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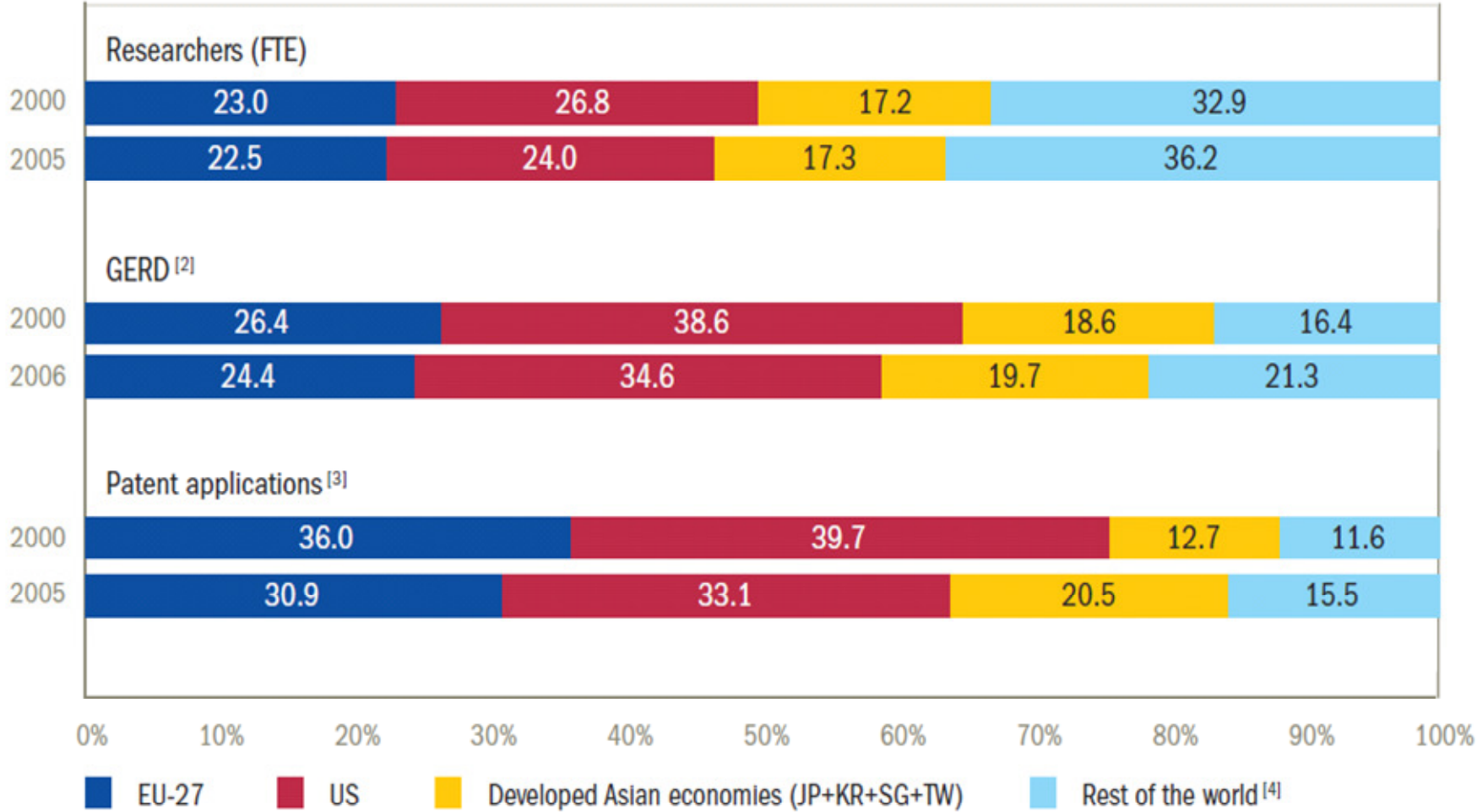


# Framework Program and beyond

**What this money can do that  
MS cannot?**

*IPSEC VII*  
Kraków, 7 Sept 2009

# GLOBAL R&D DATA



# SCIENTISTS WORK AND PUBLISH TOGETHER

JOURNAL	Papers analysed	authors/ paper	Institutions/paper
<i>Nature</i> v. 433-5	487	$7,86 \pm 0,73$	$3,42 \pm 0,17$
<i>Science</i> v.307-8	426	$7,70 \pm 0,43$	$3,49 \pm 0,15$
<i>Phys.Rev. B</i> 71 June 2005	108	$3,99 \pm 0,25$	$2,26 \pm 0,14$
<i>Phys.Rev. C</i> 71 June 2005	77	$15,9 \pm 6,6$	$4,39 \pm 0,88$
<i>Astroparticle Physics</i> v. 23	48	$23,5 \pm 9,6$	$4,67 \pm 1,17$

COURTESY - PROF. A. K. WRÓBLEWSKI, 2005

# SCIENTISTS vs ADMINISTRATORS

## SCIENTISTS WORK TOGETHER

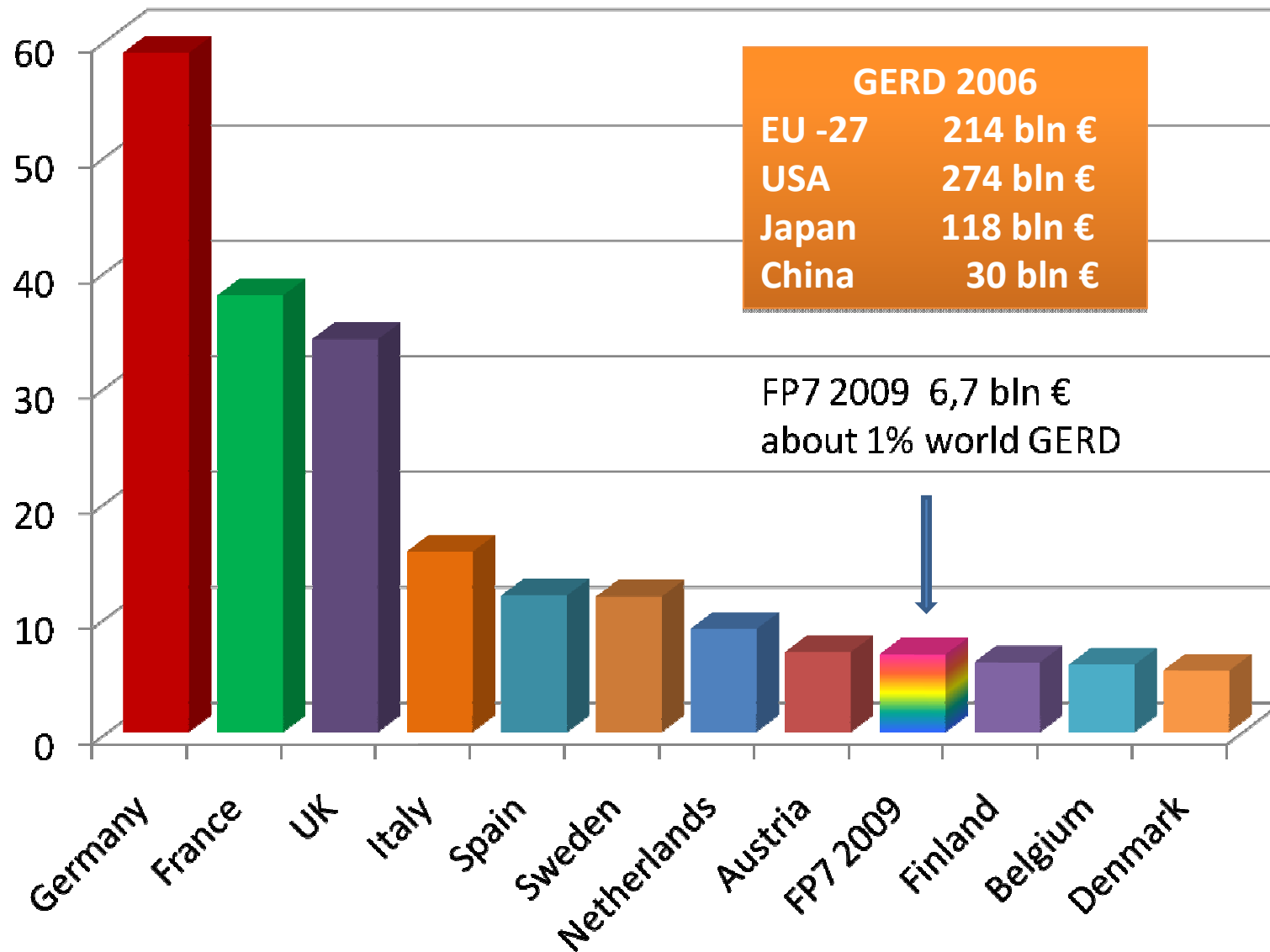
cooperation tools welcome, but coordination acceptable only at the project level (we know best what is good for us)

