations from rental and lease agreements of EUR 276 million (previous year: EUR 325 million), EUR 25 million of which (previous year: EUR 31 million) relate to long-term rental agreements with subsidiaries not included in the consolidation.

The purpose of the lease agreements is the lower capital commitment compared to buying 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.

Other financial commitments include future expenses from follow-up investments, investments already initiated and future major repairs. As at the balance sheet date, purchase commitments include future cash flow effects of investments totalling EUR 258 million (previous year: EUR 477 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 market values of the derivative financial instruments are calculated using standard market measurement methods (currency and interest forwards using the net present value method, currency and interest options using recognised option pricing models) on the basis of the market data available on the balance sheet date.

Currency and interest options are recognised at fair market value not exceeding the option premium paid or received. They are derecognised on maturity.

Provisions of EUR 60 million were recognised for currency forwards not included in hedge accounting for which there was a negative fair market value within one currency as at the balance sheet date. In line with the imparity principle, positive fair market values within one currency are not recognised.

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

	Nominal value		Market value	
(in millions of EUR)	31.12.2016	31.12.2015	31.12.2016	31.12.2015
Foreign exchange forward contracts	2,892	2,737	– 35	– 11

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 are met, the foreign currency forward exchange contracts are not recognised in the balance sheet in line with the net hedge presentation method.

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

Economic hedges are accounted for in the financial statements by the use of valuation groups. The valuation groups 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. Exceeding hedges are not part of the valuation group.

As at 31 December 2016, hedges for highly probable forecast net cash flows were recognised as follows:

January to December 2017:

Net cash flow (in millions of EUR)		FX forward contracts (in millions of EUR)			
	Nominal value		Nominal value		Market value
USD	1,167	USD	−1,154	USD	−179
JPY	1,055	JPY	−784	JPY	26
AUD	104	AUD	−70	AUD	−4
MXN	85	MXN	−69	MXN	5
CAD	183	CAD	−83	CAD	−3
GBP	232	GBP	−100	GBP	9

January to December 2018:

Net cash flow (in millions of EUR)		FX forward contracts (in millions of EUR)			
	Nominal value		Nominal value		Market value
USD	1,413	USD	−1,088	USD	−68
JPY	974	JPY	−430	JPY	−19
AUD	16	AUD	−10	AUD	−1
MXN	14	MXN	−12	MXN	1
CAD	26	CAD	−5	CAD	0
GBP	229	GBP	−38	GBP	3

January to December 2019:

Net cash flow (in millions of EUR)		FX forward contracts (in millions of EUR)			
	Nominal value		Nominal value		Market value
USD	1,431	USD	−530	USD	−31
JPY	1,000	JPY	−258	JPY	−4

January to February 2020:

Net cash flow (in millions of EUR)		FX forward contracts (in millions of EUR)			
	Nominal value		Nominal value		Market value
JPY	230	JPY	−56	JPY	0

Furthermore as at 31 December 2016, hedges for foreign currency receivables were recognized as follows:

Receivables (in millions of EUR)		Forward exchange contracts (in millions of EUR)			
	Nominal value		Nominal value		Market value
RUB	125	RUB	−52	RUB	−7
PLN	43	PLN	−7	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 833 million without hedging.

A part of a loan agreement raised in 2009 with a variable interest rate was due in July 2016 and was fully redeemed. The interest rate swaps congruent with amount and maturity that had been arranged to reduce the associated risk of interest changes expired on schedule and the hedge accounting was ended.

6.4 Research and development expenses

(in millions of EUR)	2016	2015
Research and development expenses	3,112	3,004

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

6.5 Report on post-balance sheet date events

Boehringer Ingelheim and Sanofi have confirmed the successful completion of the strategic business swap of Sanofi's animal health business (Merial) and Boehringer Ingelheim's consumer health care business (CHC) on 1 January 2017. After signing of the contract in June 2016 the closing was carried out as planned. This step represents the successful completion of the business exchange, which had begun with exclusive negotiations in December 2015.

As a research-based pharmaceutical company Boehringer Ingelheim improves its future market position in the field of animal health significantly and will establish itself in future as one of the largest global players in this segment. With the bundling of Merial's and Boehringer Ingelheim's complementary product portfolios, as well as the existing technology platforms for vaccines and anti-parasitic and pharmaceutical specialty products the company is placed in the key growth segments of the industry and offers its global customers additional added value and innovation. It is expected that the current sales in animal health business are going to be more than doubled through the transaction.

