



2025

# Facts and figures

Annual report of the Helmholtz Association

**HELMHOLTZ**

Research for  
grand challenges

# Facts and figures 2025

The annual report of the Helmholtz Association

We are Germany's largest research organization and develop solutions and technologies for the world of tomorrow. In doing so, we ask ourselves key questions: What helps in the fight against life-threatening diseases? How can climate change be slowed down? How will the next quantum revolution change our lives?

Helmholtz's potential lies in its excellent scientists: About 47,650 employees work in the 18 research centers of the Helmholtz Association, use their globally unique research infrastructures and benefit from modern research management. We combine our strengths in six research fields: Energy, Earth and Environment, Health, Information, Aeronautics, Space and Transport, and Matter. We develop specific research programs for these areas, which are evaluated by international experts. Their judgment forms the basis for funding the programs.

We address the big questions of our time - from fundamental discoveries to practical applications. With an annual budget of more than six billion euros and long-term, interdisciplinary research programs, Helmholtz is one of the leading research organizations, even by international standards: We cooperate with the best institutions worldwide.

This brochure serves as a compact printable PDF version of the annual report online at: [www.helmholtz.de/facts-figures](http://www.helmholtz.de/facts-figures). Unless otherwise indicated, the figures refer to the reporting status of the year 2024.

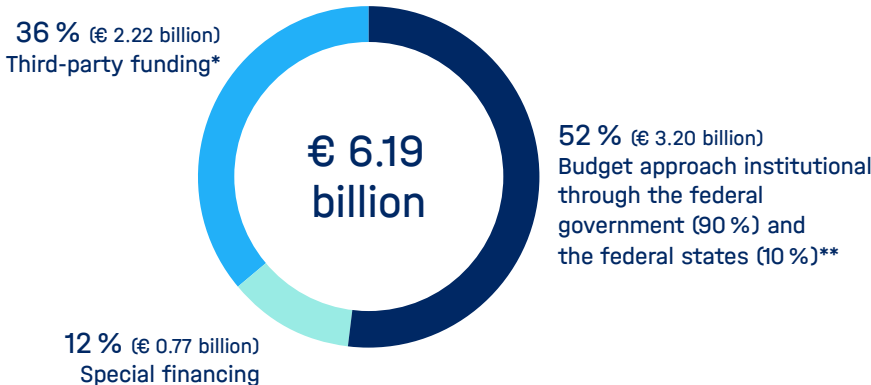
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# 1. Budget

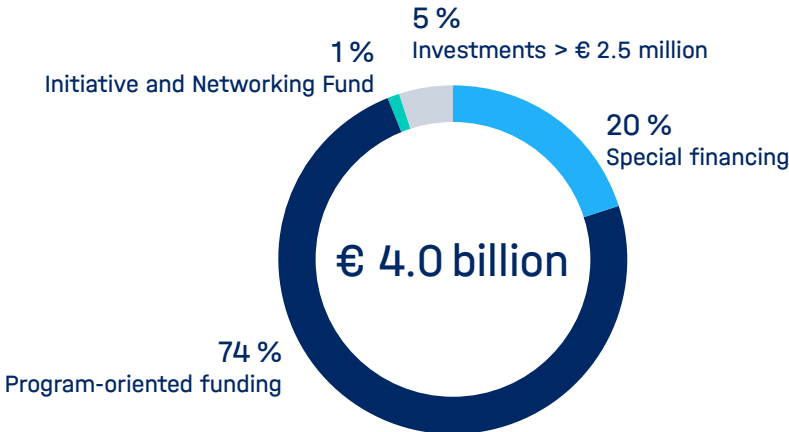
The Helmholtz Association’s annual budget 2024 was about 6.19 billion euros. Approximately 70 percent of the Association’s funds was provided by Germany’s federal and state governments at a ratio of 9 to 1. The Centers raised around 36 percent of the total budget themselves in the form of third-party funding.

