Research Infrastructures

- 2004 prospects -

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European Commission

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■ Research Infrastructures
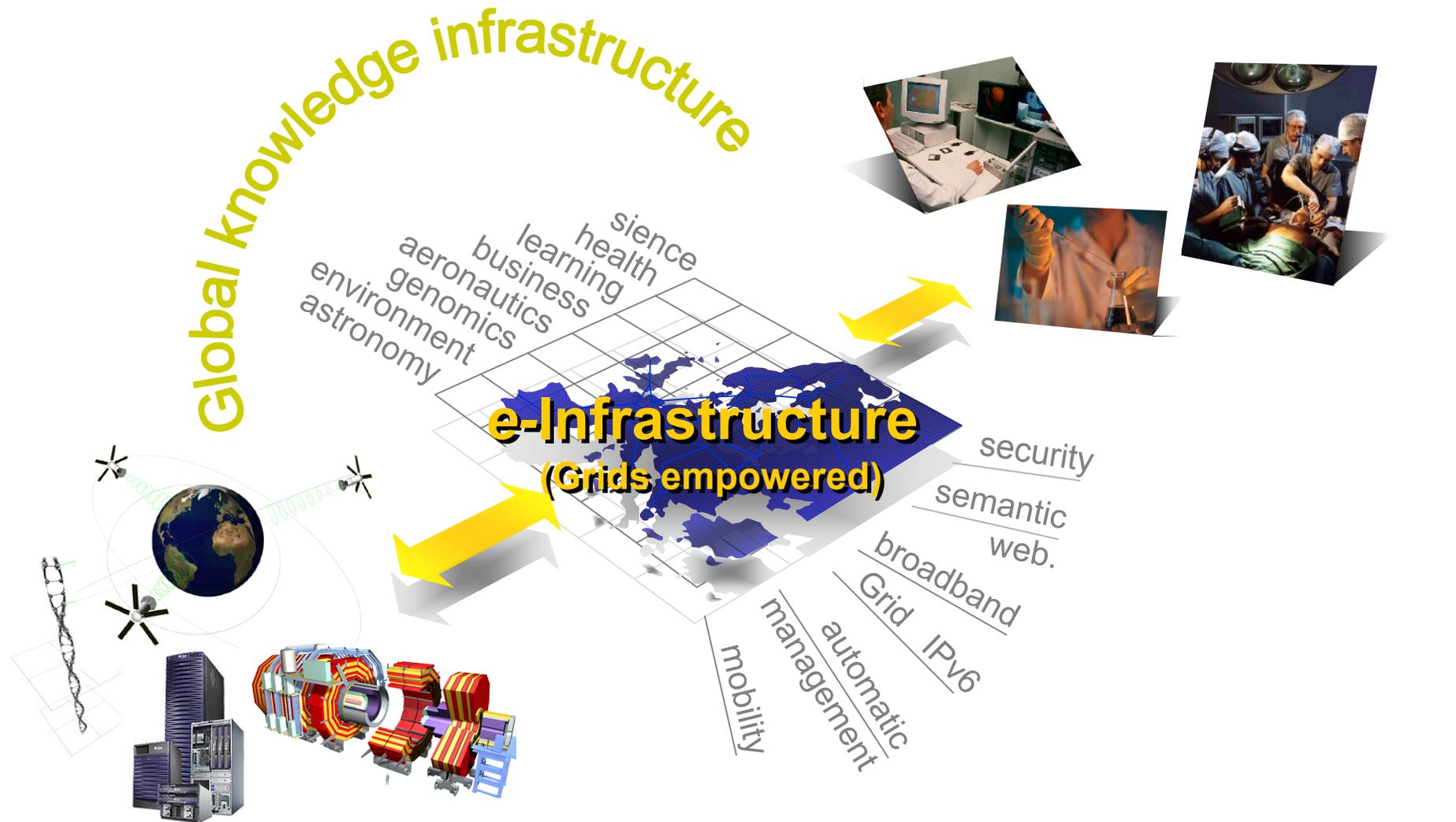
Empowering the researchers

