



Research – and research assessment – in Germany

CoARA National Chapters Forum in Bonn

13 – 14 March 2025

The German Research Landscape

Constitutional Principles

Academic freedom as a constitutional principle – Article 5 (3)

„Arts and sciences, research and teaching shall be free (...)”

Important role of states (not the federal government) in matters of science (education, research, teaching) – Articles 30 and 73

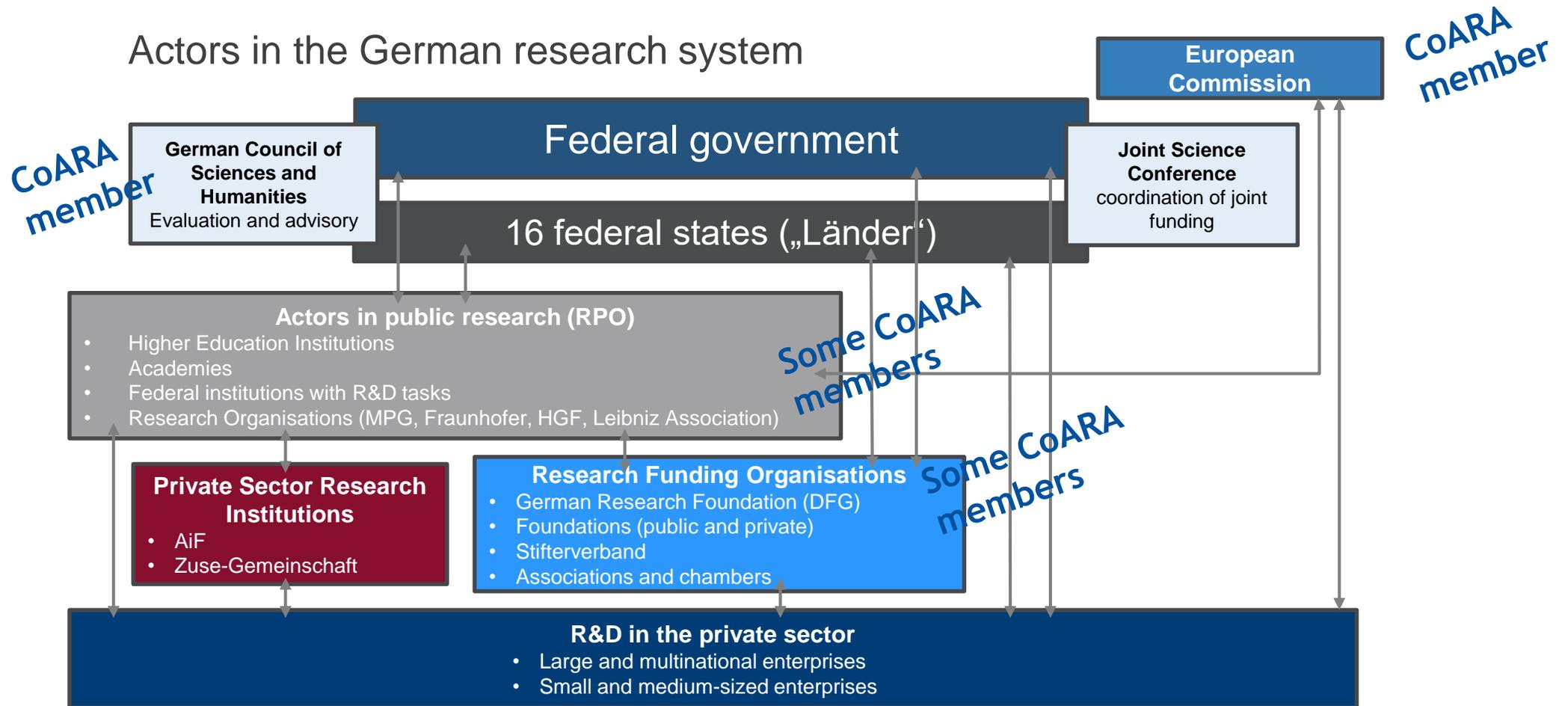
The federal government can become active in conjunction with states
(role of federal government recently extended – Art 91 (b))