## ADMINISTRATORS, POLICY & DECISION MAKERS

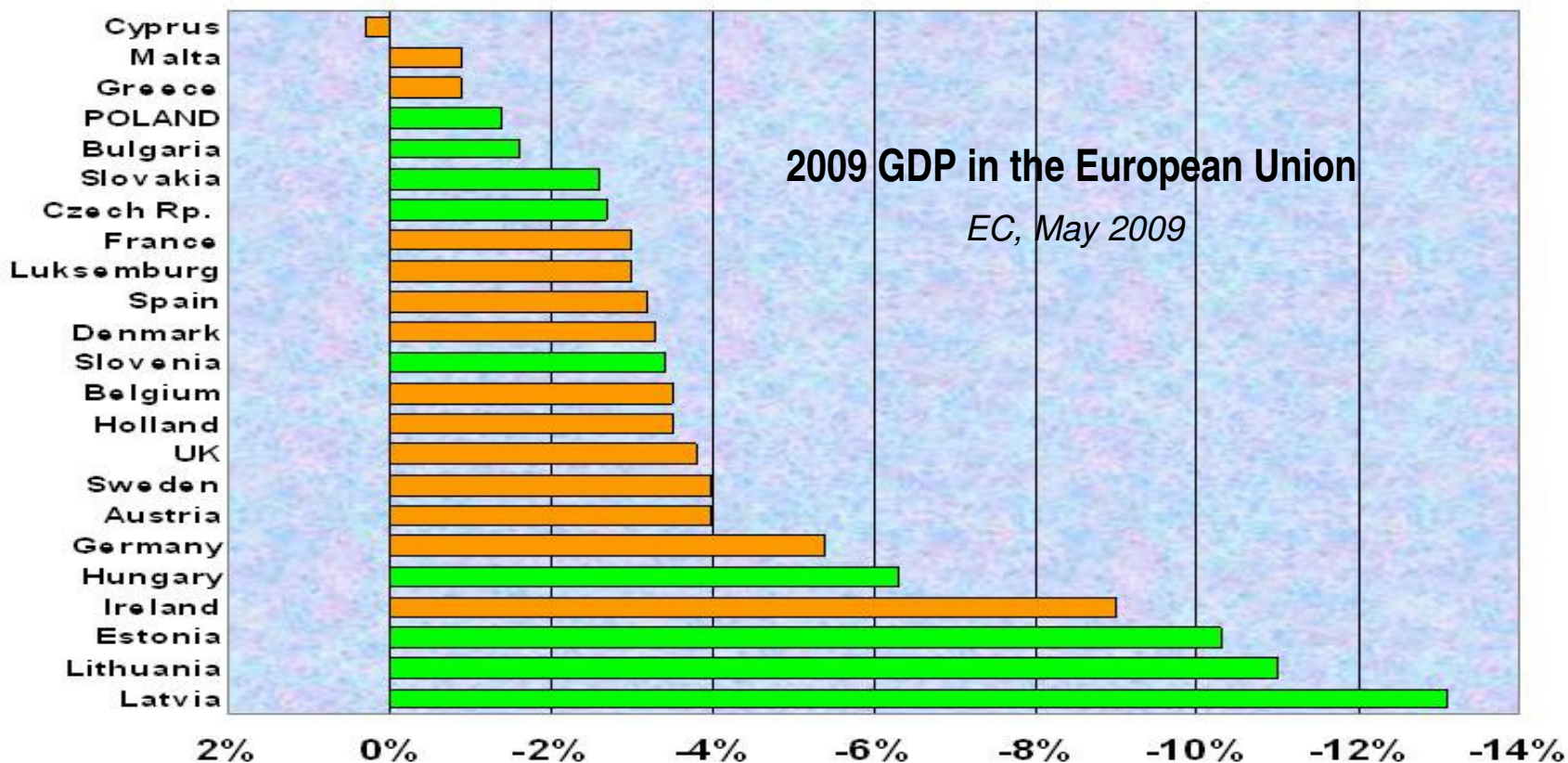
have another perspective, hence coordination likely, provided they do not lose power and importance

**A more harmonious and less antagonistic mutual relationship is a must**

# WORLD GERD (2006)



# FINANCIAL CRISIS AND R&D



5% drop of the GDP causes over 10 bln € hole in the EU GERD

First likely victim – industrial R&D finances

# **A NEW DEAL URGENTLY NEEDED !**

## **HINT NO 1 – GEORGE SOROS 2009**

*Capitalism must undergo fundamental transition from a free market game to a state controlled capitalism*

## **HINT NO 2 – LUND DECLARATION**

*To meet the Grand Challenges, European research must be focused. Institutions, member states and the EC must cooperate better and the systems must build on openness and trust*