➲ Centered around the researcher

➲ Providing access to shared resources

➲ Building upon the latest technology

➲ Fostering the deployment of knowledge
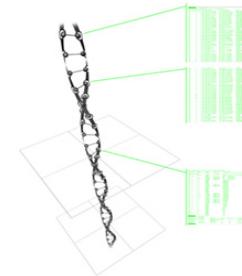
Paving the way to industrial adoption

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■ Vision - creating an e-infrastructure…

Global knowledge infrastructure

e-Infrastructure
(Grids empowered)

sience
health
learning
business
aeronautics
genomics
environment
astronomy

security
semantic
web.
broadband
Grid IPv6
automatic
management
mobility

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■ e-infrastructure - linking to policies

Research e-Infrastructures:

- "corner-stone" of ERA
- "spear-head" of an "eEurope infrastructure" (e.g. broadband ++)
- "integrator" of National Infrastructures
- powerful "instrument" for International cooperation
- … cohesion, cooperation, standards, industrial, etc…

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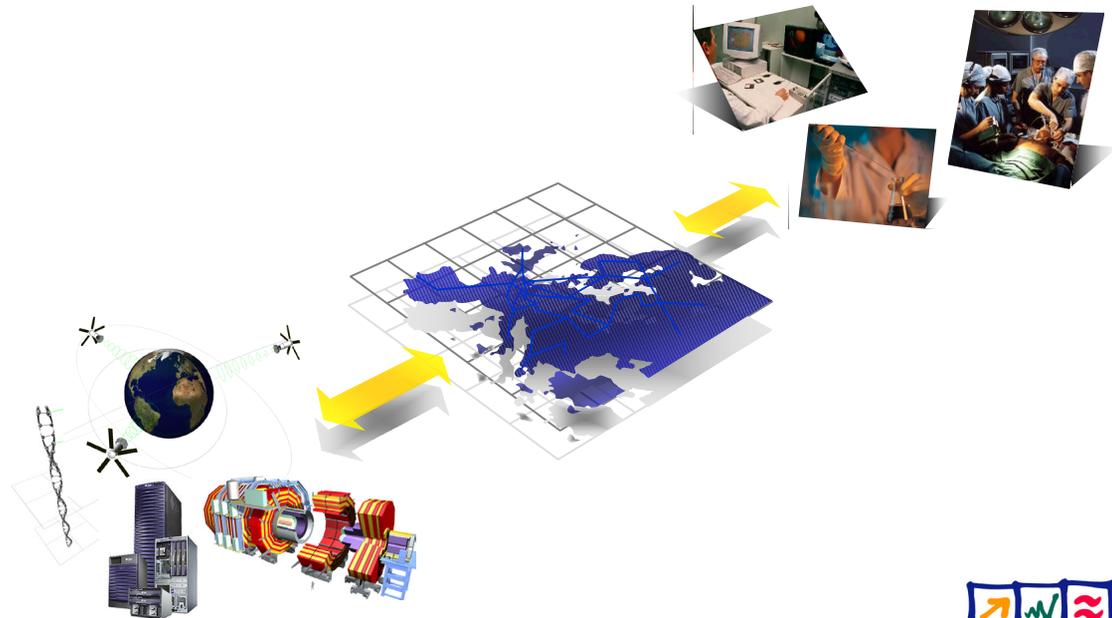
■ e-Infrastructure - policy related initiatives

Research e-Infrastructures ⇨   complementarity between R&D and policy related initiatives

● EU IPv6 Task Force

   ● National Task Forces, Council conclusions…

● e-Infrastructure Reflexion Group

   ● framework for easier, faster and more cost-effective access from all researchers.

   ● Promoting best practices implementation (facilitate and accelerate a later commercial uptake)

● Security

www.einfrastructures.org

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■ e-Infrastructure - a world of opportunities

Cooperation with initiatives such as the cyberinfrastructure +

- ■ EU-North America: 7,5 Gbps (+ 10Gbps)
- ■ EU-Japan: 155Mbps + 2,5Gbps
- ■ EUMEDIS: starting implementation
- ■ ALIS: CfT results being analysed and CLARA in place
- ■ TEIN: 20 Mbps (end of 2003… 10MEuro)
- ■ South Africa: Good prospects for connectivity

