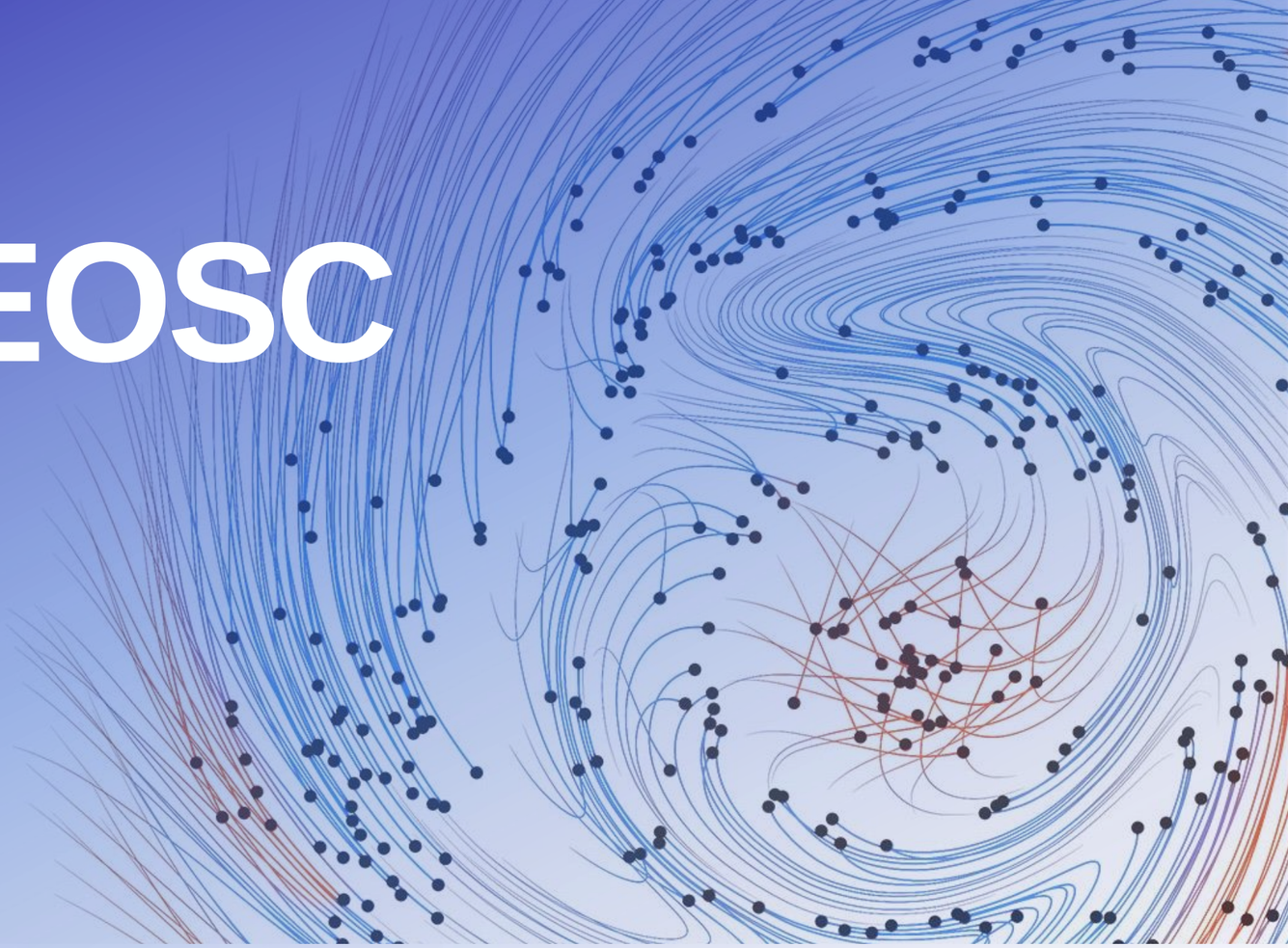
Natalia Manola
Managing Director
EOSC Executive Board Member

