

INDUSTRY OVERVIEW

The Pharmaceutical Industry in Germany

ISSUE 2021/2022



Germany – Europe's Largest Pharmaceutical Market

“Germany is one of the most developed healthcare markets in the world and a strategic gateway to the EU single market for international companies.”

Prof. Dr. Hagen Pfundner
Management Board, Roche Pharma AG

EUR 46.4 bn

pharmaceutical industry revenue in 2019 – the biggest pharmaceutical market in Europe

5.1%

annual revenue growth in the pharmaceutical market (pharmacies and clinics) over a five-year period (CAGR 2014-2019)

12.5%

of revenue invested in R&D in 2018 – the highest rate among all major industry sectors in Germany

EUR 83.2 bn

in exports of pharmaceuticals in 2018 – the world's leading exporter of medicinal products

EUR 7.4 bn

R&D investments by pharmaceutical companies in Germany in 2018

83 m

population drives domestic demand for health-care products and services

Combining cutting edge-innovation, a long tradition as the “world’s pharmacy” and continuously growing demand for healthcare products, Germany is the ideal location for pharmaceutical R&D, production, and sales of medicines. Driven by trends such as demographic change, a rise in chronic diseases and an increasing emphasis on prevention and self-medication, Europe’s biggest pharmaceutical market is growing faster than the German economy. Germany belongs to the world’s leading clinical trials locations and – based on R&D investment and patent application levels – is the leading location for pharmaceutical innovation in Europe. Building on these competencies, many German organizations have become key contributors in the global fight against the Covid-19 pandemic.

The country is the largest exporter of medicinal products and ranks among the top pharmaceutical producers worldwide. In light of the global need for personalized medicine, Germany has also evolved into one of the main suppliers of novel biopharmaceuticals. Located in the heart of Europe and benefiting from excellent infrastructure and a highly skilled workforce, the continent’s most populous country offers attractive opportunities and a favorable investment climate for pharmaceutical companies planning to expand internationally.

The Pharmaceutical Industry in Numbers

Germany's industry numbers speak for themselves and for a secure and successful investment in the country.

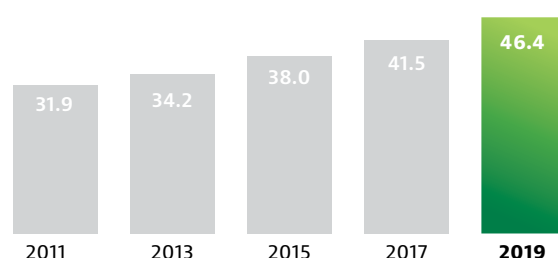
Europe's Biggest Market

Germany constitutes the major European pharmaceutical market and the fourth largest worldwide after the USA, China and Japan. In 2019, revenues in the overall pharmaceutical market increased by 5.7 percent, reaching EUR 46.4 billion (ex-manufacturer prices). Approximately 86 percent of revenues were generated in the pharmacy segment, while 14 percent were being made in the clinic segment. During the same year, drug sales by pharmacies (including mail-order pharmacies) rose to EUR 58.8 billion (ex-pharmacy prices), corresponding to growth of 5.3 percent. Prescription-only medicines accounted for 88 percent of these sales. Whereas non-prescription medicines only generated 12 percent of revenue, they accounted for half of units sold.

Strong Industry Base

More than 500 pharmaceutical companies are located in Germany, including domestic corporations as well as subsidiaries of international enterprises. These range from big corporates like Bayer, Boehringer Ingelheim and Merck to small innovative biotechnology start-ups. As in other economic sectors, SMEs constitute the backbone of the pharmaceutical industry, with around 90 percent of manufacturers having less than 500 employees. In 2017, 234 of these companies employed fewer than 20 staff. Overall, the German pharmaceutical industry has a workforce of 120,000 people (2019).

Pharmaceutical Industry Revenue in Germany in EUR billion

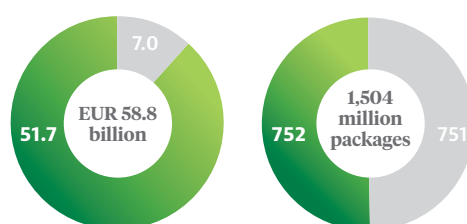


Note: Revenues are based on ex-manufacturers prices.
Source: IQVIA 2020

Drug Sales in the German Pharmacy Market (including Mail Order) 2019

in EUR billion and million packaging units

- Prescription-only drugs
- Non-prescription drugs



Note: Revenues are based on ex-pharmacy prices.
Source: IQVIA, BAH 2020

Leading Pharmaceutical Supplier

Following its tradition as the "world's pharmacy," Germany generated production value of EUR 36.1 billion in 2018, making it the leading pharmaceutical manufacturing location in the EU. Located in the heart of Europe and embedded into global supply chains, the country imported medicines worth EUR 56.9 billion in 2018, equivalent to an increase of 8.1 percent. During the same period, exports of pharmaceuticals grew by 10.3 percent reaching EUR 83.2 billion, consolidating Germany's position as the world's leading supplier of medications and the second largest importer.

R&D Excellence and Innovation

Germany provides the perfect environment for the development and production of research-intensive, high-grade products. In 2018, the pharmaceutical industry in Germany invested almost EUR 7.4 billion in R&D – more than in any other European country. The German pharmaceutical sector shows the highest research intensity across all major German industries – about 12.5 percent of revenues were reinvested in R&D in 2018. With 499 clinical trials financed by research-based pharmaceutical companies in 2019, Germany ranks fifth worldwide. Based on the number of patent applications, the country is leading in pharmaceutical innovation in Europe. In 2018, some 584 patents were registered with the European Patent Office by the pharmaceutical industry in Germany.



Germany is the European Union's leading pharma manufacturing and R&D location.

