

The image shows the logo of the Deutsche Forschungsgemeinschaft (DFG), consisting of the letters 'DFG' in a bold, white, sans-serif font. The logo is set against a blue background with a blurred, architectural-like pattern of lines and shapes, suggesting a modern or institutional setting.

Research and the Graduate Schools

Dr. Dietrich Halm

Graduate Education in Germany (before 1990)

- ▶ traditionally: doctorate as “apprenticeship”, no institutionalisation
- ▶ no offers for expansion of scientific knowledge and methodological skills
- ▶ strong dependence on one supervisor, “Doktorvater”
- ▶ long time-to-degree, difficult transition into non-academic market

=> need for **structured PhD** programmes!

- ▶ 1990: DFG launched new funding instrument: **Research Training Groups**
- ▶ Since 1997: **International Research Training Groups**

Characteristics:

- ▶ **Graduate training embedded into high level research**, innovative research programme, structured qualification programme, transparent and structured supervision, interdisciplinarity, international cooperation

Why is the DFG intensifying its promotion of young researchers?

In order to help outstanding scientists and academics to:

- ▶ optimally develop their **research careers**
- ▶ gain **scientific independence** early
- ▶ ensure the **future viability of science in Germany**



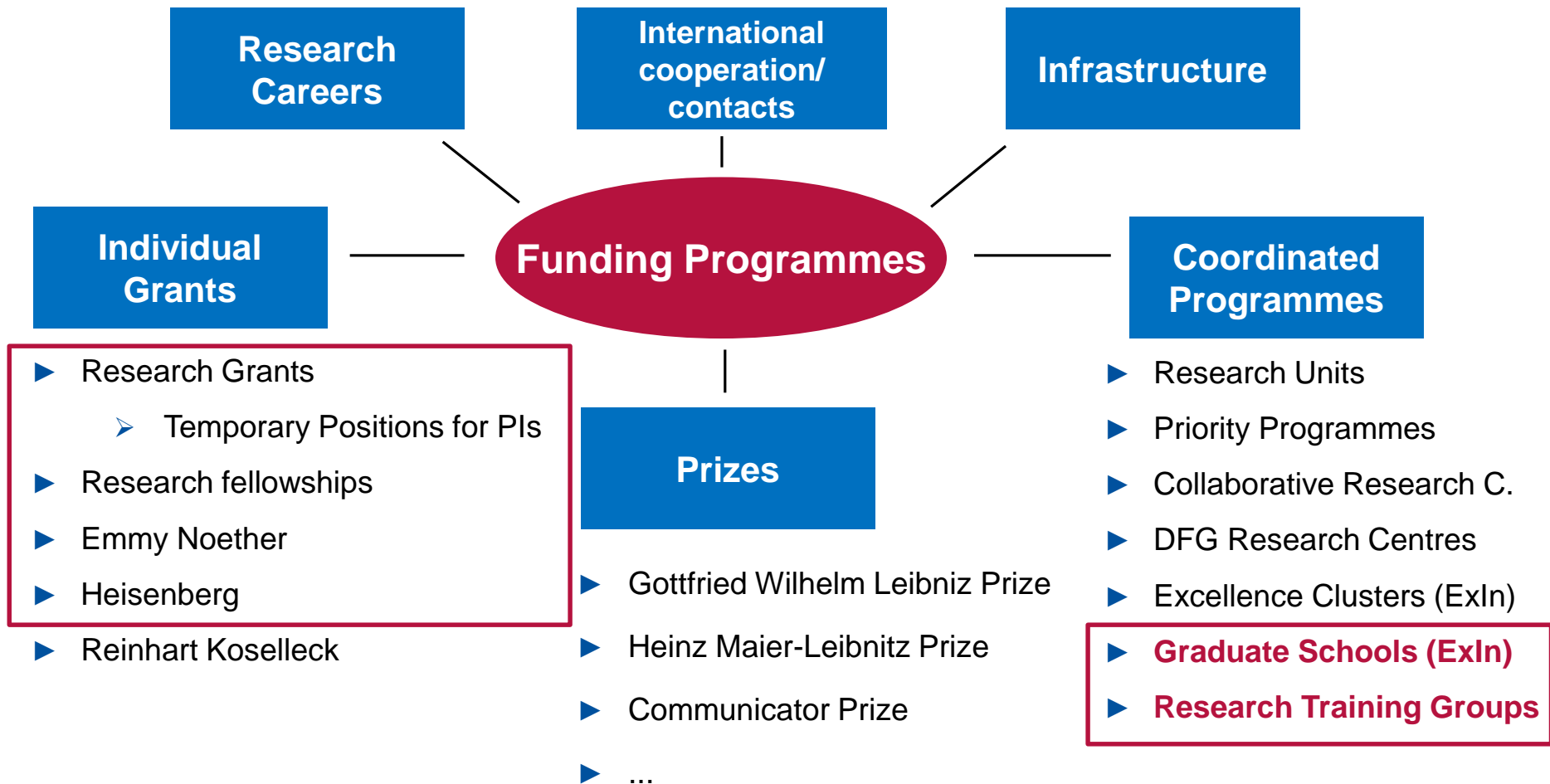
What are the DFG's objectives in funding top young talent?

