

Emergence of Innovation

Dilemmas, Strategies and Global Challenges

Aachen, Oct. 10 and 11, 2011



SPONSORED BY THE



Federal Ministry
of Education
and Research



EUROPÄISCHE UNION

RWTHAACHEN
UNIVERSITY

Monday, Oct. 10, 2011

- | | |
|-------|---|
| 11:00 | Welcome and Introduction |
| 11:15 | Emergence of Innovation – Central Results of IMO
Sven Trantow, Alan Hansen, IMA/ZLW & IfU RWTH Aachen University |
| 12:20 | Lunch Buffet |
| 13:30 | Innovation Strategies and Entrepreneurial Benefits – International Impulses |
| 14:50 | Coffee Break |
| 15:20 | Expert Talk |
| 16:45 | Roundup of the Day and Outlook |
| 17:00 | Walk to the Ballroom of the “Altes Kurhaus” |
| 17:30 | Conference Dinner |

SPONSORED BY THE



Federal Ministry
of Education
and Research



EUROPÄISCHE UNION

RWTHAACHEN
UNIVERSITY

Tuesday, Oct. 11, 2011

- | | |
|-------|---|
| 09:00 | Welcome |
| 09:15 | Parallel Sessions “Working – Learning – Developing Skills. Potential for Innovation in a Modern Work Environment” – Central Results from the Meta Projects of the R&D Program |
| 10:30 | Coffee Break |
| 11:00 | Strategic Partnership “Fit for Innovation”
Prof. Dr. Diane Robers (European Business School) |
| 12:20 | Lunch Buffet |
| 14:00 | Innovative Capability Meets Global Challenges – Future Design I |
| 15:20 | Coffee Break |
| 15:50 | Future Design II |
| 17:10 | Roundup of Conference and Outlook |
| 17:30 | Walk to the restaurant “Stairs” |
| 18:00 | Conference Dinner |





Ron Dvir

Innovation Ecology, Israel

Strategy: Opening of Innovation Processes



Jon Husband

Wirearchy, Canada

Strategy: Innovative Forms of Work Organization



Karl-Erik Sveiby

Hanken School of Economics, Finland

Strategy: Holistic Innovation Management

SPONSORED BY THE



Bjørn Gustavsen

Work Research Institute, Norway

Strategy: Fostering of Social and Organizational Innovations



Hank Kune

Future Center Alliance, Netherlands

Strategy: Integrative Design of Work and Learning Environments



Vladimir Teplyakov

Russian Academy of Science, Russia

Strategy: Use of Knowledge and Human Potential

SPONSORED BY THE



Federal Ministry
of Education
and Research



EUROPÄISCHE UNION



What are the currently „hot topics“ regarding the IMO strategies?

What is Innovation and Innovative Capability?

- Who benefits from innovation?
- Who are the actors?
 - who implements the system?
 - we need actors that promote the system
- Sectorization of innovation
- Innovation with a capital „I“
 - live differently on the planet
- Innovation with a lower-case „i“
 - make products cheaper
- Innovation is not only technological
 - but very technical point of view
- International segmentation
 - e. g. perspective of the East
- System of innovation needs to be realistic
- Definition of „Innovative Capability“ is still unclear
- Innovation is dynamic, value & ethics, sustainability
- Negative side of innovation
 - complex concept of “Innovation”
 - negative side of what?
- One step beyond innovation
- IMO: Room for dialog



What are the currently „hot topics“ regarding the IMO strategies?

Innovative capability in the face of demographic change

- Dark side of innovation technology
 - different generations, different views
- Conflicts between generations
 - mainly perspective of young people
- Potential for generational collaboration
- Investigate / analyze multigenerational dialog
 - think about challenges in 15 years
- Marginalization of older generations must be avoided
- Learning from differences
 - bring in different points of view
- Value: what are the goals?
 - value discussion between generations



What are the currently „hot topics“ regarding the IMO strategies?

Financial system

- Economists don't have a theory any longer ⇔ neo-liberalism
- Turning point: Worldwide discussion
- Role of the capital markets
- Financial crisis - Specialism
 - culture of judgment
- Who benefits from innovation?
- Paradigm shift is needed
 - the next step: value change
- Non-shifting paradigm
 - dooming small innovation; must regard the whole context



What are the currently „hot topics“ regarding the IMO strategies?

