



Christian Doppler
Forschungsgesellschaft

The funding model of the Christian Doppler Research Association

Dr.Dr. Haio Harms

07.11.2017

The Christian Doppler Research Association at a glance



- **The CD-Association was the first public private partnership model implemented in Austria to promote innovativeness**
 - by supporting the cooperation between businesses and scientists
 - in the field of application-orientated basic research.
 - The cooperation takes place in specially established research units:
 - “Christian Doppler Laboratories” at universities
 - “Josef Ressel Centres” at universities of applied sciences
- **Several independent programme evaluations confirm the success of the Christian Doppler funding model.**
- **The OECD examined the CD model as “good practice model” in 2010 and 2014.**

Characteristics of a Christian Doppler Laboratory / Josef Ressel Centre



- **A Christian Doppler Laboratory / Josef Ressel Centre is ...**
 - a medium sized research unit
 - with a limited duration of operation
 - hosted by and embedded in a university, university of applied sciences, or other public research institution.
 - managed by a head of the Lab/Centre, employed by the hosting institution.
- **The focus is on basic research**
 - ... of application - orientated topics**
 - ... selected by industry.**
 - Scientists and commercial partners develop together and agree on the research programme.
 - All research is performed in close collaboration with the commercial partners.
 - The researchers have a high degree of scientific freedom: True basic research (progress of the state of the art) and publications are “musts”!
 - **It is for the commercial partners to transfer the research results into new products or processes (no contract R&D).**

Best Practice elements of the CDG funding models (1)

1. “Bottom up” / thematic openness!

- The research programme is based on a research issue of a company.
- No thematic restrictions.
- Research is „breathing“: new research topics can be developed and new commercial partners can join the collaboration.

2. Equal benefits for science and commercial partners

- The CD-Lab/JR-Centre is intended to be a chance ...
 - ... for its head: to develop his/her own field of internationally recognised academic excellence.
 - ... for the hosting research institution: to develop specialised competence in fields of interest for innovative companies
 - ... for young scientists (graduants, PhD, postdocs, habilitants).
- 30% of the resources are scientific freedom for the scientific partner.
- Commercial partners gain access to basic research, lasting competitive advantages, young scientists and patents .

Best Practice elements of the CDG funding models (2)

3. Quality of research and researchers as the ruling principle

- A CD-Lab/JR-Centre and the grant for the first 2 years are awarded based on a peer reviewed application and an evaluation by the CD Scientific Board.
- A continuation is granted based on mid term evaluations of the quality of the research and the publications in high quality journals.

4. Fixed, but adequate terms

- Sufficient time: CD Labs/JR Centres will be closed after 7/5 years without exception.
- Critical mass: For the lifetime of a CD Lab/JR Centre the total budget can be up to EUR 4,7 / 2,0 Mio.
- A scientist can head a CD Lab/JR Centre only once.

5. Integration into existing structures

- CD Labs/JR Centres have no legal personality: they are integrated into the hosting research institution. No parallel structures are created.
- The hosting research institution is the employer of the head of the CD Lab/JR Centre. It contributes its existing research infrastructure.

Best Practice elements of the CDG funding models (3)

6. Funding in cash only

- Running costs and additional infrastructure are jointly covered by public funding and the company partners (higher share of public funding for SME's).
- Cash only: no in-kind services are accepted as a company contribution.

7. Direct integration of all stakeholders

- Companies are not merely recipients of publicly funded research:
 - they are members of the CDG Association shaping its rules and processes and taking part in decision making
 - under the authority of the CDG Scientific Board for quality
 - and the authority of the Ministry of Science, Research and Economy for the system.

8. International openness

Either the scientific or the commercial partner has to be based in Austria:

- Companies from abroad as commercial partners for a Lab/Centre in Austria.
- Labs/Centres based at a university outside Austria with Austrian companies.

e.g.:

CD-Lab for Surface-Physical and Chemical Fundamentals of Paper Strength



Head: ao.Univ.Prof.Dr. Robert Schennach

University: Technical University Graz

Commercial partners: Lenzing AG, Mondi Frantschach GmbH, Kelheim Fibres GmbH

Duration: 01.03.2007 - 28.02.2014

- **Research issue: Understand paper strength - Basic research to gain insight into the nature and the strength of fiber-fiber-bonds.**
 - methods/ experiments to measure the bond energy between the fibers
 - model systems
 - quantitative bonding mechanism between individual paper fibers
- **Objectives of the commercial partners:**
 - improve the strength properties of paper
 - control the role of water for the properties of cellulosic substrates
 - decrease both the wood consumption and the energy needed in papermaking.
- **Cumulative budget in 7 years: ~ EUR 2 Mio**
 - 2 Postdocs, 9 Completed Dissertations, 13 Completed Diploma thesis
 - 2 patents, 35 reviewed papers, 16 invited / 42 other presentations, 30 posters

Thank you for your attention!