## **HINT NO 3 – UNIQUE WINDOW OF OPPORTUNITY**

*New EU parliament and new EC*

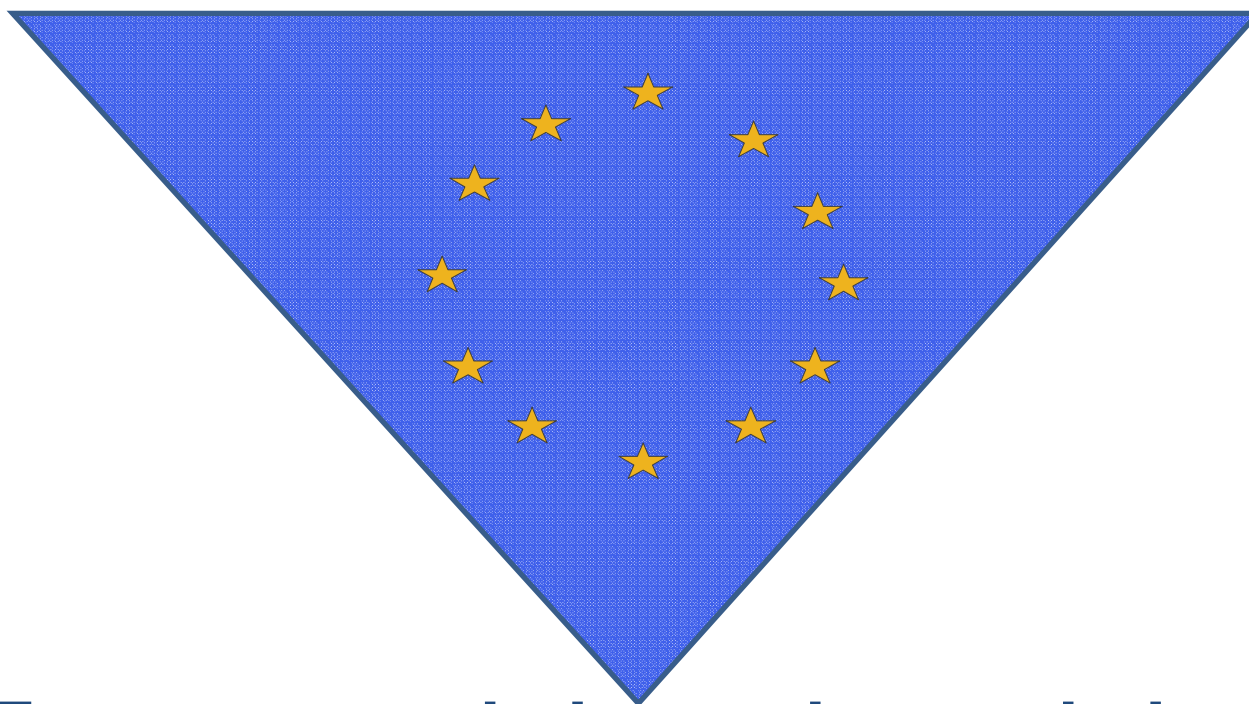
*New financial perspective*

*New Treaty and political consciousness about REI*

# A NEW DEAL URGENTLY NEEDED !

**Member States**

**European Commission**



**European societies and associations**  
a missing partner



# BARRIERS FOR JOINT UNDERTAKINGS

## AT THE MS LEVEL

- **Specific national rulings**
  - *Review schemes (national - must)*
  - *Resident vs. non-resident financing*
  - *What allowed (e.g. stem cells, GMOs, etc)*
- **Diverse funding schemes**
  - *Ministries vs. Research Councils*
- **Different fiscal rules and scales**
  - *Full vs. partial cost, backup funds*
- **Different budgetary rules (e.g. yearly base)**
- **Different priorities and legal consequences**
- **Different scale of resources**
  - *GERD (0,35 – 4,5%)*

# THE 2 SPEED EUROPE

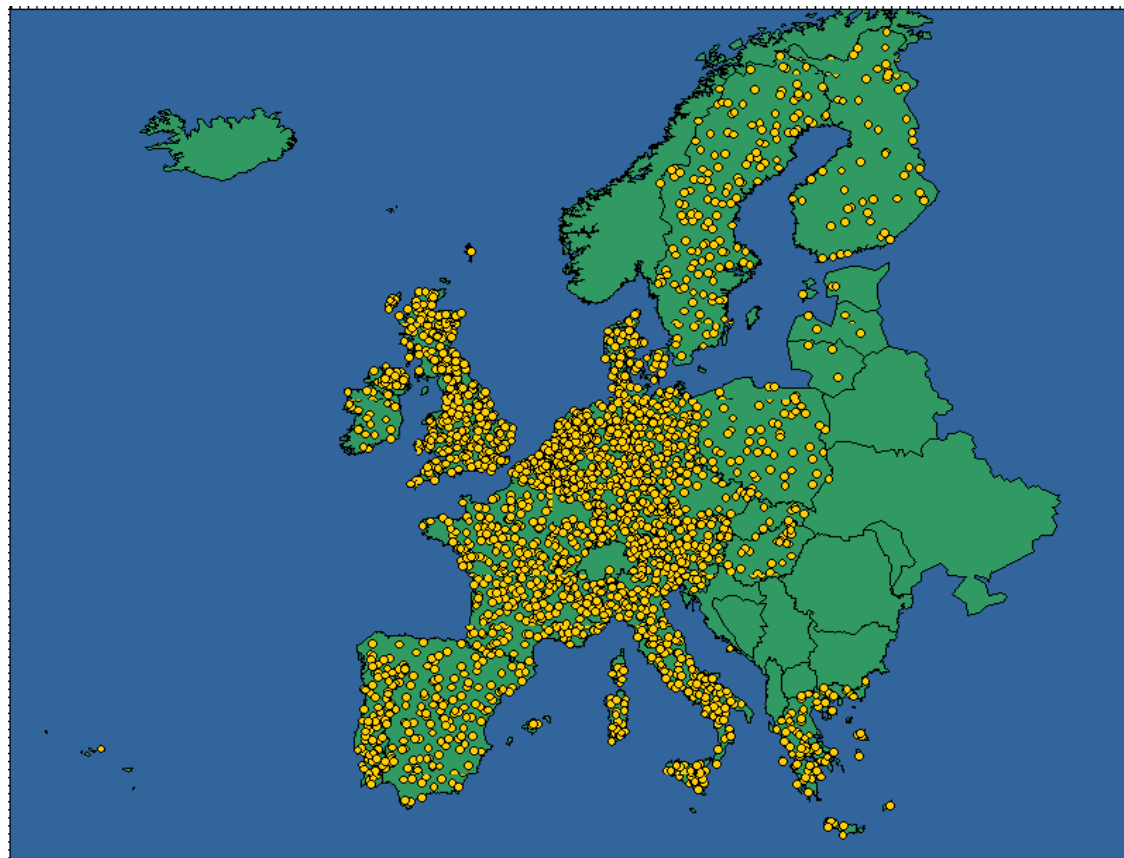
**A huge and so far unused potential lies dormant in the new EU states**

**The western part of our continent has so far been sending assembly plants rather than scientific knowledge or research know-how to the East.**

