INFRASTRUCTURES DE RECHERCHE

Journée nationale d'information
Mardi 15 Septembre 2015

Ministère de l'Enseignement Supérieur et de la Recherche
Amphithéâtre Poincaré

9h00   **Accueil des participants**

Jean Pierre Caminade Coordinateur du PCN et représentant au Comité de Programme - Département des Grandes Infrastructures de Recherche - SPFCO-B4 - DGRI - MENESR

Gaëlle Decroix, Secrétariat du PCN et représentant au Comité de Programme - Direction des Sciences de la Matière – CEA

9h30   **Actualités Infrastructures – point sur les opérations en cours**

Roadmap française

Roadmap ESFRI : projets en cours et préparation 2016

Christian Chardonnet, Chef du Département des Grandes Infrastructures de Recherche - SPFCO-B4 - DGRI – MENESR

10h10   **H2020 - Appels 2014-2015 : résultats complets et bilan de la participation française**

Jean-Pierre Caminade

10h30   *Pause-café*

11h00   **Programme de travail 2016/2017 : Présentation et nouveautés**

Présentation générale

Présentation des 5 volets d'appels (DEV, IA, e-Infra, INNOV, SUPP)

Conditions de participation (finances, droit)

Jean-Pierre Caminade, Gaëlle Decroix

12h15   **Les achats publics au service de l'innovation dans les infrastructures**

Présentation générale

Retour d'expérience de GENCI sur le PCP 'Efficacité énergétique du calcul haute performance' de PRACE

Sylvie Niessen, chargée du développement des relations industrielles des TGIR - Département des Grandes Infrastructures de Recherche - SPFCO-B4 - DGRI - MENESR

Philippe Segers, chef de projet européen à GENCI

12h45   **Fin de la réunion**

12h45 - 14h15 Déjeuner buffet dans le Hall de la Poule

14h30   **Début des entretiens individuels fixés suite à pré-inscription**

Research Infrastructures

Draft Work Programme 2016-2017

EC disclaimer: The information contained in the presentation is still subject to further elaboration and modifications until final approval.

Jean-Pierre Caminade et Gaelle Decroix, PCN Infrastructures

avec l'aimable contribution des unités infrastructures des DG Recherche et DG CNECT

Journée d'information du 15 septembre 2015

Infrastructures de Recherche – Infoday national, Paris, 15/09/2015

What's new for 2016-2017 ?

➢ **More integration with other parts of Horizon 2020**, in particular the Societal challenges, to exploit synergies and complementarities, and address their identified gaps

➢ **Reinforced emphasis on innovation, sustainability and data exploitation** throughout all programme, in particular in actions for advanced communities and established pan-European research infrastructures

➢ Support to **large scale initiatives for innovation**

➢ **New approach for integrating activities** with different processes for Starting and Advanced Communities

Research Infrastructures – Calls

5 Calls – 15 topics

1. **Development and long-term sustainability of new pan-European RIs (4)**

2. **Integrating and Opening RIs of European Interest (2)**

3. *e-Infrastructures (5)* *(funded by DG CNECT)*

4. **Fostering the innovation potential of RI (2)**

5. **Support to Policy and International cooperation (RI/*e-RI*) (2)**

Call – Development and long-term sustainability of new pan-European RIs

To support the development of a comprehensive landscape of new sustainable world-class research infrastructures in Europe, helping to respond to challenges in science, industry & society

Emphasis on long-term sustainability, efficient operation, data management and on fostering the innovation potential

1. **Design studies**

2. **Preparatory Phase of ESFRI projects**

3. **Individual support to ESFRI & OWCRI**

4. **Pilot action for a Eur. Open Science Cloud for Research**

INFRADEV-1-2017 - *Design studies*

Support the conceptual and technical design of new research infrastructures, which are leading-edge user facilities of a clear European dimension and interest :

➤ *Bottom-up call, aimed at identifying the RIs that really have the potential to become the next generation of European world-class RI*

