MANAGING KNOWLEDGE FOR GROWTH

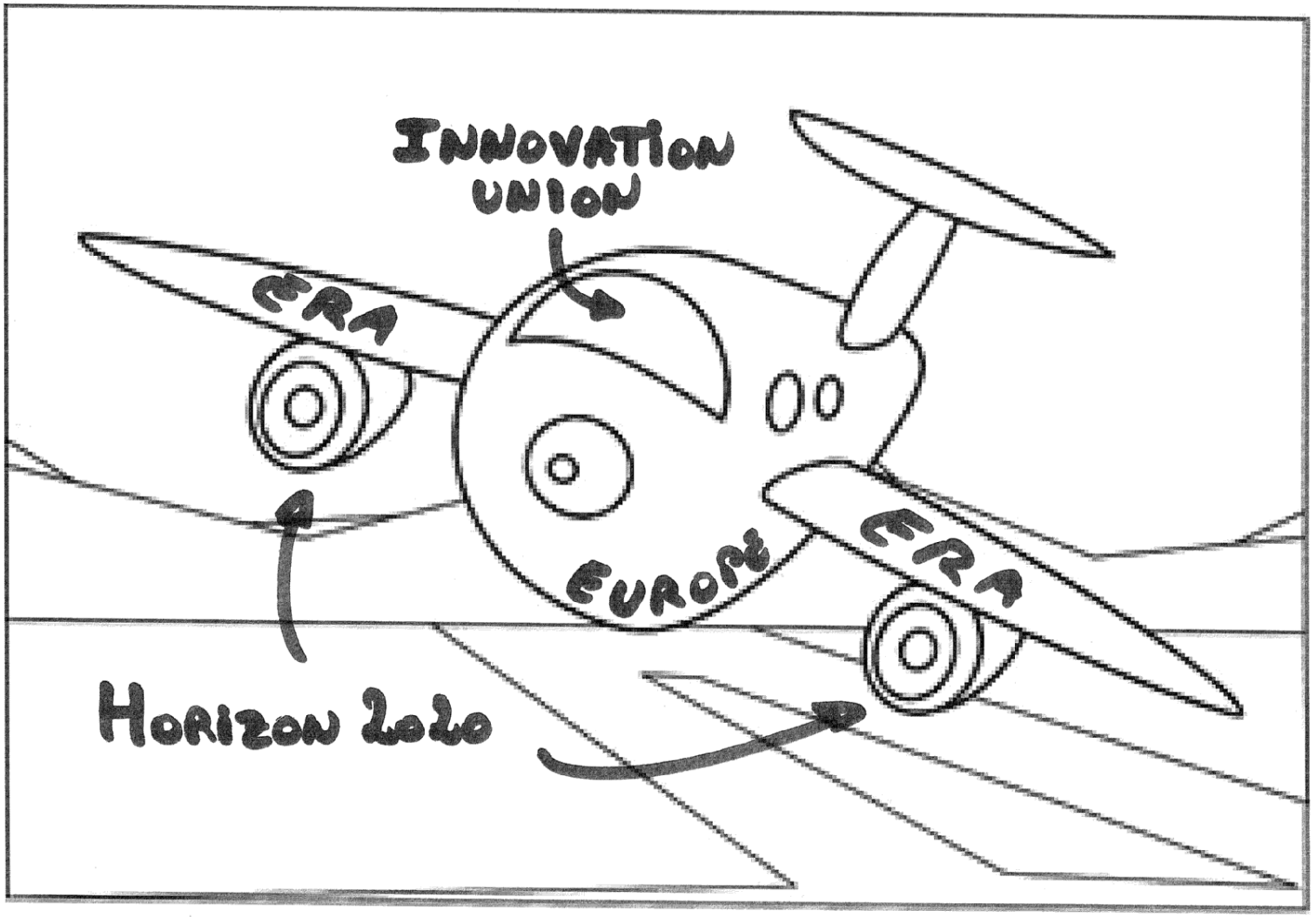
Public research programmes for business and academia

COURSE 2

THE EU RESEARCH POLICY
The European Research Area – ERA
Framework Programmes – Horizon 2020

1. The EUROPEAN RESEARCH AREA
2. HISTORY: PAST EC RESEARCH POLICY
3. HORIZON 2020 (2014 – 2020)
4. PUBLIC-PUBLIC PARTNERSHIPS
5. FEED-BACK ON EU RESEARCH AND INNOVATION POLICY

Innovation Union - ERA – Horizon 2020



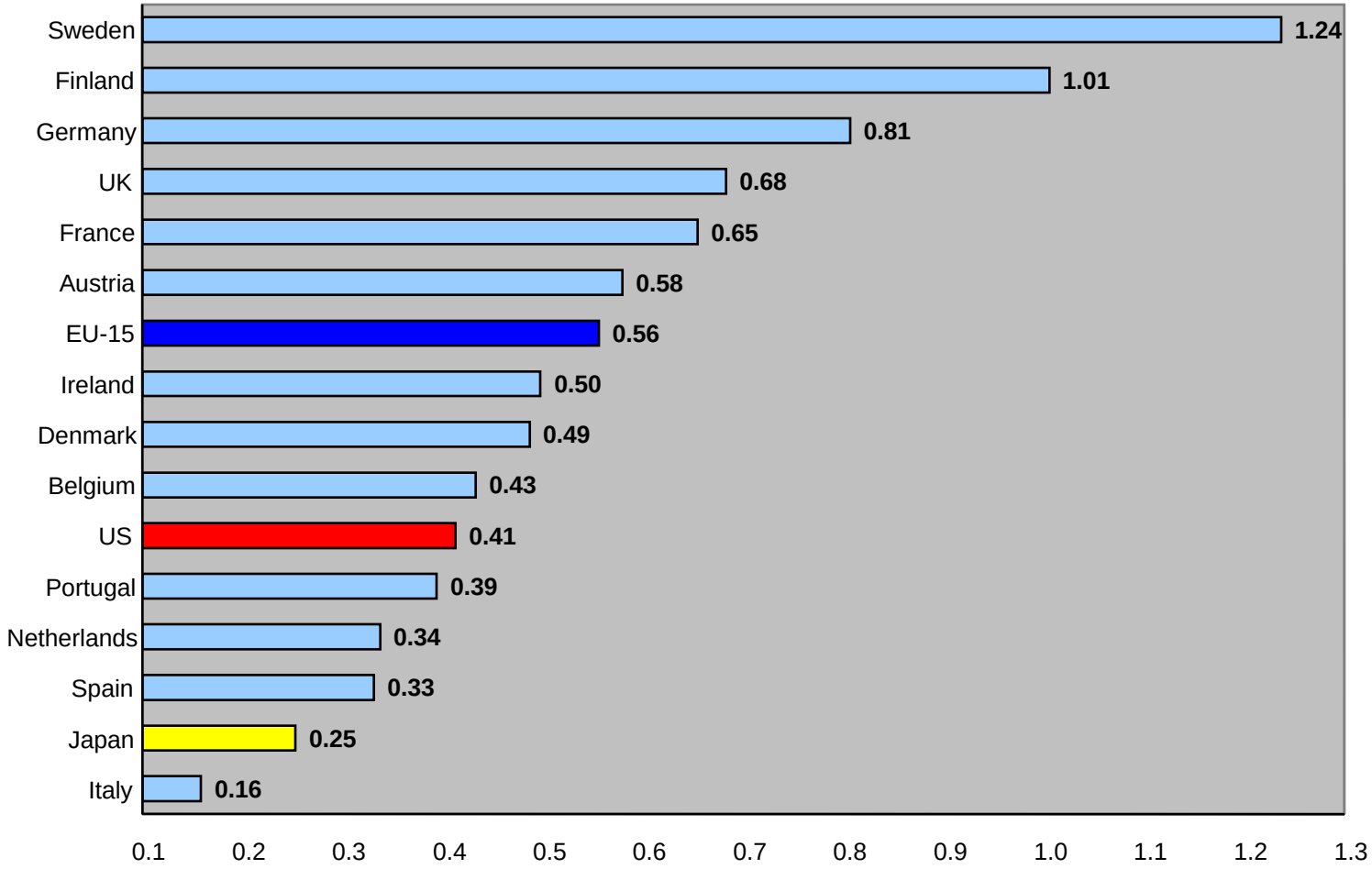
1. EUROPEAN RESEARCH AREA
1.1 CHALLENGES TO RESEARCH & INNOVATION in the EU

APPLYING THE LISBON STRATEGY TO THE KNOWLEDGE ECONOMY

S&T contributes to the **Lisbon** objectives: economic **growth**, **employment** creation, **environmental** protection, **social** challenges: fight **poverty**, improve human **health** and **quality** of life (GSM, remote working, safe roads, etc.)

