Infrastructures de Recherche Journée nationale d'information

Lundi 17 juin 2019

Elena Hoffert

MESRI/DGRI/Département des grandes infrastructures de recherche





- 1. Dispositif national pour accompagner la communauté nationale des infrastructures de recherche à Horizon 2020
- 2. Présentation des appels 2019 et 2020
- 3. Actualités MESRI, DG RTD, ESFRI



1. ACCOMPAGNER LA COMMUNAUTÉ NATIONALE A HORIZON 2020



Communauté de recherche et d'innovation française



ORGANISATION NATIONALE « INFRASTRUCTURES DE RECHERCHE »





PCN-INFRA@RECHERCHE.GOUV.FR

H2020: le réseau du PCN & GTN IR

15

Liberté · Égalité · Fraternite RÉPUBLIQUE FRANÇAISE DE LA RECHERCHE

ET DE L'INNOVATION

• RCP	Elena Hoffert – MESRI - elena.hoffert@recherche.gouv.fr
• PCN	Pascale Delbourgo – MESRI - pcn-infra@recherche.gouv.fr Gaëlle Decroix – CEA/DRF - pcn-infra@recherche.gouv.fr Nathalie Boulay – CNRS / INP - pcn-infra@recherche.gouv.fr
CNRSCNRS	Stéphanie Lecocq – CNRS/INC - stephanie.lecocq@cnrs-dir.fr Gabriel Chardin - gabriel.chardin@cnrs-dir.fr
 CPU titul. CPU suppl.	Anaïs Desclos – UPMC - anais.desclos@upmc.fr Hélène Veillard - helene.veillard@obspm.fr
ALLENVI titul.ALLENVI suppl.	Cloé Deygout – INRA - Chloe.Deygout@inra.fr Nan-Chin CHU – IFREMER - Nan.Chin.Chu@ifremer.fr
• ATHENA	Fabrice Boudjaaba- CNRS - Fabrice.BOUDJAABA@cnrs-dir.fr
AVIESAN suppl.AVIESAN titul.	Laure Sabatier – CEA – lare.sabatier@cea.fr Ines Amado – INSERM - ines.amado@inserm.fr
ALLISTENE titul.ALLISTENE suppl.	David Margery – INRIA - david.margery@inria.fr Violaine Louvet – UGA - violaine.louvet@univ-grenoble-alpes.fr
 Observatoire de Paris RENATER GENCI ONERA 	Hélène Veillard– helene.veillard@obspm.fr Patrick Donath – patrick.donath@renater.fr Philippe Segers – philippe.segers@genci.fr Sylviane Pascal – sylviane.pascal@onera.fr,
MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR.	Franck Gallerneau - Franck.Gallerneau@onera.fr

European definition of research infrastructures 2015 (H2020):

Research infrastructures are resources, facilities and services, that are used by the research communities to conduct research and foster innovation in their fields. They include major scientific equipment, knowledge-based resources, environmental networks, e-infrastructures. They can be single sited, virtual and ditributed.





OVERVIEW 2019: 1 CALL COMING - 1 TOPIC

Call 1: Development and LTS of New Pan-European RIs ■ INFRADEV-01-2019-2020 Design studies (25/07/2019 – 12/11/2019)

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

- Conceptual and technical feasibility of new or upgraded research user facilities, leading to a « conceptual or technical design report »
- Need to demonstrate relevance and advancement with respect to the state-of-the art as well as the addressing of research challenges and RI landscape gaps
- Bottom-up process, only one deadline 12/11/2019 but budget over 2 years
- 50% budget increase for the 2019 topic with respect to the 2017 corresponding topc
- Budget **30M€** EU contribution per proposal between **1-3 M€**
- Very competitive topic as aimed at identifying the RIs that really have the potential to become the next generation of European world-class RI



OVERVIEW 2020: 5 CALLS – 8 TOPICS

- Call 2: Implementing the EOSC
- INFRAEOSC-03-2020 (CNECT)
- INFRAEOSC-07-2020 (CNECT)

Call 3: Integrating and opening RI of European Interest INFAIA-02-2020 (IA Starting communities) INFRAIA-03-2020 (IA Pilot)

Call 4: European Data Infrastructure ■ INFRAEDI-05-2020 (CNECT)

Call 5: Role of RIs in the Translation of OS into Open Innovation

- INFRAINNOV-03-2020 (co-innovation platforms)
- INFRAINNOV-04-2020 (innovation pilot)