➤ *Total budget 20 M€ - EU contribution per proposal between 1-3 M€*

➤ *Leading to a* 'conceptual or technical design report' *through*

- *Scientific & technical work: concepts & engineering plans; creation of prototypes; efficiency of the services provided to scientific communities)*

- *Conceptual work: plans to integrate the new RI into the European RI landscape; estimation of budget for construction and operation; plans for an international governance structure; planning of research services to be provided; procedure and criteria to choose the RI site).*

INFRADEV-2-2016 - *Preparatory Phases*

Support the preparatory phase of new ESFRI projects:

➢ *Targeting the new projects in the 2016 update of the ESFRI roadmap*

➢ *Total budget 40 M€ - EU contribution per proposal up to 4 M€*

➢ *Coordination & Support Action (CSA) or, when including technical work, Research & Innovation Action (RIA)*

➢ *Leading to a legal and financial agreements for the setting-up of the Ri through work on:*

- **Legal** setting;
- **Governance** structure; Management and logistic organisation;
- **Financial** setting for construction, operation and decommission;
- **Strategic** aspects such as socio-economic and local/regional impact;
- **Technical** aspects when necessary to complete the final technical design.

INFRADEV-3-2016-2017
Individual support to ESFRI & OWCRI

To facilitate and support long-term sustainability and efficient operation of the ESFRI & Other World-Class RI (OWCRI):

➢ *Targeting individual ESFRI RI and OWCRI with established legal structure and governance at EU or international level, such as ERIC.*

➢ *Total budget 70 M€ - EU contribution per proposal (CSA) 2 - 5 M€*

➢ *On a competitive basis: proposals must demonstrate their crucial need for the requested support and how this will ensure their sustainability*

➢ *Proposals must also explain complementarities with previous or current EU grants.*

➢ *Covering: membership enlargement, international cooperation, testing and improvement of access provision to users to increase reliability and create trust, definition of business model & service model agreements, outreach and technology transfer.*

INFRADEV-4-2016
European Open Science Cloud for Research

Pilot action to demonstrate how wide availability of scientific data and data-analysis services for European researchers can be ensured through a cloud infrastructure.

➢ *Addressing the federation, networking and coordination of existing research infrastructures and scientific clouds to increase data findability, accessibility and interoperability, and to facilitate re-use of data*

➢ *Demonstrating the availability of data-storage and data-analysis services for European researchers can be ensured through a cloud infrastructure*

➢ *Total budget 10 M€ - EU contribution between 5 and 10 M€.*

➢ *Designing a stakeholder driven governance framework.*

➢ *Building on existing e-infrastructures and thematic data infrastructures*

➢ *Complementary to EINFRA-12-2017*

➢ *(In line with the recommendations of a specific High Level Group)*

Infrastructures de Recherche – Infoday national, Paris, 15/09/2015

Call INFRADEV Summary

Research Infrastructures (RTD)	2016	2017	TOTAL	Single grant
CALL H2020-INFRADEV-2016/2017	**80**	**60**	**140**	
INFRADEV-1: Design studies		20	20	From 1 to 3 M€
INFRADEV-2: Preparatory Phase	40		40	Up to 4 M€
INFRADEV-3: Individual Support	30	40	70	From 2 to 5 M€
INFRADEV-4: European Open Science Cloud	10		10	From 5 to 10 M€

Deadlines: **30 March 2016** **22 June 2016** *29 March 2017*

Infrastructures de Recherche – Infoday national, Paris, 15/09/2015

Call - Integrating and opening RIs of European interest: *Integrating Activities*

➢ Three **mandatory** components of **a transitional instrument**:
  ✓ **Networking;**
  ✓ **Trans-national / Virtual Access;**
  ✓ **Joint Research Activities for the improvement of RI services.**

➢ **max one proposal per area is expected to be funded, as IAs aim to coordinate & integrate key RI in given fields avoiding duplicate efforts**