The German research system is complex – many actors, very decentralized, substantive academic freedom, ample room for basic science, mix of institutional and project funding

...with research assessment taking place in many ways on many levels

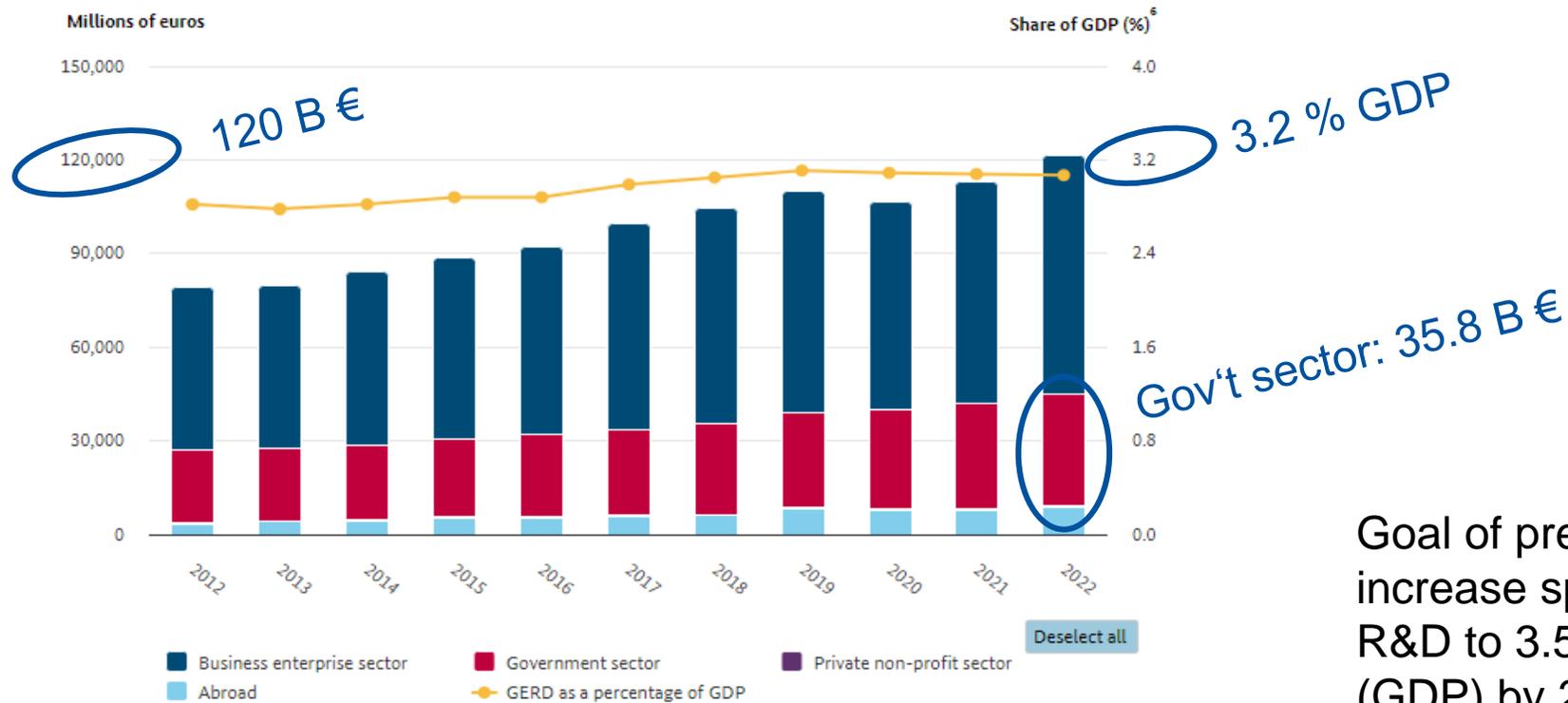


The German Research Landscape



Research and Development Spending in Germany

Gross domestic expenditure on R&D (GERD) total



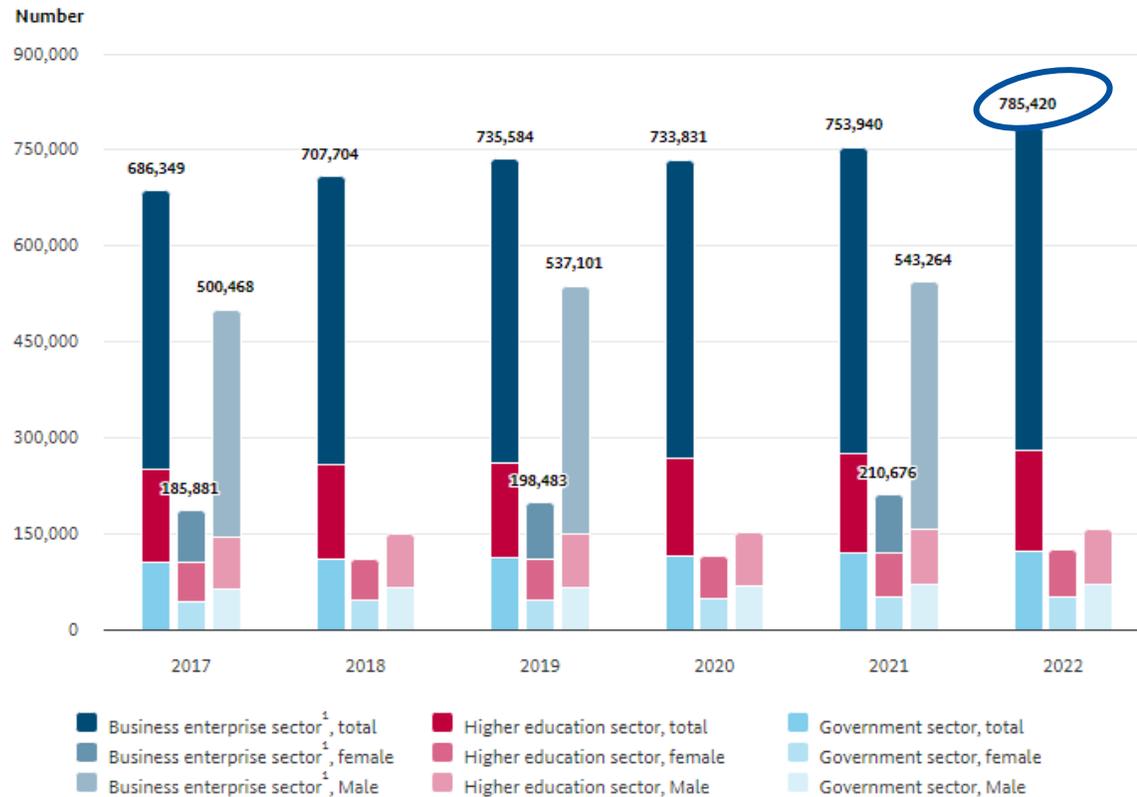
Goal of previous governments was to increase spending on R&D to expenditure on R&D to 3.5% of gross domestic product (GDP) by 2025.

