

# Manufacturing

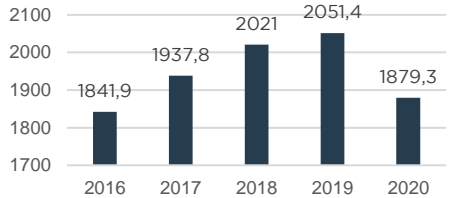
## Facts and Statistics

### Market Size

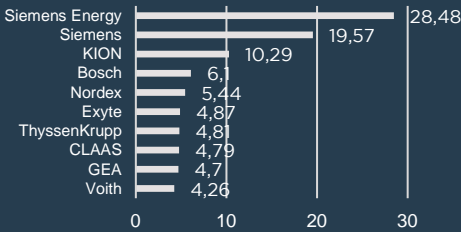
Four sectors dominate German industry: the automotive, mechanical engineering, chemical and electrical industry. With 1.1 million employees, mechanical engineering is the largest industry in Germany.

Nordic machinery companies have seen robust performance from 2016 to 2020, outpacing their German peers, although the biggest Nordic's company can't compete with the top German ones.

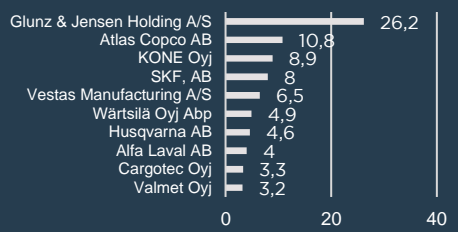
Annual production value of the manufacturing sector in Germany (2016 – 2020, bn. €)



Largest German mechanical and plant engineering companies by sales (2021, bn. €)



Largest Nordic manufacturing companies by turnover (2023, bn. €)



### Key trends

- **Sustainable manufacturing:** Reduction of harmful waste and the use of natural resources
- **Artificial intelligence (AI):** Optimization of processes through the analysis of data
- **Smart factory:** Support and optimization of production with tools like 3d printing
- **Digital twins:** Monitor and optimize performance through a virtual replica
- **Reshoring:** Efficiency & quality through bringing operations back to their home countries

### Key Market Challenges

- **Workforce Shortage:** Challenge of Recruitment and Retention of Employees
- **Supply Chain Instability:** persistent shortage of critical materials and ongoing supply chain disruptions
- **Data Security:** Through reliance on technology, manufacturers collect & store vast amounts of sensitive data (customer information or trade secrets) making the industry a prime target for cyberattacks.

### Key Market Driver

- **Energy Costs:** Rising demand for energy supply from businesses and households and limited availability drive up prices
- **Sustainability and environmental Regulations:** Efficient use of scarce natural resources and alignment with ESG regulations are crucial
- **Globalization and Trade Agreements:** Globalization determines competition and the supply chain, making production easier but also riskier
- **Digitalization and automation:** The targeted use of data analytics systems and tools such as 3d printing to increase performance and efficiency create competitive advantages.
- **Consumer Transformation and Demographics:** Companies need to adapt to changing demand and make jobs more attractive to attract and retain workers