Africa-EU Cooperation

in the ICT/S&T domains

Internet and Grid computing Seminar
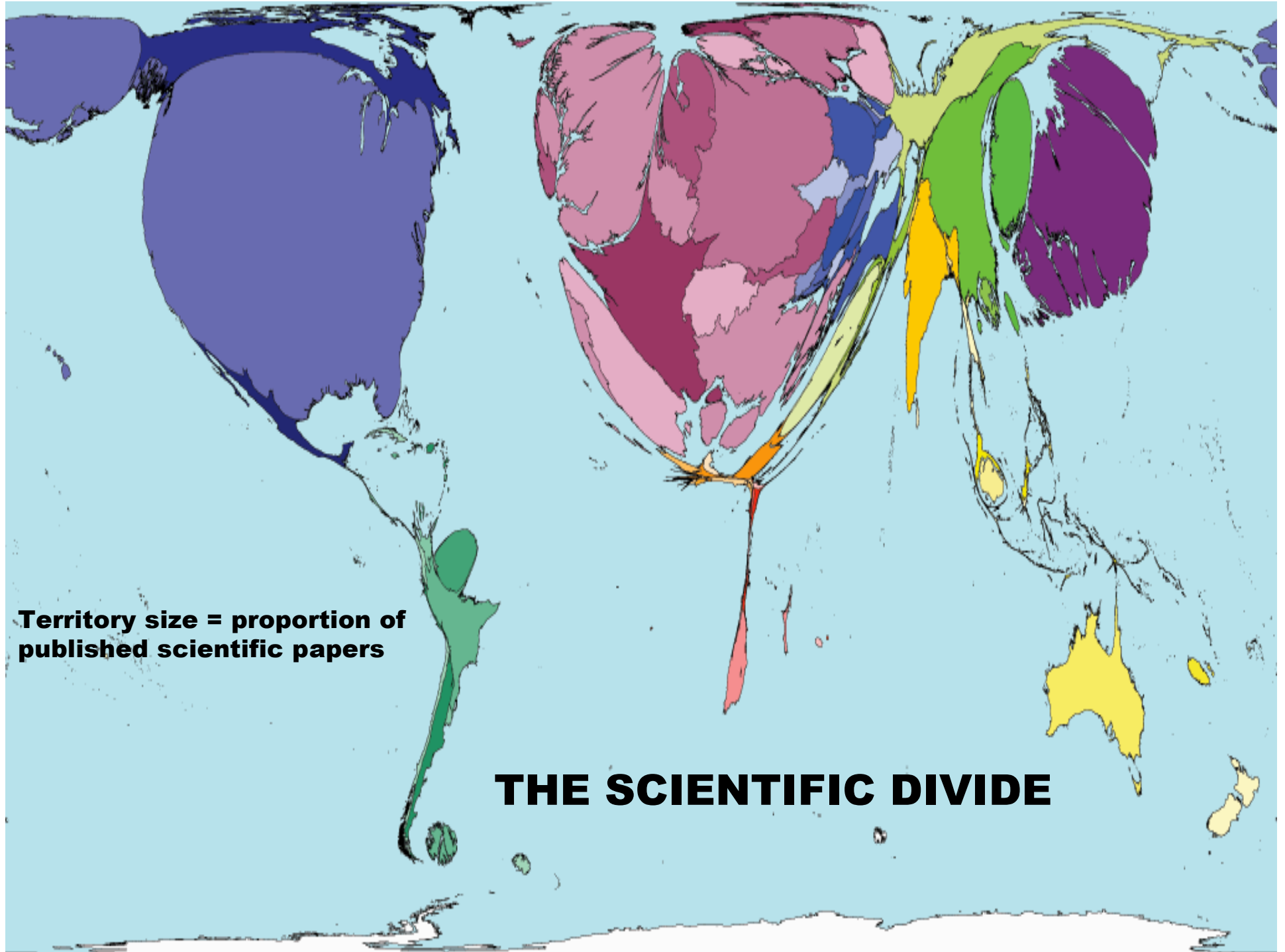
Montpellier, 11/12/2007

Thierry Devars

European Commission / DG INFSO

Information Society and Media

SEVENTH FRAMEWORK PROGRAMME

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Territory size = proportion of published scientific papers

THE SCIENTIFIC DIVIDE

THE DIGITAL DIVIDE

Earth at Night
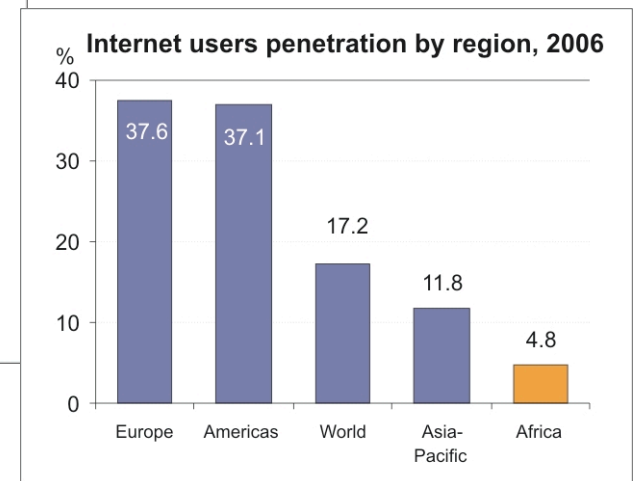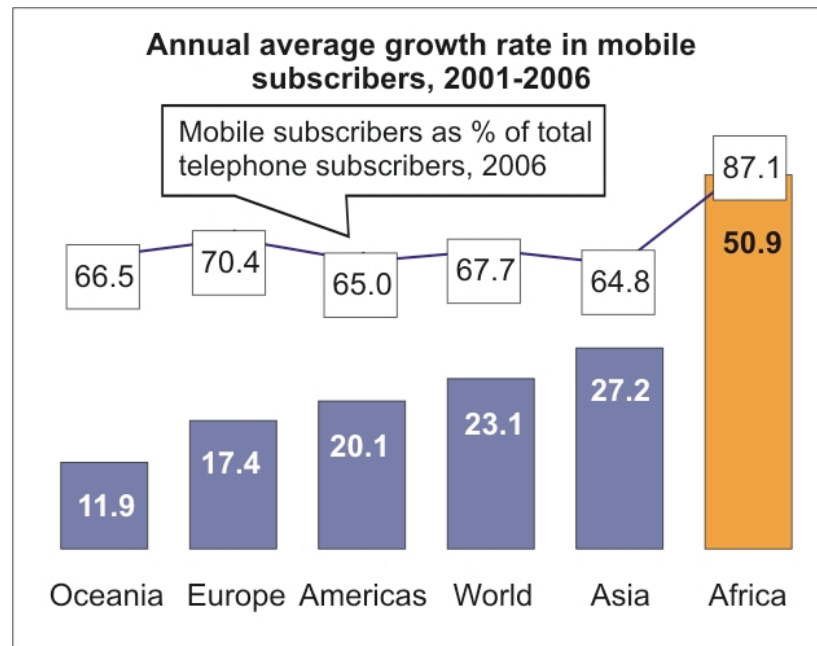More information available at:
http://antwrp.gsfc.nasa.gov/apod/ap020810.html