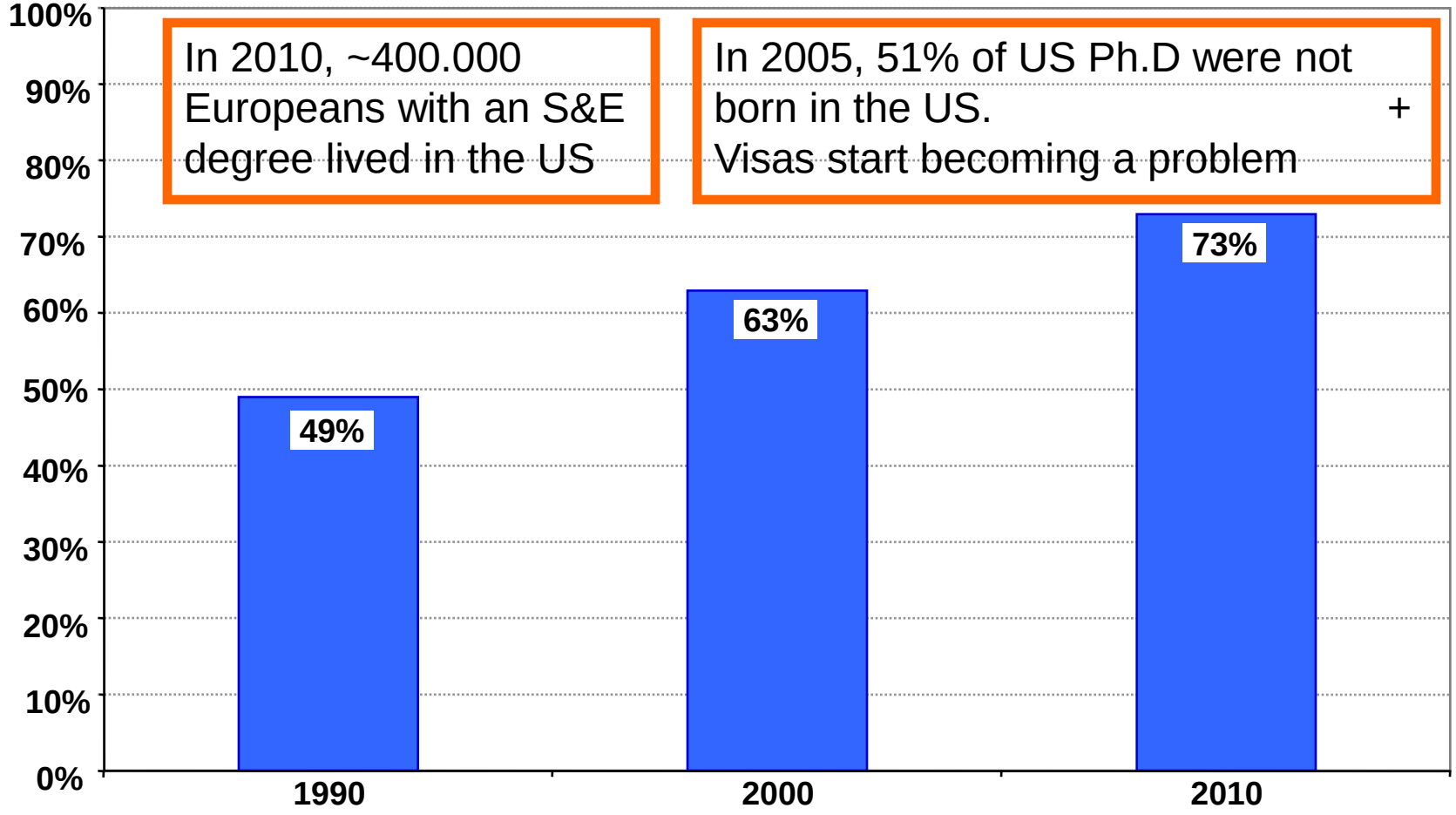
Research: exploiting a strong human potential

PhDs in S&E per 1 000 in the age group 25-34 (2010)



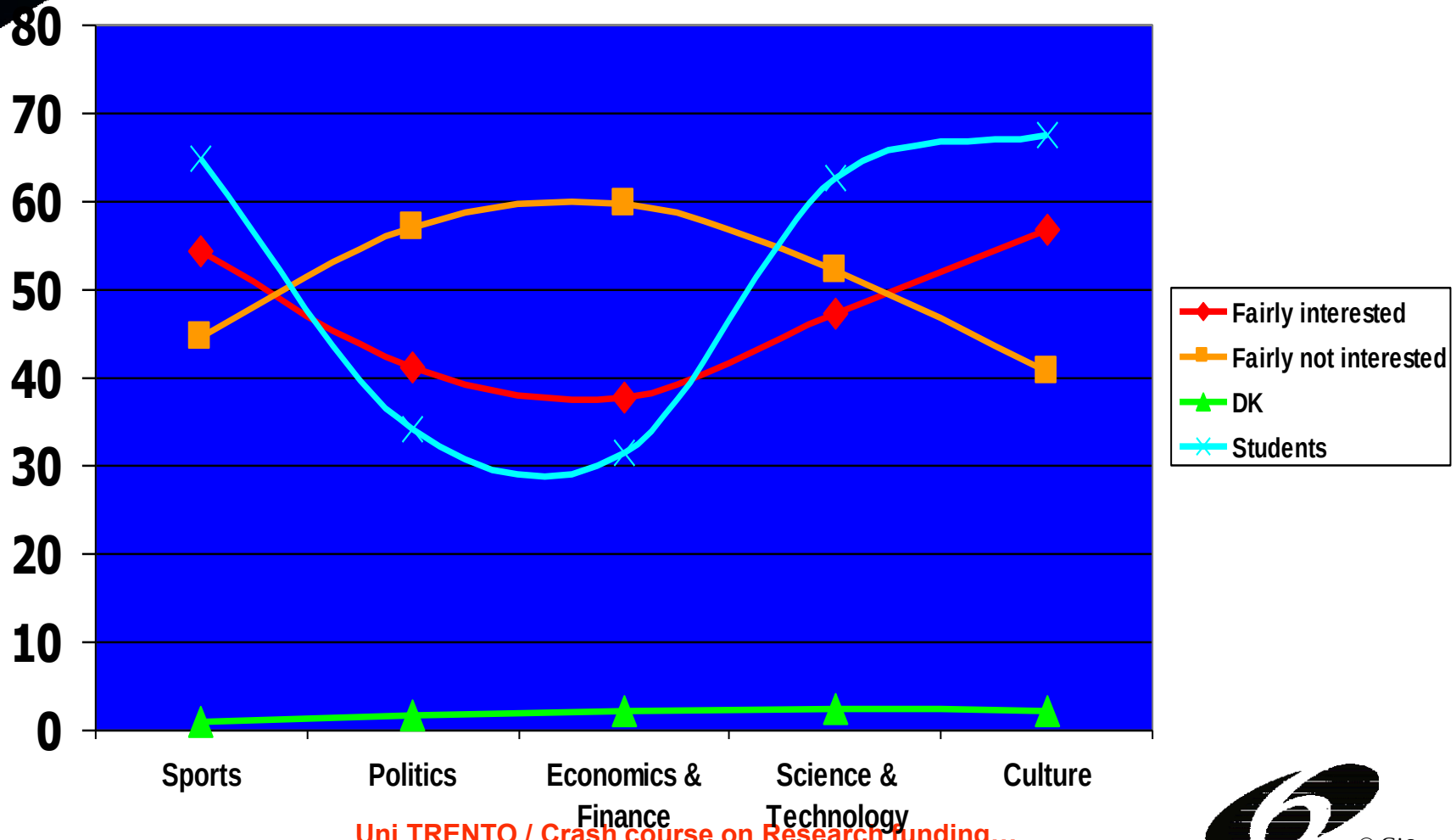
Research: fighting the brain drain

Share of EU born PhD recipients planning to stay in the US after PhD



EU Citizens & Interest in Science

Eurobarometers 55.2 (December 2001) and CC 2002.3 (April 2003)



1. EUROPEAN RESEARCH AREA
1.2 NEW PERSPECTIVES and INITIATIVES (2007)

What is ERA about?