OpenAIRE in EOSC



@openaire_eu

EOSC

Why – What – How

Europe’s response to data driven research

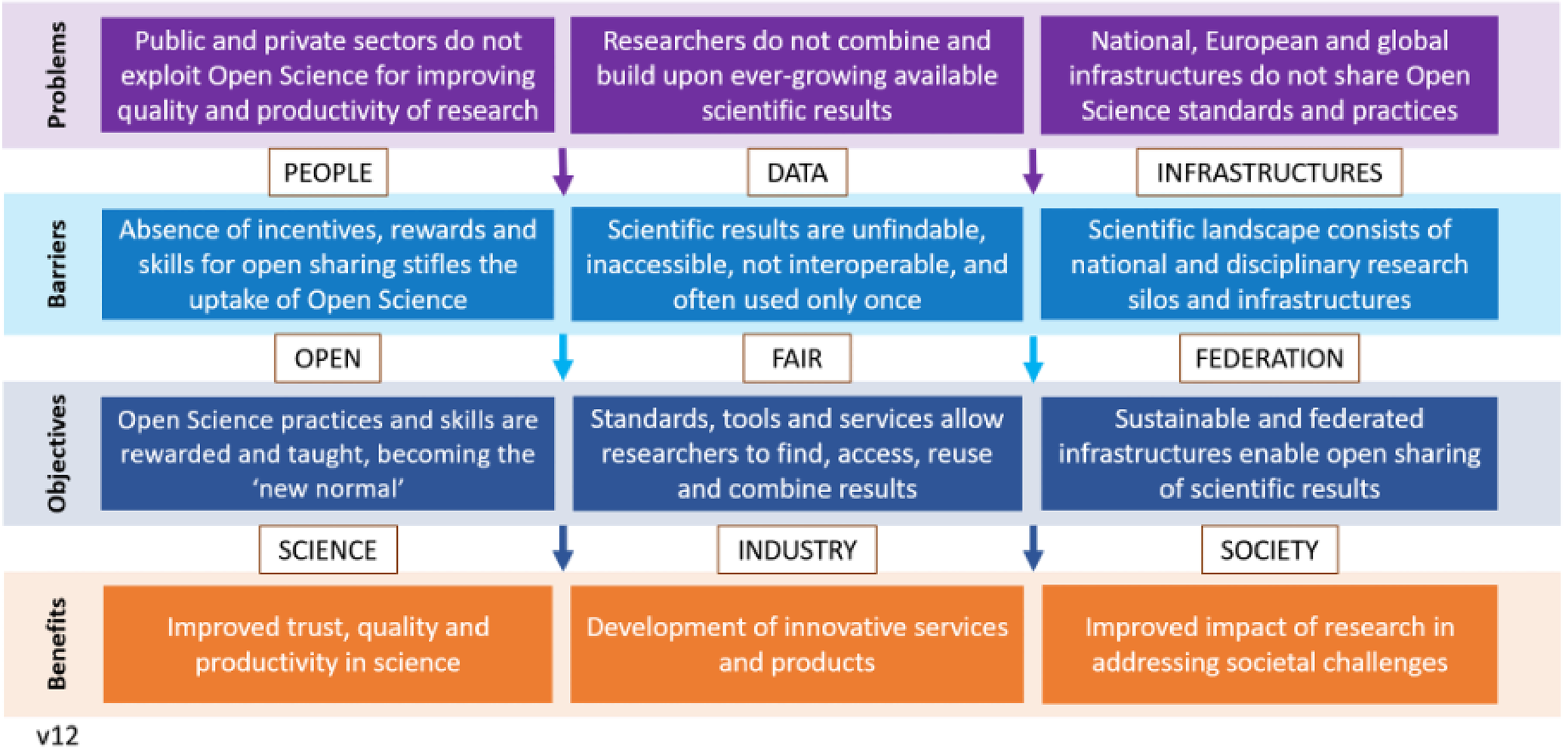
For researchers

- Tools to find, access, verify and combine multi-disciplinary scientific data for new discoveries
- Measures to increase data findability and accessibility
- Clear incentives and rewards for sharing

For policy makers

- Societal and global challenges demand cross-disciplinary research
- A lack of available FAIR data costs Europe €10 billion per year (PWC)
- Europe needs a data commons to maintain its position as global leader in innovation
- An increase in data resources will boost the usage of distributed machine learning and emerging artificial intelligence techniques giving Europe a competitive advantage

