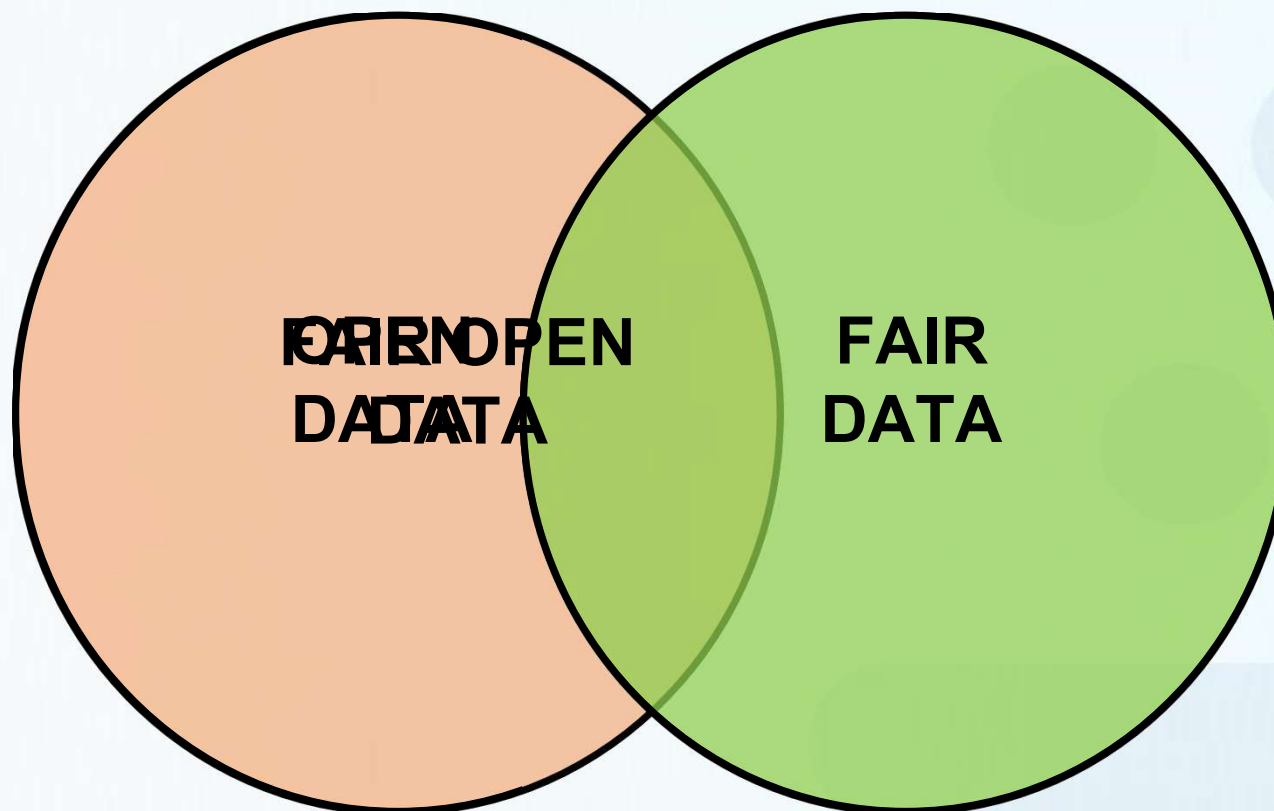




# **EOSC-A suggestions for the EURAMET call on** ***Metrology support