➢ **access to be provided <u>only to key RI of European interest</u>, able to attract significant numbers of TA users. Other national and regional RI can be involved in the other activities of the proposal.**

➢ **proposals should take into due account all relevant ESFRI RI to exploit synergies and to ensure coherency in the EU RI landscape**

➢ **proposals should address innovation capacity (technology transfer, participation of SMEs, instrumentation development), international dimension, management of generated data…**

Call - Integrating and opening RIs of European interest: *Integrating Activities*

To open up key national and regional research infrastructures to all European researchers and to ensure their optimal use and joint development:

1. **INFRAIA-1-2016-2017: IA for Advanced Communities (AC): whose RIs show an advanced degree of coordination gained through previous IA grants**
   One stage call. Targeted approach based on a Multi-Annual Plan (MAP)
   Total budget 160 M€ - EU contribution per proposal (RIA) up to 10 M€

2. **INFRAIA-2-2017: IA for Starting Communities (SC): never supported for their RI integration under EU FP7 or Horizon 2020 calls, in particular within an IA**
   Two-stage call. Bottom-up approach
   Total budget 40 M€ - EU contribution per proposal (RIA) up to 5 M€

INFRAIA-2-2017: *Integrating Activities for SC*

Emphasis on networking, standardisation and establishing a common access procedure for trans-national and/or virtual access provision.

➢ *All areas of science and technology considered*

➢ *Proposals should not restrict their services to too narrow research fields and should address the wider scientific communities, even multidisciplinary ones, which can be served by the involved sets of RIs.*

➢ *SC should organise the key RIs in their domain*

➢ *Two-stage call as large oversubscription expected*

➢ *Short proposal 20 pages, only proposals for 3 times the available budget will pass to the second stage (full proposal)*

INFRAIA-1-2016-17: *Integrating Activities for AC*

⇒ **27 pre-selected topics**

⇒ **emphasis on innovation aspects, on widening trans-national and virtual access provision, on novelties with respect to previous grants**

⇒ **in particular for "super advanced" communities, addressing the sustainability of the integrated RI services provided at European level through, e.g., the involvement of funders and the preparation of a business/funding plan beyond the end of the project.**

Criteria for prioritisation in the MAP:

➢ *Contribution & support to other H2020 parts and/or to break-through research*

➢ *Contribution to EU strategic priorities*

➢ *Coverage of emerging needs*

Previous GA timing and performance taken into account

27 Advanced topics open in WP16-17 (1/2)

Biological and Medical Sciences (7)

Facilities for high throughput DNA sequencing

Vaccine infrastructures

Experimental facilities for animal disease and infectiology (including zoonoses)

Centres for replacement, reduction and refinement (3 Rs) of non-human primate testing

Facilities and resources for plant phenotyping

Marine biological stations

Research Infrastructures for the control of vector-borne diseases

Environmental and Earth Sciences   (7)

Research infrastructures for terrestrial research in the Arctic

Research Infrastructures for earthquake hazard

Mesocosms facilities for research on marine and freshwater ecosystems

Atmospheric simulation chambers

Research infrastructures for forest ecosystem and resources research

Sites, experimental platforms and data collections of anthropogenic impacts for ecosystem functioning and biodiversity research

Multidisciplinary Marine Data Centres for ocean and marine data management

27 Advanced topics (2/2)

Energy (2)

Research Infrastructures for research on biomass conversion and biorefinery

Research Infrastructures for offshore renewable energy

Mathematics and ICT (1)

Integrating activity for facilitating access to HPC (High Performance Computing) centers

Material Sciences and Analytical facilities (4)

Research Infrastructures for advanced spectroscopy, scattering/ diffraction and imaging of materials

Synchrotron radiation sources and Free Electron Lasers

Facilities for research on materials under extreme magnetic conditions

Infrastructures for Neutron Scattering and Muon Spectroscopy

Physical Sciences (4)

Research Infrastructures for advanced radio astronomy

Research Infrastructures for optical/IR astronomy

Research Infrastructures for hadron physics

Particle Accelerators

Social Sciences and Humanities (2)

