



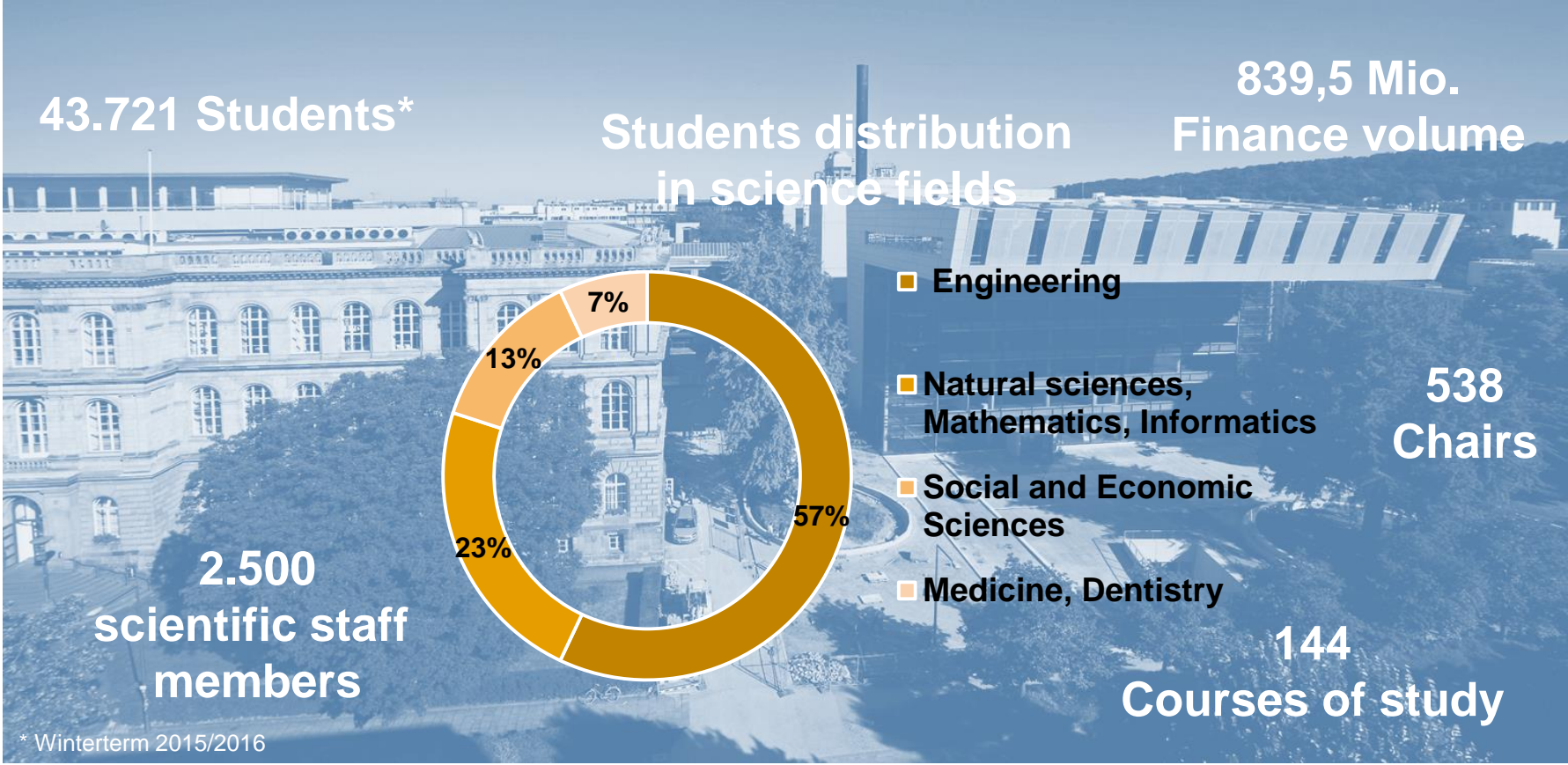
Gender Research in STEM Fields: Change of Perspectives and/or Diversity of Perspectives?

