EU - BUILDING AN INNOVATION UNION

Innovation Union Competitiveness report

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Technical Briefing

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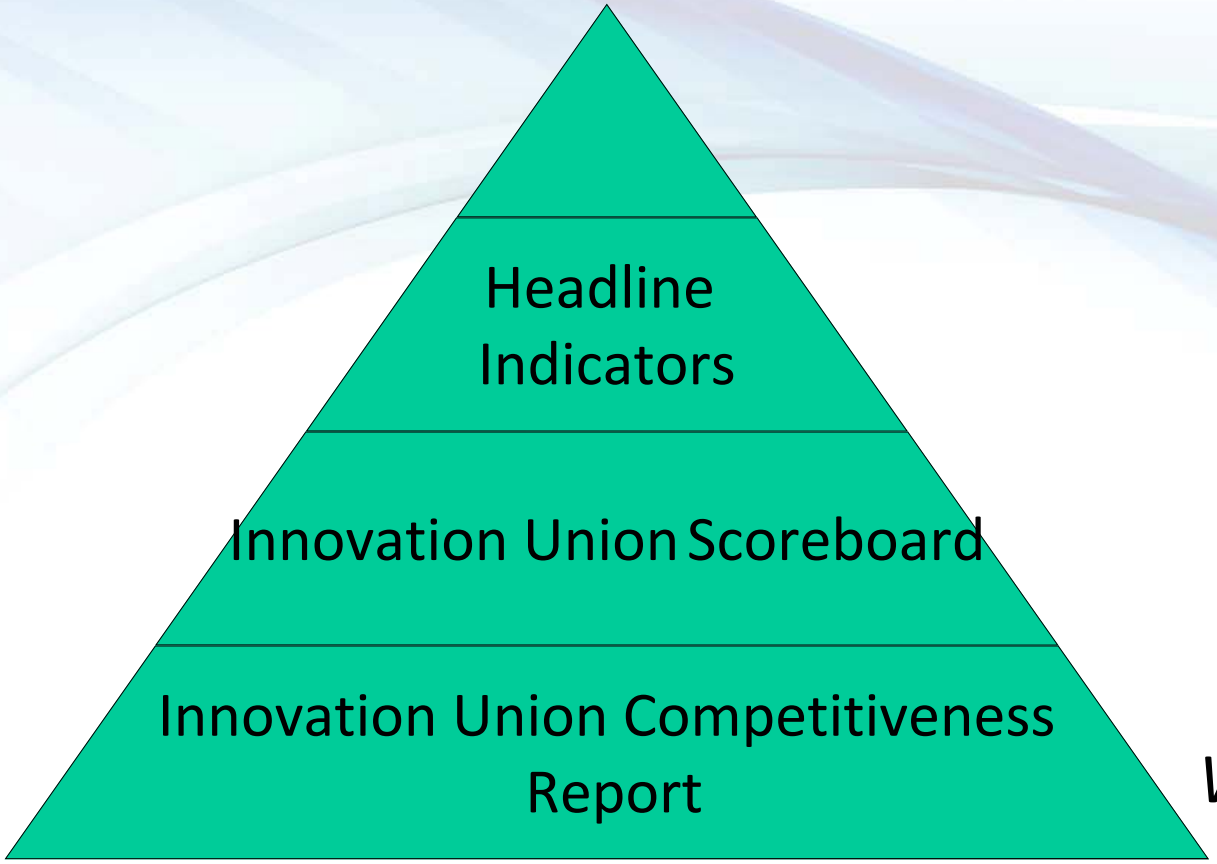
INNOVATION UNION

The IUC: Evidence for building the Innovation Union



Where do we want to go?

Where do we stand?

