

INDUSTRY OVERVIEW

The Plastics Industry in Germany

ISSUE 2018/2019



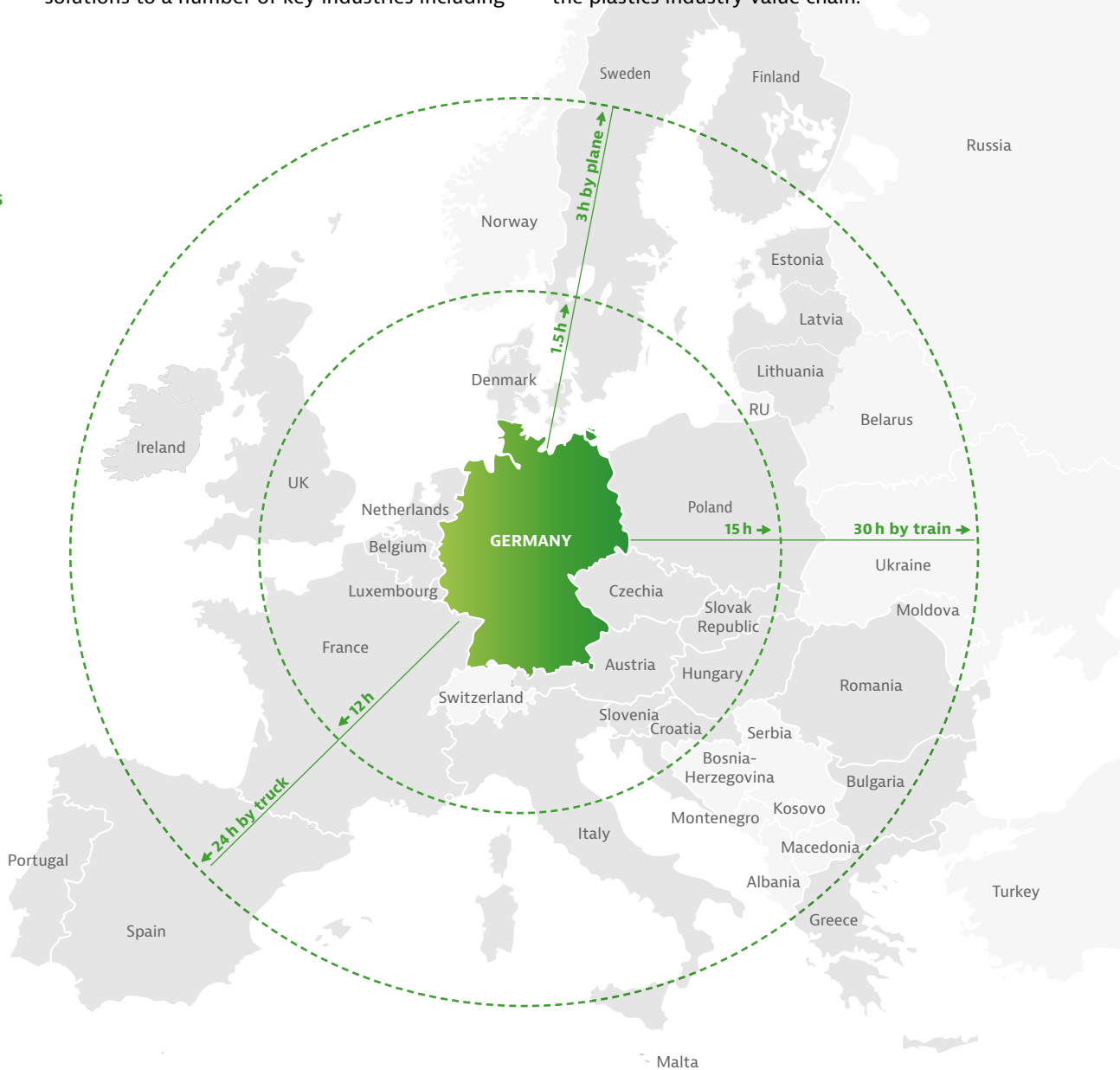
Europe's Leading Plastics Nation

Plastics are an essential part of modern life. Increased living standards, growing environmental awareness, and sustainable development thinking are driving the demand for new and innovative material solutions. As Europe's largest producer of chemicals and plastics, Germany is Europe's leading plastics industry. The country's plastics industry includes polymer manufacturers, converters and machine manufacturers alike. And with sales of EUR 92 billion, the domestic plastics industry counts as one of Germany's most important industry sectors. The industry plays a major role in providing new and innovative products and solutions to a number of key industries including

the automotive, mechanical engineering, packaging, electrical engineering, and construction sectors. Growth (carbon composites) and future (INDUSTRIE 4.0) market trends are also making themselves felt in the domestic plastics sector. Integrated additive manufacturing technologies will play an important role in changing production processes – from design to distribution and maintenance. Germany is setting the international standard as a plastics industry location, with the country's leading-edge network of chemical parks and unique cluster concept providing industry actors with swift and easy access to all parts of the plastics industry value chain.



Germany's plastics industry – at the market crossroads of Europe



The Industry in Numbers

International Market Demand and Production

The global plastics industry has recorded average annual growth of nine percent since 1950. In the past 30 years alone, international plastics production has grown by around 500 percent. World plastics production ramped up from 1.5 million tons in 1950 to almost 335 million tons in 2016. According to the PlasticsEurope Market Research Group (PEMRG), global plastics materials demand grew around 3.5 percent per annum for the period 2012 to 2016.

European Market Demand and Production

The European plastics industry generated total annual sales of EUR 350 billion in 2016. Europe accounts for around 20 percent of global plastics production (60 million tons in 2016). To provide some context, China and the NAFTA trade bloc are responsible for 29 percent and 18 percent of global plastics production respectively.

With plastics demand of around 50 million tons per year, the European market belongs to the biggest markets in the world. The market is best characterized by a high level of demand for quality and performance which has proven attractive with international investors. Four European countries count among the top ten destinations for global plastics and rubber foreign direct investment (FDI), with Germany leading the way in the vanguard of European countries.

