

# Workprogramme 2014-15 e-Infrastructures

**Infodays 13-14 February 2014**



**ANNI HELLMAN**  
European Commission  
DG CONNECT  
eInfrastructure



European  
Commission



# WELCOME !

Jason de Caires Taylor,  
underwater statue, Cancun Mexico  
<http://www.underwatersculpture.com/>





**Questions and comments live:  
Twitter: @einfraEU #eInfraInfo14**



# DEVELOPMENT AND DEPLOYMENT OF E-INFRASTRUCTURES AND SERVICES FOR RESEARCH



# Vision

- ACHIEVING DIGITAL ERA
- BRIDGE DIGITAL DIVIDES
- EVERY RESEARCHER DIGITAL



# Approach

## **Transversal**

**Cutting across disciplines and sectors**

## **Support tomorrow's science**

**Open science, open access, best solutions**

## **Enabling innovation**

**Developing and testing innovative solutions**

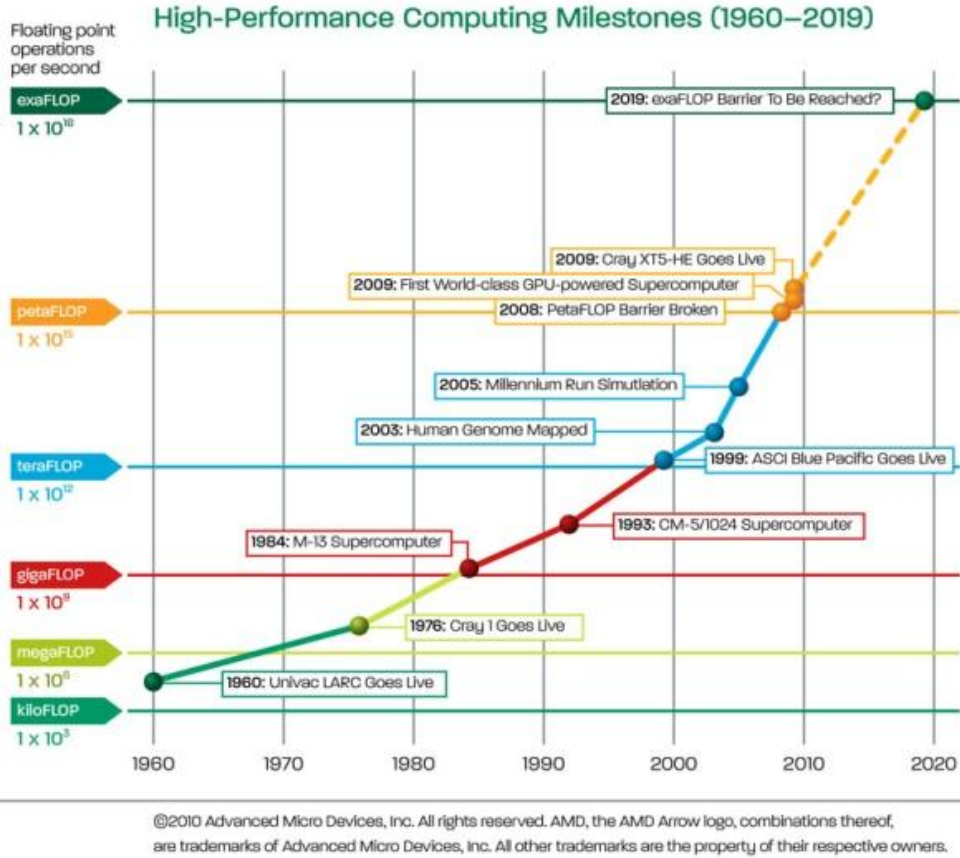
**Servicing industry and SMEs**

**Spinning out technologies**

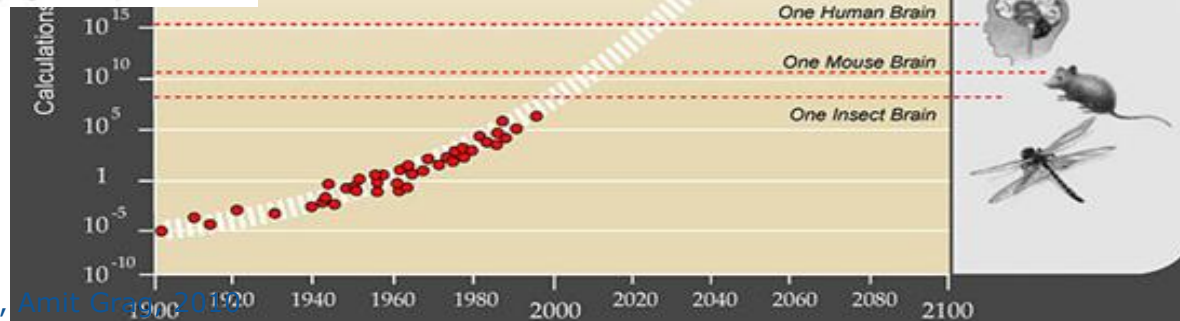
# **DRIVERS for change**

- **MORE COMPUTING POWER**
- **BIG DATA**
- **GLOBAL CONNECTIONS**
- **GLOBAL PARTICIPATION**
- **OPEN IS BETTER**
  - **WITHIN AND BETWEEN  
SCIENTIFIC COMMUNITIES**
  - **BETWEEN SCIENCE AND SOCIETY**

# MORE COMPUTING POWER



MIT Technology Review, 2012





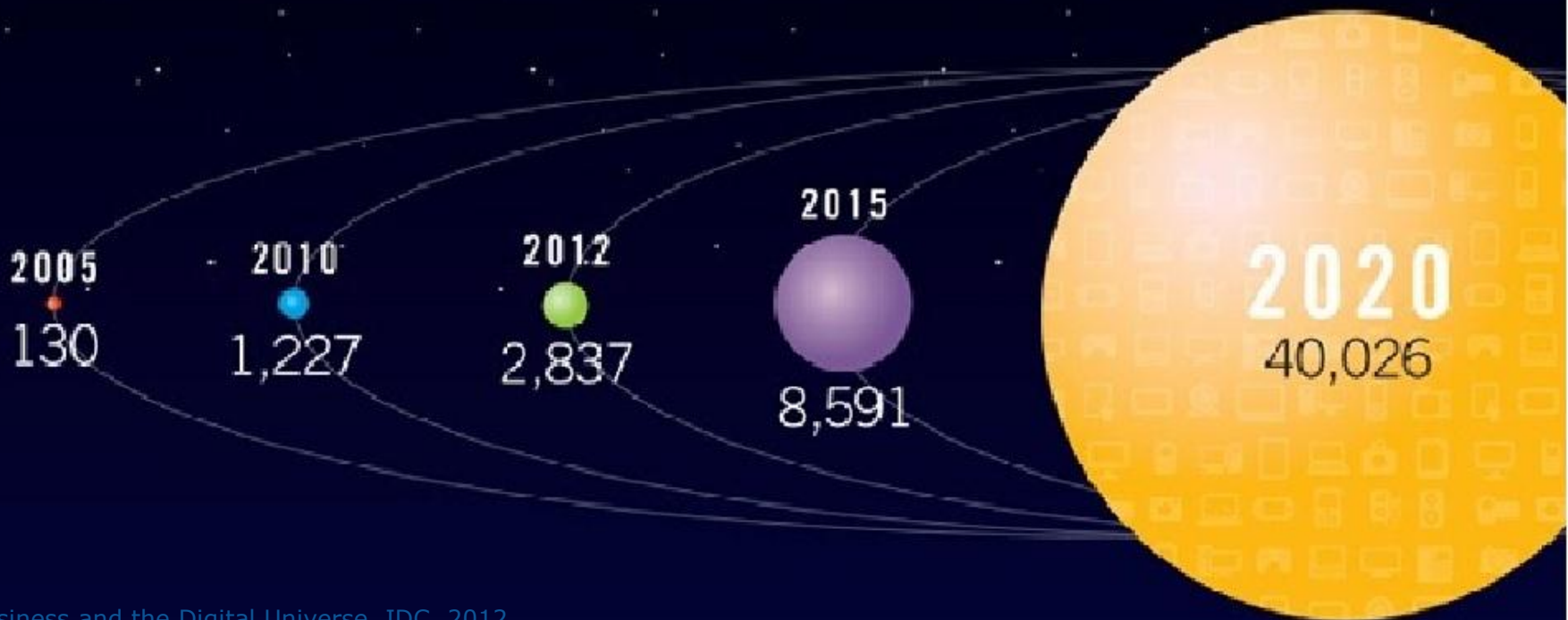
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# BIG DATA ...