**The EU should seek to redress the imbalance by establishing research infrastructures in struggling countries.**

*Miroslav Topolanek – Czech Prime Minister  
22 Jan 2009*

# EU-25 NETWORKS OF EXCELLENCE



**DANGER OF A TWO-SPEED EUROPE**

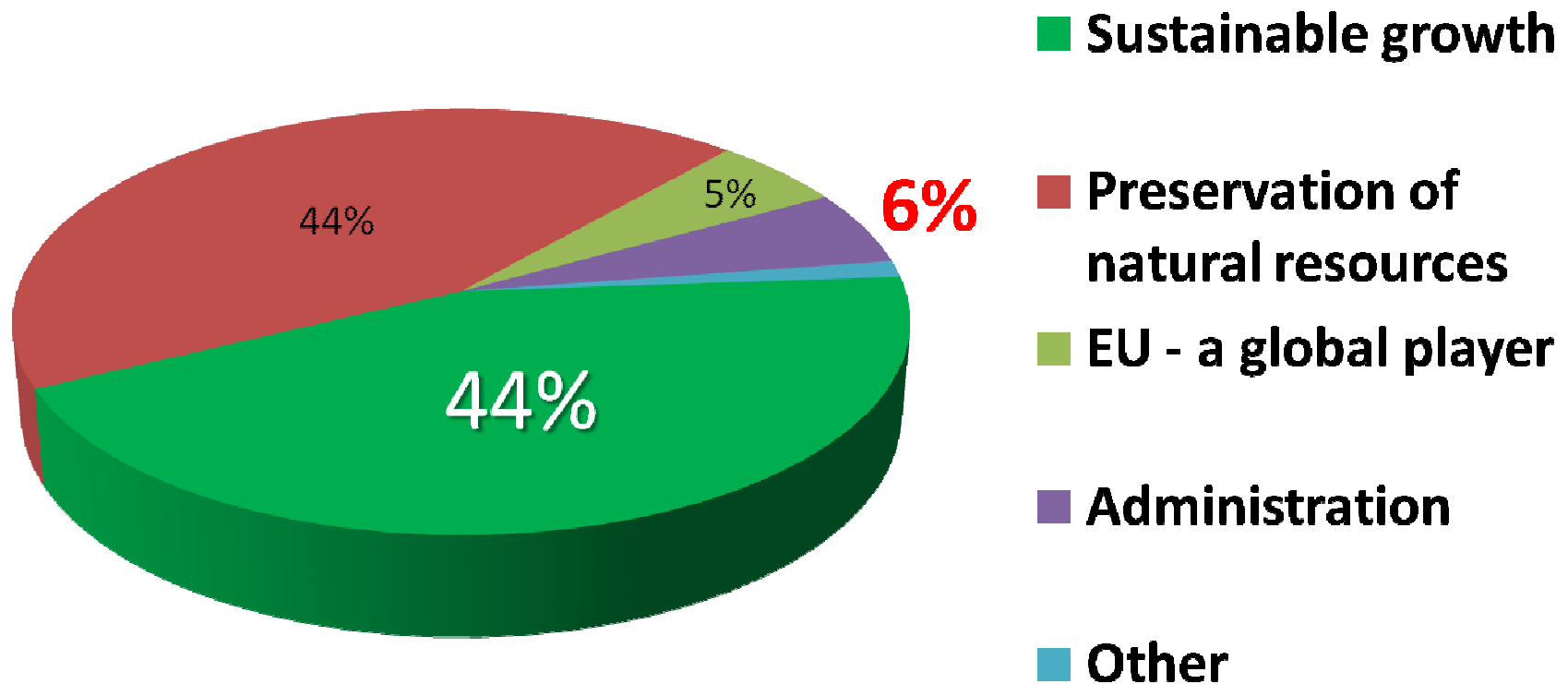
# **BARRIERS FOR JOINT UNDERTAKINGS**

## **AT THE EC LEVEL**

- **Complex and time consuming decision procedures**
- **Susceptibility to lobbying**
- **Politically relevant factors overwhelming**
- **Administrative rules before the goal**
- **Legality and accountability – CoA (e.g. case of EA)**
- **Compartmentalisation**

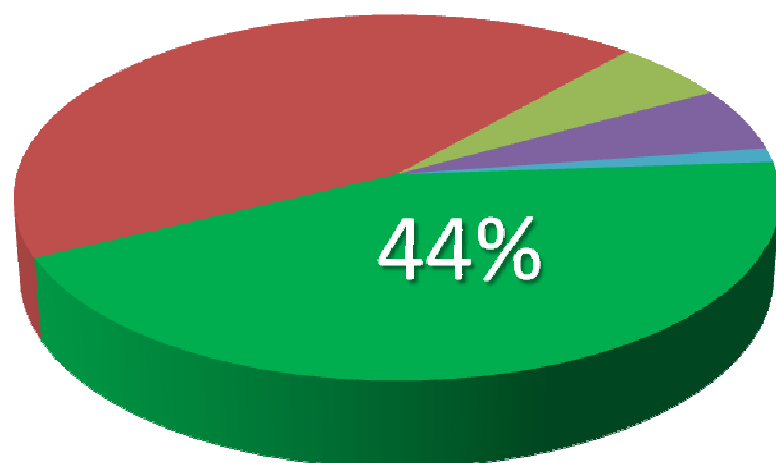
# EU budget 2009

136 bln €

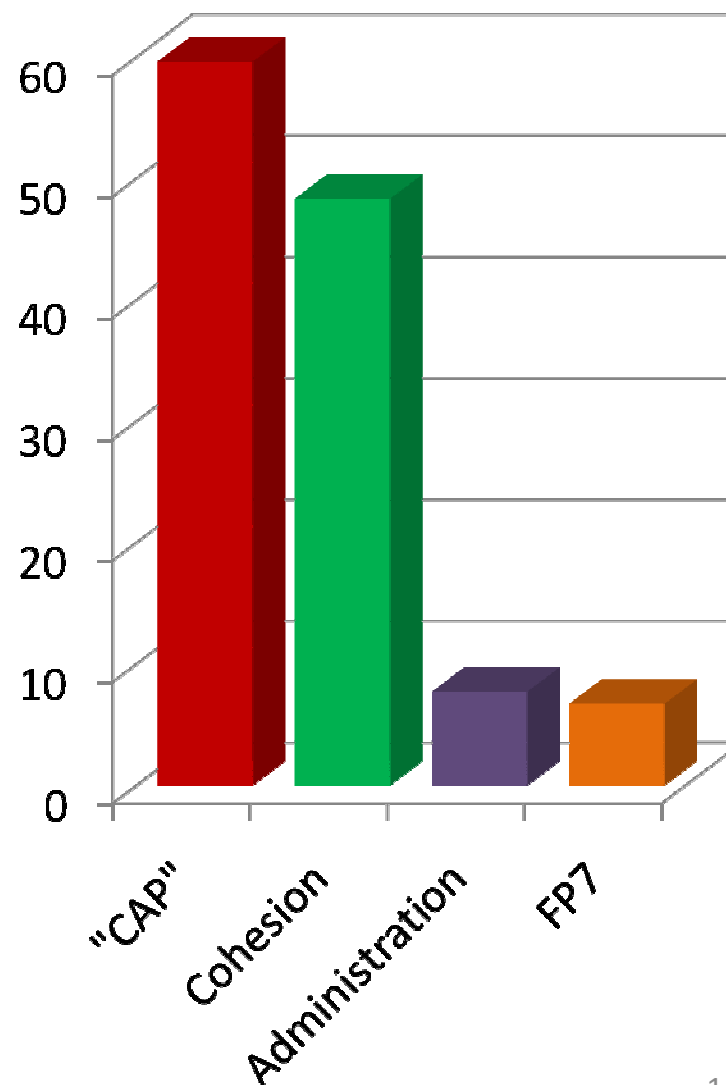


# FP IN THE 2009 EU BUDGET

**EU budget 2009**  
**136 bln €**



**Sustainable growth:  
Cohesion(SF)+FP7**



# Major EU budget reshuffle needed

- **Currently 44% - nominally sustainable growth**  
**Let it be real, not just named**
- **20% of Structural funds for competitive growth (*Aho group, EURAB 2*)**
- **FP, CIP, Education must be increased (*many*)**

