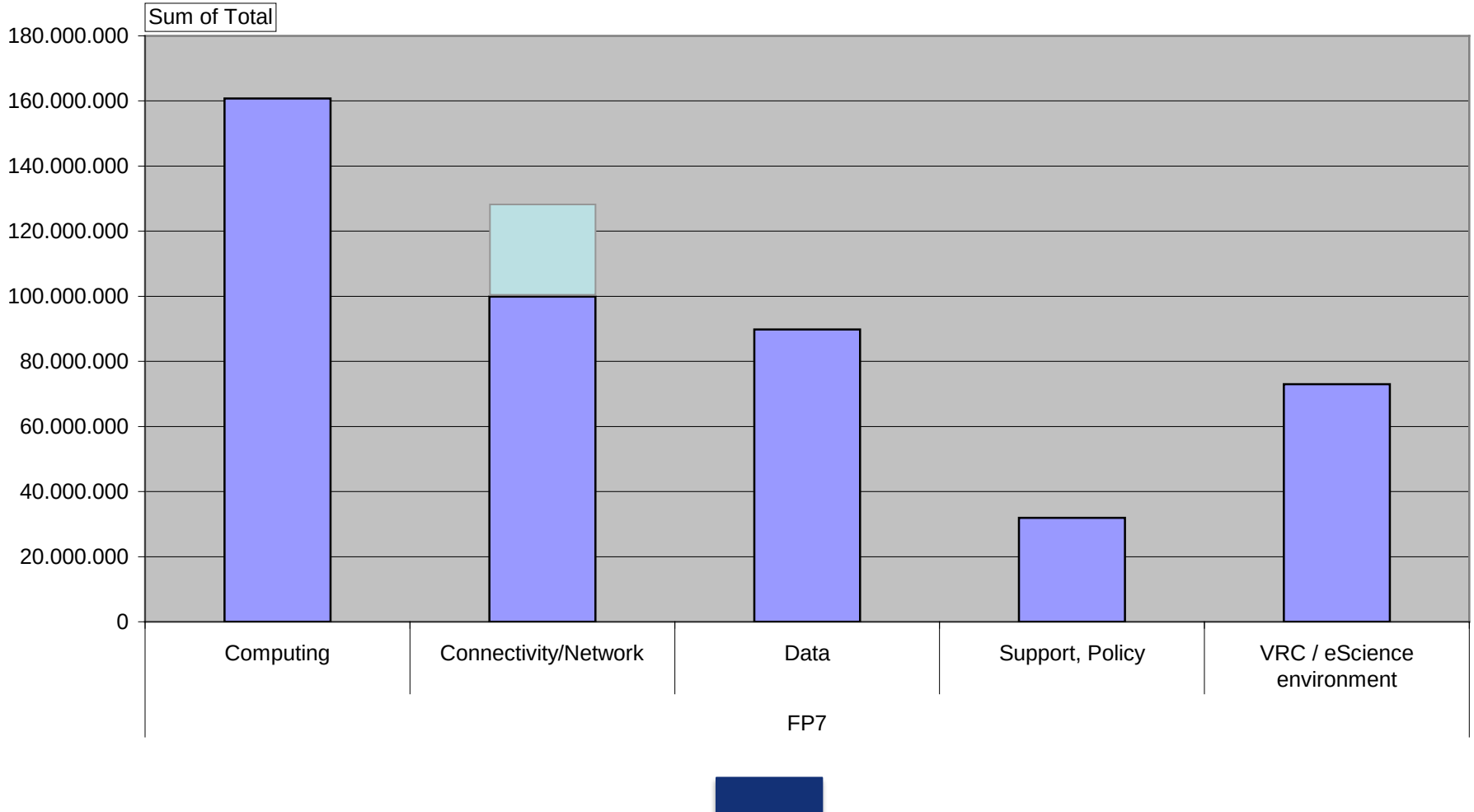
Overview of FP7 activities and perspectives for Horizon 2020

