

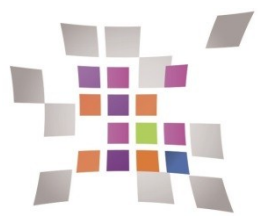


FAIR EOSC Ado2019 : journée thématique sur les autorités de données

Philippe Segers / GENCI - Head of European HPC projects
Acting on behalf of PRACE within EOSCpilot project

WARNING: views expressed within this presentation are not official position of GENCI, nor PRACE, nor EOSCpilot, nor EC

Point de contact national EOSC: gavin-connor.fox@recherche.gouv.fr



FAIR

Presentation

Outline

- ❑ EOSC overview
- ❑ EOSC avancement
- ❑ EOSC gouvernance
- ❑ FAIR EOSC
- ❑ EOSC future
 - Science ouverte et reproductible

EOSC overview

Digital Single Market roots



Un nuage qui arrive
du Luxembourg...

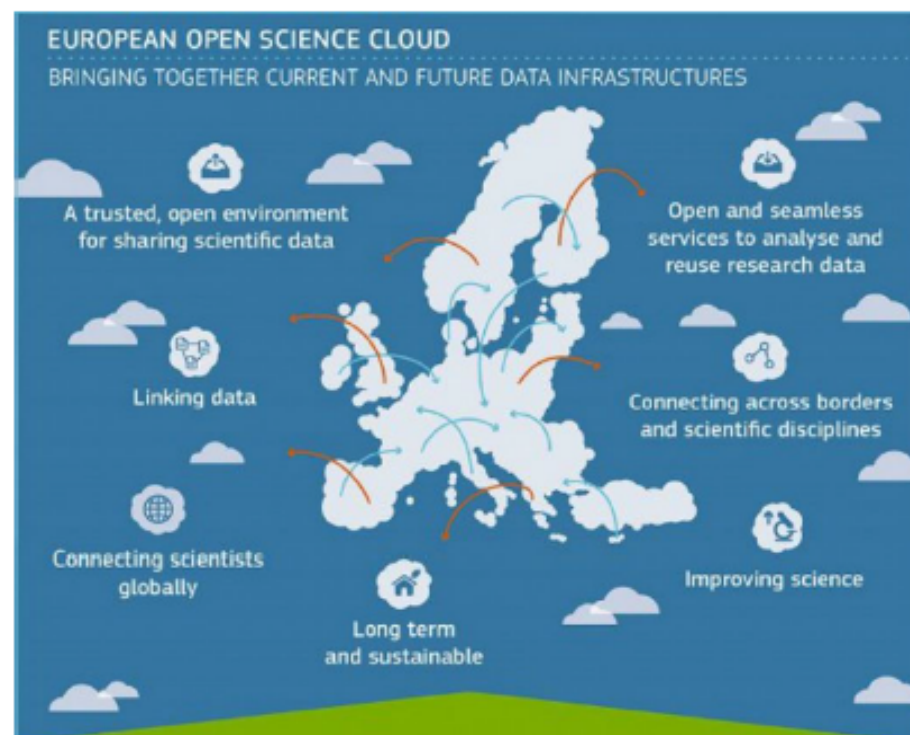
A large, semi-transparent purple-tinted image of Jean-Claude Juncker, President of the European Commission, speaking into a microphone. He is wearing glasses, a white shirt, a patterned tie, and a dark suit jacket. His right hand is raised in a gesture.

« Digital technologies are going into every aspect of life. All they require is access to high speed internet. We need to be connected, our economy needs it, people need it. »

**Jean-Claude Juncker,
State of the Union Address,
European Parliament, 14 Sept. 2016**

A Cloud for research data in Europe

- **Vision** -“ EOSC will provide 1.7m EU researchers an environment with free, open services for data storage, management, analysis and re-use across disciplines”
- **Roadmap** for implementation (6 pillars: architecture, data, services, access&interface, rules, governance - March 2018)
- **Funding** (EU and MSs investment)
- **Member States support** (Council Conclusions May 2018)
- **Governance framework:** Executive Board, Governing Board and Stakeholders Forum -November 2018
- A framework of **Commons** to organize a consistent system of **RIs and e-Infrastructures**



□ EOSC aims to support three objectives:

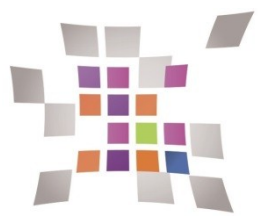
1. to increase value of scientific data assets by making them easily available to a greater number of researchers, across disciplines (interdisciplinarity) and borders (EU added value) and
2. to reduce the costs of scientific data management, while
3. ensuring adequate protection of information/personal data according to applicable EU rules (e.g., REGULATION (EU) 2016/679).