To ensure that outstanding young researchers:

- ▶ **from all scientific disciplines** are supported
- ▶ from **Germany are retained** and that those from **abroad are attracted**
- ▶ have the **freedom they require** to perform excellent research
- ▶ are supported by **first-class research environments**
- ▶ are equipped with the **necessary resources** for their projects



Funding Instruments



What is the Excellence Initiative?

The Excellence Initiative

- ▶ was launched in 2005 by the German Federal Government and the 16 state governments
- ▶ has 2 phases (2006/7-2012 and 2012-2017)
- ▶ is conducted by the German Research Foundation (DFG) and the German Council of Science and Humanities (WR).
- ▶ is financed jointly by the German Federal Government (75%) and the 16 Federal States (25%), (fresh money, totally 4,6 bn Euro over 10 years)
 - 1st Phase: € 1.9 bn (€ 380 mn/year)
 - 2nd Phase: € 2.7 bn (€ 540 mn/year)



WR
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Excellence Initiative: Goals

The program aims to:

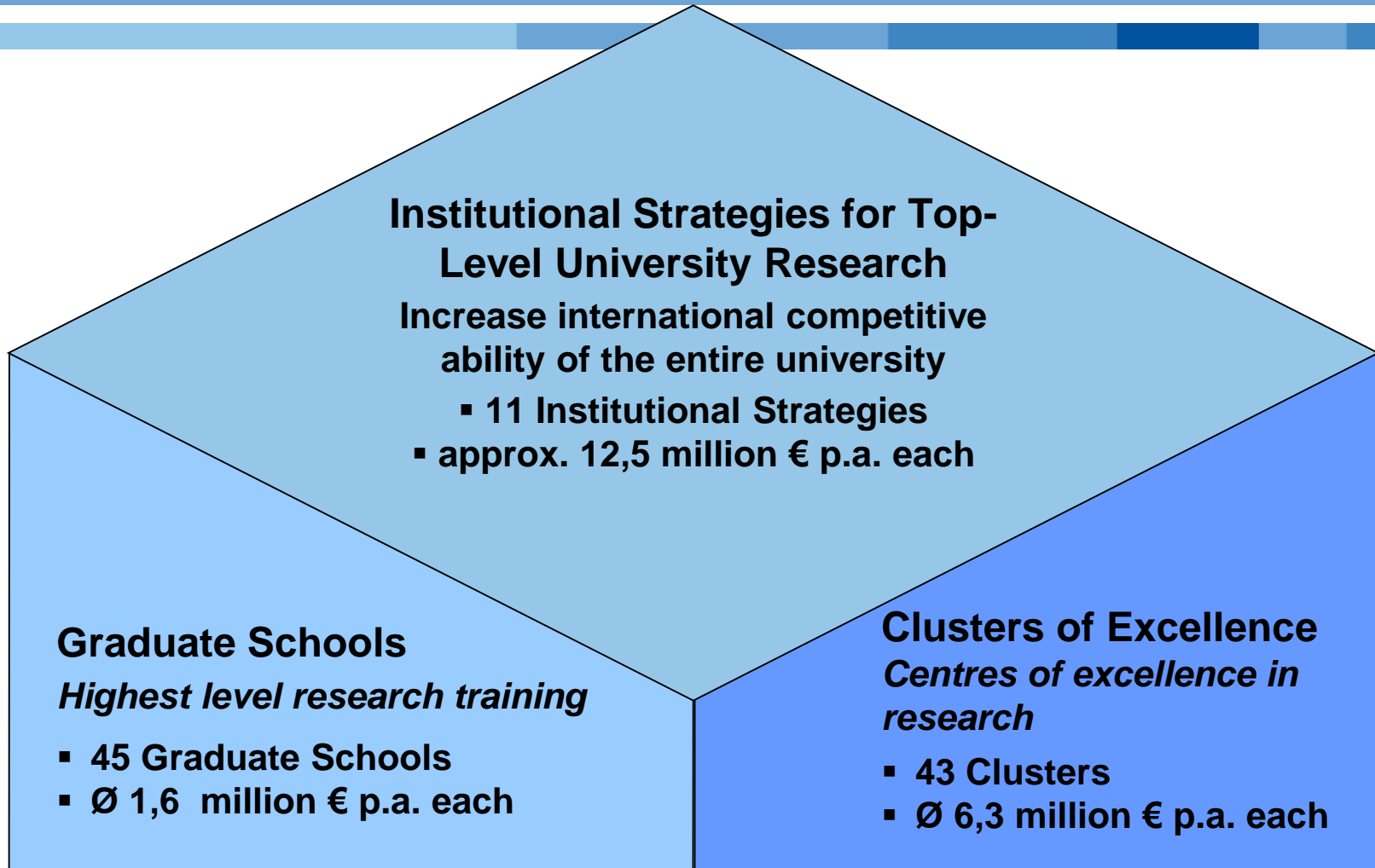
- ▶ promote top-level university research and training
 - ▶ create excellent conditions for young researchers
 - ▶ motivate cooperation across disciplines and institutions
 - ▶ enhance internationalisation
 - ▶ promote equal opportunities for men and women at universities
- ▶ The Excellence Initiative aims to improve the general standard of university research in Germany and the international competitiveness and visibility of German universities.



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How does the Excellence Initiative work?

Three lines of funding



DFG Graduate Schools _1