The mobile boom

16 M subscribers 2000 to 198 M in 2006

Annual average growth rate in mobile subscribers, 2001-2006

Mobile subscribers as % of total telephone subscribers, 2006

Oceania	Europe	Americas	World	Asia	Africa
66.5	70.4	65.0	67.7	64.8	87.1
11.9	17.4	20.1	23.1	27.2	50.9

% Internet users penetration by region, 2006

Europe	Americas	World	Asia-Pacific	Africa
37.6	37.1	17.2	11.8	4.8

But…

• internet users penetration of 4,8%

• broadband penetration below 1% (0,12% for sub-Saharan Africa), weak rural connectivity

• interconnection costs, prohibitively high tariffs, weak computer literacy, brain-drain

Deployment of ICT infrastructures

Optical Fiber Network in Africa
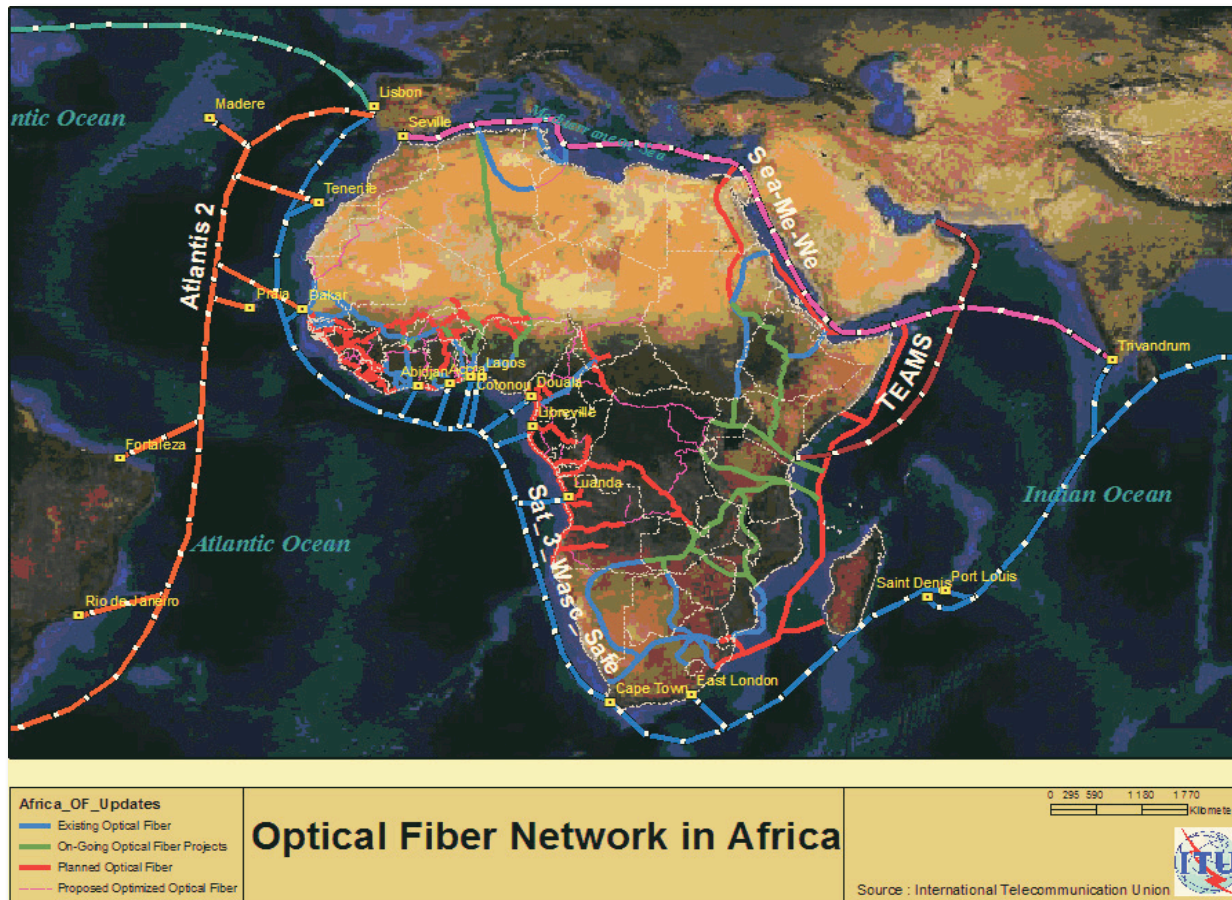
Need for hybrid solutions : fiber +broadband wireless (satellite/drones/WIMAX/HSDPA)

Need for a comprehensive dedicated approach (regulation, capacities)

Connect Africa Summit : Kigali, 29-30 October 2007

- Jointly organised by ITU, World Bank, GAID and EC

- Public-private partnerships : link business with development opportunities

- Collective committments of more than 55B$ investments in the next 5 years

- WSIS connectivity targets brought forward 2012 instead of 2015

Both ICT and S&T lacked prioritization in the EU Development Programmes (EDF : European Development Funds/ EU = 60% of Africa's ODA)