Wim Jansen
DG CONNECT
e-Infrastructure

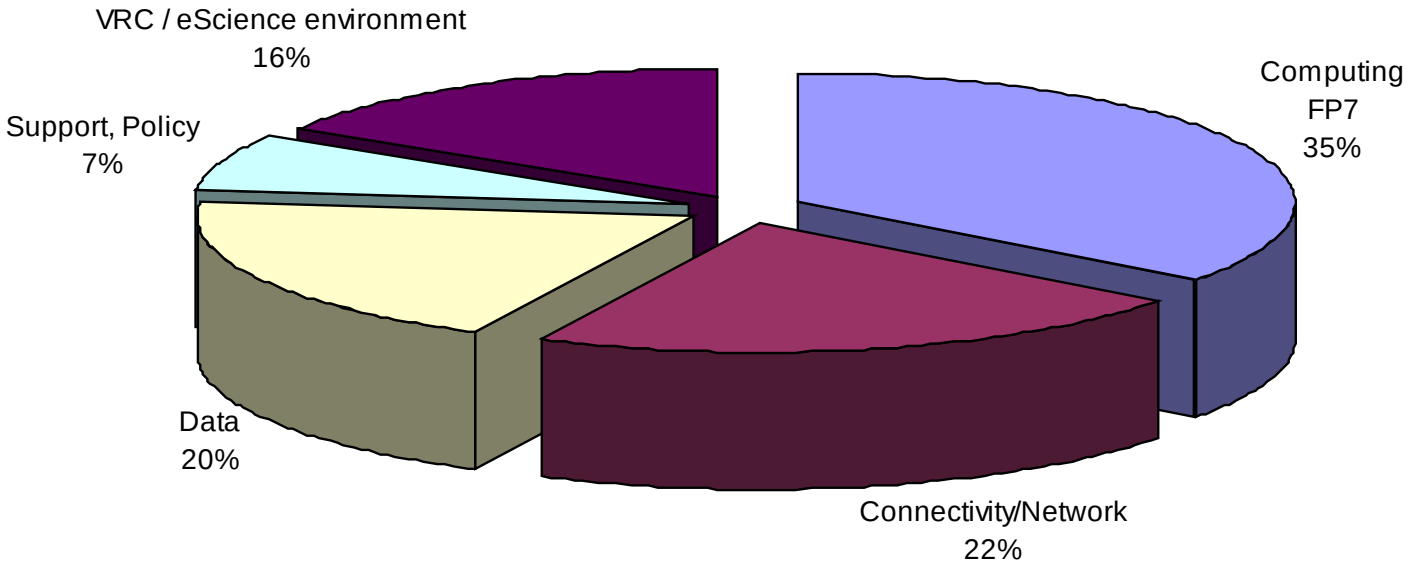
e-Infrastructures

~ 500 M€



e-Infrastrures FP7 distribution per area

~ 500 M€



Staying Competitive in Science

- Large scale collaborations becoming the norm
  - ***often global***
  - ***virtual research communities***
  - ***access to rare/remote resources***
- Data-intensive science and innovation
  - ***Use and manage exponentially growing sets of data***
- Experimentation in silico, simulation
  - ***Use of high-performance computing***