## GROWTH OF THE DIGITAL UNIVERSE, 2010-2020

Digital Universe in Exabytes (Billions of Gigabytes)





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# GLOBAL CONNECTIONS ...





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# CHALLENGES

- **Need for long term perspective**
  - **Operational continuity**
  - **Sustainability**
- **Efficient and effective use of national and EU funding**
- **Resolving strategic, policy, legal, technical, financial and governance issues**
- **Innovation as a priority**
  - **Support SMEs**
- **Support to Horizon 2020**



**FET**  
Human Brain Project,...

**LEIT**  
Big Data in ICT,...

## **Societal Challenges**

**SC1**  
Research on  
Alzheimer

**SC2...**

**SC3**  
Earth observation

**SC4, SC5, ...**

### **e-Infrastructure to support:**

- **Research under Horizon 2020**
- **Open Access policy**
- **Open Data pilot**
- **Data Management Planning**
- ...

**e-Infrastructure  
integrates resources  
and services...**

**Networking  
Computing  
Data  
Software  
User interfaces**

A classical painting depicting the Titan Atlas, a muscular man with long hair, crouching and holding a large, detailed globe of the Earth on his shoulders. The scene is set against a dramatic, cloudy sky. The text 'e-Infrastructures' is written diagonally across the lower part of the image, over the figure of Atlas.

**e-Infrastructures**



## **The Workprogramme 2014-15 is based on**

- Substantial amount of contribution from various stakeholders,
- Wide consultations on specific topics
- Lessons learned from the past
- Commission priorities for Europe and European research
- Member states' needs for European level interventions for research
- Strategies developed for our areas
- Listening to all of you...

***Background documentation:***



# ***Research Data become the infrastructure for modern science***

## **Europe is Riding the Wave**

- Data e-infrastructure that supports **seamless access**, use, re-use and trust of data
- Physical and technical infrastructure become invisible and the **data becomes the infrastructure**
- Valuable asset on which science, technology, the economy and society can advance

## **Commission Communication on Scientific Information** COM(2012)401 final (July 2012)

- Access, preservation and e-infrastructure (publications and data)

## **ERA Communication** COM(2012)392

- Federation of researcher electronic identities



Riding the Wave  
High Level Expert Group on Scientific  
Data, October 2010

<http://cordis.europa.eu/fp7/ict/e-infrastructure/docs/hlg-sdi-report.pdf>





# European HPC Strategy – an integrated approach in H2020

**Basis:** Commission Communication **"High-Performance Computing: Europe's place in a Global Race"** (2012)

**Vision:** to ensure European leadership in the supply and use of HPC systems and services by 2020 in a strategy combining:

- (a) developing the next generation of HPC towards exascale;
- (b) providing access to the best HPC infrastructure for both industry and academia;
- (c) achieving excellence in computing applications - existing or new – driven by the needs of science, industry and SMEs

**Linking demand and supply** – in the spirit of Horizon 2020

- ┌ **Contractual Public-Private Partnership (cPPP)** covering (a) and part of (c)



