



University of Zagreb

# Session III. Doctoral Education and Knowledge Society: New Ways of Collaborations between Europe and Canada

RECTORS SEMINAR 2012 “EUROPE – CANADA: THE FUTURE OF ACADEMIC  
COOPERATION “



Melita Kovacevic  
Vice-Rector for Research and Technology  
EUA-CDE Steering Committee Chair





## On World Class University:

“Everyone wants one, no one knows what it is, and no one knows how to get one.”

*(Altbach, 2004)*



## Topics:

- ❖ Facts and Figures
- ❖ Recent developments in doctoral education  
*(in Europe and world wide)*
- ❖ UNICA activities – *example of strategic thinking*
- ❖ Challenges for future

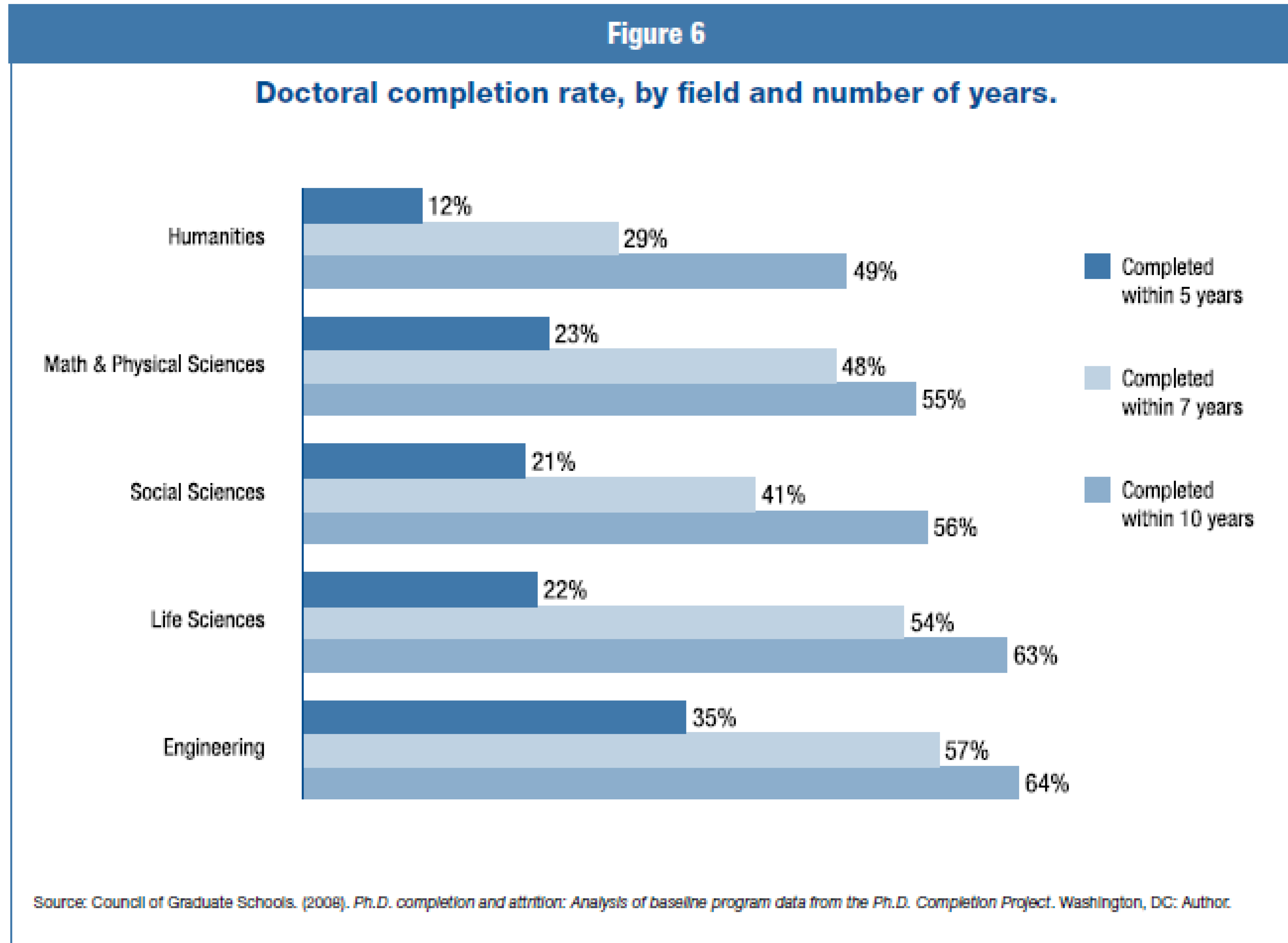
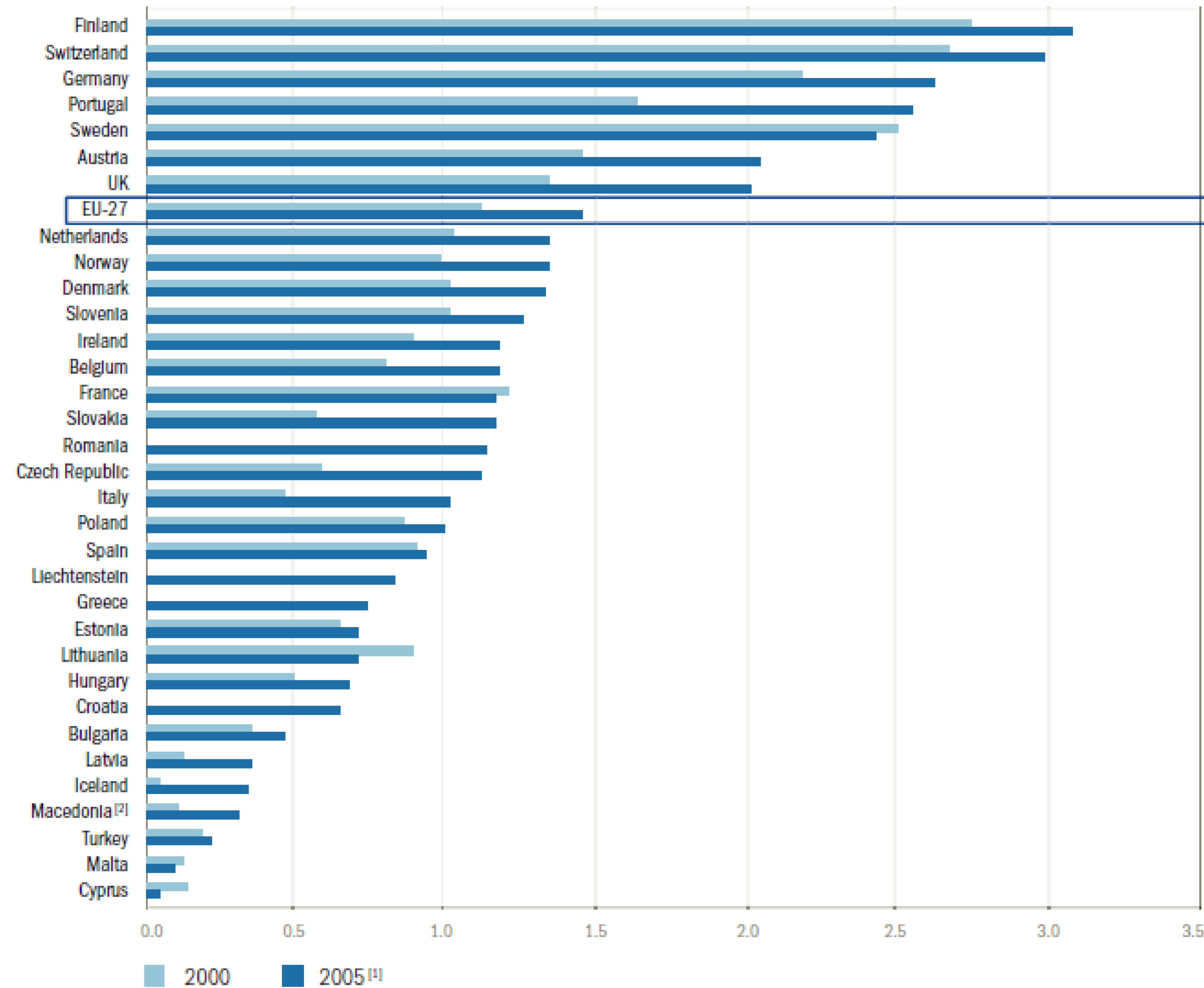