Univ.-Prof. Dr. Carmen Leicht-Scholten

GDI, RWTH Aachen University, Germany

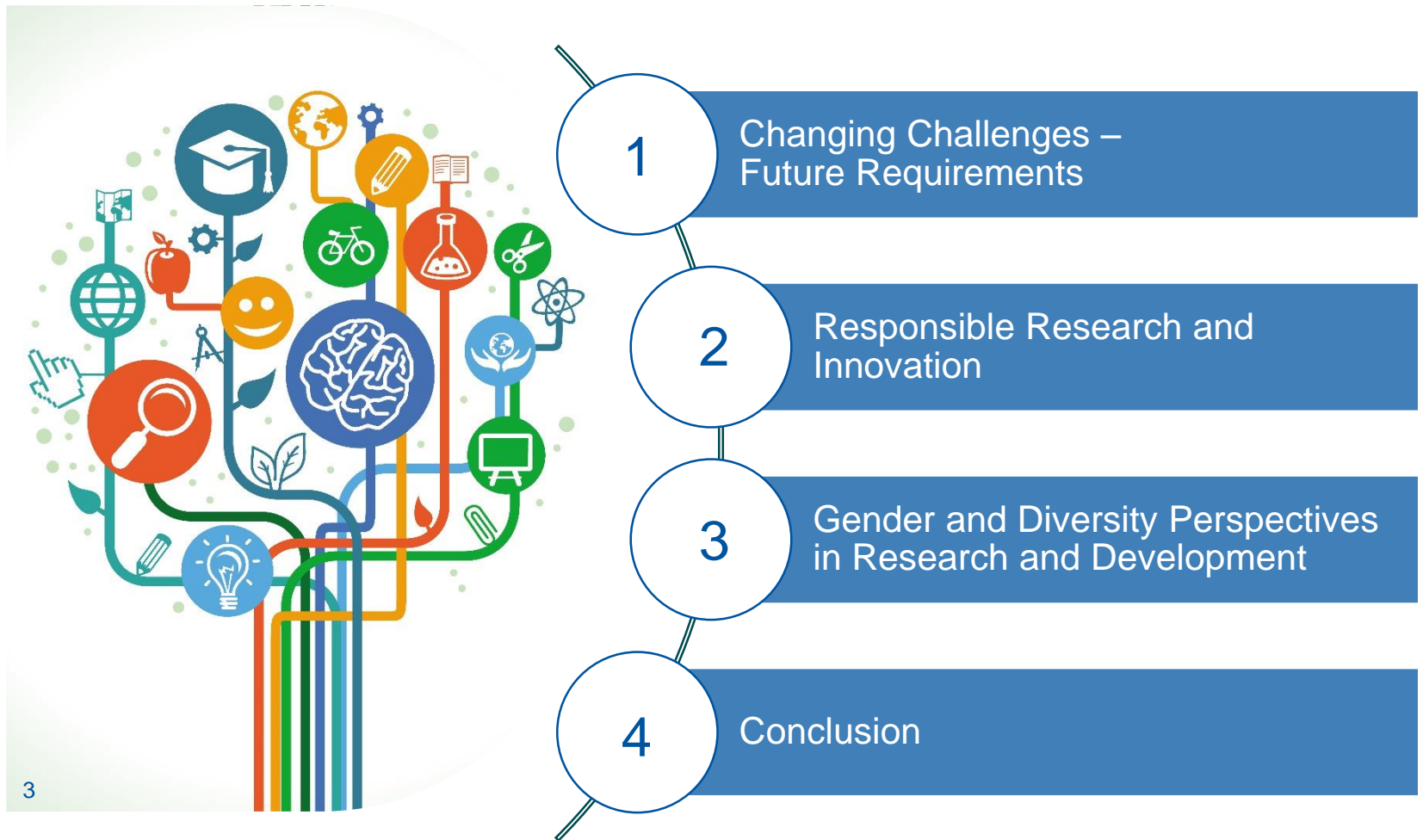
Gender and Excellence: Challenges in Research Funding II | Bern | June 21, 2016

RWTH Aachen University



Source: RWTH Aachen Zahlenspiegel 2014

Structure



1. Changing Challenges – Future Requirements



Sources: Horx 2011; Singh 2012; Zukunftsinstitut 2016

2. Responsible Research and Innovation

Responsible Research and Innovation...

„...is a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the **(ethical) acceptability, sustainability** and **societal desirability** of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society).

