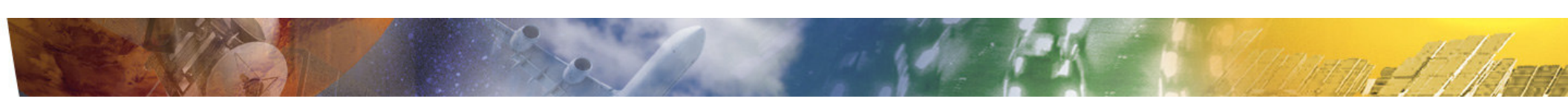


Education Activities at the German Aerospace Center: Aligning Strategies and Capabilities for Equal Opportunities

Andrea Boese, Corporate Development and External Relations

COPUOS, S&T Subcommittee, 46th session

Vienna, 13 February 2009



The DLR
German Aerospace Research Center
Space Agency of the Federal Republic of Germany
Project Management Agency



Sites and employees

5,700 employees working
in 29 research institutes and
facilities

■ at 13 sites.

Offices in Brussels,
Paris and Washington.





Mission

To open up new dimensions for exploring the earth and the universe, for protecting the environment and for promoting mobility, communication and security:

- Research portfolio ranging from basic research to innovative applications and the products of tomorrow
- Operating large-scale research facilities for DLR's own projects and as a service provider for its clients and partners
- Advisory services to government
- **Promoting the next generation of scientists**



Strategic approach

- Strengthening a top position among world leaders in the areas and tasks handled by DLR
- Cooperating with industry and science as partners and clients
- Programmatic focus on multi-disciplinary activities and national and international networks for sharing work in the areas of aeronautics, space, space management, transport and energy
- Operating institutes dedicated to individual disciplines with the highest standard of scientific and technological excellence
- Gaining strength from highly-qualified, dedicated, motivated employees
- **Using modern instruments for focused personnel development, equal opportunities and family friendliness**



Societal Challenges in Germany

- Education system
 - Decreasing interest in sciences during the last decades
 - Fewer young graduates choose scientific careers

- Demographic development
 - Difficulties to meet the future needs of a “Innovation and Knowledge Society”

- Growing challenges of globalisation



DLR Objectives

- Promote young researchers
- Ensure sufficient and skilful workforce for tomorrow
- Enhance awareness of DLR's contribution to face global challenges
- Promote greater understanding of the significance of science

The Way Forward

- Improved education and outreach strategies at DLR
 - Translate and transfer knowledge gained by engineers and research teams at DLR
 - Create and disseminate effective and engaging education activities and materials
 - Communicate the excitement of space and science
 - Develop graduate and postdoctoral programmes to prepare the next generation
 - Reach new generations of learners
 - Children, students, teachers, parents
 - Reach stakeholders in politics and industry
 - Reach the general public



Equal Opportunities Program at DLR

- Anchoring equal opportunities as one of the guiding principles within the corporate culture
- Realising equal opportunities on all levels in research and administration
- Facilitating Work-Life-Balance and developing family friendliness
 - Promote Dual Career Couples
 - Expand service for families, day care