German Market Demand and Production

The German plastics industry generates sales in the region of more than EUR 92 billion each year. The industry is made up of around 3,350 companies in total. These companies employ a workforce of around 396,000 people. The industry enjoys more than six percent share of domestic industrial production.

The German plastics production market, with 200 companies and 50,000 employees, generated sales of EUR 24 billion in 2016. Germany is home to more than 2,900 companies active in plastics processing. They can call upon a workforce of 317,000 people. In 2016, plastics processing companies reached sales of around EUR 61 billion. Germany's plastics and rubber machinery companies are world leaders. In 2016, they employed a labor force of 29,000 people in 250 companies –

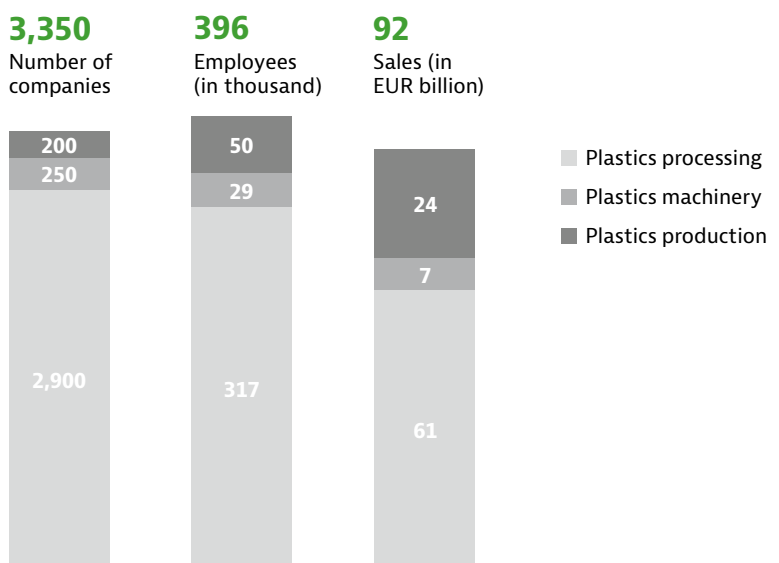
generating sales of EUR 7 billion. The growing domestic market is characterized by high-quality requirements of the end consumer. Within Europe, Germany is the leading market, accounting for around 25 percent of plastics demand.

Home Market Europe

More than 13 million tons of plastics produced in Germany found their way to export markets in 2016, with around 10 million tons of foreign plastics making the reverse journey. With almost 74 percent of all exports, the European single market (EU-28) is the biggest recipient of German plastics, followed by the remaining countries in Europe (11 percent) and Asia (9 percent). In 2016, German plastics exports generated turnover of almost EUR 23.5 billion.

Within the European single market, the main importers of German plastics are Italy, France, Poland, and the Netherlands. Germany is also one of the largest importers and processors of plastics materials – more than 88 percent of all plastics imported in 2015 came from EU-28 countries (92 percent across Europe). In 2015, EU trade surplus amounted to EUR 8.2 billion.

Structure of the Plastics Industry in Germany 2016



Source: PlasticsEurope Deutschland e.V. 2017

Increased Global Plastics Demand

Global plastics demand is forecast to further grow three percent annually as a result of global megatrends including urbanization, energy demand, climate change, and new technology developments. The different megatrends driving growth are closely linked to industry sectors including construction, energy efficiency and housing – areas in which plastics are playing an ever-increasing role.

Worldwide plastics demand is spurred by an increased application of new materials in almost all industry sectors. German industry association Carbon Composites e.V. predicts an annual growth rate of between 10 to 13 percent for the worldwide market for carbon fiber-reinforced plastics (CFRP) through to 2022.

According to research conducted by PEMRG, per capita plastic materials consumption has reached the 135 kg level in western Europe and the NAFTA region. Internationally, growth is predicted in the developing Asian nations.

Europe's Number One Plastics Industry

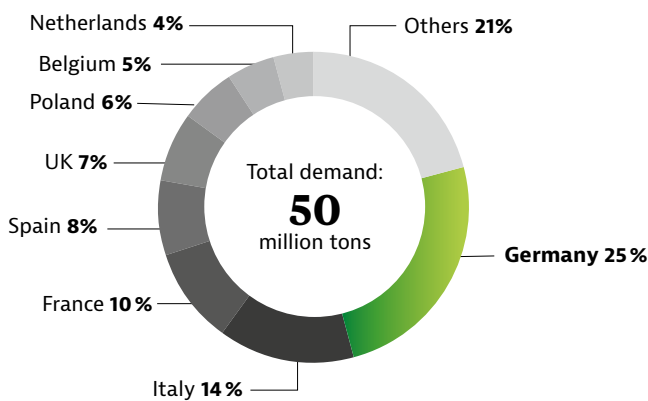
Centrally situated in Europe, Germany is optimally located to meet the new business opportunities presented by current market developments. At present, Europe accounts for one fifth of total global plastics consumption. It is forecast to maintain current consumption levels in global comparison throughout the end of 2015. As Europe's

number one plastics location, Germany enjoys a global plastics production share of around eight percent. Germany is a major FDI destination country for companies in the whole plastics industry value chain – in both international and European comparison. Germany occupies third place in terms of international plastics FDI attractiveness, and has been Europe's leading plastics FDI nation for the last decade. The German plastics industry produces for the international market with the added advantage of having the European market as its home market.

International companies have also been setting up businesses along the entire carbon fiber-reinforced plastics (CFRP) idea-innovation-implementation chain, investing in German companies and entering into collaborative efforts with German firms and research institutions.