(René von Schomberg 2013: 19)



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2. Responsible Research and Innovation

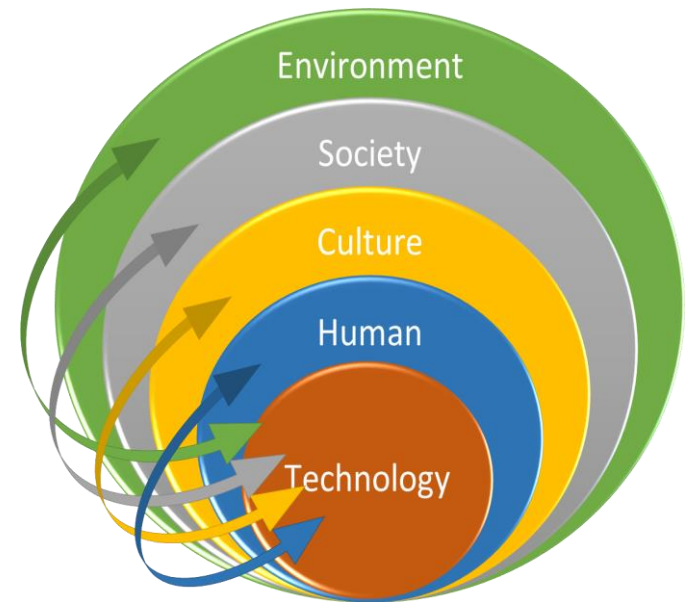
Pillars of Sustainability



3. Gender and Diversity Perspectives in Research and Development

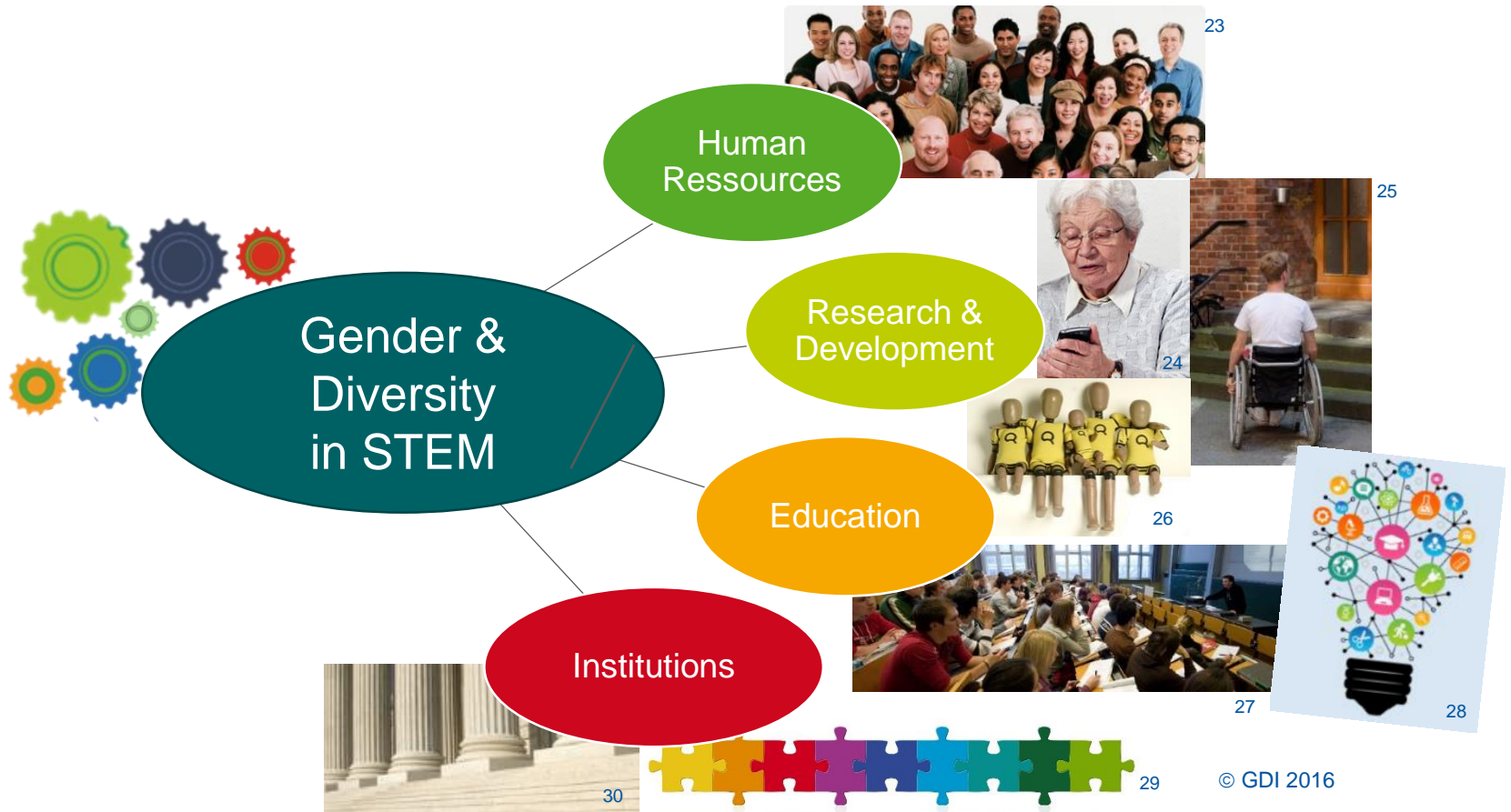
Holistic View on Technology

- Bridging the Gap Between Academic Disciplines
- Focus on Non-Technological Side of Technology
- Open up New Perspectives in Engineering through Views of Social Sciences & Integration of Gender and Diversity Issues
