

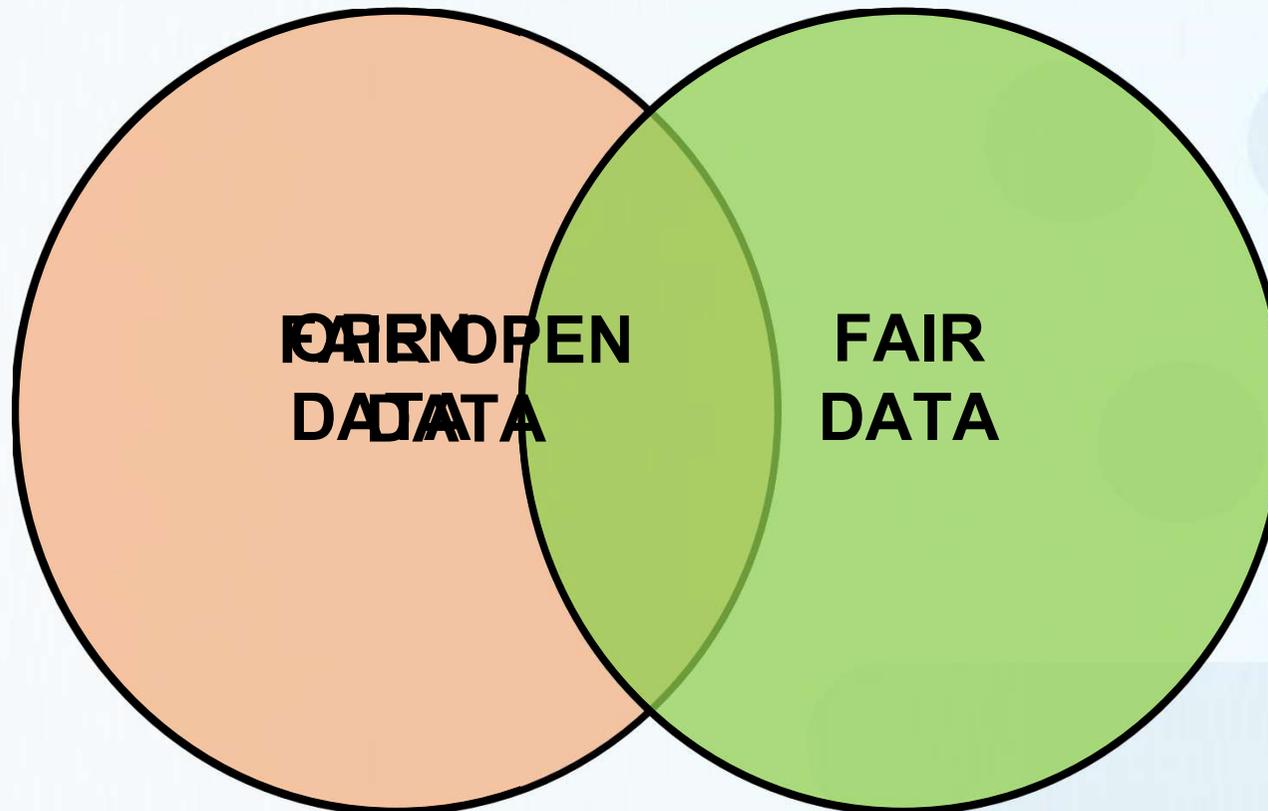


**EUROPEAN OPEN
SCIENCE CLOUD**

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

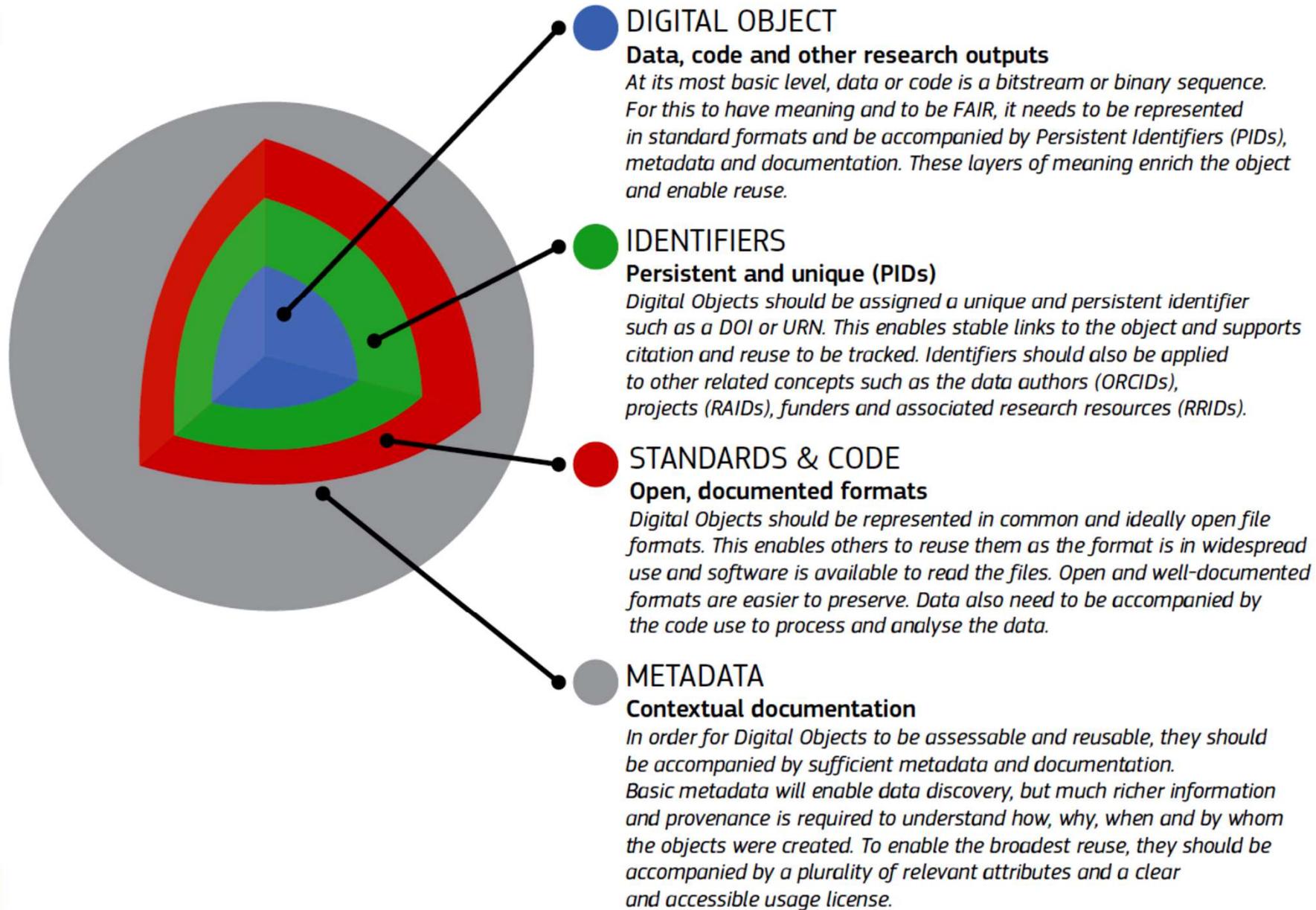
Karel Luyben
President EOSC Association

OPEN DATA and/or FAIR DATA



FAIR ≡
Findable
Accessible
Interoperable
Reusable

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



The Vision

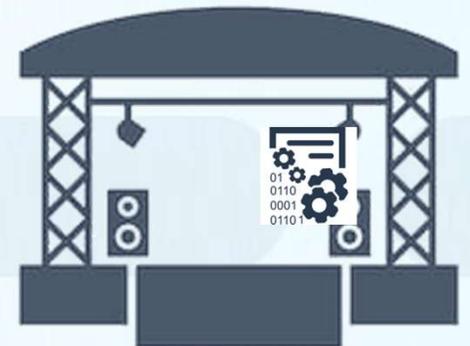
Building the EOSC ecosystem collaboratively with all stakeholders through the EOSC Partnership