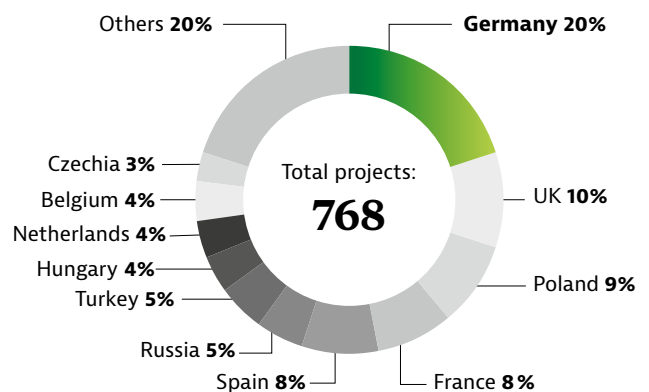
Within Europe, Germany is the undisputed leader in terms of both plastics manufacturing production and sales. Germany is also Europe's best-served country in terms of available plastics production facilities. It also records the highest level of plastics demand by converters (i.e. demand expressed as tonnage of virgin resin).

European Plastics Demand 2016



Source: PlasticsEurope Market Research Group 2017

Top European FDI Destination Countries 2012-June 2017



Source: fDi Markets, GTAI – FDI Competence Center 2018

The Plastics Value Chain

As a cross-sectional material, plastics are vital to technological innovation: without them the basic materials required to make and realize new innovations simply would not be available. The plastics industry in Germany operates from a position of strength. Innovative plastics production and processing companies (i.e. plastics compounders and plastics converters) located in Germany play a significant role in shaping the global plastics market; that they are able to do so is testimony to the country's highly developed plastics industry value chain infrastructure. Networks within the value chain encompass the different steps of the value chain (vertical networking) as well as those of the different sectors and disciplines (horizontal networking). As a result, innovations with a particularly high value chain potential are created. These are accordingly transformed into marketable products and services.

World Innovation Leader

Complete industry value chain presence ensures that new and innovative products are made to the highest possible technological standards. More than 3,850 chemistry-related patents granted at the European Patent Office in 2016 make Germany the third largest inventor of chemicals after the US and Japan.

Value Chain Benefits

Germany's unique industry value chain infrastructure secures the country's position as Europe's leading "value added at factor cost" and "gross investment in fixed assets" plastics processing nation. As well as benefiting from the highest standards and industry leadership, investors in Germany's thriving plastics sector are able to take advantage of excellent partnership and synergy opportunities. New investors are provided with unparalleled access to local enterprise partners; domestic, regional, and international markets; state-of-the-art chemical competence center and cluster infrastructure; and a truly world-class R&D network.

Sustainable Solutions and Market Growth

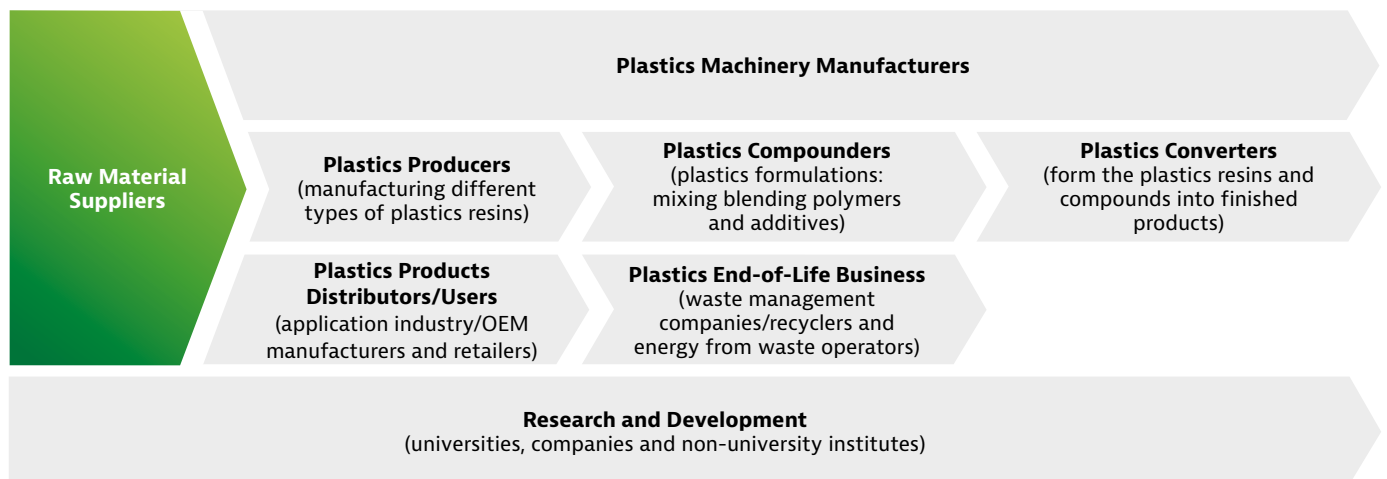
Germany's unique value-chain system recognizes the fact that plastics not only make sustainable solutions a reality, but that they are also a long-term driver of market growth. For that reason, innovative networks and chemical-plastics industry clusters are present along the whole value chain of raw materials suppliers, plastics manufacturers, processors, machinery manufacturers, product distributors, and plastics end-of-life businesses. Around 440 machinery and plant engineering companies and relevant industry associations have signed up for the "Blue Competence" initiative to increase energy efficiency and plastics recycling quality.



Europe's leading plastics industry opens up new opportunities for international investors.
www.gtai.com/plastics

The Plastic Value Chain in Germany – From Raw Materials to R&D

The entire value chain is available – with the highest integration and based on state-of-the-art technologies and infrastructure.



National and international chemicals and plastics clusters and innovative networks along the entire value chain.

Market Applications and Segments

Whether in the automotive sector, construction, packaging, or even in the field of health care products, the plastics industry is creating new and profitable business opportunities in numerous application markets. New production and manufacturing technologies like additive manufacturing ("3D printing") open up a growing applications spectrum in almost all application industries.

Packaging

Market: Within Europe, more than 50 percent of all goods are packaged in plastics. According to PlasticsEurope, major efficiencies achieved in plastics packaging mean that, by weight, plastics account for only 17 percent of all packaging. Packaging is the largest plastics application market segment, with 35 percent of total plastics processing finding its way into the packaging sector. According to the IK ("The Plastics Packaging Industry Association"), the industry sector's revenue rose by more than four percent to over EUR 14 billion in 2016.