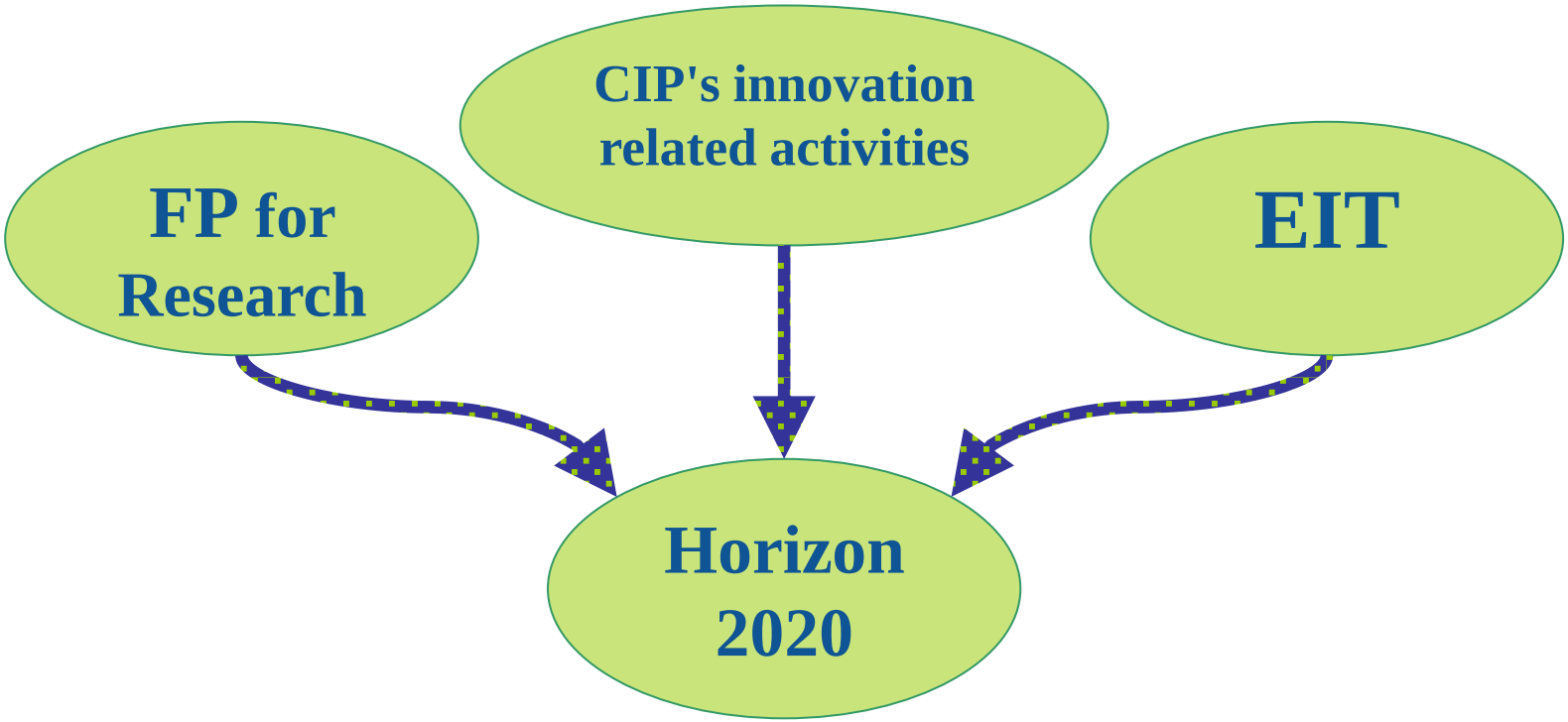
Horizon 2020

The Union's new **funding programme for R&I**

Designed to support the **Europe 2020 strategy**

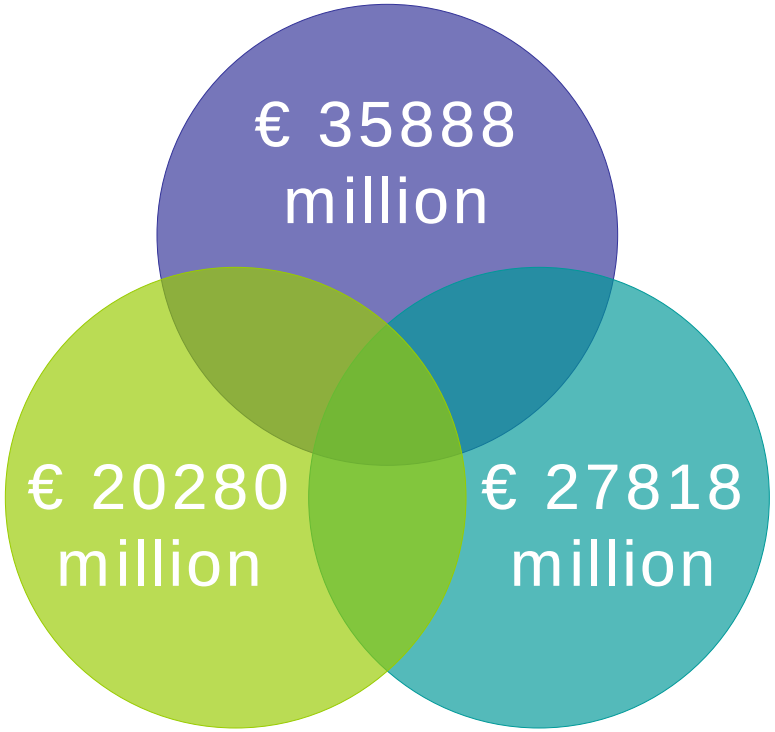
- *A key tool in implementing the **Innovation Union flagship** initiative*
- *Addresses key actions of the **Digital Agenda for Europe flagship** initiative*

Union R&I funding



European Commission

Societal challenges



Industrial leadership

Excellent science

Indicative breakdown of budget in EUR million

I Excellent science, *of which*:	**27818**	
1. The European Research Council		15008
2. Future and Emerging Technologies		3505
3. Marie Curie actions on skills, training and career development		6503
4. European research infrastructures including **e-Infrastructure**		**2802**
II Industrial leadership, *of which*:	**20280**	
1. Leadership in enabling and industrial technologies		15580
2. Access to risk finance		4000
3. Innovation in SMEs		700
III Societal challenges, *of which*:	**35888**	
1. Health, demographic change and wellbeing		9077
2. Food security. sustainable agriculture, marine and maritime research and the bio-economy:		4694
3. Secure, clean and efficient energy		6537
4. Smart, green and integrated transport		7690
5. Climate action, resource efficiency and raw materials		3573
6. Inclusive, innovative and secure societies		4317
European Institute of Innovation and Technology (EIT)		3194
Non-nuclear direct actions of the Joint Research Centre		2212
	87740	