The 2nd funding line of the Excellence Initiative

Basic idea of the Excellence Initiative:

- ▶ Scale up the concept of Research Training Groups
- ▶ Improve doctoral training in a comprehensive manner
- ▶ Introduce Graduate Schools

- ▶ Same basic idea as RTG: top-level research, structured research training, quality recruitment and supervision
- ▶ **but:** larger projects (up to 2.5 million € /year), mostly implemented at higher organisational level of university
- ▶ Less restrictions on use of funds, more freedom to shape each Graduate School



Graduate schools are characterised by:

- ▶ original strategies for **promoting young researchers**
- ▶ an excellent **research environment**
- ▶ **international networking**
- ▶ cooperation with **non-university institutions**
- ▶ **gender equality standards**
- ▶ professional **management**

Proposals **reviewed** by **international teams** of independent researchers
(80% from the outside! Whole process done in English language)



- ▶ Graduate schools (GSC) play a key role not only in developing **internationally competitive centres of top-level research and scientific excellence in Germany** but also in **increasing their recognition and prestige**.
- ▶ GSC serve as an **instrument of quality assurance in promoting young researchers** and are based on the principle of **training outstanding doctoral students within an excellent research environment**.
- ▶ GSC offer **ideal conditions for doctoral students within a broad scientific area** and, as **integrative institutions with international visibility**
- ▶ GSC encourage **(international) students to be active members of their academic and social communities**.