□ Un environnement virtuel

- Doté de services:
 - pour le stockage, la gestion, l'analyse, la réutilisation des données de recherche
 - au-delà des frontières et des disciplines scientifiques
- En fédérant les infrastructures de données scientifiques existantes
 - actuellement dispersées entre disciplines et pays

□ Un système décentralisé de systèmes (SdS)

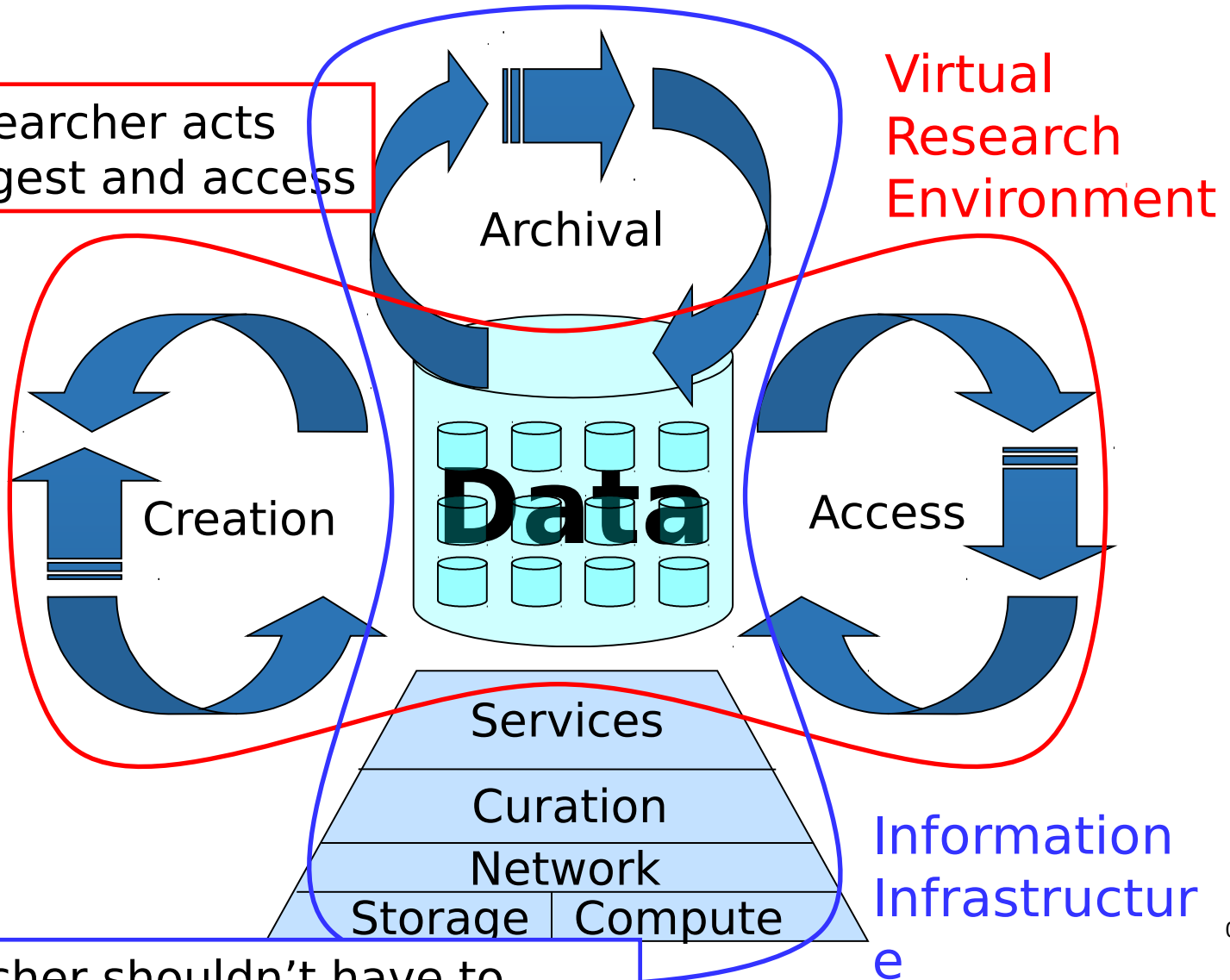
- Basé sur la collaboration et la coordination:
 - de composantes fournies et gérées indépendamment
 - par des organisations locales, régionales, nationales / internationales
- EOSC démontrera:
 - l'utilisation des infrastructures numériques existantes d'une manière combinée,
 - au-delà des disciplines et des frontières,
 - afin de réaliser les objectifs des principes de FAIR pour le partage des données
- EOSC déterminera l'interopérabilité nécessaire à l'utilisation efficace des services et équipements informatiques, ainsi que des données scientifiques