From FP7 to Horizon 2020

*An **increased budget**, from 1715 M€ (FP7) to 2802 M€ (Horizon 2020)*

- **DG RTD part: from 1133 M€ to 1785 M€**
- **DG INFSO part (e-infrastructures): from 582 M€ to 1017 M€**

*New activities to support the **implementation and operation** of world-class infrastructures such as **ESFRI** infrastructures*

Continuation** of the successful FP7 **Integrating Activities

Reinforcement** of the support to **e-infrastructures

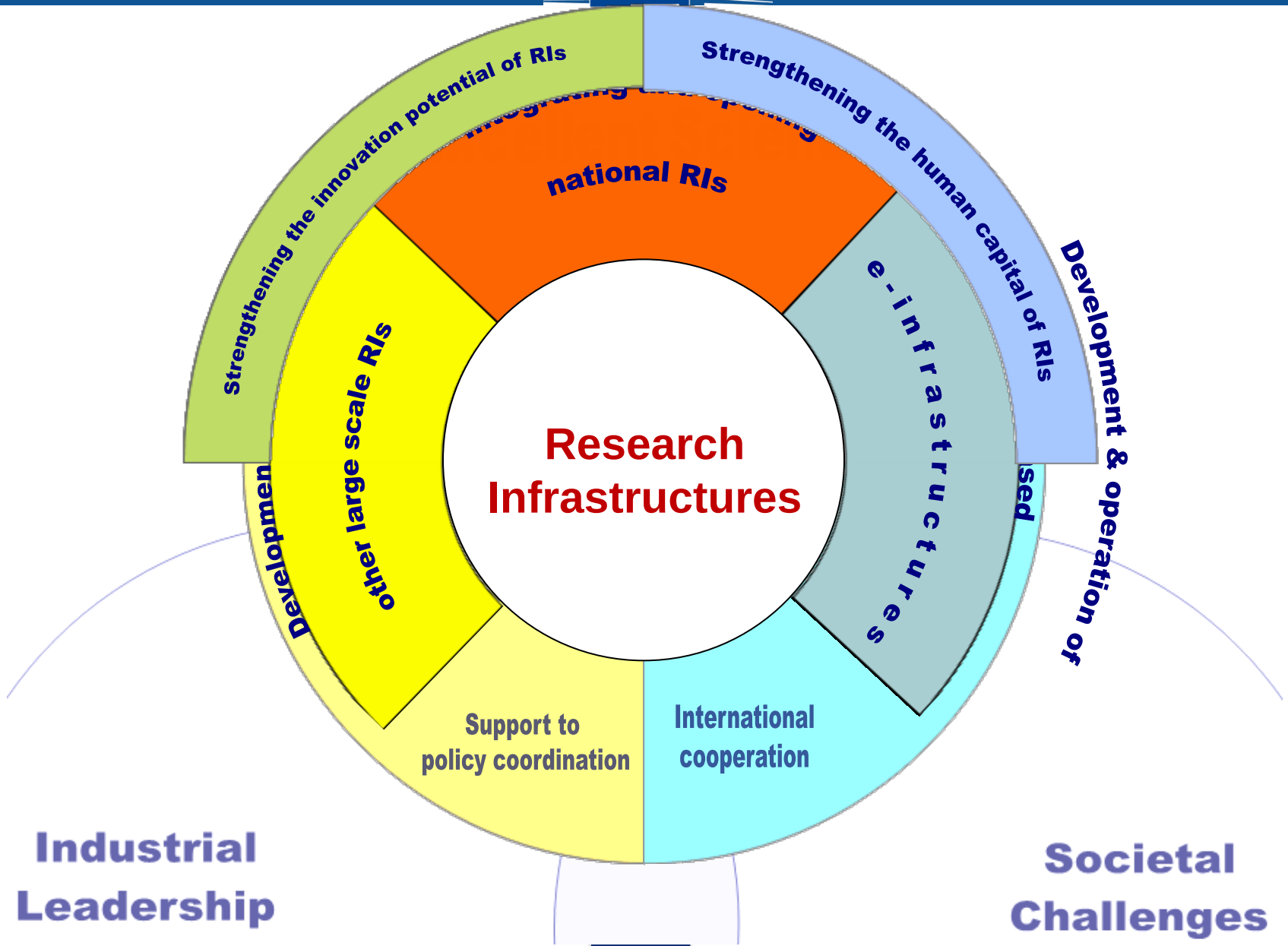
*New objective of better exploiting the **innovation potential and human capital** of infrastructures*

