Future EU Research & Innovation Landscape

„Strengthening the knowledge base of Europe"

Gerhard Riemer, 21. May 2010

- The **main priority for Europe** is to overcome the global financial and economic crises; biggest challenge since the Treaty of Rome?

- Find the **right balance** between **tackling the crises** repair budgets, safe money, ….and invest in our future in education, innovation, research and technology

- Commissioner Maire **Geoghegan-Quinn:** „Create the conditions for a more dynamic Europe. A Europe where innovative firms want to do business, and where talented people want to live and work. A Europe based on a vibrant innovation economy an „i-conomy"."

Important issues facing in 2030

„Still imagining what 2030 will be like, in your opinion, what will be the two most important issues facing (OUR COUNTRY) in 2030?" (MAX. 2 ANSWERS)
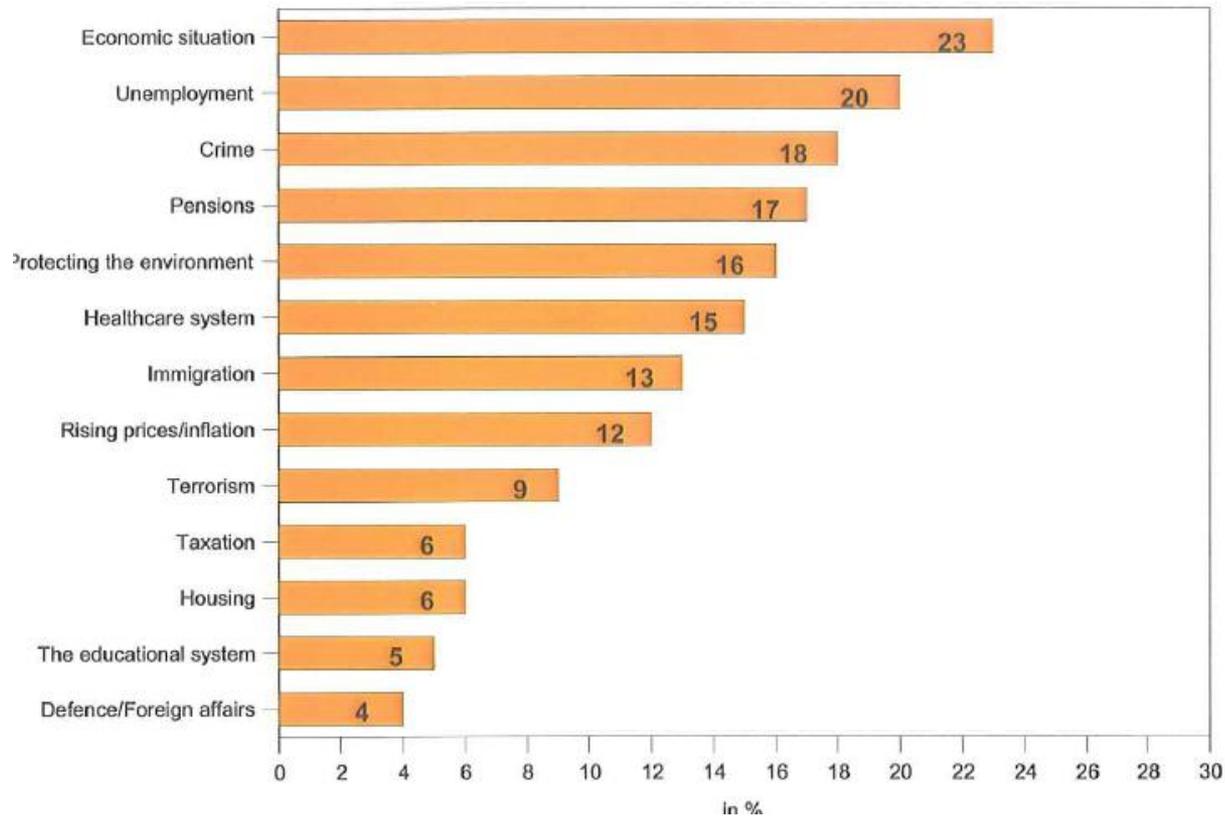
1. **Europe** – and member-countries - need **stronger links** between education, research and innovation as key drivers of a knowledge based society