FIGURE I.2.10 Doctoral graduates per thousand population aged 25-34, 2000 and 2005<sup>[1]</sup>



Source: DG Research  
Data: Eurostat  
Note: [1] IT, CH: 2004  
[2] Former Yugoslav Republic of Macedonia

STC key figures report 2008

## Facts and Figures

TABLE II.4.1 Doctorate holders by sex and country of origin

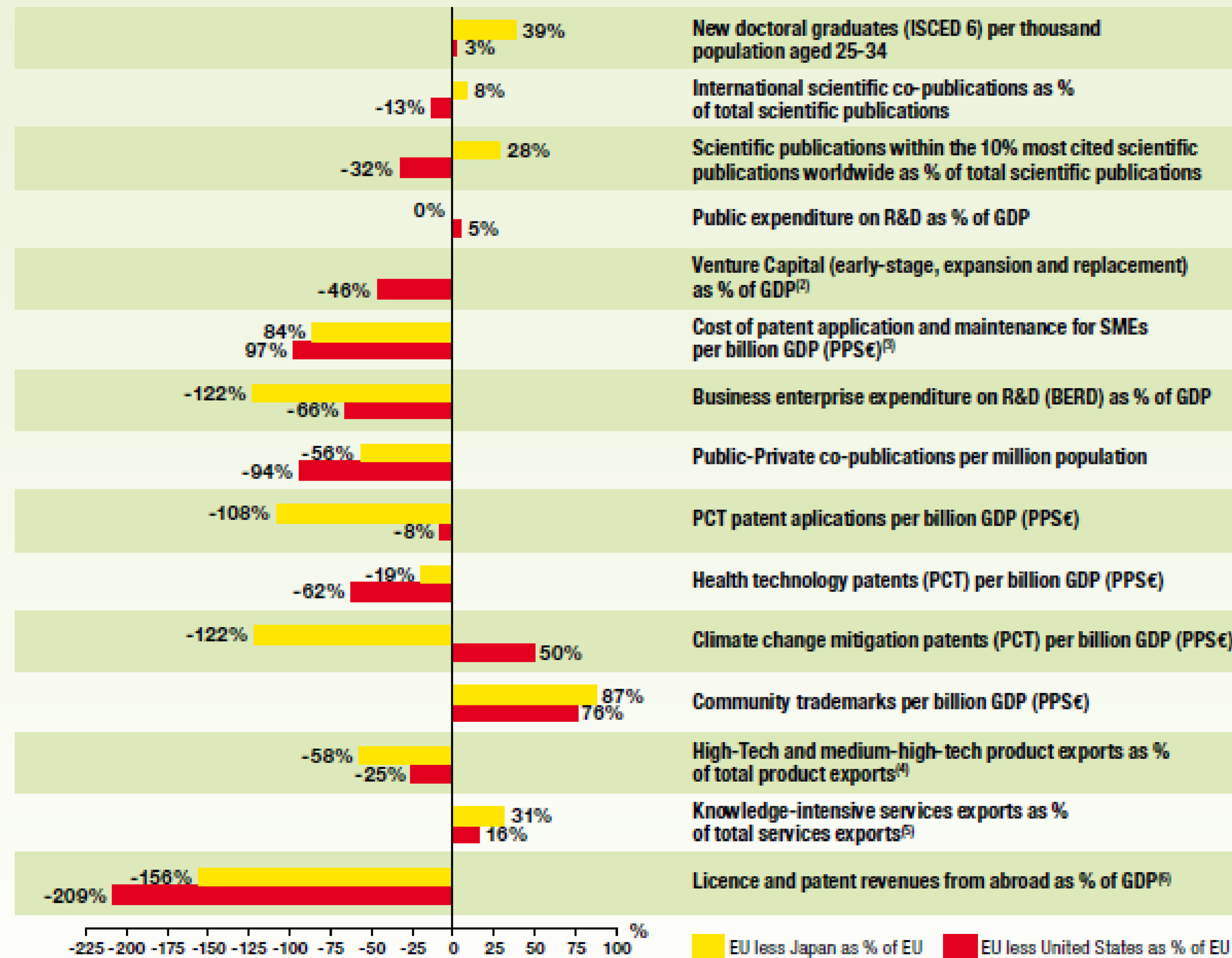
	TOTAL		MEN		WOMEN	
	Citizens of reporting country (%)	Foreign citizens (%)	Citizens of reporting country (%)	Foreign citizens (%)	Citizens of reporting country (%)	Foreign citizens (%)
Germany (2003)	93.2	6.8	94.4	5.6	90.6	9.4
Germany (2004)	92.6	7.4	93.6	6.4	90.4	9.6
Switzerland (2003)	70.0	30.0	:	:	:	:
Switzerland (2004)	69.9	30.1	:	:	:	:
US (1993)	90.7	9.3	90.2	9.8	92.4	7.6
US (2003)	88.3	11.7	87.2	12.8	90.2	9.8
Canada (1996)	83.2	16.8	83.4	16.6	82.3	17.7
Canada (2001)	82.0	18.0	82.0	18.0	81.8	18.2
Australia (2001)	86.0	14.0	86.6	13.4	84.4	15.6
Argentina (2005)	99.8	0.2	99.6	0.4	100.0	0.0

Source: DG Research  
Data: Eurostat, OECD, UNESCO

STC key figures report 2008

**FIGURE 1**

**Performance Scoreboard for Research and Innovation indicators -  
The gap between the EU and the United States and Japan, 2009<sup>(1)</sup>**



Source: DG Research and Innovation

Data: Eurostat, OECD, Science Metrix / Scopus (Elsevier), Innovation Union Scoreboard 2010

Notes: (1) The values refer to 2009 or to the latest available year.

(2) EU does not include EE, CY, LV, LT, MT, SI, SK.

(3) The values are on the left side of the graph because they express higher costs.

(4) EU includes Intra-EU exports and was calculated from the unweighted average of the values for the Member States.

(5) EU includes Intra-EU exports.