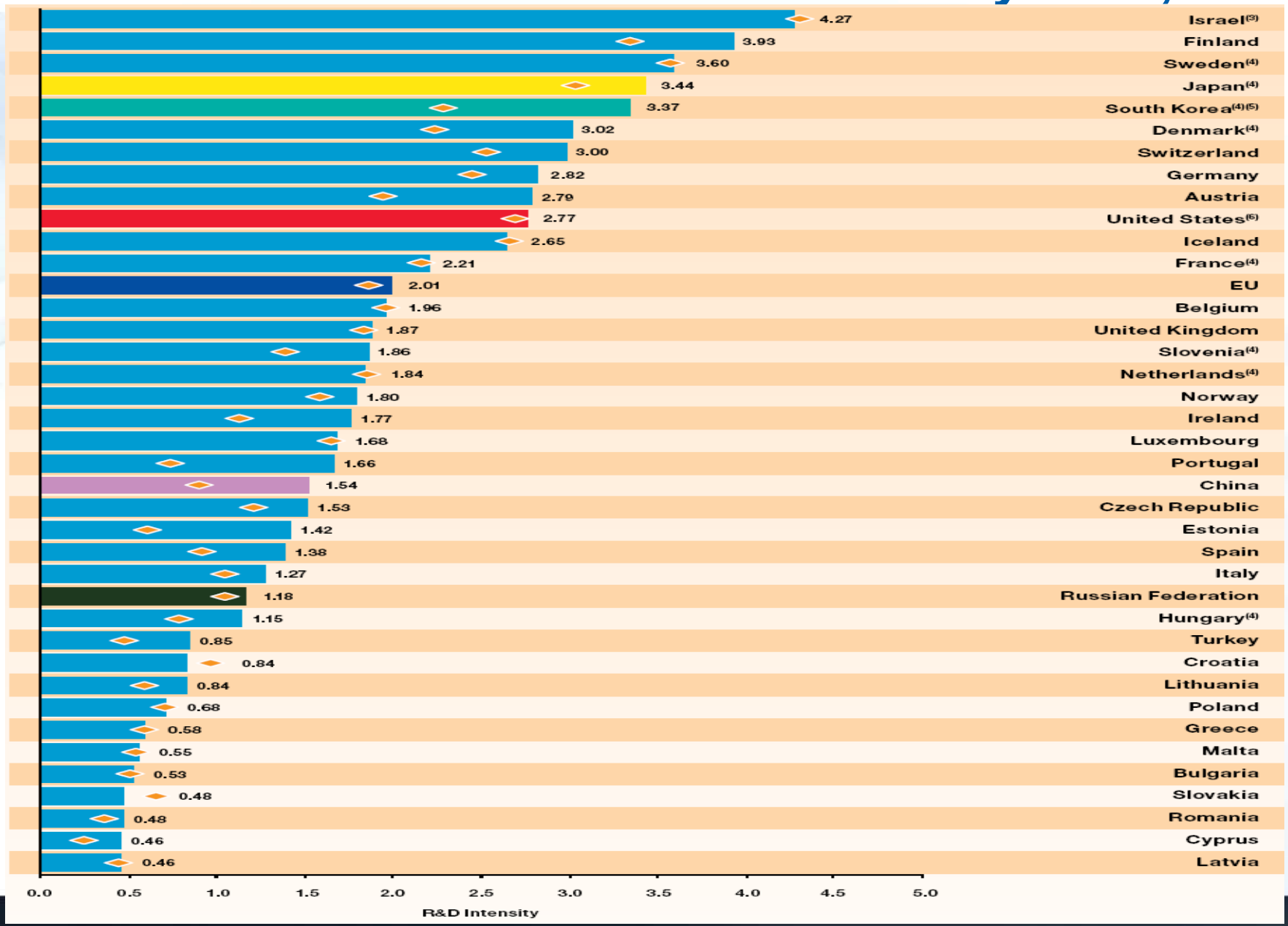
Why do we stand here?

Which evidence and strategies for policy-making?