- Added Value: Future-Oriented, Comprehensive & Sustainable and Socially Responsible Engineering



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3. Gender and Diversity Perspectives in Research and Development



3. Gender and Diversity Perspectives in Research and Development

Mechanical Engineering



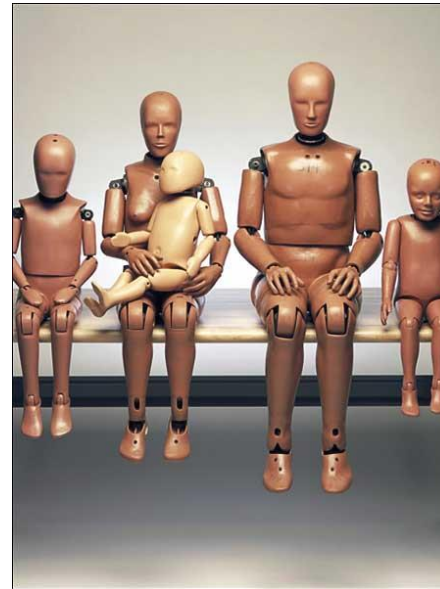
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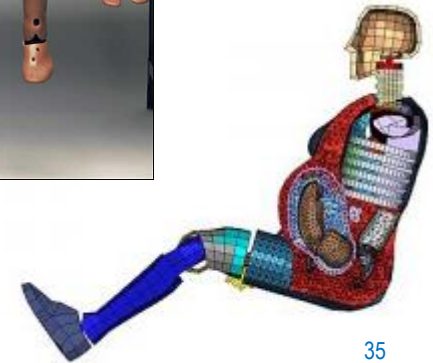
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3. Gender and Diversity Perspectives in Research and Development