European Open Science Cloud Objectives Tree



From EOSC SRIA

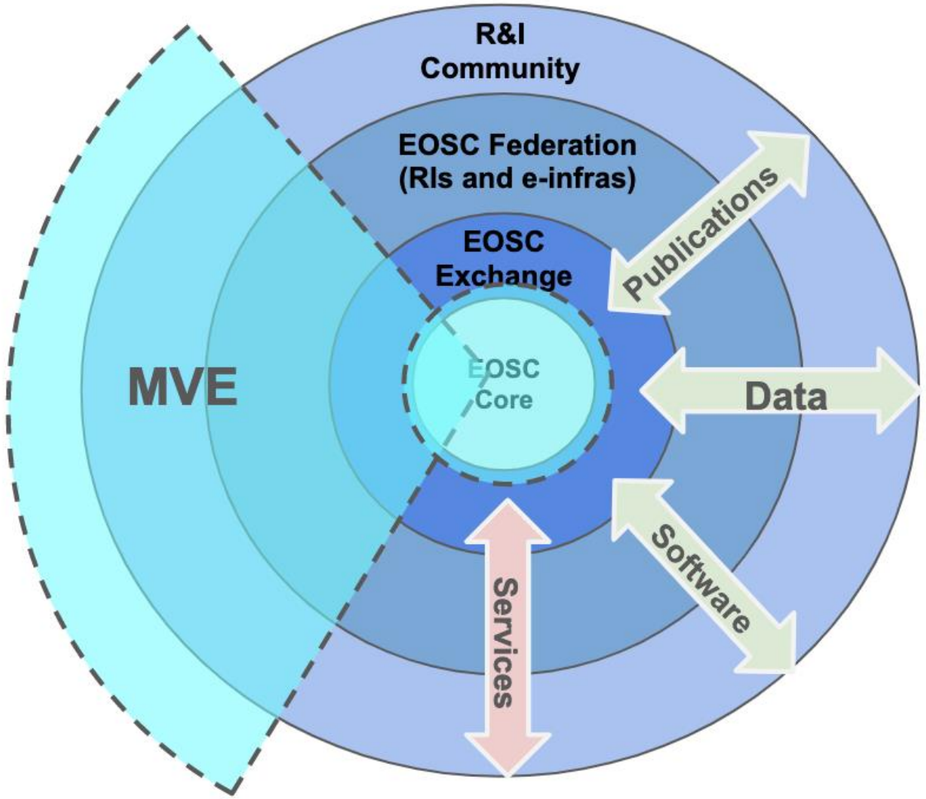
Openness is the success factor for EOSC

Free (at the point of use), uncomplicated and intelligent access to data

Open Science and specifically Open Access to all research results (data, publications, software, protocols, as well as tools and services) is a strategic priority, a key enabler into achieving a critical mass of accessible content for researchers to experiment with, stimulating the demand.

The EOSC will only be successful if there is enough researcher engagement and uptake

EOSC in a nutshell



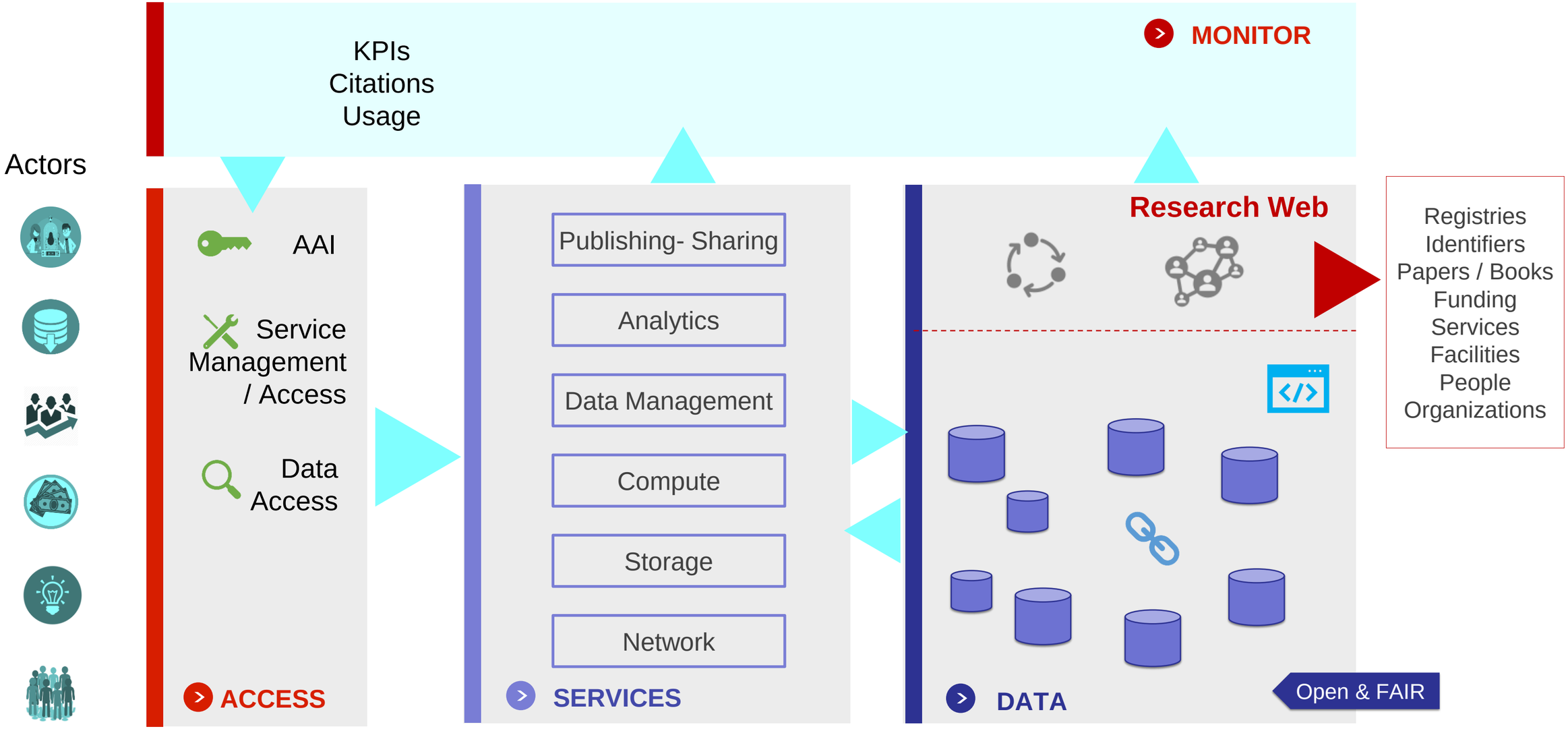
Sharing research outcomes **and** research resources – building on, learning from each other.