Dilemmas and strategies

- 4 dilemmas: Will we survive them?
 - can we resolve them? how can we influence them?
- Term „Contradiction“
 - not only form of antagonism
 - philosophical point of view
 - term „dilemma“: define!
- Challenges cannot be solved in total
- Whole society has to work on balancing dilemmas
- Dilemmas as result of paradigm shift
- Origins of challenges/dilemmas
- Underlying dilemma of strategies
- Micro world/level determine, how strategies work in detail



What are the currently „hot topics“ regarding the IMO strategies?

Transfer

- Social segments should discuss the future together
- Social learning
- Unlearning
- Let go of common concepts/understandings
- Role of teachers/education
 - which knowledge should be taught / hidden agenda
- Explain variance
- Who is going to DO it?
 - we are talking about strategies
 - how to ensure the abilities to use these strategies?
 - who are the agents?
- Management - Business Schools
 - how to manage knowledge in the workplace?



- It is not about another hot topic
 - how can we transfer our knowledge and transport our new experiences?
 - Potential of innovation is out there in the people
- Structures of our schools
 - not teach hierarchically
- Young people: understand through real examples
- Form follows functions follows goals
- 12th strategy: new actors need attention
 - learn from others; implicit learning
- IMO: Recommendations to a funding scheme

What are the currently „hot topics“ regarding the IMO strategies?

Uncertainty

- Uncertainty can be planned & controlled -> wrong assumption
- Management of Uncertainty -> contradiction in itself
 - new cultural preparation for Taylorism
- In spite of this: Risk management very important
- Dilemma: You cannot have innovation and control at the same time -> uncertainty
- We want to control things
 - difficult in complex world
- Growing uncertainty
 - one of the main results of the discussion
- Production of uncertainty



What are the currently „hot topics“ regarding the IMO strategies?

Discovering application

- Question is: how to implement! How to bring it to a next step
 - from theoretical to practical applicability
- Level of frustration with systems regarding innovation strategies
- Innovative forms of work organization
- Organizations have to look for solutions together with other actors -> networks
 - network strategy
- Perspectives beyond organizations
 - we need looser structures and less rules
- IMO: Recommendations to a funding scheme





SPONSORED BY THE



Health & Nutrition

Short description of this challenge with regard to the Hightech-Strategy 2020:

- Demographic Change and the expansion of widespread diseases imply massive challenges for societies and healthcare systems
- Research, prevention and therapy of widespread diseases
- Securing of long-term employability of people over a long working life

PHASE VISION: How can future research on innovative capability contribute to meet the global challenges?

Wide spread diseases are going to influence our every day life more and more, therefore it is necessary

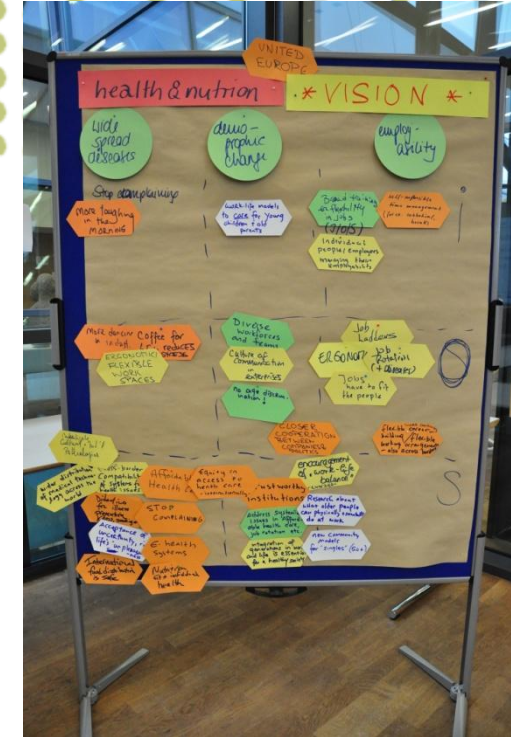
- to initiate research to determine how to make health systems compatible with each other
- to widely distribute medical technology across the world
- to establish international equity in access to health care and
- to improve didactics for illness prevention (AIDS, smoking etc.)

To face **demographic change** it is necessary to find appropriate ways to deal with the accompanying challenges, e.g.

- initiate research into what physical and mental skills/abilities 65+ people have AND how this can be matched to work requirements in organizations and society
- initiate research to how to increase innovative capabilities of 70+ citizens and how to make active use of this capability

To increase and raise **employability** it is useful to

- initiate research how laughter at the workplace effects performance, creativity, stress reduction, productivity, job satisfaction etc.
- initiate research how does diversity in the workplace increase innovative capacity of individuals, teams, projects and organizations
- enable diverse individuals to live a life worth living



Health & Nutrition

PHASE MISSION: What would I do if I were the German minister of education and research?