Opportunities: The packaging market remains stable. The sector continues to expand. Plastic packaging solutions are being increasingly used for innovative, customized products. According to the GADV ("German Packaging Manufacturers"), packaging material turnover 2016 reached EUR 32 billion with a production volume of 19 million tons. Plastics packaging was again able to convince in this crowded segment, securing the largest market share with more than 44 percent of turnover. New technologies and improved processes are creating greater efficiencies which are making plastics packaging more attractive. According to the new "EU Strategy on Plastics in a Circular Economy 2030," all plastic packaging materials within the EU market have to be recyclable, which requires higher standards and new technology solutions from plastic packaging producers and recyclers alike. At the same time, investments in Germany's recycling technology industry will have to increase in the near future as available recycling capacities have to grow significantly – not least because of China's import stop on plastic packaging waste materials.

Building & Construction

Market: Construction is the second largest plastics end-user application industry with 23 percent of plastics production. Plastics are indispensable to modern building construction due to their durability, easy handling, and high performance characteristics as well as lower maintenance costs.

Opportunities: According to a market researcher Ceresana 2016 study global demand for plastics within the building and construction sector will grow continuously reaching a level of 73 million tons in 2023. Due to the EU's ambitious climate goals, major opportunities exist in the energy-efficient construction materials segment thanks to the use of plastics-derived thermal insulation materials in the commercial as well as private buildings modernization sector. The global plastics pipe market will also record double-digit growth over the next decade.

Electrical & Electronics

Market: With around 860,000 employees and sales of EUR 183 billion according to the ZVEI ("Central Association of the Electrical Engineering and Electronics Industry", 2017), the electrical and electronics (E&E) industry counts as one of the biggest industry sectors in Germany. The average plastics content in E&E devices is around 20 percent of weight. Plastics' excellent insulating properties and flexibility are ideal for use in the electrical goods and electronics sector. Germany's E&E sector accounts for six percent of the total plastics consumption market.

Opportunities: The global E&E industry is the world's fastest-growing industry sector, and the fourth largest in Germany by revenue (second largest by employment). Plastics are also playing an important role in global efforts to develop novel electronic devices using organic functional layers suited to simple and low-cost products. Organic electronics (also "printed electronics") products have already hit the market in the guise of OLED displays and polymer solar cells. Further development opportunities in the field of 3D printing technologies also arise.



Visit our new [lightweight technologies website for more information on plastics materials application in German industry: www.gtai.com/lightweight-industries](http://www.gtai.com/lightweight-industries)

Automotive

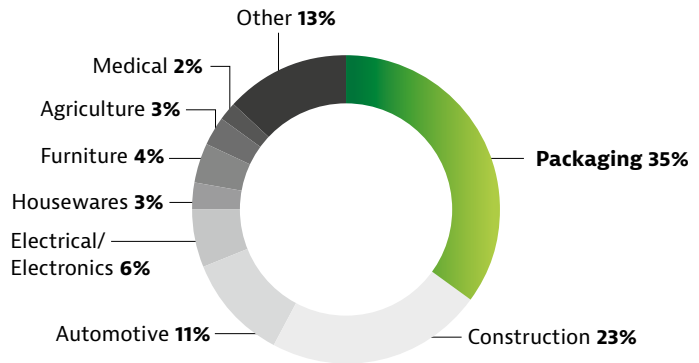
Market: German automobile manufacturers produced 5.7 million cars in Germany in 2016 – production will grow to 6.3 million cars through to 2019. Germany is one of the biggest car manufacturers in Europe and the world. Domestically, the auto sector remains the country's most important economic industry sector, and boasts the largest concentration of OEM plants in Europe. According to the VDA ("German Association of the Automotive Industry") 2017 report, the German automotive industry generated sales of around EUR 405 billion in 2016 (almost two thirds of which in foreign markets). Ten percent of plastics consumption is generated in the auto sector. Plastics contribute up to 15 percent of the body weight of new cars. Lightweight plastics are contributing to make cars more eco-friendly, safer, and comfortable.

Opportunities: Worldwide, there are currently more than one billion vehicles in use today. This figure is expected to double to more than two billion vehicles by 2030. Polymer properties and relatively simple processing at low temperatures promote use in many areas of modern car engineering. Increasingly more auto manufacturers are turning to plastics and composites in order to achieve better fuel efficiency levels in accordance with CO₂ emission reduction requirements. As well as improved fuel economies and lower greenhouse gas emission levels, plastics allow multiple auto parts to be consolidated; creating real cost savings for the auto industry. High R&D investment levels are crucial to the automotive sector's continued success, with research in new and advanced materials (e.g. lightweight construction) an important component. Plastics and composites manufacturers have adopted the role of innovator to constantly develop new solutions for the automotive industry as tomorrow's autonomous technologies are further developed.

Medical

Market: Germany is Europe's largest market for medical devices and the world's third largest. With overall turnover in the EUR 30 billion region and a workforce of around 133,000, the medical technology sector is a cornerstone of the German economy.

Plastics Consumption in Germany by Segment 2016



Source: PlasticsEurope Market Research Group 2017

According to BVMed ("German Medical Technology Association"), companies in the medical devices sector recorded an 5.5 percent increase in international turnover (EUR 18.6 billion) in 2016. The German medical devices industry is export driven – with an export ratio of around 65 percent. In global comparison, Germany's medical devices sector ranks third internationally with a production share of more than nine percent, outranked only by the US and China.

Opportunities: Modern medicine depends on an array of plastics-based medical equipment used in general practice. The high acceptance afforded German medical technologies is a clear indicator of the innovative strength of an industry exemplified by above-average R&D expenditure levels (around nine percent of total turnover) in 2015 and the preceding years. But it is not just in general medical practice that plastics are making their presence felt; state-of-the-art orthopedic prostheses and even artificial organs are increasingly being manufactured from plastics. Polymers are also being used in the treatment of extensive wounds to reduce skin grafts levels.