**But current flaws must be reduced and a broader vision formulated beyond Lisbon and Barcelona targets**

# **FP ex-post evaluation:**

## **Report on Findings of the Expert Group**

**Ernst Th. Rietschel (Germany) – Chairman**

**Antanas Čenys (Lithuania)**

**Andrew Dearing (UK)**

**Irwin Feller (USA)**

**Sylvie Joussaume (France)**

**Aris Kaloudis (Norway)**

**Lene Lange (Denmark)**

**Jerzy Langer (Poland)**

**Victoria Ley (Spain)**

**Riitta Mustonen (Finland)**

**Derek Pooley (UK)**

**Nicoletta Stame (Italy)**

**Erik Arnold (UK) - Rapporteur**

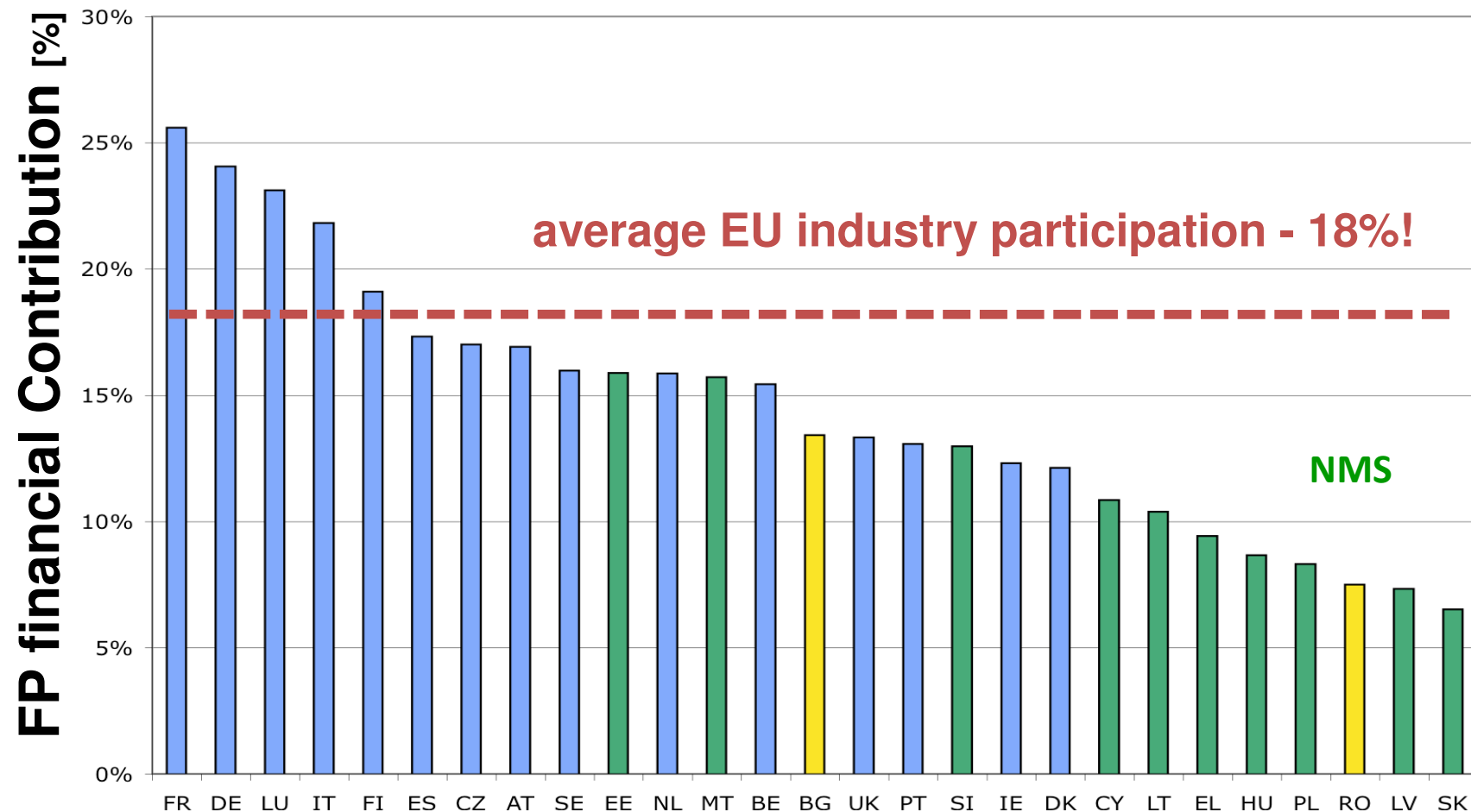
*February 2009*

[http://ec.europa.eu/research/reports/2009/pdf/fp6\\_evaluation\\_final\\_report\\_en.pdf](http://ec.europa.eu/research/reports/2009/pdf/fp6_evaluation_final_report_en.pdf)



# FP – major flaws or questions

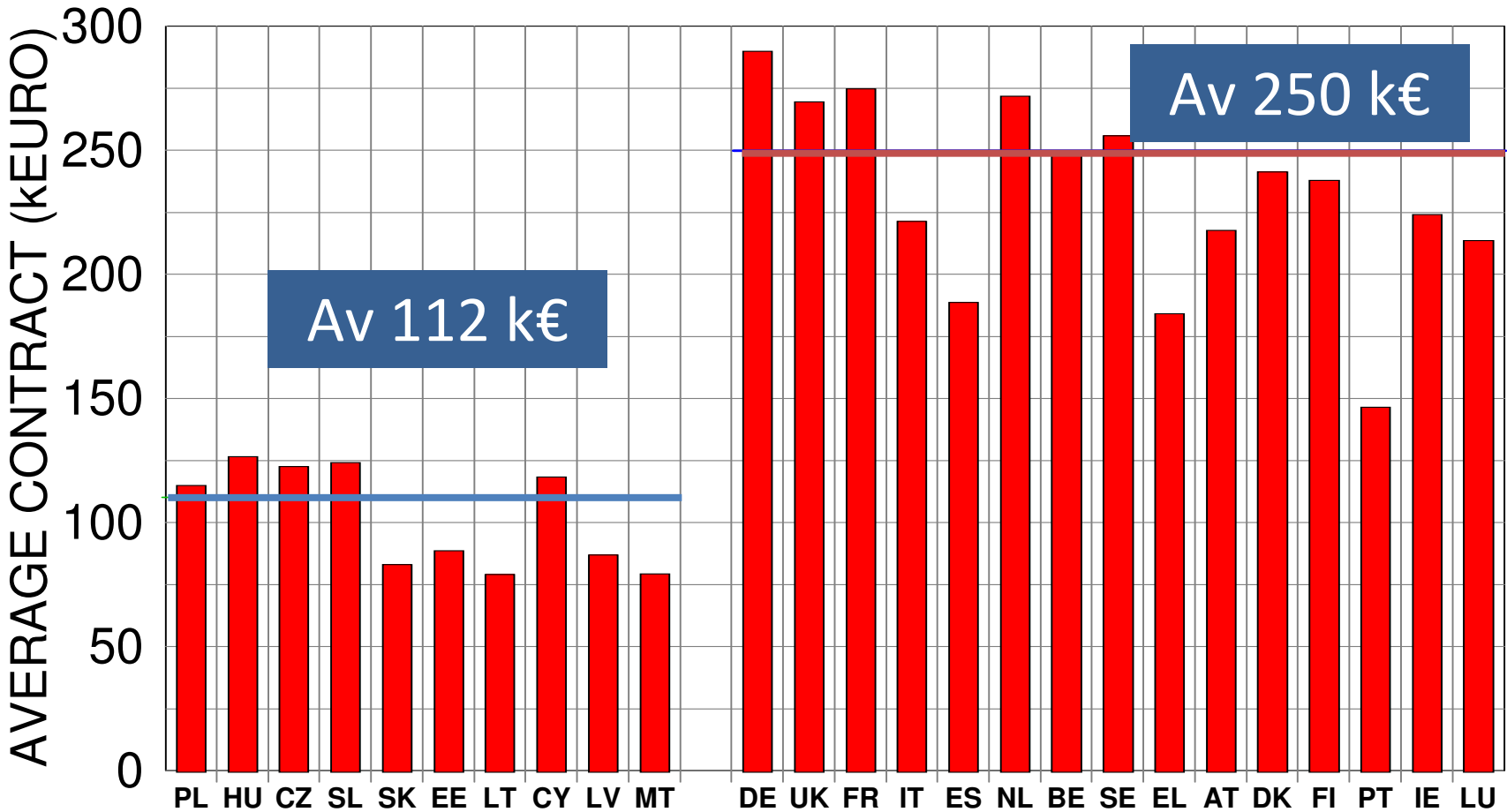
- Fall of business and industry interest in the FP