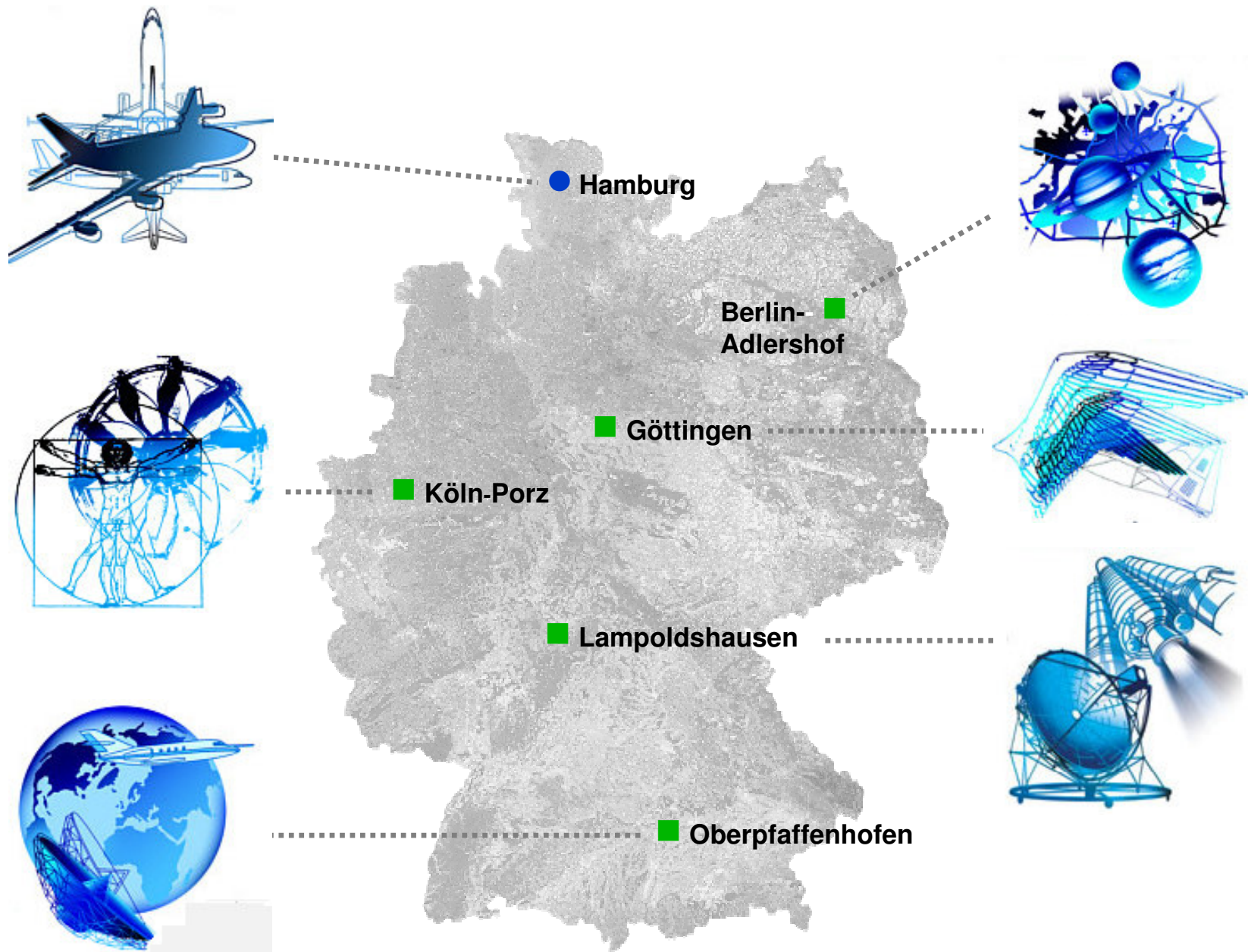


Equal Opportunities Program at DLR

- Addressing specifically girls and young women
 - Develop or modify education activities with regard to gender aspects
 - Targeted communication towards the different groups (girls, female students and scientists)
 - Establish a periodic interdisciplinary symposium for female students and researchers from inside and outside DLR

- Strengthening internal and external communication of the Equal Opportunities
 - Increase visibility of female researchers inside and outside DLR
 - Building a network of stakeholders

DLR_School_Labs





DLR_School_Labs

➤ Objectives

- Promote interest in engineering and natural sciences and in aerospace research
- Encourage young people to study sciences
- Inform about DLR

➤ Target Groups

- Grammar and middle school students
- Teachers
- Interested public, politicians, media





DLR_School_Labs offer

- Experiments close to current research in an authentic environment
- Support for evaluation, discussion of results
- Lectures, supporting materials for lessons at school
- Multimedia presentations
- Exhibits
- Transfer of knowledge from science to school
- A network of scientists and teachers

The DLR_School_Labs are located at DLR research institutes

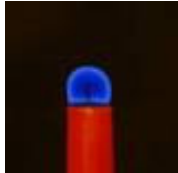


DLR_School_Lab
Köln-Porz



Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

Experimental topics DLR_School_Lab in the Institute of Aerospace Medicine, Cologne