Innovative Cluster Concept – World-Class Knowledge Transfer

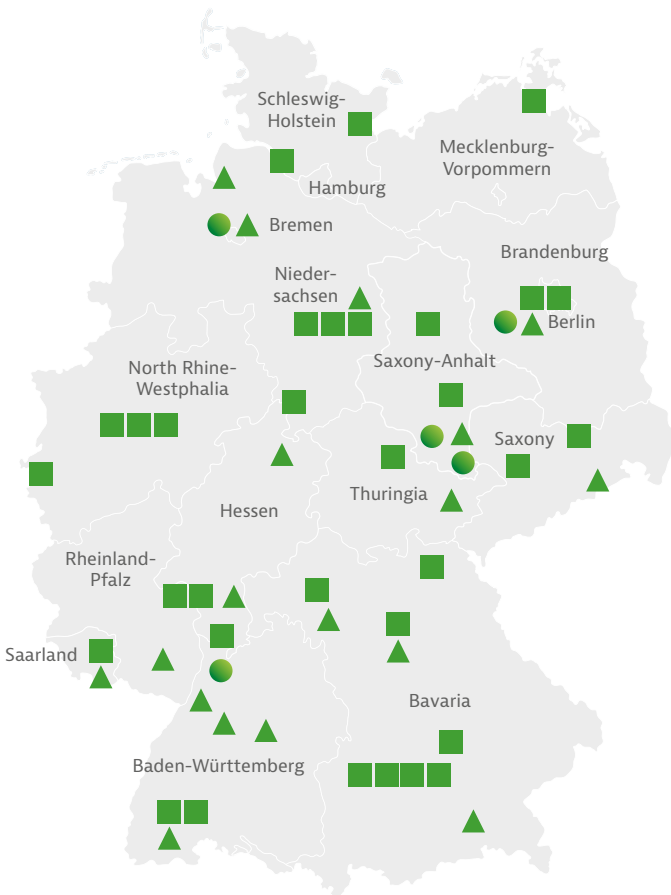
Germany's unique industry cluster concept has created an environment in which operators from all sectors are able to flourish in close proximity with other industry actors and investors, academic institutions, and research centers. The German federal government's cluster strategy encompasses the following activities: competition to promote exchange processes between universities and companies; region-specific measures to foster cluster development; measures to foster cluster development in individual technology fields; cross-industry competence creation; and cutting-edge cluster competition.

Innovative Plastics Industry Networks

Clusters in the plastics industry are typically integrated in multi-producer sites overseen by a third-party management company responsible for the efficient running of all onsite services and utilities. There are around 40 regional clusters, innovative networks, and competence centers in plastics and material sciences in Germany. The chemical and plastics clusters and their innovative networks and competence centers span the entire value chain of the plastics industry, providing unparalleled knowledge transfer opportunities and market impulse. Effectively building a partnership bridge between academia, commerce, and industry, clusters promote shared dialogue and innovative technology partnerships between science and industry.

Selected Plastics Industry and Materials Processing Innovation Clusters in Germany

- ▲ Fraunhofer Innovation Cluster
- Fraunhofer Group for Materials and Components
- go-cluster



Source: go-cluster, Fraunhofer Innovation Clusters, Fraunhofer Group, GTAI Research 2018

Specialized Chemical Parks

There are currently around 60 chemical sites in Germany, of which 30 are organized as so-called "chemical parks." Of these, more than 20 specialize in polymer manufacturing and plastics processing. The chemical parks and sites concept allows investors to easily "plug into" and access all of the necessary infrastructure resources they require – and all without the financial costs of a greenfield investment (www.chemicalparks.com).

go-cluster

The Federal Ministry for Economic Affairs and Energy go-cluster excellence program brings together around 100 innovation clusters from across Germany. Cluster members are at the cutting-edge of innovation and represent the technological diversity within the country's industry and technology sectors. The initiative provides financial aid – in the form of support for innovative services and funding for novel solutions – to optimize cluster management allowing member clusters to position themselves as highly effective and visible international clusters.

www.clusterplattform.de

International R&D Leadership

Germany is Europe's leading R&D investment nation. Internationally, only the US, Japan, and China have higher domestic R&D budgets. Germany is also a leader in terms of R&D investment as share of GDP; at 2.9 percent in 2015 it is above both the OECD average of 2.4 percent and the EU-28 average of below two percent.

According to the European Innovation Union Scoreboard 2016, Germany ranks as an innovation leader within the EU-28. The report also singled out Germany as being particularly strong in terms of the number of "innovators" (innovative products), "firm investment" and "intellectual assets".

R&D Infrastructure and Competence

The chemical industry is by far the most important source for new materials. As such, it supplies a large number of industrial sectors with new material innovations. As well as plastics processing, almost all industry sectors benefit from preliminary innovation work carried out by the chemical sector.

High investment in R&D pays off. The chemical and plastics as well as the plastics machinery industries are major technological innovators for German industry. Their innovative materials, precursors, as well as application know-how impact most other industry sectors.

Investments in innovation (including R&D and capital investments) account for almost nine percent of annual turnover. In 2016, the German chemical industry spent more than EUR 5 billion on R&D. R&D activities located in Germany are international in nature, playing a key role in the global research program activities of international chemical industry operators. Plastics and rubber processors have consolidated R&D spending in the last 10 years, helping establish Germany's plastics processing sector (with R&D expenditure of more than EUR 1 billion in 2015) as the undisputed European number one.

INDUSTRIE 4.0 application potential is also being used to allow efficiency improvements in plastics processing. Non-university based applied research institutions, competence centers and pilot projects provide mainly small and medium-sized plastics processors with unparalleled access to cutting-

“Industrial clusters and a strong research base are major success factors in the German plastics industry. The fact that Germany can successfully conduct research, development and production for the world market is due in part to the classic benefits Germany offers as a business location: well-trained, highly-qualified and motivated employees, political stability and the ability to make long-term plans, as well as a long-standing tradition of good labor relations, decent infrastructure and a strong focus on quality.”