Unique Selling Point, adding value to existing EC and MS/AC investments – federation.

Driven by **Rules of Participation** – consensus

- Each layer defines its own policies (RoPs)
- **MVE** includes:
  - EOSC Core and subsets of EOSC Exchange, Federation
  - EOSC resources (services, research products) required to "market" the EOSC
  - Subset of the R&I community (showcases, e.g., COVID-19)

EOSC “deconstructed”



OpenAIRE vision for EOSC: 10.5281/zenodo.3610132

EOSC Core

- **A shared open science policy framework**. Embeds a data compliance framework for open / FAIR data. It defines and applies the rules of how the data elements are published, shared and re-used.
- **Authentication & Authorization Interoperability (AAI) framework**, a trust and identity service to allow seamless access to any EOSC resource
- **Data access framework.** Enable open interfaces where data consumers (users and machines) are able to discover and use data.
- **Service management and access framework.** Provide a consistent and agreed upon understanding of e-science services: what they offer, which science problem they address, what is their operational capacity, how they are accessed, who pays for them.
- **A minimum interoperable metadata framework**. Ensures openness and interoperability across disciplines while respecting privacy and security (disclosure limitations, patents, IP, personal data, PSI, etc.)
- **An open metrics framework**. Sets the rules (usage, performance, value for money, user satisfaction) for the assessment of EOSC elements, i.e., policies, access framework, services, data, business, funding and usage models. Includes elements to facilitate the incentives and awards mechanisms.
- **PID:** Services to generate, resolve and validate persistent identifiers.
- **Security policies and procedures.** Ensures consistent and coordinated security operations across the federated services.
- Operational support services.
- Web-portal including web-content as well as supply and demand facing services providing for accessing the EOSC resources.

Partnerships - An EU alignment mechanism

Horizon Europe will support European Partnerships to deliver on global challenges through concerted R&I effort with the Member States, private sector, foundations and other stakeholders.

EU Partnerships

- provide mechanisms to link R&I closely to policy needs,
- develop close synergies with national and regional programmes,
- bring together a broad range of innovation actors to work towards a common goal, and
- turn research into socio-economic results

49 EU Partnerships

- health
- digital, industry and space
- climate, energy and mobility
- food, bioeconomy, natural resources, agriculture and environment
- partnerships across themes

https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme/european-partnerships-horizon-europe_en#partnership-candidates-and-contact-details

EOSC Partnership

- **Develop synergies:** Enable a trusted, virtual, federated environment in Europe to store, share and re-use research data across borders and scientific disciplines.
- **Bring all actors under one umbrella**: Bring together institutional, national and European initiatives and engage all relevant stakeholders to co-design and deploy a European Research Data Commons.
- **Help researchers:** Enhance the possibilities for researchers to find, share and reuse publications, data, and software leading to new insights and innovations, higher research productivity and improved reproducibility in science.

EOSC Partnership – Key objectives

Objective 1: Open science practices and skills are rewarded and taught, becoming the "new normal"

Main milestone: The EOSC ecosystem underpins the reward of open science practices and data stewardship that improve trust, quality and productivity in science.

Objective 2: Standards, tools and services allow researchers to find, access and reuse results

Main milestone: The EOSC provides a trusted platform supporting the development of innovative services and products.