Try to generate mission statements with regard to the most important visions!

- Holle Grünert: Fostering international benchmarking as well as joint and transnational solutions on topics like flexibility in jobs, work-life-balance, social security
- Anonymous: Investigation of all possibilities to find mixtures of privatization and public offers, of self-financing and restrictions in order to overcome the actual health system
- Hank Kune: Initiate research to determine how to make health systems compatible in Germany + 3 countries where many Germans live/work/retire
 - Use results to create a prototype project in which compatibility is tested and improved on one or more issues, e.g. preventive medicine, treatment of chronic illness, care of alzheimer patients etc.
- Hank Kune: Initiate research into how to increase innovative capability of 70+ citizens and how to make active use of this capability in societal innovation processes
 - Create a project to prototype this in practice
- Hank Kune: Research project: How does diversity in the workplace increase innovative capability of individuals, teams, projects and organizations
- Hank Kune: Learn how to accept and work with life's uncertainties and unpleasantness
 - Create and test a skill-set for this at the ministry
 - Create a media campaign "Uncertainty is wonderful" and study its effects on stress reduction, risk taking and job satisfaction
- Hank Kune: Initiate research into how laughter at the workplace effects performance, creativity, stress reduction, productivity, job satisfaction etc.
- Hank Kune: Initiate research into what physical and mental skills/abilities 65+ people have and how this can be matched/translated to work requirements in organizations and society
- Michael Brannick: Discover or create systems to allow people to move from one job to another with minimal fuss

SPONSORED BY THE

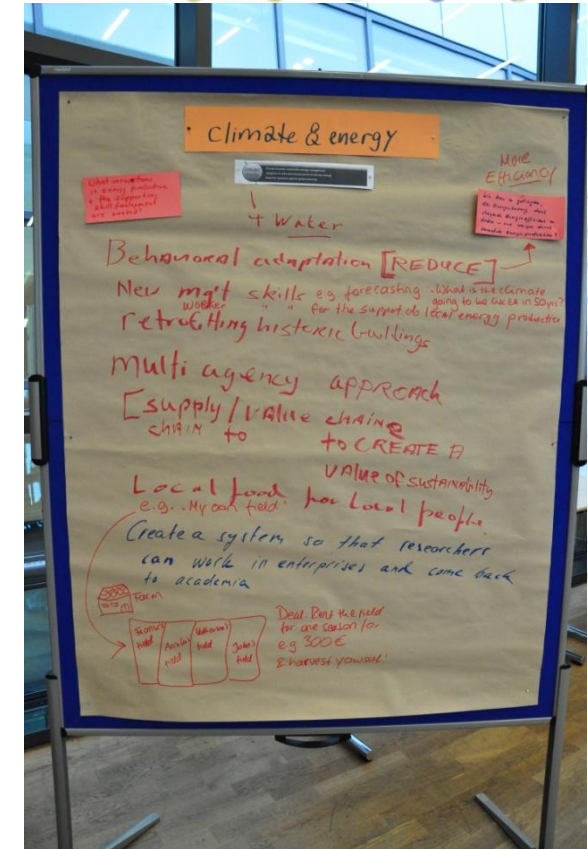
Climate & Energy

Short description of this challenge with regard to the Hightech-Strategy 2020:

- Consequences of climate change will affect societies in many countries massively if we don't establish effective adaptation measures and develop counteractions against global warming.
- Transformation towards sustainable energy supply: Focus on renewable energy and efficient use of energy.
- Development of international cooperation (within Europe and beyond that) is very important especially in this demand field.

PHASE VISION: How can future research on innovative capability contribute to meet the global challenges?