Highcharts.com

BMBF Federal Report on R&I 2024

R&D personnel in Germany

R&D personnel, by sex and sectors of employment

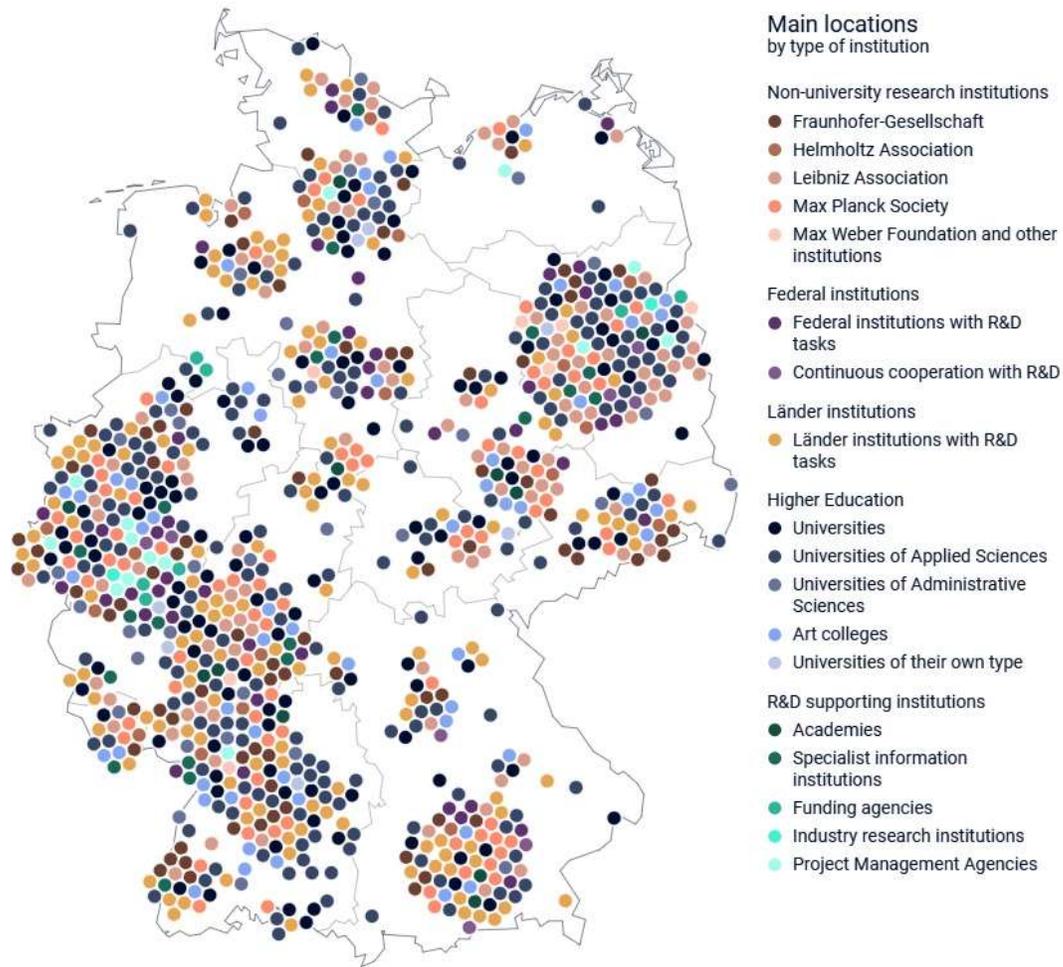


R&D persons employed in Germany
(in full-time equivalents (FTE))

By sex and sector of employment (business,
HEI, government sector)

Highcharts.com
BMBF Federal Report on R&I 2024
Table 1.7.2

The German Research Landscape



- ▶ More than 420 HEI
- ▶ 84 Institutes of Max Planck Society
- ▶ 18 Centres of Helmholtz Association
- ▶ 96 Institutes of Leibniz Association
- ▶ 76 Institutes of Fraunhofer Society
- ▶ 43 Federal Research Institutes + 138 state level institutions with R&D tasks