In return, the Consumer Healt Care Division was given to Sanofi. In 2016 this business unit generated sales of EUR 1,578 million within Boehringer Ingelheim, corresponding to a share of around 10% of the total turnover of the Group in the fiscal year.

Since the end of the 2016 financial year, we have not become aware of any further events that are of material significance to the group of companies or that could lead to a reappraisal of its net assets, financial position and results from operations.

6.5 Total auditor fees

Total fees charged to the Group by the auditor for the financial year was EUR 53.5 million. EUR 1.1 million of this relates to audits of financial statements, EUR 1.8 million to other assurance services and EUR 50.6 million to other services.

AUDITOR'S REPORT

We have audited the consolidated financial statements prepared by the C.H. Boehringer Sohn AG & Co. KG, Ingelheim, comprising the balance sheet, the income statement, statement of changes in equity, cash flow statement and the notes to the consolidated financial statements, together with the group management report for the business year from 1 January to 31 December 2016. The preparation of the consolidated financial statements and the group management report in accordance with German commercial law is the responsibility of the Managing Directors of the managing corporate general partner. Our responsibility is to express an opinion on the consolidated financial statements and the group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with § (Article) 317 HGB ("Handelsgesetzbuch": "German Commercial Code") and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the consolidated financial statements in accordance with (German) principles of proper accounting and in the group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of the companies included in consolidation, the determination of the companies to be included in consolidation, the accounting and consolidation principles used and significant estimates made by Managing Directors of the managing corporate general partner, as well as evaluating the overall presentation of the consolidated financial statements and the group management report. We believe that our audit provides a reasonable basis for our opinion.

With the exception of the following qualification, our audit has not led to any reservations: Contrary to § (Article) 314 (1) Nos.6 (a) and (b) HGB the total remuneration granted to the members, the former members of the board of managing directors and the members of the supervisory body 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.

In our opinion based on the findings of our audit, with the qualification mentioned above, the consolidated financial statements comply with the legal requirements and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with (German) principles of proper accounting. The group management report is consistent with the consolidated financial statements, complies with legal requirements, as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Frankfurt am Main, 1 March 2017

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

DR. ULRICH STÖRK
Wirtschaftsprüfer
(German Certified
Public Accountant)

MICHAEL CONRAD
Wirtschaftsprüfer
(German Certified
Public Accountant)

PRODUCT PORTFOLIO

A SELECTION

*The Animal Health product overview is based on the portfolio as of 31.12.2016. As of 1.1.2017, the strategic business swap between Boehringer Ingelheim and Sanofi was finalised: Boehringer Ingelheim's Consumer Healthcare business (CHC) was transferred to Sanofi, and Boehringer Ingelheim acquired Sanofi's Animal Health business (Merial). The Merial portfolio is not reflected in this overview.

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 inflammation 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 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.

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 treatment in adult patients with asthma who are currently treated with the maintenance combination of inhaled corticosteroids.* ** 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 hyrochloride* 	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 broncho-spasms 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 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 participating in everyday physical activities.

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 esylate* 	Treatment of patients with idiopathic pulmonary fibrosis (IPF).

CARDIOVASCULAR AND METABOLIC DISEASES

Cardiovascular (CV) disease is the leading cause of death in many countries 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 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 reduced 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 a bleeding. 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 usually 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 two per cent of the total population. One in four adults over 40 develops the arrhythmia in their lifetime. Patients with AF are at higher risk of developing blood clots in their upper left heart chamber, which can cause a disabling 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. The risk of stroke can be reduced by effective chronic anticoagulation.

Prevention and treatment of venous thromboembolism

Venous thromboembolism (VTE) is an umbrella term that encompasses deep vein thrombosis (DVT) and pulmonary embolism (PE). DVT is a process that occurs when a thrombus (blood clot) forms in a deep vein, most commonly in the calf or 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 VTE, 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

Anticoagulants offer important benefits to patients at risk of thromboembolic events. However, even though rare, there will be situations when rapid reversal of anticoagulation could be 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 abnormal heart rhythm (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 anticoaculant effects is required: for emergency surgery/urgent procedures; in life-threatening or uncontrolled bleeding.
– Hypertension – Cardiovascular morbidity and mortality prevention	MICARDIS® MICARDISPLUS® MICARDIS® PLUS MICARDIS®HCT CO-MICARDIS®	*telmisartan;* *telmisartan, hydrochlorothiazide* 	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	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, also referred to as 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 any antihypertensive treatment is to prevent such cardiovascular events and to reduce cardiovascular mortality.