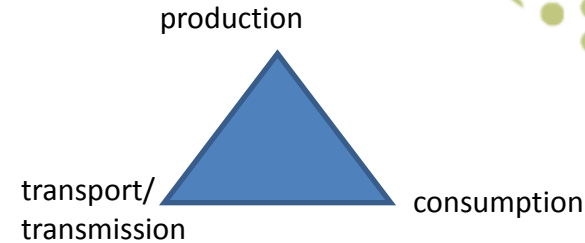
- What innovations in energy production and the supporting skill development are needed?
- Behavioral adaption (reduce) → how can increasing energy need be covered by increasing energy efficiency, and not by more energy production?
- New management skills, e.g. forecasting: “what is the climate going to be like in 50 years?”
- Need worker skills for the support of local energy production
- Retrofitting historic buildings
- Having an energy pass not only for private and public buildings, but also for companies as an obligation
- Green design/Eco-design
- City design for water use and energy -> new skills for planning and engineering
- Multi agency approach (supply/value chain, chain to create a value of sustainability)
- Local food for local people, e.g. “my own field”: rent afield for e.g. 300€ and harvest yourself
- Create a system so that researchers can work in enterprises and come back to academia



Climate & Energy

Efficiency triangle

- Vision: To produce, transport and transform energy with minimal input, without loss or waste
- Motto: Increasing quality of life by an efficient use of energy



**PHASE MISSION: What would I do if I were the German minister of education and research?
Try to generate mission statements with regard to the most important visions!**

John Bryson:

- What skill sets are needed to create sustainable long-term growth or economic activity?
- Focus on behavioural adaption to enhance effectiveness in response to climate change and sustainability.
- Security/climate/mobility/health/communication: Explore the skill sets required to transform public sector improvement into an active tool to drive innovation in local and regional economics

Frank Emspak:

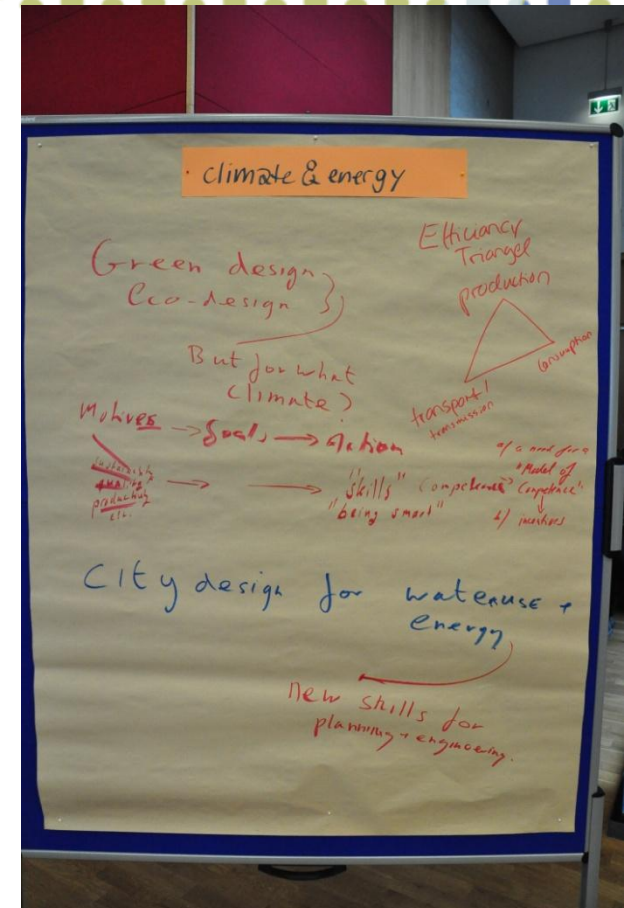
- Implement a holistic approach to each of these projects
- Develop one or two project topics within each category taking conception for execution, e.g. actually retrofit a building at the universities, achieve 25% food sustainably at the university.

Climate & Energy

Michael Brannick: Discover how to create value for sustainable production.

Annika Lantz:

- Demand (when adequate) that research should address important issues, i.e. quality is more than being published.
- Give funding directly to the universities and research institutes. Divide the money, hand it out and ask only “what were the results”. This would truly enhance the researchers’ innovative capability and quality in research.
- Full autonomy (the goals and the means) to universities would give the researchers time (not hunting for projects) and the freedom to also test their “theories” in practice.
- Investment in the schools, investment in the teachers’ education, create links between teachers’ education systems and research



Communication

Short description of this challenge with regard to the Hightech-Strategy 2020:

- Information and communication are fundamental for efficient value chains in a globalized world and basis for the public need for information
- Technical and juridical development of the internet of the future, global consensus-building in questions of standardization
- Preparation of a national roadmap for Embedded Systems Protection of democratic societies and their necessary infrastructures

PHASE VISION: How can future research on innovative capability contribute to meet the global challenges?

