Overview of FP7 activities and perspectives for Horizon 2020

Geospatial World Forum, Rotterdam

HORIZON 2020

Wim Jansen, DG CONNECT, e-Infrastructure
e-Infrastructures

~ 500 M€

FP7

Computing
Connectivity/Network
Data
Support, Policy
VRC / eScience environment

Sum of Total

0

180,000,000
160,000,000
140,000,000
120,000,000
100,000,000
80,000,000
60,000,000
40,000,000
20,000,000
0
e-Infrastrures FP7 distribution per area

- Computing FP7: 35%
- Connectivity/Network: 22%
- Data: 20%
- Support, Policy: 7%
- VRC / eScience environment: 16%

~ 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**

**Context**

- **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

FP for Research

CIP's innovation related activities

EIT

Horizon 2020

Key novelties
Societal challenges

Industrial leadership: € 20,280 million

Excellent science: € 27,818 million

€ 35,888 million
Indicative breakdown of budget in EUR million

I Excellent science, of which:
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:
1. Leadership in enabling and industrial technologies 15580
2. Access to risk finance 4000
3. Innovation in SMEs 700

III Societal challenges, of which:
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

Total 87740
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
Developing new world-class RI
Integrating and opening national RI of pan-European interest
Development, deployment & operation of ICT-based e-Infrastructures

Fostering the innovation potential of Ris and their human capital
Reinforcing European RI policy and international cooperation
e-Infrastructures

High Speed Networks

Distributed Computing

eInfrastructure ecosystem

GÉANT

Scientific Data

Clouds Services for e-Science

Computational infrastructure

Connecting researchers and facilities

Enabling e-Science

Enabling data-centric science and engineering

Enabling computation-intensive science

Scientific Publication

Scientific Data

Applications

Software

Clouds Services for e-Science

Connect • communicate • collaborate

"UL=16 Gbps" links provide multiple wavelengths simultaneously at 16 Gbps.

Enabling e-Science
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

Open Access: participatory, distributed infrastructure

Generic services: preservation, curation storage and computation

data-centric science and engineering
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
Thank you for your attention!