Market Opportunities & Trends

Growing Healthcare Market

With 83 million inhabitants, Europe's most populous country also represents the biggest healthcare market in the region – with expenditure continuously rising. This offers interesting opportunities for international companies operating in the market. In 2018, health expenditure in Germany reached a new high of EUR 390.6 billion, corresponding to a per capita spending of EUR 4,712. Between 2013 and 2018, the country's healthcare market grew by almost 4.4 percent per year on average. The healthcare sector currently accounts for almost 12 percent of German GDP, with the share steadily increasing as annual growth rates exceed the pace of overall domestic economic growth. Driven by developments like demographic change, the growing prevalence of chronic diseases, and the recent Covid-19 outbreak, this upwards trend in annual German health expenditure is expected to continue, after already exceeding the EUR 400 billion mark in 2019.



Healthcare spending grew by 4.4 percent per year between 2013 and 2018.

Demographic Change

One of the main drivers of the healthcare market is demographic change. Germany, like much of Europe, has an aging society. Birth rates remain low while life expectancy at birth continues to grow – reaching 84 years for women and 79 years for men in 2020. Today, approximately half of the German population is older than 45 years of age and about 22 percent are at least 65 years old, making it one of the world's oldest populations. Forecasts suggest that the share of the "65 plus" generation will increase to about one third of the population by 2035. This age group already accounts for around half of overall healthcare expenditure in Germany. Moreover, the number of people aged 85 or more is expected to rise to 3.3 million by 2025 – equivalent to four percent of the population. In 2019, more than 4.2 million people in Germany were in need of care. The risk of illness – and the probability of being affected by several chronic diseases – goes up as age levels rise. This leads to greater demand in the domestic healthcare sector.

Chronic Diseases

The treatment of the growing number of patients affected by (age-related) chronic and incommunicable diseases constitutes a major concern of the German healthcare system. Together, cardiovascular diseases, psychological disorders and musculoskeletal diseases account for more than one third

of overall healthcare spending in Germany (36.9 percent in 2015). Chronic lung diseases, cancer and diabetes mellitus – being the most common metabolic disorder – are also widespread among the general population. Estimates suggest that around six percent of German adults suffer from asthma and almost 10 percent of adults have diabetes mellitus (including around 2 million people with undetected diabetes). The German market offers attractive opportunities for pharmaceutical companies providing innovative drugs and novel, more customized therapies – also for patients diagnosed with chronic diseases.

Health Insurance

Mandatory health insurance and different sources of financing contribute to solid healthcare provision – including access to medicines – in Germany. Almost 88 percent of the German population are insured by one of the more than 100 statutory health insurance companies, with around 10.5 percent of the population being privately insured. In 2018, public and private health insurers covered nearly two thirds of total healthcare spending in Germany, accounting for 56.8 and 8.5 percent respectively. The remaining amount was funded by private and public households, social long-term care insurance, employers, statutory accident insurance and the statutory pension fund. Pharmaceutical spending by statutory health insurances increased by 4.7 percent in 2019, reaching EUR 41.7 billion, whereby oncological treatments accounted for 42 percent of additional expenses. Moreover, costs were driven by growing expenses for pharmaceuticals for stroke prophylaxis and antirheumatic drugs amongst others. During the same period, the leading indication areas in terms of statutory health insurer expenditures were antineoplastics, immunosuppressive drugs, anti-diabetics, and anticoagulants.

"Out-of-Pocket" Payments

Increasingly, patients are also paying for medicines "out-of-pocket", mainly for over-the-counter medicines and co-payments for prescribed drugs. This trend is also driven by so-called "switches", meaning that previous prescription-only medicines gain the non-prescription status. This was the case for 25 treatments between 2007 and the beginning of 2020. In the light of growing healthcare expenses, self-medication and consultation provided by local pharmacies may also relieve doctors and health insurers.

Over-the-Counter (OTC) Market

Market Trends

Germany's consumer health market is enjoying constant growth thanks to an increasing focus on preventive healthcare and self-medication within German society. Following current health and wellness trends and the desire to grow older in good health, more and more Germans display growing health awareness levels and an interest in a more active and healthy lifestyle. Many consumers adopt a prevention-based attitude and are willing to invest in their health by spending money on products supporting personal wellbeing. Moreover, patients may use OTC medicines to treat relatively minor ailments including colds, sore throats and the like.

Market Segments

The German OTC market comprises two major segments: non-prescription drugs and health products. Non-prescription drugs include pharmacy-only drugs as well as OTC drugs that may also be sold outside of pharmacies. Product groups that are not subject to pharmaceutical legislation - for example, nutritional supplements, healing earths and seawater nasal sprays - belong to the health products segment and can be sold by pharmacies as well as drugstores and supermarkets. The average annual growth rate of the German OTC market amounts to four percent for the period 2014 to 2019. In 2019, revenues increased by 3.7 percent to almost EUR 10.7 billion. More than EUR 7.2 billion was generated in the non-prescription drugs segment and over EUR 3.4 billion with health products - corresponding to a sales volume of 811 million and 744 million packaging units respectively. Although self-medication represents the major share of OTC sales, OTC products prescribed by physicians represent a further opportunity.

Competitive Landscape and Distribution

The domestic consumer health landscape is somewhat fragmented - with many international and local players. Even market leaders - including Bayer Vital, GlaxoSmithKline and MCM Klosterfrau - with a broad product portfolio only have single-digit market shares. Traditional brick-and-mortar pharmacies represent the main distribution channel for OTC products and enjoy a high level of trust among the German population. Almost 75 percent of revenue was generated by the 19,000 local pharmacies in 2019, followed by mail-order pharmacies and the mass market.

