

MANAGEMENT SUMMARY OCTOBER 2022

SEE Impact Study of the German MedTech Industry

The first indicator-based quantification of the social, environmental, and economic contributions of the German medical technology industry along the global value chain

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Client

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This project was commissioned by the German Medical Technology Association.

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Management Summary

Background and Objectives

Buzzwords such as resource-efficient growth, climate neutrality, fair prices, social standards, circular economy, and preservation of biodiversity are shaping the agenda of politics and business alike. Companies and entire industries play a crucial role in enabling sustainable and inclusive value creation. Against this background, it is of great importance to know, understand, and ultimately manage the diverse effects of industries on society. BVMed, as the representative association of the German MedTech industry, sees itself as a pioneer in identifying these economic, environmental, and social effects and advocates an open and transparent approach to the topic. The aim of the study is to quantify and present economic, environmental, and social facts and data in a joint industry monitoring for the first time.

Approach

The first of its kind, the study is based on a recognized methodology for quantifying cross-sectional industries such as the MedTech industry and calculates the "Social, Environmental and Economic Impact of the German MedTech industry" (SEE Impact), using the results of the Health Economy Reporting of the German Federal Ministry of Economic Affairs and Climate Action (BMWK). The starting point is a "purchasing list" of the MedTech industry, which includes all goods and services used by the industry for the production process in Germany. The purchasing list is recreated using the results of the Health Economy Reporting of the BMWK.¹ In this respect, the MedTech industry has been recorded uniformly and comparably year after year for more than a decade and its contribution to growth and employment in Germany has been measured. The comparability and transparency of the data and statistics used is a key unique selling point offered by the present monitoring, as all figures and data are based on official data. Accordingly, no internal or company-specific data or facts are used in the study. Indirectly, however, the study incorporates the information that companies are required to provide to the Federal Statistical Office as part of the cost structure survey. As a result, the study represents an industry monitoring and not a company monitoring. For the final determination of the economic, environmental, and social footprint of the MedTech industry, an input-output model is used. This is a globally recognized methodology for quantifying the economic

¹ Find the most recent results from WifOR's Health Economy Reporting for [Germany](#) and for the [European Union](#).

effects that arise due to the economic activity of an individual company or industry along the entire supply chain. The economist Wassily Leontief was awarded the Nobel Prize in 1973 for the development of this methodology.



KEY RESULTS OF THE ECONOMIC FOOTPRINT

THE MEDTECH INDUSTRY IS ONE OF THE MOST IMPORTANT SUB-SECTORS OF THE HEALTH ECONOMY

THE SECTOR CONTRIBUTES SIGNIFICANTLY TO BOTH THE GROSS VALUE ADDED AND EMPLOYMENT OF THE WIDER INDUSTRIAL HEALTH ECONOMY

HOWEVER, GROWTH AND EMPLOYMENT IN THE MEDTECH SECTOR DEVELOP DIFFERENTLY

2.5 BILLION EUROS IN ADDITIONAL GROSS VALUE ADDED CONTRASTS WITH A DECLINE OF 4,300 EMPLOYEES SINCE 2012



IN CONTRAST, R&D ACTIVITIES IN THE MEDTECH INDUSTRY ARE EXTREMELY CRISIS RESISTANT.

THE SUB-SECTOR HAS SHOWN SUSTAINABLE GROWTH WITH AN AVERAGE GROSS VALUE ADDED GROWTH RATE OF 7.5 PERCENT PER YEAR SINCE 2012

THE MEDTECH INDUSTRY ALSO GENERATES GROSS VALUE ADDED AND EMPLOYMENT EFFECTS BEYOND ITS DIRECT ECONOMIC IMPACT

IN TOTAL, THE ECONOMIC FOOTPRINT OF THE GERMAN MEDTECH INDUSTRY IN 2021 AMOUNTED TO 32.2 BILLION EURO AND AROUND 414,000 EMPLOYEES IN THE ENTIRE GERMAN ECONOMY



KEY FINDINGS OF THE ENVIRONMENTAL FOOTPRINT



GREENHOUSE GAS EMISSIONS ARE AMONG THE MOST SIGNIFICANT DRIVERS OF HUMAN-DRIVEN CLIMATE CHANGE

OVER 60 PERCENT OF ALL GREENHOUSE GAS EMISSIONS IN THE MEDTECH SECTOR OCCUR INDIRECTLY IN THE GLOBAL MEDTECH SUPPLY CHAIN