## Budget including third-party funds

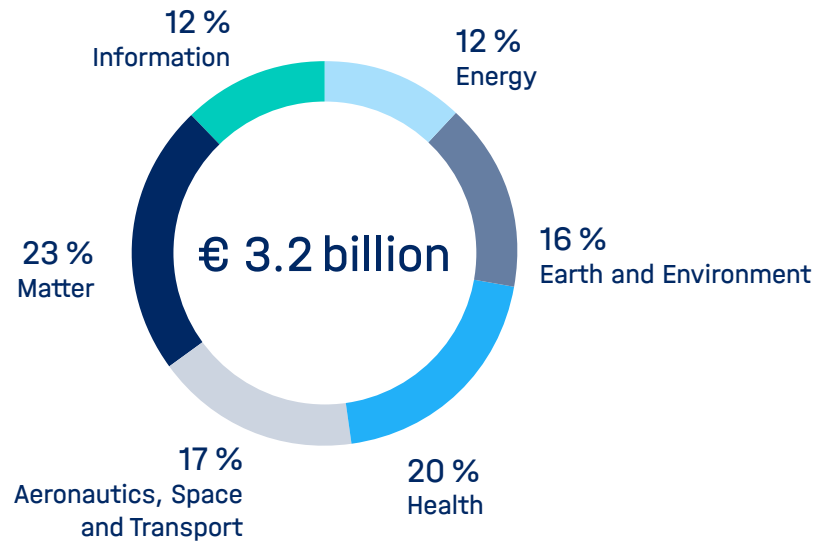


\* Including project sponsorships  
\*\* As of 2016, the German federal government alone is financing the pact increase so that the federal government’s share is over 90%.

## Basic funding budget



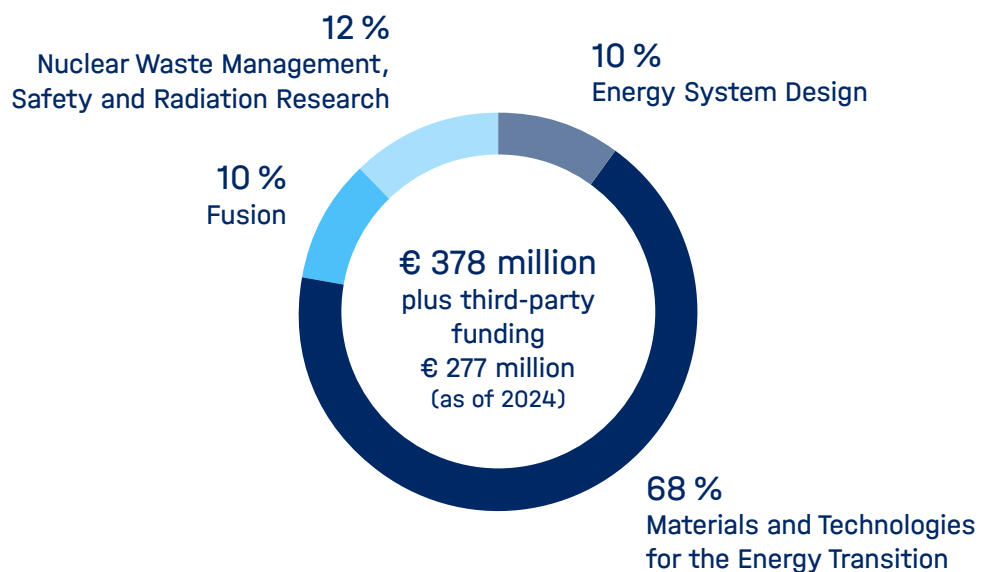
## Distribution of the budget 2025 across the six Research Fields



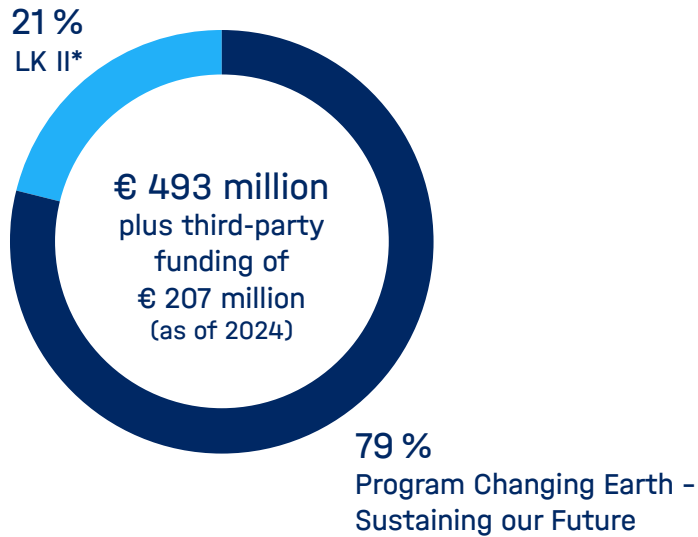
(Target costs 2025)