EOSC overview

a Data-centric view

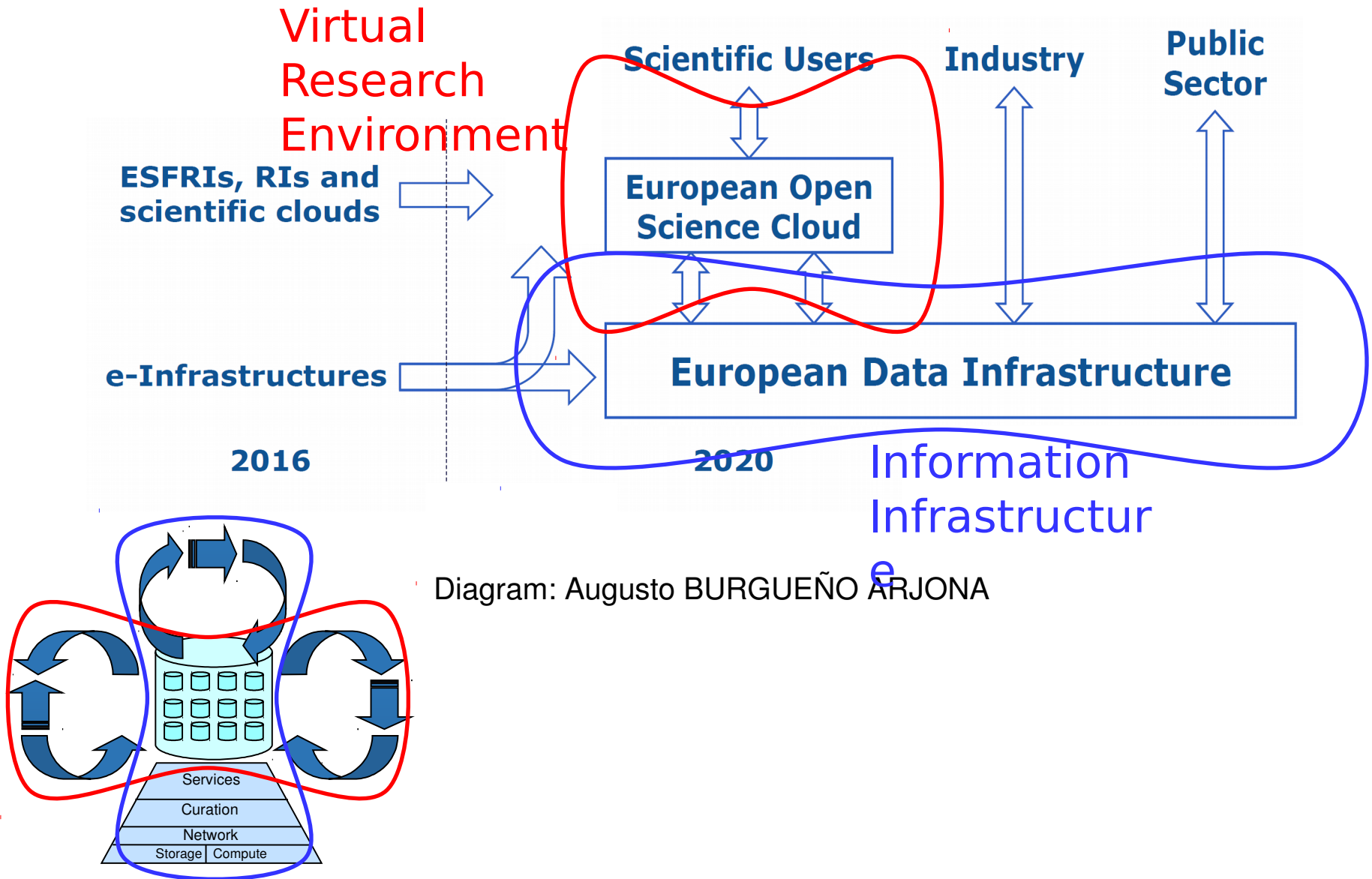
the researcher acts through ingest and access