DFG Graduate Schools _4

Not the same as Research Training Groups

Research Training Groups

- ▶ Focused, coherent research programme, designed by PIs
- ▶ 5-10 PIs
- ▶ ~ 15-30 doctoral researchers
- ▶ can be class/module of GSC
- ▶ N = **225**

Graduate Schools

- ▶ Cover research field(s) & priorities of the university
- ▶ 25 PIs + participating investigators
- ▶ ~ 40-300 doctoral researchers
- ▶ can incorporate RTGs
- ▶ N = **45**

DFG Research Training Groups

Evaluation and Monitoring

- ▶ generally few „hard data“ on doctoral stage in Germany
(*enrolment is not mandatory, no enrolment – no data*)
- ▶ methodological challenges (*e.g. duration of doctorate – definition of „start“ and „end“*)
- ▶ Until now: no comprehensive and up-to-date evaluation of RTGs
- ▶ Monitoring of RTGs by annual surveys:
 - ▶ Approx. 5.500 doctoral researchers funded in RTG
 - ▶ Average “Time-to-degree” in RTGs is ~41 months - 3-5 months faster than in DFG Collaborative Research Centres
 - ▶ Above–average “inbound mobility”/international recruitment: approx. 25 % of doctoral researchers and ~40% of Postdocs in RTGs have non-German nationality
 - ▶ Opportunities for international mobility (conferences/research visits) exploited

DFG International Research Training Groups

Scientific Diversity

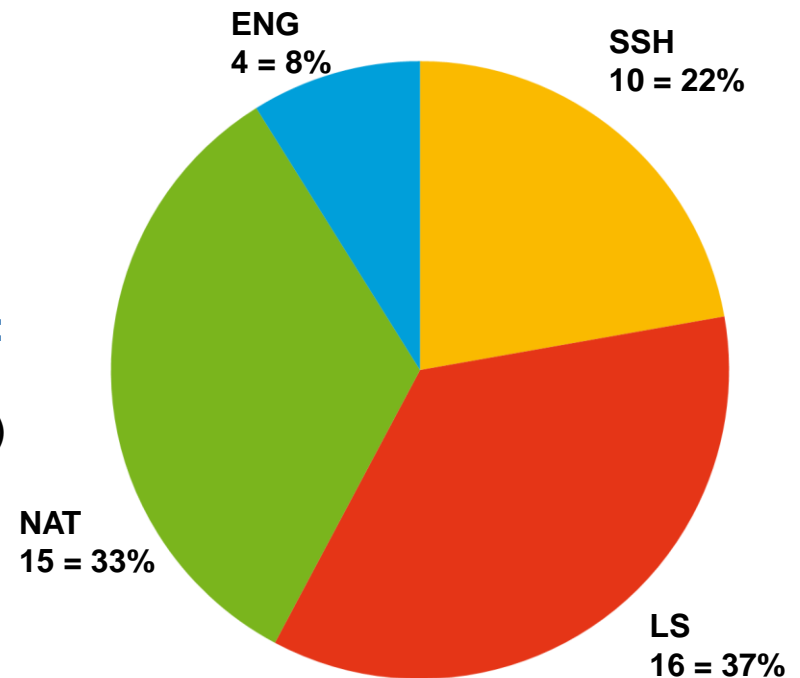
**Transformations of Civic Society.
Japan and Germany in Comparative
Perspective** (IRTG 1456, Halle – Tokyo/Japan)

**Brain-behavior relationship of emotion and
social cognition in schizophrenia and autism**
(IRTG 1328, Aachen – Philadelphia/USA)