Call 6: Support to Policy and International Cooperation

■ INFRASUPP-02-2020 (HR)







CALL 2: IMPLEMENTING THE EOSC

■ INFRAEOSC-03-2020 (RIA; 30 months; 40,9M€; 19/11/2019 – 22/04/2020) Integration and consolidation of the pan-European access mechanism to public research infrastructures and commercial services through the EOSC Portal

Objective: Consolidationg and scaling up the EOSC portal and its underlying service platform

- The EOSC portal is ready to offer an increasing number of services from a wide range of providers, including commercial services
- Access channel to integrated, composable and reliable services
- Attracting more users

Scope:

- Operation, maintenance and enhancement of the EOSC portal
- Fostering and enabling secure service composability
- User enhance experience using AI
- Widening the user base
- Widening the service offer with commercial services
- Outreach, skills and support to RDA

Building on the work already developed: EOSC portal, eInfraCentral, OCRE, etc. and in collaboration with ongoing INFRAEOSC projects



CALL 2: IMPLEMENTING THE EOSC

■ INFRAEOSC-07-2020 (RIA; 30 months; 24M€; 19/11/2019 – 22/04/2020) Increasing the service offer of the EOSC Portal

Objectives:

- Increasing the service offer of the EOSC portal
- Set-up a model for interaction between service providers and the EOSC portal operators

Area coverage:

- 1. Distributed and cloud computing resources
- 2. Data services
- 3. Services supporting scholary communication and open access
- 4. Above the net services
- 5. Services and resources from non research public sector data providers
- 6. Additional sereach enabling services

Scope:

- Mature services to be integrated into the EOSC access channel (INFRAEOSC-03)
- Interaction with INFRAEOSC-03through bilateral collaboration agreements: terms and conditions for the provision of services
- Prominent role of pan-European e-Infrastructures as EOSC portal interlocutors
- Funding should cover the costs incurred by service providers when their services are accessed through the EOSC portal:
 - 80% of total budget
 - Virtual access



INFRAIA-02-2020

Integrating Activities for Starting communities 28/11/2019 – 17/03/2020

RI communities never supported for their integration under EU FPs
 Bottom-up approach, one-stage call, deadline March 2020

- Indicative budget 110 M€, up to 5M€ of EU contrib. per GA (RIA)
- Emphasis on networking, standardisation and common access procedure, complementarity and coherence with the existing European RI landscape; on the contribution to a catalogue of RI services and on the adoption of the European Charter for Access to RI



INFRAIA-02-2020 INTEGRATING ACTIVITIES FOR STARTING COMMUNITIES

Specific Challenge:

European researchers need effective and convenient access to the best research infrastructures in order to conduct research for the advancement of knowledge and technology. The aim of this action is to bring together, integrate on European scale, and open up key national and regional research infrastructures to all European researchers, from both academia and industry, ensuring their optimal use and joint development.

Scope:

A 'Starting Community' has never been supported for the integration of its infrastructures under FP7 or Horizon 2020 calls, in particular within an integrating activity.

Consortium:

An Integrating Activity will mobilise a comprehensive consortium of several key research infrastructures in a given field as well as other stakeholders (e.g. public authorities, technological partners, research institutions) from different Member States, Associated Countries and other third countries when appropriate, in particular when they offer complementary or more advanced services than those available in Europe.



INFRAIA-02-2020 INTEGRATING ACTIVITIES FOR STARTING COMMUNITIES

Funding:

Funding will be provided to support, in particular:

• the trans-national and virtual access provided to European researchers

(and to researchers from Third Countries under certain conditions: user teams where all or the majority of users works in third countries can be supported as far as the cumulative access provided to them is below 20% of the total amount of units of access provided under the grant),

- the cooperation between research infrastructures, scientific communities, industry and other stakeholders,
- the improvement of the services the infrastructures provide,
- the harmonisation, optimisation and improvement of access procedures and interfaces.

Proposals should adopt the guidelines and principles of the **European Charter for Access to Research Infrastructures.**



NFRAIA-02-2020 NTEGRATING ACTIVITIES FOR STARTING COMMUNITIES

An Integrating Activity shall combine the three mandatory categories :

Networking activities (NA), Trans-National Access (TNA), Joint Research Activities (JRA)

- **1. Networking activities (NA)**, to foster a culture of co-operation between research infrastructures, scientific communities, industries and other stakeholders as appropriate, and to help develop a more efficient and attractive European Research Area. Networking activities could include:
- Joint management of access provision and pooling of distributed resources
- Dissemination of project results, contribution to socio-economic impact, promotion of innovation
- Reinforcing partnership with industry
- Definition of common standards and interoperability
- Development and maintenance of common databases
- Spreading of good practices
- Outreach and training courses.....