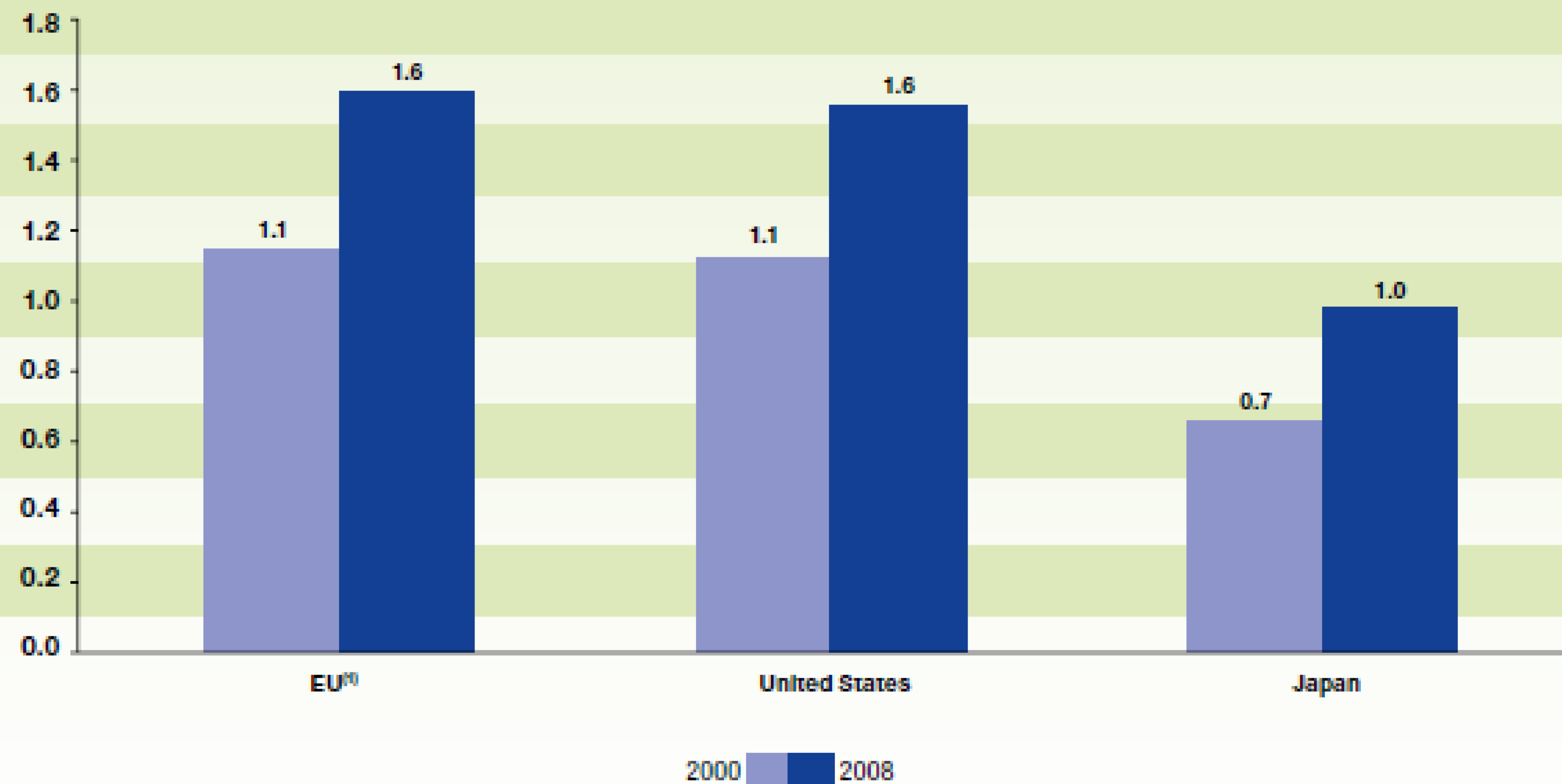
(6) EU refers to extra-EU.

(7) Elements of estimation were involved in the compilation of the data.

Innovation Union Competitiveness Report 2011

**FIGURE 8**

**New doctoral graduates (ISCED 6) per thousand population aged 25-34, 2000 and 2008**



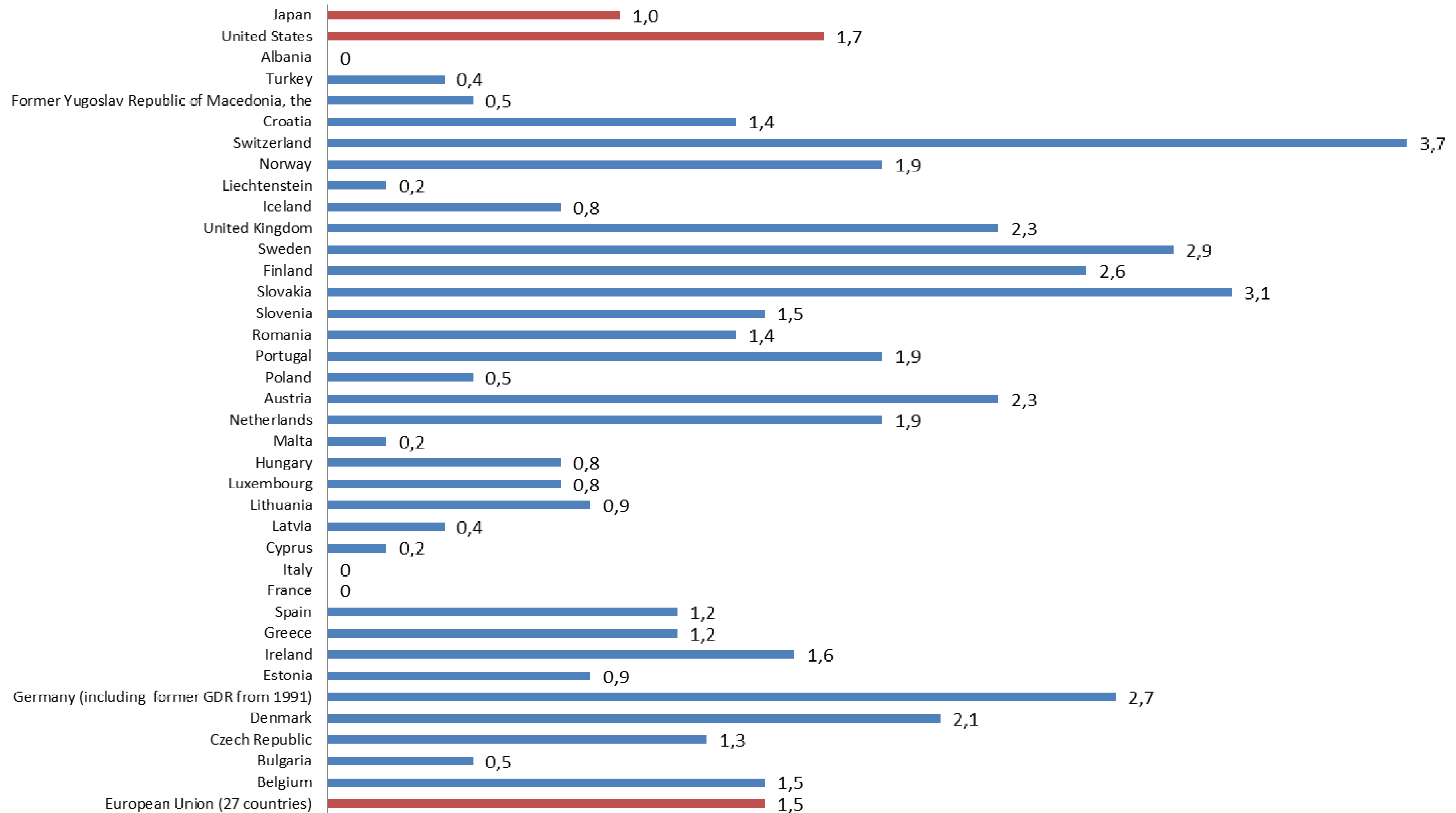
Source: DG Research and Innovation  
Data: Eurostat, OECD  
Note: (1) EU aggregate does not include LU.