Access to European Social Science Data Archives and Official Statistics

Research infrastructures for the study of poverty, working life and living conditions
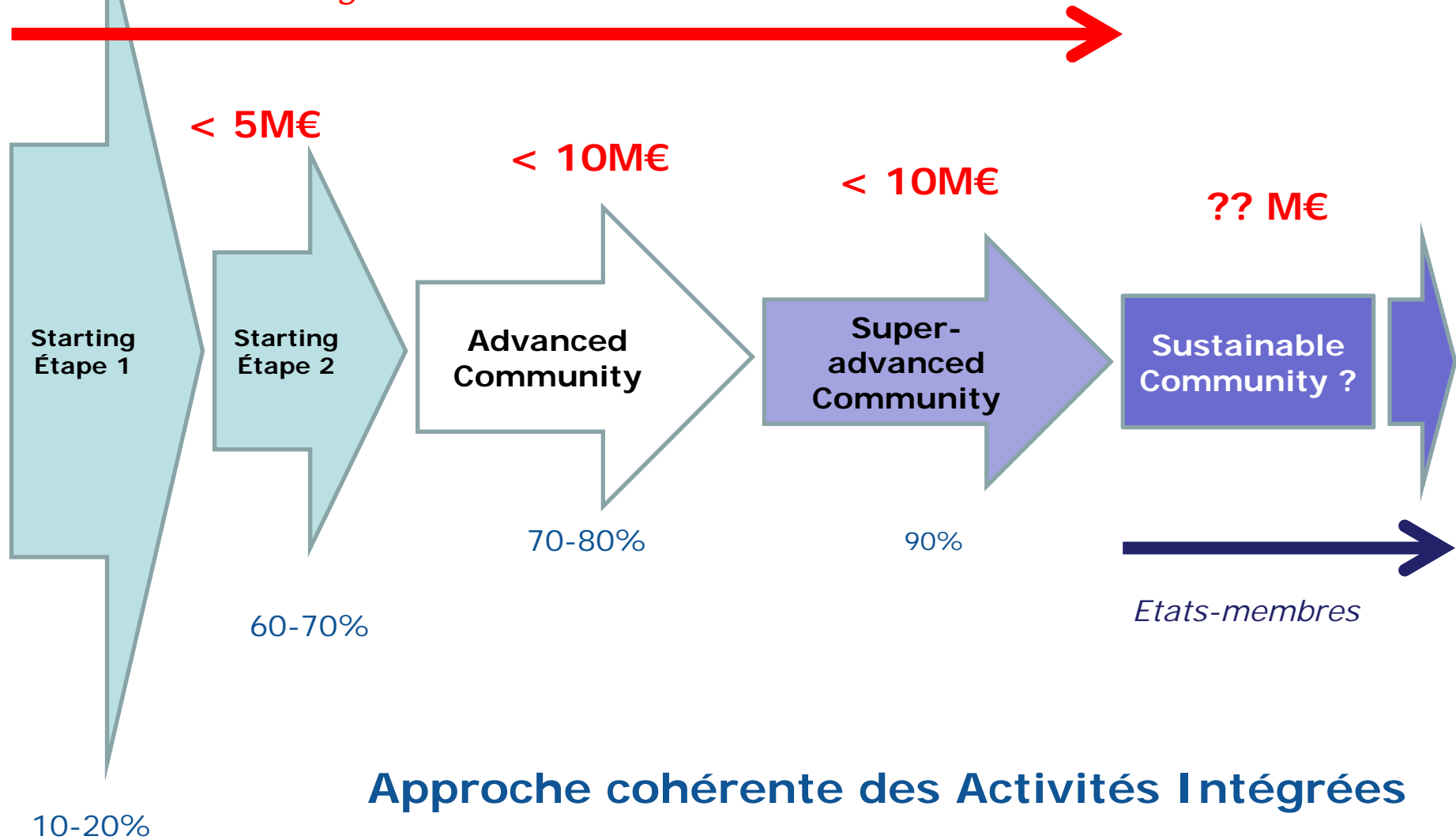
Advanced topics : comparison of WP