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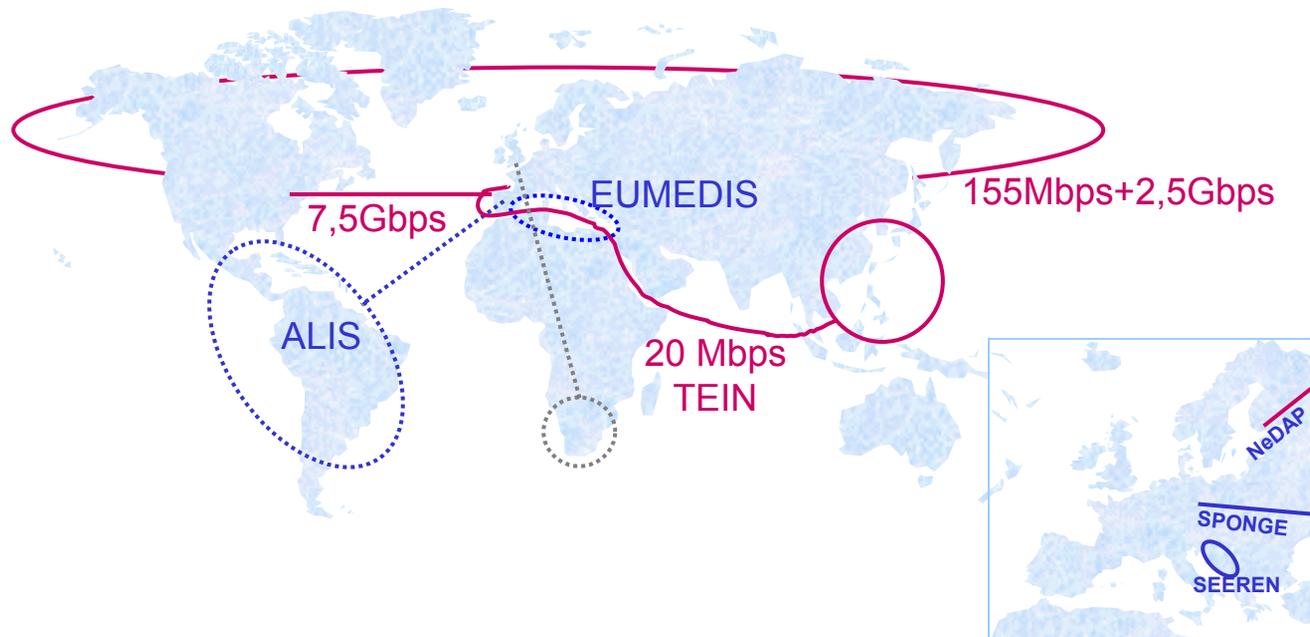