- misconception : the devt of the Information Society can be left to market forces alone

- fragmented vs dedicated approach

- the « bread vs broadband » debate

Regarding the fragmentation of activities, 2 intra-ACP programmes have been adopted in EDF 9 :

- @CP- IT : 20 M€ for support to regulation and e-policies

- PSTICB : 35 M€ for Science, Technology Innovation and Capacity-Building

The EU-Africa Partnership on Infrastructures

- Officially launched last October

- 4 sectors : Energy, Water, Transport, ICT / trans-border networks

- 5,6 B€ earmarked from the 10th EDF

- Creation of a Trust Fund with the European Investment Bank (initial 100 M€ in grants from EC and MSs +260 M€ in loans from EIB)

- Innovative governance : coordination between EU and AU, NEPAD, Regional Economic Communities, African Bank for Development, EIB (interface with Infrastructure Consortium for Africa)

- EASSY (East African Submarine cable) identified as flagship project;

INTERCONNECTING AFRICA The EU - Africa Partnership on Infrastructure

The EU-Africa Joint Strategy and Action Plan : changing relations

8 Partnerships to be implemented in 2008-2010
- Peace and Security
- Democratic Governance and Human Rights
- Trade and Regional Integration
- Millennium Developments Goals
- Energy
- Climate Change
- Migration, Mobility and Employment
- Science, Information Society and Space

http://ec.europa.eu/development/services/events/eu-africa-summit-2007

The EU-Africa Partnership on Science, Information Society and Space

- Science : support to the AMCOST Consolidated Plan of Action

- Information Society : support to ARAPKE (African Regional Action Plan for the Knowledge Economy)

- Space : specific projects based on space technologies to achieve regional and global development goals (environment, climate change, digital divide,…)

Focus on regional integration !!

Information Society Priority

Complement investments on infrastructures through support to key capacity-building initiatives :

- regulation / e-policies / indicators - monitoring

- human resources (education, e-skills, professional training)

- development of local content and e-applications of high socio-economic impact (health, education, govt, trade)

- research and education networks / interconnection with GEANT

Need for a dedicated fast-track, public-private implementation mechanism : EC/AUC Monitoring + EU-Africa Business Forum

Development Aid / Research Cooperation : the chicken and egg situation

THE EUROPEAN RESEARCH AREA

ERA

- Integration of Member States R&D activities
- Increase in (business) R&D to 3% of GDP
- More strategic long-term oriented Framework Programme
  - Larger longer term more strategic projects
  - Mobilise critical mass of researchers / resources across EU
  - Leadership in key technologies for knowledge economy
  - With real benefits to business and citizens

Member States
Candidate Countries

Not on main map:
FRANCE — Guadeloupe, Martinique, Réunion, French Guiana
PORTUGAL — Azores, Madeira
SPAIN — Canary Islands

European Union : an Union of 27 Member States representing 493 million citizens

EU Framework Programmes for R&D

- on top and in addition to EU MSs national programmes

- around **6%** of the **TOTAL** EU **PUBLIC** investment in R&D

…but STRONG INTEGRATION EFFECT !

€ Billion

3,27	5,36	6,6	13,12	14,96	17,5	53,3
1984-1987	1987-1991	1990-1994	1994-1998	1998-2002	2002-2006	2007-2013
FP1	FP2	FP3	FP4	FP5	FP6	FP7
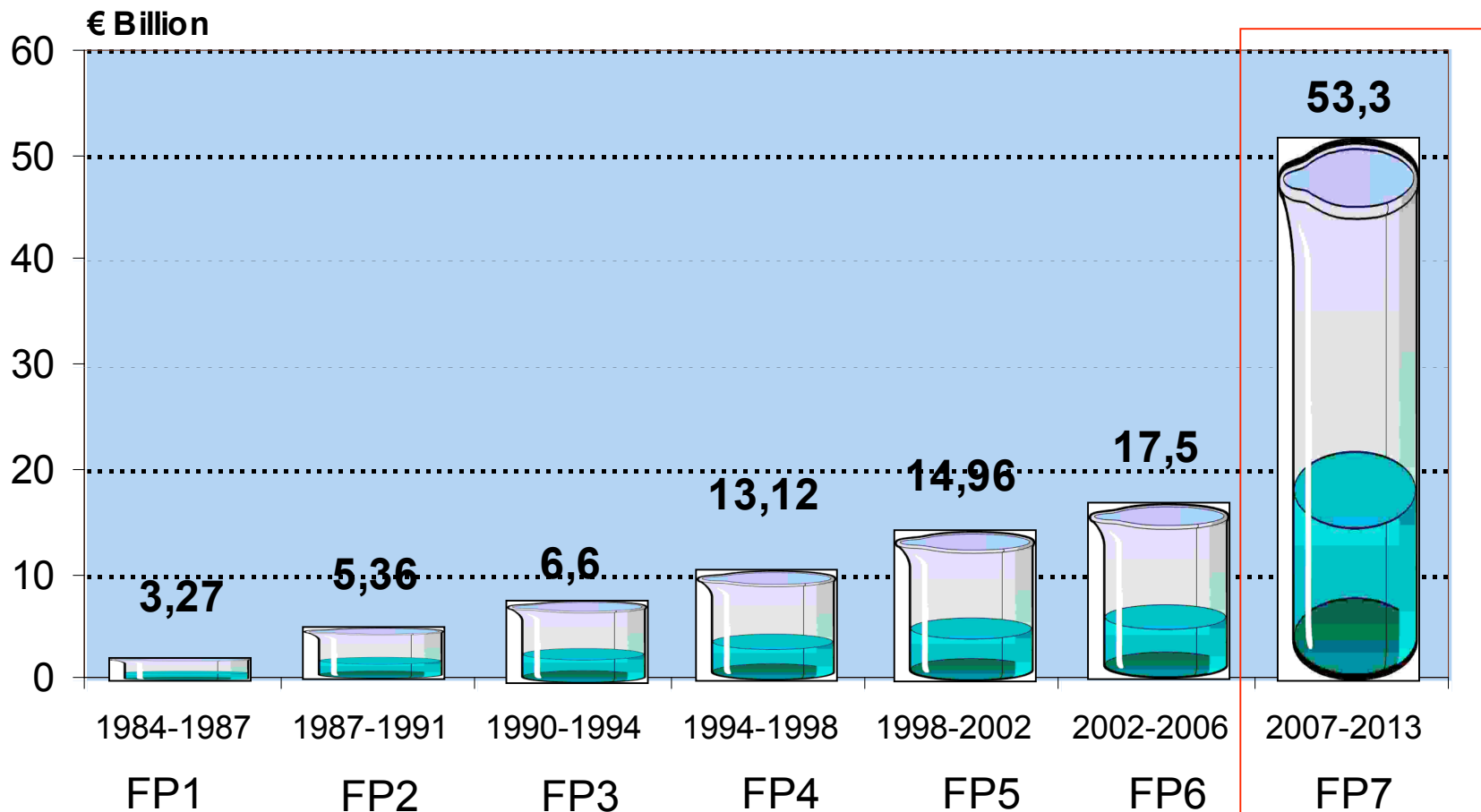
FP7 Specific Programmes