# GÉANT Experts Group Report

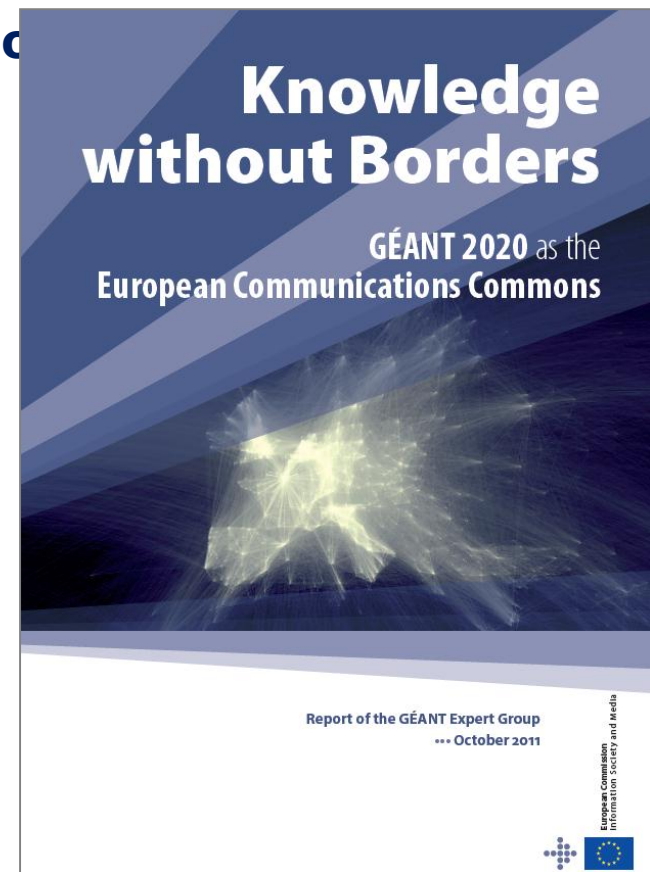
## Knowledge without Borders

### World Class Connectivity and Services to Knowledge Communities

- Support **Growth and Opening up**
- Help to close **digital divides**
- Europe as global **hub**
- Stimulate **innovation**

### Reorganize for 2020

- **Flexibility** in Technology and Architecture
- **Experimentation** and **standardisation**
- Improve **Governance**
- Step up **Funding**
- Update the **Regulatory** Regime





# Research Infrastructures in Horizon 2020

Developing the European research infrastructures for 2020 and beyond			
	Developing new world class RI	Integrating and opening existing national RI of pan-European interest	Development, deployment and operation of ICT based e- Infrastructures
Fostering the innovation potential of Ris and their human capital			
Reinforcing European RI policy and international cooperation			