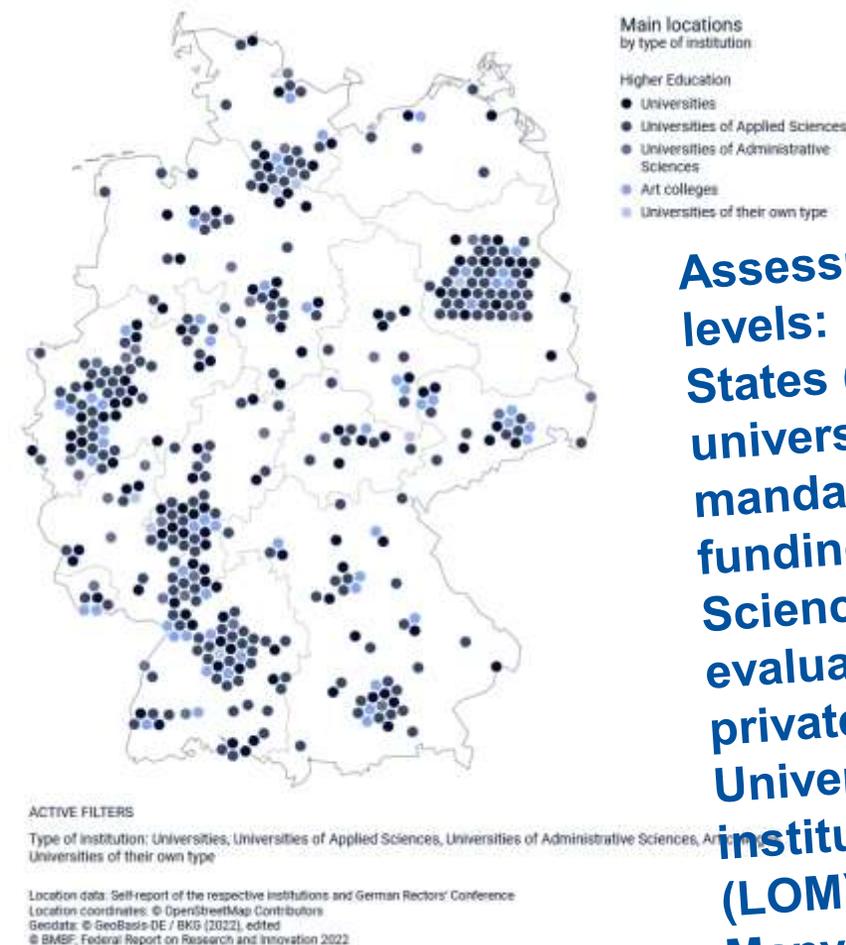
The German Research Landscape

Higher Education Institutions

Higher Education Institutions 2024

- ▶ 120 Universities
- ▶ 249 Universities of Applied Sciences
- ▶ 90 % of the students in Germany study at public institutions
- ▶ 2,9M students (16 % international)
- ▶ Close link between learning, teaching and research