## Distribution of the budget across the programmes of the six Research Fields

### Research Field ENERGY

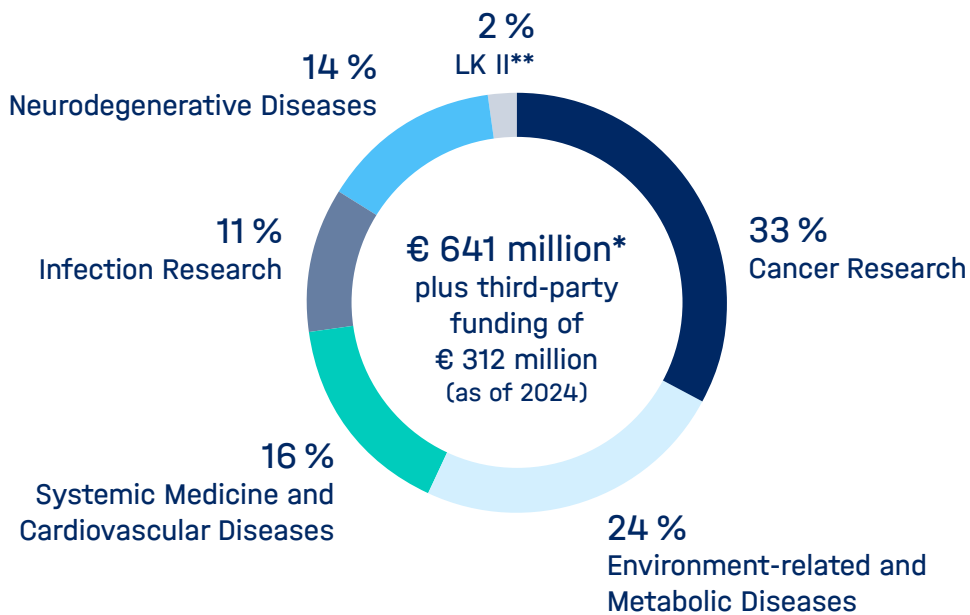


## Research Field EARTH AND ENVIRONMENT



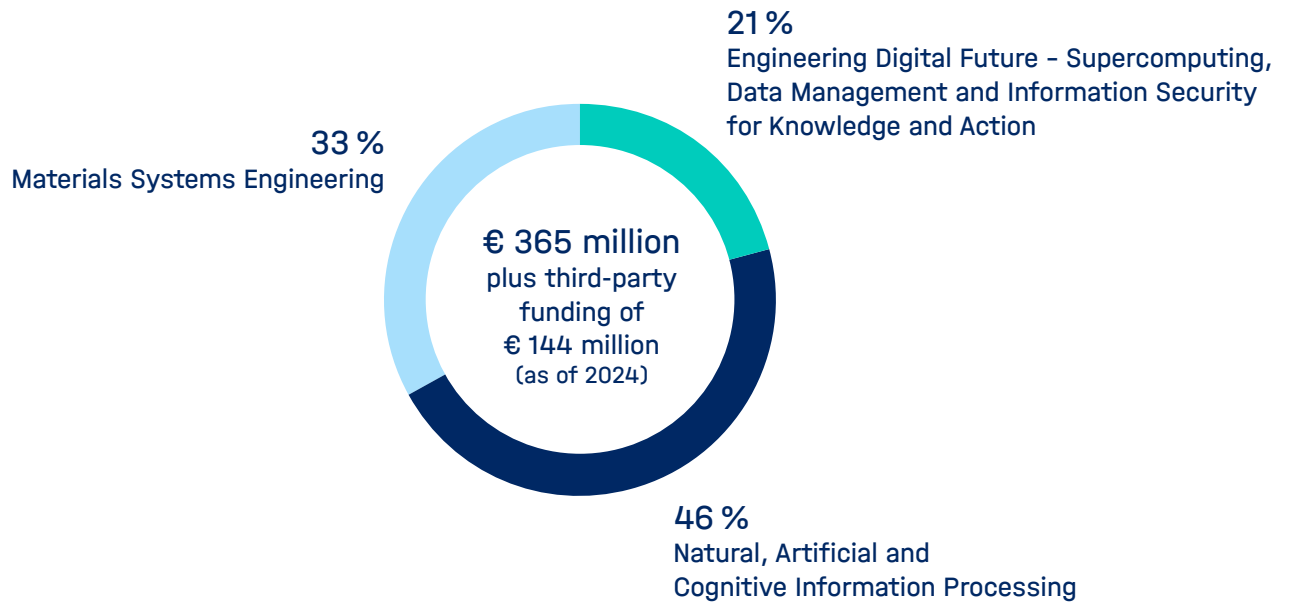
\*HEINCKE, Coast and seasonal polar stations, NEUMAYER III, Polar Research Planes, POLARSTERN, ALKOR, MESI - Modular Earth Science Infrastructure

