FACT SHEET

The Plastics Industry in Germany

ISSUE 2025

Germany is a major investment destination location for international actors in the complete plastics industry value chain. The country is the world's second most attractive plastics investment destination and has been Europe's leading direct investment nation for over a decade.

Global Market Demand and Production

Global plastic production has increased more than two hundredfold since 1950 – ramping up from just 1.5 million tons in 1950 to almost 445 million tons in 2025. Production is expected to continue growing – potentially reaching 590 million tons by 2050 should current trends continue. The global plastics market was valued at over USD 600 billion in 2024, with moderate growth expected into 2025 and beyond.

European Market Demand and Production

The PlasticsEurope Association reports that the European industry generated total annual turnover of around EUR 365 billion in 2024. With 54 million tons in 2024, Europe accounts for approximately 16 percent of global plastics production. Europe is the second largest plastics market in the world after China, with annual demand in the 46 million tons region. Europe's plastics market is characterized by a high level of demand for quality and performance – features that have found favor with international investors. A high level of recycling and the growing use of recycled plastics directly in production are two further trends witnessed in the European plastics market.

Plastics Location Germany

Germany's plastics industry generates turnover of more than EUR 100 billion annually. The production market, with around 200 companies, accounted for revenue of EUR 26.7 billion in 2024. The processing sector in turn enjoyed turnover of EUR 69.4 billion in the same period. Germany's plastics and rubber machinery companies are world leaders, with the sector realizing revenue of EUR 7.5 billion in 2024.

The Industry in Numbers

USD 600 billion

global plastics market size in 2024

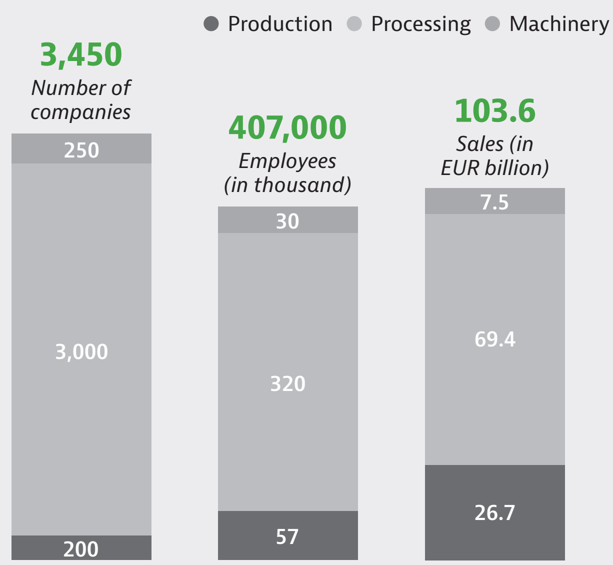
590 million tons

global plastic production forecast to 2050

EUR >100 billion

plastics market turnover in Germany in 2024

The Plastics Industry in Germany 2024



Sources: Statista 2025, VDMA 2025, PlasticsEurope Deutschland e.V. 2025

Application Industries and Circular Economy

Germany's plastics industry is playing a key role in supporting industry and sustainable solutions. Central to this is the use of sustainable plastics solutions in the healthcare, food, energy, construction, mobility, and circular economy sectors.

Plastics Investment Location Germany

Germany is a major foreign direct investment (FDI) destination country for companies in the whole plastics industry value chain. The country is the world number two in terms of plastics FDI attractiveness – both inward and outward – and has been Europe's top FDI nation and source country for the past decade. Germany's plastics industry produces for the international market – with the added advantage of having the European market on its doorstep. 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. Significant market opportunities exist in future growth markets including the 3D printing and the circular economy.

Supporting Innovation in Key Industries

Germany's plastics sector 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 and future market trends – including circular economy AI solutions, digitalization and new materials – are also making themselves felt in the domestic plastics sector.

Rise of Recycled Plastics and Bioplastics

The plastics industry is in a period of radical transformation as it responds to the challenges of finding suitable alternatives to fossil-based plastics. This has led to falling production and turnover levels and increased production costs. In 2024, Europe produced 42.9 million tons of fossil-based plastics – of which Germany accounted for more than 20 percent. Germany led Europe with 22 percent share of the 7.2 million tons of recycled plastics made in 2024. Germany is also showing the bio-based plastics way ahead, contributing a more than 40 percent share of European production.