   - "**Science** is the translation of money into knowledge and **Innovation** is the translation of knowledge into money" (J. A. Schumpeter)

   - No top science without top scientists, no innovation without enough MST graduates, without qualified staff,

   - There is no overall strategy: education – research – innovation

   - Improve the governance of ERI, close cooperation between ministries and commissioners
   Austria: 4 ministries responsible for ERI

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2. The increasing **trend towards** **better** **qualifications and higher education**

- Studies (Cedefop,..) show employment trends by level of qualification

  – 20 mio. more jobs with highest qualification level
  – 12 mio. less jobs with no ore low formal qualification
  – One third of all jobs in 2020 need tertiary level

- Are we prepared good enough?

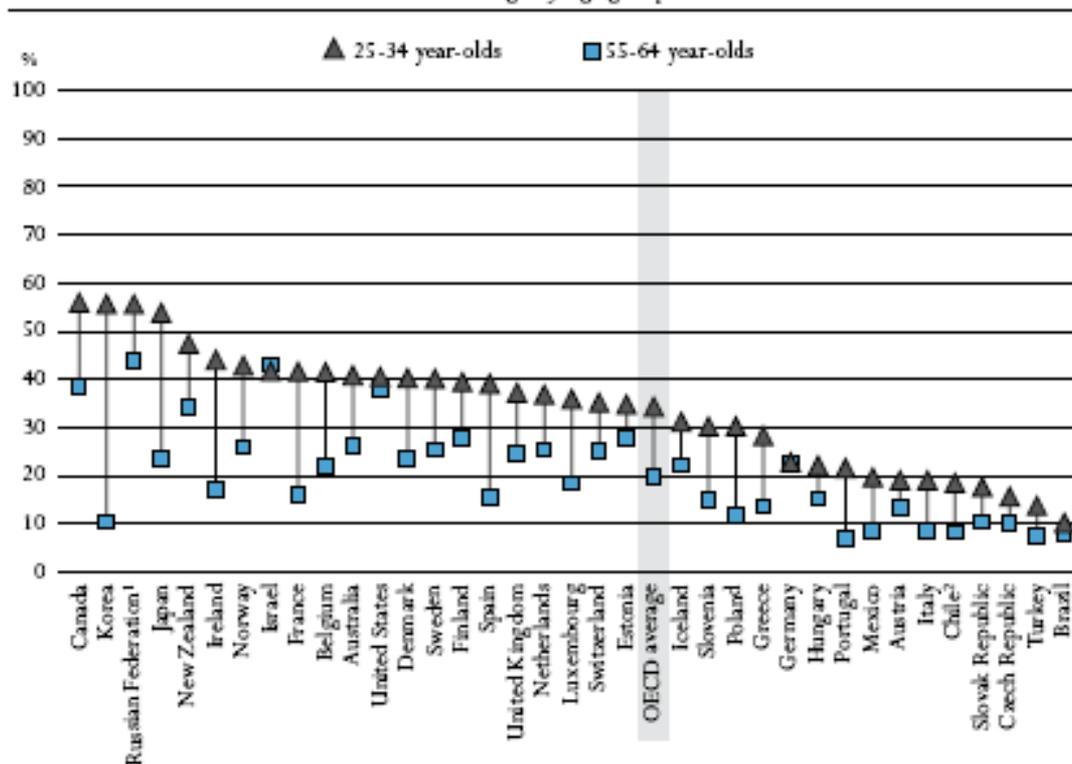- Higher education as key for employment

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Figure 4: Employment trends by level of qual-ification, 2000-2020 (EU-27 + Norway and Switzerland)