- A European “single market” where researchers, technology and knowledge circulate freely across borders
- Effective coordination and better integration of research activities at national and European level
- Research initiatives implemented and funded at European level

Scientific, economic and competitive benefits of the ERA

- Avoiding fragmentation
- Lowering costs of knowledge
- Creating critical mass
  - Scientific excellence
  - Complex projects
  - Scale economy
  - Avoiding redundant investments
  - Attracting industry

☞ **Free circulation will foster science & competitiveness**

ERA partnership initiatives (2007-2012)

1. European Partnership for Researchers

- **National Plans + EU initiatives (Euraxess, Pension Fund, Multirank)**

2. European Partnership for Researchers

- **1st ERIC status Mar 2011, 10 (+16) ESFRI projects**

3. Joint Programming

- **10 Joint Programming Initiatives by end of 2011**

4. Accessing Knowledge

- **Some changes in national legislation (Open Innovation)**

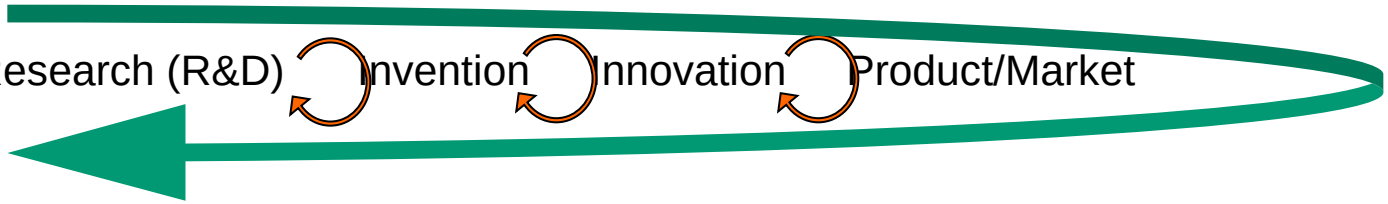
5. [International cooperation – until 2012]

- **Pilots for India (Water), USA (Energy) & China (Urban)**
- **+ EU - Africa S&T policy dialogue**

+ 6. Gender Equality (since 2012)

2. "PAST" EU RESEARCH POLICY

Programming of research

- 'Manhattan project', 1943
- 'From linear model to circular model':
  - Research (R&D) -> Invention -> Innovation -> Product/Market
  - 

- Biggest R&D budgets in 1999
  - US (1999) - Private : General Motors ($ 7,9 billion), DaimlerChrysler ($ 7,1 billion) and Ford ($ 6,3 billion)
  - FR (1999) – Public : Space (14%), human sciences (11%), aeronautics (8%) and engineering (8%)

EU research: the story so far

- 1952: ECSC treaty; first projects started March 1955
- 1957: EURATOM treaty; Joint Research Centre set up
- 1983: ESPRIT programme, First Framework Programme (1984-1987)
- 1987: "European Single Act" - science becomes a Community responsibility;
  Second Framework Programme (1987-1991)
- 1990: Third Framework Programme (1990-1994)
- 1993: Treaty on EU (Maastricht) - role of RTD in enlarged EU
- 1994: Fourth Framework Programme (1994-1998)
- 1998: Fifth Framework Programme (1998-2002)
- 2000: European Research Area
- 2002: Sixth Framework Programme (2002-2006)
- 2007: Seventh Framework Programme (2007-2013)
- 2009: Treaty on EU functioning (Lisbon) – RTD is shared competence
- 2014: Horizon 2020 (2014-2020)

EU research: some key figures

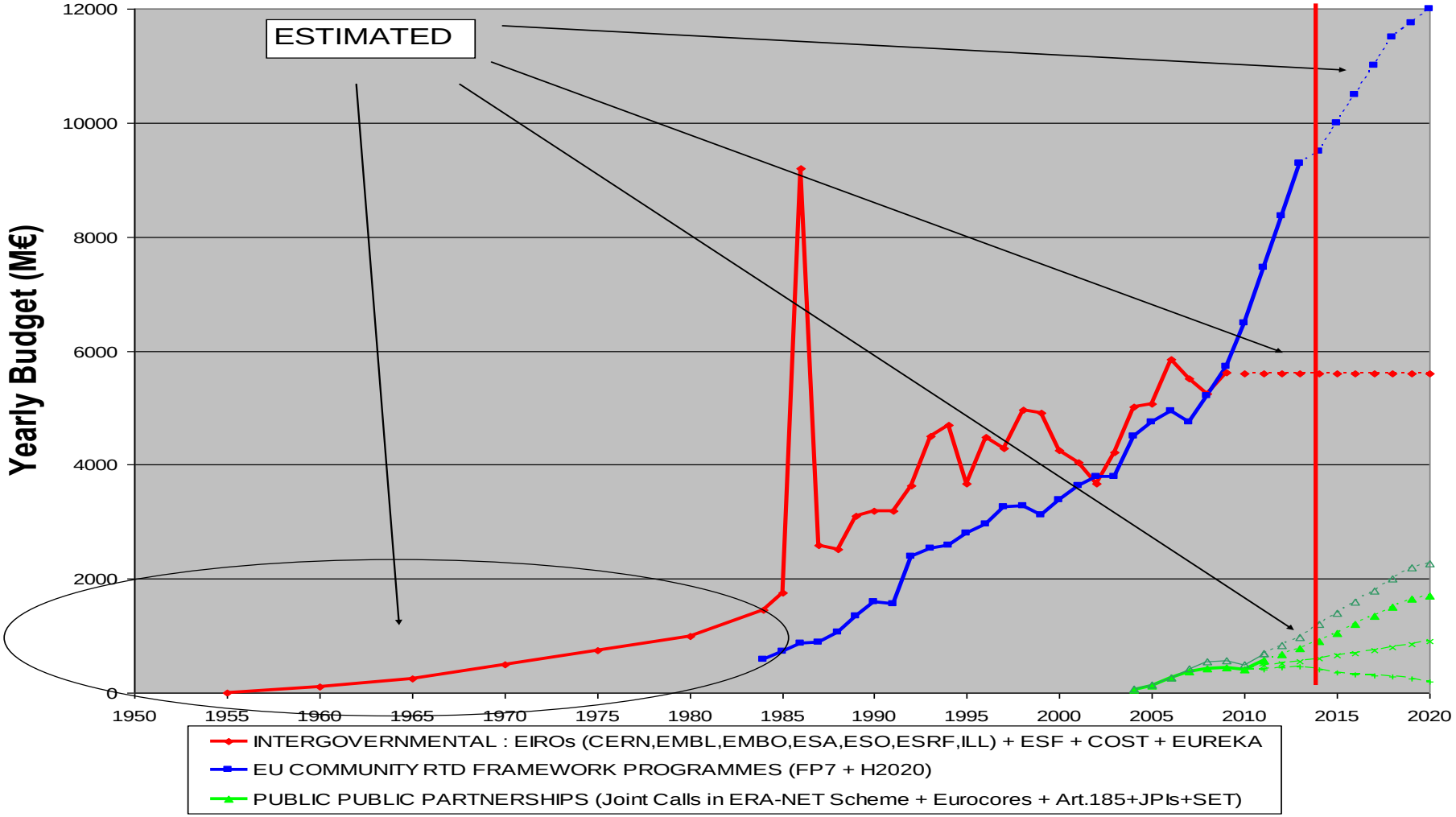
- About 2,000 new projects launched per year

→ About 6,000 new projects launched per year

- At peak activity:
  - > 30,000 proposals → 60,000 proposals
  - > 4,000 experts per year → 8,000 experts
- EU financial support
  - From 4.0 to 8.0 B€ per year → 10.0 B€ in 2013
- Average of
  - 7 organisations from 3 countries per project

COLLABORATION and COOPERATION in the EU

(Public Research Programmes only)*



* **Sources :** FP7, Joint Programming and Horizon 2020 Impact Assessments

Success through co-operation

For the Public

(EuroBarometer poll, 6/08)