## Research Field HEALTH

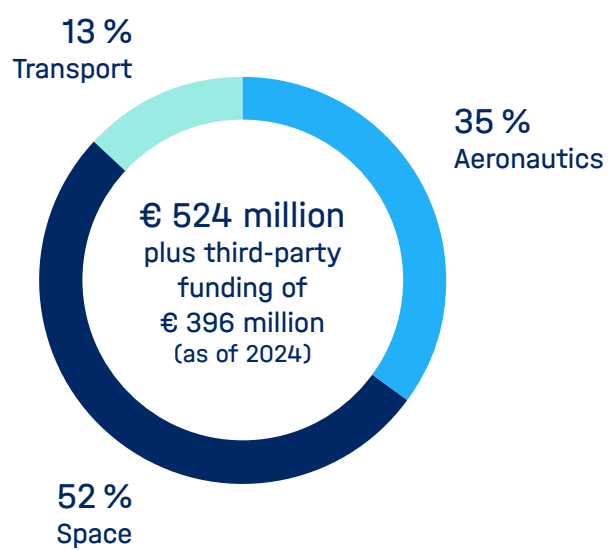


\* German National Cohort (NAKO)

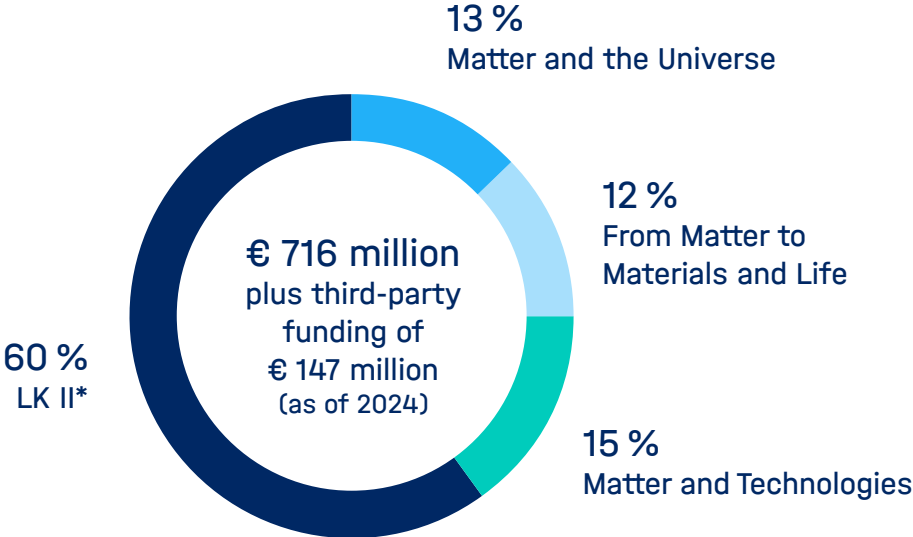
## Research Field INFORMATION



## Research Field AERONAUTICS, SPACE AND TRANSPORT



Research Field **MATTER**

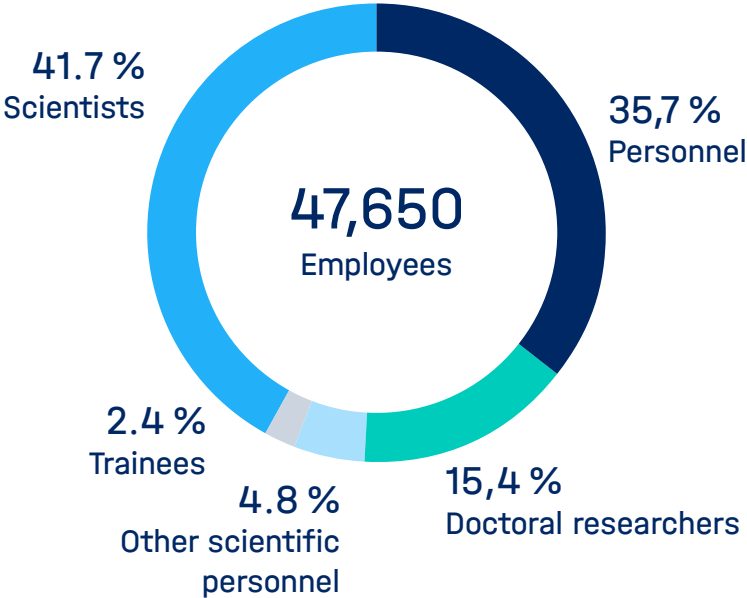


\* FLASH, IDAF, PETRA III, TIER II, XFEL (DESY); JCNS (FZJ); BER II, BESSY II (HZB); ELBE, HLD, IBC (HZDR); GEMS (HZG);

# 2. Staff

The extremely talented and committed employees at Helmholtz are the most valuable resource for the research conducted here. 47,650 employees worked at the 18 Helmholtz Centers in 2024 (as of December 2024).

## Employees



## Research infrastructures for scientists from all over the world

Helmholtz aims to provide science with access to unique research infrastructures. The design, construction, and operation of large-scale and often unique scientific infrastructure is a key aspect of the Helmholtz mission. The research facilities are exemplary for the cooperation with German as well as foreign universities and research institutions.