Innovation Union Competitiveness Report 2011



### Graduates (ISCED 6) per 1 000 of the population aged 25-34, 2010

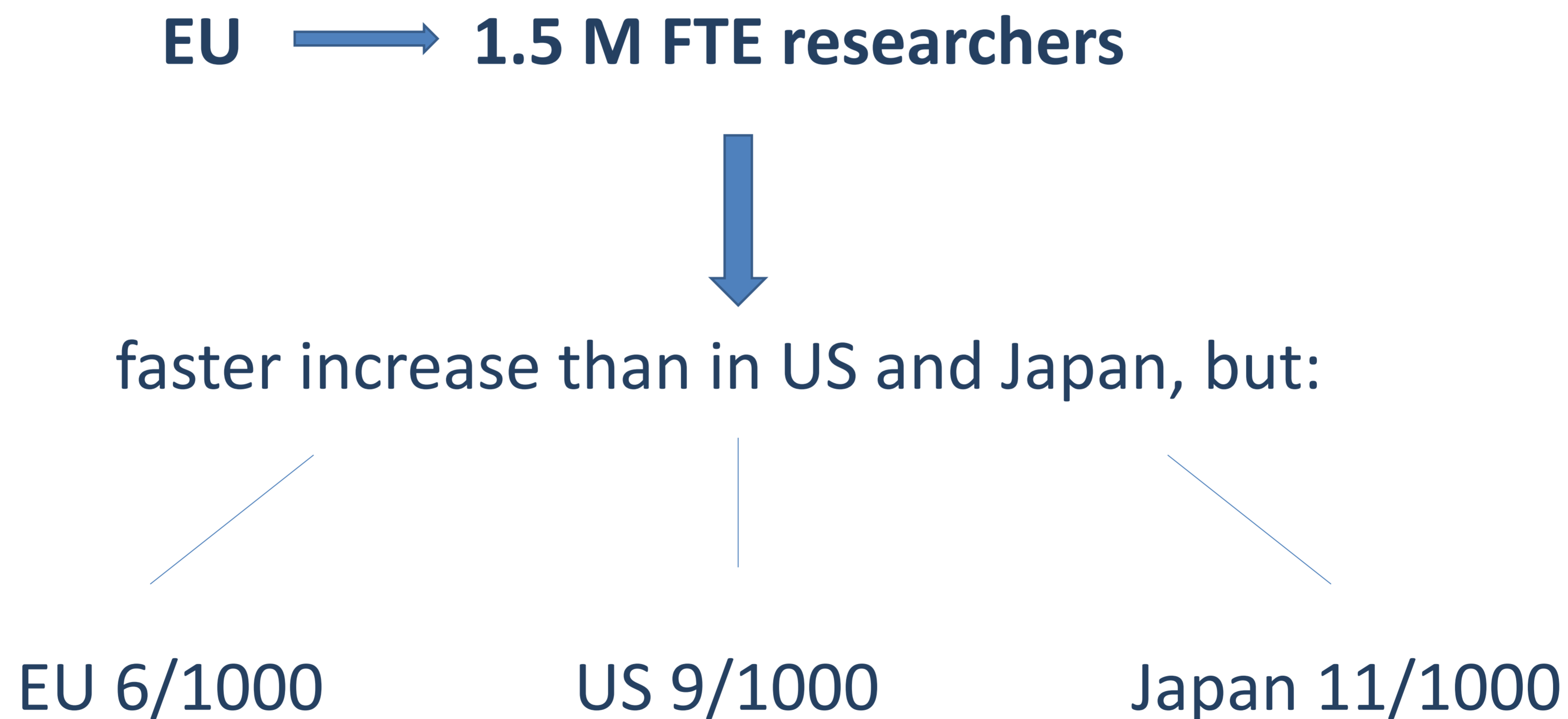
(source: EUROSTAT)





## Facts and Figures

The research profession as a whole needs to become more attractive and effective to provide Europe with a workforce qualified to cope with the grand challenges facing our societies. Although the **number of researchers** in the EU (1.5 million FTE in 2008) has been increasing since 2000 at a faster rate than in the US and Japan, the EU still lags behind in the share of researchers in the total labor force.