for digital transformation***

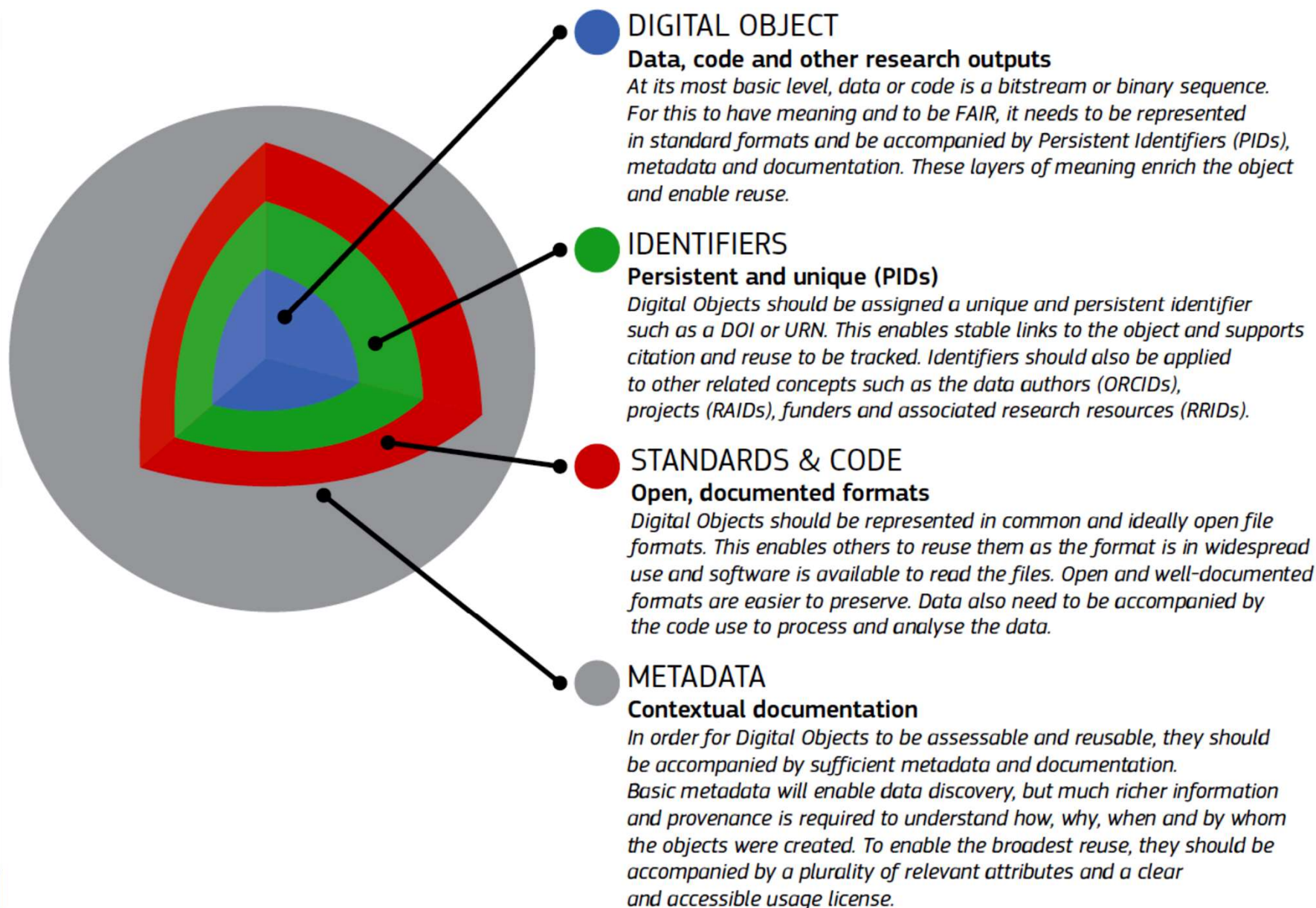
**Karel Luyben**  
President EOSC Association