The first task is to examine the means and uses of communication for a better understanding of how to improve it. Communication is not only about saying things but also about listening. The communication process involves empathy and an understanding of the human preconditions of both the listener and the speaker to be effective.



Communication

- How to come from an information society to a knowledge society?
- Learning to communicate in multicultural and inter-/multidisciplinary contexts
- There is a need for permanent translation of concepts in different contexts
- Developing a “listening culture”
- Improve innovation didactics
- Prevent communication lock-ins on a personalized web
- Pertinence of different communication means in specific contexts
- How to establish behavioral norms in web space?
- Improve non-verbal communication
- Content quality should be essential, important, useful pleasant and urgent
- Open access to knowledge sources
- Sharing of ideas in organizations on truly equal “freedom of speech”-like basis
- Liberating the creative potential in work organizations



Communication

**PHASE MISSION: What would I do if I were the German minister of education and research?
Try to generate mission statements with regard to the most important visions!**

- Distinguish real threats and effective measures from suspicion and unnecessary burdens
- Peter Brödner: Relaunch legal frame work for open access to and free exchange of knowledge; develop methods and procedures for content quality assurance
- Michael Brannick: Discover or create means of making communication through computer technology seem more natural
- Peter Brödner: Develop tools for navigating in large knowledge spaces
- Dis- intermediation and community (not corporate) media
- Personal publishing
- Peter Kalvelage: Developing a common language about concepts of innovation; making use of all media to explore the process of innovation; trying to reach and include all levels of society
- Tarja Tikkanen: Implementing a thoughtful evaluation of the business schools – with Germany's innovation strategy as a point of departure; making communication an obligatory part of all curriculums – not just language skills (media didactics)
- Peter Kalvelage: Enhancing the interpermeability between the spheres of reflection and action
- Making all European academic work available a free open source
- John Bryson: Overcoming the boundaries of multinational communication



Mobility

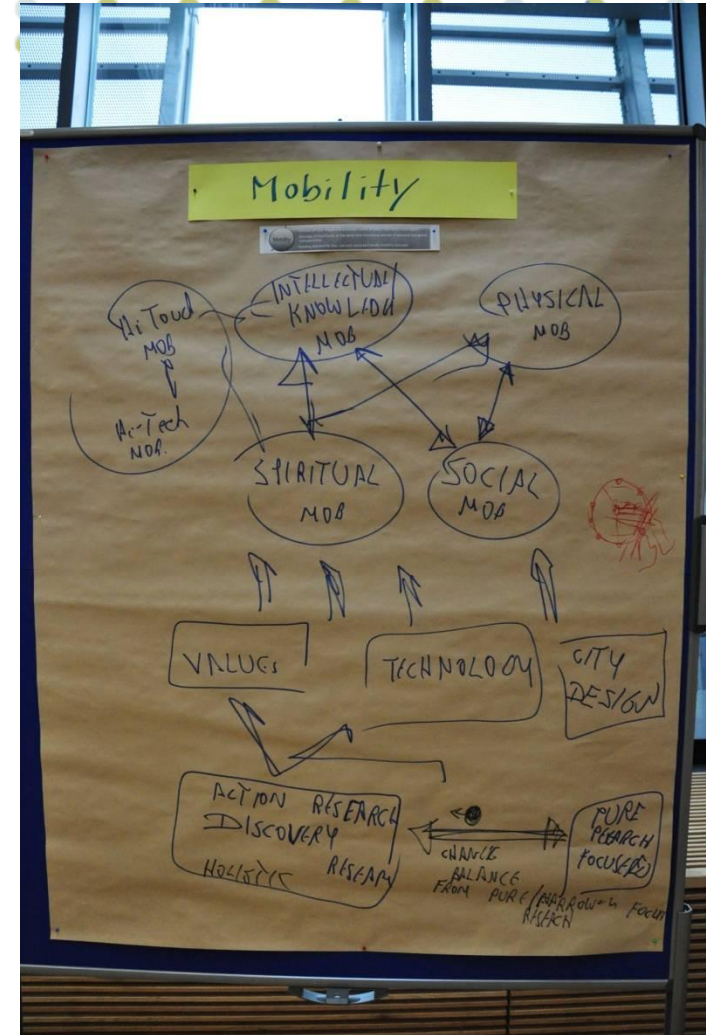
Short description of this challenge with regard to the Hightech-Strategy 2020:

- Increase of total freight and passenger traffic of about 70% (from 2004-2025)
- Shortage of fossil fuels, at the same time increasing volume of personal and goods transportation
- Growing demand for fast, safe and resource-friendly mobility concepts

PHASE VISION: How can future research on innovative capability contribute to meet the global challenges?