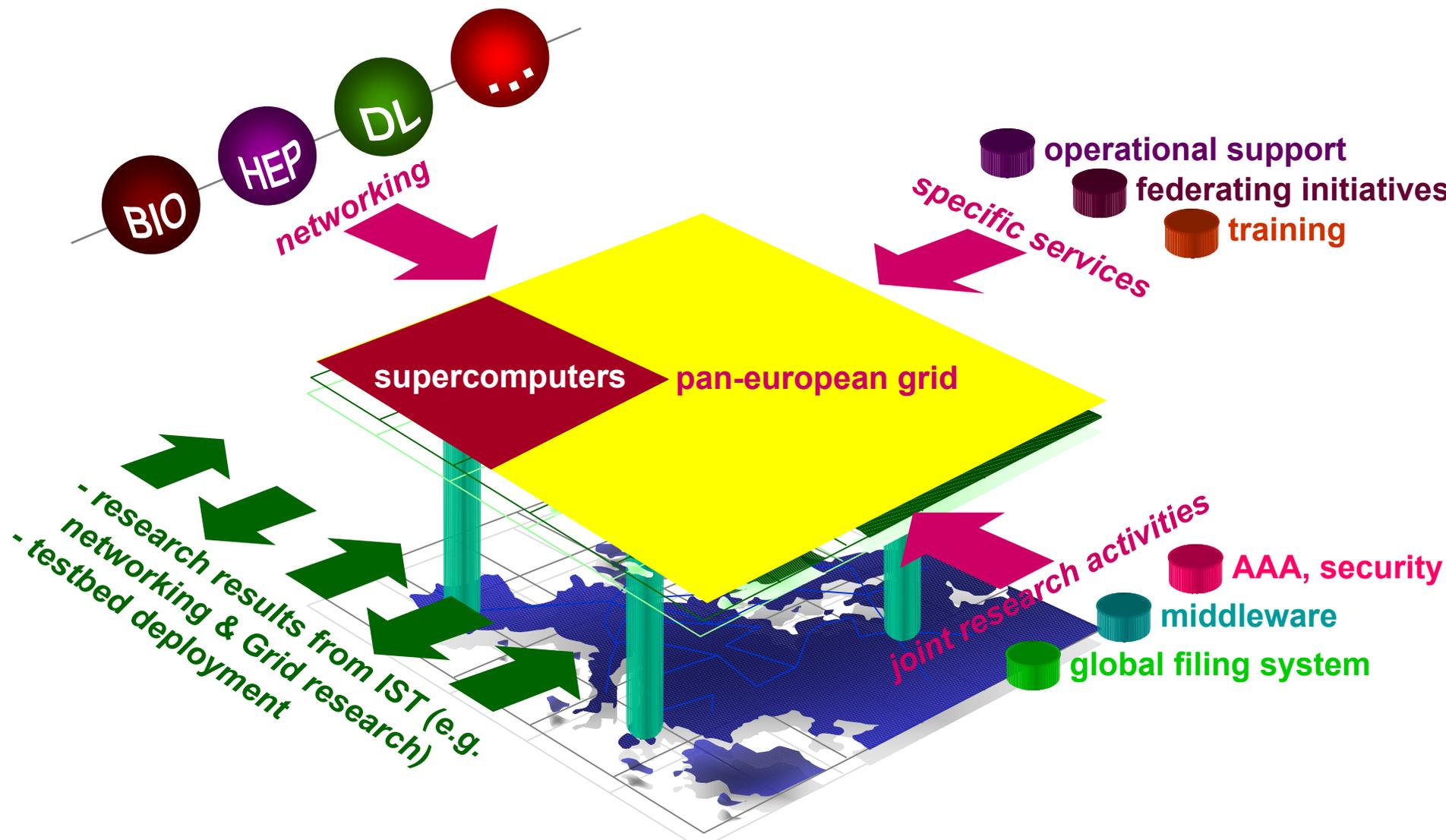# ■ e-Infrastructure - dissemination initiatives