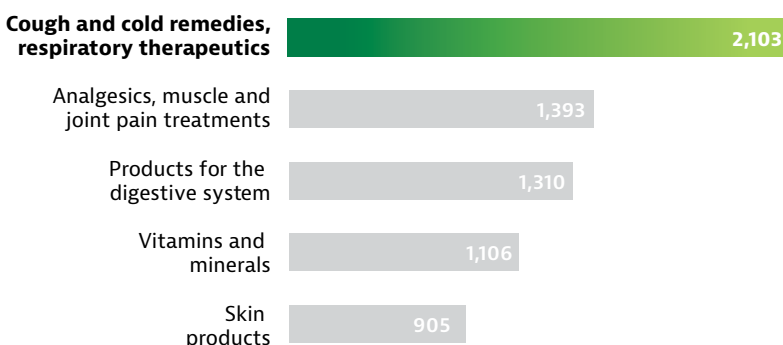
Opportunities

Remedies for the respiratory system and pain treatments account for the highest share of overall OTC sales via pharmacies (including mail order). In 2019, the vitamins and minerals segment demonstrated the highest growth rate (6.8 percent), with revenue exceeding EUR 1.1 billion. After double-digit growth in previous years, sales of probiotics for the digestive tract increased by seven percent reaching EUR 163 million in 2019. In terms of sales volume, eye medicines (4.9 percent), vitamins and mineral nutrients (3.7 percent) as well as remedies for the bladder and reproductive organs (3.6 percent) recorded the strongest increase. The segment of OTC phytopharmaceuticals and homeopathic remedies accounted for 31 percent of total non-prescription drug sales by pharmacies. Future forecasts suggest a positive market development and expect OTC drug sales to grow by around three percent per year between 2019 and 2029.



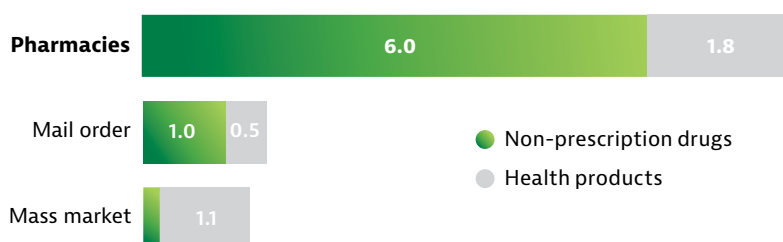
Germany's OTC market grew by almost four percent to EUR 10.7 billion in 2019.

Leading OTC Segments in the Pharmacy Market by Revenue 2019 in EUR million



Source: IQVIA 2020

OTC Sales in Germany by Distribution Channel 2019 in EUR billion



Note: Mass market sales include sales by drug stores and supermarkets, among others.
Source: IQVIA, BAH 2020

Biopharmaceuticals



Annual growth in the biologics market of more than 10 percent is more than twice that in the overall pharma market.

Increasing Market Share

The development of biological drugs has led to substantial shifts in the pharmaceutical industry landscape in recent years. Large companies have moved their focus from small molecule drugs towards the development and production of complex biological compounds that are made with the help of a variety of organisms. Because of their high therapeutic potential, biologics have taken up a considerable share of the pharmaceutical market in Germany: From 2015 to 2019, the biologics market grew by 11.6 percent on average annually – more than twice the growth of the overall pharma market. The total revenue of biopharmaceuticals in Germany is EUR 12.7 billion (2019), equivalent to more than a quarter of the market for pharmaceuticals.

Market penetration has been steadily increasing in recent years, but differs according to therapeutic area. Biopharmaceuticals generate 80 percent of immunology sales, whereas the figure is as low as three percent for cardiovascular indications. Biopharmaceutical sales in oncology grew by 23 percent in 2019, but the highest growth rate was recorded by anti-infectives with an increase of 40 percent.

Development Pipeline

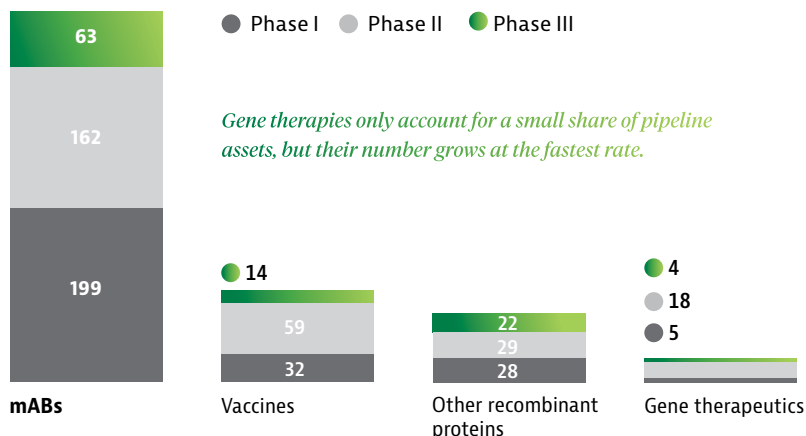
The growing importance of biopharmaceuticals is also reflected in the development pipeline. As of 2019, companies active in pharma R&D in Germany were developing 640 biologics in clinical development – 82 percent of phase III assets were new

biological entities. Gene therapies experienced the fastest increase, with an average growth of over 10 percent per year since 2015. Key areas of biologics development are oncology, immunology and infectious diseases. In the last three years, biopharmaceuticals accounted for more than half of all drug approvals in the European Union.