**Dynamical Phenomena in Complex Networks:
Fundamentals and Applications**
(IRTG 1740, HU Berlin – INPE, São Paulo/Brazil)

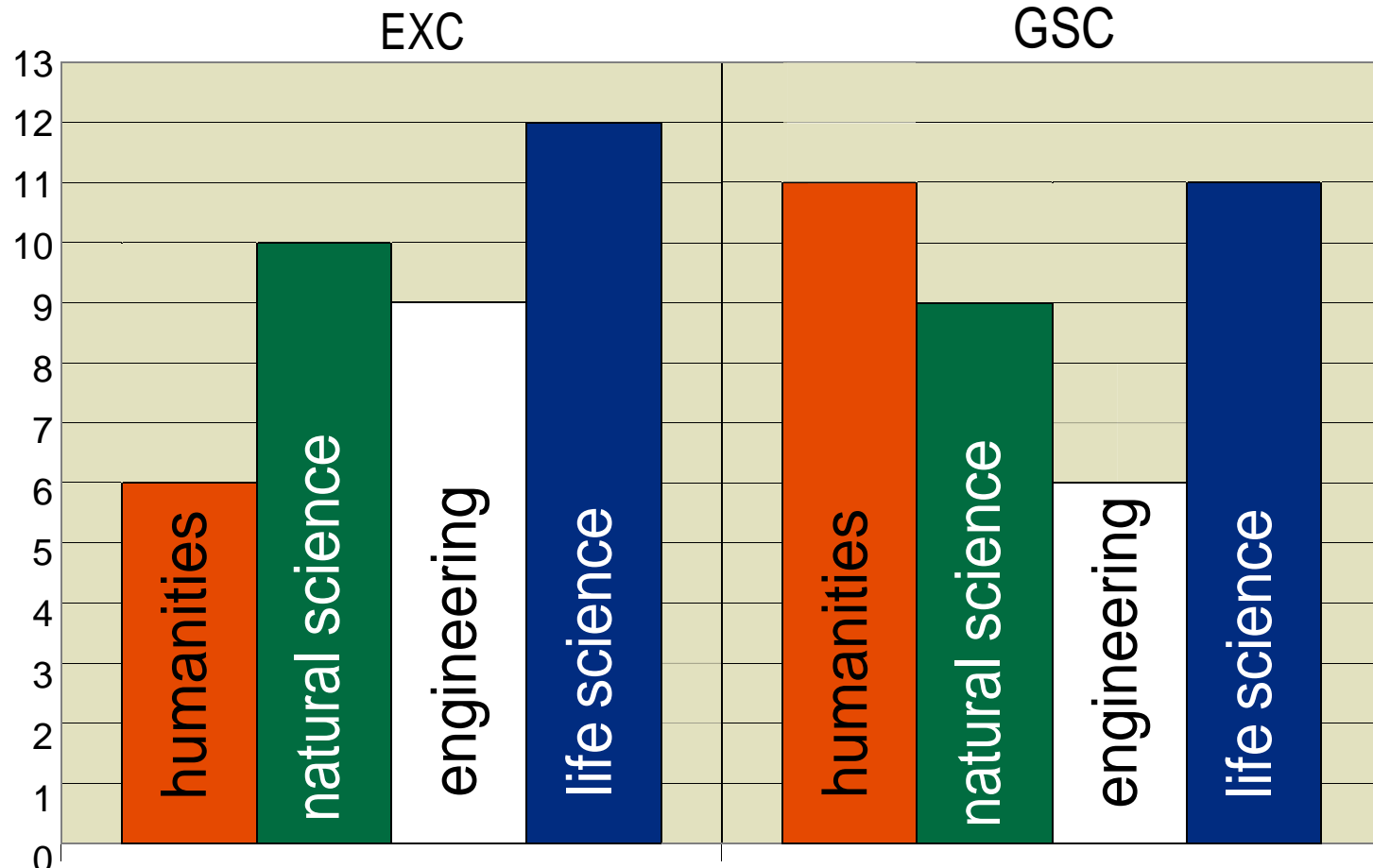
**Virtual Materials and Structures and their
Validation**
(IRTG 1627, Hannover – Cachan/France)