"Cooperation"
Collaborative R&D, pre-defined themes, JTIs
€ 32.3 bn

"Ideas" NEW
Frontier research, competition, individual grants
€ 7.5 bn

"People"
Human potential, mobility
€ 4.7 bn

"Capacities"
Infrastructure, SMEs, science and society
€ 4.3 bn

Joint Research Centre (non-nuclear)
€ 1.8 bn

+

EURATOM
EURATOM Programme
3 %
€ 2.8 bn
€ 1.3 bn

65 %

15 %

9 %

8 %

Total
€ 54.6 bn
2007-2013
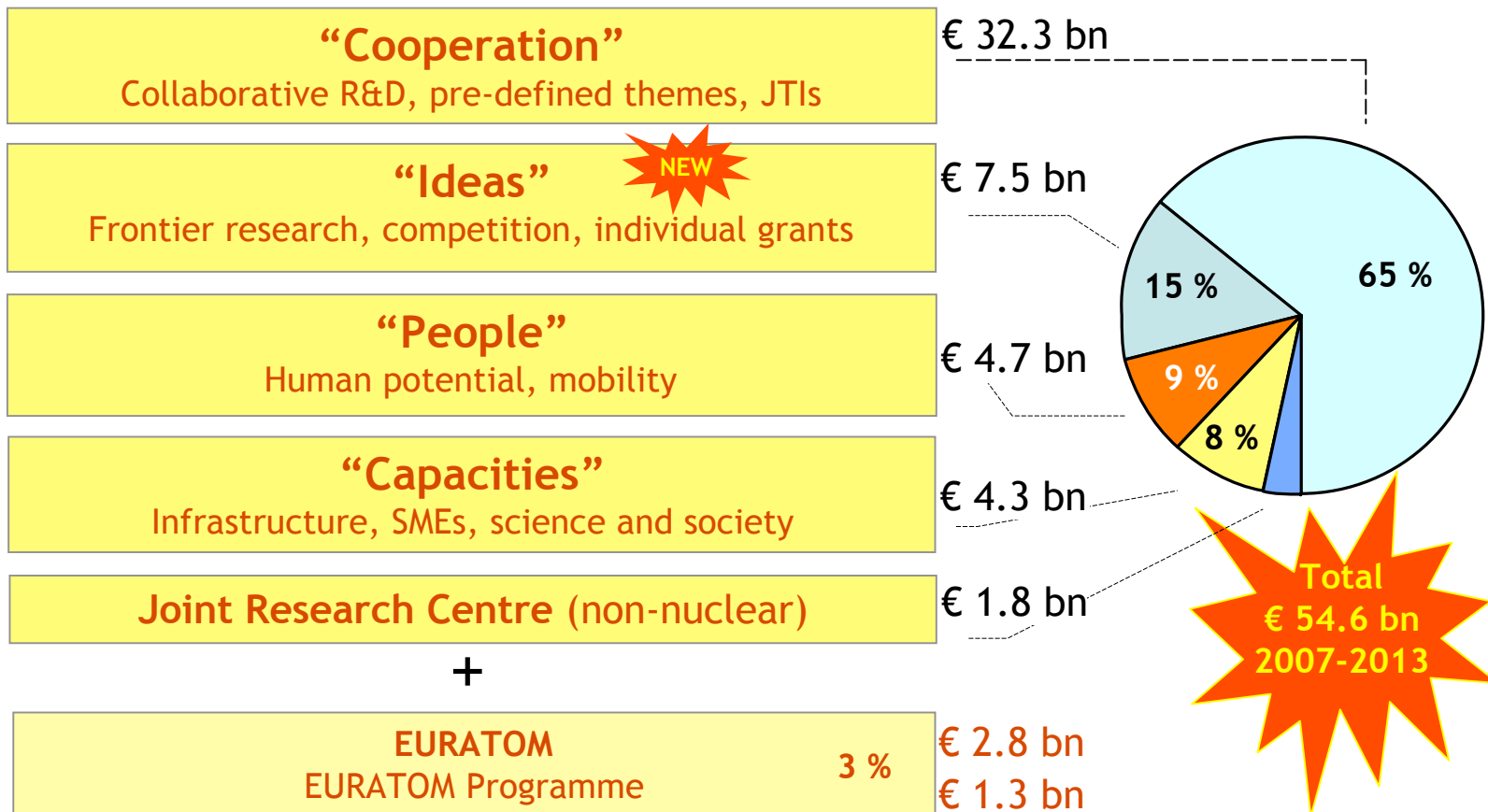
FP 7 STRUCTURE

(2007-2013)

Co-operation (10 thematic priorities) : 32,4 B€

Health
Food, Agriculture and Biotechnology
Information and Communication Technologies 9,1B€
Nanosciences, Nanotechnologies, Materials and new Production Technologies
Energy
Environment (including Climate Change)
Transport
Socio-Economic Sciences and the Humanities
Security
Space

Capacities : 4,1 B€

Research Infrastructures
Research for the Benefit Of SMEs
Regions of Knowledge
Research Potential
Science in Society
Activities of International Co-operation
Coherent Development of Policies