Acute myocardial infarction

An acute myocardial infarction, or heart attack, is an event that occurs when a thrombus or 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 attack is a leading cause of death in all developed 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; hydrochloride clonidine* 	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.

Every year, 4.9 million deaths worldwide are linked directly to the long-term effects of diabetes. Type 2 diabetes is the most common form of diabetes and accounts for up to 95% of all cases in the developed world: it now affects 415 million people worldwide and is imposing an enormous burden on health care systems globally. Without effective prevention and management strategies, it is estimated that the number of cases will reach 642 million by 2040.

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 is, on average, decreased by up to twelve years.

Approximately 50 per cent of deaths in people with type 2 diabetes are caused by cardiovascular disease, indicating a high unmet medical need.

In addition to cardiovascular disease, serious complications of diabetes include: nephropathy, leading to renal failure and potentially dialysis; retinopathy with potential loss of vision; peripheral neuropathy with the risk of foot ulcers and foot and leg amputations; autonomic neuropathy causing gastrointestinal, genitourinary and cardiovascular symptoms and sexual dysfunction.

INDICATIONS	BRAND NAMES*	ACTIVE INGREDIENTS	
– Type 2 diabetes mellitus	TRAJENTA® TRADJENTA® TRAZENTA® TRAYENTA®	*linagliptin* 	Treatment of type 2 diabetes mellitus to improve glycaemic control in adults, 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 type 2 diabetes mellitus to improve glycaemic control in adults 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 glycemic control and to reduce the risk of cardiovascular death in patients with established cardiovascular disease.
– Type 2 diabetes mellitus	SYNJARDY®	*empagliflozin, metformin hydrochloride* 	Treatment of type 2 diabetes mellitus to improve glycaemic control in adults when treatment with metformin does not lead to sufficient control or when patients are treated with JARDIANCE® (empagliflozin) and metformin.
– Type 2 diabetes mellitus	GLYXAMBI®	*empagliflozin, linagliptin* 	Treatment of type 2 diabetes mellitus to improve glycaemic control in adults when treatment with both empagliflozin and linagliptin is appropriate (US).

* Diabetes portfolio in collaboration with Eli Lilly and Company.

ONCOLOGY

Cancer is a threat to global health. In 2014, an estimated 14.1 million new cases of cancer were diagnosed worldwide and 8.2 million people died from cancer (Stewart, WHO World Cancer Report 2014). The most common diagnosed cancer types are lung cancer (nearly 14%), breast cancer (almost 12%) and colorectal cancer (approx. 10%).

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 1.8 million new cases per year worldwide (2014). Smoking is the primary cause of the disease, contributing to nearly 90% of the cases. Recently, however, the incidence of lung cancer among non-smokers has increased. Lung cancer has a poor prognosis, with 1.6 million deaths per year, representing 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 10 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* 	For the 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 locally 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 dementia, 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.

Reference:

The Animal Health product overview is based on the portfolio as of 31.12.2016. As of 1.1.2017, the strategic business swap between Boehringer Ingelheim and Sanofi was finalised. Boehringer Ingelheim's Consumer Healthcare business (CHC) was transferred to Sanofi. Boehringer Ingelheim acquired Sanofi's Animal Health business (Merial). The Merial portfolio is not reflected in this overview.

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 pregnancy 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® is licensed for the active immunisation of pigs against enzootic pneumonia (EP) in a single-dose regimen. Through its advanced adjuvant system, it provides long-lasting and effective protection, proven even in high-challenge situations.

Infectious enteric diseases

ENTERISOL® ILEITIS is the first and only vaccine against ileitis 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.

LIVESTOCK - POULTRY

VOLVAC® is the umbrella brand of the Boehringer Ingelheim Animal Health poultry vaccine range. It consists of a wide range of live and inactivated vaccines for broilers and layers. The vaccines provide protection of the birds against various viral and bacterial diseases like avian influenza, infectious bronchitis, Newcastle disease, infectious bursal disease, egg drop syndrome and avian coryza.

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®	*attenuated live vaccine (PRRS virus) type 2* (PRRS MLV) *type 1* (PRRSFLEX® EU *and* REPROCYC®) 	Depending on product, for 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 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.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Various viral and bacterial diseases in poultry	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, bacterium 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 of diseases responsible for losses in egg production in layers.