IRTG by field (Oct 2013)



DFG Graduate Schools

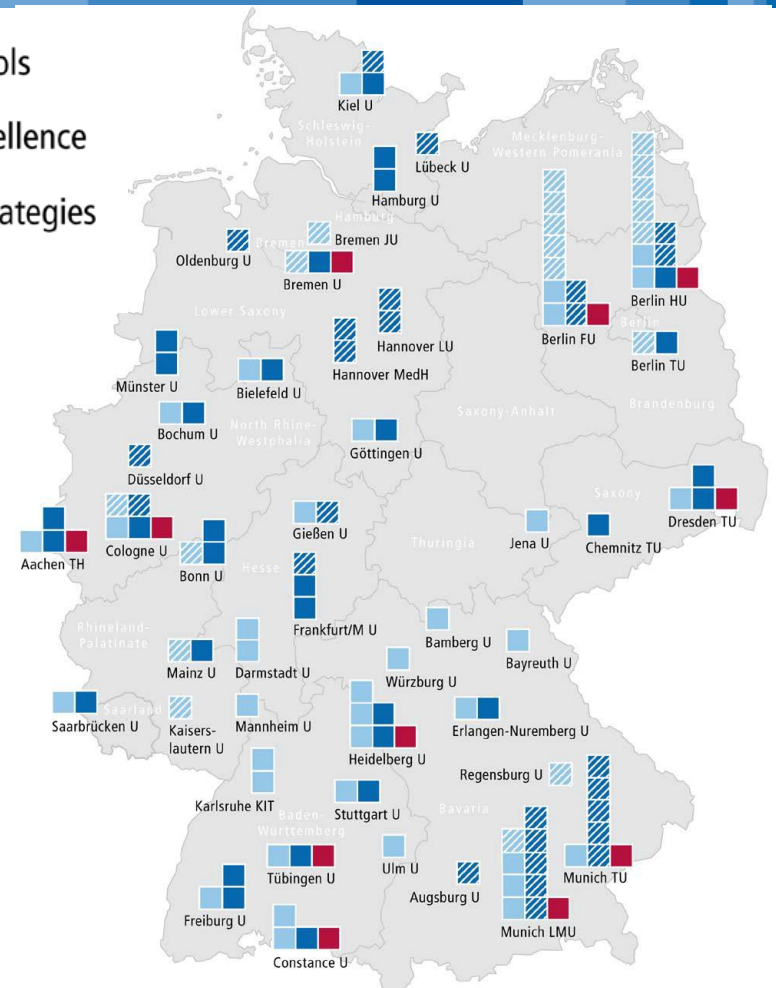
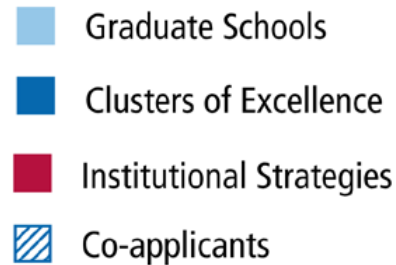
Scientific diversity (1st phase)



Research and the Graduate Schools / Dietrich Halm

What follows?