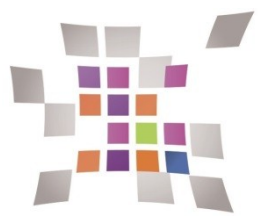


the researcher shouldn't have to worry about the information infrastructure

EOSC overview

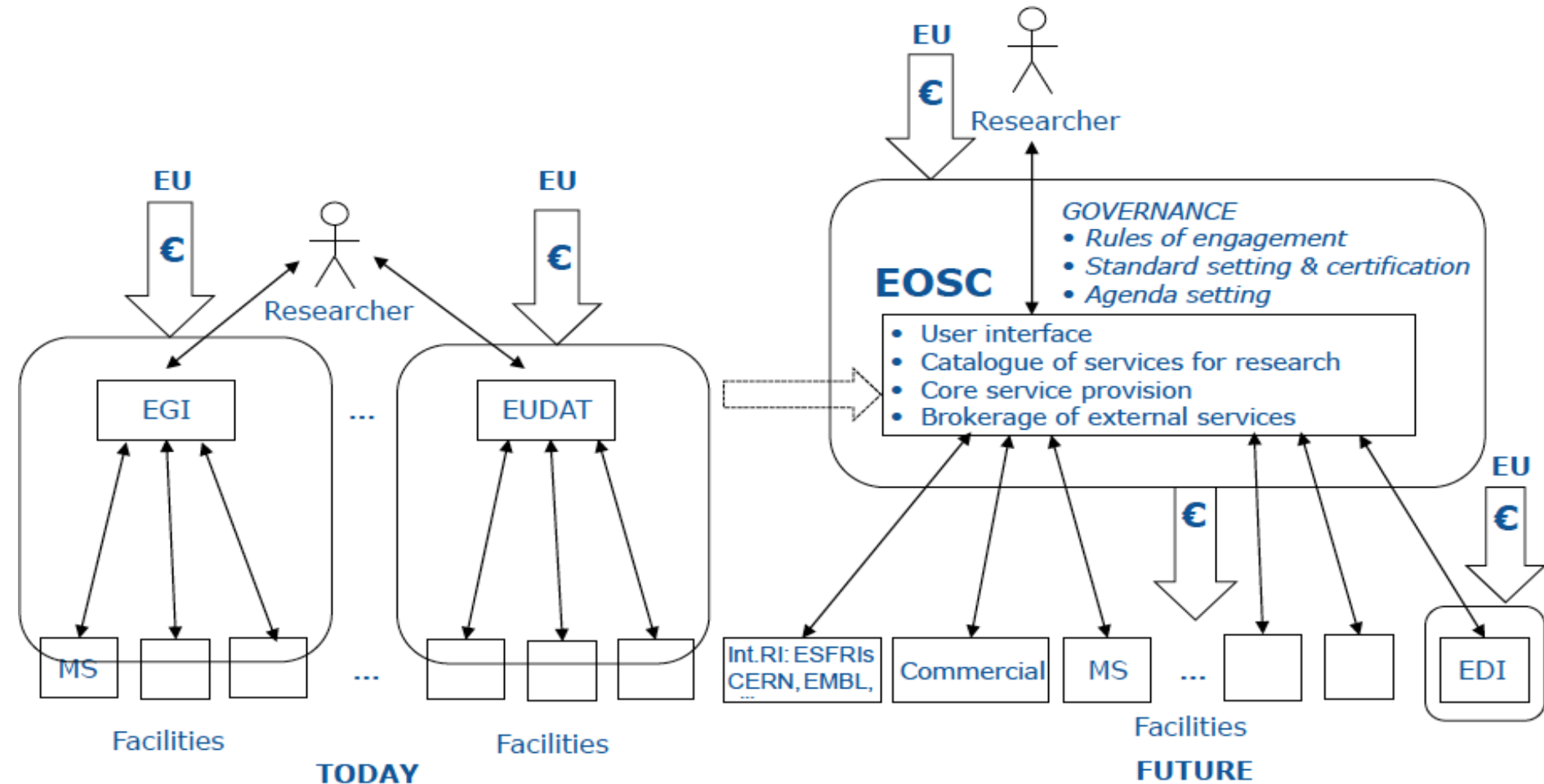
Evolution of infrastructure

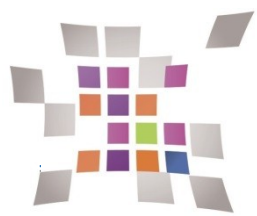




EOSC overview

Evolution from a user perspective





EOSC **Landscape** **avancement** **pe**

Domain-side / User communities

Communities
/disciplines /
Alliances

GO FAIR
GFISCO
FR

RDA
France

OPENaire
Node FR

Services
FAIRification

Training

Networks
RENATER

Storage
CINES /
Community
dépositaires

Cloud
providers
France
Grilles / cc-
IN2P3 Gricad

HPC
GENCI

Infra / e-Infra structures

EOSC avancement

Work in progress (1/2)

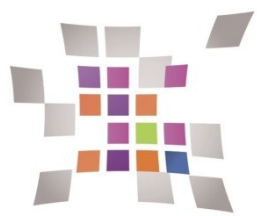


EOSC advancement

Work in progress (2/2)

EOSC Signatories





EOSC

EOSC portal – a pilot

Un portail, qui pointe vers des services (référencés).

On accède à des données via un service (pas d'interface télépathiques)

Référencés dans un catalogue de service (eInfraCentral) !

Il n'y a pas de référencement neutre (même/surtout automatisé...)

[My Services](#) [Profile](#) [Contact Us](#) [Login](#)



EUROPEAN OPEN
SCIENCE CLOUD

[About](#) [Governance](#) [Services & Resources](#) [Policy](#) [EOSC in Practice](#) [Media](#) [For providers](#) [Search](#)

The European Open Science Cloud (EOSC)

Offers 1.7 million European researchers and 70 million professionals in science and technology a virtual environment with open and seamless services for storage, management, analysis and re-use of research data, across borders and scientific disciplines.

[More about EOSC](#)