# OPEN DATA and/or FAIR DATA



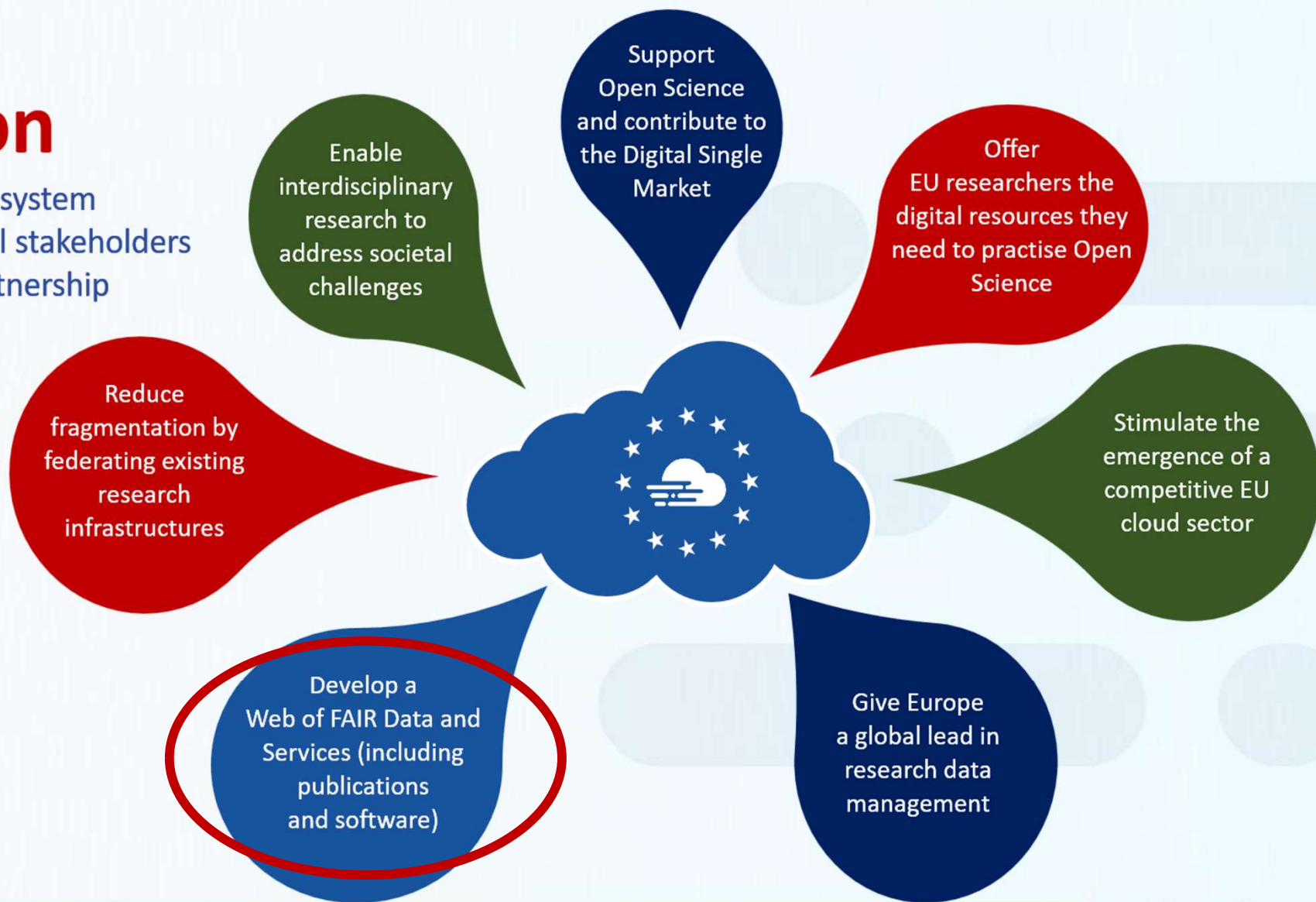
**FAIR**  $\equiv$   
Findable  
Accessible  
Interoperable  
Reusable

Towards “as FAIR as possible” and “as open as possible”



# The Vision

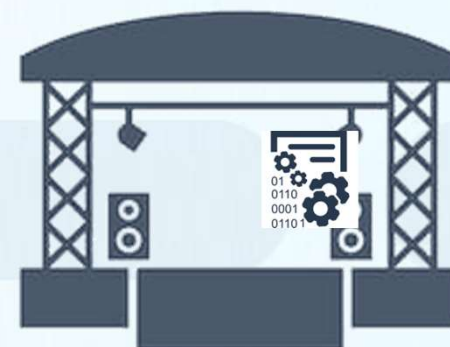
Building the EOSC ecosystem collaboratively with all stakeholders through the EOSC Partnership