LIVESTOCK - CATTLE

Mastitis

Mastitis is the inflammation of the udder in dairy cattle, mainly caused by bacterial infection. Prevention and treatment of mastitis in these animals is key to producing healthy milk and minimising the symptoms associated with this clinical situation. MAMYZIN® is an effective injectable antimicrobial for the treatment of acute mastitis. UBROLEXIN® and TODAY® are two products for the treatment of acute bacterial mastitis, whereas UBROSTAR® and TOMORROW® are used to prevent mastitis during drying-off in dairy cattle at the end of their lactation period.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Mastitis	MAMYZIN®	*penethamate hydroiodide* 	Bovine mastitis caused by penicillin sensitive organisms.
– Mastitis	UBROSTAR® BENESTERMYCIN® MAMYZIN® SECADO	*penethamate hydroiodide, framycetin sulphate, benethamine penicillin* 	For the treatment of subclinical mastitis at drying-off, and the prevention of new bacterial infections of the udder during the dry period in dairy cows, caused by bacteria susceptible to penicillin and framycetin.
– Mastitis	UBROLEXIN®	*cefalexin, kanamycin combination* 	Treatment of clinical mastitis in lactating dairy cows for bacteria susceptible to the combination of cefalexin and kanamycin.
– Mastitis	TODAY® CEFA-LAK®	*cephapirin sodium* 	Treatment of clinical mastitis in lactating dairy cows (US/Canada).
– Mastitis	TOMORROW® CEFA-DRI®	*cephapirin benzathine* 	For the treatment of subclinical mastitis at drying-off, and the prevention of new bacterial infections of the udder during the dry period in dairy cows (US/Canada). For intramammary infusion into the dry cow (US only).

LIVESTOCK - CATTLE (CONTINUED)

Pain and inflammatory disorders

METACAM® is a non-steroidal anti-inflammatory drug (NSAID) and addresses the need for maintained profitability and the concern for animal welfare in animal production. Due to its long-acting nature and its outstanding efficacy in controlling inflammatory symptoms, METACAM® helps to minimise losses from inflammation and maintain profitability. At the same time, METACAM® effectively controls pain and supports the restoration of well-being in farm animals. The use of METACAM® is convenient and inflicts minimal stress on animals due to its low-volume, one-shot dosage.

METACAM® is licensed as adjunctive therapy in the treatment of mastitis in lactating cows. In most countries it is also indicated for use in calves affected by diarrhoea and in cattle suffering from respiratory disease.

Infectious diseases

The PYRAMID® family of vaccines is providing a broad coverage against respiratory and reproductive diseases. The range consists of several antigen combinations.

Bovine viral diarrhoea virus (BVDV) is one of the major and economically relevant cattle pathogens with a worldwide distribution. The disease caused by BVDV results in marked production losses in dairy and beef herds. BOVELA® is a vaccine that is designed to reduce some of the clinical signs typical for BVD, and to prevent the birth of so-called persistently infected animals caused by transplacental infection with BVDV. Vaccination with BOVELA® is expected to provide protection within the herd against the disease and against the circulation of the virus.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS	
– Pain and inflammatory disorders	METACAM®	*meloxicam* 	In cattle, METACAM® is used together with appropriate antibiotic therapy to reduce clinical signs of disease in acute respiratory infection. It can be used in diarrhoea in combination with oral rehydration therapy to reduce clinical signs of the disease in calves of over one week of age, and young, non-lactating cattle. It can also be used for the relief of post-operative pain following dehorning in calves and as supportive therapy in the treatment of acute mastitis in combination with antibiotics.
– Cattle infectious diseases – Respiratory and reproductive diseases in cattle	PYRAMID® PRESPONSE®	*several multivalent vaccine combinations including 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* 	For vaccination of healthy dairy or beef cattle as an aid in prevention of diseases caused by included antigens (US and Canada only).
– Bovine viral diarrhoea (BVD)	BOVELA®	*modified live BVDV*-1 strain, modified live BVDV*-2 strain*  ** Bovine viral diarrhoea virus*	BOVELA® is used to protect cattle against BVD viral infection.

COMPANION ANIMALS - HORSE

Our main horse products focus on the therapeutic areas of respiratory disease, lameness, colic and hormonal disorders.

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

VETERA® vaccines are the first vaccine portfolio that 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.

All VETERA® vaccines are formulated utilising the ULTRAFIL™ Purification Technology, removing most of the extraneous proteins and allowing the horse's immune system to focus on the relevant antigens.