Plastics and Rubber Machinery Leader

Germany continues to assert its position as a global plastics and rubber machinery force. The country is the European leader and the second largest plastics and rubber machinery FDI destination internationally – behind the USA and ahead of Mexico respectively.

Worldwide Plastics FDI 2019-2024

TOP 3 Source Countries

	projects	share of total
USA	291	14
Germany	**290**	**14**
Japan	203	10

TOP 3 Destination Countries

	projects	share of total
USA	384	19
Germany	**131**	**7**
China	128	6

Source: Germany Trade & Invest FDI Competence Center 2025
*all plastics and rubber: 2,014 FDI projects and plastics and rubber machinery FDI projects 2019-2024.

Value Chain Advantages

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.

Innovative plastics production and processing companies located in Germany plays 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. 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. Fresh advances are being made in the circular economy, with AI helping drive circular economy solutions – including smart recycling systems and material traceability platforms – being rolled out to benefit value chain actors. The KISS innovation project, for example, is developing AI-powered platforms to analyze, classify and identify the best recycling routes for used plastics. 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 300 machinery and plant engineering companies and relevant industry associations have signed up for the "Blue Competence" initiative to increase energy efficiency.

World Innovation Leader

Complete industry value chain presence ensures that new and innovative products are made to the highest possible technological standards. More than 2,520 chemistry-related patents granted at the European Patent Office in 2024 make Germany the third largest chemicals innovator after the US and Japan respectively.

European Industry Challenges

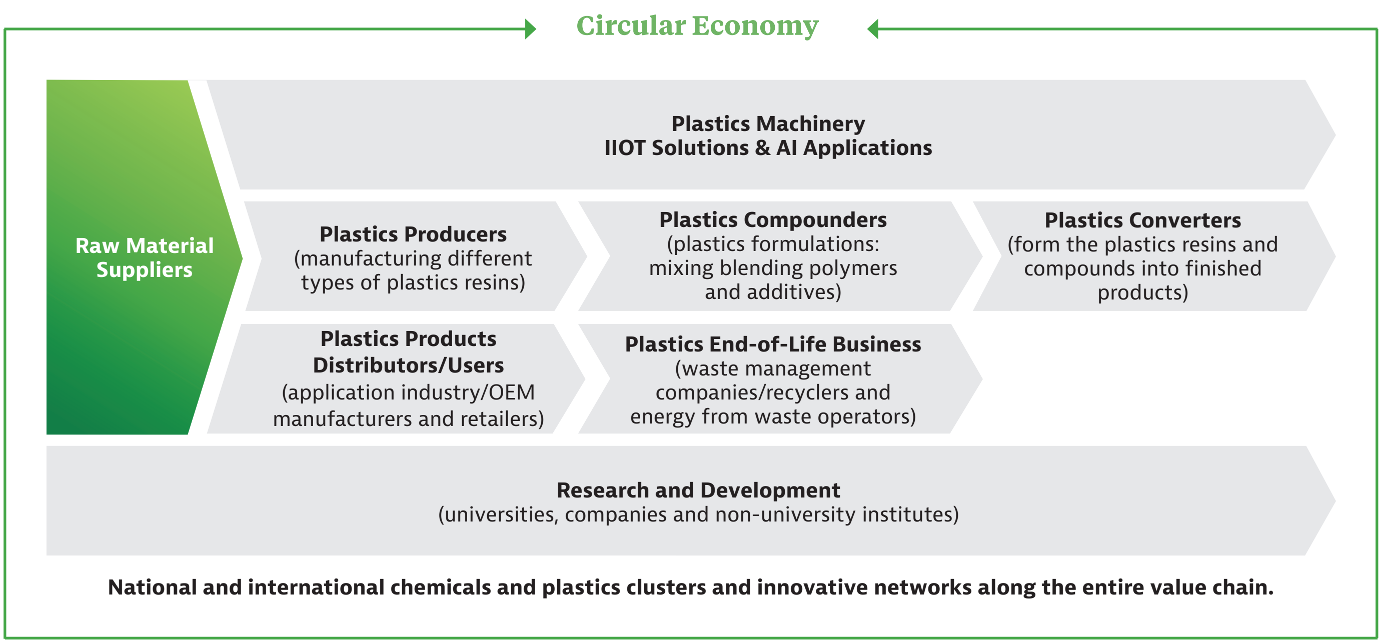
The European plastics industry faces a number of challenges including an EU-wide production decline, growing competition from imports produced in regions with lower environmental standards, growing energy costs, and increased regulatory demands. Germany has maintained its position as a key player in the continent's plastics sector through technological and business innovation to deliver high-quality plastics solutions.