# FP – major flaws or questions

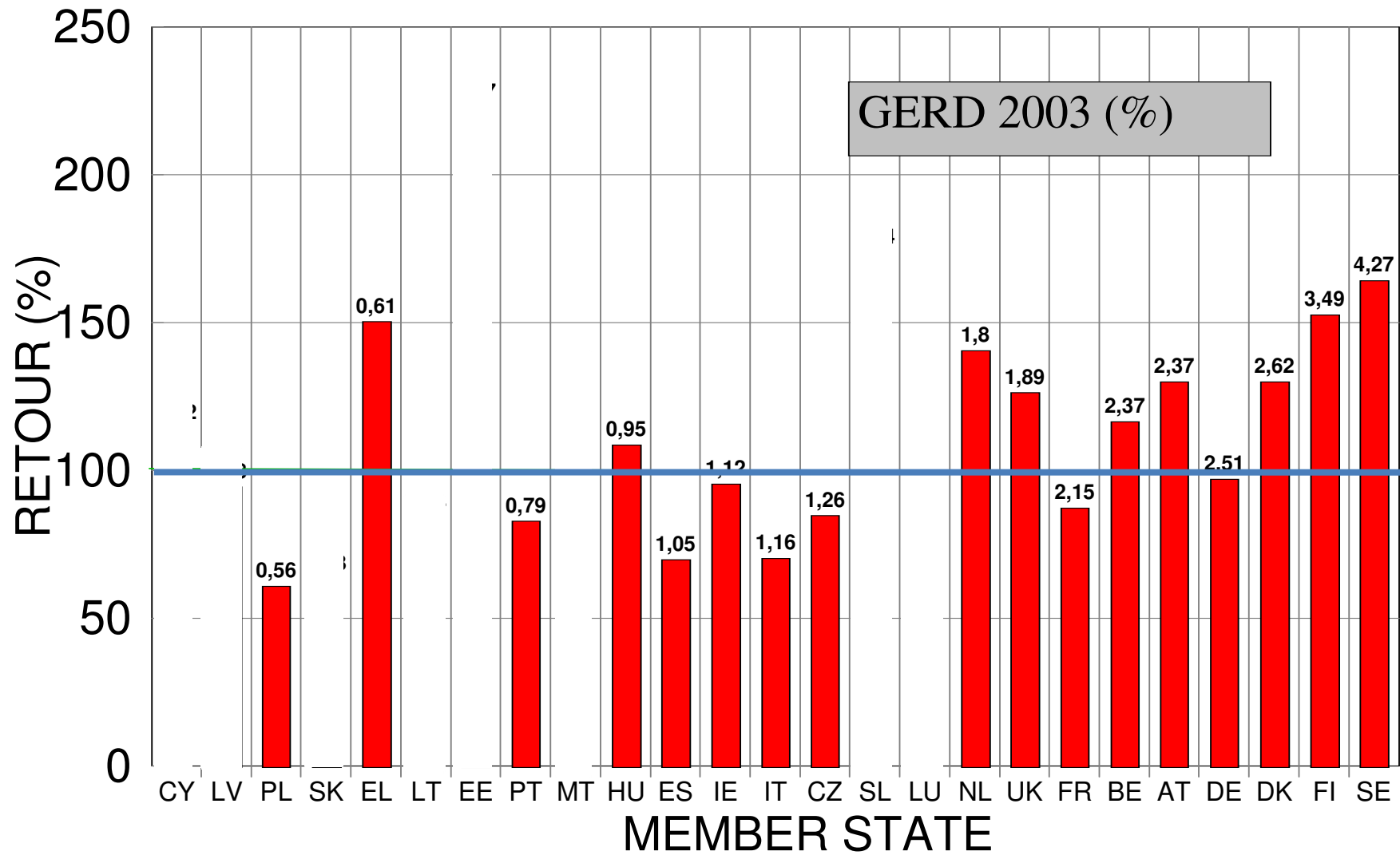
- Fall of business and industry interest in the FP
- Clear signs that system is not fair enough
  - Average contracts, financial success rate barely correlated with GERD, evaluation and experts –still a problem, low women participation, coordinators – *an FP old boys network!*
- Gigantomania (NoE and IP) wrong way
- Very dispersed thematics (excellence is too nominal)
- Why the success killed (NEST)?
- Seeking contracts becomes lucrative business
- Much too weak partnership with MS (ERA NETs)