To increase the impact of research e-Infrastructures:

- ➲ Global Research Networking (May 2002)

- ➲ IPv6 - IST 200X demos + multiple conferences

- ➲ IPv6 Global service launch (January 2004)

- ➲ Grids Conferences/events/village

- ➲ …

Liaison to de facto Standards bodies

Liaison with industry/operators
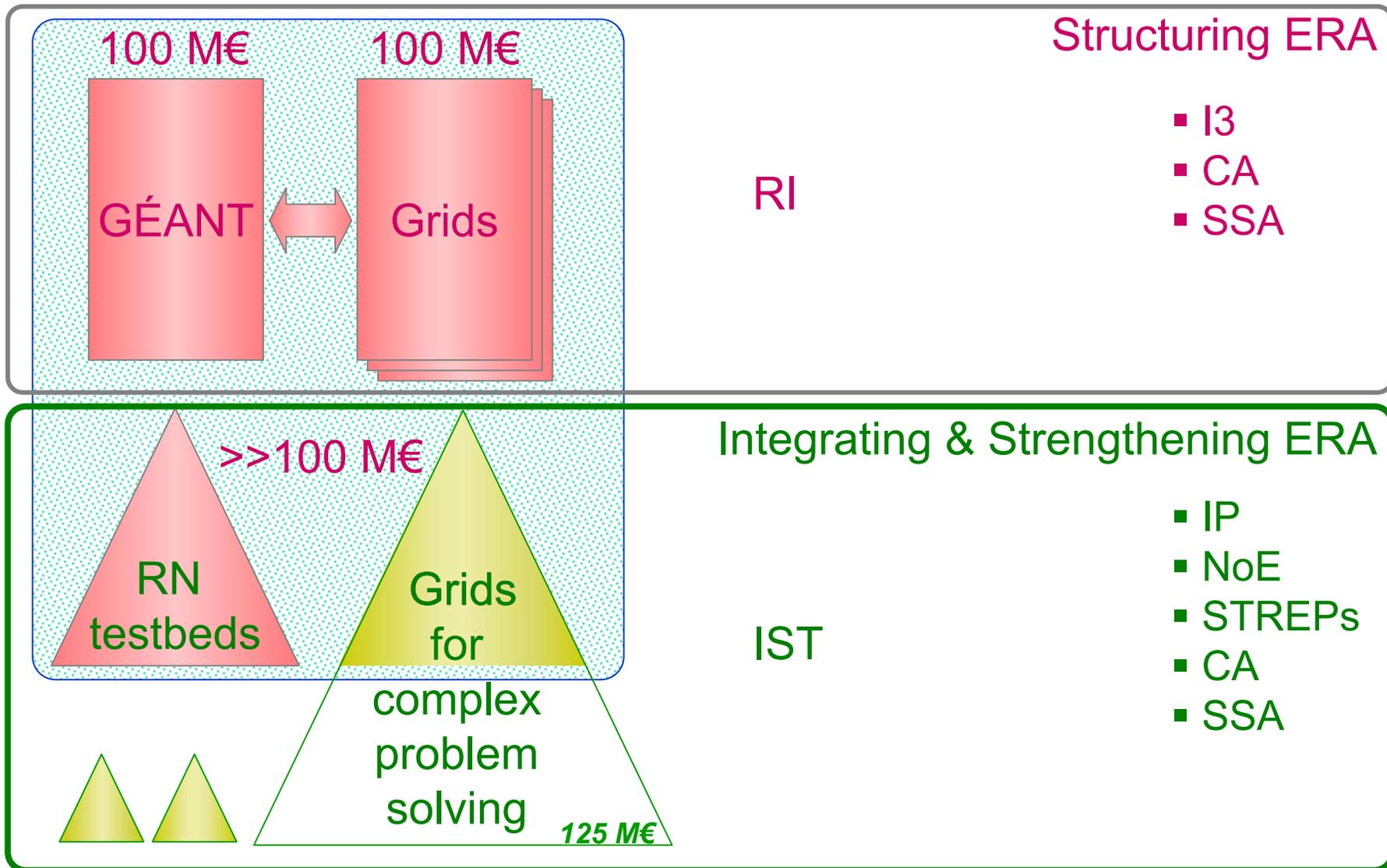
■ e-Infrastructure - role of testbeds

Other R&D

New requirements

Users involvement

More confidence
in the technology

IST R&D

Testbeds

Users

Integration/validation

Users adoption

Market

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e-Infrastructure - initial prospects (2004)

BIO

HEP

DL

...

networking

supercomputers

pan-european grid

operational support

federating initiatives

training

specific services

joint research activities

- research results from IST (e.g.
networking & Grid research)
- testbed deployment

AAA, security

middleware

global filing system

(international dimension to be taken from the start - cyberinfrastructure/Teragrid)

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■ e-Infrastructure - implementing the vision

Structuring ERA

100 M€   100 M€

GÉANT ⟷ Grids

RI

- I3
- CA
- SSA

Integrating & Strengthening ERA

>>100 M€

RN testbeds   Grids for complex problem solving   125 M€

IST

- IP
- NoE
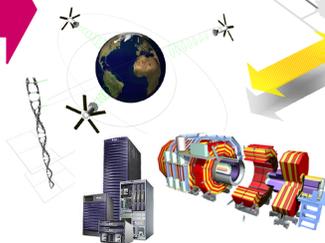- STREPs
- CA
- SSA

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■ Conclusion

➲ The creation of virtual research organisation is key to rationalise investments in *e*-Science.

➲ GÉANT and Grids infrastructures are expected to deploy the largest international *e*-Infrastructure for all Research Communities, thus contributing to the fast deployment of the European Research Area!

➲ The role of testbeds is crucial to achieve innovation, address multi disciplinary challenges and increase industrial take-up.

➲ Research Infrastructure require more than technology… require a new culture and new policies! IPv6 Task Force and e-Infrastructures Reflexion Group are two important actions in this context. Network security may be the next topic…

■ Further info on Research Infrastructures

Web page
www.cordis.lu/ist/rn/

Monthly Newsletter

Two brochures in 2003

Workshops

Thanks for your attention!

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