Sustainable Development Goals

Germany's plastics industry is committed to sustainable innovation. Annual spending of up to almost EUR 3 billion supports the development of sustainable materials, energy-efficient processes and circular economy solutions (including bio-based plastics and advanced recycling technologies). The broader chemical industry, which includes plastics manufacturing, plays a pivotal role in achieving UN SDGs.

The Plastics Value Chain in Germany – From Raw Materials to R&D and Circular Economy

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



Sources: PlasticsEurope Deutschland e.V. 2025, Germany Trade & Invest 2025

Market Applications and Segments

Whether it is in the automotive sector, construction, packaging or even the field of healthcare products, the plastics industry is creating new and profitable business opportunities in numerous application markets. New production and manufacturing technology processes open up a growing spectrum of use in almost all application industries.

Packaging

Major efficiencies achieved in plastics packaging mean that plastics account for around just 17 percent of all packaging by weight. Packaging is the largest plastics application market segment, with around 35 percent of total plastics processing finding its way into the packaging sector.

Plastic packaging and film turnover was more than EUR 16.5 billion in 2024. European Union circular economy targets require all plastic packaging materials to be recyclable by 2030. Biodegradable and compostable plastics are taking center stage to meet recycling goals, with flexible packaging and circular economy measures being rolled out to improve food and beverage packaging, resealability and shelf life.

Building & Construction

Building and construction is the second largest plastics end-user application industry with around 36 percent of plastics production. Growing demand for plastics solutions in the building and construction sector is being driven by the emphasis on energy efficiency and sustainability, manifesting itself in the use of lightweight and durable materials in new builds and renovations. The global plastics pipe market will also record stable growth driven by demand in construction, water infrastructure and agriculture projects.

Electrical & Electronics Market

With around 850,000 employees and sales of EUR 220 billion in 2024 according to the Central Association of the Electrical Engineering and Electronics Industry, 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 between 20 percent and 30 percent of weight. 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 or "printed electronics" products have already hit the market in the guise of OLED displays and polymer solar cells. Industrial automation and AI are major growth drivers for sensor markets.

Automotive

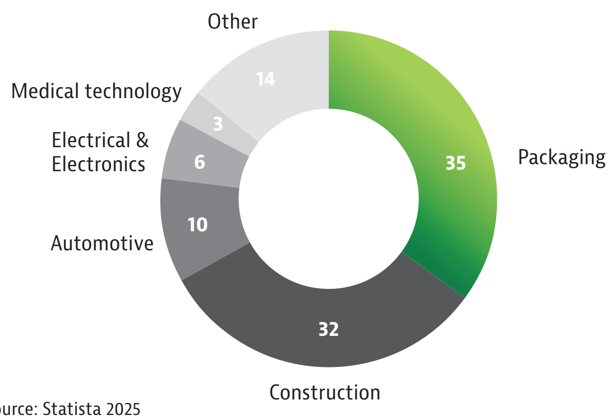
Germany is one of the biggest car manufacturers in Europe and the world. German automobile manufacturers produced 4.1 million passenger vehicles in Germany in 2024. Up to 10 percent of plastics consumption is generated in the auto sector. Plastics contribute up to 15 percent of the body weight of new cars and contribute to make cars more eco-friendly, safer, and comfortable. 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 Technology

Germany is Europe's largest market for medical devices and the world's third largest after the USA and China respectively. Medical technology market volume is estimated at more than EUR 35 billion for 2025, with a forecast compound annual growth rate of five percent up to 2029. Germany's medical device industry is export driven, with around two thirds of all medtech products made in Germany being sold internationally. 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 spending of around nine percent of total turnover in 2024 and the preceding years.

More information at GTAI industry websites

Plastics Applications by Industry Segment in Germany
in percent



Source: Statista 2025

Innovative Cluster Concept

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; measures to foster cluster development in individual technology fields; cross-industry competence creation; and cutting-edge cluster competition.