Biosimilars

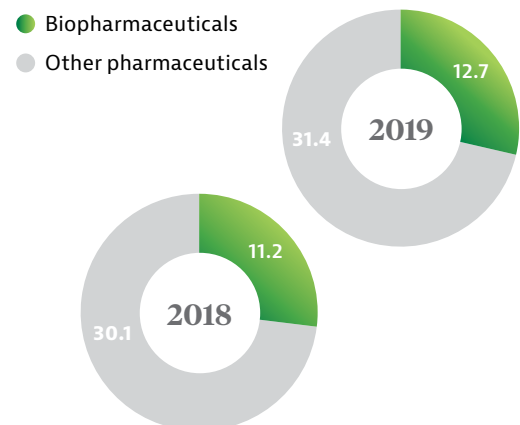
As innovative biological drug patents expire, more pharma companies have the opportunity to manufacture and commercialize the compound – a key factor in pharma market dynamics in recent years. Germany has shown its strength as a world-class manufacturing location and is now one of the global biopharma production centers. Most of the biologicals recently developed are antibodies that need to be produced in larger quantities than the first-wave biologics which hit the market in the previous decades. Due to the challenges that this trend creates for the industry, biopharma manufacturing will continue to be a demanding activity that requires suitable expertise and infrastructure – making Germany a prime location in this field. In 2019, pharma companies active in Germany were developing 20 biosimilar products in phase III alone. From 2007 to 2019, biosimilars sales achieved a CAGR of 69 percent.

Modalities of Biopharmaceuticals Developed in Germany 2019



Source: vfa, BCG 2020

Biopharmaceuticals Sales Share in Germany in EUR billion



Source: vfa, BCG 2020

Pharma Manufacturing

Major Production Location

Germany is one of the world's top locations for pharmaceutical production. In 2018, pharmaceutical production volume reached EUR 36 billion – equivalent to 18 percent year-on-year growth. According to EFPIA, Germany is the biggest pharmaceutical manufacturing location within the European Union and ranks second in Europe after Switzerland. In the field of biopharmaceutical production, Germany has the second highest figures worldwide after the USA. Two important factors contributing to this excellent position are the high-performing industrial infrastructure and the long-standing strength of the local chemical industry. Between 2010 and 2019, pharmaceutical manufacturers in Germany recorded an increase in the gross value added by 17 percent. In 2017, the gross value added in the pharmaceutical sector was over EUR 135 thousand per employee.

Contract Manufacturing Organizations

Germany is also home to outstanding contract manufacturers. International and national clients can easily obtain any service they require – from initial product idea to final product – at moderate cost. Boehringer Ingelheim, for example, is the only company in the world that is active across the entire biopharmaceutical process chain. This enables faster timelines and simpler coordination of processes worldwide. The Federal Ministry for Economic Affairs and Energy's "Health Made in Germany" initiative can help along with GTAI to identify possible partners. Its "German Biomanufacturing Guide" provides a comprehensive overview of biomanufacturing companies currently active in Germany.

High Production Standards

Germany is an ideal production location for research-intensive, high-grade products. It places a high value on technology; this stemming from the country's long history of developing and manufacturing high-quality pharmaceutical products. The country's particular strength lies in producing complex products where containment and sterile environments are critical. Hundreds of thousands of highly skilled employees in medical-technical, pharmaceutical-technical and engineering backgrounds enable companies to utilize efficient and complex production processes. Contractual agreements are secure and foreign patent holders are equally well protected as Germans.

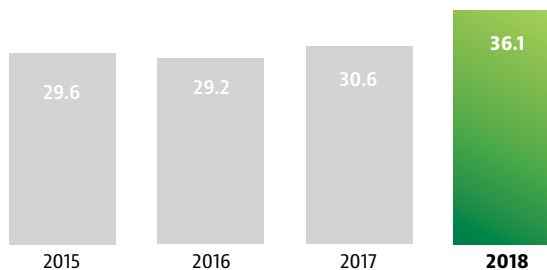
Investment and Trade

The investment activity of pharmaceutical companies in Germany has been experiencing a steady increase in recent years. Most of the investments were aimed at capacity increases, which underlines the confidence of the local companies in sustained growth. In the course of the global effort to tackle the Covid-19 pandemic, calls for a reinvigoration of small molecule drug and API manufacturing have been increasingly heard. The economic stimulus package passed in June 2020 dedicates EUR 1 billion to this objective. This measure aims to reduce the dependency on global supply chains and is expected to trigger substantial investments in the German pharmaceutical production sector in the near future. The strong export orientation of the German pharmaceutical industry shows its competitiveness: In 2018, about two thirds of its sales were generated abroad. The export volume of pharmaceuticals has been growing continuously since 2012 by 7.4 percent on average annually.



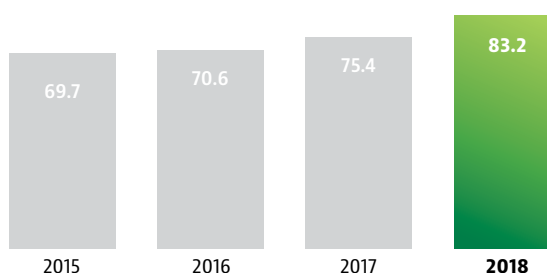
HEALTH MADE IN GERMANY – the Export Initiative of the German Healthcare Industry:
www.health-made-in-germany.com

Pharmaceutical Production in Germany in EUR billion



Source: BPI 2019

Export of Pharmaceuticals from Germany in EUR billion



Source: BPI 2019

Research Excellence



There are over 1,000 publicly financed research institutions and more than 500 pharmaceutical companies in Germany.

Research Landscape

Over 30 biotechnology clusters contribute substantially to the advancement of pharmaceutical innovation by bundling scientific expertise as well as connecting academic and industrial players in the field of drug development. In addition to the over 400 universities in Germany, numerous specialized research institutes – including the Fraunhofer Society, the Max-Planck-Society, the Helmholtz Centres and the Leibniz Association – conduct world-class fundamental and applied scientific research. In total, there are over 1,000 publicly financed research institutions and more than 500 pharmaceutical companies in Germany, creating an innovation ecosystem that enjoys global acclaim.