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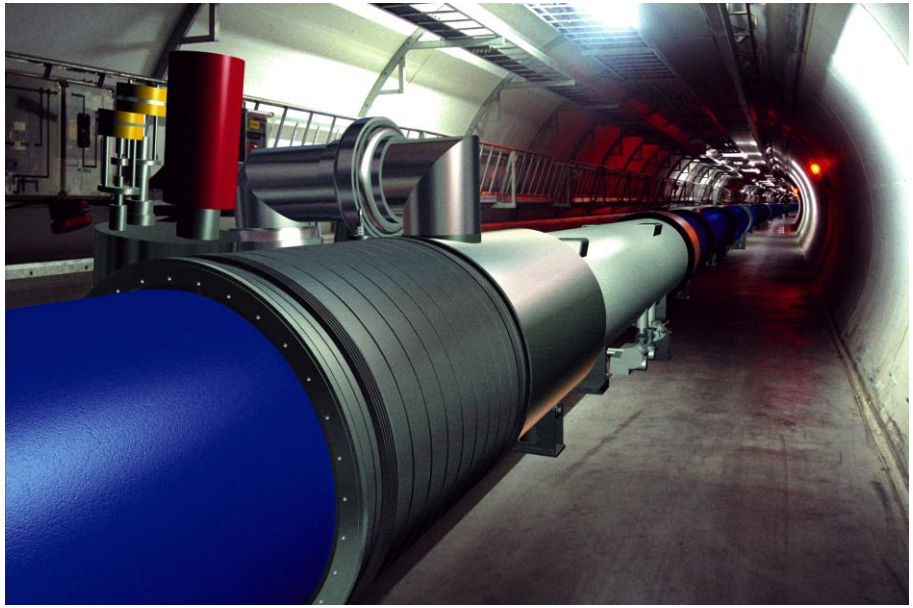
By courtesy of Airbus



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Success through co-operation

For Researchers

Two examples of world firsts

Biggest campaign ever to study the ozone layer and ozone loss (2000)

> 350 scientists from more than 65 organisations (20 countries)

First full sequencing of a plant genome (2000)

> 150 scientists and technicians from 30 organisations (15 countries)

Success through co-operation

European-Developing Countries Clinical Trials Programme (EDCTP) for Poverty-Related Diseases

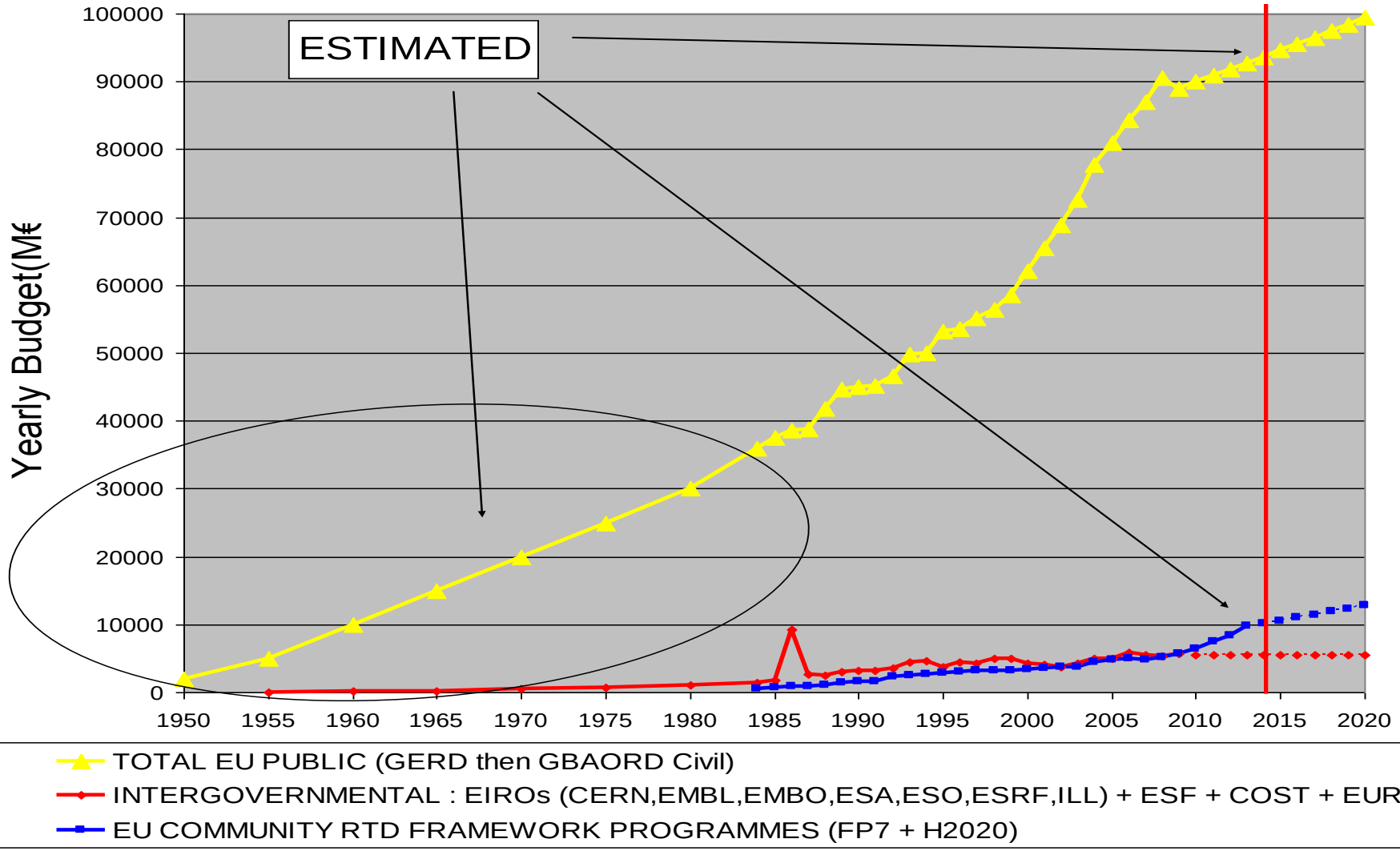
For Programme Managers

Visit to Africa (29 August - 1 September 2005)

Mbeya Medical Research Centre, Tanzania

Manhiça Health Research Centre, Mozambique (picture)