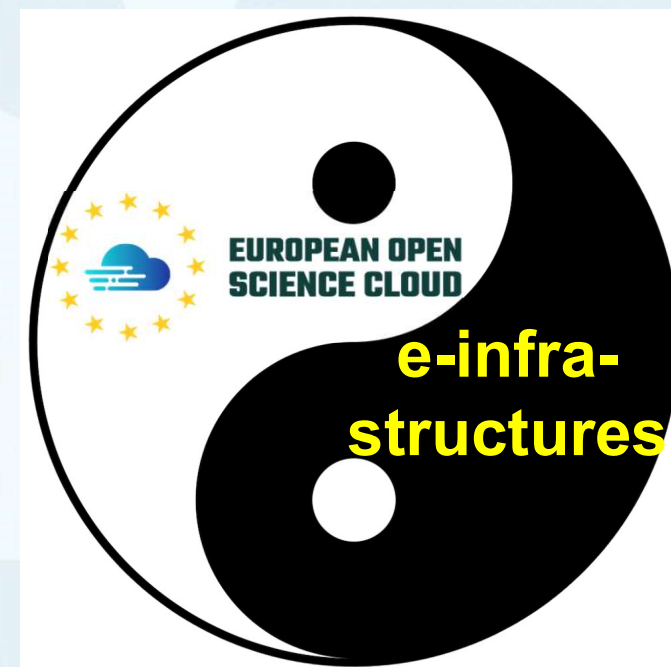
# **"A web of scientific insight"**

- **Web of FAIR Data and related Services**
- **Federation of relevant existing and future data sources**
- **Virtual space where science producers and consumers come together**
- **An open-ended range of content and services**
- **Meeting all European data requirements**
- **In interaction with other regions of the world**



# Twinning the data- to the e-infrastructures

**EOSC is a data-infrastructure and could be seen as a twin sister (or brother) of the European e-infra-structure organisations (yin/yang). The last offering the store, compute and connect services used by EOSC to offer the servicing of data and creating interoperability. The combination forms the EOSC-ecosystem**



# Guiding principles for EOSC

The **overarching** principle for developing EOSC is that research has to be at the centre of the EOSC initiative.

- **Multi-stakeholderism**  
EOSC will succeed if and only if it follows a multi-stakeholder approach;
- **Openness**  
EOSC will ensure research artefacts be ‘as open as possible, as closed as necessary’;
- **FAIR principles**  
EOSC research artefacts need to be findable, accessible, interoperable and reusable;
- **Federation of infrastructures**  
EOSC will federate existing and upcoming data- and e-infrastructure;
- **Machine-actionable**  
EOSC will strike the right balance between machines and people in delivering the services that will serve the needs of European scientists.



**EOSC Association**

**An Exciting  
Journey**





# EOSC Association: Mission

*Advancing the European Open Science Cloud to accelerate the creation of new knowledge, inspire education, spur innovation and promote accessibility and transparency*

- To provide a single voice for advocacy and representation for the broader EOSC stakeholder community in Europe
- To promote the alignment of European Union research policy and priorities with activities coordinated by the Association (SRIA)
- To ultimately enable seamless access to data through interoperable services that address the entire research data life cycle, from discovery to storage, management, analysis and re-use across borders and scientific disciplines



# **EOSC Association: Milestones**

- Four founding members (CESAER, GEANT, GARR, CSIC)
- Was incorporated as AISBL on Wednesday 29<sup>th</sup> July 2020
- Obtained Royal Decree on Friday 11<sup>th</sup> September 2020
- First General Assembly on 17-12-2020 elected President and Board
- Research Performing; Research Funding and Service Proving organisations
- Now ~ 150 members and ~ 60 observers (62% - 8% - 30%) (May 2021)
- A European Co-programmed Partnership, between the EC and the EOSC Association, MoU to be signed 23 June 2021
- Joining the EOSC Association = Joining the EOSC Partnership!