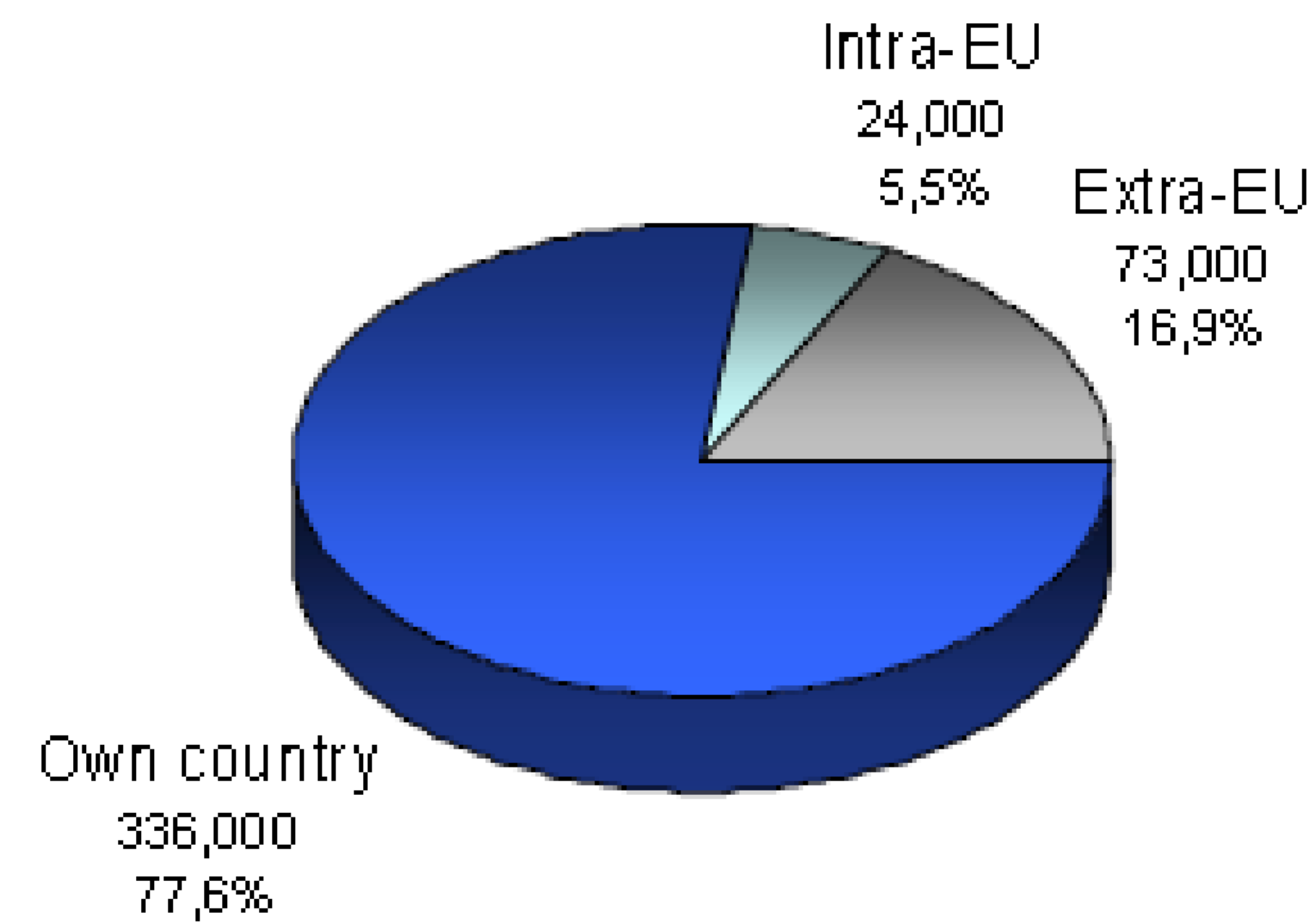
The difference is due to a much lower share of researchers in the business sector: 46% of total researchers in the EU against 68% in Japan and 79% in US.

(Report of Mapping Exercise on Doctoral Training in Europe *Towards a common approach*, 2011)



## Facts and Figures

**Figure 1. Percentage of doctoral candidates in the EU according to their country of citizenship (2004)**



*Source: IPTS with Eurostat data. The category "unknown" has not been taken into account.*



### World

- In 2009, almost **3.7 million tertiary students** were enrolled outside their country of citizenship.
- The number of tertiary students enrolled outside their country of citizenship **rose by 6.4% between 2008 and 2009** while global tertiary enrolment grew by 3.3% in the same period.
- In descending order, **Australia, the United Kingdom, Austria, Switzerland and New Zealand** have the highest percentages of international students among their tertiary enrolments.
- The largest numbers of international students are from China, India and Korea. **Asian students** represent **52% of foreign students enrolled worldwide**.
- In the 21 European countries that are members of the OECD, there were **2.6 foreign students** per each European citizen enrolled abroad.
- The United States received the most (in absolute terms), with 18% of all foreign students worldwide, followed by the United Kingdom (10%), Australia (7%), Germany (7%) and France (7%).

(OECD Education at a Glance, 2011)

- In 2007, the **global outbound mobility ratio was 1.8%**. This means that approximately 2 out of every 100 tertiary students left their home countries to study. Moreover, this figure has barely changed since 1999 (1.9%)

(UNESCO Global education digest 2009)