Objective 3: Sustainable and federated infrastructures enable open sharing of scientific results

Main milestone: The EOSC infrastructure is in operation, providing a web of FAIR data and related services underpinning research addressing major societal challenges.

Crosscutting objective: Boosting the impact of EOSC through collaboration and alliances

EOSC Governance

4 founding members
Interest from ~90

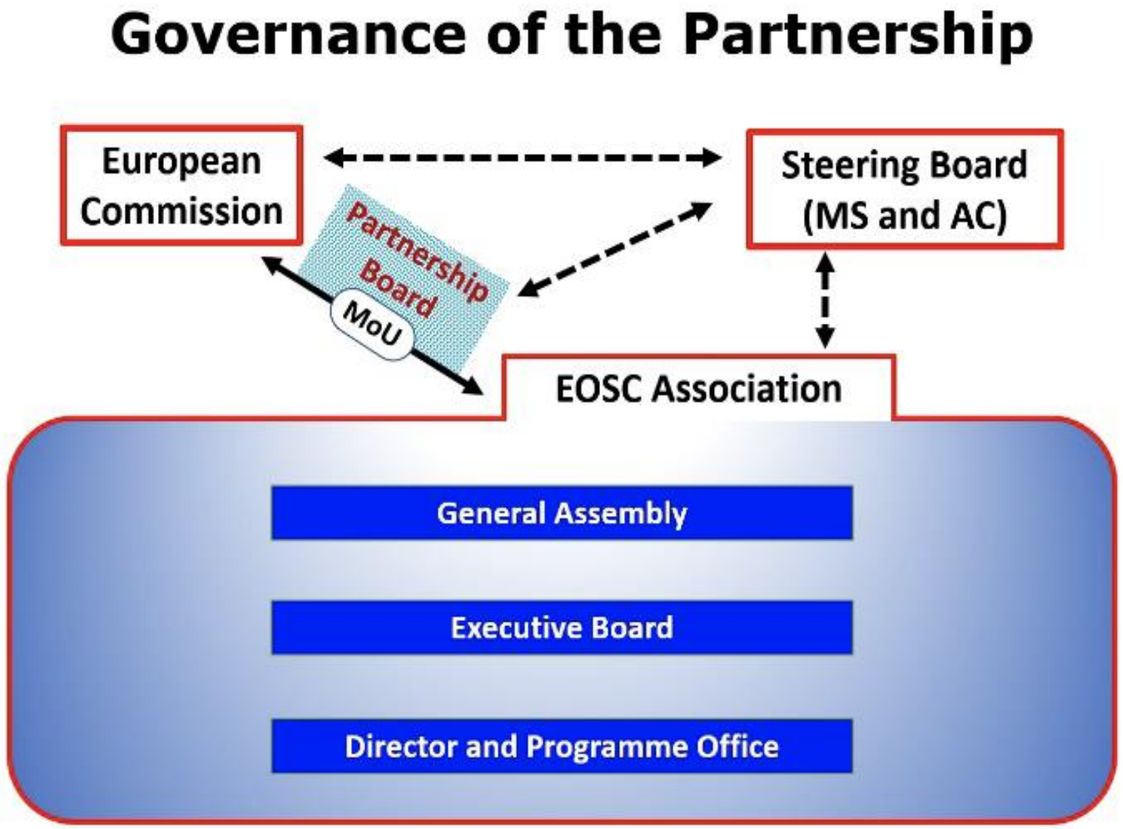
Membership fees
Full - 10,000 €
Observers - 2,000 €

The Partnership will operate through a new Association (Belgian AISBL) along the principles of decentralisation, transparency and openness.

Core tasks

- Coordination and alignment (SRIA)
- Monitoring and reporting
- EOSC technical guidance
- FAIR training
- Communication

The Association will be essentially resourced via the membership fees from its members. The activities resulting from the SRIA will be resourced through commitments by the European Commission, at European level, and by the members of the Association at national and institutional level.