Source: CEDEFOP, 2010
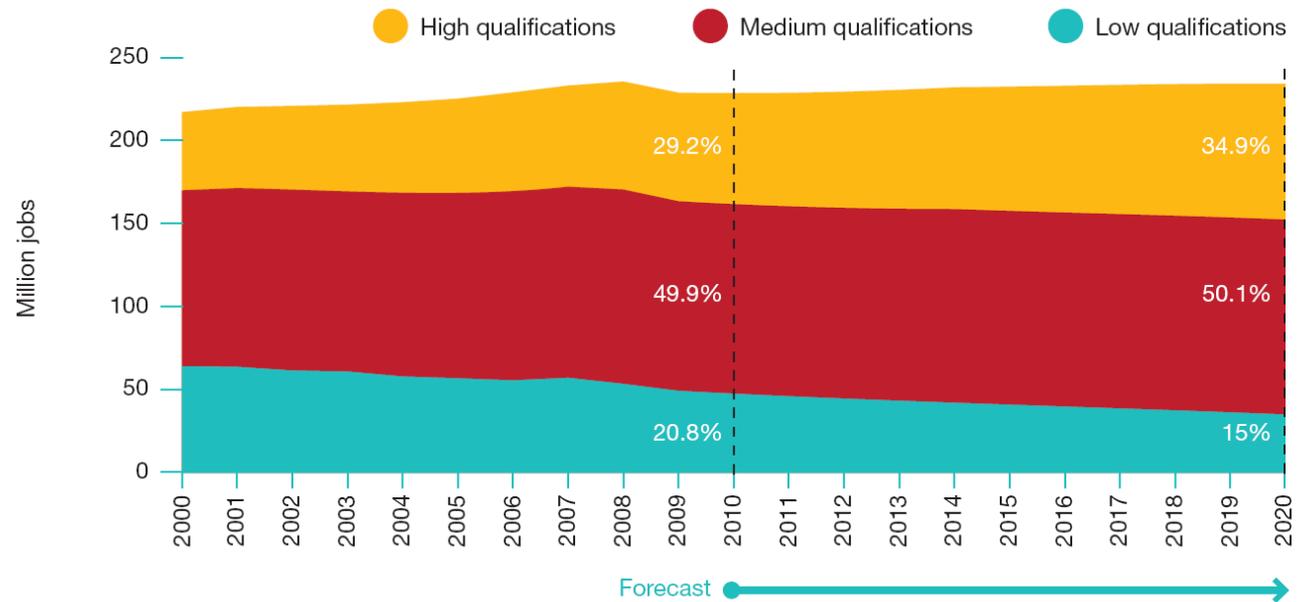
Population tertiary education

Chart A1.3. Population that has attained at least tertiary education (2007)