# Average contract and the MS grouping



# Retour and GERD

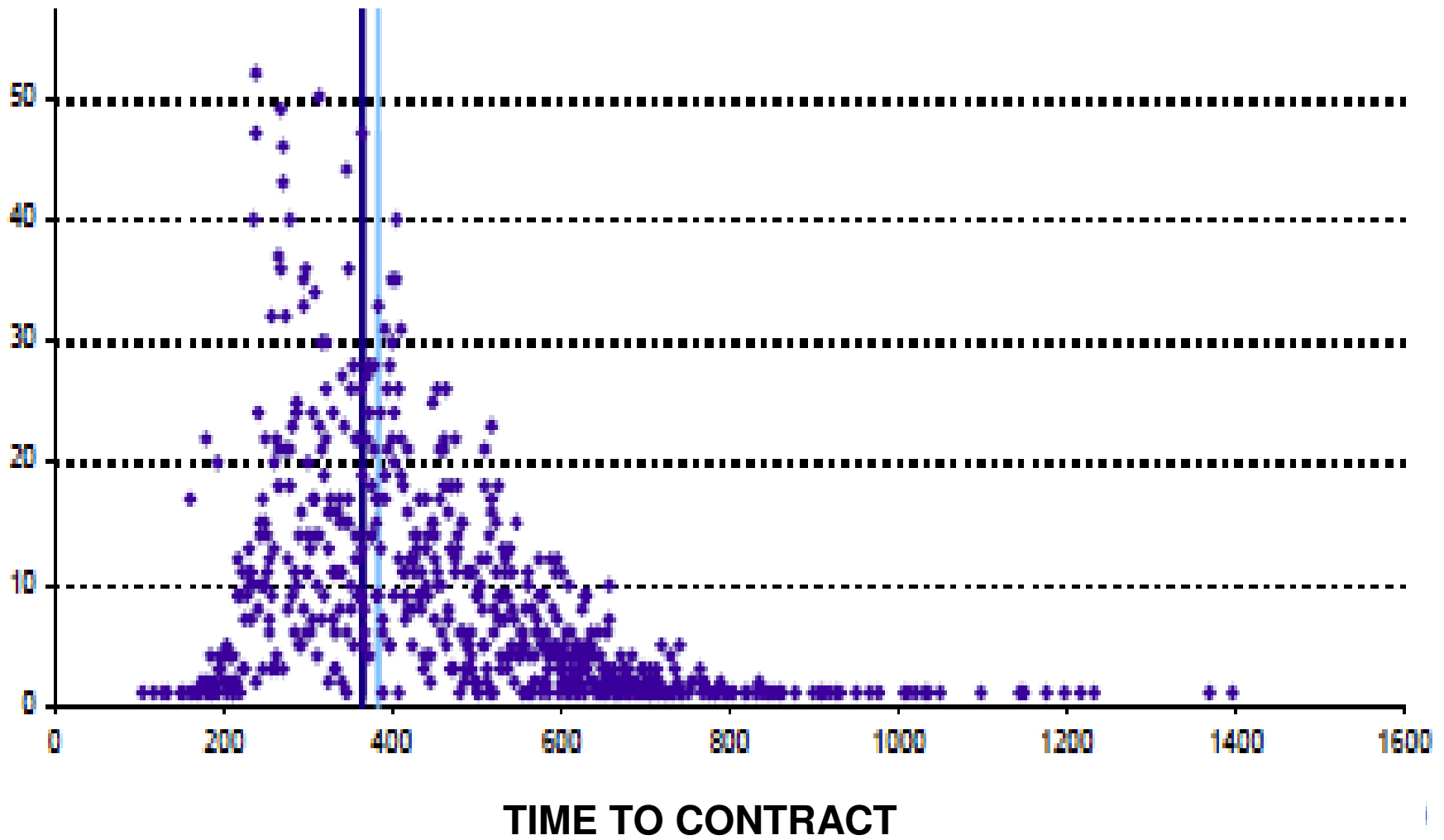
ordering of MS is by increasing GERD



# FP – major flaws or questions

- Fall of business and industry interest in the FP
- Clear signs that system is not fair enough
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- Gigantomania (NoE and IP) wrong way
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# System too slow!



# Still valid recommendations

- Radical overhaul of FP design (ERA GP debate !!!)
- Radical simplification: externalisation, lowering costs, „kill” grant preparation business
- Evaluation culture based on MS experience
- Scientific projects **from contract to grant system**
- Industrial projects **from a cost to a price system**
- Reinstall NEST-like format (cooperation), strengthen ERC
- Implementation of ESFRI (roadmap) process
- **Synergy with other DG programs and resources**
- **It must become exciting challenge for young talents**

# A NEW ROLE OF FP ON EUROPEAN MAP

## 1. Grand Challenges

- Large Problem-driven programmes
- Quality and originality but also relevance

## 2. Great Ideas – Moving frontiers

- Bottom-up approach
- Quality and originality are the sole criteria

## 3. Help to realise what MS cannot do alone

- Research Infrastructure and access to it
- Stimulate and ease multilateral collaboration (ERA-NETs +)

## Evolution of fund distribution

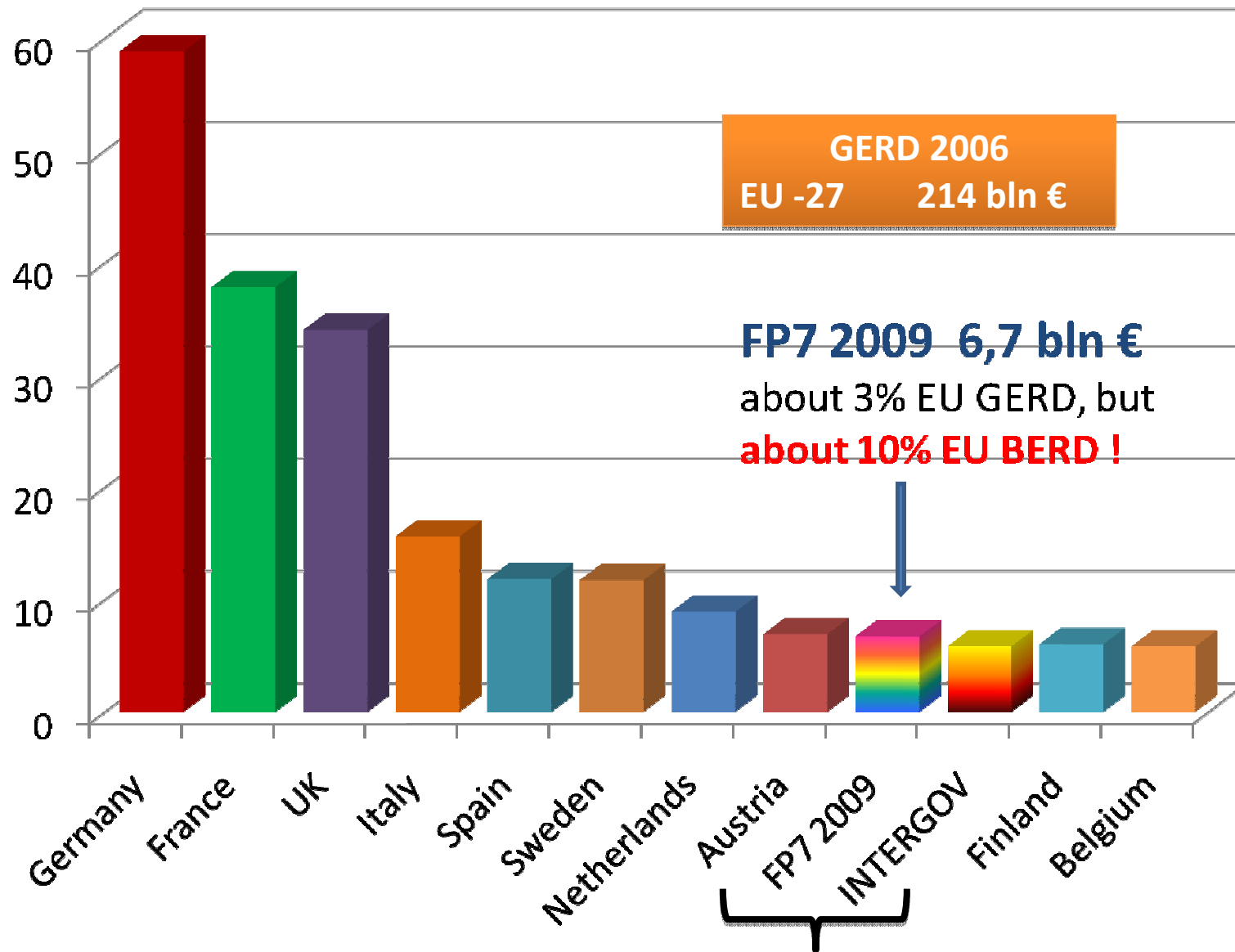
EC DGs → Executive Agencies → European Councils