Source: [Hochschulrektorenkonferenz: Hochschulen in Zahlen 2024](#) / [University landscape - Research in Germany \(research-in-germany.org\)](#)



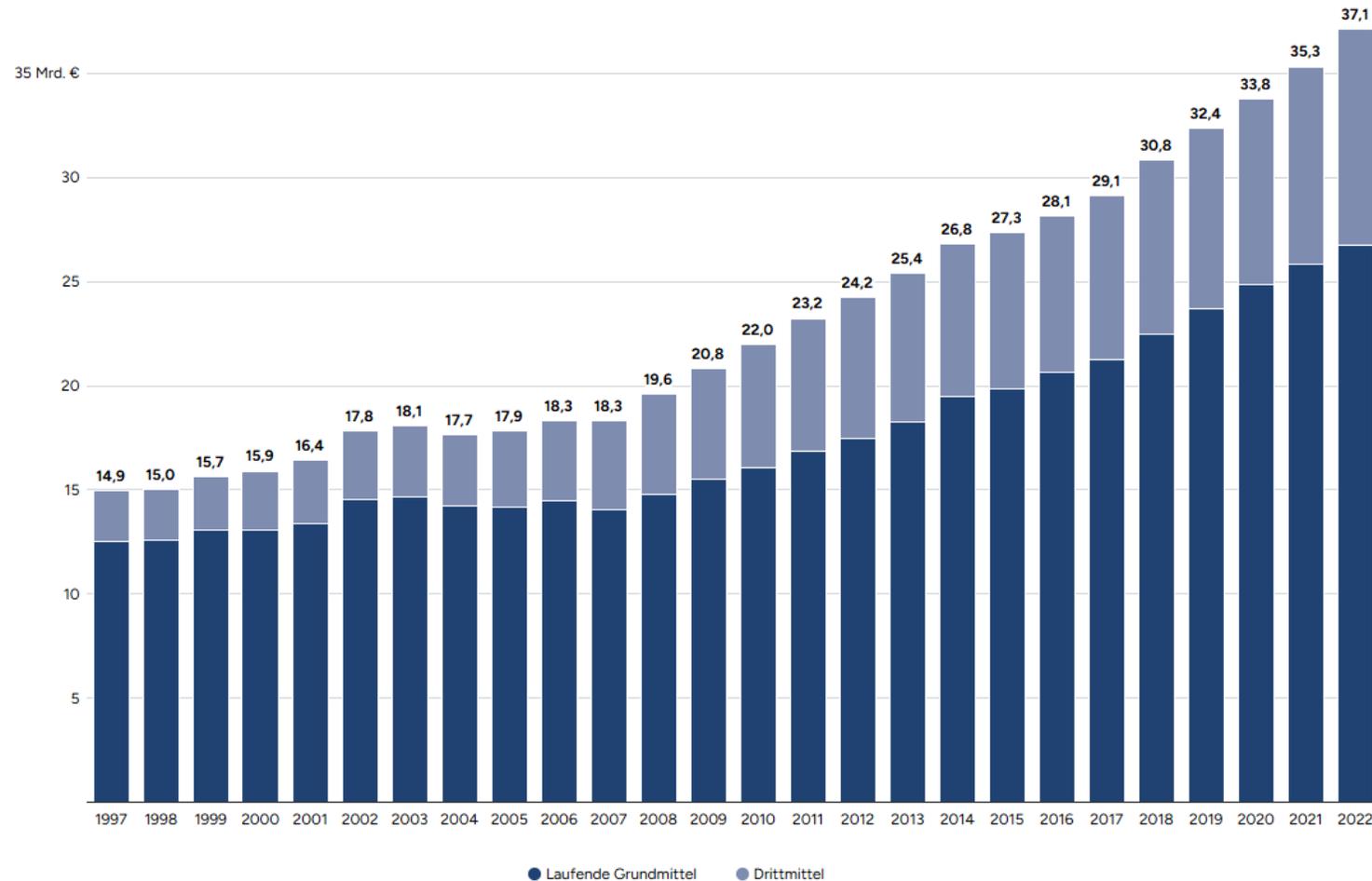
**Assessment on many levels:
States („Länder“) evaluate universities, some mandate competitive funding mechanism (LOM)
Science & Hum. Council evaluates system (and private universities)
Universities evaluate institutes and researchers (LOM)...
Many are CoARA members**