Percentage, by age group
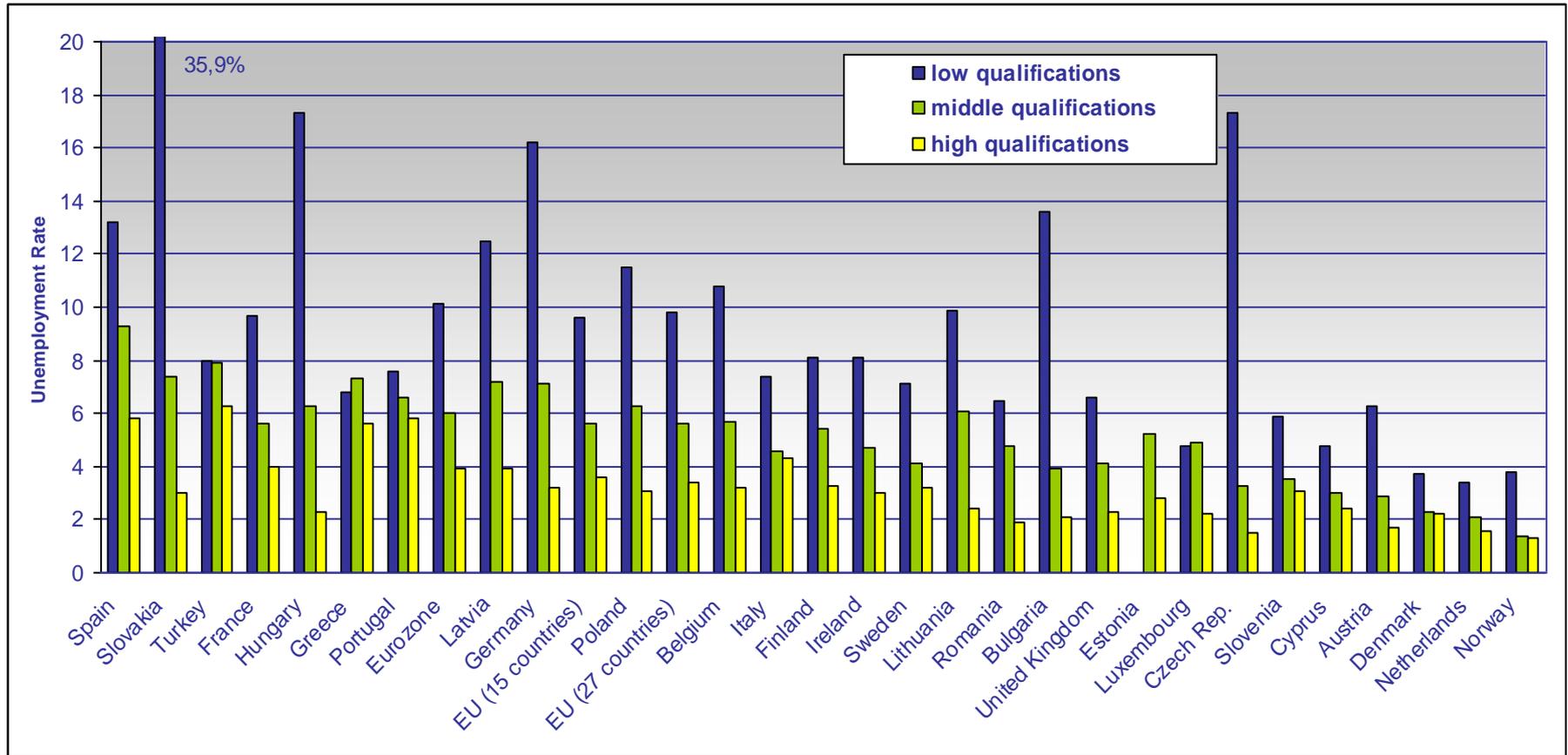
1. Year of reference 2002.
2. Year of reference 2004.
Countries are ranked in descending order of the percentage of the 25-34 year-olds who have attained at least tertiary education.
Source: OECD. Table A1.3a. See Annex 3 for notes (www.oecd.org/edu/eag2009).
StatLink http://dx.doi.org/10.1787/664024334566

Higher qualifications as key to employment

Schaubild 7

3. EU has to **close the gap of science and engineering** graduates; no innovation without MST

- European and international competition for MST

- Europe facing a negative trend i supply of HR in MST (ERT)

  - Extremely negative demographic trends, very negative trend in choice of MST education
  - Big problems: e.g.: F, G, Nl, S, UK, A
  - Finland and Poland show positive trends

- Compare with the USA

Supply development indicator

Figure 5 - **Supply development indicator**
Indicating trends in the supply of human resources in MST
(combined indicator from national case studies)