2. Trans-national access or virtual access activities (TNA), to support scientific communities in their access to the identified key research infrastructures.

Should be implemented in a coordinated way to improve the overall services available to the research community. Access may be made available to external users, either in person or through the provision of remote scientific services, such as the provision of reference materials or samples.





INFRAIA-02-2020 INTEGRATING ACTIVITIES FOR STARTING COMMUNITIES

3. Joint research activities (JRA), to improve, in quality and/or quantity, the integrated services provided at European level by the infrastructures.

- They should involve, whenever appropriate, industries and SMEs to promote innovation and knowledge sharing through co-creation of needed technical solutions
- They could addess:
 - higher performance instrumentation, including the testing of components, techniques and dedicated software
 - Integration of installations and infrastructures into virtual facilities
 - Innovative solutions for data or sample collection, management, curation, annotation, and deposition
 - Creation of specific services for supporting research addressing larger research chaqllenges

Digital services developed under the joint research activities should be exposed under the EOSC catalogue.



INFRAIA-02-2020 INTEGRATING ACTIVITIES FOR STARTING COMMUNITIES

- Data management plan: efficient curation, preservation and provision of access to the data, interoperability, data and computing services. Proposals should build upon the state of the art in ICT and e-infrastructures for data, computing and networking, and ensure connection to the European Open Science Cloud.
- Partnership with industry, public administrations and/or other stakeholders, through e.g. transfer of knowledge and other dissemination activities, involvement of industrial associations in consortia or in advisory bodies.
- Exploitation of synergies, complementarity and coherence with the existing European and international Infrastructures landscape.
- Clear indicators allowing the assessment of the progress towards the general and specific objectives.

As the scope of an integrating activity is to ensure coordination and integration between all the key European infrastructures in a given field and to avoid duplication of effort, at most **one proposal per field is expected to be** *submitted.*

Integrating activities for starting communities range across all areas of science and technology – not restrict services to too narrow research fields and address wider scientific communities, even multidisciplinary ones.

The Commission considers that proposals requesting a contribution from the EU of **up to EUR 5 million** would allow this topic to be addressed appropriately.



INFRAIA-03-2020

Pilot for a new model of Integrating Activities 28/11/2019 – 17/03/2020

Objective:

- Develop new ways for opening RI of European interest and support the integrating provision at EU level of their services
- Harmonise national and European procedures for providing access
- Prepare the ground for supporting networks that bring together national, regional and European funders of research infrastructures for the co-funding of transnational access of researchers

Target:

- Targeted approach (3 areas). **One stage call**: deadline March 2020
- Targeting larger sets of Ris, gathering close advanced communities to develop and implement a programme focussing on access provision, harmonisation of access procedures in the EU, and integration.

Indicative budget: 45M€, up to 15M€ of EU contribution per GA (RIA)



INFRAIA-03-2020

Pilot for a new model of Integrating Activities

Scope

- Virtual and trans-national access provision to Ris internal and external to the consortium, the latter supported through cascade granting
- Joint activities to facilitate and integrate the access procedures, improve the services the infrastructures provide and further develop on-line services, ensuring their connection to the EOSC
- Develop and trial models, mechanisms and practices for the long-term engagement of funders in supporting and making trans-national access sustainable beyond the EU funding.
 - In particular, in line with the EU charter for Access, Ris offering access and/or their funding agencies, should aim at adapting their national calls for access (if any) to the same excellence based selection procedure used, at European level, in the project and possibly let the project manage their national calls, even if the resulting access provision will be supported with national funds. Transnational acess and access provided by pan-European RI (ESFRI) will instead be supported by the EU.