Dr. Josef Ertl, Chairman,
PlasticsEurope Deutschland e.V.

edge research infrastructure and expertise. In the field of composites, the Fraunhofer Materials and Components Group combines the expertise of 17 Fraunhofer institutes and is the most important "Fraunhofer Alliance" in terms of research budget. This allows international investors to profit from highly scalable R&D potential (industry cooperation and strategic partnership). Germany's world-class research landscape includes a significant number of polymer and materials science research institutes. Based on the Federal Ministry of Education and Research (BMBF) research and innovation study 2016 and Germany Trade & Invest research, this impressive list includes:

- 33 university institutes
- 12 university of applied science institutes
- 2 Max-Planck Society (MPG) institutes
- 12 Fraunhofer Association (FG) institutes
- 3 institutes of the Helmholtz Association of German Research Centres (HGF)
- 4 Leibniz Association (WGL) institutes
- 10 federal and national R&D institutes

Academics and scientists have formed the Plastics Technology Scientific Working Group (WAK) for the further promotion and development of plastics technology in Germany.

Stable Investment Conditions

World-Class Engineers

Germany's chemical and plastics sector is internationally admired for the quality of its workforce. Around 37 percent of German university graduates have a scientific or engineering degree background (2016). Germany's rate of employees in science and technology is above 40 percent; making Germany a world leader in rates of technicians and scientists among total employees. The success of the German plastics industry is largely based on expertise and innovativeness employed along the whole value chain.

Exemplary Academic Network

Germany provides access to an excellent research landscape and advanced network of universities highly active in the field of polymer and material sciences. With strong connections to industry, 33 universities and 12 universities of applied sciences offer a number of plastics processing-related study programs (e.g. polymer and material sciences). More than 215,000 students matriculated on engineering, polymer and material sciences study programs in winter 2016/17. More than 30,000 students graduated in this field of study in 2017. Chemicals and plastics companies, R&D institutes and the industry cluster provide numerous new technology training programs for SMEs – providing companies with an extra competitive edge.

Competitive Labor Costs

High productivity rates and steady wage levels make Germany an attractive investment location. Since 2007, wages have risen in most European countries (EU-28), with the growth rate averaging 2.5 percent. While some countries – particularly those in eastern Europe – experienced an a rise of close to or more than five percent, Germany recorded one of the lowest labor cost growth rates within the EU at just 2.2 percent.

Competitive Infrastructure and Logistics Edge

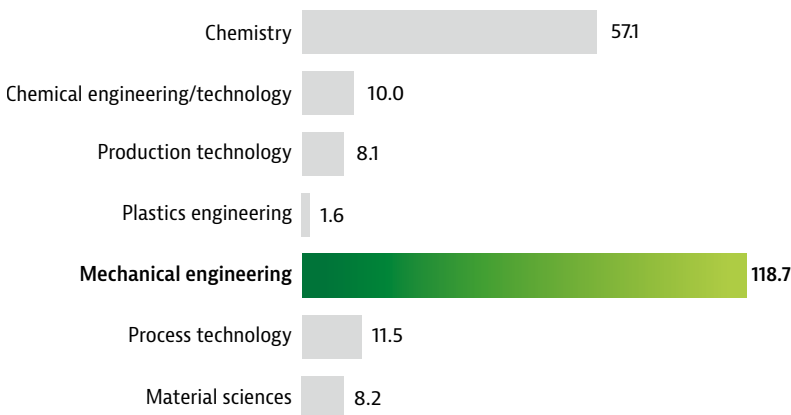
Germany's infrastructural excellence is confirmed by a number of recent studies including the Global Competitiveness Report of the World Economic Forum (WEF) and investor surveys conducted by institutions including UNCTAD and Ernst & Young. In the World Bank's Logistics Performance Index 2016, Germany ranks first overall, recording the highest scores worldwide in the categories "Infrastructure" and "Logistics competence." Eighty percent of Ernst & Young European attractiveness survey 2017 respondents consider Germany's transport and logistics infrastructure to be attractive.

Another aspect of Germany's excellent infrastructure is its extremely reliable electricity supply, which is the safest in Europe. Germany's highly developed pipeline system guarantees stable oil supply from the Mediterranean, the North Sea, and from Russia. Ethylene and propylene pipelines complement the country's unique chemical park delivery infrastructure, with Chemical Parks connected to an advanced pipeline network for natural gas, naphtha, hydrogen, carbon monoxide, and technical gases. This provides unparalleled access to secure supply of raw materials to the plastics and related industries, and represents a major competitive infrastructure advantage.

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 cases. Moreover, Germany provides an extensive network of double taxation agreements (DTAs) ensuring that double taxation is ruled out, e.g. when dividends are transferred from a German subsidiary company to the foreign parent company.

University Students in Maths, Sciences, IT, and Engineering Programs in Germany 2016/2017 in thousand



Source: Federal Statistical Office, GTAI 2017

Financing & Incentives in Germany

Germany offers a number of project financing incentives to all investors – regardless of country of provenance. Funds are provided by the German government, the individual federal states, and the European Union (EU). Incentives in Germany have a sustainable effect as they support companies in different project stages: from setting up new production or service facilities to R&D activities.

Cash Grants for Reducing Investment Costs

Non-repayable grants are an effective means of significantly reducing production facility set-up costs. Germany offers one major program directing the allocation of these investment grants throughout Germany: GRW – Joint Task for the Improvement of Regional Economic Structures. The GRW steers the distribution of direct subsidies for different investment projects across Germany in specified areas. Eligible costs include capital expenditures or personnel costs during the establishment phase.