Mobility is strongly influenced by values, technology and city design. It can be divided into

- High Touch Mobility <=> High Tech Mobility
 - Intelligent Mobility
 - Value-based mobility: Function follow value
 - Social and ecological pricing
 - Explore benefits for mobility users
 - More offensive large scale research on new technologies
- Intellectual/Knowledge Mobility
 - Cross-border/boundary knowledge mobility
 - Explore ancient cultures
- Physical Mobility
 - Virtual communication to replace needs for physical mobility
 - Research on reducing mobility
 - Appreciate local assets and local slow movement
- Spiritual Mobility
- Social Mobility
- The re-design of (mega) cities is a new and broad research field



Mobility

PHASE MISSION: What would I do if I were the German minister of education and research? Try to generate mission statements with regard to the most important visions!

- T. Bryson: To balance mobility with the need to maintain local communities
 - Mobility has benefits, but also costs related to climate change but also erosion of community
- Karl-Erik Sveiby: To develop an education system that fosters mobility in a spiritual, intellectual, social and physical sense
- Ron Dvir: Realize a mobility future center with the focus on exploring interconnections between physical, intellectual and social mobility
- Günther Szogs: Establish a continuous forum (Future Center) to facilitate a process implementing a strategy that allows for physical and intellectual and cyber mobility (beneficial and affordable, where HiTech is triggered by HiTouch)
- Anonymous: To develop an affordable fuel cell engine and to make possible to produce hydrogen via sun processes
- Anonymous: To re-design cities and metropolitan areas to make possible a different kind of mobility



Safety

Short description of this challenge with regard to the Hightech-Strategy 2020:

- Increase of serious threats like terrorism, organized crime, natural and environmental disasters as well as pandemics
- Protection of democratic societies and their necessary infrastructures
- Development of new security solutions in order to protect infrastructures and value chains

PHASE VISION: How can future research on innovative capability contribute to meet the global challenges?

First and central task is to identify the real causes of today's and future threats

- The overall perception of threats is medially distorted
- We need accurate research and statistics to identify threats
- We have to switch from dealing with symptoms to the prevention of real causes
- Example: Terrorism is not a cause by itself, but a consequence of a lack of cultural respect and religious intolerance. Organized crime is not a cause by itself, but a consequence of the widening gap between rich and poor.

Real causes – not only symptoms – and therefore real threats could be

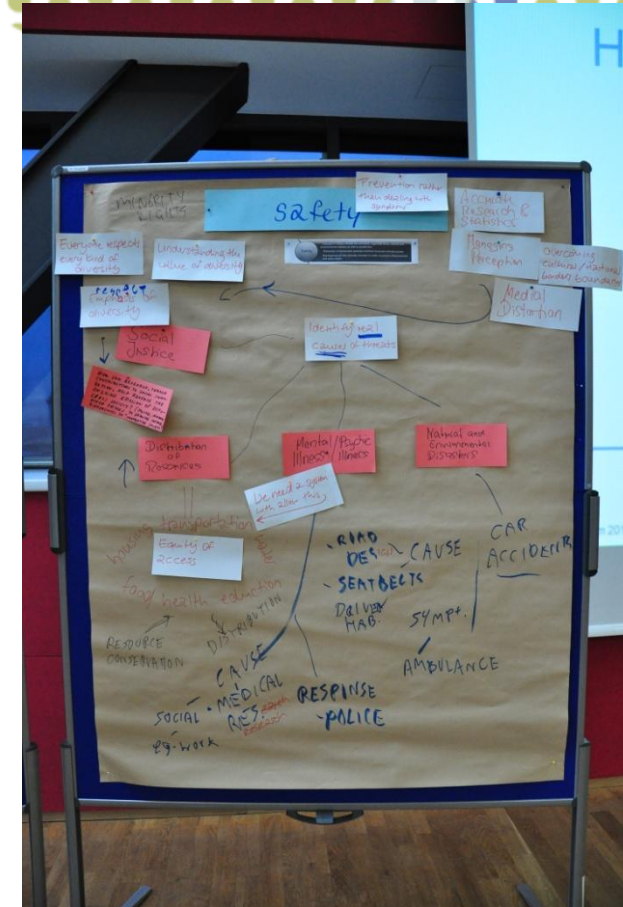
- Social injustice
 - Vision: understanding the value of diversity
 - Everyone respects every kind of diversity
 - Emphasis of respect and diversity
- Unfair distribution of resources
 - Vision: equity of access for housing, transportation, water, food, health, education
 - Stopping the growing income differences
 - We need a global system that is able to realize this
- Mental and psychic illness
- Natural and Environmental Disasters