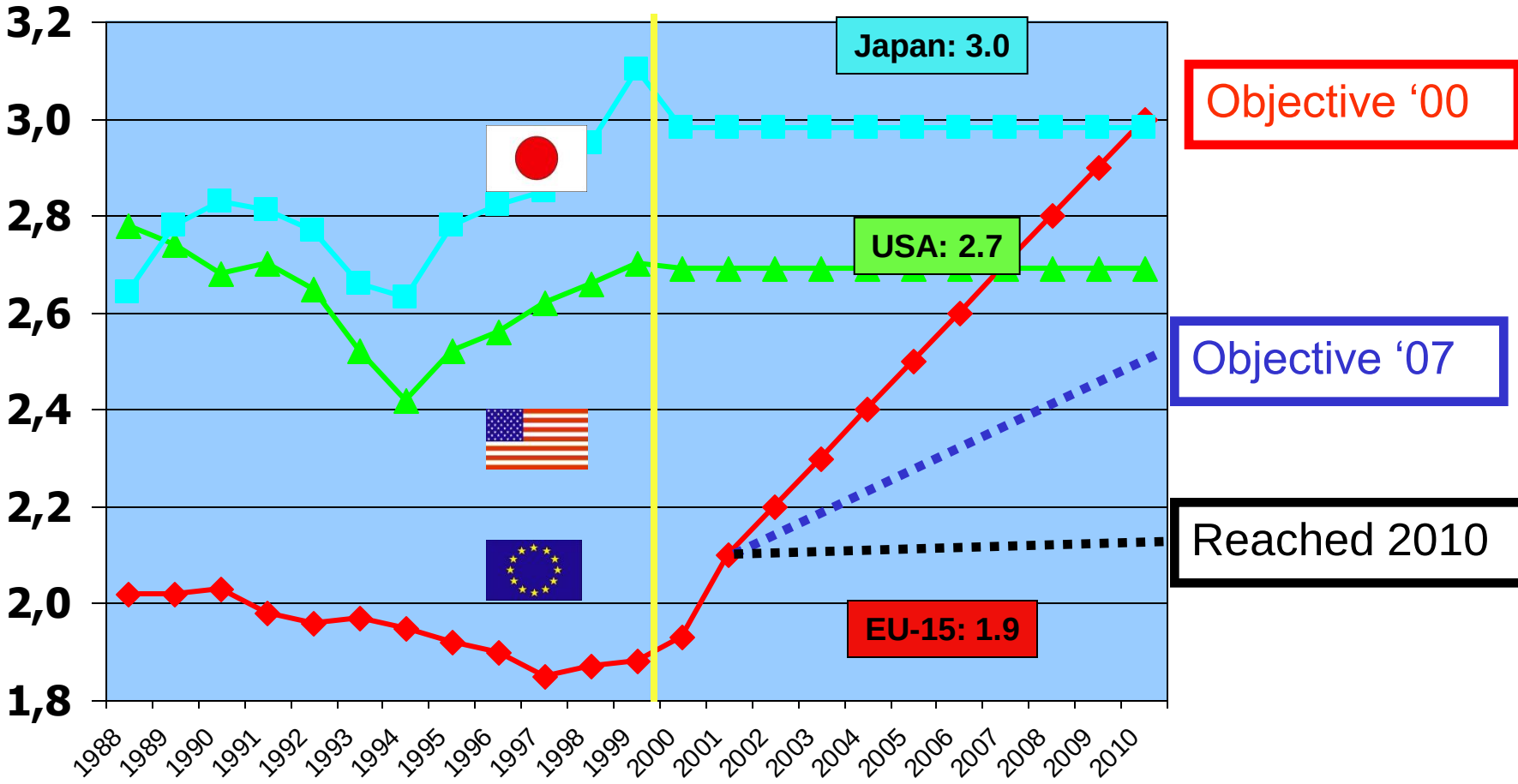
TOTAL PUBLIC RESEARCH in the ERA



* **Sources :** FP7, Joint Programming and Horizon 2020 Impact Assessments

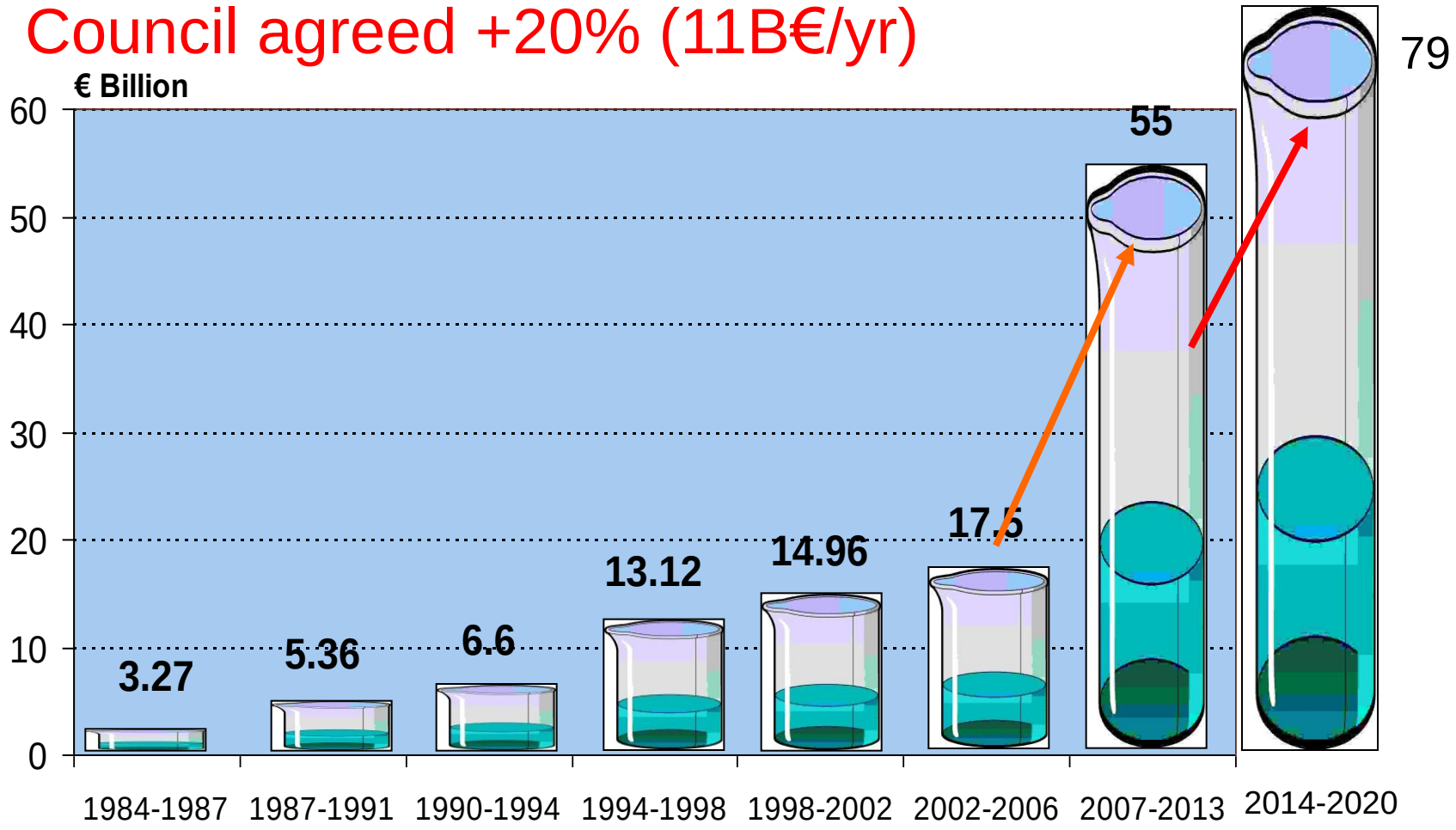
Research: filling the gap

Total expenditure on R&D, % of GDP
Barcelona Summit, 2001

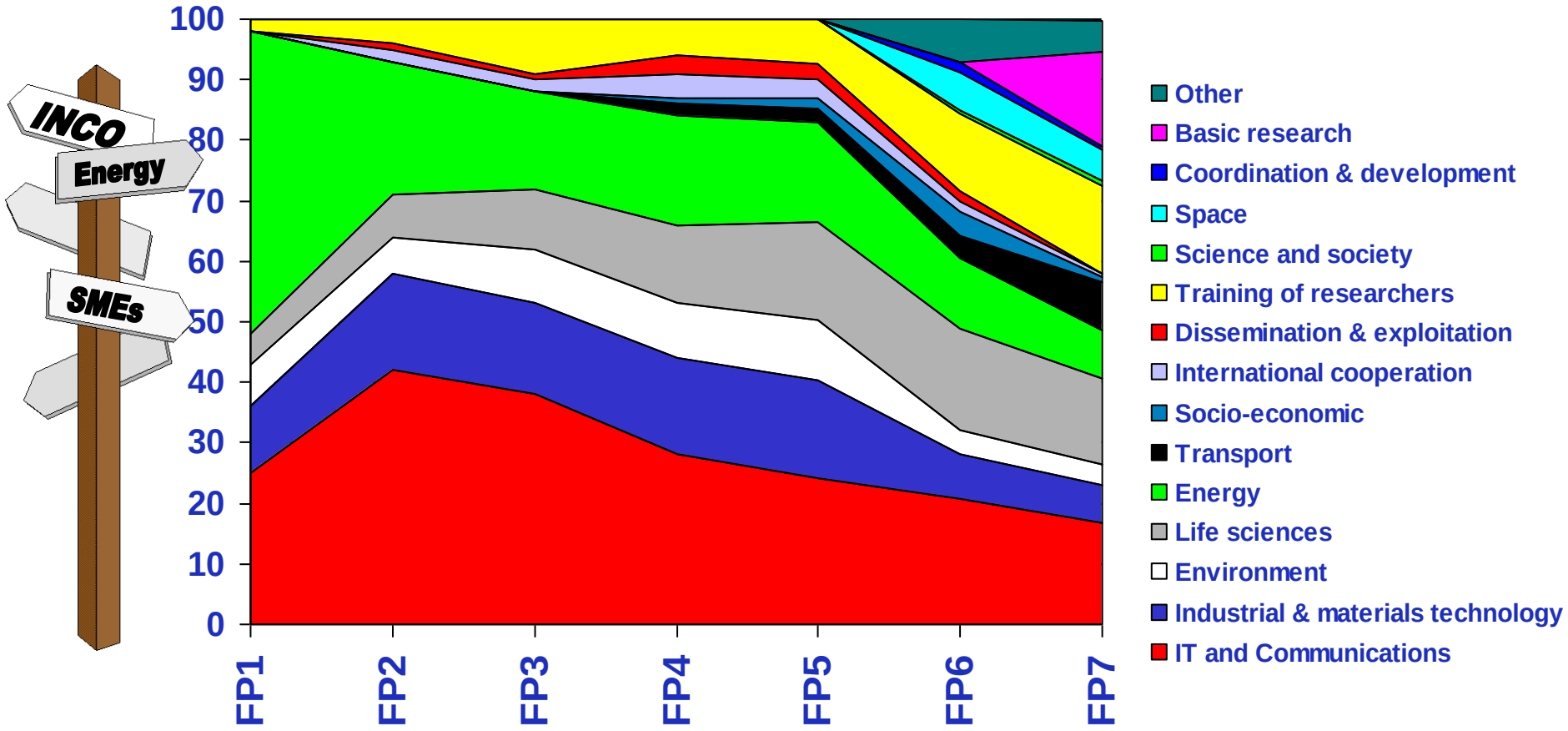


EC Framework Programmes Budgets

Commission asked + 50% of funding (15 B€/yr),
Council agreed +20% (11B€/yr)