BUILDING AN INNOVATION UNION (purpose of the IUC)

- **A more competitive Europe**: why and where to invest in R&I?
- **A smarter Europe**: how ERA is bringing more value for money?
- **A more innovative Europe**: what changes are required in structure and framework conditions? Are we addressing sufficiently societal challenges?
- Evidence for **National strategies** and smart specialisation: work in progress

EU 2020 headline indicator – R&D intensity 2000, 2009



I - Investing for the future (1)

- Increase in R&D investment in real terms 1995-2009, reaching 2.01% R&D intensity in 2009
- EU performs 24% of world R&D expenditure against 29% in 1995. Relative to GDP, business invests twice more in Japan and South Korea than in Europe
- In spite of the crisis 17 MS maintained or increased public investment in 2009. However, in intensity terms the trend is negative in 2010/11 in a majority of MS
- R&D spending by firms headquartered in the EU fell in 2009 half less than in US firms

CHINA	BRIS	ASIA DEVELOPED 4	USA	EU-27
855%	145%	75%	60%	**50%**

I - Investing for the future (2)

•Europe needs to increase its number of researchers by 2/3 by 2020 and to allocate them better

	CHINA	EU	USA	JAPAN
Mio of researchers	1.6	1.5	1.4	0.71
Annual growth since 2000	10.9%	3.8%	1.3%	1.9%
Of which in private sector	69%	**54%**	80%	73%

•Education expenditure per PhD student is much lower in Europe. Relative to GDP the US invest 2.5 times more in higher education than the EU. (see also Atlas)

II - ERA for a smarter Europe (content)

Are we making progress towards a more efficient European R&I?

Are our reforms sufficiently bold and fast?

Are we cooperating enough across Europe and beyond?

II - ERA for a smarter Europe (1)

- The US is still performing one third better than Europe in terms of scientific excellence.
- Europe is losing ground in terms of technology output. Japan and South Korea have a growth rate of patent application double of Europe and only 43% of EPO patents are made by Europeans.
- Half of MS do not produce high-tech patents at all. Patent revenues are 3 times higher in the US than in Europe, while patent costs are 20 times higher in Europe (40 times higher for SMEs)

II - ERA for a smarter Europe (2)

- Reforms have been introduced:
- ➢ 86% of Universities have a Technology Transfer Office
- ➢ Public-private publications have increased by 14% since 2003

- Results still not satisfactory:
- ➢ Cooperation within Europe remains unbalanced and lower than with non-EU countries (see Atlas)
- ➢ Only 4.5% of national R&D budgets are coordinated transnationally.
- ➢ The number of public-private publications per population is 2 times higher in the US.

II - ERA for a smarter Europe (3)

- Intra-European mobility remains modest
- International networks are diversifying while still dominated by EU-US cooperation.
- FP spearheads new collaborative links: Russia and China have more participants in FP projects than the US
- Gender is still unbalanced: only 39% researchers in public organisation and 19% in the business sector are women. Only 13% of higher education institutions were headed by women.

III - Towards a more innovative Europe (content)

Is Europe becoming more innovative and competitive?

Has Europe started the structural change towards a more knowledge-intensive economy?

Do research and innovation tackle societal challenges?

III - Towards a more innovative Europe (1)