	WP14-15	WP16-17
BioMed	3	7
Environ.	4	7
Energy	1	2
Math.	1	1
Anal.&Mat.	5	4
Physics	3	4
SSH	2	2
TOTAL	19	27

Programme Cadre : 3 x 4 ans

< 5M€

< 10M€

< 10M€

?? M€

Starting Étape 1

Starting Étape 2

Advanced Community

Super-advanced Community

Sustainable Community ?

70-80%

90%

60-70%

Etats-membres

10-20%

Approche cohérente des Activités Intégrées

Integrating Activities - budget

Calls	IA proposals	funded	Success rate	Continuation			New		
				proposals	Funded	Success rate	proposals	Funded	Success rate
FP7 call 3 – 2008	140	38	27,1%	25	19	76%	115	19	17%
FP7 call 6 – 2010	50	22	44,0%	11	9	82%	39	13	33%
FP7 call 8 – 2011	23	13	56,5%	11	7	64%	12	6	50%
FP7 call 10 – 2012	34	18	52,9%	12	10	83%	20	8	40%
H2020 call 2014/15	58	19	32,8%	25	14	56%	33	5	15%

3.5 M€ limitation for activities other than access **removed** in order to take into account the different needs of various communities

160 M€ **AC** - up to 10M€ per prop.➔ **16-17** out of 22 topics could be supported :
~75% success rate

40 M€ **SC** - up to 5M€ per prop.➔ 25 SC to 2ndstage, **8-9** SC could be supported:
~33% success rate

Call INFRAIA Summary

Distribution of Advanced Communities areas by domain

Domain	N. of areas	Domain	N. of areas
Bio Medical Sciences	7	Material and Analytical Facilities	4
Energy	2	Physics	4
Environment	7	Social Sciences and Humanities	2
ICT	1		
		Total number of areas	27

Research Infrastructures (RTD)	2016	2017	TOTAL	Single grant
CALL H2020-INFRAIA-2016/2017	88	112	200	
INFRAIA-1: IA for Advanced communities	88	72	160	Up to 10 M€
INFRAIA-2: IA for Starting communities (two-stages)		40	40	Up to 5 M€

Deadlines: **30 March 2016 (INFRAIA-1 and INFRAIA-2 1st stage)**
29 March 2017 (INFRAIA-2 2nd stage)

e-Infrastructures – WP 16-17

We continue with WP2016-2017 - with a new architecture

Underlying principles for the WP2016-2017

- A service oriented e-infrastructure landscape catalysing new knowledge and innovative ICT

  Maximising and assessing the impact of e-infras

  Making **research data** discoverable, accessible, assessable, intelligible, useable and interoperable

- With an active participation in international fora and community-led consensus building initiatives

  "All activities that were possible in the previous structure are still possible in the new WP architecture"

A life cycle approach: the three basic decisions

- Will the development of a new research e-Infrastructure service be funded?

  Will a newly developed research e-Infrastructure service be integrated in the operational platform?

- When will an existing operational service be decommissioned?

How did we build these into the WP?

The e-Infrastructure calls have 3 themes

1 - Integration and consolidation of large scale e-infrastructure platforms supporting European policies and research and education communities

- Support Pan-European HPC infrastructure and services (PRACE)
- Data and Distributed Computing e-infrastructures for Open Science
- GÉANT Partnership projects (integration)

2 - Prototyping innovative e-infrastructure platforms and services for research and education communities, industry and citizens at large

- Platform-driven e-infrastructure innovation
- => GÉANT Partnership projects (platform driven innovation)
- User-driven e-infrastructure innovation
- => Interactive Computing for the Human Brain Project FET Flagship

3 - Support to policies and international cooperation

Theme 1. Integration and consolidation...