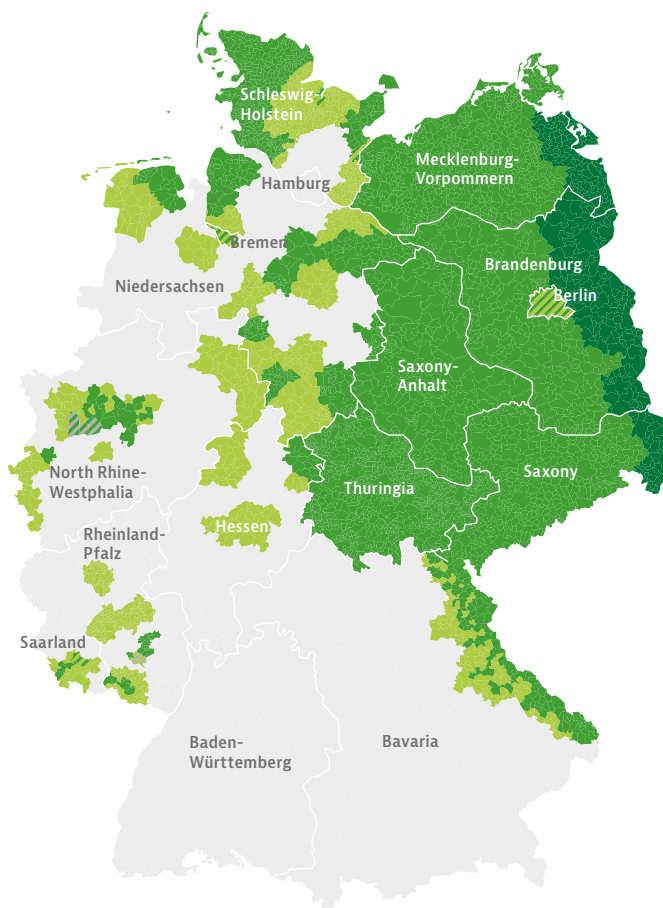
GRW Regions in Germany

The European Commission defines the regions and the maximum funding rates across the entire EU. For Germany it defined so-called C and D areas with different maximum funding rates. The whole of eastern Germany (excluding Berlin) is classified as a C region. A special set of circumstances applies to eastern German regions along the Polish border resulting in the highest possible funding rates within Germany. Investments are also funded in certain regions of western Germany, where D regions dominate.

GRW Aid Intensity Levels

The maximum level of support that is permitted varies across the country. At its simplest, it depends on two factors: the size of the requesting company (classification as a small, medium-sized, or large enterprise) as well as its investment location within Germany. In the maximum-support areas in Germany, large companies can receive up to 20 percent of their eligible investment costs reimbursed; medium-sized companies up to 30 percent; and small companies up to 40 percent. GRW support is also available in certain regions of western Germany. Here, large companies can receive up to 10 percent of their eligible investment costs reimbursed; medium-sized companies up to 20 percent; and small companies up to 30 percent.

GRW Cash Grants: Available Incentives Rates by Region until 2020



Available Incentives Rates in Incentives Regions

Defined by the GRW Program

Region	Small enterprises	Medium-sized enterprises	Large enterprises
● Border area to Poland	max. 40 %	max. 30 %	max. 20 %
● C region	max. 30 %	max. 20 %	max. 10 %
● D region	max. 20 %	max. 10 %	max. EUR 200,000

Source: Federal Ministry for Economic Affairs and Energy 2014

Chemical Parks – Attractive Location for Foreign Investors

Foreign investment levels in Eastern Germany's attractive chemical park environment pay testimony to the attractiveness of the region as an investment location.

proseat Schwarzheide GmbH BASF Schwarzheide GmbH Chemical Site

Located in the state of Brandenburg, BASF Schwarzheide is a fully owned subsidiary of the world's leading chemical company and one of its largest production sites in Europe. More than EUR 1.6 billion in investment has been made at the chemical park since 1990. In 2015, the site generated turnover of more than EUR 1 billion. The proseat Group set up operations at the site in 2015. One of the world's leading manufacturers of molded foam products for the automotive industry, proseat Group sources Neopolen® required for its EPP-based components directly on site. The decision to erect a five thousand meter square production and warehouse facility at BASF Schwarzheide was integral to proseat Group's aim to establish the new production facility as Europe's leading EPP market and technology site.

“Decisive for the choice of location was the overall package that proseat found in Schwarzheide.”

Stefan Hünemann, President and CEO
proseat Schwarzheide GmbH

Domo Chemicals and Total – InfraLeuna Chemical Site

Leuna in Saxony-Anhalt is home to the one of the largest chemical industrial sites in Germany. Jointly operated by a number of companies the 13 square kilometer site caters for the production of a broad range of specialty and bulk chemicals and plastics. Around EUR 6 billion has been invested at the 1,300 hectare since German reunification in 1990. Domo Chemicals, a leading chemical company headquartered in Leuna, and oil and gas giant Total have announced plans to invest around EUR 30 million each in the production of

benzene food stock for caprolactam manufacture and a pipeline for transportation within Eastern Germany. The new structure allows Total to improve regional feedstock integration while Domo Chemicals benefits from long-term access to a strategic feedstock for its integrated polyamide 6 production chain.

“Total and Domo's investment represents an important step to further consolidate our networking at our Leuna chemical site.”

Dr. Christof Günther, Managing Director
InfraLeuna GmbH

Radici Chimica Deutschland – Chemistry and Industry Park Zeitz

The Chemistry and Industry Park Zeitz in Saxony-Anhalt can look back on a tradition of more than 80 years. Extant in its current form since 1996, the 232-hectare chemical park has benefited from more than EUR 100 million in infrastructural investment to date. The park predominantly produces base chemicals, lubricants and specialty chemicals as well as biomass recycling. Radici-Group, with annual turnover in the single billion euro range, counts as one Italy's most internationally active chemicals, plastics and synthetic fiber producers. Through its Radici Chimica Deutschland subsidiary, the group has invested around EUR 230 million in its adipic acid production facility in Zeitz. Since the start of production in 2002, annual capacity of 107,000 tons has been reached, passing the million ton mark in 2013.

“The location offers many advantages. It has the raw materials that we need. The hydrogen, for instance, is supplied by pipeline from Leuna. The local region also offers a talent pool, with the employees we need.”