Supply development indicator - USA

Supply development indicator: United States
Indicating trends in the supply of human resources in MST
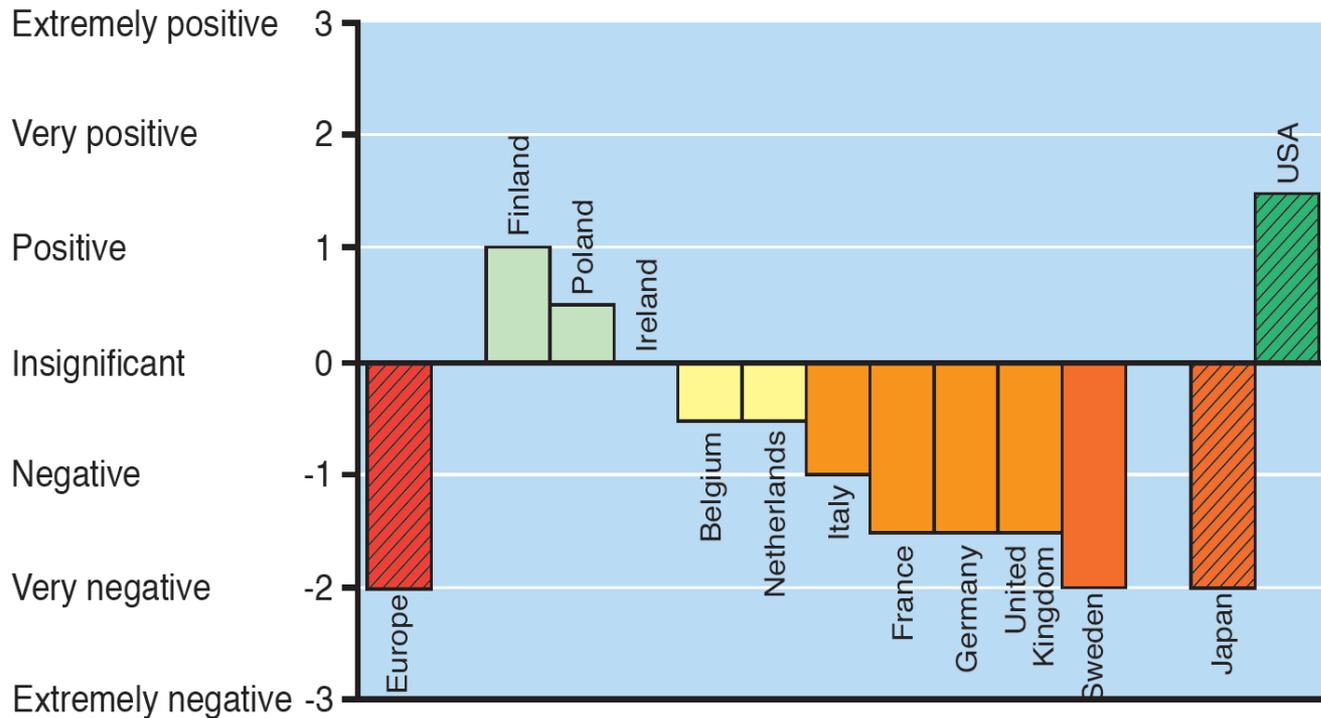
Source: ERT, „Mathematics, Science & Technology Education Report," August 2009