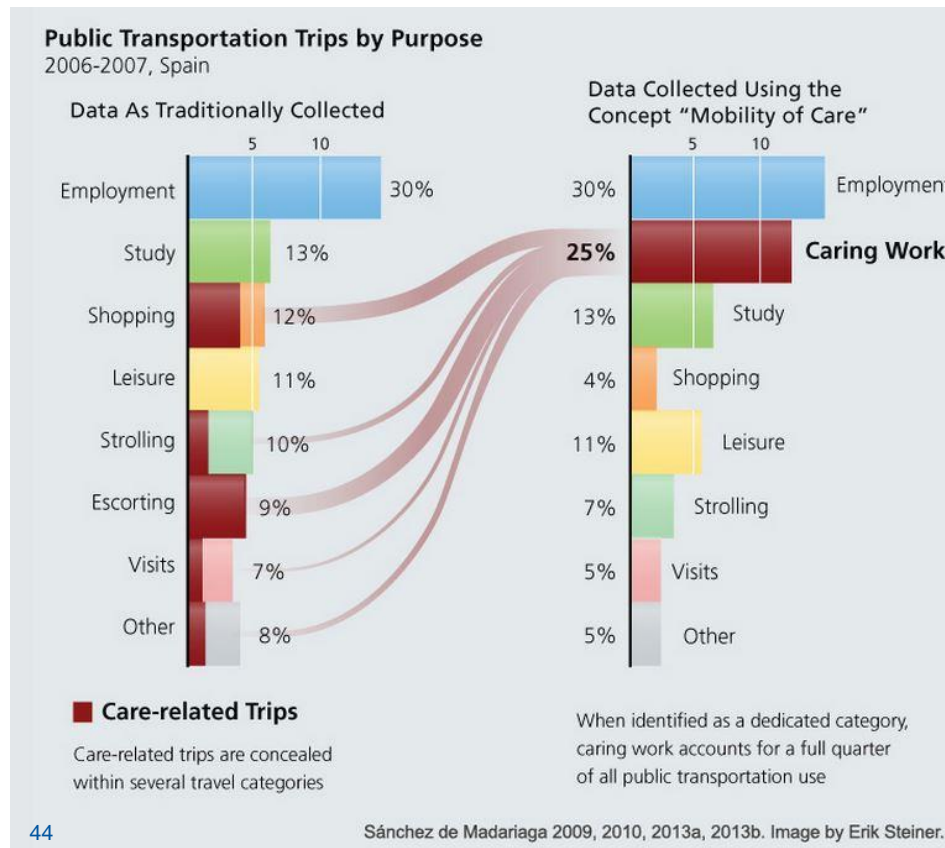
Transport Engineering – Building Bridges