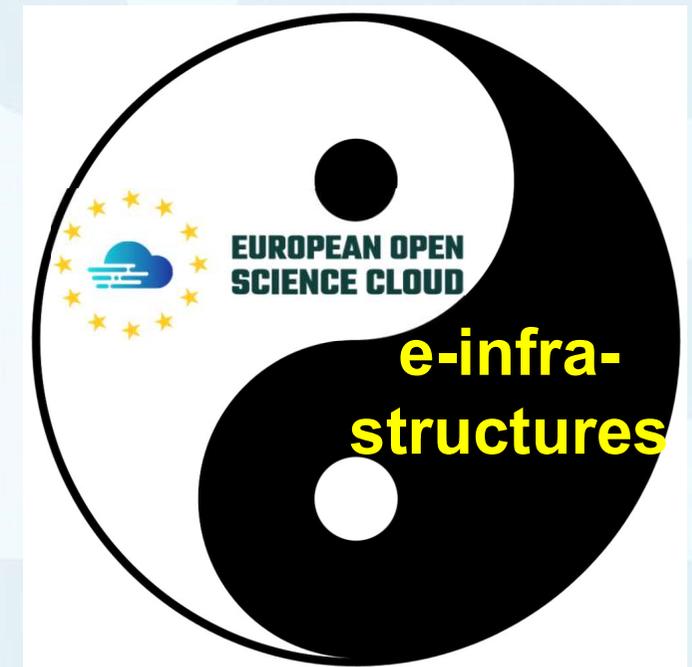
"A web of scientific insight"

- 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-infrastructures;
- **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 29th July 2020**
- **Obtained Royal Decree on Friday 11th 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!**



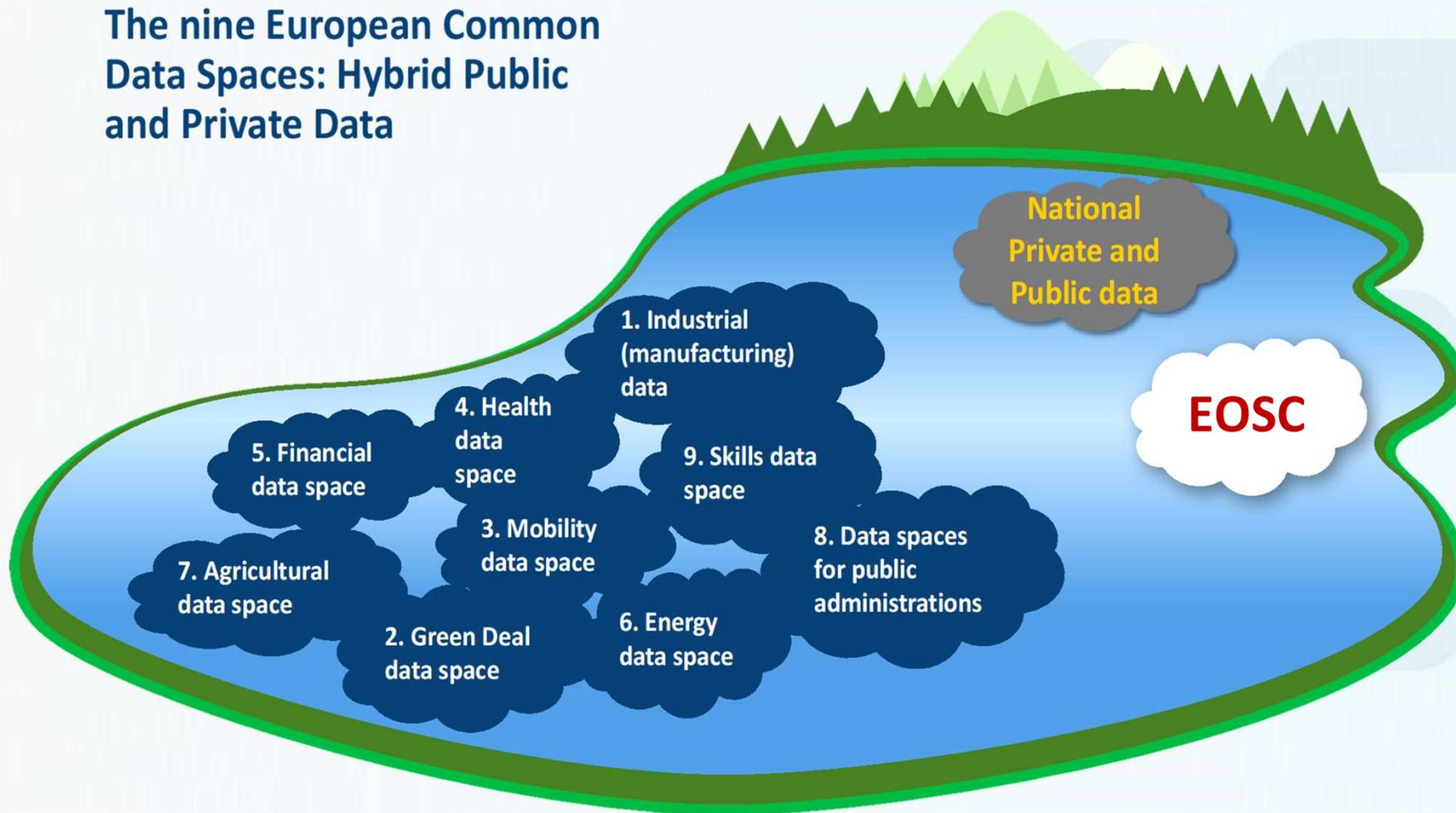
Tasks for EOOSC Association to see to:

- 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 'EOOSC' 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.