Strategic Research & Innovation Agenda (SRIA)

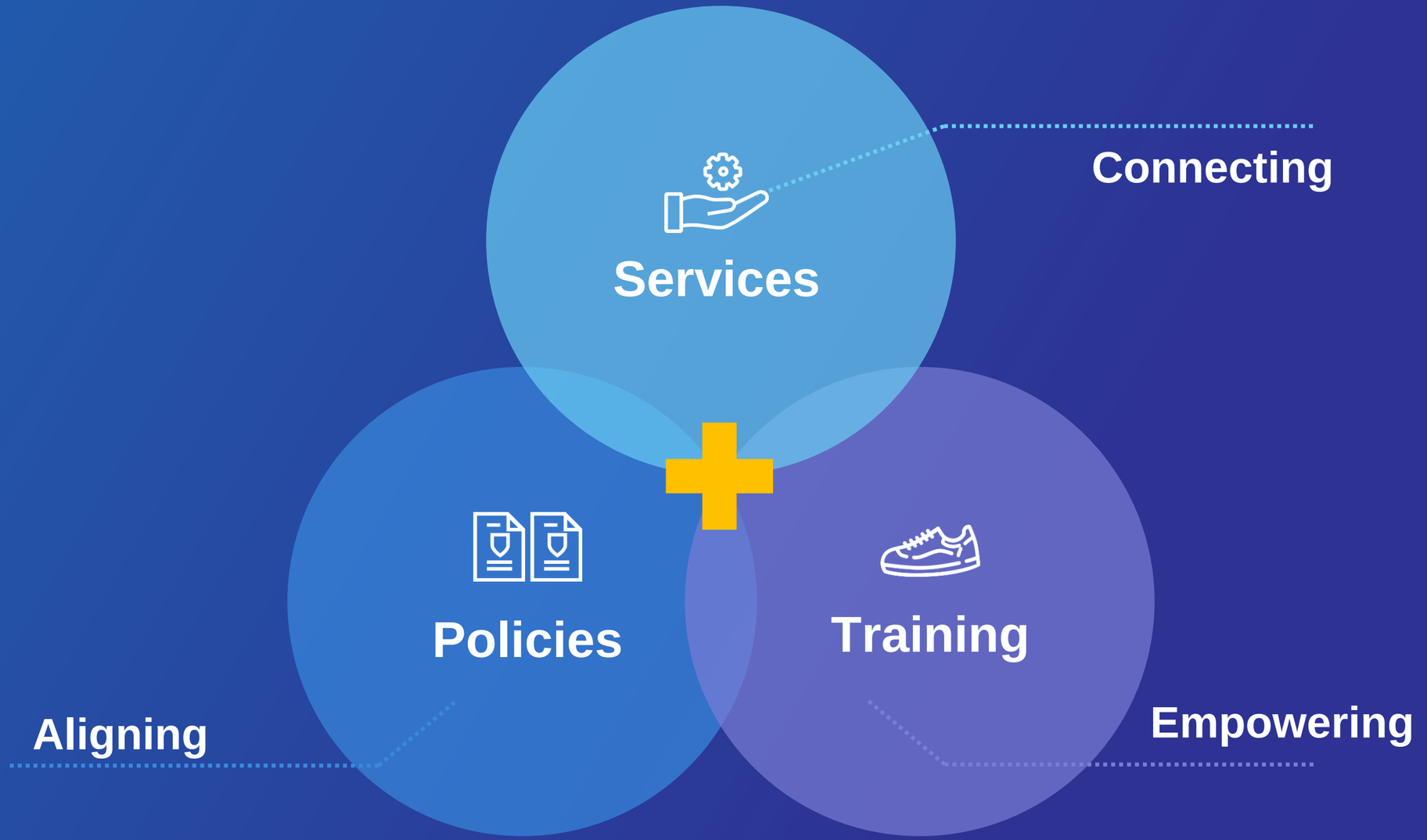
Implementation challenges	Boundary conditions
AA1: Identifiers AA2: Metadata and Ontologies AA3: FAIR Metrics and Certification AA4: Authentication and Authorisation Infrastructure AA5: User Environments AA6: Resource Provider Environments AA7: EOSC Interoperability Framework	AA8: Rules of Participation AA9: Landscape Monitoring AA10: Business Models AA11: Skills and Training AA12: Rewards and Recognition AA13: Communication AA14: Widening to the Public and Private Sectors