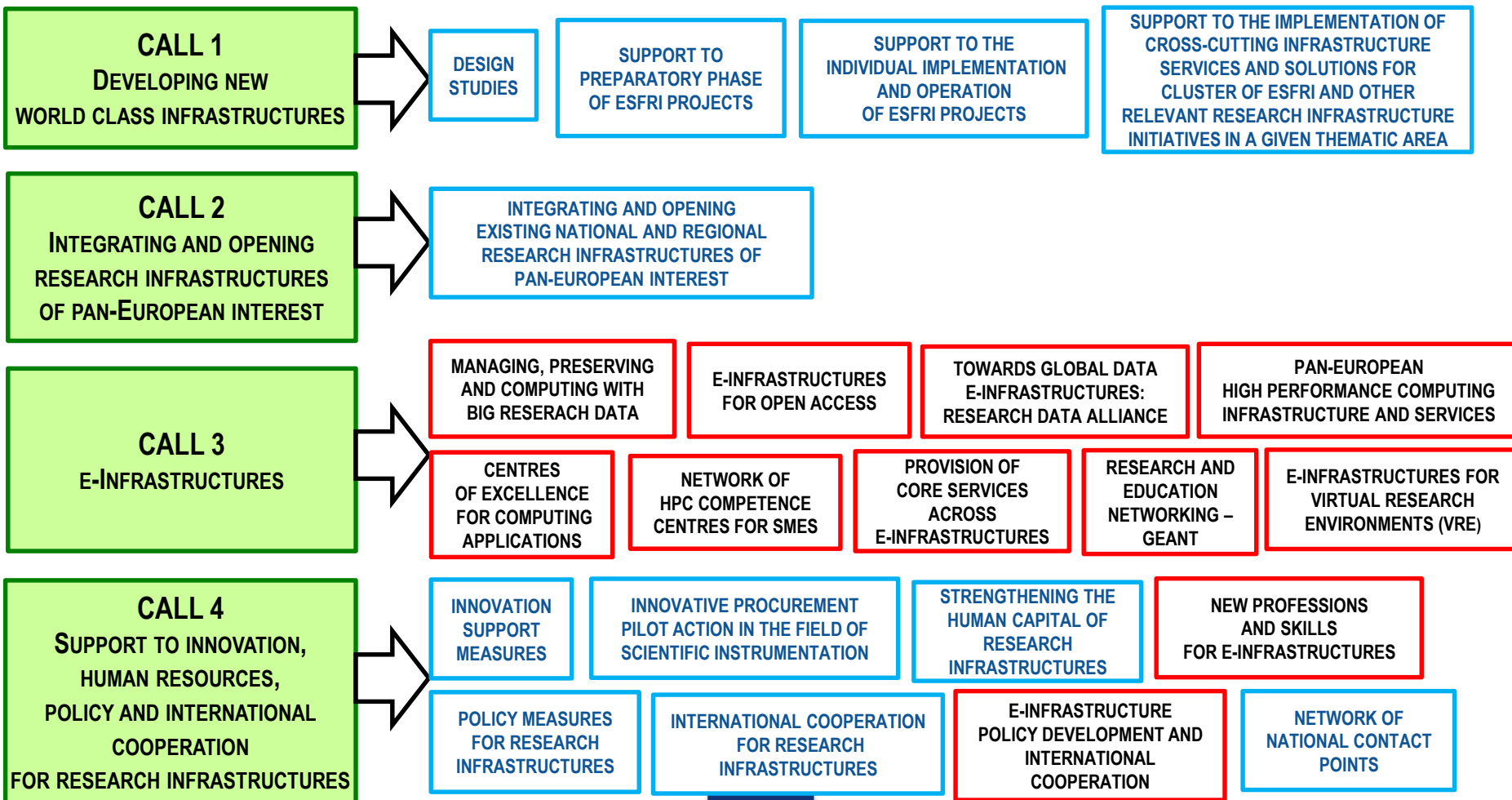
Matrix approach to implementation





# RESEARCH INFRASTRUCTURE (DRAFT)

## Work Programme 2014-2015





European  
Commission

## INTEGRATED e-INFRASTRUCTURE SERVICES

### VRE

E-INFRASTRUCTURES FOR  
VIRTUAL RESEARCH  
ENVIRONMENTS (VRE)