The large-scale devices at the Helmholtz Centers were available on 97.2 percent of the total operating time. The national and international scientific community (external researchers) accounted for a majority of the research infrastructure's use, at 69.8 percent. By providing this service, Helmholtz plays an essential role in this area of the scientific system. In 2024, 14.000 internal and external researchers from more than 130 nations used the research opportunities offered by the Helmholtz Centers.

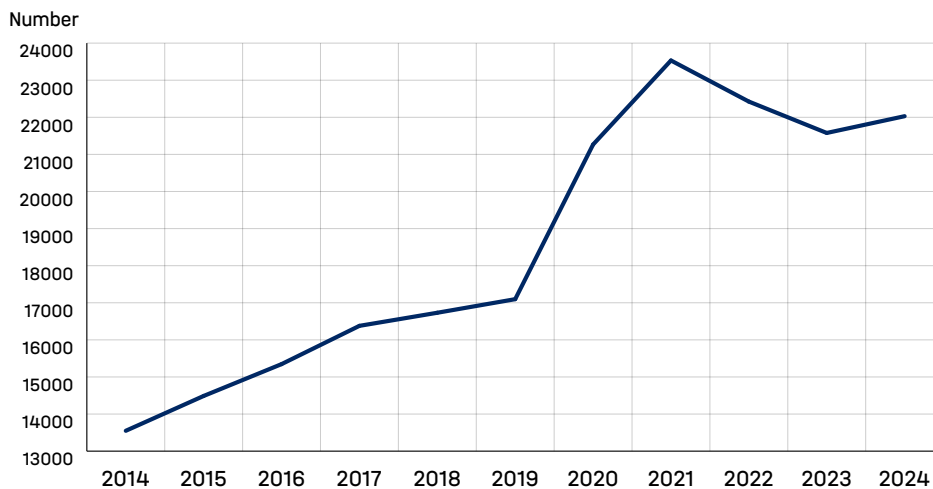
### 3. Scientific performance

A key measure of scientific productivity is scientific publications in specialist journals. The number of publications at Helmholtz remains at a high and stable level overall. In 2024, 22,030 publications indexed by WoS, SCOPUS, or Open Research Europe were published.