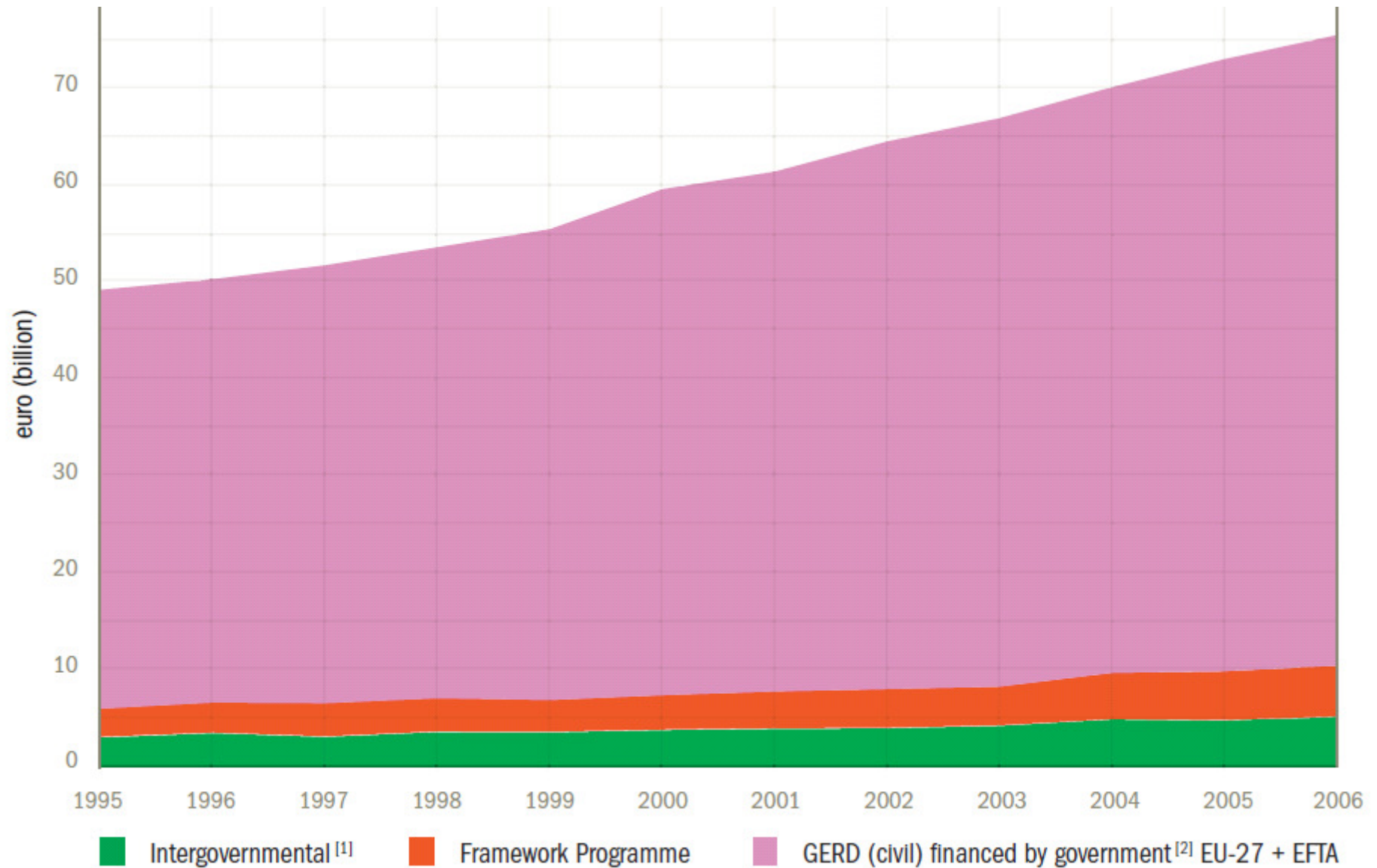
Projects (in alphabetical order per domain)	Full name of project	Estimated construction cost <sup>[5]</sup> (million euro)	Indicative operational cost per year <sup>[5]</sup> (million euro)	Countries participating in the preparatory phase <sup>[3]</sup>
<b>Energy</b>				
HIPER	High Power Experimental Research Facility	800	80	CZ, DE, EL, ES, FR, IT, PL, PT, UK, RU
<b>Material Sciences</b>				
ELI	Extreme Light Infrastructure	400	30	BG, CZ, DE, EL, ES, FR, IT, LT, HU, PL, PT, RO, UK
ESRF Upgrade	European Synchrotron Radiation Facility	287	na	ESRF (EIRO) <sup>[4]</sup>
Neutron Source ESS	European Spallation Source for Producing Neutrons	1050-1500	80-100	DE, ES, FR, IT, LV, HU, SE, GB, CH
European XFEL	X-ray Free Electron Laser	1200	84	DK, DE, ES, FR, IT, HU, PL, SK, SE, UK, CH, RU
ILL 20/20 Upgrade	Institute Laue Langevin	160	na	ILL (EIRO)
IRUV X-FEL	Infrared to Ultraviolet and soft X-rays Free Electron Lasers	1300-1800	130-180	DE, IT, SE, UK
PRINS	Paneuropean Research Infrastructures for Nano-Structures	1150-1750	250	BE, DE, FR, NL

Projects (in alphabetical order per domain)	Full name of project	Estimated construction cost <sup>[5]</sup> (million euro)	Indicative operational cost per year <sup>[5]</sup> (million euro)	Countries participating in the preparatory phase <sup>[3]</sup>
<b>Astronomy, Astrophysics, Nuclear and Particle Physics</b>				
E-ELT	European Extremely Large Telescope	600-800	40	ESO (EIRO)
FAIR	Facility for Antiproton and Ion Research	1000	135	DE, ES, FR, IT, AT, PL, RO, FI, SE, UK, RU, IN
KM 3NeT	Cubic Kilometre Neutrino Telescope	~ 200	na	DE, IE, EL, ES, FR, IT, CY, NL, RO, UK
SKA	Square Kilometre Array	1500	100-150	DE, ES, FR, IT, NL, UK, US, AU, CA, ZA
SPIRAL2	Système de Production d'Ions RAdioactifs en Ligne	170	6.6	BE, BG, CZ, DE, ES, FR, IT, HU, NL, PL, RO, UK, IL
ILC-HiGrade <sup>[2]</sup>	e+e - International Linear Collider	4400	na	DE, FR, IT, UK, CERN (EIRO)
SLHC <sup>[2]</sup>	Large Hadron Collider upgrade	1000	na	CZ, DE, ES, FR, IT, NL, PL, UK, CH, CERN (EIRO)
<b>Computer and Data Treatment</b>				
HPC (PRACE)	European High-Performance Computing Service	200-400	30-50	DE, EL, ES, FR, IT, NL, AT, PT, PL, FI, SE, UK, NO, CH

# THE MONEY WE ARE TALKING ABOUT



# PUBLIC FUNDING OF R&D IN EUROPE



# A NEW DEAL URGENTLY NEEDED !

## Member States

- abandon „*just retour*”
- accept a „*common pot*”
- agree on benchmarking and its consequences - openness
- harmonise procedures (e.g. on peer review, English as acceptable legal language in proposal submittals, timing,...)
- EU- portability of grants

## European Commission

- an initiator
- an observer –ERA watch
- a guardian
- a „facilitator” (financial, personnel)
- a legal advisor
- information provider
- externalise fund distribution

## EUROPEAN SOCIETIES AND ASSOCIATIONS a missing partner in a dialogue

# **EUROPEAN SOCIETIES AND ASSOCIATIONS**

## **a missing partner in a dialogue**

- **Currently the dialogue is mostly between MS and EC**
- **Creation of the ERC showed what can research society at large accomplish, if united.**
- **Learned societies have always been a „glue” for researchers. Example of AAAS shows that may also be powerful (involves society at large!**

**ESF, AE, EUROSCIENCE, ALLEA, EUA backed by large pan-European Foundations must get stronger and be heard and listened by decision makers**

**Topical associations should be consulted in specific areas**

Easiest way to lose money  
is to sink it into stocks, women  
or scientific research

*ascribed to Georges Pompidou*

However, if you know what are you doing,  
good return is more likely



Warren Buffet



Alfred Nobel



But skill, trust and devotion are also required