Innovative Plastics Industry Networks

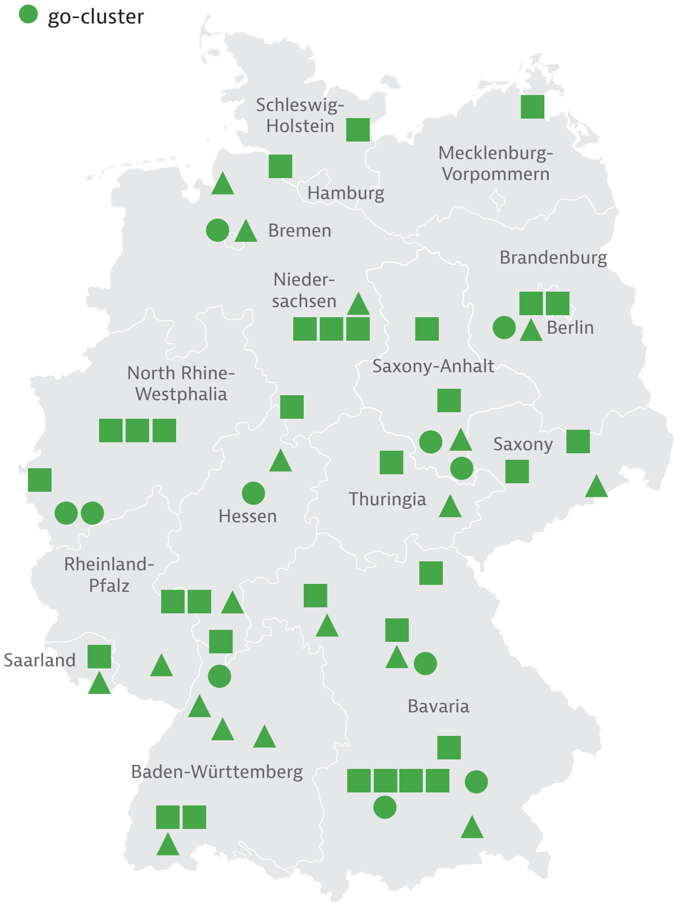
Clusters in the plastics industry are typically integrated in multi-producer sites overseen by a third-party management company responsible for the efficient running of all onsite services and utilities.

Selected Plastics Industry and Materials Processing Innovation Clusters in Germany

▲ Fraunhofer Innovation Cluster

■ Fraunhofer Group for Materials and Components

● go-cluster



Sources: Statista 2025, VDMA 2025, PlasticsEurope Deutschland e.V. 2025

There are around 40 regional clusters, innovative networks, and competence centers in plastics and material sciences in Germany. These clusters span the entire value chain of the plastics industry, providing unparalleled knowledge transfer opportunities and market impulse.

Specialized Chemical Parks

There are currently almost 60 chemical sites in Germany, of which 30 are classified as "chemical parks." Approximately 20 are specialized in polymer manufacturing and plastics processing. The chemical parks and sites "plug and play" concept allows investors to easily access all of the necessary infrastructure resources they require – without the financial costs of a greenfield investment (*www.chemicalparks.com*).

Excellent Research Landscape

Germany's research landscape includes a significant number of polymer and materials science research institutes. This impressive list includes more than 30 university and university of applied science institutes, two Max-Planck Society (MPG) institutes, 12 Fraunhofer Association (FG) institutes, three institutes of the Helmholtz Association of German Research Centres (HGF), four 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.

go-cluster

The Federal Ministry for Economic Affairs and Energy and the Federal Ministry for Research, Technology and Space jointly support the go-cluster excellence program which currently brings together 70 leading innovation clusters from across Germany. Twelve clusters have already earned the prestigious GOLD Label from the European Cluster Excellence Initiative (ECEI), recognizing their outstanding performance and management quality. The initiative provides targeted financial support – from funding for innovative services to backing breakthrough solutions – to help clusters strengthen their management and market themselves internationally as innovation hubs. The creation of a "Future Funds" package will provide EUR 10 billion in funding over the coming years, significantly improving financial conditions for start-ups.

www.clusterplattform.de

Our Support for Your Business in Germany

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Our Investor Consulting division of specialist industry teams provide international investors in all sectors with comprehensive consultancy services specific to each individual investment project. Services include:

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- Market entry analyses
- Business and tax law information
- Funding and financing information

All investment-related services are provided entirely free of charge and all enquiries are treated with the utmost confidentiality.

Contact

Peggy Görlitz
Mechanical and Electronic Technologies
Germany Trade & Invest
peggy.goerlitz@gtai.de

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Friedrichstraße 60, 10117 Berlin, Germany
T +49 30 200 099 0, invest@gtai.de

Executive Board: Julia Braune, CEO
Dr. Robert Hermann, COO

Editor: William MacDougall, GTAI

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