## Facts and Figures

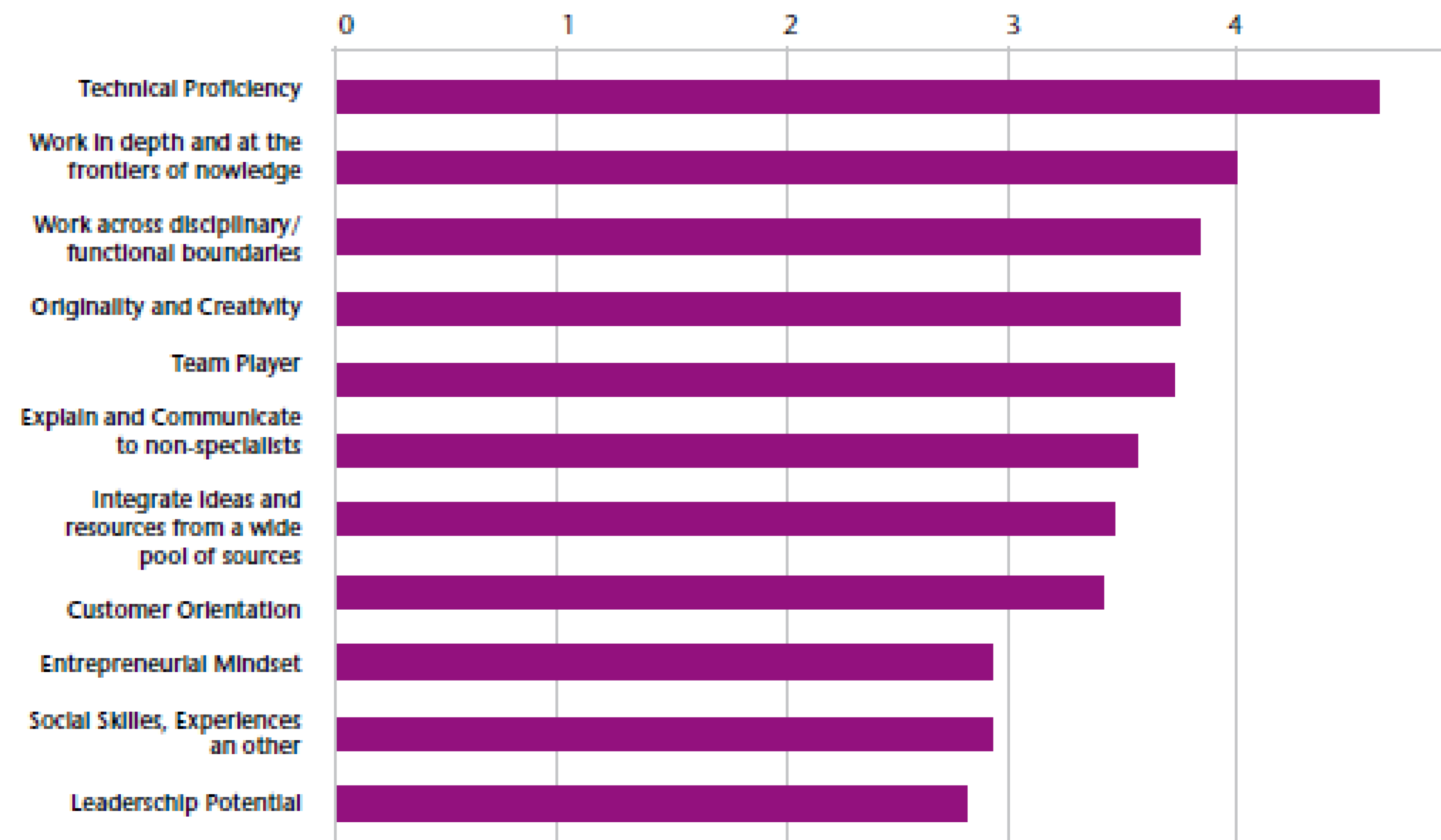
### Europe

- Recent EU data show that there is a **growing influx of international students to Europe**, particularly from Africa and Asia. The main importers in 2007 were Austria, Belgium, Denmark, France, Germany, Sweden and the UK . The largest change has taken place in the UK where the number of non-EU students rose from 11% in 2000 to 31% in 2007.
- **EU21** countries host the highest number of foreign students, with **38% of total foreign students**. These 21 countries also host 98% of foreign students in the European Union.

(Trends 2010)



**Fig. 4.4.1-1 DOC-CAREERS company case studies: Average rating of the importance attributed to skills of doctorate holders at the time of recruitment**



Source: EUA DOC-CAREERS Project

## Facts and Figures

Figure 4.3.1-1 Trends in doctorate careers paths in DOC-CAREERS interviewed companies

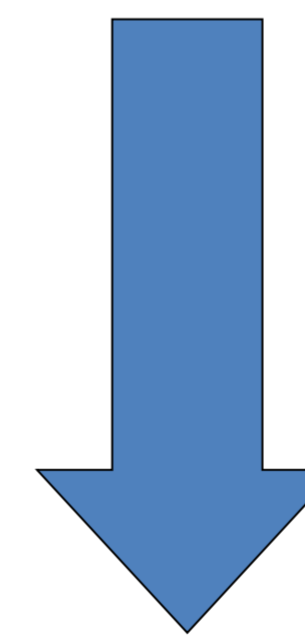


Source: EUA DOC-CAREERS Project



## Globalisation

- it affects all human activities and processes
- demand for more research and research practices to address them
- need to promote a future development of a knowledge-based society, both in developed and developing countries

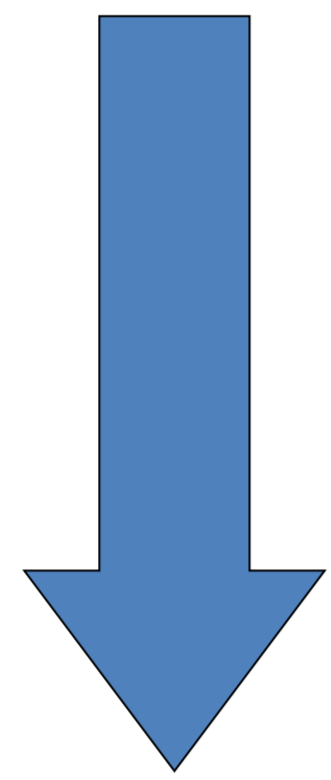


an increased strategic role for universities  
(WB, OECD, EU...)