Compared to the figures published last year, there have been changes that also affect previous years. These are due to a change in the counting method at one center, which led to subsequent adjustments to the publication figures. In addition, a change in the counting method in 2021 also led to significantly higher values in the past due to a one-time effect. As a result, the number of publications in subsequent years was comparatively lower.

International networking is reflected, among other things, in the emergence of international co-publications. As confirmed by the current bibliometric report (Frietsch et al. 2024) prepared as part of the GWK's pact monitoring, joint publications with international partners continue to gain in importance at all non-university research organizations. In the case of Helmholtz, for example, the proportion of international co-publications rose from just under 60 percent to 65 percent between the comparative periods of Pact I 2006–2010 and the current Pact IV 2021–2022. Comparing the same pact phases, the community has almost doubled its scientific output from just under 13,000 to 23,500 publications.

#### WoS, Scopus or Open Research Europe indexed publications



## Nature index 2024

A good measure of the quality of research findings is the number of times they are published in prestigious journals. The Nature Publishing Group releases a ranking of the top 200 research organizations worldwide. The “Nature Index” is based on publications in 82 journals that are independently selected as the most important by two panels of scientists from the fields of physics, chemistry, environmental science, and the life sciences. Helmholtz has ranked among the top international institutions for years. The table shows the Nature Index for the period January 1, 2024 to December 31, 2024.

Platz	Institution	FC*
1	Chinese Academy of Sciences (CAS)	3144
2	Harvard University	1130
3	University of Science and Technology of China (USTC)	990
4	Zhejiang University (ZJU)	965
5	Peking University (PKU)	896
6	Tsinghua University	889
7	University of Chinese Academy of Sciences (UCAS)	885
8	Shanghai Jiao Tong University (SJTU)	839
9	Nanjing University (NJU)	815
10	Fudan University	772
11	Max Planck Society	748
12	Sichuan University (SCU)	739
13	Sun Yat-sen University (SYSU)	678
14	French National Centre for Scientific Research (CNRS)	673
15	Stanford University	612
16	Helmholtz Association of German Research Centres	600
17	Jilin University (JLU)	533
18	Massachusetts Institute of Technology (MIT)	521
19	Huazhong University of Science and Technology (HUST)	501
20	Nankai University (NKU)	483
21	Shandong University (SDU)	464
22	Wuhan University (WHU)	463
23	The University of Tokyo (UTokyo)	455
24	Southern University of Science and Technology (SUSTech)	447
25	University of Oxford	441

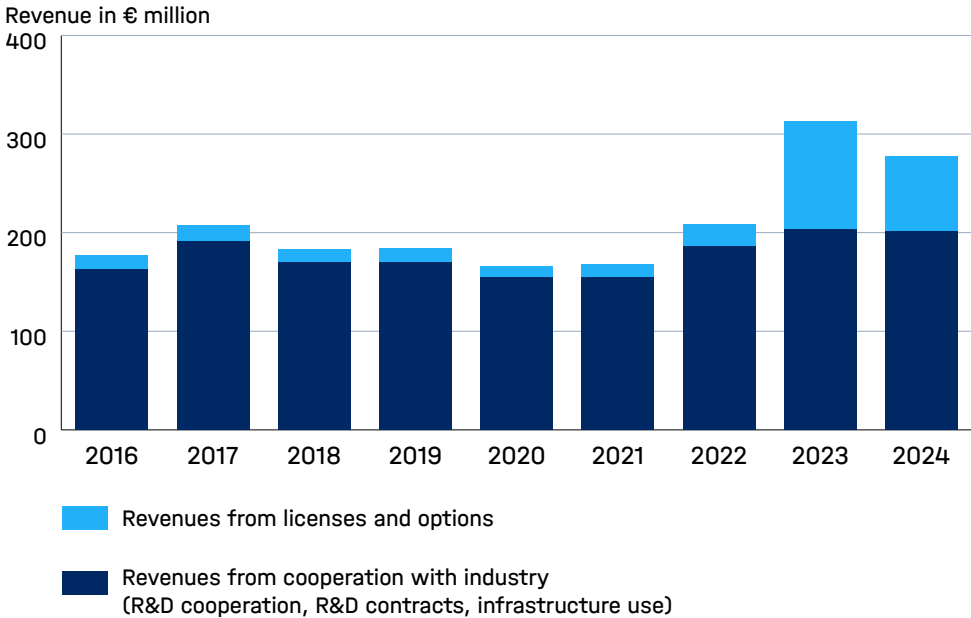
\* Fractional Count = figure taking into account the percentage of authors from the respective institution and the number of affiliated institutions per article. The calculation assumes that all authors contributed equally to the article, and their sum is 1.0 per article. Count of publications from January 1st, 2024 to December 31st, 2024.