Pio Gazzini, Technical Director
Radici Chimica Deutschland GmbH

Industry Associations and Organizations

Germany Trade & Invest provides direct access to all of the relevant actors in the German economy. As the hub for a far-reaching network at both home and abroad, Germany Trade & Invest maintains close relations with a number of partners important to international investors setting up business in Germany. These include all federal government ministries and the leading associations of the German economy including the Federation of the German Industry (BDI) and the Association of the German Chambers of Industry and Commerce (DIHK).

As well as this, Germany Trade & Invest also maintains close ties to important trade and industry associations including Composites Germany, the umbrella association of the German plastics materials industry, the pan-European trade association Plastics Europe or the German plastics processing industry umbrella association GKV, to name but a few. Our working partnership with all these associations allows prospective investors to benefit from the association's detailed market analyses and industry structure insights.



PlasticsEurope Deutschland e.V.

PlasticsEurope is a pan-European trade association of plastics manufacturers. The association represents more than 100 companies in 31 European countries. PlasticsEurope Deutschland e.V. is the association of plastics manufacturers in Germany (52 members).

➔ www.plasticseurope.de



VDMA – German Engineering Association

The plastics and rubber machinery division within the VDMA represents the interests of over 200 member companies in Germany. Members receive, among other services, support in the form of global market information in the mechanical engineering and client industry sectors.

➔ www.kug.vdma.org



GKV – General Association of German Plastics Processing Industry

The GKV is the umbrella organization of the German plastics processing industry. It represents the shared interests of the around 700 companies of its carrier associations (plastics packaging, plastics end-consumer, performance plastics, and reinforced plastics industries).

➔ www.gkv.de

bvse – German Association of Plastics Recycling

The bvse – *Fachverband Kunststoffrecycling* represents the interests of the German plastics recycling industry. The association has around 800 member companies who are active across the entire plastics recycling spectrum: from waste to end-product.

➔ www.bvse.de

Composites Germany

The Composites Germany umbrella industry association was founded in 2013 by the four organizations of the German fiber composite industry: Federation of Reinforced Plastics e.V. (AVK); Carbon Composites e.V. (CCeV); CFK-Valley Stade e.V. (CFK-Valley); and the VDMA Working Group Hybrid Lightweight Technologies. The organizations in the German fiber composite industry want to strengthen the German composite industry (particularly in the field of research), determine common positions, and take overlapping interests into account.

Composites Germany is also a member of the EuCIA (European Composites Industry Association). EuCIA is the umbrella organization of the European composites industry and represents the national composites associations in Europe and their member companies. With over 780 member companies within these four organizations, Composites Germany is the largest national agency member.

www.composites-germany.org

Germany Trade & Invest Helps You

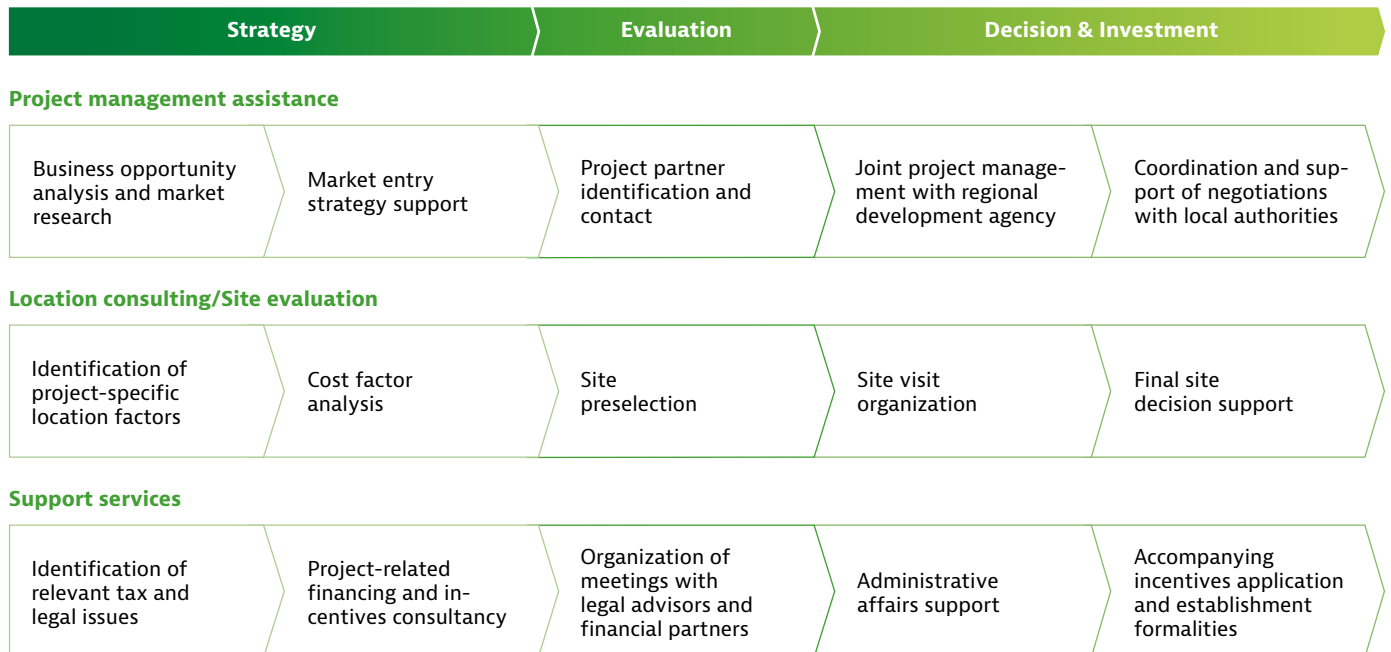
Germany Trade & Invest's teams of industry experts will assist you in setting up your operations in Germany. We support your project management activities from the earliest stages of your expansion strategy.

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.

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CONTACT

Investor Consulting



Peggy Görlitz is the senior manager responsible for the plastics industry in Germany Trade & Invest's Investor Consulting division. She is an acknowledged industry expert with a wealth of more than 20 years' experience and a proven track record in helping international companies set up their business operations in Germany.

For questions on how to establish your business in Germany, please contact Peggy Görlitz at peggy.goerlitz@gtai.com

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

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