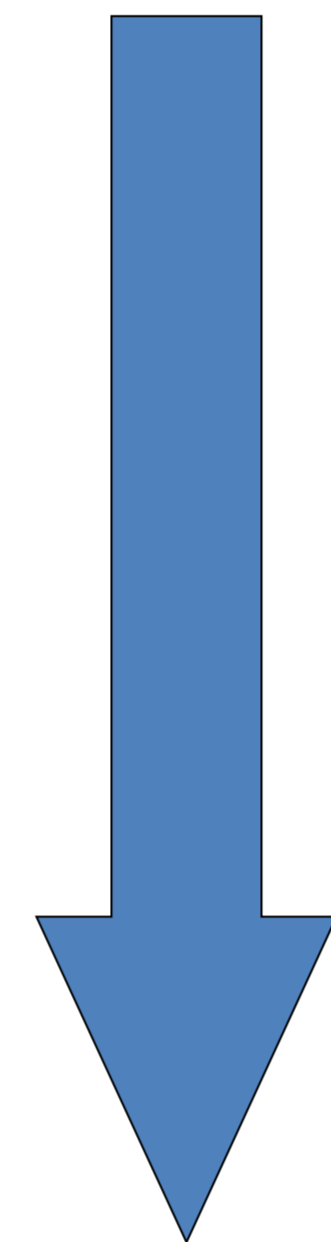


## European vs. World perspective



EHEA

ERA



- new HE market
- new demands
- changing rules



## Recent developments

- diversification of HE
- diversification of institution
- institutional classification, ranking
- funding
- new players, sometimes slow dynamic  
old players .....

changes are quick and significant



### Doctoral education reform

- doctoral education **central** to ERA and EHEA
- **research** → the core of doctoral education
- main driver of the doctoral education reform are **universities**
- European landscape **profoundly changed**



## A 'quiet revolution' in doctoral education in Europe

- ◆ European universities have been at the forefront of the reforms of DE
- ◆ **The Salzburg Principles, 2005**
- ◆ EUA Council for Doctoral Education, 2008
- ◆ The implementation of Salzburg principles in very diverse contexts:
  - accumulates a considerable amount of original experiences and innovative practices
  - doctoral schools emerge Europe-wide
- ◆ **The Salzburg II recommendations, 2010**



[www.eua.be](http://www.eua.be)





Recent developments

structured doctoral education



research is a central point



quality



capacity



What is crucial for good quality doctoral education



Critical mass



Not to be reduced on quantity



Networking (national, regional, European)



## Recent developments

- doctoral education is a global issue
- the needs of local education and research  
→ **towards solving global problems**



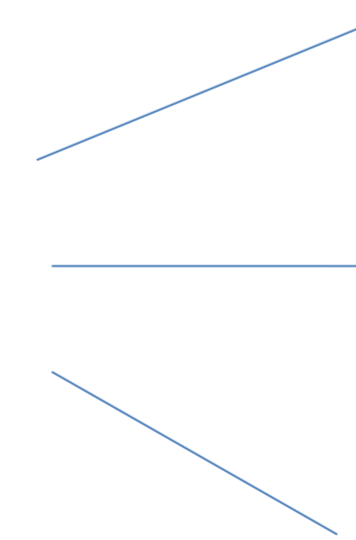


## Recent developments

### Mobility within:

- “sandwich” doctoral programmes
- joint programmes
- co-tutelle programmes

- intensive training activities



annual summer schools

intensive courses

lab visits





### Obstacles and constraints

- difference in structure, regulations (joint programmes)
- availability of resources (financial as well as human and time)
- attractive research environment
- language barriers



### Obstacles and constraints

universities are facing new challenges



different universities – different attitudes and needs



## UNICA activities

- expanding cooperation
  - within Europe
  - outside Europe
- taking a pro-active role in initiating new activities  
(e.g. *Higher Education Reform Project*)
- offering intensive programmes  
(e.g. Master Class in doctoral education)
- establishing collaboration with other networks and university associations  
(*in Europe and worldwide*)



## Challenges for future

- regulatory flexibility (on the national and European level)
- sustainable funding
  - > to fortify and diversify financial support
- transparent rules
- international outlook
  - > various modes of mobility
  - > to increase brain circulation
- to fortify and diversify financial support
  - > to enhance quality of research



### Challenges:

- institutional strategic development



the role of doctoral education and mobility

- administrative resistance
- adequate ballance of top-down and bottom-up approach
- system support
  - international degree recognition,
  - institutional agreements...



## Challenges for future

Instead of conclusions:

(Salzburg Principles, 2005)

### No. 9. Increasing mobility

... to offer geographical and interdisciplinary / intersectoral mobility and international collaboration...

(Salzburg II Recommendations, 2010)

### No. 2.8. Internationalisation

- Internationalisation strategies should be a tool in increasing the quality in doctoral education and in developing institutional research capacity.
- ...from internationalisation at home...
- ...collaborative doctoral programmes...
- ...international joint doctoral programmes...

**The mobility of doctoral candidates must be driven by the research project.**



# University of Zagreb



Network of Universities  
from the Capitals of Europe

## Thank you