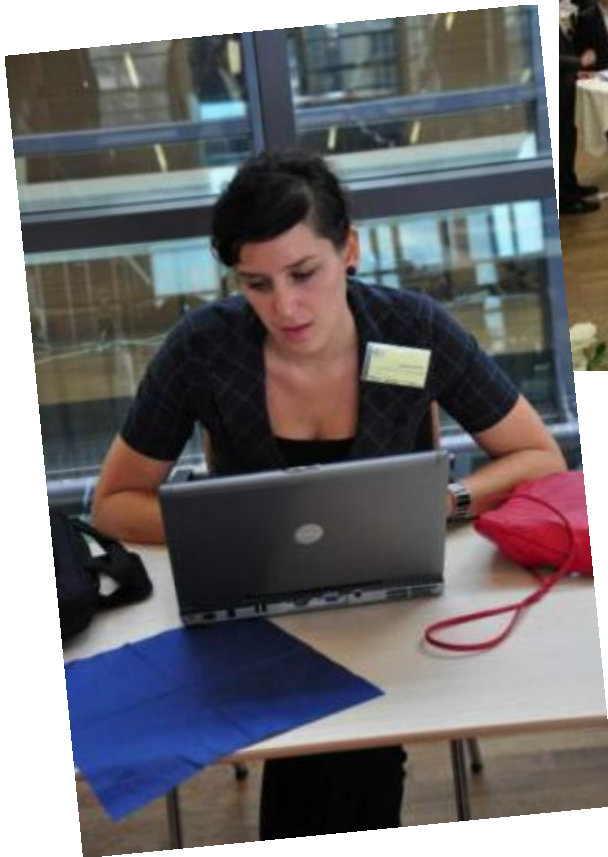
SPONSORED BY THE

Safety

PHASE MISSION: What would I do if I were the German minister of education and research? Try to generate mission statements with regard to the most important visions!

- Gerard Zwetsloot: Distinguish real threats and effective measures from suspicion and unnecessary burdens
- Mike Brannick: Teach people to recognize real vs. imagined threats
- Karl-Erik Sveiby: Research empirically whether the notion of innovative capability and its assumed causal relationships are scientifically valid
- Karl-Erik Sveiby: To improve the net effects of innovation (include the capability to reduce the unintended and negative effects of innovation in innovative capability)
- Anonymous: Research on every kind of diversity and its positive and negative consequences on work behavior/on organizations
 - Is the law system prepared for diversity?
- Anonymous: Research on Social Innovation to support the reversal of the ongoing erosion of democratic society





SPONSORED BY THE



Federal Ministry
of Education
and Research



EUROPÄISCHE UNION

RWTH AACHEN
UNIVERSITY



SPONSORED BY THE





SPONSORED BY THE



Federal Ministry of Education and Research



EUROPÄISCHE UNION

RWTHAACHEN
UNIVERSITY



SPONSORED BY THE



Ms / Frau	Ursula Bach M.A.	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Norbert Baszenski	Institut für angewandte Arbeitswissenschaft	DE
Mr / Herr	Dipl. Psych. Stephan Bedenk	Humboldt Universität Berlin	DE
Mr / Herr	Prof. Manfred Bornewasser	Ernst-Moritz-Arndt-Universität Greifswald	DE
Ms / Frau	Yasmin Böhme	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Prof. Michael Brannick	University of South Florida	US
Ms / Frau	Dipl.-Ök. Jennifer Bredtmann	Bergische Universität Wuppertal	DE
Mr / Herr	Dr. Peter Brödner	früher IAT	DE
Mr / Herr	Prof. John R. Bryson	University of Birmingham	UK
Ms / Frau	Dr. Sigrid Busch	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Dr. habil. Ulrich Busch	Leibniz-Sozietät Berlin	DE
Ms / Frau	Claudia Carduck M.Sc.	Frankfurt School of Finance & Management	DE
Mr / Herr	Stephen Downes	National Research Council Canada	CA
Mr / Herr	Dr. Ron Dvir	Innovation Ecology	IL
Mr / Herr	Prof. em. Frank Empsak	Diversified Media Enterprises	US
Mr / Herr	Dipl.-Ing. Bernd Engel	medical airport service GmbH	DE
Mr / Herr	Dr. Francesco Garibaldo	IRES E/R	IT
Ms / Frau	PD Dr. Holle Grünert	Zentrum für Sozialforschung Halle (ZSH)	DE
Mr / Herr	Prof. em. Björn Gustavsen	Work Research Institute Norway	NO
Mr / Herr	Max Haarich M.A.	IMA/ZLW & IfU, RWTH Aachen University	DE