EU research: changing priorities



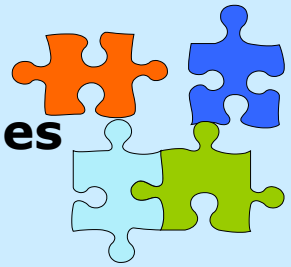
3. HORIZON 2020

4. PARTNERING INITIATIVES

Partnering instruments in FP7

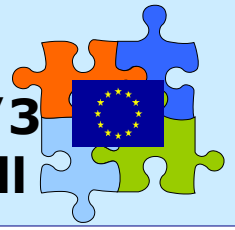
ERA-NET

Like in FP6: Coordination of programmes
- ✓ **MS agree and fund joint calls/programmes**
- ✓ **EU funding only for coordination**



ERA-NET Plus

New in FP7: Top up of a single joint call
- ✓ **MS contribute to joint trans-national call 2/3**
- ✓ **EU funding for research: 1/3 of the joint call**

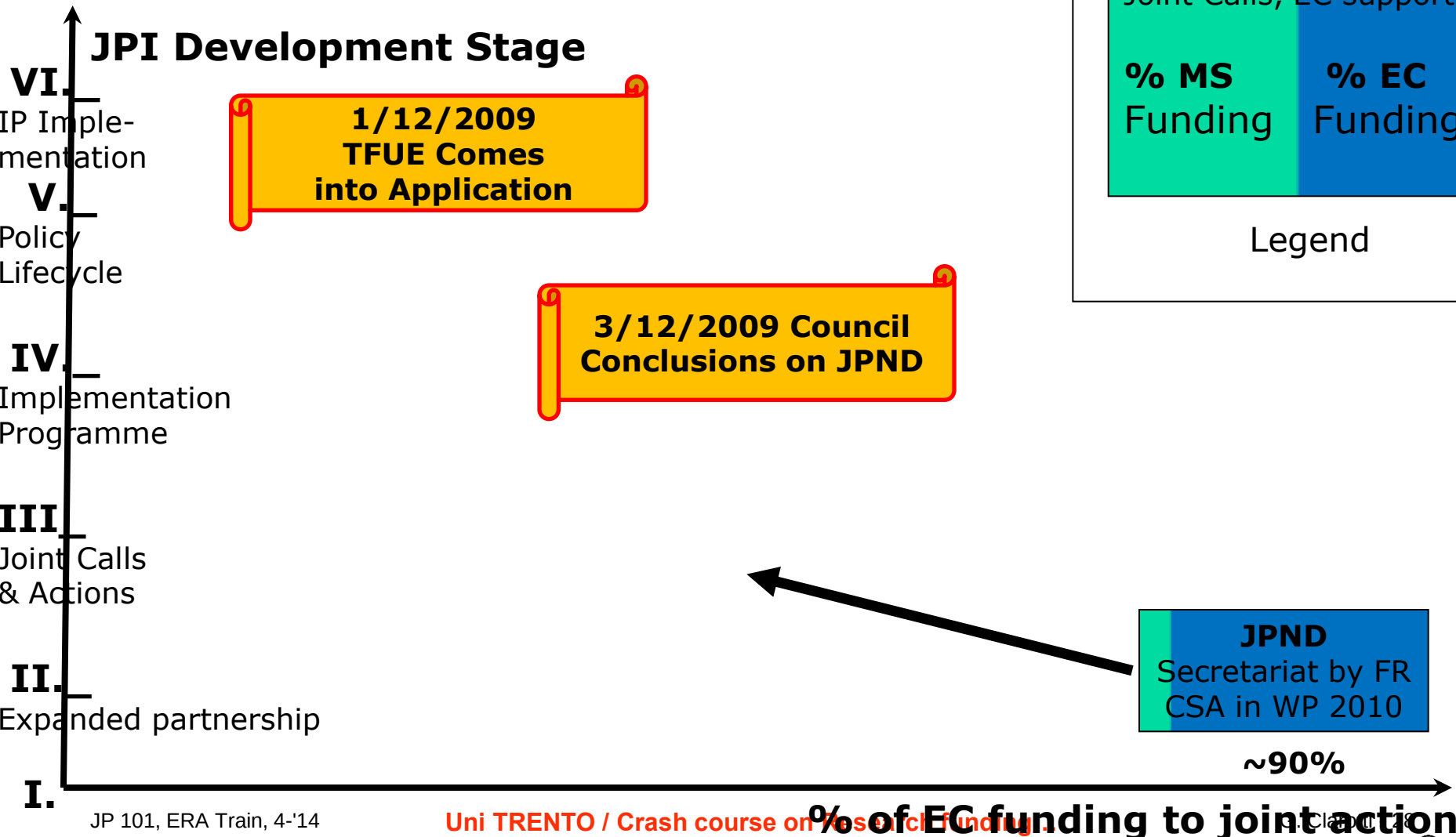


Art. 185

Full integration of nat°programmes at 3 levels:
- ✓**(1) <u>Scientific</u> & (2) <u>financial between MS & EU</u>**
- ✓**(3) <u>Management</u>: Single implementing structure**

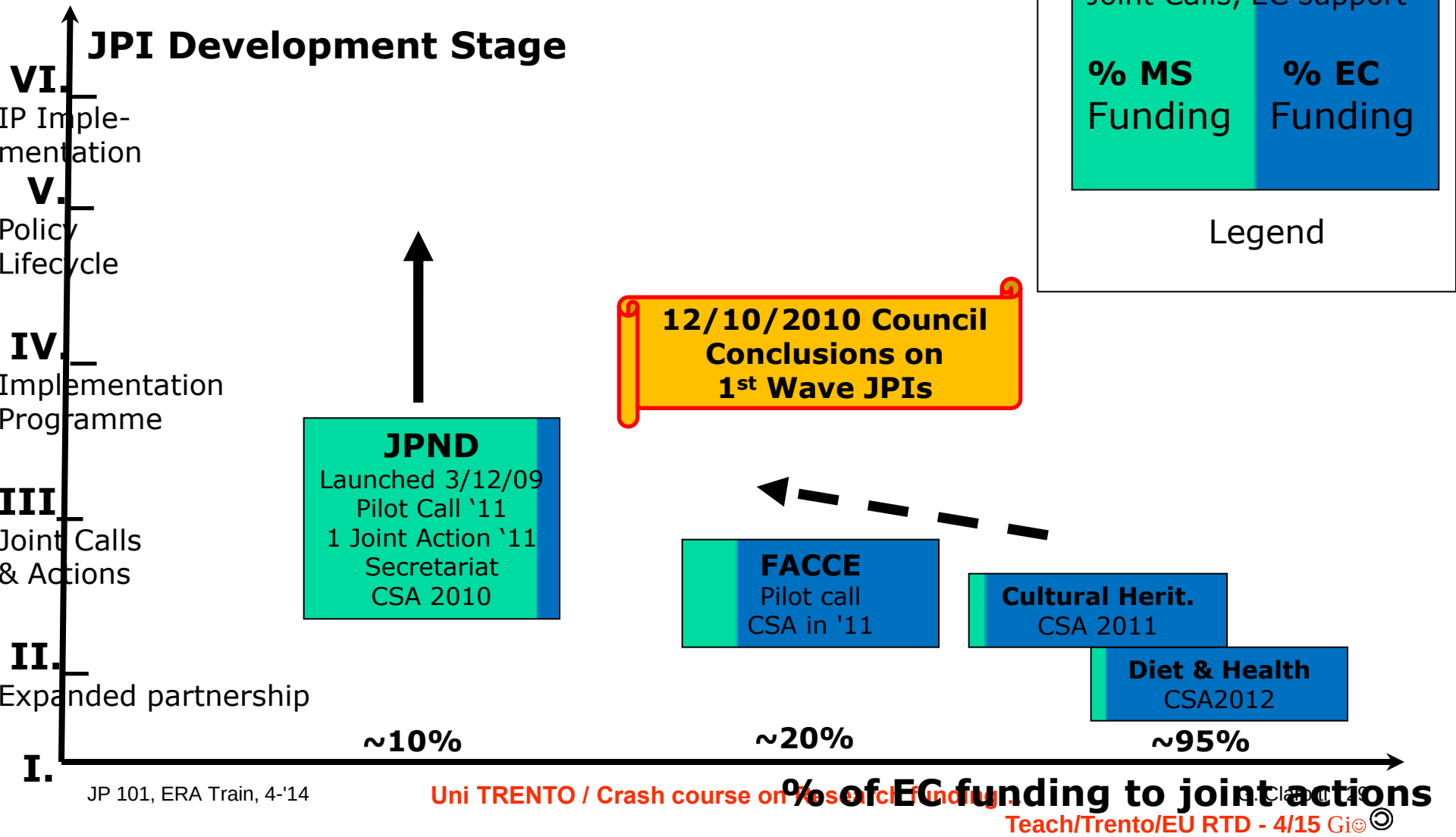
End 2009, for 2010

Benchmarking JPIs (Status at 31/12/09 + WP 2010)