PROVISION OF  
CORE SERVICES  
ACROSS  
E-INFRASTRUCTURES

### DATA

### COMPUTING

NETWORK OF  
HPC COMPETENCE  
CENTRES FOR SMES

MANAGING, PRESERVING  
AND COMPUTING WITH  
BIG RESEARCH DATA

RESEARCH AND  
EDUCATION  
NETWORKING –  
GEANT

CENTRES  
OF EXCELLENCE  
FOR COMPUTING  
APPLICATIONS

E-INFRASTRUCTURES  
FOR OPEN ACCESS

PAN-EUROPEAN  
HIGH PERFORMANCE COMPUTING  
INFRASTRUCTURE AND SERVICES

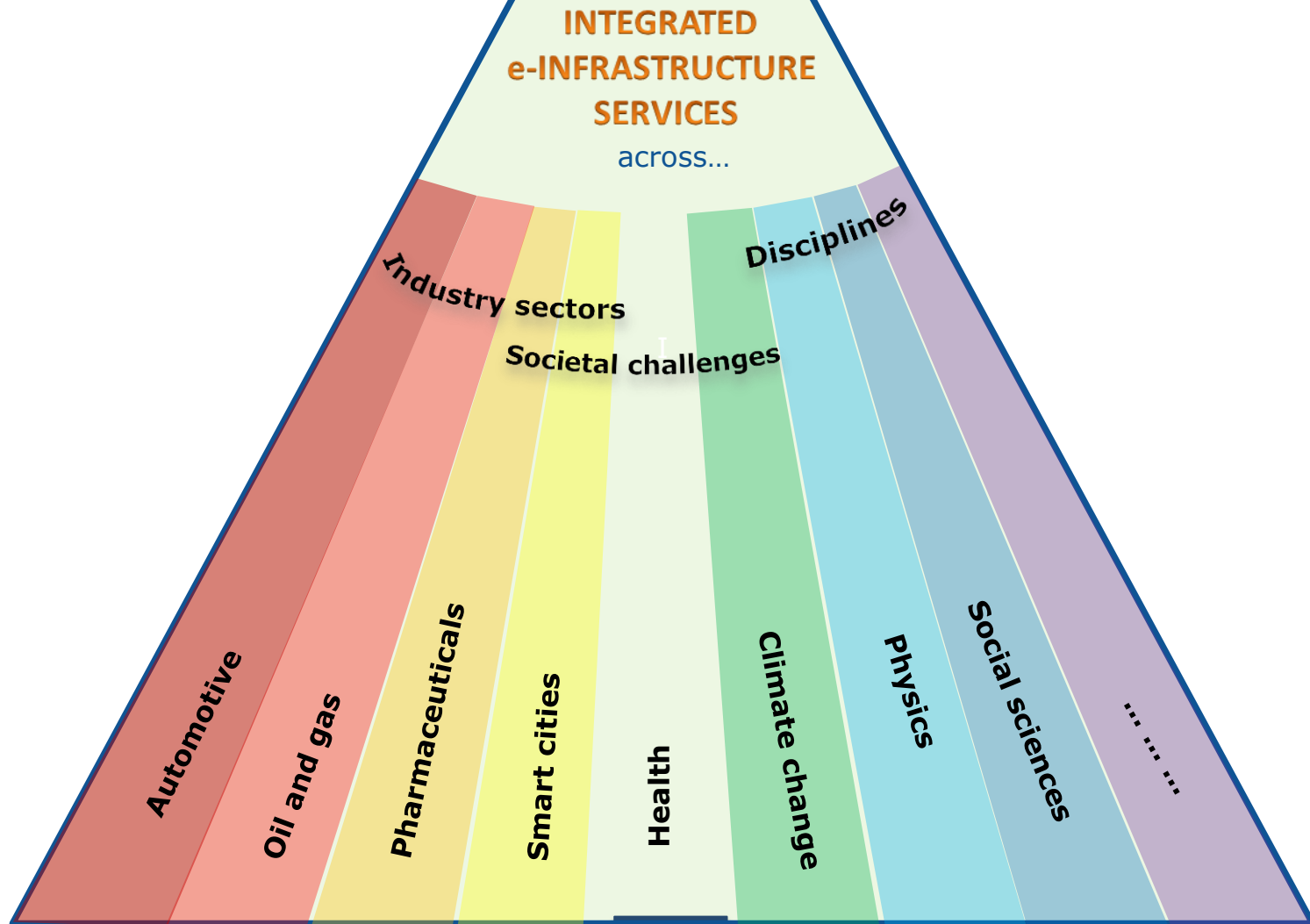
TOWARDS GLOBAL DATA  
E-INFRASTRUCTURES  
RESEARCH DATA ALLIANCE

### CONNECTIVITY

### SUPPORT

E-INFRASTRUCTURE  
POLICY DEVELOPMENT AND  
INTERNATIONAL  
COOPERATION

NEW PROFESSIONS  
AND SKILLS  
FOR E-INFRASTRUCTURES







# Unit C1 – infrastructures

**Head of Unit** Augusto Burgueno Arjona

- **Data and computing**

- Carlos Morais Pires
- Luis Busquets Perez
- Jarkko Siren
- Darko Karacic

- **HPC**

- Leonardo Flores Anover
- Aniyen Varghese
- Tsvetanka Kalin

- **VREs**

- Antonios Barbas
- Wim Jansen
- Athina Zampara

- **Core services**

- Sonia Spasova

- **Connectivity, Geant**

- Jean-Luc Dorel
- Athina Zampara

- **Skills**

- Darko Karacic
- Wim Jansen

- **International cooperation**

- Aniyen Varghese
- Leo Flores Anover
- Jean-Luc Dorel

- **Policy**

- Anni Hellman

**Call coordinator** Darko Karacic



# Conditions for the Call on e-Infrastructures:

## Specific conditions :

- Proposals should be structured around **Networking, Service and Joint Research Activities**
- The **Software** to be developed needs to be **open source**
- A **Data Management Plan** to be developed enabling data preservation, on-line discoverability, authorisation and re-use of data
- Clear **Metrics (KPIs)** to be proposed and used;
- **Open Access to Publications** resulting from the project;
- Usefulness of services to the end user community and financial **sustainability** to be ensured;