INFRAIA-03-2020

Pilot for a new model of Integrating Activities

Thematic coverage:

- Access to RI for research on Atmosphere: ACTRIS-2 (aerosol, clouds and trace gases), InGOS (non CO2 greenhouses gas observation system), EUROCHAMP-2020 (simulation chambers for investigating atmospheric processes)
- Access to RI for advanced research in micro-nano technologies for materials: NFFA-Europe (nano foundries), Qnano (quality in nanomaterials safety testing), EUMINAfab (micro-nano fabrication of functional structures)
- RI for advanced optical / RI and radio astronomy: OPTICON (optical infrared network for astronomy), RadioNet (advanced radio astronomy)



CALL 4: EUROPEAN DATA INFRASTRUCTURE

INFRAEDI-05-2020 (CNECT)

Centers of excellence in exascale computing 07/07/2019 – 09/10/2019

- Support CoEs that promote the use of upcoming exascale and extreme performance computing capabilities
- User communities in collaboration with other HPC stakeholders can develop or scale up existing parallel codes towards exascale and extreme scaling performance
- Contribute to European excellence in applications

Budget : 20M€

Objectives

Duration of the projects: 24 – 36 months

This topic builds and complements the Call INFRAEDI-02-2018 HPC PPP - Centres of Excellence on HPC applications

Linking and complementing existing CoEs and specific support action (FocusCoE)



CALL 4: EUROPEAN DATA INFRASTRUCTURE

INFRAEDI-05-2020

Centres of Excellence in exascale computing

Beyond what existing CoEs are implementing

Area coverage:

Engineering

Material sciences

Emerging topics not addressed by the existing CoEs

- Scope:
- User-driven co-desing to ensure that future HPC architectures are wellsuited for the applications and their users
- Federate existing resources around Europe exploiting available competences, and ensuring multidisciplinarity and synergies with national / regional programmes
- Include users communities from EU countries currently developing and advancing their HPC infrastructure and ecosystem



CALL 4: EUROPEAN DATA INFRASTRUCTURE

INFRAEDI-05-2020 (CNECT)

Centers of excellence in exascale computing

Impact:

- European leadership in exascale and extrem-scale oriented codes and innovative solutions
- Improved access to computing applications and expertise
- Increased access to and uptake of applications in those countries currently developing and advancing their HPC infrastructure and ecosystem
- Improved competitiveness for European companies and SMEs
- Federating capabilities and integrating communities around computational science in Europe
- Complementarity and synergy with existing Centres of Excellence on HPV applications
- A larg number of scientists and engineers trained in the use of computational methods and optimisation of applications



Key recommendations for an action plan

Unlocking RI Innovation potential and stimulating industry engagement

New challenges:

- Develop instrumentation and technologies in a co-creation process, by stimulating large scale initiatives and pilots involving industry, RI and academia
- Develop strategic roadmaps in key technologies required for the construction and upgrades of the pan European RI in synergy other European Research Initiatives (such as EIT, KICs and KETs)

Launch large-scale pilots involving European research Infrastructures and industry in order to implement ina short time frame a number of public/private initiatives



Large initiatives and support measures to foster the innovation potential of research infrastructures:

INFRAINNOV-03-2020 Co-Innovation platform for research infrastructure technologies

INFRAINNOV-04-2020 Innovation pilots

65M€ for the two 2020 topics



INFRAINNOV-03-2020 Co-Innovation platform for research infrastructure technologies 28/11/2019 – 17/03/2020

Objective:

- Follow-up of topic INFRAINNOV-01-2017 (Fostering co-innovation for future detection and imaging technologies)
- Support breakthrough innovation and co-innovation process

Target:

Second phase of the ATTRACT project, which purpose is to support in the first phase the proof of concept pf many of many proposals and in the second phase the R&D of the most promising proposals



INFRAINNOV-03-2020

Co-Innovation platform for research infrastructure technologies

Scope:

- Cascade funding necessary
- Selection of projects based on external independent peer review process
- Emphasis on impact and dissemination strategy
- Complementarities with pilot innovation topic required (collaborative agreement)

Budget: 35M€



INFRAINNOV-04-2020 Innovation pilots 28/11/2019 - 17/03/2020

Objective:

- Support RI networks developing and implementing a common strategy/roadmap including technological development required for improving their services through partnership with industry
- Support incremental innovation and cooperation with industry and academia in areas such as scientific instrumentation

Target:

Advanced Integrated Activities, which have reached a high level of integration and can focus on joint research developments



INFRAINNOV-04-2020

Innovation pilots

Thematic coverage:

- Innovation in light sources: CALIPSO plus (access to light sources)
- Innovation in detectors technologies: AIDA-2020 (infrastructures for detectors and accelerators)
- Innovation in accelerators technologies: ARIRES (accelerator research and innovation)

Budget: 30M€



CALL 6: SUPPORT TO POLICY AND INTERNATIONAL COOPERATION

INFRASUPP-02-2020 Strengthening the human capital of RIs 28/11:2019 – 17/03/2020

Scope:

- Training of staff managing and operating RI
- Exchange of staff and best practicies between facilities
- Adequate supply of skilled human resources, including through the development of specific education curricula and cources
- Emphasis on the development of data management, exploitation and stewardship skills, in line with the FAIR principles, including the mastering of the data protection features.

