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# Europe facing global competition: Stress-test for the Innovation Union and the European Research Area

Dr. Dr. h. c. Barbara Haering, Co-Chair of ERIAB

# The world is vastly interconnected



**Flights** 



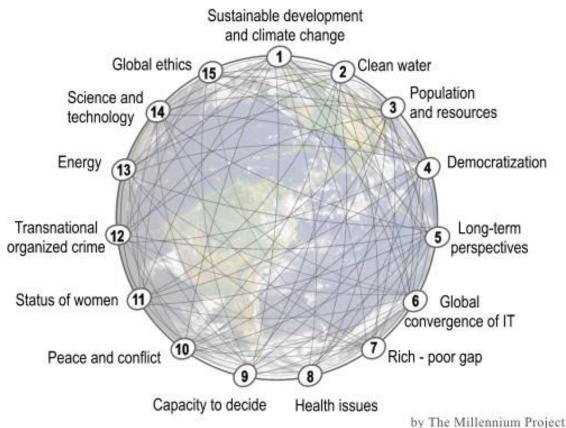
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# We share global trends for (2030, NIC, USA)

- Individual empowerment supported by greater educational attainment, widespread use of ICT, new manufacturing technologies and healthcare advances.
- Diffusion of power with a shift of power from the few hegemons to networks and coalitions of states and non-state actors in a multipolar world.
- Demographic patterns changing due to aging societies, migration and urbanization.
- Increasing food, water and energy demand owing to an increase in global population.

# We share global challenges

# 15 Global Challenges facing humanity



by The Millennium Project www.millennium-project.org

# There is an innovation crisis in Europe

- Stagnation: The R&D intensity in the EU is stagnant, while it grows in Asia and the US maintain their higher level.
- Quantity impact: The EU contributes less to high impact publications than the US – even though the EU still publishes most scientific material worldwide and has a growing research community.
- Less than 25% of the global research funds are spent in the EU. At the same time we are facing growing R&D-investments in emerging countries.

# Fatal impacts of the «Great Recession»

- The recent recession wasted human resources and financial means; but also trust amongst EU MS and between European citizens and EU governance.
- Innovation gap: The recession had a striking impact on disparities in knowledge creation and absorption capacity across the EU. The innovation and knowledge divide represents a major problem for Europe.
- Smart strategies: Europe's heterogeneity requires smart specialization strategies reflecting the absorptive capacity and characteristics of the regions.

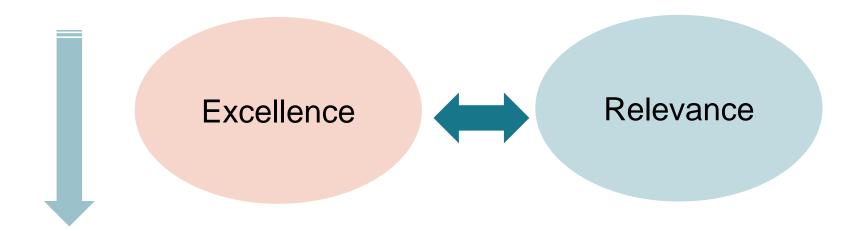
# Europe not ready to manage globalization

- Achievements on strategic level: During the first years of the IU, comprehensive strategies, financial support as well as legislative instruments have been developed.
- Low impact on the ground: However, impact on the ground and particularly on the demand side of R&I has not yet materialized sufficiently:
  - Europe's overall competitiveness has not yet substantially improved.
  - Europe still appears too concerned about getting organized and is not yet prepared to cope with globalization.

### Excellence at the centre of R&I policy

- Investments: R&I strategies need to refocus on the role of private and public investments in R&I. Thus, contributing to long term economic growth, competitiveness, job creation and sustainable development.
- Excellence: A purely quantitative commitment will be insufficient. Excellence is what matters in global science networks, for addressing grand challenges, for innovation and thus for industrial competitiveness.
- Putting excellence at the heart of R&I policies will raise the efficiency and efficacy of such policies at national, European and global level.