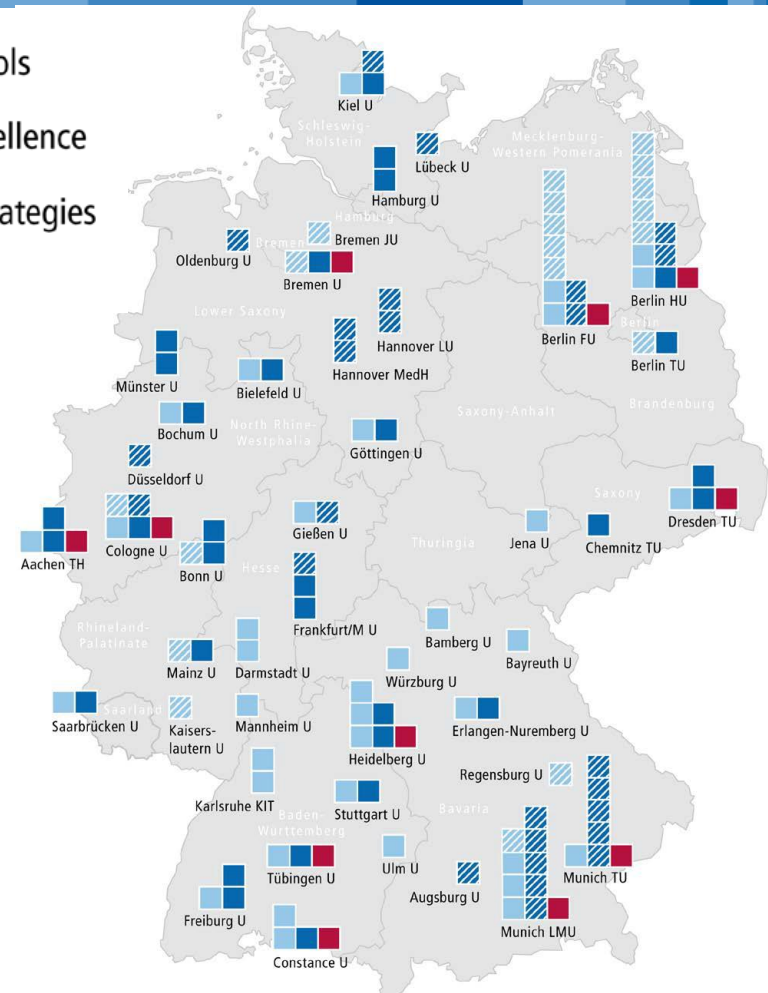
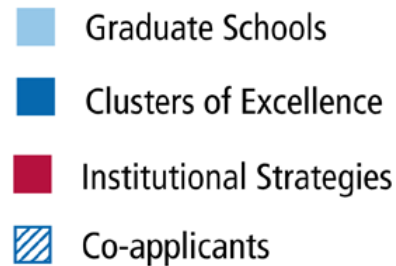
- ▶ Many universities develop and implement GSC-like structures, with support from state government or intramural funds
- ▶ institutionalization and accountability of doctoral education: e.g. support for early career researchers is now defined as leadership responsibility and considered as safeguard measure in Good Scientific Practice



Funding decisions 2012

Next stages

- ▶ June 2015: **Report** on the program by WR and DFG (data based report)
- ▶ January 2016: **Evaluation** of the program by international experts
- ▶ End of 2016: **Political decision** on the future of the program (discussion already started)



Funding decisions 2012



DFG

www.dfg.de/en

http://www.dfg.de/en/research_funding/programmes/list/index.jsp?id=GSC

Thank you for your attention!

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Excellence Initiative

Results

- ▶ The Excellence Initiative has already had a positive effect on the structure and profile of German universities.
- ▶ The creation of research-friendly structures has given research output a noticeable boost
- ▶ the initiative has also played an instrumental role in a general positive development of the German higher education landscape.
- ▶ Measures for gender equality and work-family balance, for interdisciplinary collaboration, for the promotion of young academics, and for increased internationalization are promoted actively by the Excellence Initiative
- ▶ In addition, the Excellence Initiative has also generated new jobs. An analysis by the Institute of Research Information and Quality Control (iFQ) reveals that over 6000 new researchers have been recruited so far at the universities and research institutions currently receiving funding.

Committees involved in the *Excellence Initiative*