Weightlessness



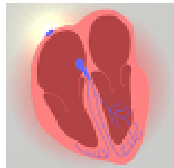
Artificial comets



Gravitational Biology



Material science



Cardiovascular
Physiology



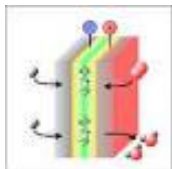
Photochemistry



Vacuum



Active noise reduction



Fuel Cells



Air traffic control



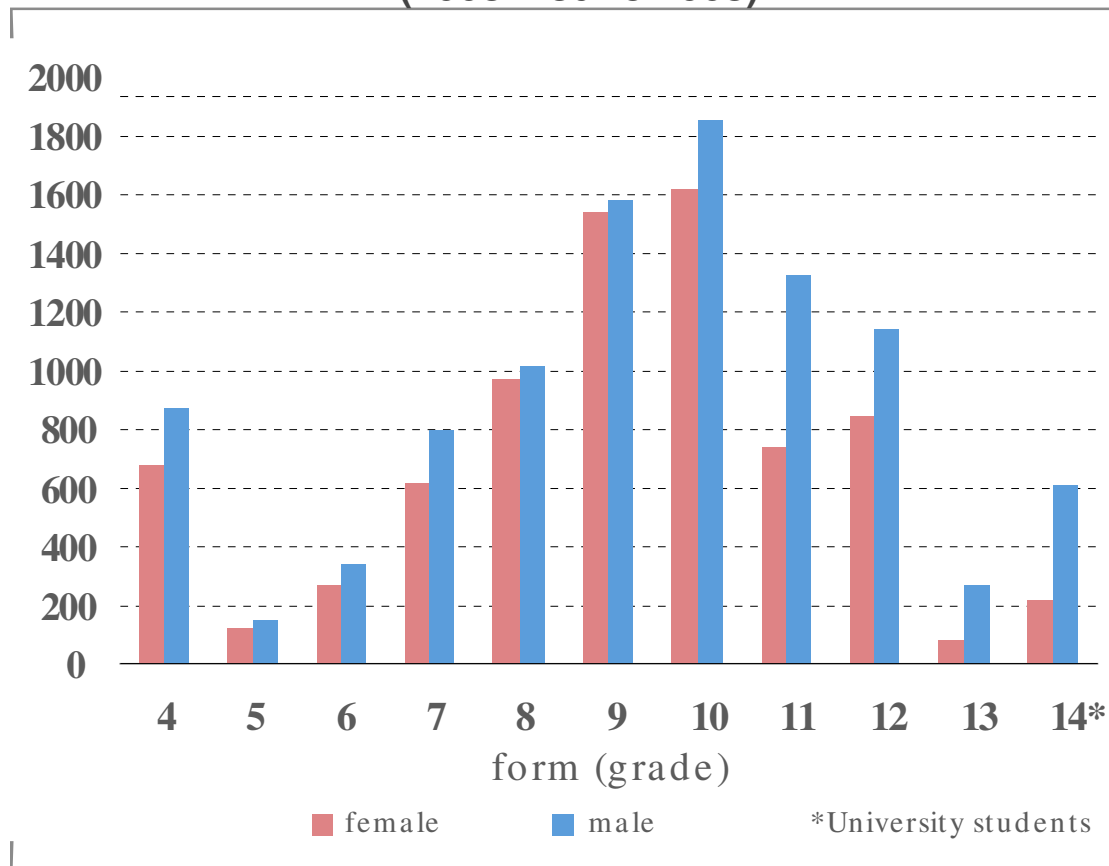
Variable complexity



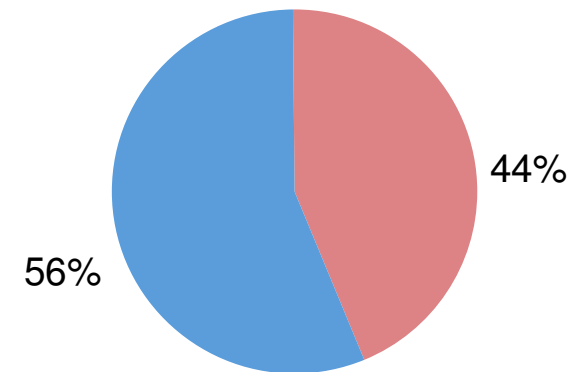
Does our concept work?