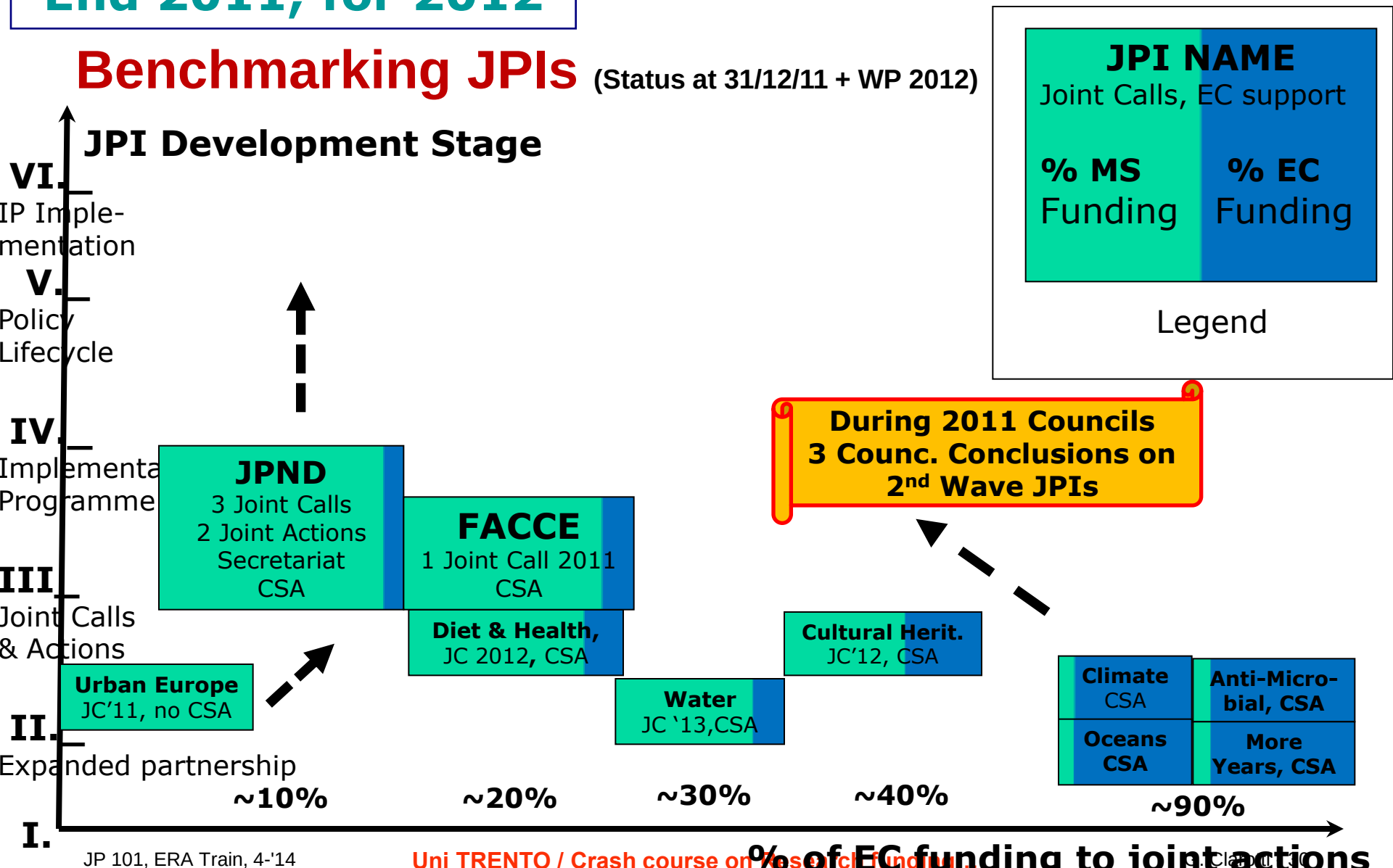
End 2010, for 2011

Benchmarking JPIs (Status at 31/12/10 + WP 2011)



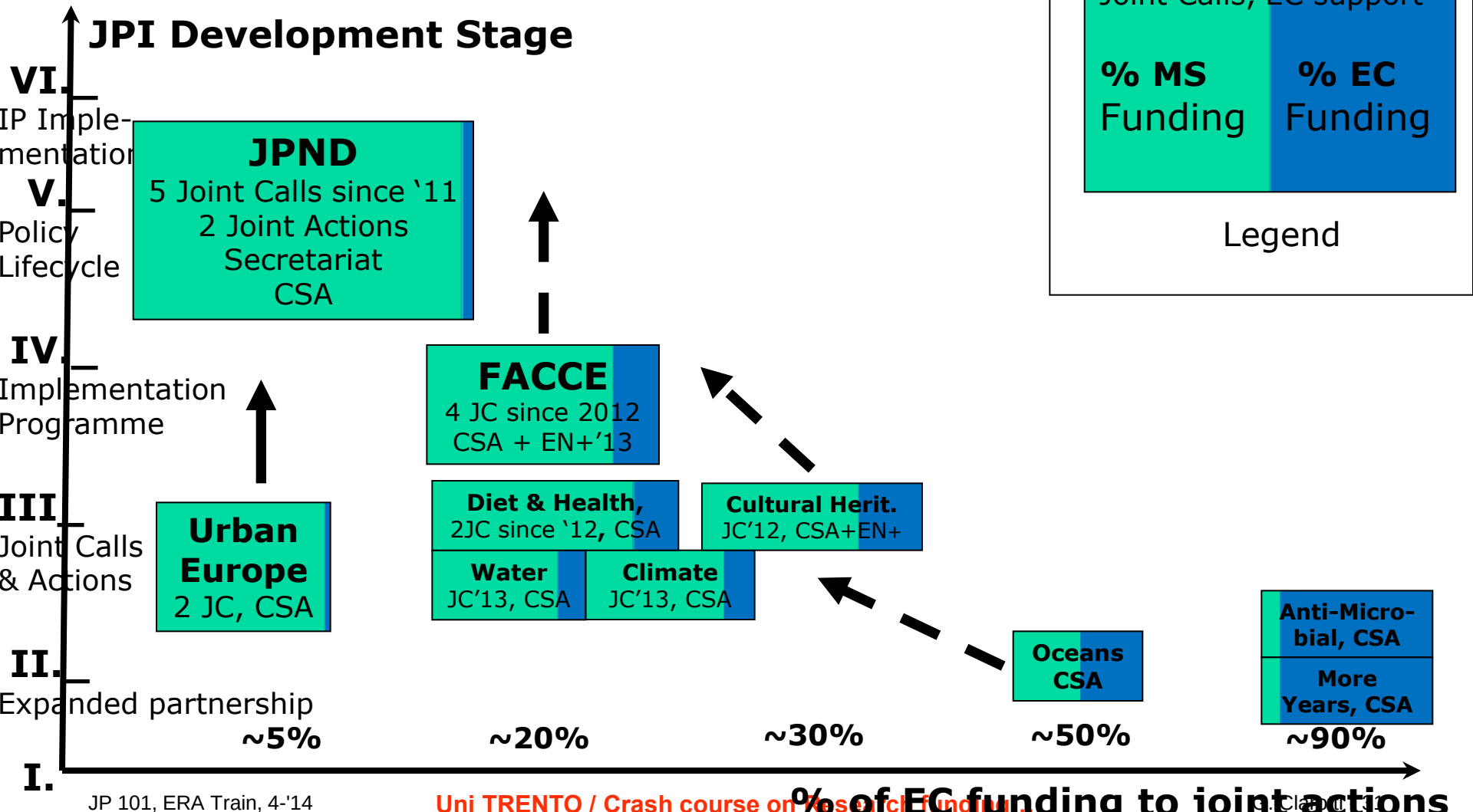
End 2011, for 2012

Benchmarking JPIs (Status at 31/12/11 + WP 2012)