Annual HEI Budget – Basic Funding and Third-Party Funding in Billion €

Entwicklung der Grundmittel- und Drittmittelfinanzierung von Hochschulen 1997 bis 2022

in Milliarden Euro

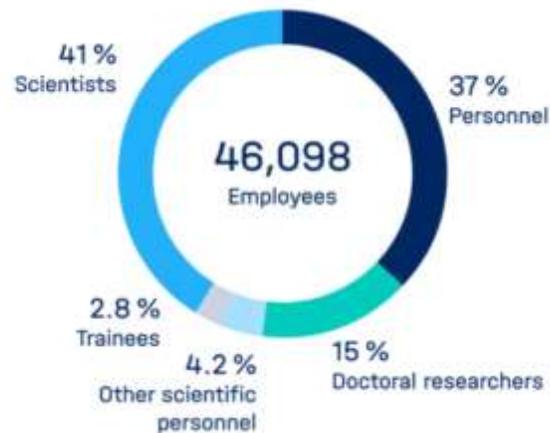


Extramural competitive funding,
...now at ~28%

Basic funding (not just research!)

Research Organizations: Helmholtz Association

- ▶ 18 institutes
- ▶ Budget: 4.1B € (+ 2.2B € third-party funds)



- ▶ Large scale infrastructure open to Helmholtz scientists (31%) and others (69%!)
- ▶ Mission: high quality problem-oriented, long-term research



HELMHOLTZ
RESEARCH FOR GRAND CHALLENGES

External evaluation of programme-oriented funding (and hence of institutes) every 7 years

So far, one institute and one further unit joined CoARA

Research Organizations: Max Planck Society

- ▶ 84 institutes
- ▶ Budget: 2.1B €
- ▶ 24,500 employees
(of these: around 14.000 researchers)
- ▶ Mission: high quality basic research centered around outstanding individual researchers („Harnack principle“) („Nobel prize research“)