see: <http://www.gdi.rwth-aachen.de/engl/research/buildingbridges/>

3. Gender and Diversity Perspectives in Research and Development

Transport Engineering – Mobility



3. Gender and Diversity Perspectives in Research and Development

Environmental Engineering



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Water supply



Sanitation



Renewable energies



Structural + bridge engineering



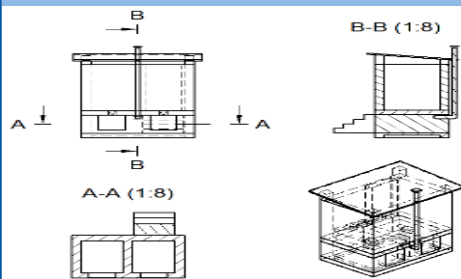
Intercultural communication

Source: <http://www.ingenieure-ohne-grenzen.org/de/Projekte>

3. Gender and Diversity Perspectives in Research and Development

Case Work: Urine-Diverting Dry Toilets – Sierra Leone

Technological Sustainability



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Social Responsibility



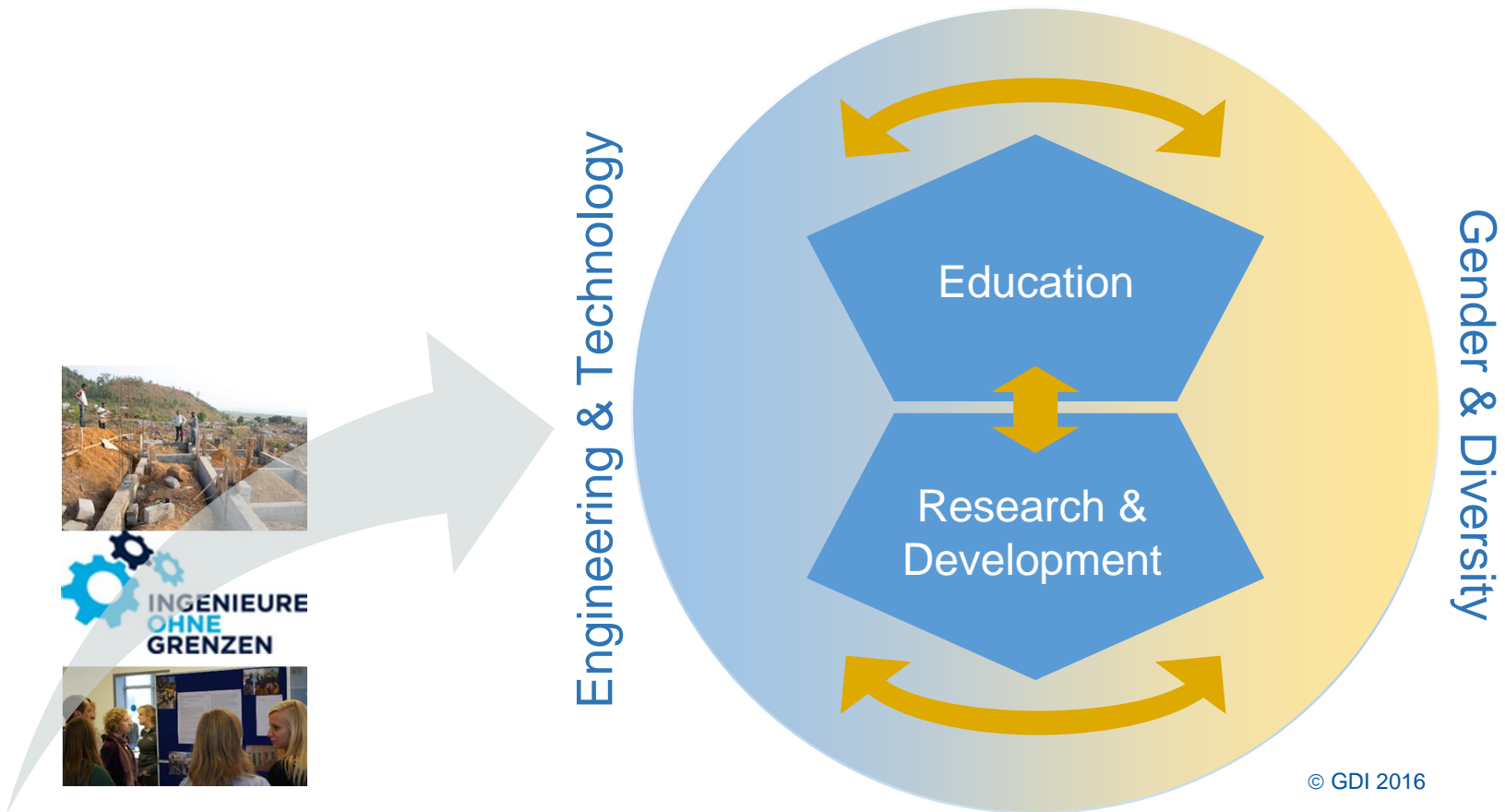
Cultural Acceptance



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3. Gender and Diversity Perspectives in Research and Development

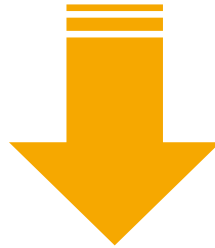
GDI Approach: Socially Responsible Research



4. Conclusion

Gender Research in STEM Fields: Change of Perspectives and/or Diversity of Perspectives?

Responsible research and innovation can only be realized by integrating gender and diversity perspectives at all levels of research & development processes and education.



It's the holistic perspective



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4. Conclusion



HORIZON 2020
The EU Framework Programme for Research and Innovation

European Commission > Horizon 2020

What is Horizon 2020? Find Your area How to Get funding? News, Events & Publications Projects

Sections navigation

Science with and for Society

Responsible research & innovation

What is Horizon 2020?

Find Your area

Responsible research & innovation

Responsible research and innovation is an approach that anticipates and assesses potential implications and societal expectations with regard to research and innovation, with the aim to foster the design of inclusive and sustainable research and innovation.

Responsible Research and Innovation (RRI) implies that societal actors (researchers, citizens, policy makers, business, third sector organisations, etc.) work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society.

In practice, RRI is implemented as a package that includes multi-actor and public engagement in research and innovation, enabling easier access to scientific results, the take up of gender and ethics in the research and innovation content and process, and formal and informal science.



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The Aachen Way

Thank you for your attention!