Activities overview

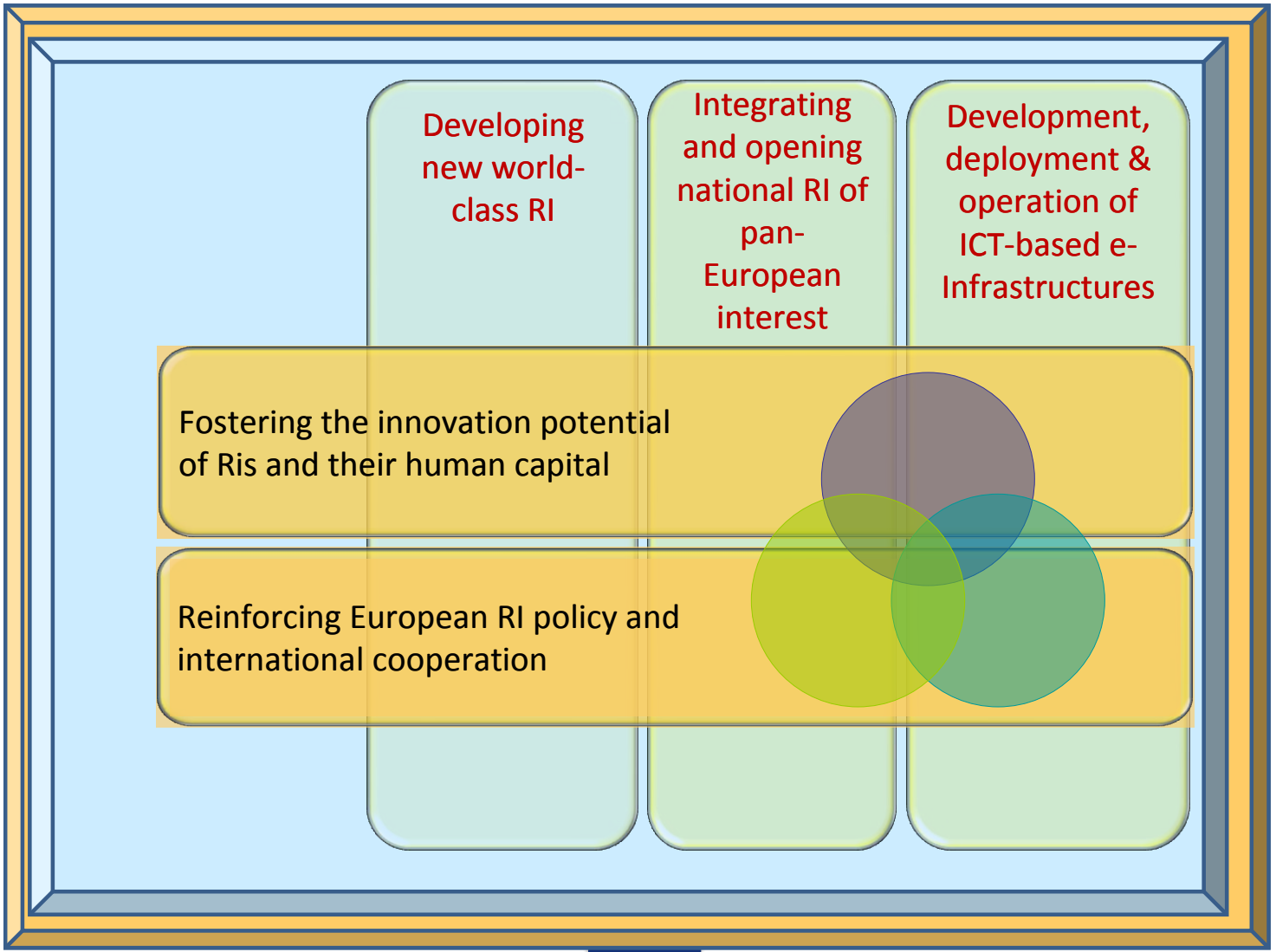
1. *Developing the European Research Infrastructures for 2020 and beyond*
   - **Developing new world-class RIs**
   - **Integrating and opening existing national RIs of pan-European interest**
   - **Development, deployment and operation of ICT based e-Infrastructures**
2. *Fostering the innovation potential of Research Infrastructures & their human capital*
   - **Exploiting the innovation potential of RIs**
   - **Strengthening the human capital of RIs**
3. *Reinforcing European Research Infrastructures policy and international cooperation*
   - **Reinforcing European policy for RIs**
   - **Facilitating strategic international cooperation**