The Federal Ministry for Education and Research has proclaimed the next ten years as the “National decade against cancer” and correspondingly launched initiatives to prioritize oncology research over the coming years. The federal “High-tech Strategy 2025” also identifies infectious diseases as a focal point of activity over the next years.

Innovation Ecosystem

In order to foster the translation of research outcomes into successful products, the Go-BIO program supports biotechnology start-ups in bringing their inventions to market. Since 2005, 58 newly established biotech companies have received support to grow into sustainable businesses. The Life Science Incubator (LSI) in Bonn and Dresden also helps scientists to bridge the critical gap between a good idea and the proof of concept, making further financing opportunities available. Moreover, the LSI supports academics with outstanding business ideas by providing them with the entrepreneurship expertise required for their value proposition to take off.

Over 15 start-up centers specifically dedicated to fostering emerging biotech/life science companies can be found all over Germany. They provide lab infrastructure and a supportive environment for biotech entrepreneurs to bring their ideas to market.

Industry Research

The pharmaceutical industry is known for its high R&D intensity – and Germany is no exception. In 2018, around 12.5 percent of revenues were reinvested in R&D – the highest rate among all major

industry sectors in Germany. Approximately 18,600 researchers work in pharmaceutical and biotechnology companies in Germany. Overall, investment in innovation in the German pharmaceutical industry amounts to one fifth of sales. A substantial share of pharma innovation in Germany is contributed by over 600 dedicated biotechnology companies that invested over EUR 1.1 billion in research and development in 2017. In the course of the global effort to develop vaccines and therapeutics to tackle the Covid-19 pandemic, German pharmaceutical and biotechnology companies have shown their strength: As of July 2020, there were over 40 products in development. Some of the research achievements made international headlines, such as CureVac’s cooperation with Tesla for the production of an RNA vaccine and the fast-track designation for BioNTech’s vaccine jointly developed with Pfizer.

Clinical Research

Thanks to its high population, Germany is an attractive study location – particularly for orphan diseases and other indications where participant recruitment is challenging. Main hotspots for clinical research are major cities like Berlin and metropolitan areas along the Rhine, Neckar, and Ruhr rivers. With 499 clinical studies initiated by the pharmaceutical industry in 2019, Germany ranks among the five leading locations worldwide – directly behind the USA, China, Spain and the UK. The most important indication areas, in terms of the number of clinical studies, are oncology and inflammatory diseases – like asthma, Morbus Crohn and multiple sclerosis – followed by cardiovascular and infectious diseases as well as diabetes.

Number of Industry-sponsored Clinical Studies 2019



Source: vfa 2020

Pharmaceutical Research Landscape in Germany

Germany's 16 federal states provide excellent conditions for pharmaceutical research and development. Across the country, research and development centers and biotechnology clusters – made up of technology parks,

incubators and local agencies that bundle biotech organizations in a single geographical region – interact to create a world-leading infrastructure for clinical trials.



Business Location Germany

Europe's Economic Hub

Germany is the largest market in Europe. It is home to 16 percent of the EU's population and constitutes 21 percent of Europe's GDP (EU-28). After ten years of GDP growth and the recent economic slowdown caused by the Covid-19 pandemic, current forecasts expect a swift recovery of the German economy and positive GDP growth rates for 2021 and subsequent years. The country's economy is both highly industrialized and diversified – with equal focus placed on services and production.

Top Investment Location

Germany has a welcoming attitude towards foreign direct investment (FDI). Europe's largest market creates a large and stable customer base for investors. Germany's integration into the world economy allows companies to gain and share knowledge, products and employees within a global network. With EUR 848 billion of FDI stocks in 2019, Germany is a major destination of FDI flows.

Sound and Secure Legal Framework

The legal framework for FDI in Germany favors the principle of freedom of foreign trade and payment. According to the World Economic Forum, Germany is one of the world's best locations in terms of planning and operating security. The country is also one of the world's leading nations in terms

of intellectual property protection and protection from organized crime. The German legal system counts as one of the world's most efficient and independent.

Business-friendly Tax Conditions

Germany offers one of the most competitive tax systems of the big industrialized countries. The average overall tax burden for corporations is just below 30 percent. Significantly lower rates are available in certain German municipalities – up to seven percentage points less – with the overall corporate tax burden as low as 22.8 percent in some areas. Moreover, Germany provides an extensive network of double taxation agreements (DTAs) ensuring that double taxation is ruled out, for example, when dividends are transferred from a German subsidiary company to the foreign parent company.

World-class Infrastructure

With state-of-the-art transportation networks (road, rail, sea, and inland waterways) as well as a dense network of national and international airports, Germany provides easy access to domestic and international markets. Germany's infrastructure excellence is confirmed by a number of recent studies including the Swiss IMD's World Competitiveness Yearbook and various investor surveys conducted by organizations like the World Economic Forum (WEF) and Ernst & Young. The 2018 Logistics Performance Index of the World Bank ranked Germany first worldwide for its logistic proficiency, singling out Germany's quality of trade and transport infrastructure. Accumulated in this score for Germany are high marks for the quality of roads and air transport, excellent railroads and port infrastructure, as well as its outstanding electricity and water supply. As a truly global logistics hub, more goods pass through Germany than any other country in Europe.

Competitive Labor Costs

High productivity rates and steady wage levels make Germany an attractive investment location. Between 2009 and 2018 wages have risen in most European countries (EU-28), with the growth rate averaging 2.23 percent per year. While some countries – particularly those in Eastern Europe – experienced an annual increase of about 4 to 5 percent, Germany recorded one of the lowest labor cost growth rates (2.18 percent) in the manufacturing sector within the EU. Highly flexible working prac-



Germany is one of the world's favorite investment locations.