# Transfer

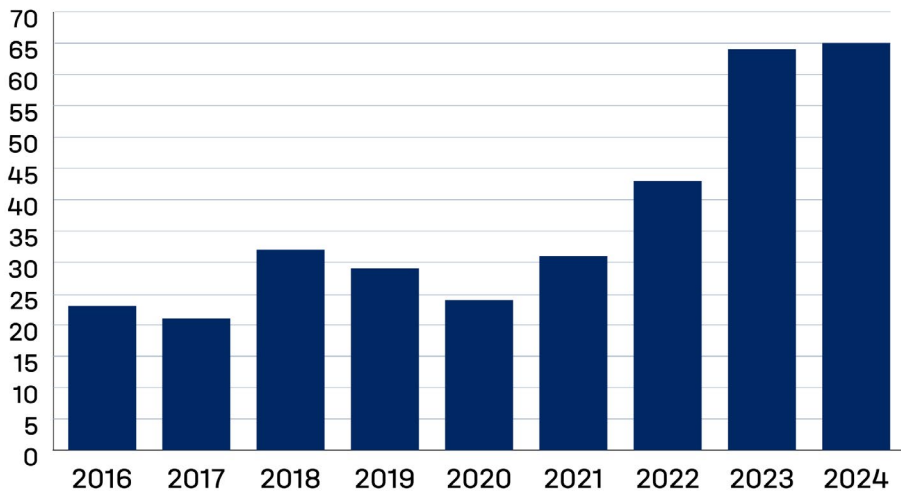
Research results are the foundation of our modern world. Knowledge and technology transfer is therefore an essential part of the Helmholtz mission. In the field of transfer and innovation, we work together with the transfer offices of the centers to promote the exchange between science, industry and society through networks, targeted transfer funding programs and the development of joint partnerships. In recent years, new instruments have been created for this purpose, such as the Helmholtz Transfer Academies and the Helmholtz Innovation Platforms.

The results show that both the revenues from economic cooperation, at €200.9 million in 2024, and the number of patent applications, at 451, remain at the previous year's level. The number of spin-offs in 2024 stands at 24. Following the decline in spin-offs in previous years caused by the COVID-19 pandemic, the energy crisis, and the global economic downturn, a clear reversal of this trend can be observed for the 2024 reporting year. The reasons for this positive development at Helmholtz lie in the continuous expansion of innovation funding and the transfer culture, as well as the future-oriented research infrastructure at the centers, which is available to founders.

## Technology transfer: Revenues



Research spin-offs\*



\*Spin-offs and Start-ups

## 4. Talent promotion

### National collaboration

Scientific excellence requires the best minds—and large-scale collaborative research depends on partnerships with the most effective research institutions in the scientific system. Helmholtz achieves both of these objectives through joint appointments, among other activities. With 829 joint appointments, the number has risen strongly in recent years. In addition, participation in programs of the German Research Foundation (DFG) and the Excellence Initiative demonstrate the extent of national networking in the science system. Helmholtz Centres have been established partners of universities in all funding lines of the Excellence Initiative since 2006. In the Excellence Initiative, which ended in 2018/2019, Helmholtz institutions were involved in three quarters (73 percent) of all institutional strategies, in well over a third (38 percent) of all funded graduate schools and in almost half (44 percent) of the clusters of excellence.