Based on RAMIRI and RItrain past activities and gained experience

Budget: 2M€



MERCI!











INFORMATIONS / ACTUALITÉS

1. Changements au sein de la DG Recherche, Changements au sein de la DGRI

2. Plan d'action national d'amélioration de la participation française aux dispositifs européens de financement de la recherche et de l'innovation

3. Actualités ESFRI



1. ACTUALITÉS

Changements au sein de la DG Recherche:

- Adam Tyson: Nouveau chef de l'unité « research and industrial Infrastructures » :

Changements au sein de la DGRI:

- Monica Dietl: Coordinatrice du Plan d'action national d'amélioration de la participation française aux dispositifs européens de financement de la recherche et de l'innovation





2. PLAN D'ACTION NATIONAL D'AMELIORATION DE LA PARTICIPATION FRANÇAISE AUX DISPOSITIFS EUROPÉENS DE FINANCEMENT DE LA RECHERCHE ET DE L'INNOVATION

Axe 1 – Inciter

- Mesure 1: Mettre en place un cadre RH favorable à la participation des chercheurs
- Mesure 2: Mobiliser les acteurs via le dialogue contractuel pour augmenter la participation et la coordination des projets
- Mesure 3: Articuler les opportunités de financement pour rendre l'offre européenne plus attractive
- Mesure 4: Mener des actions de communication ciblées et adaptées aux differents acteurs concernés par le PCRI





2. PLAN D'ACTION NATIONAL D'AMELIORATION DE LA PARTICIPATION FRANÇAISE AUX DISPOSITIFS EUROPÉENS DE FINANCEMENT DE LA RECHERCHE ET DE L'INNOVATION

Axe 2 – Accompagner

Mesure 5: Un réseau national restructuré professionnalisé et plus efficace Mesure 6: Affirmer le rôle du niveau régional comme échelon-clef des structures institutionnelles de la coordination des acteurs de la recherche et de l'innovation

Mesure 7: Renforcer le ciblage de l'accompagnement envers le secteur privé

Mesure 8: Structurer au niveau des sites l'accompagnement à la participation et la coordination de projets



2. PLAN D'ACTION NATIONAL D'AMELIORATION DE LA PARTICIPATION FRANÇAISE AUX DISPOSITIFS EUROPÉENS DE FINANCEMENT DE LA RECHERCHE ET DE L'INNOVATION

Axe 3 – Influencer

Mesure 9: Garantir une présence d'experts nationaux détachés (END) français forte au sein des instances communautaires Mesure 10: Développer une plateforme de service nationale à Bruxelles Mesure 11: Placer des chercheurs, industriels et acteurs de la recherche et de l'innovation français dans les groupes d'experts de la Commission Mesure 12:Influencer la préparation des textes européens de manière informelle Mesure 13:Influencer la préparation des textes européens en comité de

programme

Mesure 14: Piloter et suivre la mise en œuvre du plan d'action



3. ACTUALITÉS ESFRI

Réponse à la volonté de l'Europe de placer les infrastructures de recherche au cœur de la construction de l'espace européen de la recherche : *« tools.....for excellence and growth »* aux côtés de l'ERC et des actions marie Curie

Création en 2002 de l'ESFRI (European strategy forum on research infrastructures)

- concertation intergouvernementale
- élaboration de la liste idéale des IR européennes
- >>> feuilles de route ESFRI 2006, 2008, 2010, 2016, puis 2018
- >>> Mise en place du statut d'ERIC en 2009 (engagement de l'état)



ESFRI EVOLUTION AND UPDATES

■ The first three ESFRI roadmaps (yellow period 2006-2010) led to a portfolio of 40 projects

