

# THE RESEARCH SYSTEM IN GERMANY

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October 2015

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Introduction

Overview of the German research system

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- Public research institutes

- Research Activities

Research Funding System

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- Ways to do th PHD in Germany

- Computer science

- Funding PhD in Germany

Conclusion

## INTRODUCTION

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- Germany has one of the largest research systems in the OECD
- there are nearly 1,000 public funded institutions of science, research and development in Germany

# INTRODUCTION 2

## Researchers

Total, Headcount, 2000 - 2013



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Argentina	41 741	40 455	41 356	43 609	46 167	49 050	53 537	59 052	63 927	67 245	74 020	79 092	81 748	83 226
Austria	..	..	39 557	..	44 127	..	49 597	53 590	..	59 341	..	65 609	..	..
Belgium	..	..	44 133	44 500	47 363	48 757	49 253	51 278	54 624	55 858	59 403	63 207	..	..
Chile	..	..	..	..	..	..	..	9 886	10 582	8 770	9 453	9 388	10 447	9 801
China (People's Republic of)	..	..	..	..	..	..	..	..	..	1 556 518	1 747 589	1 905 899	2 069 650	..
Chinese Taipei	69 526	73 239	93 139	100 164	108 891	115 954	126 168	135 918	143 862	154 818	164 874	173 654	178 632	178 920
Czech Republic	30 165	29 216	30 635	31 421	34 152	37 542	39 676	42 538	44 240	43 092	43 418	45 902	47 651	51 455
Denmark	..	29 791	37 883	36 046	39 533	43 460	44 095	42 992	48 442	54 049	54 813	56 845	58 568	..
Estonia	4 570	4 803	5 089	..	..	5 734	6 221	6 826	7 226	7 453	7 491	7 646	7 634	7 515
Finland	45 241	47 534	50 215	53 430	51 219	50 773	53 273	53 420	55 195	55 797	57 163	57 549	56 704	56 720
France	211 365	217 173	231 816	240 186	249 533	251 599	268 944	278 480	289 041	296 093	324 551	338 470	356 469	..
Germany	..	..	..	397 130	..	406 253	..	437 780	..	487 242	..	522 010	..	..
Greece	..	26 340	..	28 058	..	33 396	..	..	..	..	..	45 239	..	..
Hungary	27 876	28 351	29 764	30 292	30 420	31 407	32 786	33 059	33 739	35 267	35 700	36 945	37 019	37 803

## OVERVIEW OF THE GERMAN RESEARCH SYSTEM

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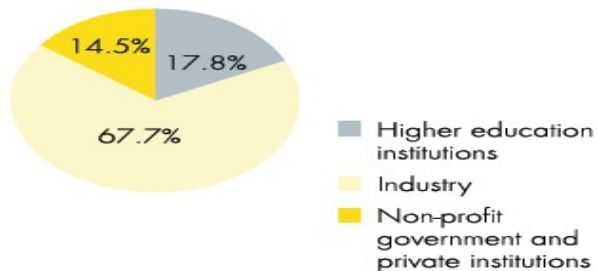


Figure: Distribution of budget on different sectors

Public funding for different aspects of research is organised in one of three ways:

- From federal sources (e.g. project funding);
- From state sources (e.g. institutional funding for higher education institutions, state R&D institutions);
- Jointly from federal and state sources according to agreed formula (e.g. institutional funding of public research institutes of national significance; project funding for universities; categories of research infrastructure).



## RESEARCH ORGANISATIONS

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# RESEARCH ORGANISATIONS

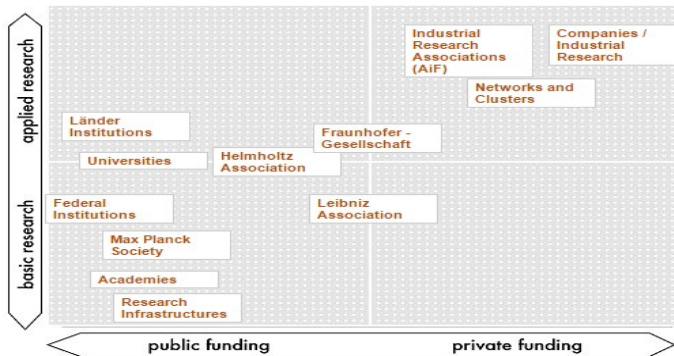


Figure: Overview of research-performing organisations in Germany

Public research institutes are organised into four large networks:

- The Max Planck Gesellschaft (MPG)
- The Fraunhofer Gesellschaft (FhG)
- The Helmholtz-Gemeinschaft Deutscher Forschungszentren (HGF)
- The Wissenschaftsgemeinschaft Wilhelm-Gottfried-Leibniz (WGL)