# **Call Structure for calls with einfrastructure topics**

## **Call 3:**

<b>H2020-EINFRA-2014-1</b>	<b>15/04/2014</b>
<b>H2020-EINFRA-2014-2</b>	<b>02/09/2014</b>
<b>H2020-EINFRA-2015-1</b>	<b>14/01/2015 (tbc)</b>

## **Call 4:**

<b>H2020-INFRA supp-2014-2</b>	<b>02/09/2014</b>
<b>H2020-INFRA supp-2015-1</b>	<b>14/01/2015 (tbc)</b>



# Indicative call deadlines and budgets - Call 3

EINFRA-2-2014	15/04/2014 at 17.00.00 Brussels time
EINFRA-1-2014, EINFRA-3-2014, EINFRA-4-2014, EINFRA-6-2014, EINFRA-7-2014 and EINFRA-8-2014	02/09/2014 at 17.00.00 Brussels time
EINFRA-5-2015 and EINFRA-9-2015	[14/01/2015 at 17.00.00 Brussels time]

Overall indicative budget: EUR 95.00 million from the 2014 budget<sup>1</sup> and EUR 82 million from the 2015 budget<sup>2</sup>

	2014 EUR million	2015 EUR million	
EINFRA-1-2014	55.00		Single stage
EINFRA-2-2014	13.00		Single stage
EINFRA-3-2014	4.00		Single stage
EINFRA-4-2014	15.00		Single stage
EINFRA-5-2015		40.00	Single stage
EINFRA-6-2014	2.00		Single stage
EINFRA-7-2014	6.00		Single stage
EINFRA-8-2014	0.00 <sup>3</sup>		Single stage
EINFRA-9-2015		42.00	Single stage

# Indicative call deadlines and budgets - Call 4, topics 4 and 7

INFRASUPP-1-2014, INFRASUPP-3-2014, INFRASUPP-5-2014, INFRASUPP-6-2014, INFRASUPP-7-2014 and INFRASUPP-8-2014	02/09/2014 at 17.00.00 Brussels time
INFRASUPP-2-2015 and INFRASUPP-4-2015	[14/01/2015 at 17.00.00 Brussels time]

Overall indicative budget: EUR 22 million from the 2014 budget<sup>1</sup> and EUR 16.5 million from the 2015 budget<sup>2</sup>

	2014 EUR million	2015 EUR million	
INFRASUPP-1-2014	2.00		Single stage
INFRASUPP-2-2015		14.00	Single stage
INFRASUPP-3-2014	2.00		Single stage
INFRASUPP-4-2015		2.50	Single stage
INFRASUPP-5-2014	4.00		Single stage
INFRASUPP-6-2014	7.00		Single stage
INFRASUPP-7-2014	5.00		Single stage
INFRASUPP-8-2014	2.00		Single stage