Ideas – European Research Council (ERC) : 7,5 B€

Starting Independent Researcher Grants
Advanced Investigator Grants

People – Marie Curie : 4,75B€

Initial Training of Researchers
Lifelong Learning and Career Development
Industry-Academia Partnerships and Pathways
The International Dimension
Specific Actions

FP7 INTERNATIONAL DIMENSION

European Union/
Associated States (1)/
Overseas Countries & Territories

Target countries of specific measures in
support of international cooperation:
eligible for participation and funding

Other third countries: eligible for
participation; funding if provision under
RTD activity or essential for carrying out
indirect action
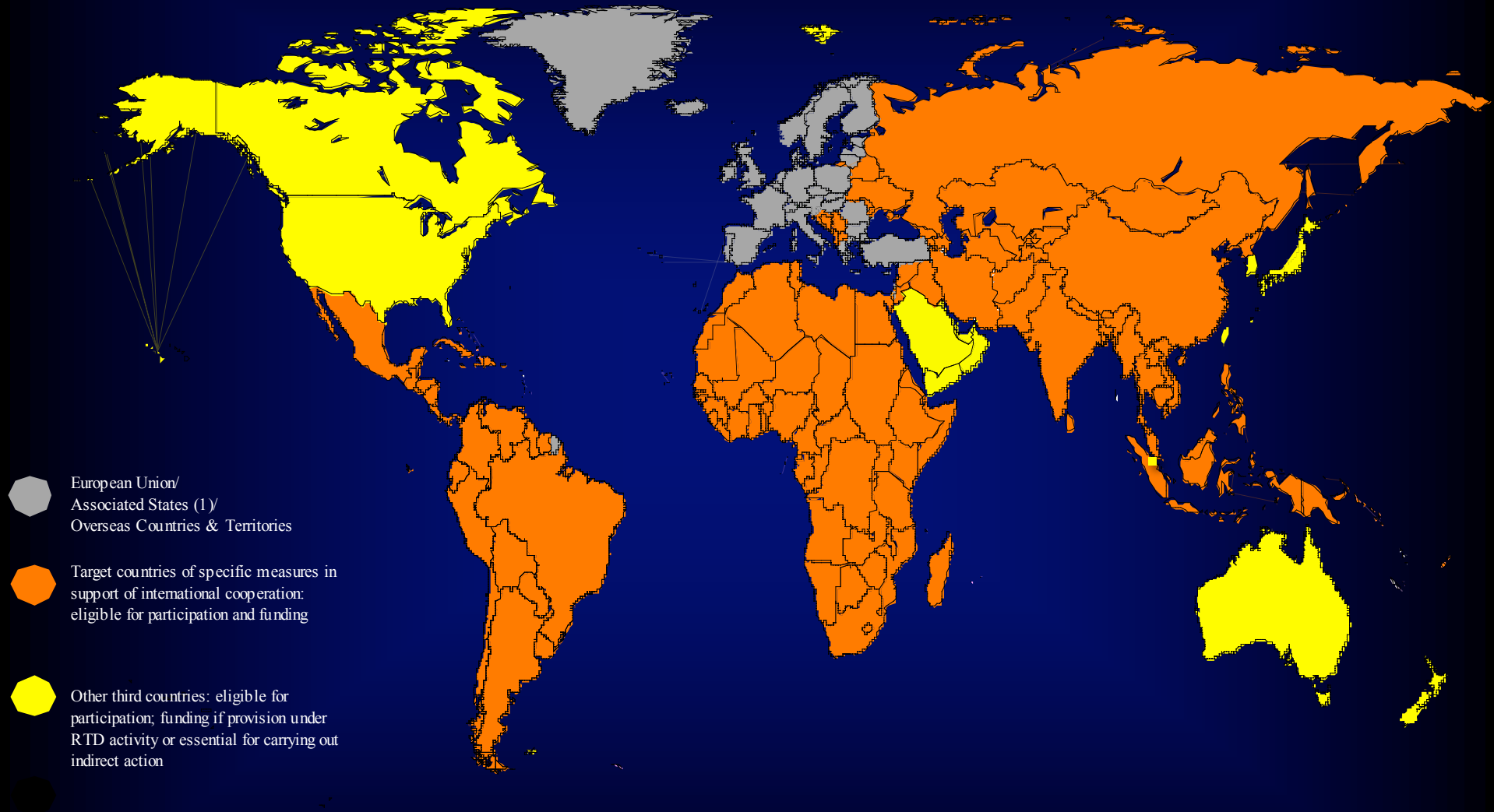
Besides investing in ICT and S&T capacities, the need to engage **in parallel** in actual collaborative research activities….

FP 7 is fully open to the participation of African organisations (fully eligible to receive community funding) :

• horizontal/thematic support actions to promote cooperation (awareness/mapping activities : based on **mutual priorities and interests**

• INCO-net (CAAST-net) to coordinate EU MSs cooperation programmes with Africa

Cooperation Indicative Budget

Cooperation = 61% of total FP7 non nuclear budget	Budget (B€)	Budget (%)
1. Health	6	19%
2. Biotechnology, food and agriculture	1,9	6%
3. Information society (9,1 B€)	9,1	29%
4. Nanotechnologies, materials and production	3,5	11%
5. Energy	2,3	7%
6. Environment	1,8	5,5%
7. Transport	4,1	12,5%
8. Socio-economic research	0,61	2%
9. Security	1,4	4,5%
10. Space	1,4	4,5%
Total	32.1	

incl ITER & Nuclear but n ot i ncluding non -nuclear activities of the Joint Research Centre

ICT Work Programme 2007-08

i2010 Flagship Initiatives

Technology Platforms

Technology Roadblocks

End-to-end Systems, Socio-economic Goals

4. Digital Content & Knowledge	5. ICT for Health	6. Intelligent Car & Sustainable Growth	7. ICT for Independent Living & Inclusion

1. Network & Service Infrastructures

2. Cognitive Systems, Interaction, Robotics

3. Components, Systems, Engineering

Future and Emerging Technologies

Call 1:
-> 08 May '07
€ 1,194 mn

Call 2:
May-Sep '07
€ 477 mn

Call 3:
Dec '07-
Mar '08
€ 265 mn

WP 2009-2010 currently in preparation

European Technology Platforms

A spiral model of innovation capitalising on the multiple reciprocal relationships between public & private stakeholders at various knowledge stages