<https://www.eosc-portal.eu/>

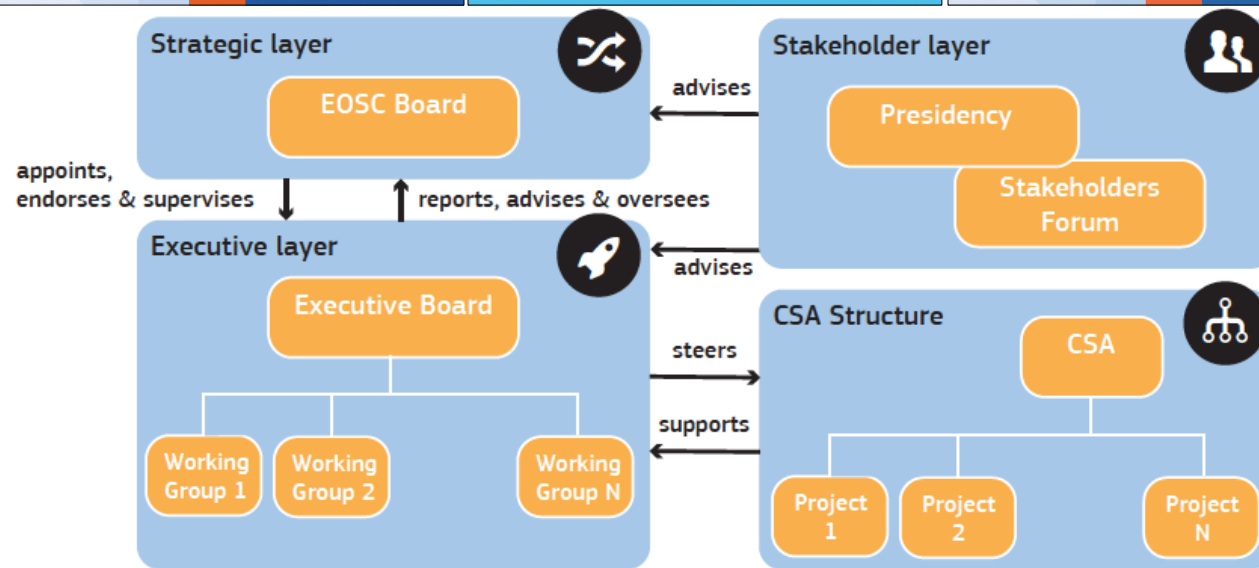
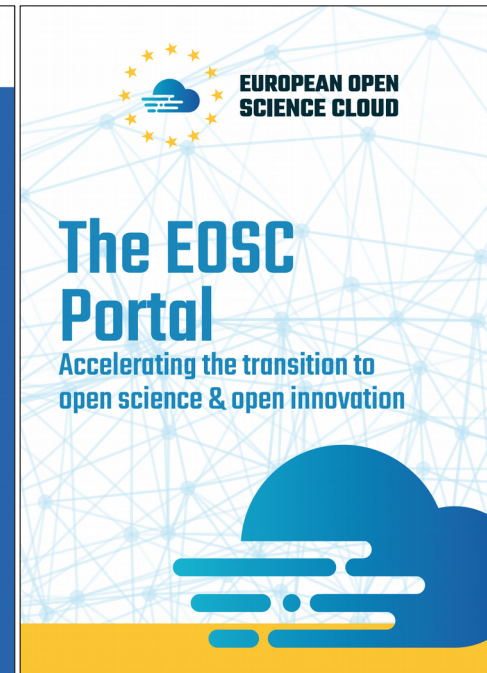
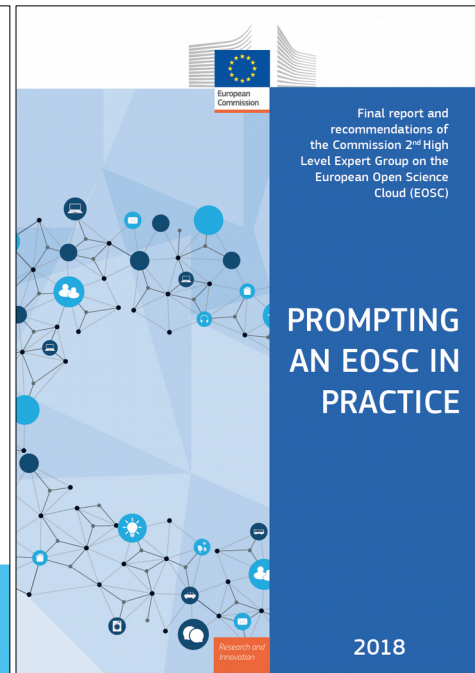
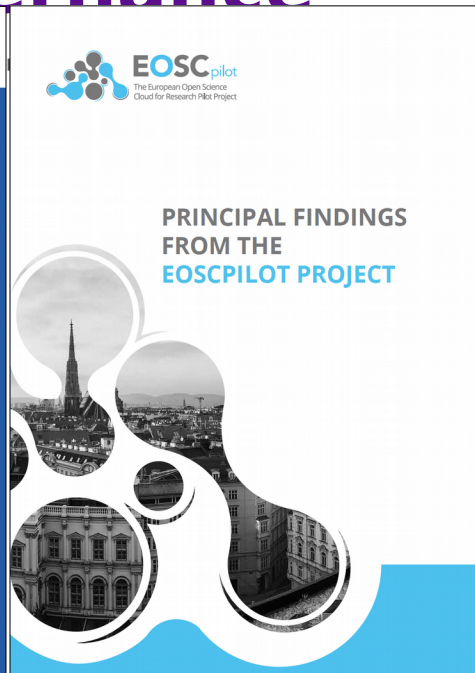


EOSC **Service** **Governance** **Portfolio**

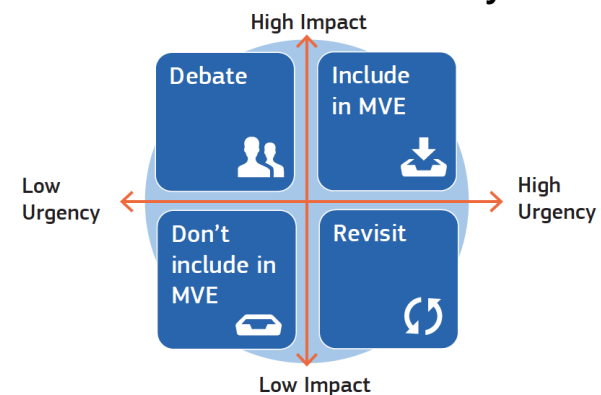
Rule(s) of participation (core services):
appartenance à un catalogue de service !