Further information:

Christian Doppler Forschungsgesellschaft

Boltzmannngasse 20 | 1090 Wien | Austria

Tel.: +43 1 5042205 | Fax: +43 1 5042205-20

e-Mail: office@cdg.ac.at | Web: www.cdg.ac.at

Success story:

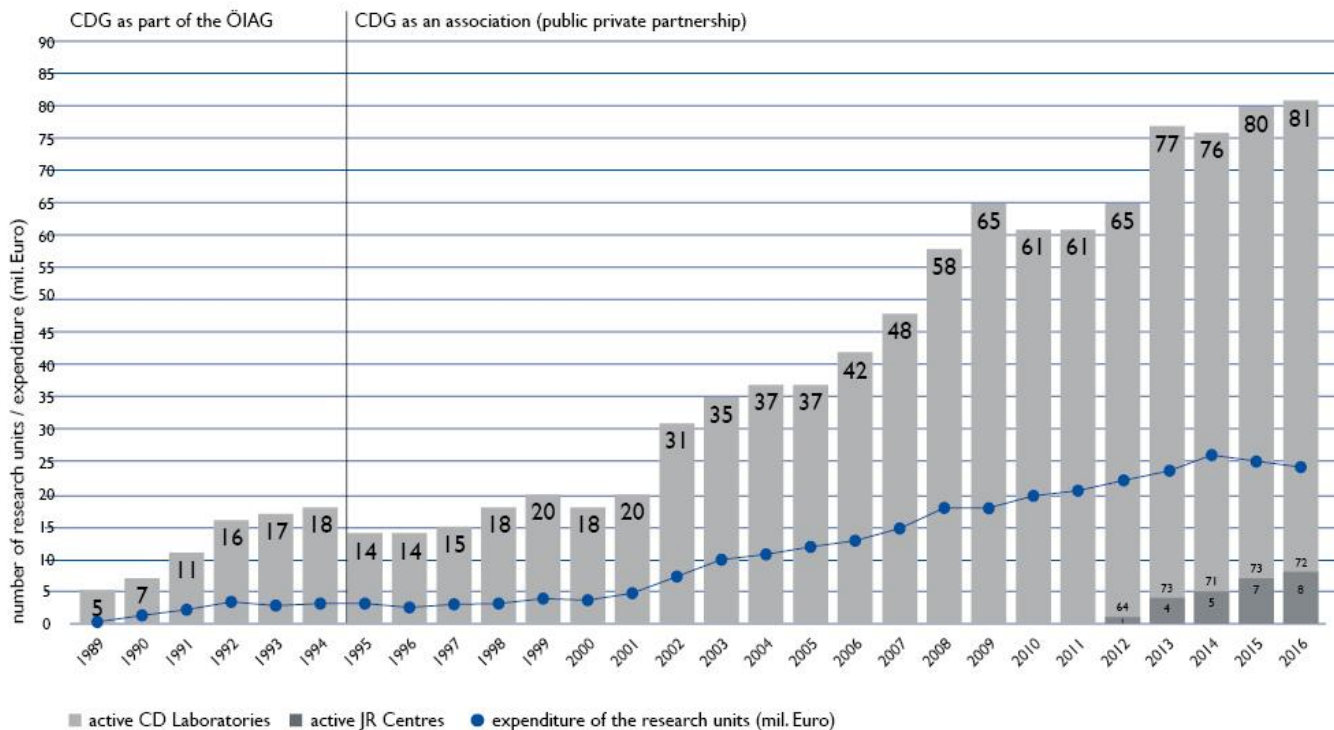