RESEARCH   POLICY

BUSINESS
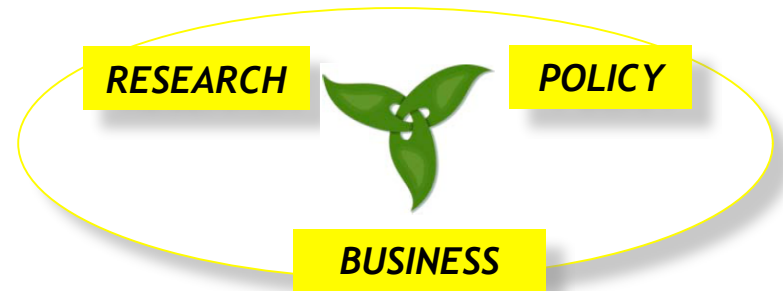
31 European Technology Platforms launched so far (9 in ICT):

- Addressing major technological challenges in specific domains
- Aiming to leverage public & private investment for R&D & innovation
- Involving key R&D stakeholders
  - eg industry, the research community & public authorities
- Bundling fragmented R&D efforts towards agreed goals
  - Vision 2020 document & Strategic Research Agenda

cordis.europa.eu/technology-platforms

European Technology Platforms.
A staged approach

Stakeholders, led by industry, come together to **agree a common vision** for the technology	Stakeholders, **define a Strategic Research Agenda** setting out the necessary medium to long-term objectives for the technology	Stakeholders, **implement the Strategic Research Agenda** with the mobilisation of significant human and financial resources.

- **Bottom-up process with keys stakeholders in a specific domain**

- **Key deliverable: Strategic vision document**

- **Co-ordinated by an Advisory Council**

- **Consensus-based**

- **Deployment strategy**

- **Through collaborative research in FP7 & with other resources, or**

- **Through a Joint Technology Initiative which integrates funding sources**

Technology Platform ARTEMIS:
Advanced research & technology in embedded intelligence & systems

- To develop & drive a joint European strategy in embedded systems
  - R&D, educational and structural issues addressed
- To align fragmented R&D efforts along a common strategic agenda at European level
- To benchmark & link with relevant initiatives outside Europe

www.artemis-office.org

8 of the 25 top-ranked European companies are members ...

ABB AIRBUS NOKIA CONNECTING PEOPLE BOSCH DAIMLERCHRYSLER ERICSSON Infineon technologies imec COMAU BT THALES FINMECCANICA universität wien ST telenor symbian PHILIPS Verimag Continental TEVES PARADES

... they spend annually € 25 bn in R&D

Joint Technology Initiatives
A way to implement a Strategic Research Agenda

Joint Technology Initiative

10+ years

7 years

3 years

SRA

Implementation path

Vision 2020

"Upstream" R&D
(Nat'l programmes, FP7)

+

➢ Int'l cooperation (IMS, …)
➢ Skills
➢ Infrastructure needs

"Downstream" R&D
(Eureka/nat'l, industry partnerships)

+

➢ Standards
➢ Access to infrastructures

Near-market R&D
(EIB, …)

+

➢ Business agreements
➢ Pilots
➢ Market studies

ETP community of stakeholders
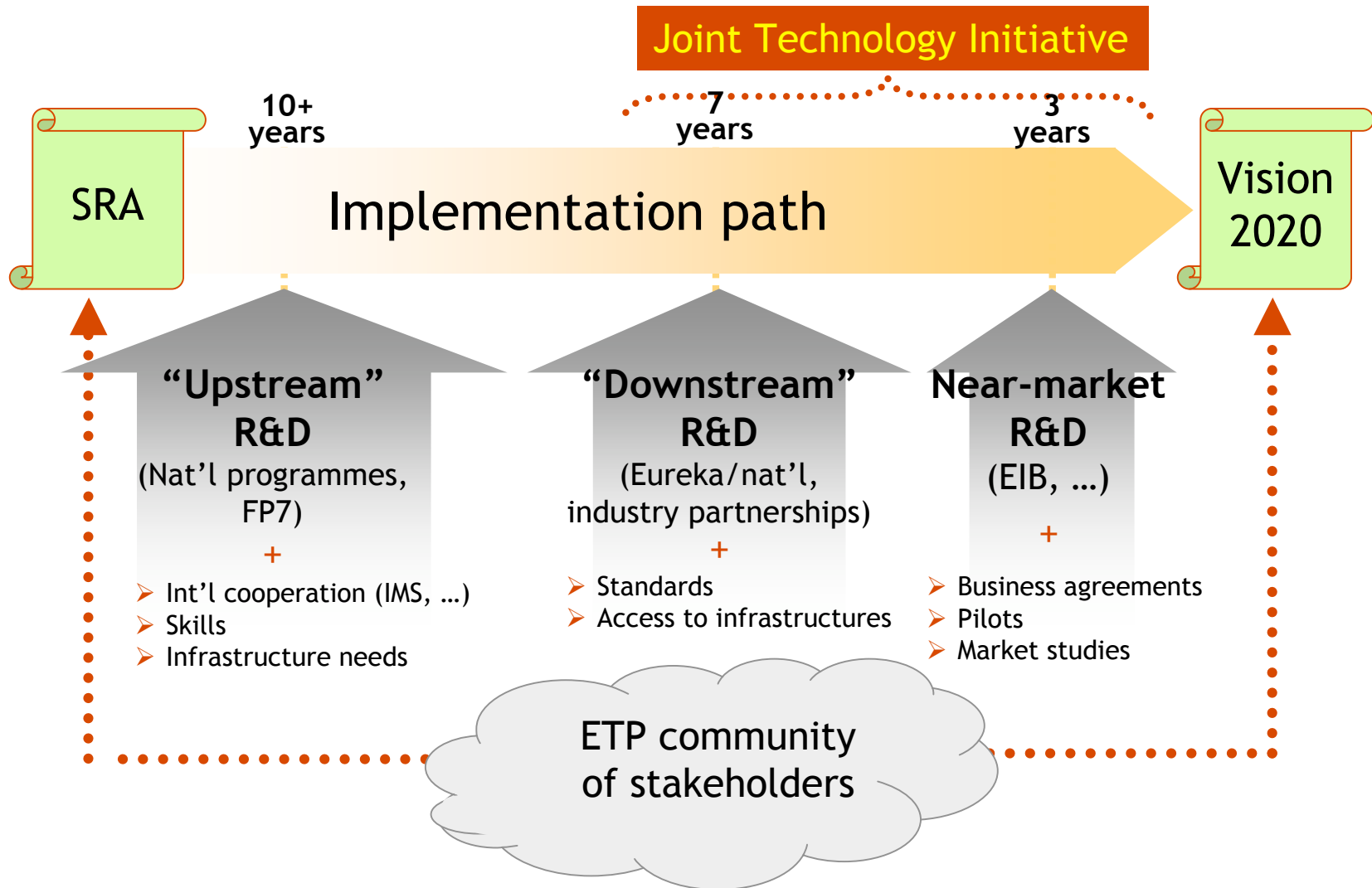
FP 7 STRUCTURE