In complementarity with Cohesion, Structural & Social Funds

Research Infrastructures Specific implementation aspects



Research Infrastructures Specific implementation aspects - Horizon 2020



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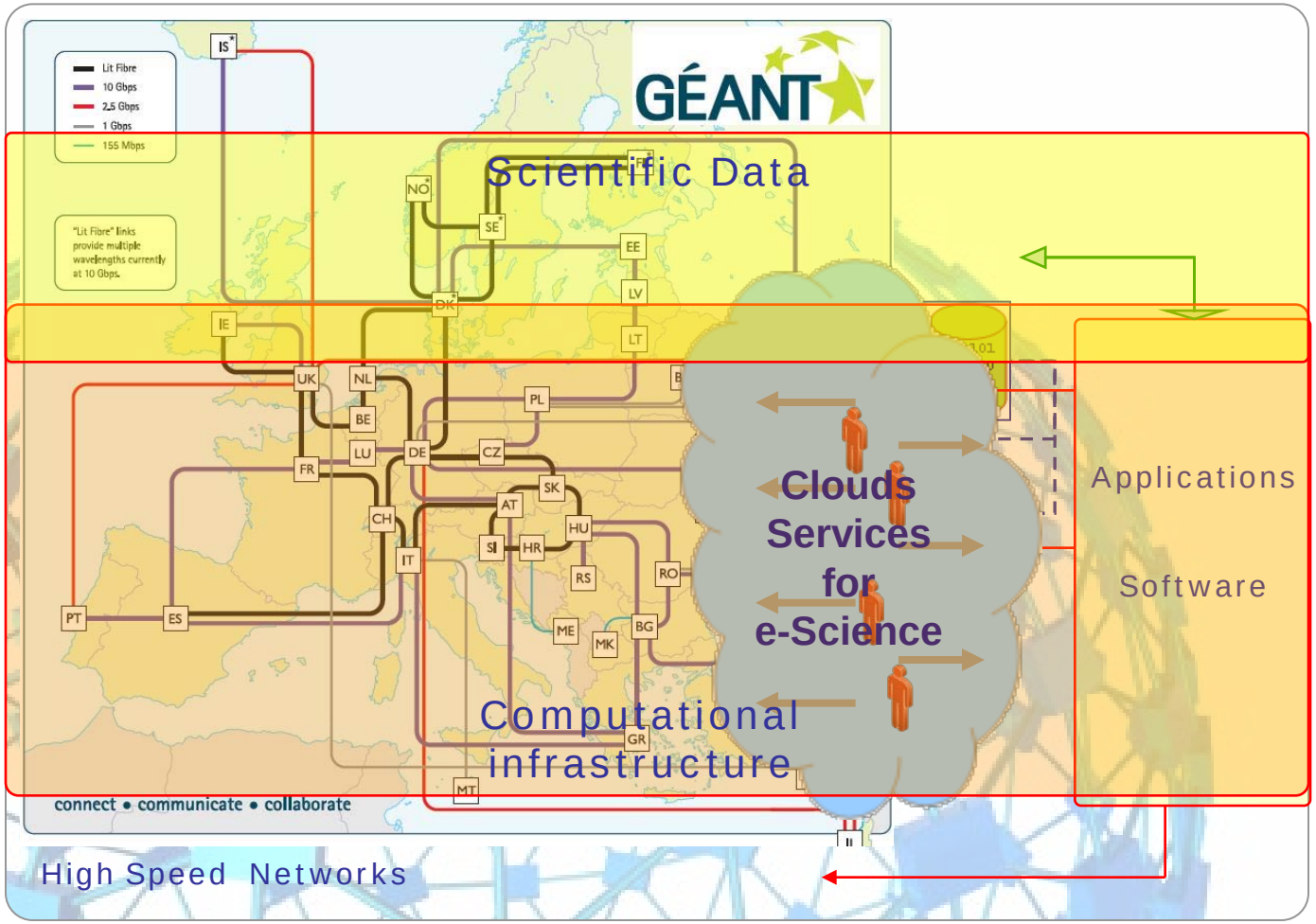
eInfrastructure ecosystem



Enabling e-Science

Enabling data-centric science and engineering

Enabling computation-intensive science

Connecting researchers and facilities

data-centric science and engineering

European Commission

Virtual Research Environments where Data are "meshed-up"
(Temporary or Permanent)