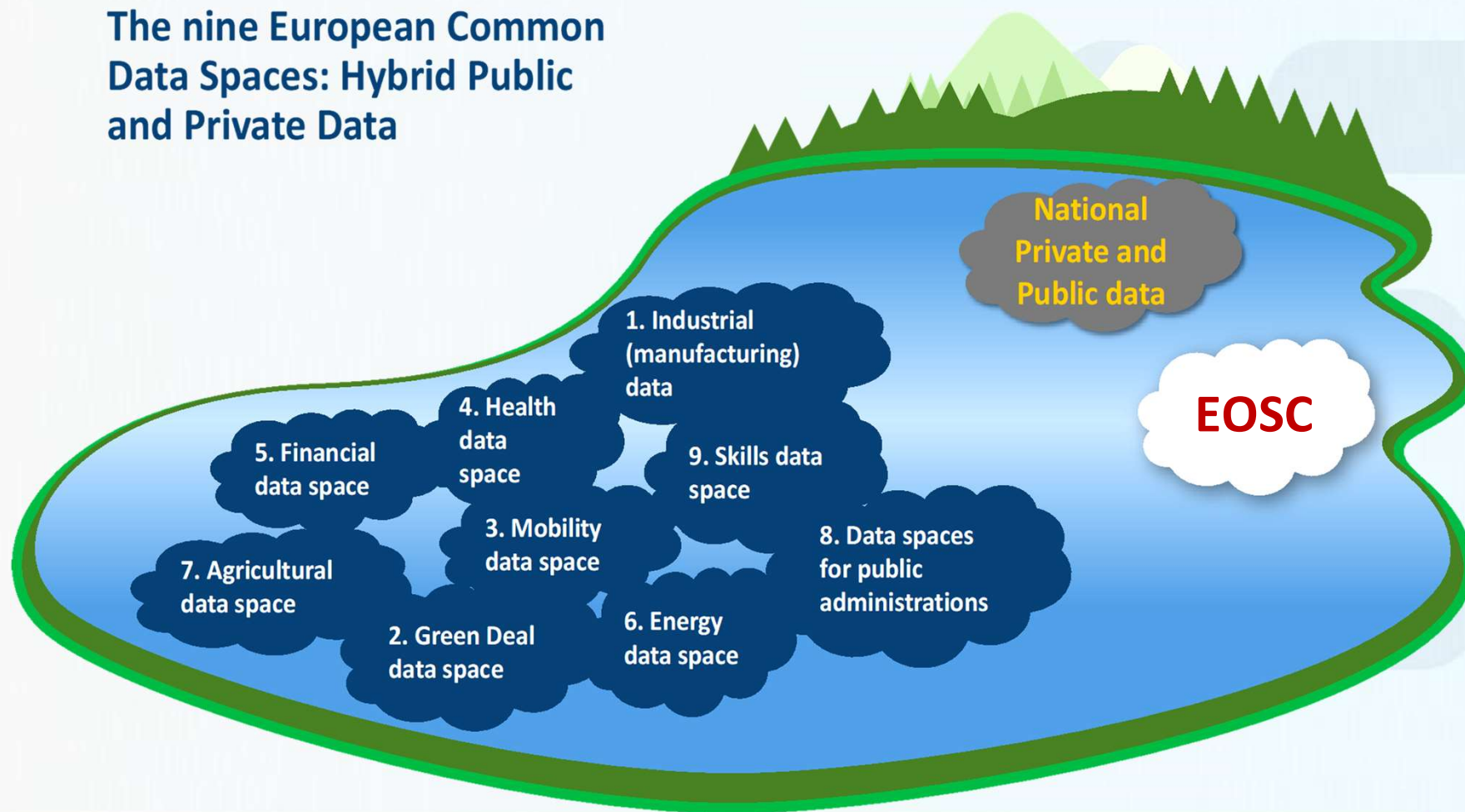
## Tasks for EOSC Association to see to:

- Develop and govern federating core
- Manage the AAI
- Manage PID policies
- Manage compliance framework
- Manage trusted certification
- Outreach to stakeholders
- Monitor services and transactions
- Manage the 'EOSC' trademark(s)
- Contribute to Horizon EU policy



# EOSC in wider context

The nine European Common  
Data Spaces: Hybrid Public  
and Private Data





## Position of European Commission

*“EOSC is the basis for a science, research and innovation data space that will bring together data resulting from research and deployment programmes and will be connected and fully articulated with the sectoral data spaces.”*

(European Data Strategy, COM(2020) 66 final)

From EC slides



Health



Industrial &  
Manufacturing



Agriculture



Finance



Mobility



Green Deal



Energy



Public  
Administration



Skills



**EOSC: a crosscutting data space for Research and Innovation**

# FAIR and data interoperability in EOSC

- EOSC interoperability framework is premised on FAIR principles
- Currently defining a minimum metadata model (and crosswalks) to ease discovery over existing federated research data and metadata
- Need clear, publicly-available definitions for all concepts, metadata and data schemas → challenge is that not all communities apply standards
- Need repositories of semantic artefacts and mapping across these
- Aim for all metadata and measurements to be machine-readable

*The application of standards and mappings between communities is where EURAMET expertise can help*

# Quality of research data

## *Objective*

Explore what are the most relevant quality dimensions considered in different communities and how they can be incorporated in EOSC.

## *Approach*

- Measures are context dependent and defined by research communities.
- Quality attributes and dimensions (e.g. accuracy, completeness, conformity) vary within and across disciplines and are closely related to the research subject they are intended to measure.
- Identify common measures and align them with the FAIR principles

# Access to unstructured & non-standard data

## *Objective*

Lack of structure and heterogeneity of non-standard data, i.e. data for which there is either no previously defined data model or which is not organised in a predefined way (e.g. social media streams), innovative, reusable access methods are needed.