AIR POLLUTION BY POLLUTANTS OF A PARTICLE SIZE OF MAX. 2.5 μM (PM2.5) HAS BEEN PROVEN TO HAVE NEGATIVE EFFECTS ON HUMAN HEALTH

NEARLY 90 PERCENT OF THE MEDTECH INDUSTRY'S FINE DUST IS GENERATED IN THE GLOBAL MEDTECH SUPPLY CHAIN



THE PRODUCTION OF WASTE IS A GLOBAL PROBLEM THAT CAN BE TACKLED LOCALLY IN GERMANY BY PROTECTING RESOURCES

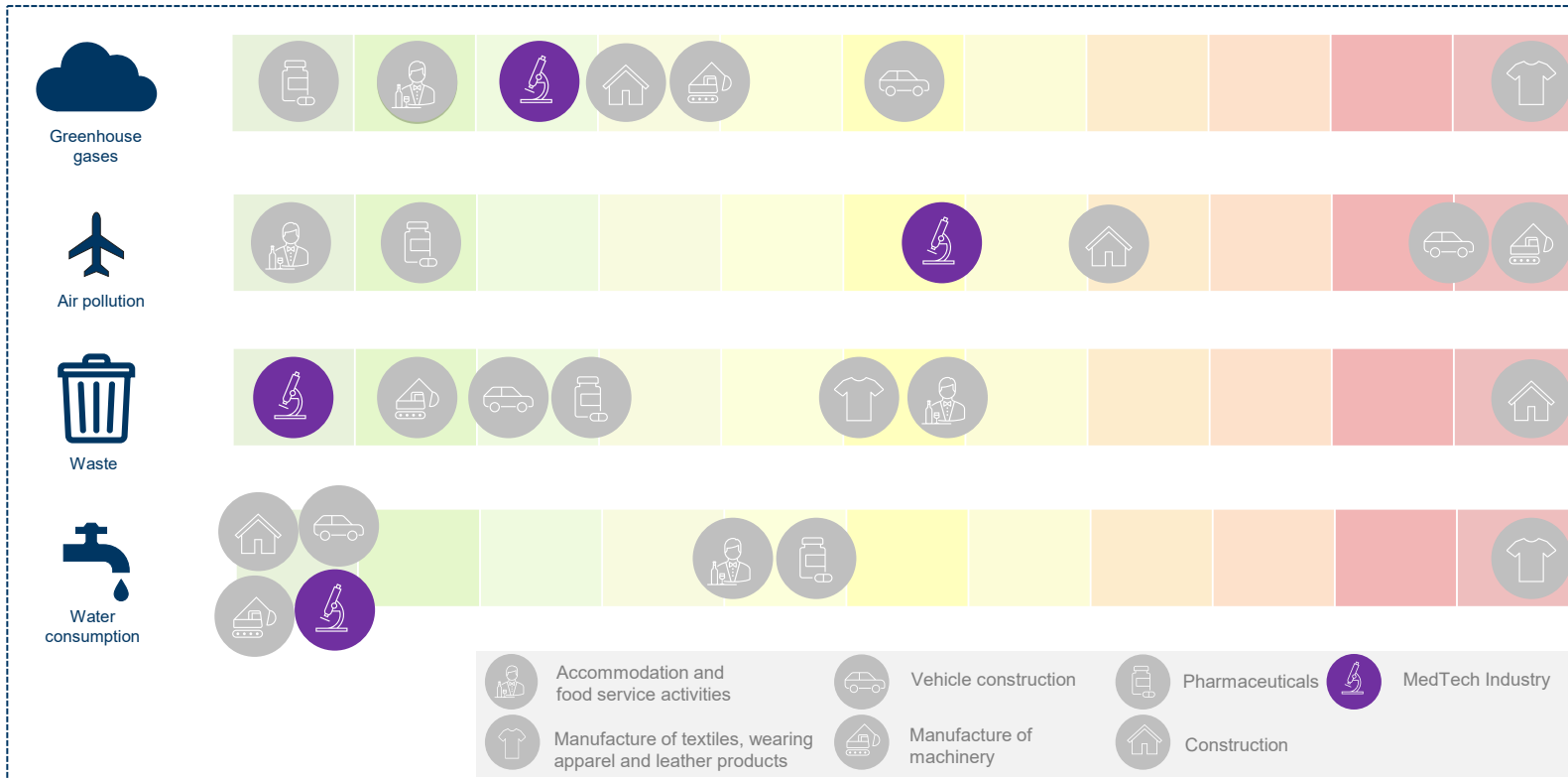
COMPARED TO OTHER INDUSTRIES, THE MEDTECH SECTOR HAS THE LOWEST WASTE GENERATION PER 1 MILLION EURO OUTPUT, AT ONLY 56 TONS