Manager of RI installation

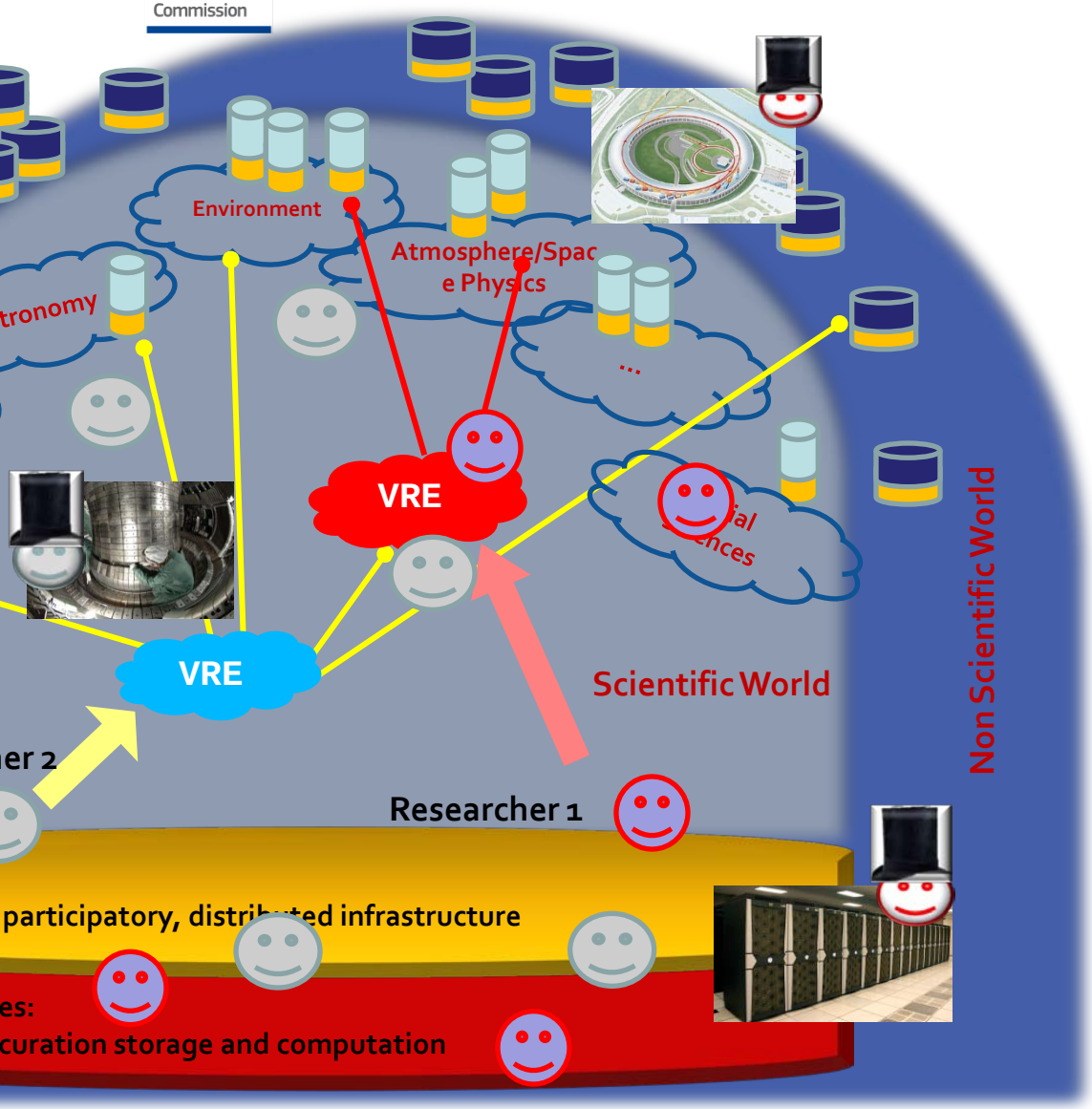
Scientists, Educators, e-Infrastructure providers