Mr / Herr	Stefan Hallerstede	Universität Erlangen-Nürnberg	DE
Mr / Herr	Alan Hansen M.A.	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Dr. Ernst Hartmann	VDI/VDE-IT	DE
Mr / Herr	Dr. Frank Hees	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Prof. em. Klaus Henning	IMA/ZLW & IfU, RWTH Aachen University	DE
Ms / Frau	Dr. Gabriele Hoeborn	Bergische Universität Wuppertal	DE
Mr / Herr	Prof. Dr. Jürgen Howaldt	Sozialforschungsstelle Dortmund	DE
Mr / Herr	Jon Husband	Wirearchy	CA
Ms / Frau	Prof. Dr. Sabina Jeschke	IMA/ZLW & IfU, RWTH Aachen University	DE
Ms / Frau	Milena Jostmeier	Sozialforschungsstelle Dortmund	DE
Mr / Herr	Peter Kalvelage	Research in Vision	DE
Ms / Frau	Prof. Dr. Simone Kauffeld	Universität Braunschweig	DE
Mr / Herr	Prof. DI Günter Koch	execupery	AT
Ms / Frau	Ilona Kopp	Deutsches Zentrum für Luft- und Raumfahrt (DLR)	DE
Mr / Herr	Hank Kune	Future Center Alliance	NL
Ms / Frau	Prof. Dr. Annika Lantz	University of Stockholm	SE
Ms / Frau	Dr. Barbara Light	Middlesex University	UK
Mr / Herr	Prof. Dr. Jan Kees Looise	University of Twente	NL
Ms / Frau	Silke Marczincik	Fachhochschule Aachen	DE
Mr / Herr	Prof. Michel Mattoug	Steinbeis Stiftung	F

SPONSORED BY THE

Ms / Frau	Johanna Maurer	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Prof. Dr. Peter Pawlowsky	Technische Universität Chemnitz	DE
Ms / Frau	Brigitte Pottkämper	Bundesministerium für Bildung und Forschung (BMBF)	DE
Ms / Frau	Dr. Anja Richert	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Dr. Dieter Rehfeld	Institut Arbeit und Technik	DE
Mr / Herr	Dr. Ulrich Sassenbach	G.I.B. NRW	DE
Mr / Herr	Dipl. Volksw. Johannes Sauer	früher BMBF	DE
Mr / Herr	Hans-Georg Schnauffer	Thyssen-Krupp	DE
Ms / Frau	Katharina Schuster M.A.	IMA/ZLW & IfU, RWTH Aachen University	DE
Ms / Frau	Janine Stieger M.A.	IMA/ZLW & IfU, RWTH Aachen University	DE
Mr / Herr	Prof. Dr. Karl-Erik Sveiby	Hanken School of Economics	FI
Mr / Herr	Günther Szogs	New Club of Paris	DE
Mr / Herr	Prof. Vladimir Teplyakov	TIPS, Russian Academy of Science	RU
Ms / Frau	Anne Thelen M.A.	IMA/ZLW & IfU, RWTH Aachen University	DE
Ms / Frau	Kerstin Thöing M.A.	IMA/ZLW & IfU, RWTH Aachen University	DE
Ms / Frau	Prof. Tarja Tikkanen	Stord/Haugesund University College	NO
Ms / Frau	Prof. Dr. Uta Wilkens	Ruhr-Universität Bochum	DE
Mr / Herr	Dr. Werner Wobbe	Europäische Kommission	BE
Mr / Herr	Prof. Dr. Gerard	I.J.M. Zwetsloot TNO Work & Employment	NL

SPONSORED BY THE

**Thank all of you for your participation and
for sharing your
invaluable expertise with us!**

SPONSORED BY THE



Federal Ministry
of Education
and Research



EUROPÄISCHE UNION

RWTHAACHEN
UNIVERSITY