A GERMAN HIGH-TECH INDUSTRY IN FIGURES

MEDICAL TECHNOLOGY - AN INNOVATIVE DRIVER OF HEALTH CARE

CHARACTERISTICS OF A HIGH-TECH INDUSTRY

THE MEDTECH INDUSTRY 2024

MEDICAL TECHNOLOGY in the German Industry Association SPECTARIS

- Export-oriented and competitive
- Characterised by small and medium-sized enterprises
- Research-intensive and highly innovative
- Crisis-resistant
- High turnover and job creator
- Medtech »made in Germany« leading in the EU, second in the world

Status: 01/ 2024

SPECTARIS: Our Mission

Sustainable strengthening of a competitive and innovation-friendly medical technology industry in Germany

- The medical technology section of the German Industry Association SPECTARIS aims to improve the general conditions for medical technology companies. It drives forward the creation of suitable framework conditions for companies' business activities while also promoting the medtech sector as an attractive industry to work at to younger generations. SPECTARIS further proposes various improvements of the infrastructural conditions.

Source: SPECTARIS

MEDICAL TECHNOLOGY in the German Industry Association SPECTARIS

Strong turnover job creator/ job creation

Turnover 2022

Domestic	Abroad	total	
12.6 billion euros	25.8 billion euros	38.39 billion euros	67.1% export ratio

Employees 159,752

Companies 1,467

Source: SPECTARIS, Statistisches Bundesamt

Data in the districts refer to companies with 20 employees and more.

including small businesses: 47.31 billion euros, 12,090 enterprises, 243,800 employees

In 2022, around 1,470 German medical technology manufacturers generated a total turnover of 38.4 billion euros. With an export ratio of more than 67 %, domestic sales amounted to 12.6 billion euros while foreign business reached a value of 25.8 billion euros.

Continuing the trends of previous years, the number of employees increased in 2022. The total number of employees amounting to 160,000 represents an increase of 3.3 % compared to the previous year. When including small businesses, a total of 12,090 companies with 243,800 employees generated a total turnover of 47.31 billion euros (2020).

+5% turnover growth in 2015 - 2022

+ 4 % Employment growth per anno

Distinct medium-sized core

	20-49 Employees	50-99 Employees	100-249 Employees	250 and more Employees	Total Employees
Employees	27,774	17,804	23,517	90,657	159,752
Companies	950	234	160	99	1,467
Turnover	2.58	2.48	4.21	29.12	38.39

The size structure of the German medical technology manufactures reveals a balanced industry consisting of global players and a strong core of medium-sized companies. The industry is further complemented by around 10,600 small companies which employ roughly 84,000 people.

Source: SPECTARIS, Statistisches Bundesamt
The data in the graph refer to companies with 20 employees and more.

Figures in € billion

Regional focus

Allocation of medical technology manufacturing companies by federal states:

In terms of number of manufacturers and total turnover, Baden-Württemberg and Bavaria occupy the top positions in Germany, followed by Hesse, Schleswig-Holstein and North Rhine-Westphalia.

Legend: Turnover

- > € 1.5 billion
- € 500 m -1.5 bn
- < € 500 m

The data refers to 2021 or the last available year and to companies with at least 20 employees.

For reasons of confidentiality, some states do not include values for sector 26.6 (manufacture of irradiation and electrotherapy equipment).

Source: SPECTARIS, Statistisches Bundesamt

Contact

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Germany leading the EU

Turnover share in percent by country

Germany	49.9 %
France	14.2 %
Italy	13.4 %
Denmark	4.3 %
Spain	2.6 %
Sweden	2.4 %
Belgium	2.2 %
Austria	2 %
Netherlands	1.9 %
others	7.1 %

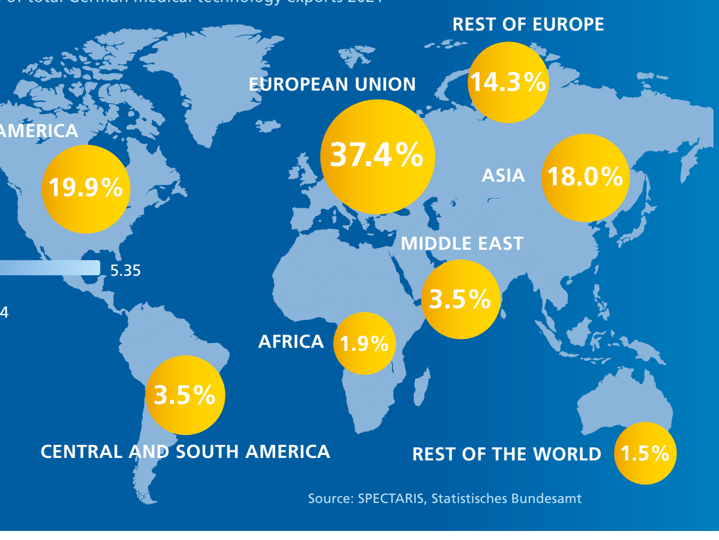
In 2020 the industry generated a turnover of 95 billion euros in the European Union, 50 % of which is accounted for by German manufacturers.