Research and education communities require and expect stable e-infrastructures to provide 24/7 services

- high-speed networking: GEANT, eduroam, eduGAIN
- high-performance and distributed computing Use of best HPC and HTC resources
- research data services: access to data, preservation of data, data Management and curation

Prerequisites for success

- *collaboration between operators and user communities*
- *integration of state-of the art technologies and co-design*
- *sustainability and continued funding*
- *continuous and reliable operation of e-RI*

EINFRA-11-2016 : Support the next implementation phase of pan-European High performance Computing infrastruct. & services (PRACE) (15M€, RIA, 30 March 2016)

EINFRA-12-2017 : Data and distributed Computing e-infrasructures for Open Science (40M€, RIA, 29 March 2017)

- **Secure and agile data and distributed computing e-infrastructures** *(interrelated to INFRADEV-04-2016 "European Open Science Cloud for Research")*
  Proposals from 10 to 15M€ are expected   *(EUDAT ???)*

- **Access and preservation platforms for scientific information**
  Proposals from 8 to 10M€ are expected   *(OpenAire ???)*

2. Prototyping innovative platforms and services

Innovation topics respond to the emerging needs of the research and education communities, industry, especially SMEs and citizens.

- **EINFRA-21-17 Platform-driven e-infra innovation (46M€)**

(a) **Support to Public Procurement of Innov. HPC systems** (26M€, PPI, 20 Sept. 2016)

(b) **Research & Innovative actions for e-infrastructure prototypes** (20M€, RIA, 29 March 2017)

- Universal discoverability of data objects and provenance

  (~10M€, proposals expected from 4 to 5M€)

- Computing e-infrastructure with extremely large datasets

  (~10M€, proposals expected from 2,5 to 3M€)

2. Prototyp. innov. platforms & services (suite)

Innovation topics respond to the emerging needs of the research and education communities, industry, especially SMEs and citizens.

- **EINFRA-22-16 User-driven e-infrastructure innovation (21M€, 30 march 2016)**

(a) **Exploitation of e-infrastructures for user-driven innovation and pilots responding to community specific challenges** *(~10M€, proposals expected from 2 to 3M€)*

(a) **Innovation for Open Science e-infrastructures and services** *(~10M€, proposals expected from 1 to 2M€)*

3. Support to policies and international cooperation (7,5M€)

- **INFRASUPP-03-16 Support to policies and international cooperation for e-infrastructures** (7,5M€, 30 march 2016)

(a) **Research and Innovation actions for International Co-operation in high-end e-infrastructure requirements** *(3M€)*
    =>SKA-devoted + RDA environment

(b) **Co-ordination and Support Action for international Co-operation and policy development** *(4,5M€)*

=>International Cooperation on e-infra supporting major societal challenges (platform for sharing information)

=>Policy support to e-infrastructure programme

=>Support to dissemination for the e-infrastructure programme

=>Support to small-size foresight roadmaps for the e-infra programme

Framework Partnership Agreements

=> GEANT Partnership Projects (64M€)

- **(a) Research and Education Networking**
  - Integration and consolidation of e-infrastructure platforms supporting European policies and research and education communities (59M€)
  - Prototyping innovative e-infrastructure platforms and services for research and education communities, industry and the citizens at large (5M€)

- **(b) Trans-Atlantic submarine cable**

=> Interactive Computing e-infrastructure for the Human Brain Project FET Flagship (25M€)

Topic	Budget (M€)
1 - Integration and consolidation of e-infrastructure platforms supporting European policies and research and education communities	**(55)**
EINFRA-1.1-2016/17 - Support to the next implementation phase of Pan-European High Performance Computing infrastructure and services	15
EINFRA-1.2-2016/17 - Data and Distributed Computing e-infrastructures for Open Science	40
2 - Prototyping innovative e-infrastructure platforms and services for research and education communities, industry and the citizens at large	**(67)**
EINFRA-2.1-2016/17 – platform-driven e-infrastructure innovation	46
EINFRA-2.2-2016/17 – user-driven e-infrastructure innovation	21
3 - Support to policies and international cooperation	**(10)**
EINFRA-3.1-2016/17 - Support to policies and international cooperation	
Other actions including different type of instruments:	
(a) FPA - GÉANT Partnership Projects	**(64)**
(b) FPA - Computing and storage e-infrastructure for the Human Brain Project FET Flagship (FPA)	**(25)**
Total	**221**