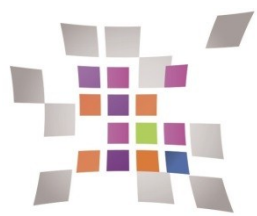


EOSC Must Governance



Minimum Viable Ecosystem





FAIR Recommendations

Prégnance des “bonnes pratiques” FAIR (indépendamment d'EOSC)
Data déluge... Importance des catalogues de services et des méta-données.
Nécessaire au traitement « machine ». **ENJEUX DE STANDARDISATION**

Define

Implement

Embed and sustain

Concepts for FAIR implementation

Rec. 1: Define FAIR for implementation

Rec. 2: Implement a Model for FAIR Digital Objects

Rec. 3: Develop components of a FAIR ecosystem

Rec. 16: Apply FAIR broadly

Rec. 17: Align and harmonise FAIR and Open data policy

FAIR culture

Rec. 4: Develop Interoperability frameworks

Rec. 5: Ensure data management via DMPs

Rec. 6: Recognise & reward FAIR data & stewardship

Rec. 18: Cost data management

Rec. 19: Select and prioritise FAIR digital objects

Rec. 20: Deposit in Trusted Digital Repositories

Rec. 21: Incentivise reuse of FAIR outputs

FAIR ecosystem

Rec. 7: Support semantic technologies

Rec. 8: Facilitate automated processing

Rec. 9: Certify FAIR services

Rec. 22: Use information held in DMPs

Rec. 23: Develop components to meet research needs

Rec. 24: Incentivise research infrastructures to support FAIR data

Skills for FAIR

Rec. 10: Professionalise data science & stewardship roles

Rec. 11: Implement curriculum frameworks and training

Above line = priority recommendations

Below line = supporting recommendations

Incentives and metrics for FAIR data and services

Rec. 12: Develop metrics for FAIR Digital Objects

Rec. 13: Develop metrics to certify FAIR services

Rec. 25: Implement and monitor metrics

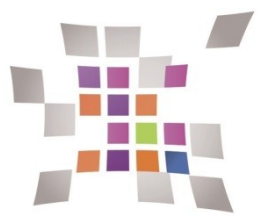
Rec. 26: Support data citation and next generation metrics

Investment in FAIR

Rec. 14: Provide strategic and coordinated funding

Rec. 15: Provide sustainable funding

Rec. 27: Open EOSC to all providers but ensure services are FAIR



EOSC future

which priority beyond FAIR implementation ?

EOSC priority (KPI) for Open Science reproducibility

- ⚙ **Technical KPI** (interoperability / security / ITIL)
 - ⚙ **Political KPI** (delivered in due time of H2020 / compete in the global (HPC/IA/...) competition / ideological / inspired)
 - ⚙ **Economical KPI** (Business Model Long Term Sustainability / most cheaper TCO / most job creation)
 - ⚙ **User driven KPI to address** (need of *most* people / need of *all* people / need of *most demanding* people / need of *best organized* people / need of *real* peoples (citizen sciences or society driven demand...))
-
- ➔ Depend on stakeholder (1st sponsor EC) expressed view
 - ➔ Depend on stakeholder adoption / usage *ad-hoc* standard
 - ➔ Depend on external *de-facto* standard (GAFA weight...)
 - ➔ Depend on incentive / constraint (DMP, FAIR, etc...) / market offers