Turnover in 2020 incl. small businesses, no values available for Ireland and Malta. Source: Eurostat

Export-oriented and competitive

German medical technology exports by target region

Share of total German medical technology exports 2021



TOP-5 target countries for German exports

USA	5.35
China	2.34
Netherlands	1.90
France	1.79
UK	1.22

Figures in € billion

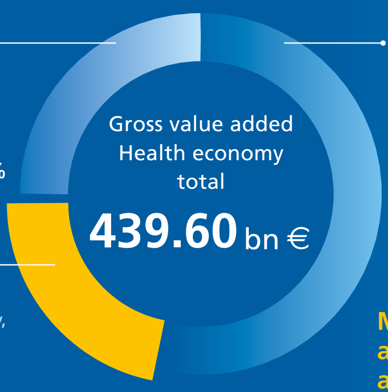
Source: SPECTARIS, Statistisches Bundesamt

The export quota being roughly 67 %, foreign markets play an important role for German medtech manufacturers. In 2022 37 % of exports went to countries of the European Union. On North America accounted for about 20 % of exports and in Asia around 18 %.

Experts forecast an average annual growth of 5-7 % for the global medical technology market in the coming years.

Core market in Europe, important markets in the USA and China

Health creates value



Health insurance providers, Pharmacies
(and other subsectors)

105 bn € / 23.9 %
with 1.8 million / 21.7 %
employees

Medical Care
including hospitals,medical practices, inpatient and outpatient care)

231.6 bn € / 52.7 %
with 5.2 m / 64.4 %
employees

Industrial health economy (iGW)
including medical technology, pharmaceuticals, science

103 bn € / 23.4 %
with 1.1 million / 13.9 %
employees

Medical technology and medical devices account for 19.1 bn € (18.5 %) of the gross value added of the iGW.

Gross value added = total production value of goods and services minus intermediate consumption

Source: Health Economy (iGW) - Facts & Figures, BWW

The health economy comprises the production and marketing of goods and services that serve the preservation and restoration of health.

In 2022 it was responsible for generating 12 % of Germany's gross domestic product which is equivalent to every 8th euro of German gross domestic product. At the same time, around 8.1 million people were employed in the health economy which is equivalent to every 6th job in Germany being in health economy.

The industrial health economy (iGW) as part of the health economy includes the production of pharmaceuticals and medical technology, the trade and distribution of these goods as well as scientific research. In 2022 more than 23 % of the value added in the German health economy were provided by the iGW.

Research-intensive and highly innovative

European patent applications in the field of medical technology
By origin of filers in 2021

USA	5,866
Germany	1,391
Switzerland	1,159
Japan	937
Netherlands	885
France	733
China	601
UK	493
Republic of Korea	412
other	3,206

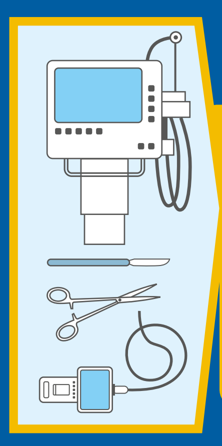
Source: European Patent Office

In 2022, Germany ranked second regarding the number of applications for medical technology patents in Europe, only surpassed by the number of applications from the USA. In general, medical technology continues to be the subject of the largest share of patent applications at the European Patent Office.
In 2022, the medical technology took the second place after digital communication in terms of applications filed at the European Patent Office: 15,683 (+ 1 %) of the total over 193,460 applications were assigned to this area. German manufacturers spend 9 % of their turnover on research and development.

9 % R&D quota

Medical devices are not pharmaceuticals

Medical devices



Pharmaceuticals

Medical devices differ fundamentally from medicinal products especially with regard to their effects, the legal requirements for market authorisation, safety requirements, innovation cycles and market surveillance requirements.

Medical devices include, among other things, apparatus, objects, substances and also software that are used for therapeutic or diagnostic purposes for human beings, where the main intended effect is unlike drugs, is not primarily pharmacological, metabolic or immunological, but mostly physical or physicochemical.

>400,000
approved medical devices in Germany

Classification of medical devices

RISK	CLASSES	EXAMPLES
High risk	III	e.g. pacemakers, stents, hip implants, medical devices containing medicines
Increased risk	II b	b, e.g. ventilators, defibrillators, certain implants
Medium risk	II a	a, e.g. disposable syringes, hearing aids, sleep apnoea respiratory therapy devices
Low risk	I	e.g. walking aids, care beds, compression stockings, wheelchairs

Medical devices are being classified with regard to »Vulnerability of the human body«. There are a total of four classes with an increasing level of risk. The correct classification is the responsibility of the manufacturer. The regulatory requirements in the context of market access, e.g. in clinical trials, increase with the risk class.