Call - Fostering the innovation potential of Research Infrastructures

INFRAINNOV-1-2017 – Fostering co-innovation for future detection and imaging technologies

Establishment of a novel research and innovation collaborative framework to support technology and innovation transfer from RI towards industrial partners and joint development of high-tech components

- ➤ *Total budget 20 M€ - EU contribution per proposal (RIA) up to 20 M€*
- ➤ *Financial support to third parties*

INFRAINNOV-2-2016 – Support to Technological Infrastructures

Development of strategic agendas & roadmaps for key technologies for the construction/upgrade of RI, identification of potential markets, exchange of good practices, …

- ➤ *Total budget 10 M€ - EU contribution per proposal (CSA) up to 2 M€*
- ➤ *Expected to cover at least five different technological domain of interest for pan European RI*

Call INFRAINNOV Summary

Research Infrastructures (RTD)	2016	2017	TOTAL	Single grant
CALL H2020-INFRAINNOV-2016/2017	**10**	**20**	**30**	
INNOV-1: Fostering co-innovation		20	20	Up to 20 M€
INNOV-2: Technological Infrastructures	10		*10*	Up to 2 M€

Deadlines: **30 March 2016**   *29 March 2017*

Call - Policy and International cooperation

INFRASUPP-1-2016 – Policy and INCO measures for RI

1. *Synchronising & harmonisation RI evaluation mechanisms & national road-mapping*
2. *International landscaping exercise for RI*
3. *Bilateral cooperation on RI with Africa*
4. *Training needs of SESAME synchrotron, Jordan*

➢ **Total budget 8 M€** - EU contribution per proposal (CSA) 1.5 – 2 M€

INFRASUPP-2-2017 – Policy and INCO measures for RI

1. *Development of a model describing the socio-economic leverage of RI*
2. *Cooperation between EU and strategic partners for the development of global RI*
3. *Support to RDA secretariat, participation of new communities and ESFRI RI and emergence of building blocks for interoperable data infrastructure (CNECT/RTD)*

➢ **Total budget 6,5 M€** - EU contrib. per proposal (CSA) (1) & (2): up to 1.5 M€;

(3): 3 - 3.5 M€

Call INFRASUPP Summary

Research Infrastructures (RTD / CNECT)	DG	2016	2017	TOTAL	Single grant
CALL - H2020-INFRASUPP-2016/2017	RTD	8	4	12	
	CNECT	7,5	2,5	10	
INFRASUPP-1: Policy and INCO measures for RI	RTD	8		8	From 1,5 to 2 M€
INFRASUPP-2: Policy and INCO measures for RI	RTD		4	4	Up to 1,5 M€ or From 3 to 3,5 M€
	CNECT		2,5	2,5	
INFRASUPP-3: Policy and INCO measures for e-RI	CNECT	7,5		7,5	From 0,3 to 3 M€

Deadlines: **30 March 2016**   *29 March 2017*

Comparaison budgets WP14-15 et WP16-17

	WP14-15	**WP16-17**
INFRA-DEV	198	140
INFRA-IA	140	200
E-INFRA	*175,5*	*221*
INFRA-INNOV	NA	30
INFRA-SUPP	38,5	15,8
TOTAL	**552**	**606,8**

Infrastructures de Recherche – Infoday national, Paris, 15/09/2015

Le draft du Programme de Travail 2016-2017 est disponible sur le Portail du Participant depuis hier, 14/09/2015 !

https://ec.europa.eu/programmes/horizon2020/en/draft-work-programmes-2016-17

Merci de votre attention !

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HORIZON 2020
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