DLR_School_Lab Köln-Porz

Number of visitors (2003 – June 2008)



Pupils: 17676
(714 classes)
Teachers: 1764
Others: 6001





Scientific Evaluation

IPN (Institute of Didactics of Sciences, Kiel, Germany)

- 90% classify the DLR_School_Labs being “good or excellent”.
- Most pupils would like to come again.
- Pupils feel that they have learned more than during a day at school.
- A single visit of the labs significantly augments the interest in sciences.
- Six weeks after the visit this effect was found to be increased.

Arousing scientific interest in young people

Fascination

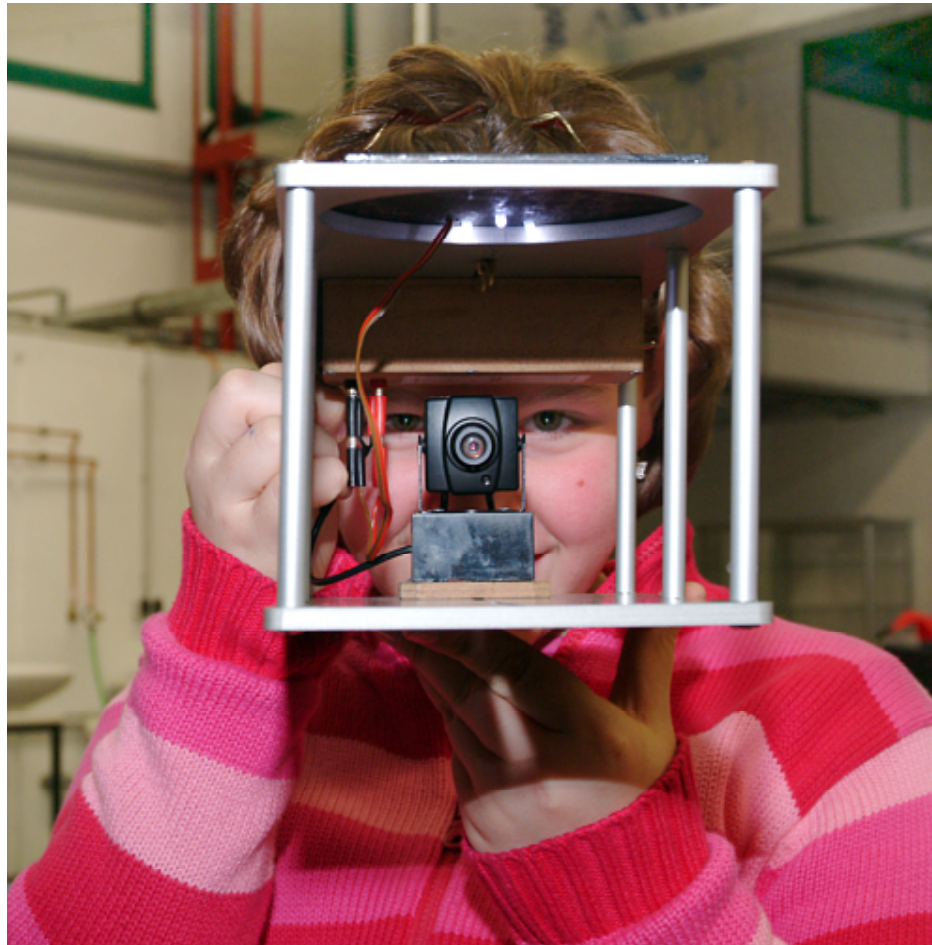
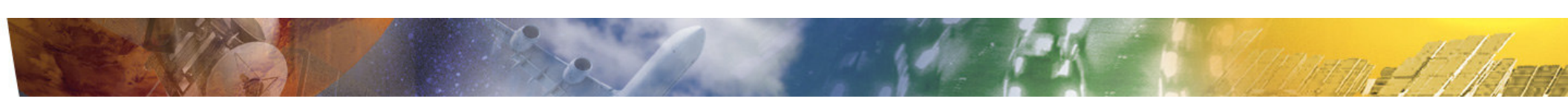


Authenticity



Hands-on





Knowledge is...the best way to compete these days

(Enric Banda, Euroscience)



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