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www.rwth-aachen.de

Sources

1. Pictures by Peter Winandi, RWTH Aachen
2. RWTH Aachen 2015: Zahlenspiegel 2014, online available: https://www.rwth-aachen.de/global/show_document.asp?id=aaaaaaaaaafcwea
3. <http://api.ning.com/files/bQfOv76fsJdvr98VQmuF2M6CZURVJ514wbZ1xEU6xV1ASzrhLdQvKxL19wBf+Cty5L5CCAHF7KFIeVY3ik6E+VYFBNLIGvU/homeschoolplus2014.png>
4. <https://www.liberale.de/sites/default/files/uploads/2014/02/28/globalisierung2000x1125.jpg>
5. <http://www.ciker.com/cliparts/f/9/4/8/12752657671592229463we-can-do-it.svg>
6. https://www.ugb.de/images/Vegane_Ernaehrung_2.jpg
7. <http://www.serviso.de/media/content/individuell.jpg>
8. http://www.zukunftsinstitut.de/fileadmin/user_upload/Megatrend_Doku/New_Work/00_Intro_New_Work.jpg
9. <https://de.pinterest.com/pin/196962183680670194/>
10. http://bildungscampus.nuernberg.de/wp-content/uploads/2014/05/Grum_lfotolia_de.jpg
11. <http://fm.cnb.com/applications/cnbc.com/resources/img/editorial/2014/06/04/101732762-181658595.530x298.jpg?v=1401926843>
12. <http://www.fibre-options.com/wp-content/uploads/Site-Connectivity2-400-x-300.jpg>
13. <http://polpix.sueddeutsche.com/bild/1.2229142.1416849675/860x860/kohle-kraftwerke-gabriel-abschaltung.jpg>
14. S.Horx, M. 2011: Das Megatrend-Prinzip: Wie die Welt von morgen entsteht. DVA
15. ingh, S. 2012: New Mega Trends: Implications for our Future Lives. Springer
16. Zukunftsinstitut 2016: <https://www.zukunftsinstitut.de/dossier/megatrends/>
17. Von Schomberg, R. 2013: A vision of responsible innovation. In: R. Owen, M. Heintz and J. Bessant (eds.): Responsible Innovation: Managing the Responsible Emergence of Science and Innovation in Society, London
18. <http://www.next-level-energy.com/vertriebspartner-werden/jobangebot/>
19. <http://www.investoren-beteiligung.de/formen-der-beteiligung/>
20. <http://www.maschinenbau-peters.de/4-Branchen.html>
21. http://www.empresariomultinivelexitoso.com/2010_04_01_archive.html
22. <http://www.kwintessential.co.uk/culture-vulture.html>
23. <http://www.returnofkings.com/53413/the-true-meaning-of-diversity>
24. http://www.demografie-portal.de/DE/Mitreden/Archiv/03_Alter/alter_node.html
25. Picture by Jasmin Blomeyer, 2013
26. <http://www.humaneticsatd.com/crash-test-dummies/children/q-series>
27. Picture by Peter Winandy, RWTH Aachen
28. viadgrin/istockphoto on: <http://asiasociety.org/global-cities-education-network/teaching-best-practices-around-world>
29. <http://institut-ifa.org/vortrage-fur-eltern-und-padagogisches-fachpersonal/>
30. <http://www.lawofficeofbillierellerbe.com/>
31. https://en.wikipedia.org/wiki/Crash_test_dummy
32. <http://www.npr.org/templates/story/story.php?storyId=120628434>
33. http://www.nhtsa.gov/nhtsa/Safety1nNum3ers/september2015/S1N_Sept15_Dummies_2.html
34. <http://leevinsel.com/blog/2013/12/30/why-carmakers-always-insisted-on-male-crash-test-dummies>
35. <https://genderedinnovations.stanford.edu/case-studies/crash.html#interactget2>
36. <https://soulzeppel.in/tag/gender/>
37. weststadt-online.de
38. stadtentwicklung.berlin.de
39. ssb-linien.de
40. bsvt.org
41. Stuelpner_pixelio.de
42. images.haus.de
43. <http://www.gdi.rwth-aachen.de/engl/research/buildingbridges/>
44. <http://genderedinnovations.stanford.edu/case-studies/transportation.html#tabs-2>
45. <http://www.ingenieure-ohne-grenzen.org/de/Regionalgruppen/Aachen>
46. Pictures by Ingenieure ohne Grenzen 2014, within the GDI seminar "Skills for social and sustainable technology design", own diagram
47. <http://www.landeswelle.de/aktionen-und-service/nachrichten/unter-beobachtung-12-1-2015>
48. <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>