Quality of Infrastructure 2018

Rank	Country
1	Germany
2	Japan
3	Sweden
4	Netherlands
5	Austria
6	Singapore
7	USA
8	UK
9	Switzerland
10	United Arab Emirates

Source: World Bank 2018

tices such as fixed-term contracts, shift systems, and 24/7 operating permits enhance Germany's global competitiveness as a suitable investment location for internationally active businesses.

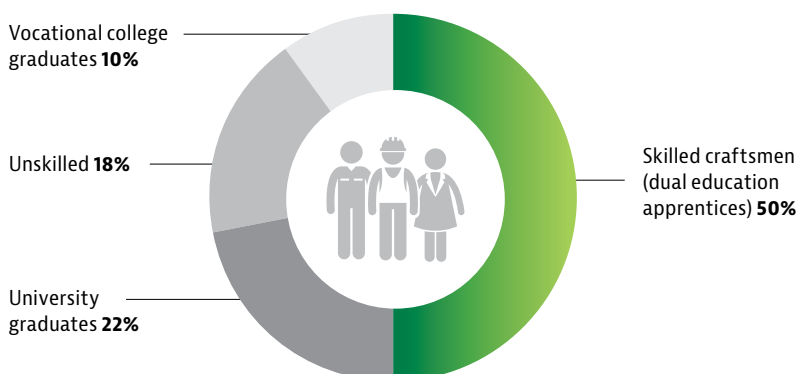
Highly Skilled and Motivated Workforce

Germany's excellent workforce is decisive to the country's high productivity rates. It comprises over 44.6 million people – making it the largest European labor pool. More than 80 percent of the German workforce has received formal vocational training or is in possession of an academic degree. German labor flexibility is reflected in one of the highest employee motivation levels – exceeding those of most leading industrialized nations. Germans also lose significantly less days per annum to strike action than employees in other European nations.

Dual Education System

In order to secure the economy's demand for highly qualified personnel and to meet industry needs, Germany developed a dual system in vocational training – unique in combining the benefits of classroom-based and on-the-job training over a period of three years. In close cooperation

Workforce in Germany by Level of Professional Education 2017 percent of total workforce



Source: Federal Statistical Office 2019

with industry and the government, the German Chambers of Industry and Commerce (IHKs) and the German Confederation of Skilled Crafts (ZDH) ensure that exacting standards are adhered to, guaranteeing the quality of training provided across Germany.

Pharmaceutical Associations

BAH – German Medicines Manufacturers' Association

The BAH represents the interests of about 400 member companies, which create about 80,000 jobs in Germany. Globally operating medicines manufacturers are as involved in the manifold activities of the association as the broadly represented medium-sized businesses. BAH member companies produce nearly 80 percent of the prescription-free medicines sold in German pharmacies and almost two thirds of the prescription medicines as well as a major part of the substance-based medical devices. BAH advocates for secure and responsible self-medication through professional medical and pharmaceutical advice.
→ www.bah-bonn.de

BPI – German Pharmaceutical Industry Association

With 70 years of experience in drug research, development, authorisation, manufacturing and marketing, BPI represents the pharmaceutical industry with all its variety. The about 270 member companies comprise the whole spectrum of the pharmaceutical industry, ranging from multinational corporations to SMEs and start-

ups. The members benefit from a wide range of services and support. Current topics are discussed in more than 50 working groups. By providing information to decision-makers at federal, state, and EU level, the BPI helps to shape the social and legal framework conditions of the industry.

→ www.bpi.de

vfa – German Association of Research-Based Pharmaceutical Companies

The vfa is the trade organization of research-based pharmaceutical companies in Germany. The forty-five member companies of the vfa are among the leading research-based pharmaceutical companies worldwide. They guarantee therapeutic progress in pharmaceuticals and ensure high-quality pharmaceutical therapy. Together with their more than 100 subsidiaries and affiliated companies, they employ nearly 80,000 people in Germany. More than 18,000 of their employees work in the field of research and development of pharmaceuticals.

→ www.vfa.de

Financing & Incentives in Germany



Please visit our website for more incentives information: www.gtai.com/incentives

Attractive Incentive Programs

Incentives programs in Germany are available through different public funding instruments and for different funding purposes. The individual funding requirements may, for example, result from investment projects, research and development activities, personnel recruitment, working capital needs or other specific purposes. The different incentives instruments including grants, loans and guarantees are generally available for all funding purposes and can ordinarily be combined; thus matching the different business activity needs at different development stages of the company.

Project Financing by Private Equity

Technologically innovative start-ups in particular have to rely solely on financing through equity such as venture capital (VC). In Germany, appropriate VC partners can be found through the *Bundesverband Deutscher Kapitalbeteiligungsgesellschaften e.V.* (BVK – German Private Equity and Venture Capital Association). Special conferences and events like the German Equity Forum provide another opportunity for young enterprises to come into direct contact with potential VC partners. Public institutions such as development banks (publicly owned and organized banks which exist at the national and state level) and public VC companies may also offer partnership programs at this development stage.

Project Financing by Bank Loans

Debt financing is a central financing resource and the classic supplement to equity financing in Germany. It is available to companies with a continuous cash flow. Loans can be provided to finance long-term investments, working capital and operational costs (R&D, personnel) and for bridging temporary financial gaps. Besides offers from commercial banks, investors can access publicly subsidized loan programs in Germany. These programs usually offer loans at attractive interest rates in combination with repayment-free start-up years, particularly for small and medium-sized companies. These loans are provided by the KfW federal development bank and also by regional development banks.

Investment and R&D Incentives

When it comes to setting up production and service facilities, investors can count on a number of different public funding programs. These programs complement investment project financing. Most important are cash incentives provided in the form of non-repayable grants applicable to co-finance investment-related expenditures such as new buildings, equipment and machinery. R&D project funding is made available through a number of different incentives programs targeted at reducing the operating costs of R&D projects. Programs operate at the regional, national, and European level and are wholly independent from investment incentives. At the national level, all R&D project funding has been concentrated in the High-Tech Strategy to push the development of cutting-edge technologies. Substantial annual funding budgets are available for diverse R&D projects.