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MINT (MST) graduates

Graduates in science and engineering per year
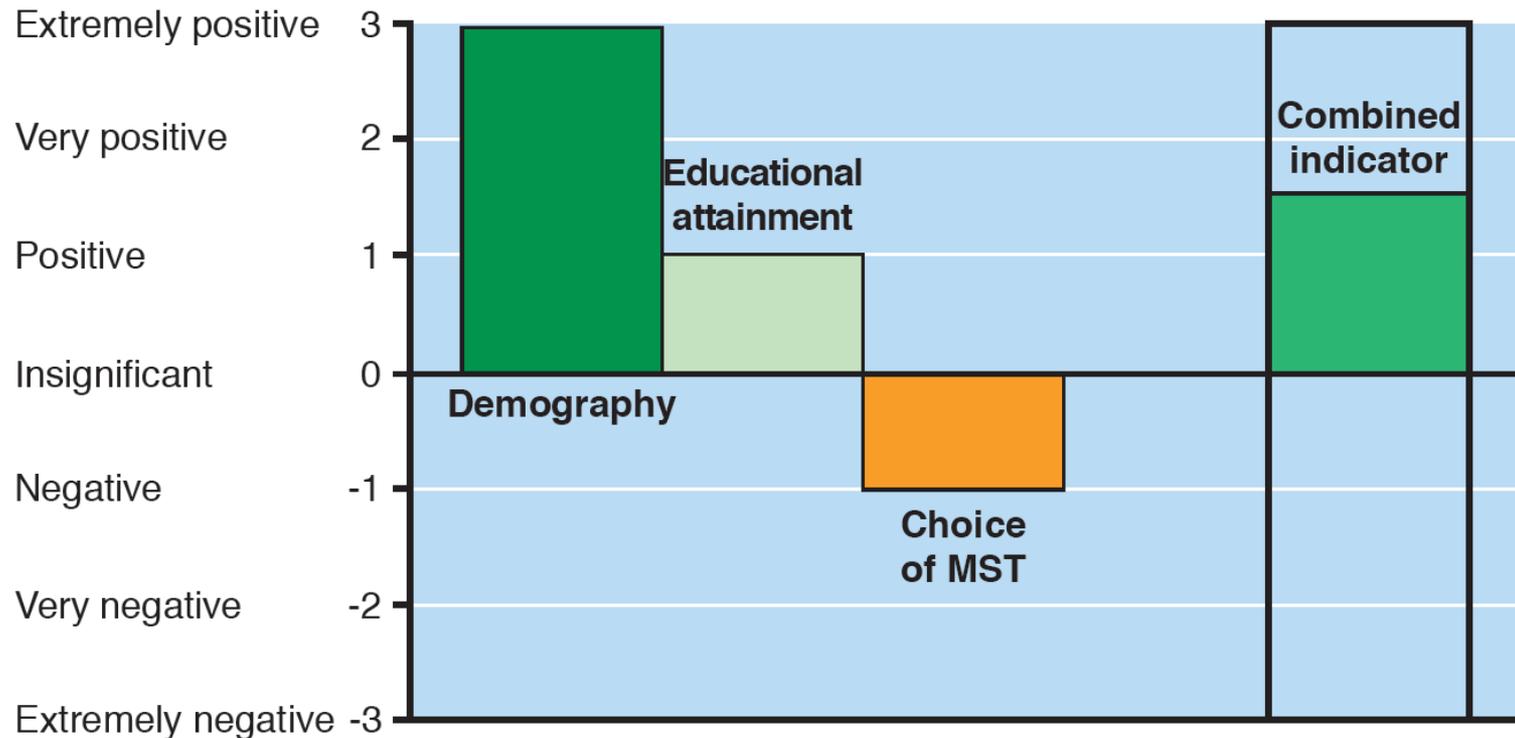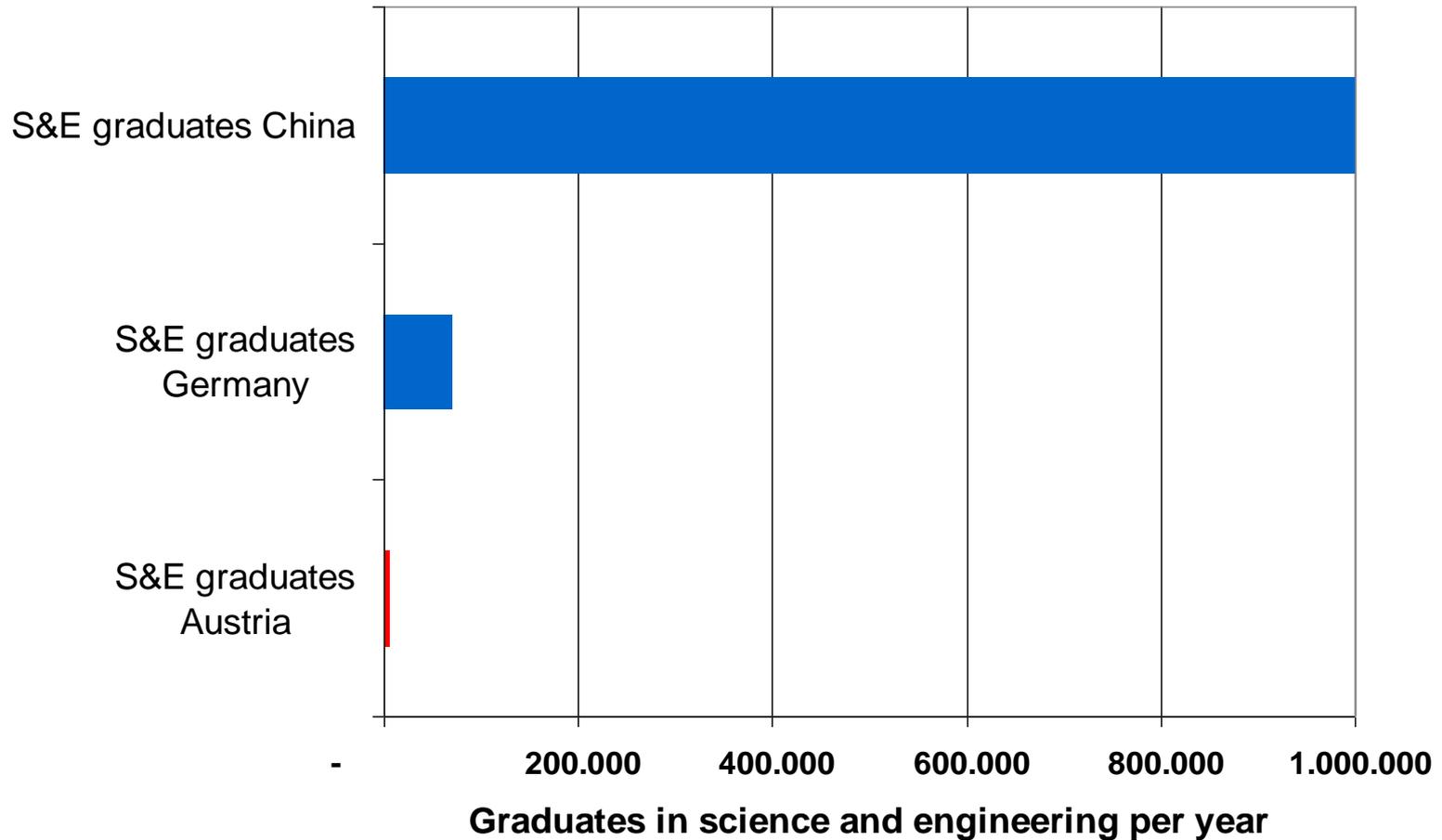
4. **Improve the attractiveness of European Universities, of Science an Research in EU**