A budget of ~ EUR 30 Mio in 2017

for basic research in the field of

~ 145 commercial partners collaborating with

+/- 1000 scientists in 80 CD-Labs and 10 JR-Centres

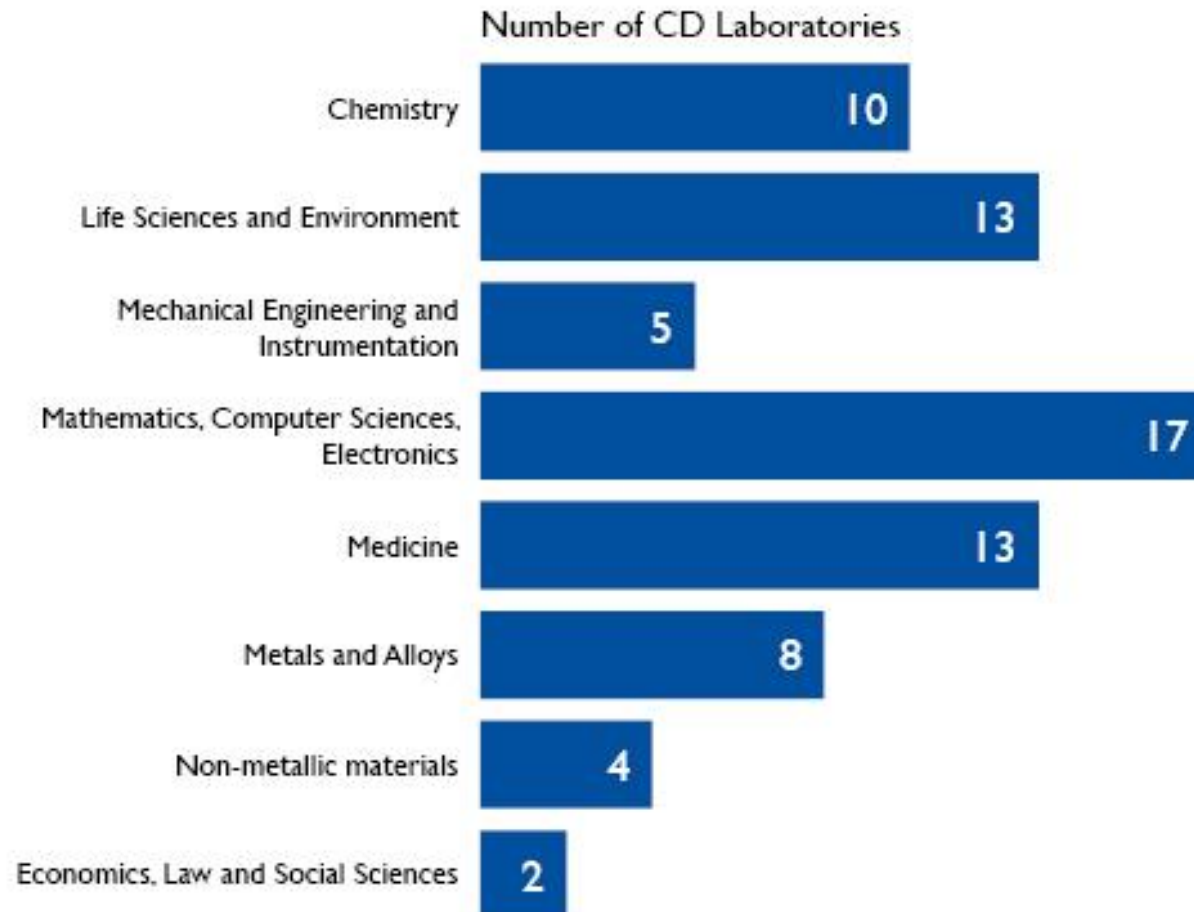
Development of the Christian Doppler Research Association