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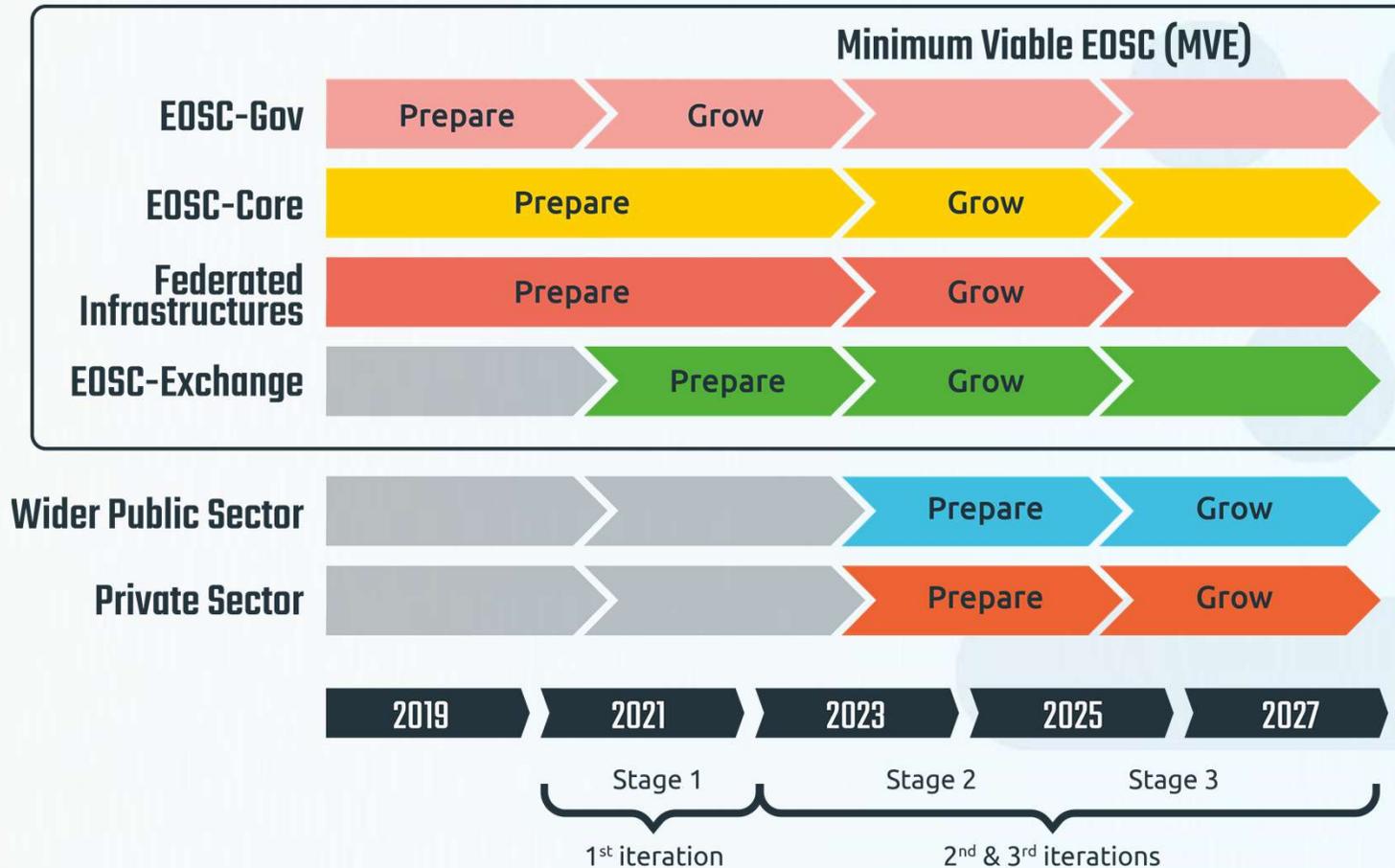


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Timeline



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