#### Excellence <-> Relevance



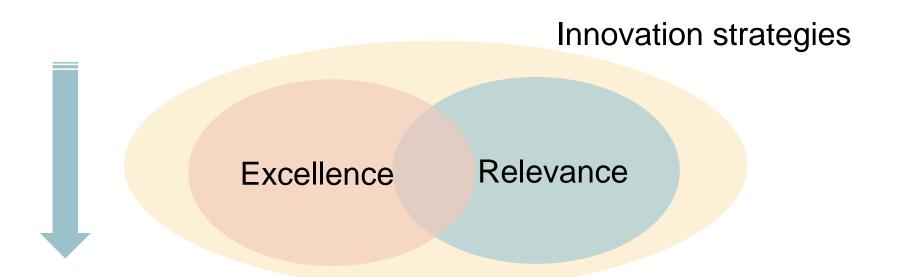
- 80ies/90ies: Competition between different research strategies and funding priorities:
  - «Excellent» fundamental research or
  - «Relevant» applied research

#### Excellence «&» Relevance



- 00ies: Excellence and relevance are merged:
  - An important part of fundamental research is geared towards grand challenges.
  - Also applied research has to meet criterias of excellence.

### Innovation strategies



- 00ies: Comprehensive innovation strategies are been developed:
  - DG Research & Innovation
  - Horizon 2020, Innovation Union
  - Energy research strategies in MS

### Going international – beyond Europe



 2014: Research and innovation policies have to look beyond Europe! Excellence is a global benchmark!

# Objectives of international research strategies

- Addressing grand challenges: International R&I cooperation is imperative to address global grand challenges successfully.
- 2. Research competitiveness: Strengthening Europe's excellence and attractiveness in research is decisive in order to remain internationally competitive.
- 3. Economic competitiveness: Fostering Europe's economic competitiveness implies the support for European enterprises to attract international financing and to build up corresponding networks.

# 1. Adressing grand challenges

- Public goods and interests: International science cooperation shall focus on public goods and public interests, identify fields of specific common interests of regions and develop flexible governance structures.
- Integrating capacities: International science cooperation addressing grand challenges has the potential to integrate Europe's R&I capacities.
- Integrating approaches: Focusing R&I on grand challenges will foster comprehensive innovation strategies.

### 2. Increasing research competitiveness

- Strengthening Europe's attractiveness for researchers from abroad is crucial to increase Europe's international research competitiveness.
- Pooling money: Investing pooled MS' money in large research facilities has the potential to foster Europe's attractiveness for researchers from abroad.
- Mobility: International participation in Horizon 2020 should distinctively be increased. Moreover, the portability of ERC grants should be strengthened by enlarging the proportion of time that can be spent outside of Europe.

### 3. Strengthening economic competitiveness

- Supporting enterprises: Strengthening Europe's economic competitiveness implies the support for European enterprises to attract international financing and to build up corresponding networks.
- Attract money to Europe: There is money trapped on corporate balance sheets in emerging markets due to tax systems of various countries. It has to be mobilized and attracted to Europe.
- Funds of funds: The use of private sector managed funds of funds can provide instant access to venture capital and thus strengthen innovation.

### Summary: Lessons to be implemented

- «Open», «sharing» and «global» will be the drivers in science, the corporate as well as the public sector.
- New business models: We have to develop new business models in all three sectors in order to have a sustainable impact.
- Transinstitutions: We have to learn how to govern hybrid organisation structures bringing together science, the corporate as well as the public sector.
- Smart strategies considering regional specificities can help bridge the knowledge and innovation gaps.

#### We need swift action!

«It is increasingly clear that the world has the resources to address its challenges. It is also increasingly clear that the current decision making structures are not making good decisions fast enough and on the scale necessary to really address the global challenges.»

2012 State of the Future Report, The Millennium Project