- International competition for best talents, best students, teachers, scientists, researchers; in search of excellence

- US has a much larger share of „foreign students"

- 25 % of the 400.000 foreign science& engineering workers in the US came from the EU

- „Times Higher Education Ranking 2009"
  EU- Universities are not good enough

  - under top 16 th: only US and UK; ETH Zürich: 16
  - under top 50: 18 US, 14 EU,
  Asian universities are caching up

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Challenges for Universities

- **Competition for the best brains** has grown global and increasingly intensive

- EU aims at creating a **European Knowledge Area** with incentives for the national systems

- An explicit **quality orientation** and a focus on **excellence** is crucial

- University strategies should be checked and developed in seven areas

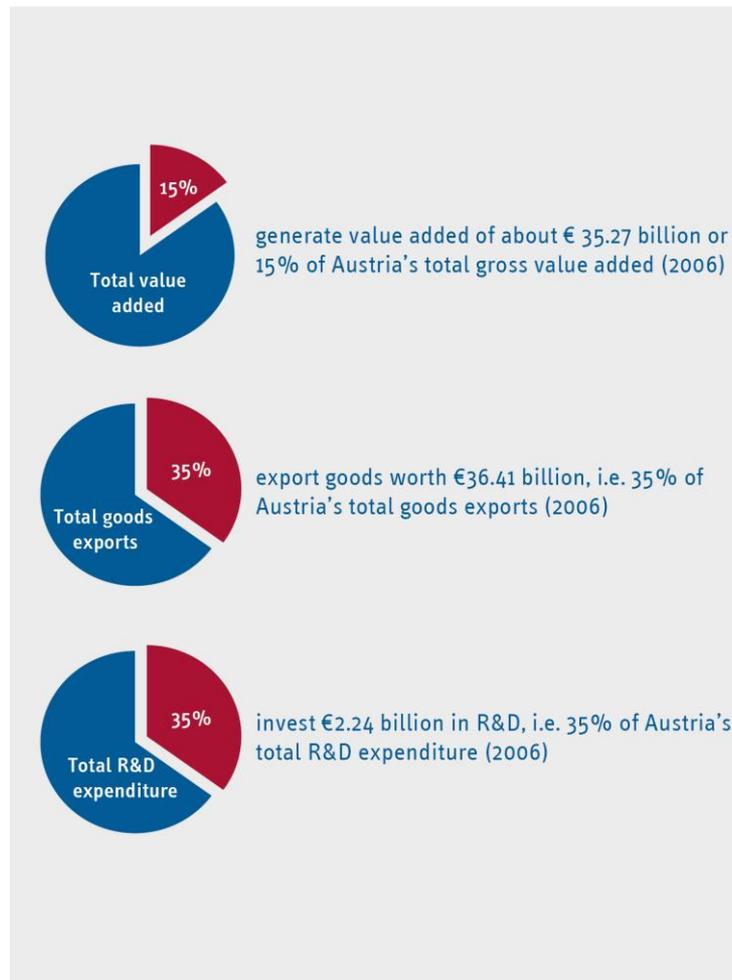5. Foster an **overall** **innovation friendly** policy framework