COOPERATION   CAPACITIES   PEOPLE   IDEAS

Co-operation (10 thematic priorities) : 32,4 B€

Health
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Lifelong Learning and Career Development
Industry-Academia Partnerships and Pathways
The International Dimension
Specific Actions

Vision - creating an eInfrastructure...

Global knowledge infrastructure

science
health
learning
business
aeronautics
genomics
environment
astronomy

e-Infrastructure
(Grids empowered)

security

semantic web.

broadband

IPv6 Grid

automatic

management

mobility
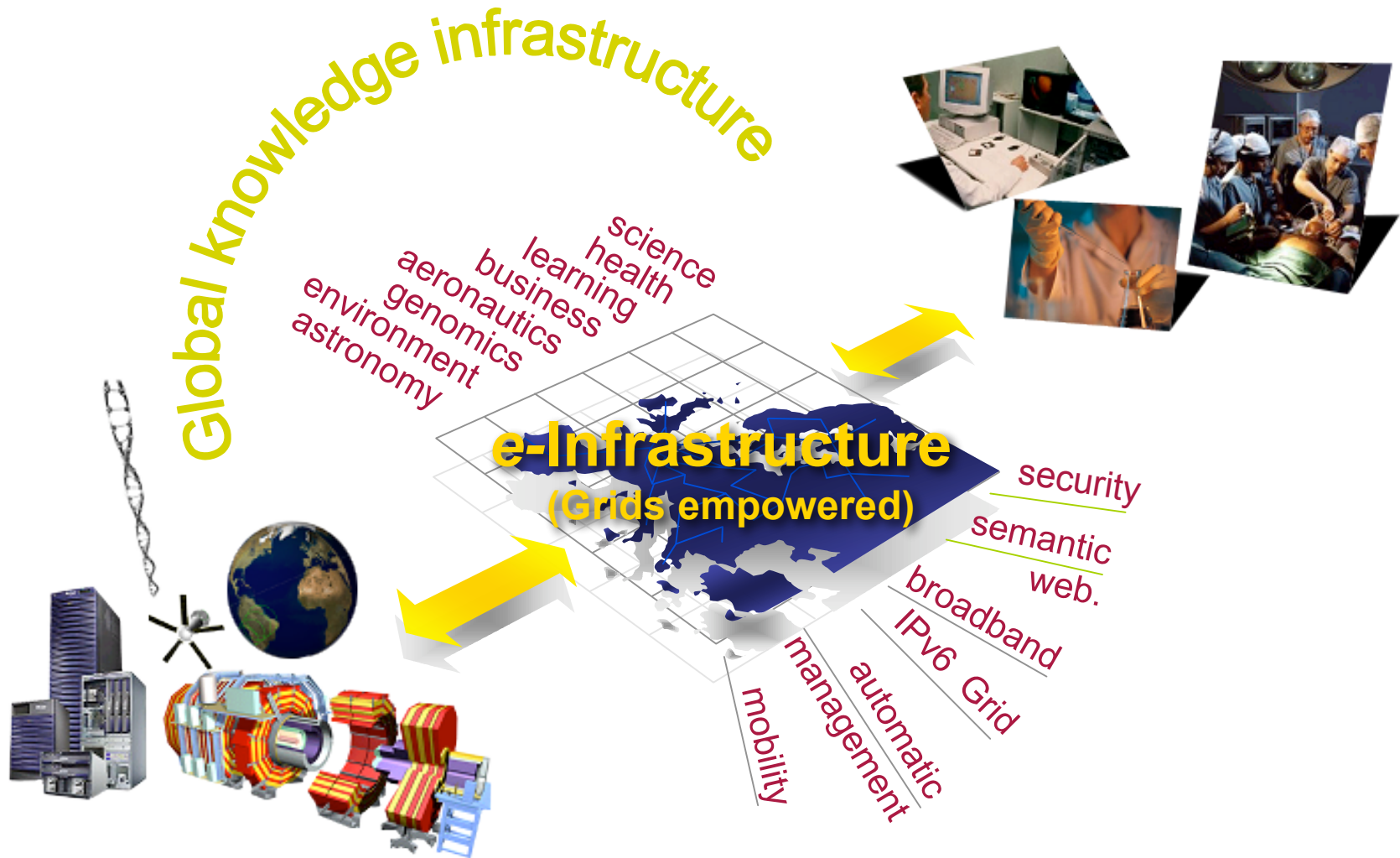
GEANT
The European broadband Research network