OpenAIRE

36 Regular & 11 Associate members (24 countries, 2 intl.)

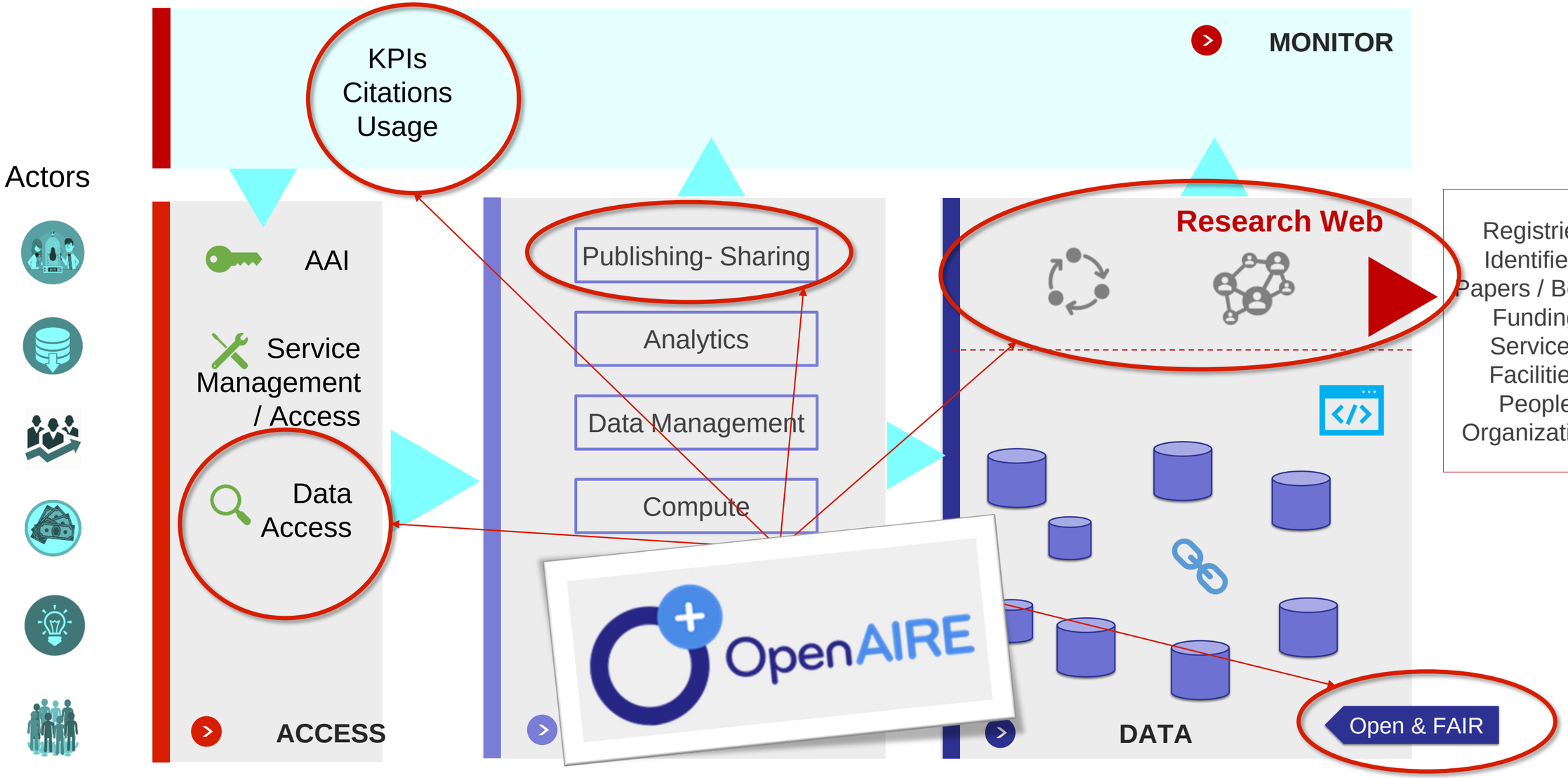
In the European Open Science Cloud context

3 pillars of action



OpenAIRE

EOSC “deconstructed”



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EOSC Core & OpenAIRE

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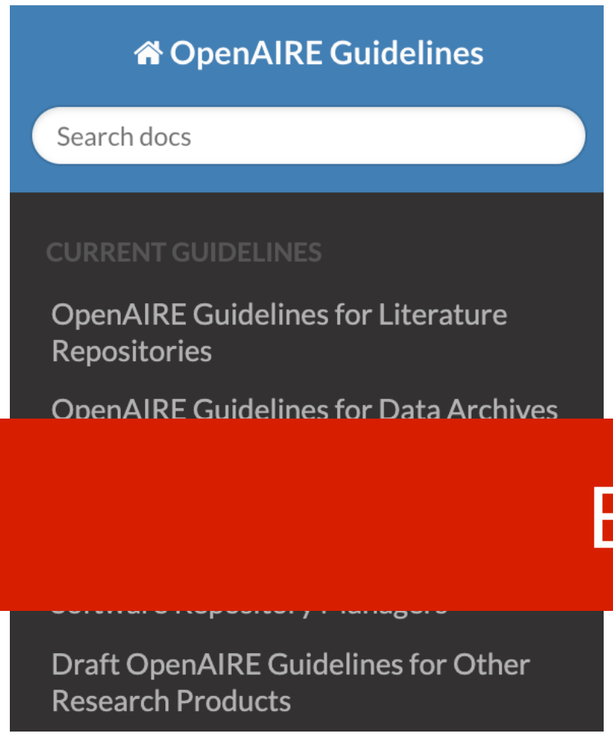
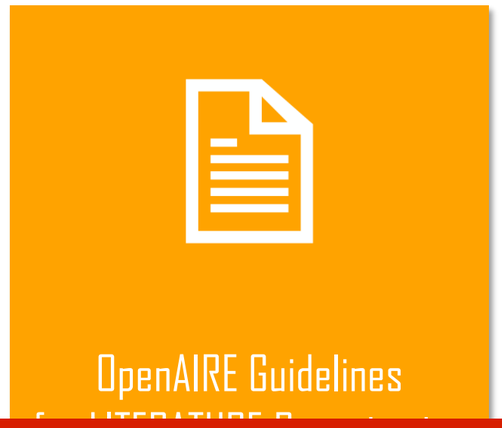
Guidelines for content providers