H2020
INFRAEOSC Calls
> 250 Mio €

EOSC dedicated activities to build a European FAIR ecosystem

**Portal
development**

INFRAEOSC-06-2019

Enhancing the user experience

INFRAEOSC-03-2020

Portal integration & consolidation

INFRAEOSC-01-2018

Access to commercial services

INFRAEOSC-04-2018

Connecting ESFRI infrastructures

INFRAEOSC-05-b-2018-2019

Coordination of national initiatives

INFRAEOSC-02-2019

Prototyping new services for new users

INFRAEOSC-07-2020

Increasing the service offer

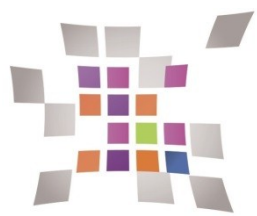
**New services
new users**

**Governance
and policy**

INFRAEOSC-05-a-c-2018

- EOSC coordination structure
- FAIR Data uptake and compliance





EOSC future

There is some other alternatives...



amazon academy

May 16

9:00- 10:30 a.m

The Square, Brussels

Keynote Speaker:

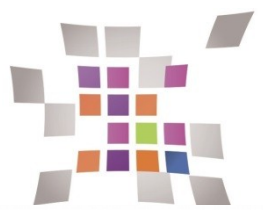
Ralf Herbrich

Director for Machine Learning Science, Amazon



<< Join Ralf Herbrich Amazon's Director of Machine Learning Science on May 16 at The Square, Brussels

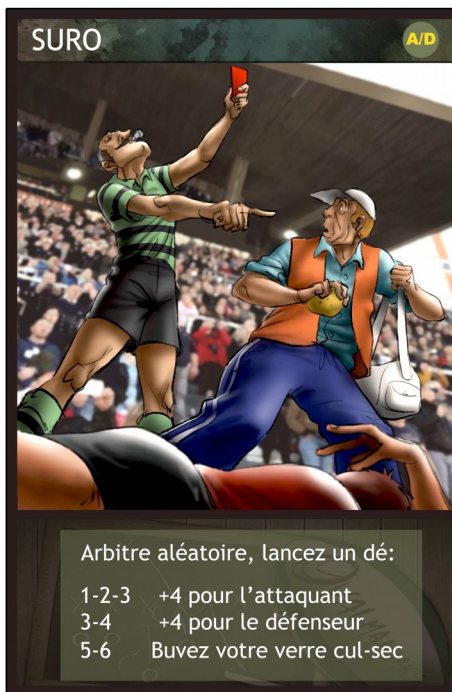
The next Brussels Amazon Academy will have a strong scientific focus built around the theme "Europe's next generation of innovation: How to enable individual scientists and researchers.">>



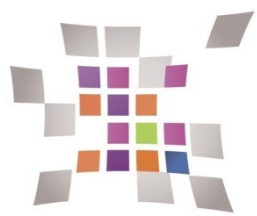
FAIR

EOSC

Summary (comment gagner en



- EOSC (and FAIR) is coming... mieux vaut l'anticiper !
- Introduction de nouvelles règles que l'on peut influencer - maintenant !
- La France dispose de toutes les compétences nécessaire pour ce jeu...
- Il faut intégrer EOSC (et les pratiques FAIR, DMP, etc) dans la coordination de nos projets, leur intégration. On a tout à y gagner, en particulier en termes de sciences reproductibles, d'optimisation des ressources...



THANK YOU FOR YOUR ATTENTION

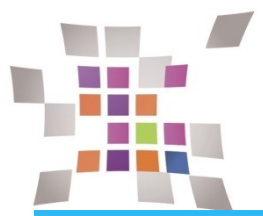


EOSC Overview (slides Horizontal & Vertical Supplementaries)



Domain Specific research infrastructures

Interdomain e-infrastructures

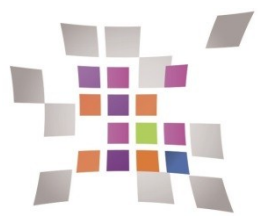


EOSC Overview (slides Supplémentaires)

Domain Specific user environments

Inter-domain Catalogue of Services

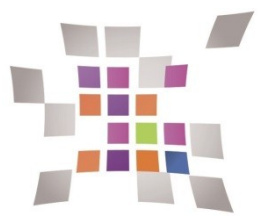
**Greater sharing of
Resources and Data
across RIs and els**



EOOSC Overview (slides Supplémentaires)



Domains “clustered” using EOOSC



EOSC Overview (slides

**Domain spécifique IR :
supplémentaires)**

interoperable horizontal

Domain Specific user environments sharing resources

Inter-domain Catalogue of Data and Services