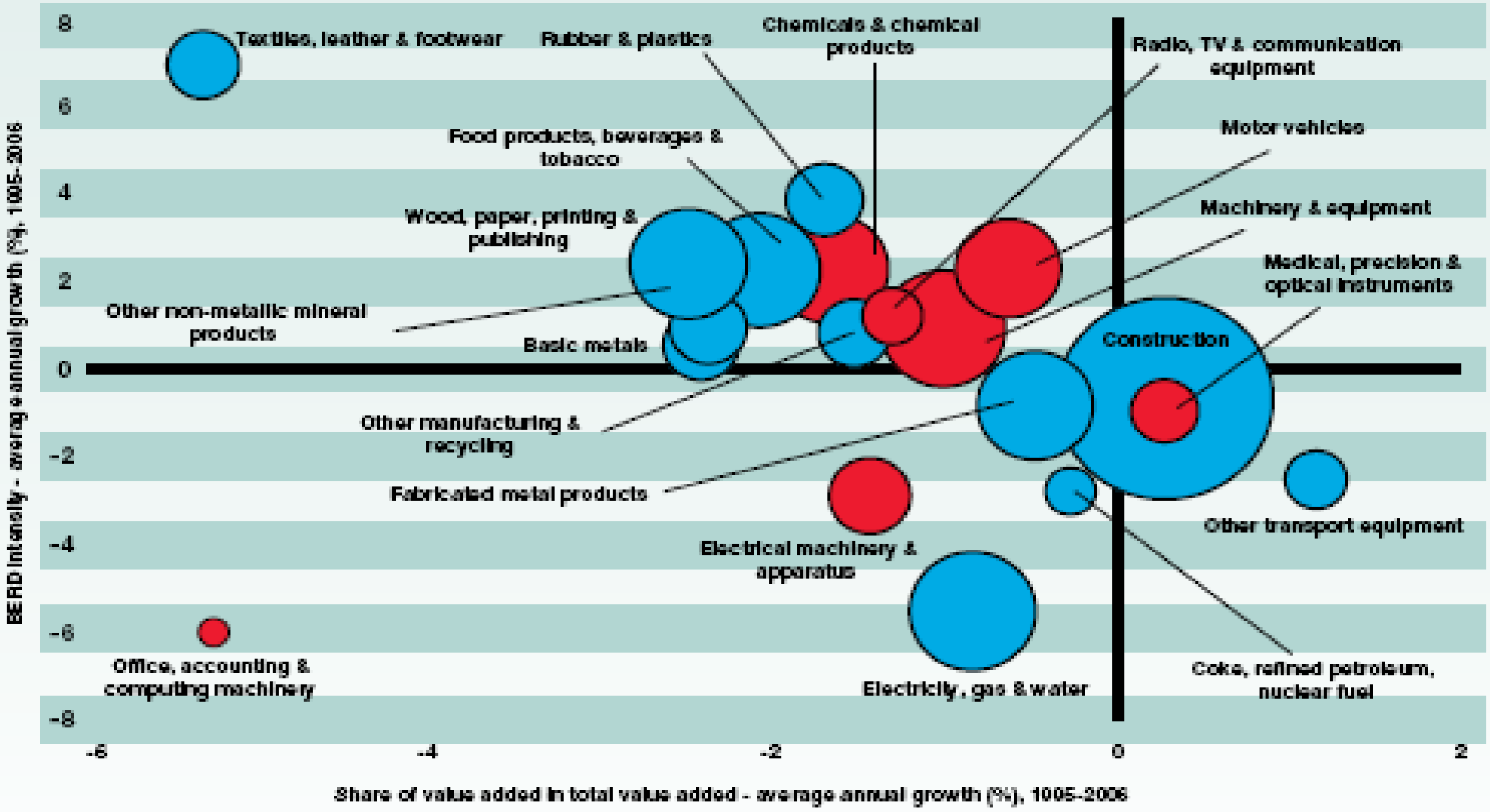
- 27% of European innovative SMEs introduce novelties yearly, but their share of BERD is lower than in US.
- They do not patent much, with noticeable exception of NO and DK (30% of young firms patent).
- Innovative enterprises do not grow sufficiently.
- The economic structure of Europe is changing, but with marked differences between countries and regions.
- Globally, our positioning on fast growing innovative markets is weak compared to the US.

III - Towards a more innovative Europe (2)

- Orientation toward societal challenges needs further efforts.
  - ➢ The EU accounted for 40% of climate mitigation patents, (e.g. wind energy), but photovoltaic industry dominated by Asia and US
  - ➢ Health: US is clearly the world leader, in terms of investment and patents (more than 50% of world's)

Number of R&D intensive top enterprises in Industrial scoreboard data not fully comparable		KR	CN	India	I	NO	AU
	2004	6	1	0	3	1	2
	2010	26	21	17	15	11	10

EU structural change – share of Value Added versus BERD intensity, 1995-2006



IV – Perspectives
National Strategies and Specialisation

- Country profiles – MS and Associated countries
- Data on scientific & technological specialisation
- Elements on citizen's expectations.