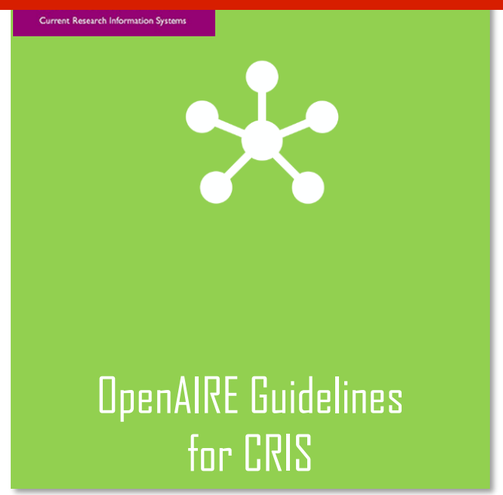
A common **metadata framework** for exchanging min metadata information

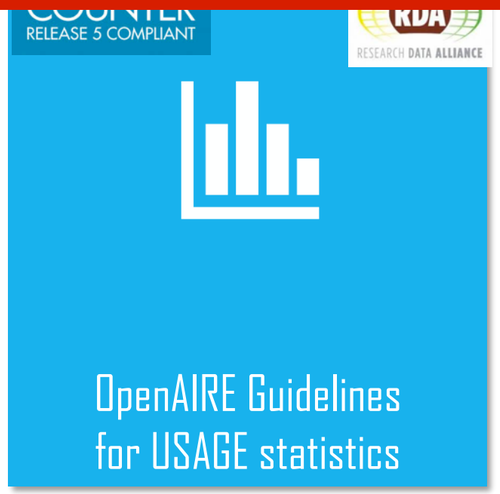


guidelines.openaire.eu



EOSC RoP for Content Providers





OpenAIRE services in EOSC

Guidelines
Setting compliance of EOSC data sources

Data Source

Compliance

PROVIDE

Register
Validate
Usage data

EOSC scientific product catalogue

OpenAIRE RESEARCH GRAPH

EUROPEAN OPEN SCIENCE CLOUD

DEVELOP
EXPLORE
MONITOR

Monitoring

CONNECT

argos amnesia zenodo EPOS IT DARIAH-EU elixir GREECE

Research Organizations

Publishing

OpenAIRE training in EOSC

- **Community of Practice of trainers**
  - Bridging thematic discipline communities (60+ trainers)
- Producing OS training material
- Delivering extensive training through our network

110 webinars, 10216 attendees

192 training events, 7071 attendees

OpenAIRE policies in EOSC

BETA OPENSCIENCE OBSERVATORY

Home > Europe

Euro

Info Last Upda

50.3%
Publications

OA: **10,599,426**
Total: **21,073,804**

Home > Portugal

Portugal

Info Last Updated: 01-08-2020

386,461

OA publications affiliated to an organization in the country

68.9% OA

380,985

OA publications from institutional repositories

86.7% OA

Open Science in Europe / **Portugal**

Portugal

Last updated on 11 May 2020

National Open Access Desk

Pedro Principe
University of Minho

Paula Moura
University of Minho

OVERVIEW | OPEN SCIENCE POLICY | INFRASTRUCTURE & EOSC | TRAINING & SUPPORT | STATISTICS | NEWS

In 2016 the portuguese Government and the Ministry of Science, Technology and Higher Education (MCTES) have defined Open Science as a priority. The Council of Ministers approved a resolution with the guidelines for the National Open Science Policy and mandated the MCTES to create an Interministerial Working Group (WG-NOSP). That WG produced an initial report with a diagnosis and characterisation of various

OpenAIRE

Thank you!

Natalia Manola

nataliam@openaire.eu