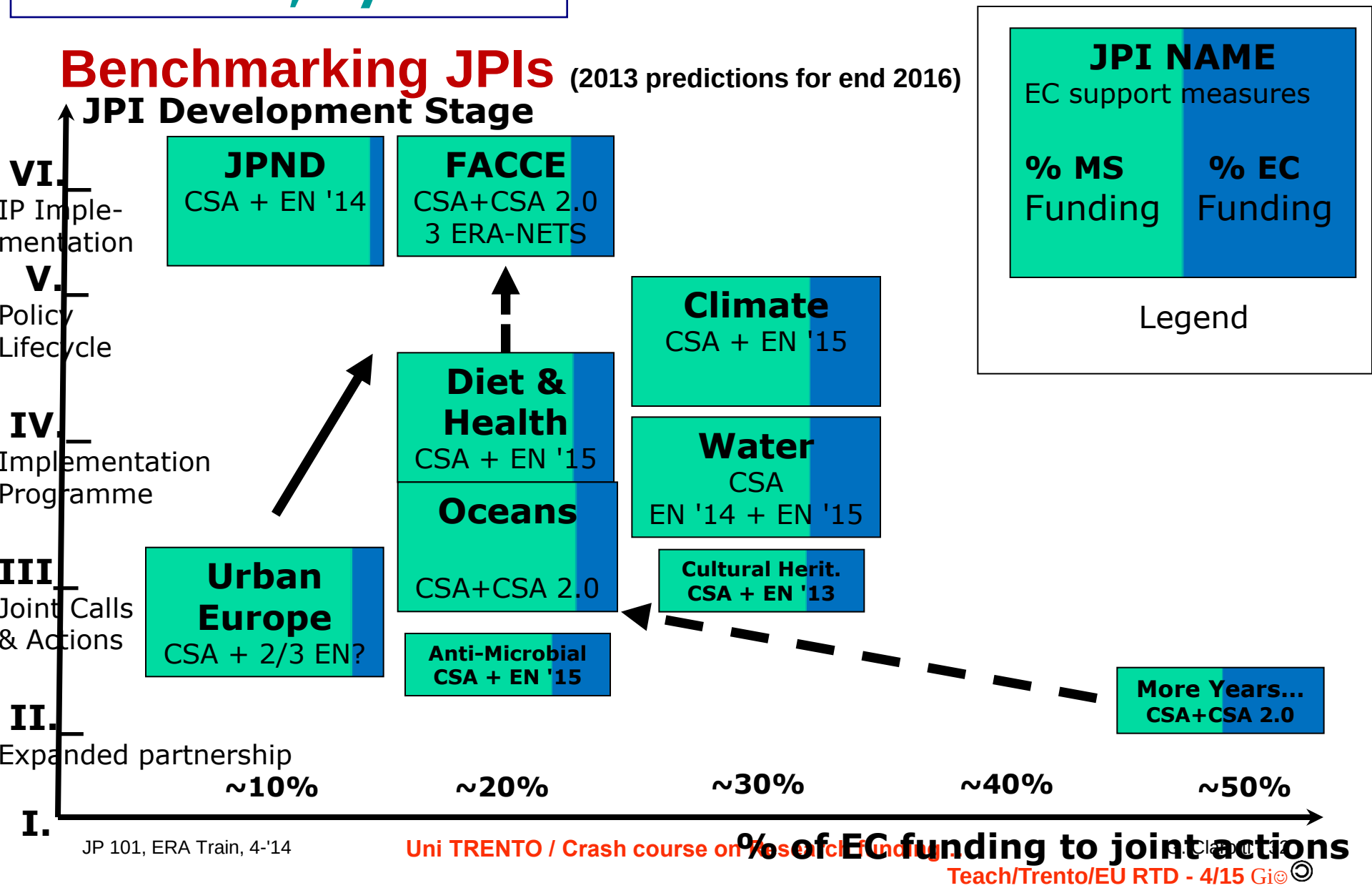
End 2012, for 2015

Benchmarking JPIs (2012 predictions for end 2015)

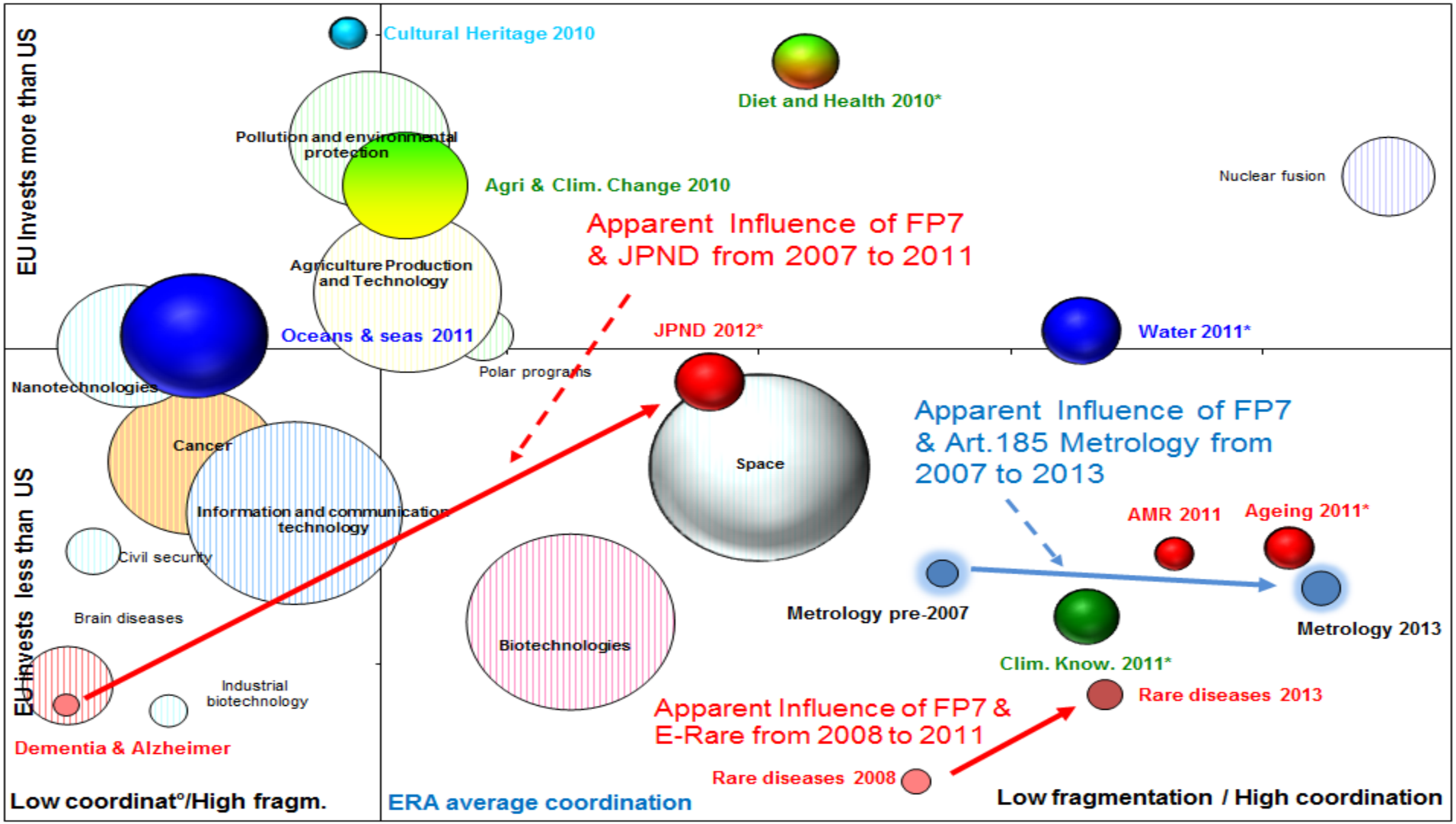


End 2013, by 2016

Benchmarking JPIs (2013 predictions for end 2016)



MAPPING the ERA vs. the US



***Clarotti & Delescluse:** European Commission 2014*

5. Feed-back on EU RTD & Inno policy

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