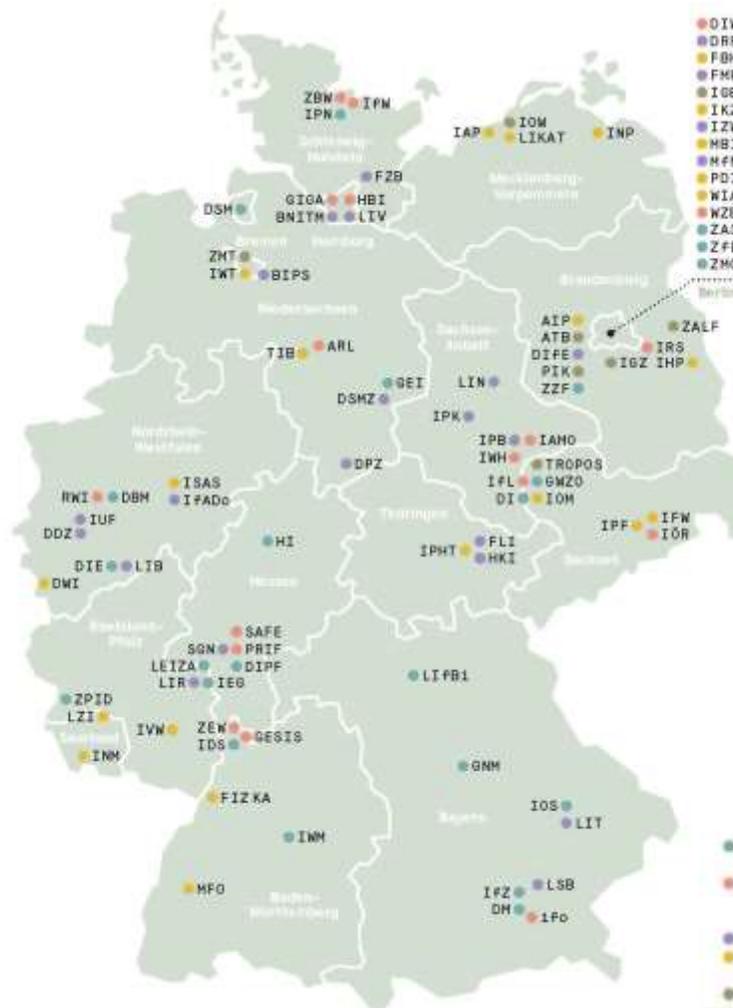


**„Ex ante“ evaluations
– recruitment and
institute creation – as
needed**

**„Ex post“ / running
evaluations of all
institutes – every 3
years (internal) and
every 6 years
(external)**

Research Organizations: Leibniz Association

- ▶ 96 institutes
- ▶ Budget: 2,2B €
- ▶ 21,300 employees
(of these, around 12,200 researchers)
- ▶ Historically: an „umbrella“ for various institutes (1969 „blue list“ of federally funded institutes after constitutional change, inclusion of GDR institutes after reunification)
- ▶ Mission: high quality problem-oriented research



Regular independent evaluation every 7 years

via Joint Science Conference (GWK)

CoARA member

Research Organizations: Fraunhofer Society

- ▶ 76 institutes
- ▶ Budget: 2,9B €
- ▶ 30% Government funded (mainly federal level) + 70% contract research (some for industry, some for public)
- ▶ 32,000 employees