In the respiratory segment two products are available on a global level: VENTIPULMIN® and EQUISOLON®. Both products are licensed for the treatment of respiratory disease including airway obstruction in which horses wheeze, cough and have difficulty breathing due to bronchospasm and/or mucus accumulation. VENTIPULMIN® and EQUISOLON® can both be used alone or as adjunctive therapy in chronic obstructive pulmonary disease (COPD) and in acute, sub-acute and chronic respiratory allergic conditions.

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).
– Acute and chronic obstructive respiratory diseases	VENTIPULMIN®	*clenbuterol* 	Treatment of respiratory disease in horses when airway obstruction is due to bronchospasm and/or accumulation of mucus, and improved mucociliary clearance is desirable.
– Recurrent airway obstruction (RAO) or heaves	EQUISOLON®	*prednisolone* 	For the treatment of recurrent airway obstruction (RAO) or heaves in horses in combination with environmental measures.

COMPANION ANIMALS - SMALL ANIMALS

The main small animal products address major chronic diseases: heart failure, kidney diseases, epilepsy and osteoarthritis.

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). VETMEDIN® works through two complementary modes of action: it opens up the blood vessels taking blood to and away from the heart, thereby lowering the pressure on the heart and reducing the work the heart has to do to pump blood around the dog's body. At the same time, VETMEDIN® has a direct effect on the heart muscle, helping it to beat stronger and pump blood more efficiently.

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 musculo-skeletal 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 musculo-skeletal disorders, as well as for alleviation of mild to moderate post-operative 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.

PROZINC® is an aqueous protamine zinc (PZI) suspension of recombinant human insulin that is used to reduce hyperglycaemia in cats with diabetes mellitus.

SEMINTRA® is an angiotensin II antagonist which is approved for the reduction of proteinuria associated with chronic kidney disease (CKD) in cats. SEMINTRA® decreases mean arterial blood pressure and proteinuria and is available as an oral solution.

PEXION® is an alternative treatment for canine epilepsy. The active substance imepitoin primarily inhibits seizures via potentiation of GABAA-receptor-mediated inhibitory effects on neurons. PEXION® is approved for reduction of generalised seizures due to idiopathic epilepsy, and it has potential safety benefits over existing standard treatment.

INDICATIONS	BRAND NAMES	ACTIVE INGREDIENTS		
– Congestive heart failure	VETMEDIN®	*pimobendan*		Treatment of canine congestive heart failure originating from dilatative cardiomyopathy or valvular insufficiency (mitral and/or tricuspid regurgitation). For the treatment of dilated cardiomyopathy in the preclinical stage (asymptomatic with an increase in left ventricular end-systolic and end-diastolic diameter) in Doberman Pinschers following echocardiographic diagnosis of cardiac disease.
– 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 post-operative pain and inflammation after ovariohysterectomy (spay operation), orthopaedic and minor soft tissue surgery. Moreover, it is used for the alleviation of pain and inflammation in acute and chronic musculo-skeletal disorders (dogs and cats).
– Feline diabetes mellitus	PROZINC®	*protamine zinc recombinant human insulin*		For the reduction of hyperglycaemia and hyperglycaemia-associated clinical signs in cats with diabetes mellitus.
– Feline chronic kidney disease	SEMINTRA®	*telmisartan*		Reduction of proteinuria associated with chronic kidney disease (CKD) in cats.
– Canine idiopathic epilepsy	PEXION®	*imepitoin*		For the reduction of the frequency of generalised seizures due to idiopathic epilepsy in dogs after careful evaluation of alternative treatment options.

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

COMPARISON OF BALANCE SHEETS 2007 – 2016

(in millions of EUR)

Assets (as of December 31)	2007	2008	2009	2010	2011
Intangible assets	547	539	745	736	710
Tangible assets	2,972	3,177	3,219	3,314	3,442
Financial assets	1,638	1,739	1,699	3,168	3,953
Fixed assets	**5,157**	**5,455**	**5,663**	**7,218**	**8,105**
Inventories	1,387	1,561	1,801	1,850	1,998
Accounts receivable (incl. deferred charges and deferred taxes)	2,912	3,496	3,663	4,047	4,652
Liquid funds	1,015	1,312	3,877	3,118	3,903
Current assets (incl. deferred charges and deferred taxes)	**5,314**	**6,369**	**9,341**	**9,015**	**10,553**
Total assets	**10,471**	**11,824**	**15,004**	**16,233**	**18,658**