2016

Thematic openness

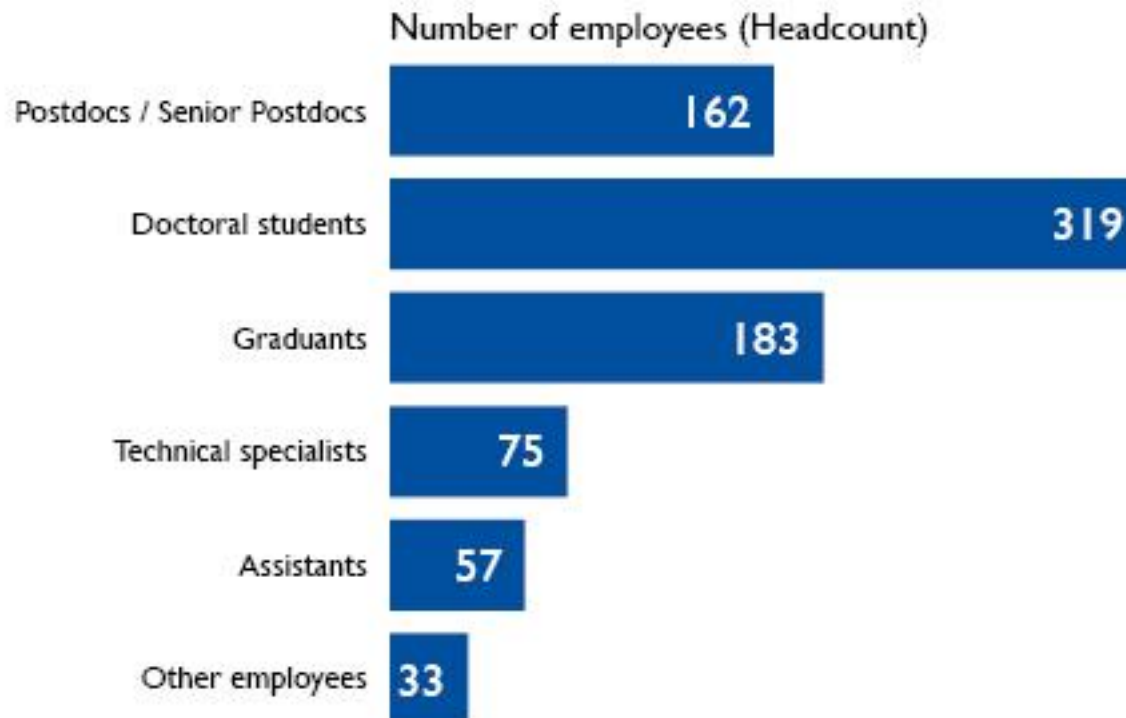
CD Laboratories by thematic clusters 2016



2016

829 headcount in 72 CD Labs

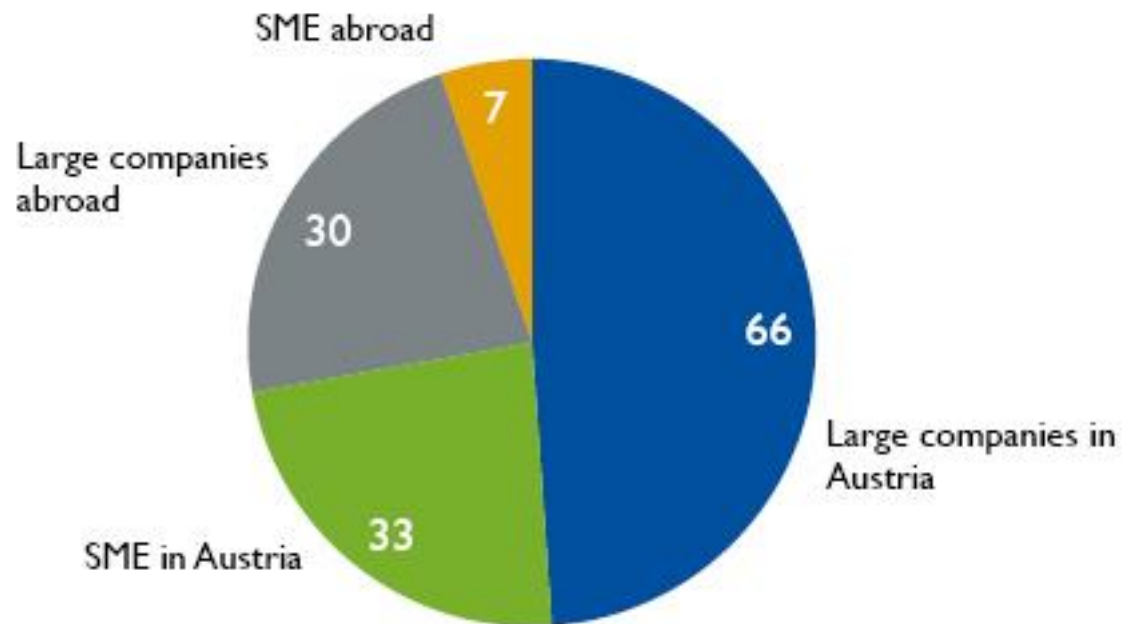
Staff of the CD Laboratories 2016



2016

~25% Non-Austrian commercial partners

Structure of the commercial partners
by company size and origin 2016



Haio Harms

PhD, LL.D

- | | |
|-------------|--|
| 1985 - 1991 | TD and CEO South Pacific Viscose, Indonesia |
| 1991 - 2008 | Director R&D and Director Corporate Services
Lenzing AG, Austria |
| since 2000 | Member of the Executive Board of the Christian Doppler
Research Association |
| 2008 - 2015 | CEO Kelheim Fibres, Germany |