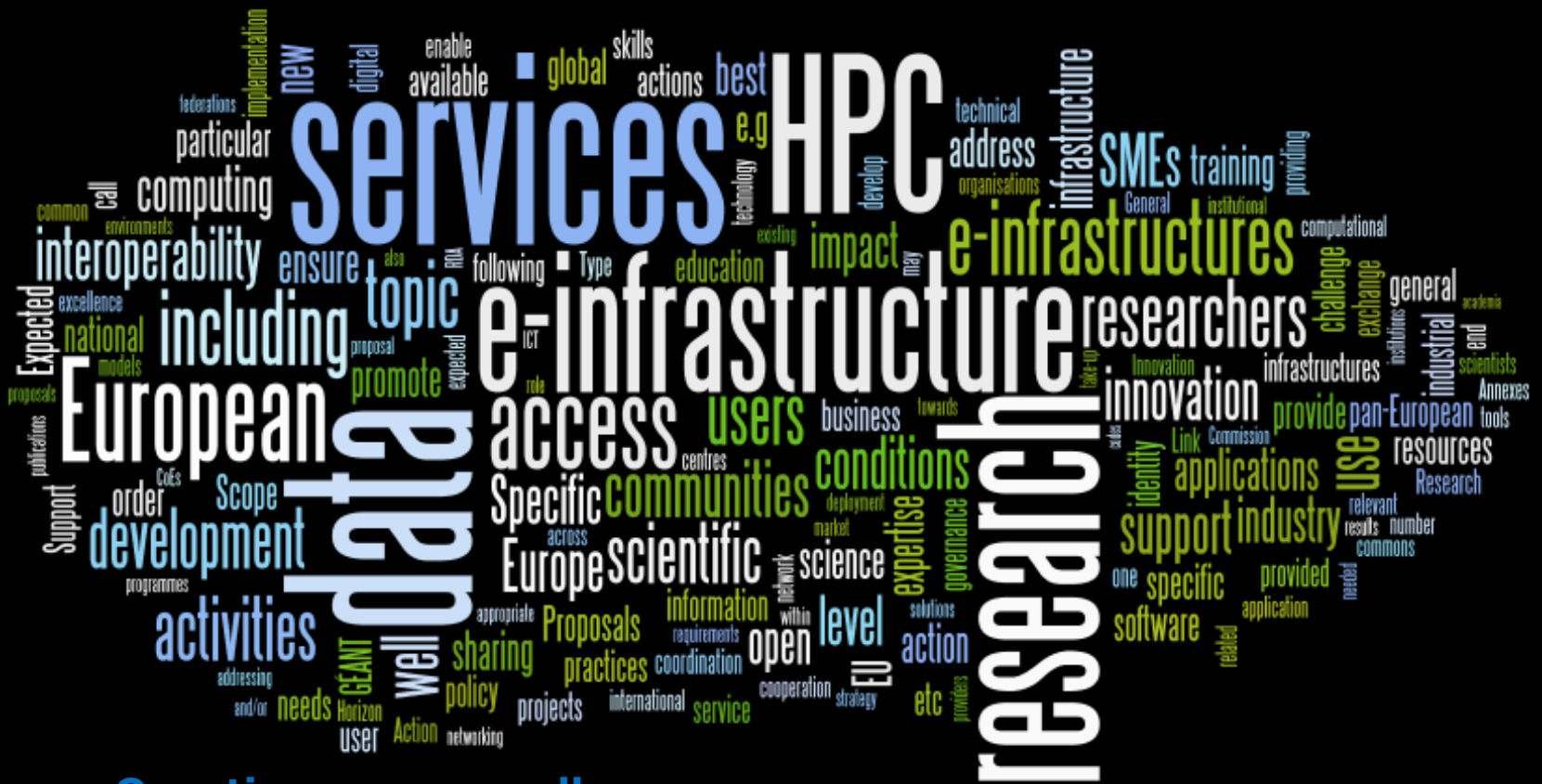
# Where should the emphasis be?

- Services
- Thinking innovation
  - With both suppliers or users
- Mainstreaming skills development
- Integration between data and computing
- Business plans for financial sustainability
  - ...and partnerships with the private sector
- Supporting policies
- open data and software
- Sharing basic operations services and building blocks
- Monitoring performance (KPIs)

## IN SUMMARY...



European  
Commission



**Questions on our calls:  
CNECT-RI-CALLS@ec.europa.eu**