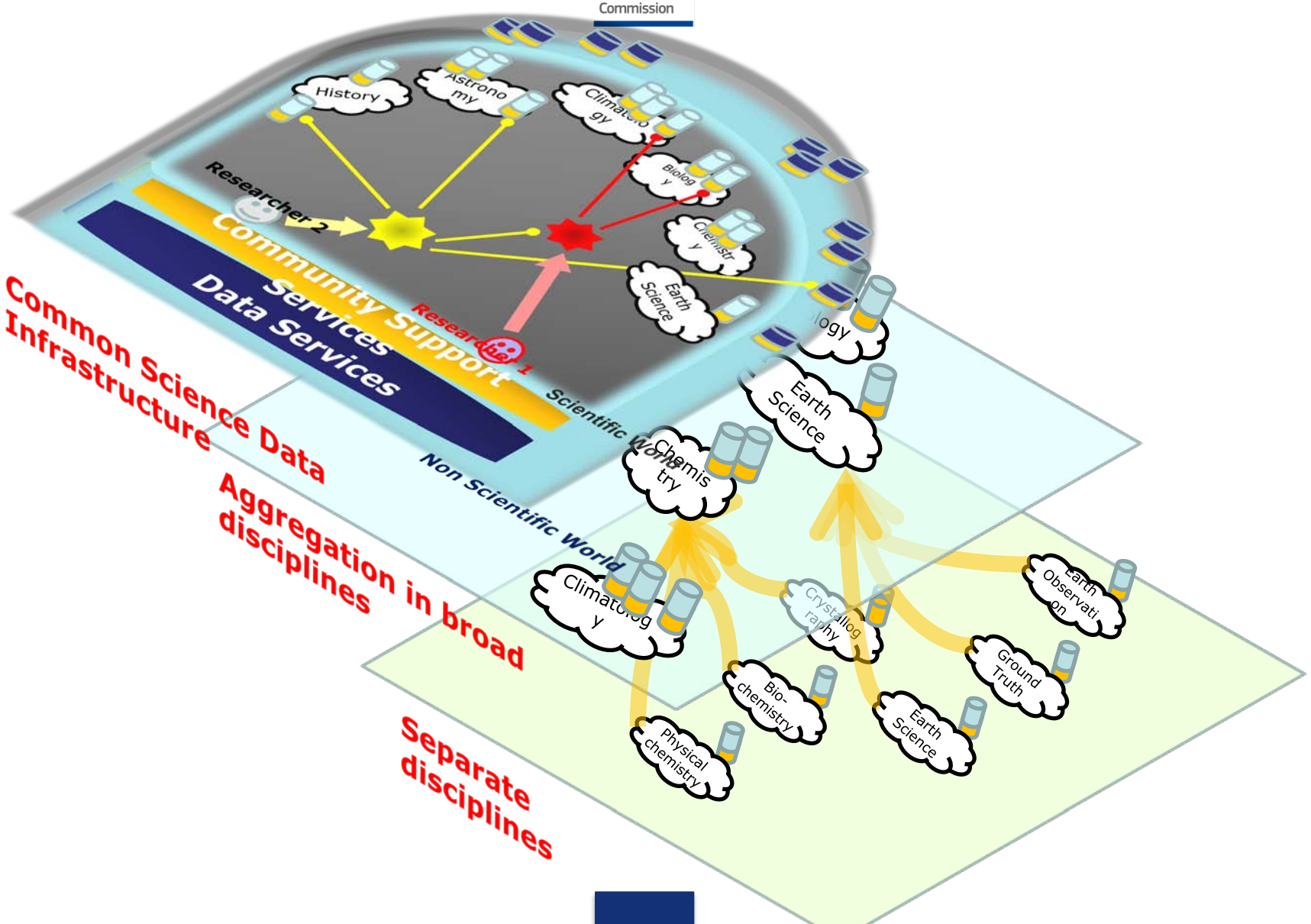
Other Data

Scientific Data
(Discipline Specific)

Workflows

Aggregation Path




European Commission
History
Astrono my
Climatolo gy
Biolog y
Chemistr y
Earth Science
Researcher 2
Researcher 1
Community Support
Services
Data Services
Scientific World
Non Scientific World
Common Science Data Infrastructure
Aggregation in broad disciplines
Separate disciplines
Climatolog y
Chemis try
Earth Science
Earth Observati on
Crystallog raphy
Ground Truth
Bio-chemistry
Physical chemistry
Earth Science

Supporting our excellent Science Base

Supporting world leading scientists in blue skies research (ERC)

Providing training and career development opportunities (Marie Skłodowska Curie)

Development of future and emerging technologies (FET)

Research infrastructures

Better usage of ICT resources in H2020

- ***All research becomes computation and data intensive***
  - How to better service researchers and achieve economies of scale for EU-funded projects?
- ***Possible actions***
  - Promotion of the use of existing computing and data infrastructures by H2020 projects (PRACE, EGI, EUDAT,…)
  - Guidelines to proposers:
    - accessing computing and storage resources;
    - referencing using digital author and object identifiers;
    - data curation for reuse;
    - compliance with H2020 OA policy (e.g. through OpenAIRE infrastructure)
    - participation in the OA pilot for scientific data
  - Tbd: jointly procured cloud computing capacity to H2020 projects

Interactions within "excellent science"

European Research Council

- **ERC grantees are potential users of research infrastructures: *Survey their needs; Inform them about access opportunities***

Future and Emerging Technologies

- **FET will contribute to improving or developing new infrastructure technologies**
- **FET flagship initiatives will require the usage and/or development of research infrastructures: *Survey their needs, foster cooperation of FET flagship initiatives with research infrastructures***

Marie Skłodowska Curie actions

- **Research Infrastructures can be training sites**
- **Mobility grantees are potential users of research infrastructures: *Inform them about access opportunities***

Thank you for your attention!