THE SUSTAINABLE USE OF WATER MUST BE INCREASINGLY BROUGHT TO THE ATTENTION OF THE GERMAN POPULATION AS WELL

THERE ARE NO SIGNIFICANT NEGATIVE EXTERNALITIES WITHIN GERMANY FROM THE DIRECT AND INDIRECT WATER CONSUMPTION, WHICH AMOUNTS TO 7.9 MILLION QUBIC METERS

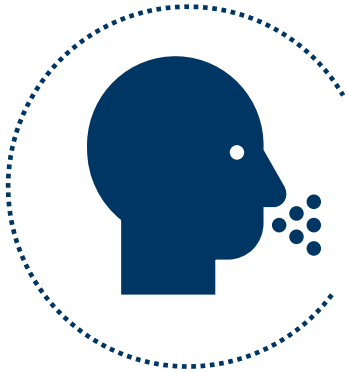


IN THE COMPARATIVE INDUSTRY RANKING OF ECOLOGICAL INDICATOR INTENSITIES, THE MEDTECH INDUSTRY PERFORMS ABOVE AVERAGE IN 3 OF 4 INDICATORS



Source: WifOR illustrative presentation; Agriculture not integrated for reasons of presentation

KEY FINDINGS FROM THE SOCIAL FOOTPRINT



FOR MANY PEOPLE, THE WORKPLACE IS THE ABSOLUTE CENTER OF THEIR LIVES, BUT A WORKPLACE CAN ALSO POSE RISKS TO HEALTH

IN TERMS OF OCCUPATIONAL ILLNESSES, MEDTECH SHOWS AN AVERAGE PERFORMANCE IN THE INDUSTRY COMPARISON SHOWN HERE

OCCUPATIONAL ACCIDENTS HAVE A NEGATIVE IMPACT ON THE ECONOMIC DEVELOPMENT OF A COUNTRY

AROUND 62 PERCENT OF OCCUPATIONAL ACCIDENTS IN THE MEDTECH INDUSTRY OCCUR IN THE GLOBAL SUPPLY CHAIN

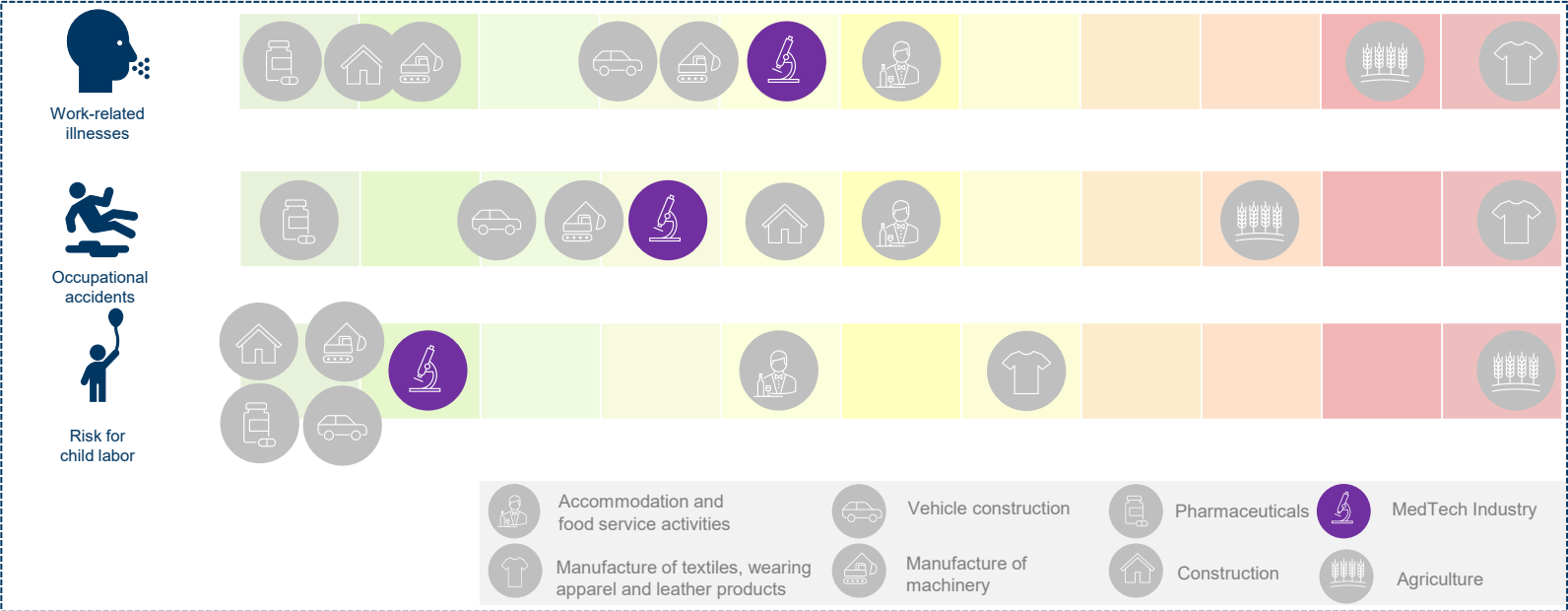


CHILD LABOR IS NOT PROHIBITED BY LAW ANYWHERE IN THE WORLD AND VIOLATIONS ARE NOT ALWAYS SEVERELY PUNISHED

DUE TO GLOBAL SUPPLY CHAINS, THE ECONOMIC ACTIVITY OF THE MEDTECH INDUSTRY ALSO CREATES A RISK OF CHILD LABOR (MORE THAN 3,000 CASES)



IN THE COMPARATIVE INDUSTRY RANKING OF THE SOCIAL INDICATOR INTENSITIES, THE MEDTECH INDUSTRY MOSTLY SCORES AVERAGELY



Source: WifOR illustrative presentation

Outlook

The MedTech industry is one of the most important sub-sectors of the Health Economy and is particularly important for gross value added and employment in the Industrial Health Economy.

Even though there has been a slight decline over time in the number of people employed in the sector, this fact should be put into perspective against the backdrop of events related to the pandemic over the last two years. In many places, the case numbers in medical care are still not back to the level they were before the pandemic. In addition, the baby boomer generation is increasingly going into retirement and, due to the omnipresent shortage of skilled workers, it is becoming increasingly difficult for the industry to fill vacancies.

Overall, the MedTech industry compares favorably with other sectors in terms of environmental and social factors. Nevertheless, the industry must rise to the challenge and further minimize its footprint in the future. The MedTech industry has a globally interconnected supply chain. This has both positive and negative implications. On the one hand, the depth of the supply chain creates growth and employment in all regions of the world.

On the other hand, the shifting of production activities relocates the negative consequences - environmental as well as social - to foreign countries. The deeper the supply chain, the greater the challenge for the industry in Germany to influence possible grievances in the supply chain. In particular, the industry should pursue this in the areas of working conditions and air pollution.

The results of this study draw from combining the strengths of integrability, innovative character, and proven methodology. In the future, the results and methodology can also serve as a blueprint for companies in the industry to specifically address grievances in the supply chain as well as hotspots located therein. At the same time, the study also offers companies of the industry the opportunity to rank themselves according to the industry benchmark. Subsequent internal reporting could in future provide the impetus for identifying further hotspots along the supply chain to make more targeted investments in them.



WifOR is an independent economic research institute that emerged from a spin-off of the Department of Economics and Economic Policy at Darmstadt University of Technology. We see ourselves as an academic partner and think tank on a global level. WifOR's research fields include economic, environmental and social impact analyses as well as labor market and health economic research.

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