- **World leading Research Network**
- **Connecting more than 3900 Universities and R&D centers**
- **Over 43 countries across Europe**
- **Speeds of up to 10 Gbps**
- **Exploiting the benefits of dark fiber**
- **IPv6 enabled, support to Grid**
- **Global connectivity**
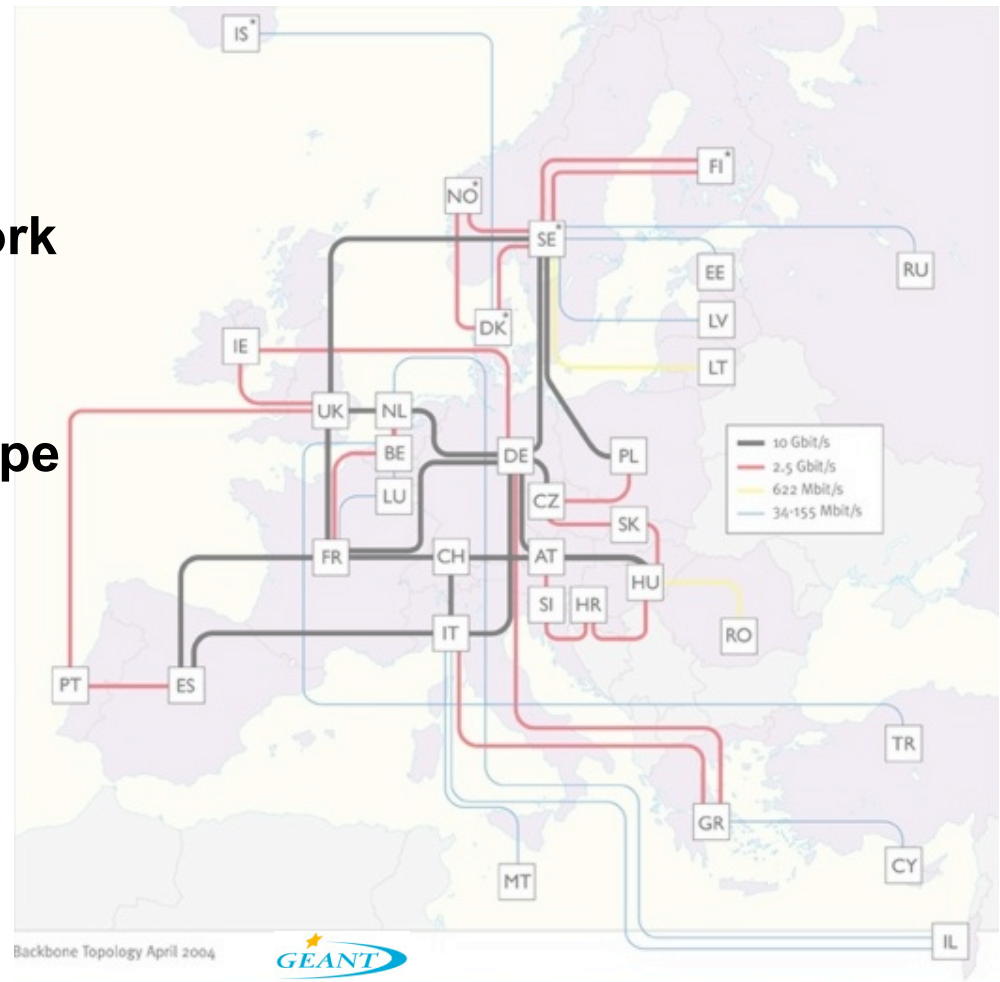
Backbone Topology April 2004
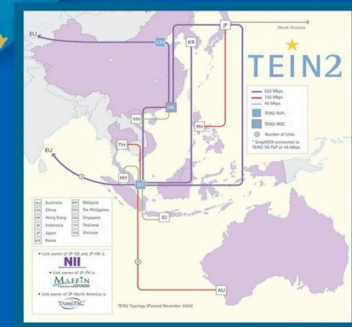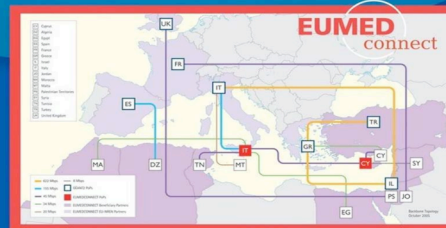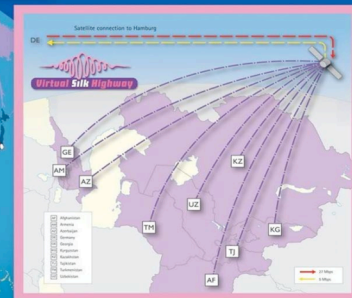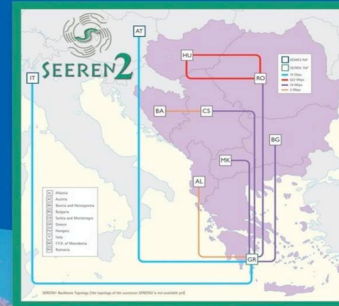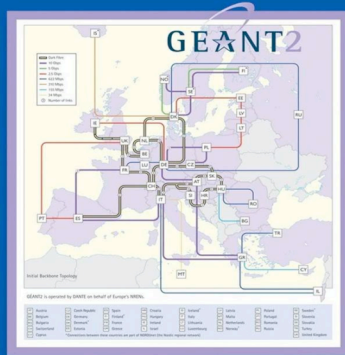
GEANT

Research and Education Networks : GEANT

Feel like moving things ahead ?...Get involved !

EuroAfrica-ICT
www.euroafrica-ict.org

2 running and very active support actions to promote cooperation with Africa

IST Africa
www.ist-africa.org
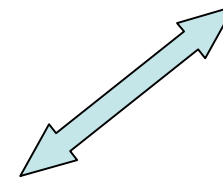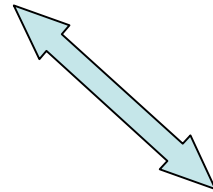
The « EuroAfrica-ICT network »
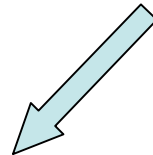
Short term
PROPOSE !
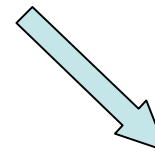
Middle term
INFLUENCE !

Critical need of COORDINATION, both at EU and African levels

IST AFRICA 2008, 7-9 May 2008 Windhoek

www.ist-africa.org

How to get started? CORDIS
http://cordis.europa.eu/fp7/ict

How to get started? Partner search

Register as independent expert

for evaluation and project reviews

http://www.cordis.europa.eu/emmfp7

Questions/ Infos :
thierry.devars@ec.europa.eu

Thank You