#### Joint appointments

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Joint appointments with universities (W2 und W3)	623	633	653	653	736	729	737	796	829

#### DFG

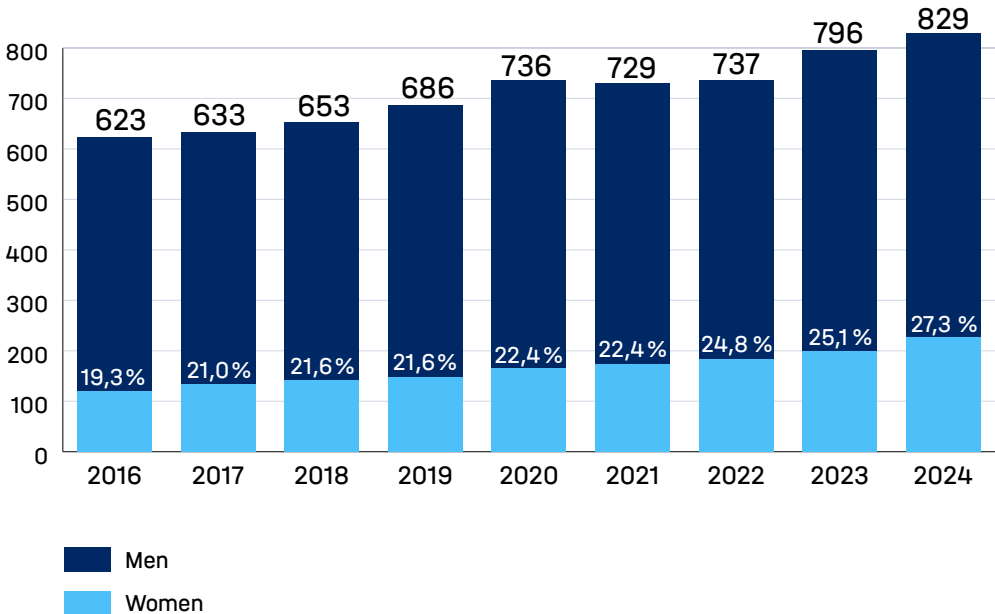
Number in the year	2016	2017	2018	2019	2020	2021	2022	2023	2024
Research Centers	1	1	1	1	1	1	1	1	1
Collaborative Research Centers	69	74	91	87	95	108	99	105	108
Priority Programs	51	52	56	56	57	59	54	52	48
Research Units	46	41	37	43	47	46	43	45	53

In certain programs, Helmholtz researchers can obtain funding from the DFG. In such cases the Helmholtz Centers serve as important strategic partners to universities when applications are submitted to the DFG — especially for structural initiatives.

# Equal opportunities

Improving equal opportunities is a key priority at Helmholtz. This aspect is firmly rooted in the Helmholtz mission and is an integral part of the talent management. It is a topic that is systematically integrated into all of our programs and activities. The striking effects of this approach can be seen in the staffing of W3 professorships, for example. The proportion of women in new W2/W3 appointments rose significantly in 2024 to 46.3 percent. Furthermore, the proportion of women in jointly appointed W2/W3 professorships has risen steadily in recent years to 27.3 percent in 2024.

## New W2/W3 appointments



## Talent management

Fostering the development of young scientists is central to securing both the Helmholtz Association's future and the viability of Germany as a center of research and science. It is therefore part of the Helmholtz mission. In the first two periods of the Joint Initiative for Innovation and Research, Helmholtz developed numerous overarching funding instruments within the framework of the Initiative and Networking Fund. It also supported these instruments with substantial funding from the Joint Initiative, in addition to advancing the careers of young scientists at the Helmholtz Centers. The instruments have evolved into a comprehensive strategic talent management system that offers attractive conditions to the best young researchers at every stage of their careers:

- Doctoral training at graduate schools and colleges
- Postdoc programs providing funding immediately upon completion of PhDs
- Helmholtz Young Investigator Groups for top international talent
- W2/W3 program for recruiting and supporting young female scientists
- Recruiting initiative to attract internationally renowned researchers for the Helmholtz Centers.

### Doctoral degrees

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Number of supervised doctoral candidates*	8,054	8,456	8,587	8,785	9,044	9,438	10,204	10,395	10,311
Number of doctoral candidates employed	5,105	5,076	5,257	5,668	6,215	6,313	6,833	6,914	7,355
Number of complete doctoral degrees	1,249	1,257	1,174	1,142	912	957	962	993	1,291

\*Including candidates who use the Helmholtz Association's research infrastructure.

# Imprint

## Published by

Hermann von Helmholtz Association  
of German Research Centres e.V.

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## Diagrams

Helmholtz Association

## Cover

View between racks of the JUPITER supercomputer.  
Bild: Forschungszentrum Jülich / Sascha Kreklau

## As of

December 2025