- Vast amounts of financing

- Coherent policy framework

- Comprehensive policy approach

  – Clear, stable, regulatory framework
  – Effective IPR regime
  – Infrastructure tailored to the needs of innovation

- Innovation friendly climate, from school to LLL

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6. The **role of headquarters** of **international companies** for education, research and innovation

- LCUs – are the decision-making centers of mostly multinational companies; and pacemakers for research & innovation

- LCUs rank above the average business establishment in terms of investments in research and development,

- Important role to keep the "Innovation-chain" (idea, from innovation to production) in Europe

- LCUs in Austria play the important role of competitiveness and employment and innovation

103 INTERNATIONAL LCUs

15%

Total value added

generate value added of about € 35.27 billion or 15% of Austria's total gross value added (2006)

35%

Total goods exports

export goods worth €36.41 billion, i.e. 35% of Austria's total goods exports (2006)

35%

Total R&D expenditure

invest €2.24 billion in R&D, i.e. 35% of Austria's total R&D expenditure (2006)

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7. **Is „Europe 2020"** the right vision for our future?

- „Europe 2020" is in principle the **right answer to face and tackle the big challenges**

- Education, research and innovation are under the big points of the new strategy

- Set the right and realistic visions / targets

- Close cooperation on European and country level

- A shift towards Europe to deal with and invest in the knowledge; we need more not less **Europe**

Growth based on knowledge and innovation

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INNOVATION	EDUCATION	DIGITAL SOCIETY
Key facts	**Key facts**	**Key facts**
• R&D spending is below 2%, compared to 2.6% in the US and 3.4% in Japan; our smaller share of high-tech firms explains half of the gap with the US • Google spends more on information and com--munication technologies R&D than the EU FP7 does	• Less than 1 person in 3 aged 25-34 has a university degree, compared to 40% in the US and over 50% in Japan • 1 in 7 young people drop out of school, and 1 in 4 have poor reading skills	• The world market in information and com--munication technologies is worth € 660 billion and employs 1/3 of research workforce: EU firms make up only 23% of this • 56% of households have a broadband connection, but many users have doubts about safety and financial transactions on the internet
Possible EU flagship: **EU Innovation Plan**	Possible EU flagship: **Youth on the Move**	Possible EU flagship: **EU Digital Agenda**

Presentation of J.M. Barroso to the Informal European Council, 11 February 2010

EUROPE 2020

An inclusive high-employment society

JOBS	SKILLS	FIGHTING POVERTY
Key facts	**Key facts**	**Key facts**
• Despite progress, only 2/3 of our working age population is employed (66%), compared to over 70% in the US and Japan	• About 80 million people have low or basic skills, but lifelong learning benefits mostly the more educated	• 80 million people were at risk of poverty in the EU prior to the crisis; 19 million are children; unemployed are particularly exposed
• Only 46% of our older workers (55-64) are employed compared to over 62% in the US and Japan	• By 2020, 16 million more jobs will require high qualifications, while the demand for low skills will drop by 12 million jobs	• 8% of people in work don't earn enough to make it above the poverty threshold
Possible EU flagship: *A New Jobs Agenda*	Possible EU flagship: *New Skills for New Jobs*	Possible EU flagship: *European Action against Poverty*

Presentation of J.M. Barroso to the Informal European Council, 11 February 2010

- It's very important to find the **right balance between tackling the crises, and invest in our future** in education, innovation, research and technology

- Better and higher quality education at all levels

- Fill / reduce the gap of MST graduates

- Improve the attractiveness of European universities and R&D for Top people (students, teachers, scientists,..)

- Improve the framework conditions: IPR, pension system

- We need more not less Europe; "Europe 2020" shows the way

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Thank you !

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