- ▶ Mission: high quality applied research research under market conditions



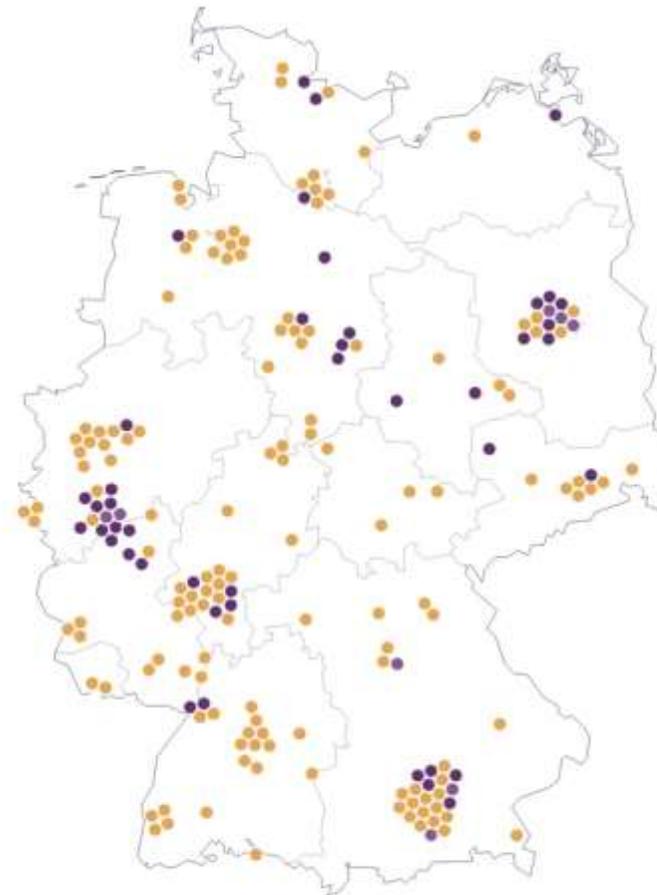
ACTIVE FILTERS
Type of institution: Fraunhofer-Gesellschaft



Institutes under market pressure: contract research needed to survive

Federal Research Institutes

- ▶ 43 institutes
working for and reporting directly to one of 12 (out of 14) federal ministries
- ▶ Combined budget: 2.6B €
- ▶ Mission: research and policy advice – mainly for the government, but also for the public at large
- ▶ Many different fields, including environment (UBA), safety of nuclear waste (BASE), materials science (BAM), culture and history of Eastern Europe (BKGE), Meteorology (DWD)...
- ▶ Plus 138 such institutes on at state level (220 M €)



Main locations
by type of institution

Federal institutions

● Federal institutions with R&D tasks

● Continuous cooperation with R&D

Länder institutions

● Länder institutions with R&D tasks

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**Some are evaluated by
German Council of Science
and Humanities
(which is a CoARA member)**

**But mainly: ministries are
responsible for evaluations**

ACTIVE FILTERS

Type of institution: Federal institutions with R&D tasks, Continuous cooperation with R&D, Länder institutions with R&D tasks

The German Research Landscape Excellence Strategy

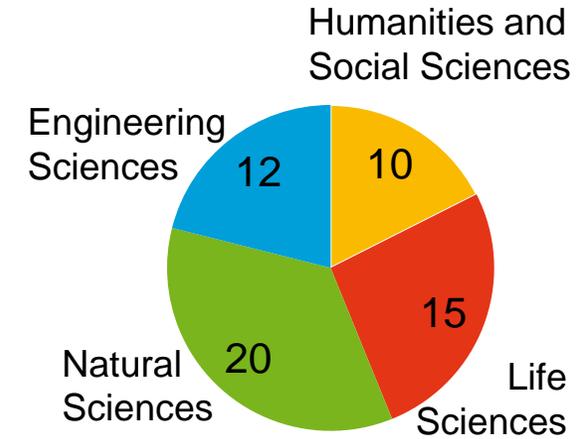


57 Clusters of Excellence – 385 Mio €/year

- at 34 universities
- each Cluster € 3,6 Mio - € 7,5 Mio /Year
- long funding periods: 2 x 7 years
- Implemented by DFG

11 Universities of Excellence – 148 Mio €/year

- at 11 universities
- long funding periods: 2 x 7 years
- Implemented by Wissenschaftsrat



Ex ante and continuing evaluations based on standards of DFG (CoARA member)



The German Research Landscape

Summary

- ▶ German R&D System: comprehensive, multidimensional, interconnected, both complementary and redundant, very heterogeneous funding landscape
- ▶ Peer review on many levels
- ▶ „Everybody is subject to peer review“ – „Everybody is an agent of peer review“



Thank you for your interest!

Further information

- ▶ on DFG: <https://www.dfg.de>
- ▶ on research funding in Germany: <https://www.dfg.de/foerderatlas>
- ▶ on DFG funded projects: <https://www.dfg.de/gepris>
- ▶ on research institutions in Germany: <https://gerit.org>