Labor-related Incentives

After the location-based investment has been initiated or realized, companies can receive further subsidies for building up a workforce or the implementation of R&D projects. Labor-related incentives play a significant role in reducing the operational costs incurred by new businesses. The range of programs offered can be classified into three main groups: programs focusing on recruitment support, training support, and wage subsidies respectively. Labor-related incentives play a significant role in reducing the operational costs incurred by new businesses.

Incentives in Germany

Funding purposes				
Investments	Working Capital	Research & Development	Specific Purposes	Personnel
Financing supported by any of the following public funding instruments (combinations of instruments usually possible)				
Public funding instruments				
Grants	Loans	Guarantees	Equity Capital	Mezzanine Capital

Germany – A World-Class Pharmaceutical Location

Roche – Covering the Complete Value Chain

Founded in 1896, the Swiss-based Roche Group is active in over 100 countries and employs about 98,000 people worldwide in 2019. With more than 30 research and development (R&D) locations worldwide, Roche continues to explore better and sustainable ways to prevent, diagnose and treat diseases. Roche has four strategically important sites in Germany – Grenzach-Wyhlen, Ludwigsburg, Mannheim, and Penzberg – which reflect the entire value chain of the Roche Group from R&D to production and patient care.

Between 2015 and 2017, Roche invested around EUR 600 million in its Penzberg biotechnology site to meet growing global demand for active pharmaceutical ingredients and diagnostic tests. With more than 5,000 employees the site is the company's largest biotech research, development and production center worldwide. In May 2020, Roche Chairman Christoph Franz announced additional investments of more than EUR 400 million in Penzberg to produce antibody tests for the new coronavirus and further R&D activities. The group is also investing in new business areas including digital health solutions. In 2020, Roche established its RoX Health offshoot in Berlin to provide financial and regulatory support to innovative healthcare start-ups. Germany plays an important strategic role for Roche in both innovation and market terms, with the country driving many of the group's innovations and playing a leading role in European market harmonization in a post-Brexit landscape.

Roche's strong presence in Germany provides the group with access to a strong healthcare market, an innovative R&D landscape as well as significant opportunities and benefits within the European single market. Germany also constitutes the Roche legal entity for all EU pharma licenses.

Takeda – Providing a Production Advantage

Takeda is a global biopharmaceutical company headquartered in Japan. Specializing in rare diseases, gastroenterology, oncology, neuroscience, plasma-derived therapies and vaccines, Takeda is the largest pharmaceutical company in Japan and one of the world's top 10 pharmaceutical companies by revenue. Established in Osaka in 1781, the company has been active in Germany since 1981. Takeda currently employs around 2,500 people

at four locations in Germany, with half located in the Berlin-Brandenburg region and the other half in Baden-Württemberg. Germany's position as a world-leading pharmaceutical production site with a highly qualified workforce and synergies with other industries – including the mechanical engineering sector – provides a major location advantage to Takeda. The two production sites in Singen and Oranienburg play an important role in the company's global manufacturing and supply network. Almost 2,000 people are employed at the two production facilities producing high-quality pharmaceuticals for more than 100 countries worldwide.

“Germany is a world-class location for pharmaceutical production. Our products can only be made as part of a sophisticated production process that guarantees the highest level of quality. Germany provides us with this as well as a highly trained workforce and excellent infrastructure.”

Heidrun Irschik-Hadjieff

General Manager Takeda Pharma Vertrieb GmbH & Co. KG,
Spokesperson & Member of the Management Board Takeda GmbH

Takeda has invested more than EUR 200 million in its German production facilities in recent years, increasing output of its Oranienburg site by 50 percent in 2017. The state of Brandenburg provided funding of EUR 23 million on top of Takeda's own investment of EUR 100 million in Oranienburg. More than six billion tablets and capsules are produced at the facility annually – with 98 percent of production destined for export markets. In 2019, the company also opened its first worldwide dengue vaccine production in Singen. Takeda's commercial organization in Berlin employs around 500 people. The Berlin location allows Takeda to network with all important health economy stakeholders – from industry associations and patient organizations to health insurance companies and health policymakers. The German capital region counts as one of Europe's most important healthcare industry locations, boasting a unique concentration of university and non-university research institutions, clinics and life science companies.