<b>Domain</b>	<b>Researchers</b>
<b>Natural sciences and Mathematics</b>	<b>32%</b>
<b>The humanities and social sciences</b>	<b>29%</b>
<b>Engineering sciences</b>	<b>22%</b>
<b>Medical science</b>	<b>15%</b>
<b>Agricultural sciences</b>	<b>3%</b>

## RESEARCH FUNDING SYSTEM

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- **Government Funding**
  - more than 390 public universities and colleges are funded by the Länder.
- **The European Funding**
- **The Industrial Funding**
  - In 2012, German companies spending amounted to a total of 2.5 billion euros.

# Funding of research organisations

The following table shows how the funding of different research organisations is shared:

Organisation	Federal Government	State Governments
German Research Foundation (DFG)	58% and the complete funding of programme grants and the Excellence Initiative	42% (according to the Königstein Formula)
Helmholtz Association	90%	10% (as a rule these costs are borne by the home state*)
Max-Planck-Gesellschaft	50%	50% (of which 50% is borne by the home state* of each institute and 50% according to the Königstein Formula)
Fraunhofer-Gesellschaft	90%	10% (of which two-thirds are borne by the home state* of each institute and one third according to the Königstein Formula)
Leibniz Association	50%	50%
Academies' Programme	50%	50% (borne by the home state*)
acatech	50%	50% (according to the Königstein Formula)
German National Academy of Sciences Leopoldina	80%	20% (borne by the home state*)

\* The term "home state" here refers to the Land (state) in which an individual institute is located. The relevant state bears the stipulated share of the individual institute's funding.

Source: GWK

Figure Shows the collaboration between the federal and states governments.

PHD STUDENT

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*4,000 international graduates complete their doctorate in Germany every year.*

- five reasons to do your PhD in Germany:
  1. Outstanding reputation of German doctorate
  2. Strong international focus: PhD in English
  3. Good funding opportunities
  4. Excellent research infrastructure
  5. High standard of living

## 1. Individual Doctorate

- Involves the thesis produced under the supervision of a professor.
- Three to five years are normal.

## 2. Structured PhD Programs

- A team of supervisors look after a group of doctoral students.
- The duration of studies is limited to three years.

programs and organizations each PhD student should know :

1. **Bitkom**

- Represent more than 2,300 companies in the digital economy.

2. **BMBF**

- Drives more than 80 per cent of innovations in Germany.

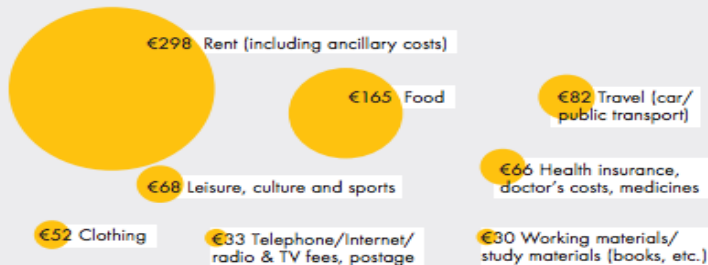
3. **Action Program iD2010**

- Coordinates funding programs, to ensure that the information society can develop further.

# FUNDING PHD IN GERMANY: COSTS OF STUDY

How much "normal students" spend per month in Germany\*:

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\*selected expenditures, Source: Deutsches Studentenwerk. 20<sup>th</sup> Social Survey 2012

How much "normal students" spend per month in Germany.

*In 2012, DAAD supported over 4,700 international doctoral students in Germany with scholarships.*

## 1. SCHOLARSHIPS

## 2. RESEARCH ASSOCIATE JOBS

- As a rule, doctoral candidates work at the chair of their supervising professor as research associates with temporary part-time contracts.

## 3. SIDE JOBS OUTSIDE RESEARCH

## 1. DAAD Scholarship Database

- German Academic Exchange Service (DAAD) is the largest awarder of scholarships.

## 2. EURAXESS Funding Database

- Comprises more than 100 programs offered by funding organizations in Germany.

## 3. Stipendienlotse

- Is the database of the Federal Ministry of Education and Research (BMBF)

## CONCLUSION

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- Research in Germany is characterised by an excellent infrastructure, a wide variety of disciplines, well-equipped research facilities and competent staff.
- Germany offers various forms of research locations: universities, non-university institutes, companies and institutions run by federal or state (“Länder”) authorities.
- There are more than 800 publicly funded research institutions in Germany, plus research and development (R&D) centres run by companies.