Liabilities and equity (as of December 31)	2007	2008	2009	2010	2011
Shareholders‘ capital	178	178	178	178	178
Group reserves (incl. currency conversion difference)	1,385	3,101	3,964	5,408	5,812
Group profit	1,809	1,424	1,759	888	1,476
Equity attributable to the parent company	**3,372**	**4,703**	**5,901**	**6,474**	**7,466**
Non-controlling interests	167	190	179	0	0
Group equity	**3,539**	**4,893**	**6,080**	**6,474**	**7,466**
Difference from capital consolidation	**0**	**0**	**0**	**0**	**157**
Provisions (incl. deferred taxes)	4,726	5,120	5,731	6,598	7,402
Liabilities (incl. deferred charges)	2,206	1,811	3,193	3,161	3,633
Total liabilities (incl. deferred taxes and deferred charges)	**6,932**	**6,931**	**8,924**	**9,759**	**11,035**
Total liabilities and equity	**10,471**	**11,824**	**15,004**	**16,233**	**18,658**

Summary of selected financial data	2007	2008	2009	2010	2011
Net sales	10,952	11,595	12,721	12,586	13,171
Operating income	2,100	1,980	2,239	1,896	2,272
Operating income as % of net sales	19.2	17.1	17.6	15.1	17.3
Income after taxes	1,812	1,428	1,764	888	1,476
Income after taxes as % of net sales	16.5	12.3	13.9	7.1	11.2
Return on equity (in %)	35.0	42.2	37.4	15.0	22.8
Equity ratio (in %)	32.2	39.8	39.3	39.9	40.0
Cash flow	2,392	1,997	2,409	2,234	2,378
Financial funds	2,581	2,932	5,384	6,113	7,711
Personnel expenses	2,886	3,004	3,221	3,358	3,664
Personnel expenses as % of net sales	26.4	25.9	25.3	26.7	27.8
Average number of employees	39,800	41,300	41,534	42,224	44,094
Research and development costs	1,900	2,109	2,215	2,453	2,516
R&D as % of net sales	17.3	18.2	17.4	19.5	19.1
Investments in tangible assets	654	665	630	519	458
Depreciation of tangible assets	432	453	470	498	535

2012	2013	2014	2015	2016
682	582	592	606	550
3,103	2,887	3,070	3,264	3,045
4,222	4,737	5,312	5,933	6,092
8,007	**8,206**	**8,974**	**9,803**	**9,687**
2,095	2,083	2,237	2,483	2,610
4,814	5,131	5,546	6,463	6,837
2,374	2,879	3,294	4,536	7,005
9,283	**10,093**	**11,077**	**13,482**	**16,452**
17,290	**18,299**	**20,051**	**23,285**	**26,139**

2012	2013	2014	2015	2016
178	178	178	178	178
4,763	5,619	6,884	7,844	9,296
1,237	1,324	1,047	1,577	1,853
6,178	**7,121**	**8,109**	**9,599**	**11,327**
0	1	2	4	0
6,178	**7,122**	**8,111**	**9,603**	**11,327**
134	**104**	**91**	**71**	**52**
7,749	7,817	8,840	10,543	12,233
3,229	3,256	3,009	3,068	2,527
10,978	**11,073**	**11,849**	**13,611**	**14,760**
17,290	**18,299**	**20,051**	**23,285**	**26,139**

2012	2013	2014	2015	2016
14,691	14,065	13,317	14,798	15,850
1,853	2,114	2,140	2,269	2,872
12.6	15.0	16.1	15.3	18.1
1,237	1,324	1,046	1,576	1,849
8.4	9.4	7.9	10.7	11.7
16.6	21.4	14.7	19.4	19.3
35.7	38.9	40.4	41.2	43.3
2,225	2,129	1,850	2,605	2,484
6,467	7,514	8,507	10,200	11,989
4,024	4,071	4,116	4,518	4,570
27.4	28.9	30.9	30.5	28.8
46,228	47,492	47,743	47,501	45,692
2,795	2,743	2,654	3,004	3,112
19.0	19.5	19.9	20.3	19.6
562	558	548	591	645
793	640	449	475	516

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Boehringer Ingelheim GmbH
Binger Straße 173
55216 Ingelheim
Germany
Telephone + 49 6132 77-0
Fax + 49 6132 72-0

CONTACT
Corporate Division Communications and Public Affairs
E-mail press@boehringer-ingelheim.com
Internet www.boehringer-ingelheim.com

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