Germany Trade & Invest Helps You

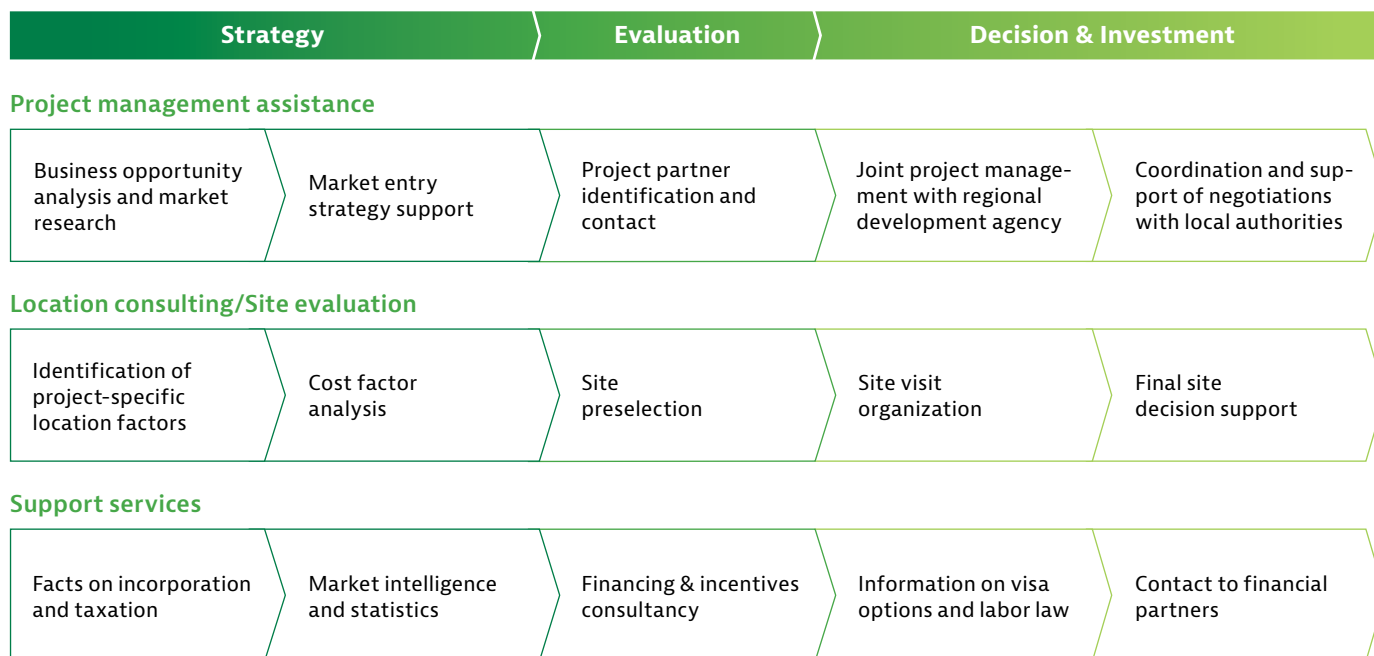
Germany Trade & Invest's teams of industry experts will assist you in setting up your operations in Germany. We support your project management activities from the earliest stages of your expansion strategy.

We provide you with all of the industry information you need – covering everything from key markets and related supply and application sectors to the R&D landscape. Foreign companies profit from our rich experience in identifying the business locations which best meet their specific investment criteria. We help turn your requirements into concrete investment site proposals; providing consulting services to ensure you make the right location decision. We coordinate site visits, meetings with potential partners, universities, and other institutes active in the industry.

Our team of consultants is at hand to provide you with the relevant background information on Germany's tax and legal system, industry regulations, and the domestic labor market. Germany Trade & Invest's experts help you create the appropriate financial package for your investment and put you in contact with suitable financial partners. Our incentives specialists provide you with detailed information about available incentives, support you with the application process, and arrange contacts with local economic development corporations.

All of our investor-related services are treated with the utmost confidentiality and provided free of charge.

Our support services for your investment project



Investor Consulting



Julia Albrecht is responsible for the pharmaceutical and consumer health industry in Germany Trade & Invest's Chemicals & Healthcare team. Julia joined GTAI in 2016, and has already successfully supported numerous invest-

ment projects of international healthcare companies expanding to Germany. She has gained extensive international academic and work experience in the US, Denmark, Spain and Chile and has a master's degree from Copenhagen Business School.

For questions on how to establish your business in Germany please contact Julia Albrecht julia.albrecht@gtai.com or Dr. Gregor Kemper gregor.kemper@gtai.com.

For more information about the pharmaceutical industry in Germany, please visit our website: www.gtai.com/pharma



Dr. Gregor Kemper is the project manager responsible for the biotechnology and biopharmaceutical industry in Germany Trade & Invest's investor consulting division. With chemistry and pharmacy degrees as well

as consulting experience in the pharmaceutical industry, he helps companies plan their operations in Germany and make well-informed expansion decisions.

Contact us at our headquarters in Berlin:
Germany Trade & Invest
Friedrichstraße 60
10117 Berlin
Germany
T +49 30 200 099-555
F +49 30 200 099-999

Imprint

Publisher

Germany Trade and Invest
Gesellschaft für Außenwirtschaft
und Standortmarketing mbH
Friedrichstraße 60
10117 Berlin
Germany

Executive Board

Dr. Jürgen Friedrich, Chairman/CEO
Dr. Robert Hermann, CEO

Authors

Julia Albrecht, GTAI; Dr. Gregor Kemper, GTAI

Editor

William MacDougall, GTAI

Layout

Danielle Röbbenack, GTAI

Print

Kern GmbH, 66450 Bexbach
www.kerndruck.de

Picture Credits

Cover: gettyimages/PhotoAlto/Sigrid Olsson
Page 15: Julia Albrecht/Illing & Vossbeck Fotografie
Gregor Kemper/Illing & Vossbeck Fotografie

Notes

All rights reserved ©Germany Trade & Invest,
October 2020

Reproduction, in whole or in part, only permissible with express prior authorization. All market data provided is based on the most current market information available at the time of publication. Germany Trade & Invest accepts no liability for the actuality, accuracy, or completeness of the information provided.

Order Number

20858

Supported by:



Federal Ministry
for Economic Affairs
and Energy

on the basis of a decision
by the German Bundestag



About Us

Germany Trade & Invest (GTAI) is the economic development agency of the Federal Republic of Germany. The company helps create and secure extra employment opportunities, strengthening Germany as a business location. With more than 50 offices in Germany and abroad and its network of partners throughout the world, GTAI supports German companies setting up in foreign markets, promotes Germany as a business location and assists foreign companies setting up in Germany. All investment services and related publications are free of charge.

Germany Trade & Invest Headquarters

Friedrichstraße 60
10117 Berlin
Germany
T +49 (0)30 200 099-0
F +49 (0)30 200 099-111
invest@gtai.com
www.gtai.com

Germany Trade & Invest Bonn Office

Villemombler Straße 76
53123 Bonn
Germany
T +49 (0)228 249 93-0
F +49 (0)228 249 93-212
info@gtai.de
www.gtai.de