## *Approach*

- Structure such data and make it accessible using AI
- AI as an integral part of the life cycle of research data; need to be managed and made accessible in the same way as the data and the scientific publication itself.
- Include concepts for and implementations of knowledge graphs in EOSC which link data, software, publications and other entities (e.g. authors) to one another.





**EUROPEAN OPEN  
SCIENCE CLOUD**



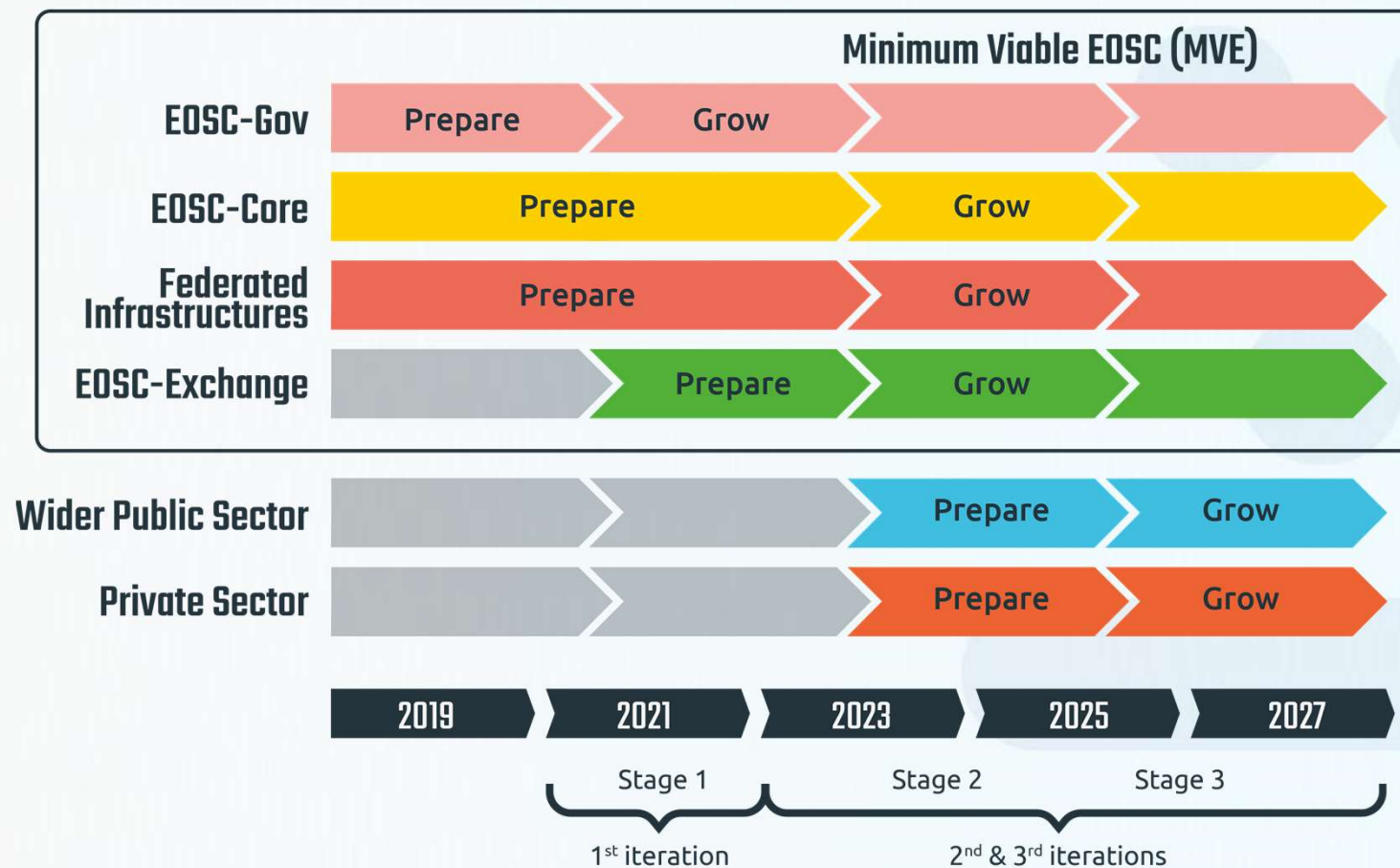
@eoscassociation



info@eosc.eu

EOSC Association | [www.eosc.eu](http://www.eosc.eu)

# Timeline



(EOSC Strategic Research  
Innovation Agenda v1)  
<https://eosc.eu/documents>