- In december 2012 the Competitiveness Council « Emphasises the need for renewing and adapting the mandate of ESFRIto adequately adress the existing challenges and also to ensure the follow up of implementation of already ongoing ESFRI projects after a comprehensive assessment, as well as the prioritisation of the infrastructure projects listed in the eSFRI roadmap »
- In 2013 ESFRI and the EC run an assessment of the ESFRI projects in view of Innovation Europe objective of implementing of 60% of the Roadmap by 2016. It was carried out by the ad-hoc high level expert assessment group and led to the conclusion on Ris being at different stages of implementation
- In 2014 ESFRI formulated the prioritization of support to ESFRI projects for implementation that led to the recommendation of special funding to 12 Ris that needed extra support to meet the 2916 implementation deadline
- In 2016 the new ESFRI roadmap (inaugurating the blue period) introduced the « eigibility maturity threshold » and the concept of 10-year cycle for Projects and defined the Landmarks
- The roadmap 2016 accordingly introduced the regular MONITORING of ESFRI Ris, in particular in view of 10-year expiration, and adressed the need of regular review of Landmarks.



ESFRI ROADMAP 2018

The ESFRI Roadmap identifies *new pan-European Research Infrastructures or major up-grades to existing ones*, corresponding to the needs of European research communities in the next 10 to 20 years, in all fields of Research. They are called *«Projects»*

The ESFRI Roadmap also identifies the **«Landmarks»** as RIs that were implemented or reached an advanced implementation phase under the Roadmap and that represent major elements of competitiveness of the ERA. The Landmarks can be already delivering science services and granting user access, or can be in advanced stage of construction witha clear schedule for the start of the operation phase. The Landmarks need continuous support and advice for successful completion, operation and – if necessary- upgrade to achieve optimal management and maximum return on

investment



- 18 projets de l'ancienne version de la roadmap ESFRI
 - 6 (roadmap 2010)
 - 6 (roadmap 2016)
- 6 nouvelles IR en 2018

TOTAL : 18 « Projets » sur la feuille de route 2018

Projets des roadmaps ESFRI 2006, 2008 + 2 upgrades 2016 (ESRF phase 2 et LHC)

- Excellence scientifique et technologique
- Statut, gouvernance, ouverture et modèle économique

TOTAL: 37 « Landmarks »

Introduction of a Lifecycle approach From projects to Landmarks

The evolution in time of ESFRI Projects and ESFRI Landmarks
 The needs and targets of the implementation phase are understood as a sequence of phases from the Concept to Operation and to Termination

Concept Development – Desing – Preparation – Implementation – Operation - Termination



NEW MANDATE OF COUNCIL MAY 2018

In May 2018 the Competitiveness council « invites member States and the Commission within the framework of ESFRI to develop a common approach for monitoring of their performance and ... invites the paneuropean research infrastructures on a voluntary basis, to include it in their governance and explore options to support this through the use of Key Performance Indicators »

ESFRI consequently decided to create an ad-hoc Working Group on monitoring in september 2018

November 19-20 2018: ESFRI workshop to address Landmark periodic update method and the mandate of monitoring



ESFRI ELECTIONS AND NEXT ROADMAP UPDATE

A new ESFRI chair was elected in June 2018: Jan Hrusak
 New mandate of the Executive board and Strategic Workin Group Chairs

ESFRI needs time to respond effectively to the new mandates from the Council. This work would feed into the next roadmap process.

Taking into account lessons learnt from the Roadmap 2018, there is a need for reflection on the roadmap methodology – e.g. concerning cost analysis, monitoring, specific / flexible grid of criteria for different type of Ris

EFRI Roadmap update announcement: September 2019

Adoption of the Roadmap can be scheduled for March 2021or June 2021, so that the Launch event will occur during the Slovenian Presidency late in October 2021.



REPRÉSENTANTS FR A L'ESFRI

Elidabeth Vergès, directrice SSRI/DGRI – délégué au forum ESFRI, membre de l'Executive Board

- Christian Chardonnet, chef du département des infrastructures de recherche, SPFCO/DGRI – délégué au forum ESFRI, chair de l'implimentation group
- Elena Hoffert SPFCO/DGRI expert au forum ESFRI
- Xavier Montagne SSRI/DGRI membre du SWG Energy
- Marie-Hélène Mathon SSRI/DGRI membre du SWG Physics
- Jean-Marie Flaud SSRI/DGRI membre du SWG Environment
- Nicolas Dromel SSRI/DGRI membre du SWG Social and Cultural Innovation
- Eric Guittet SSRI/DGRI membre du SWG Health and Food
- Patrick Garda SSRI/DGRI membre du SWG Digit





Elena Hoffert elena.hoffert@recherche.gouv.fr

MESRI/DGRI/SPFCO/B4

