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Introduction to the European Open Science Cloud & OpenAIRE

Towards implementation of EOSC



Final OpenRiskNet Workshop | October 24, 2019



Access – Collaboration – Innovation – Participation

... practice science in such a way that others can **collaborate and contribute**, where research data, lab notes and other research processes are **freely available**, under terms that enable **reuse, redistribution and reproduction** of the research and its underlying data and methods.

Open research beyond academia
Innovation + Citizen science

What it entails

Open

publications

research data / FAIR data

software / lab books

methodologies / protocols

educational resources

processes (open peer review)

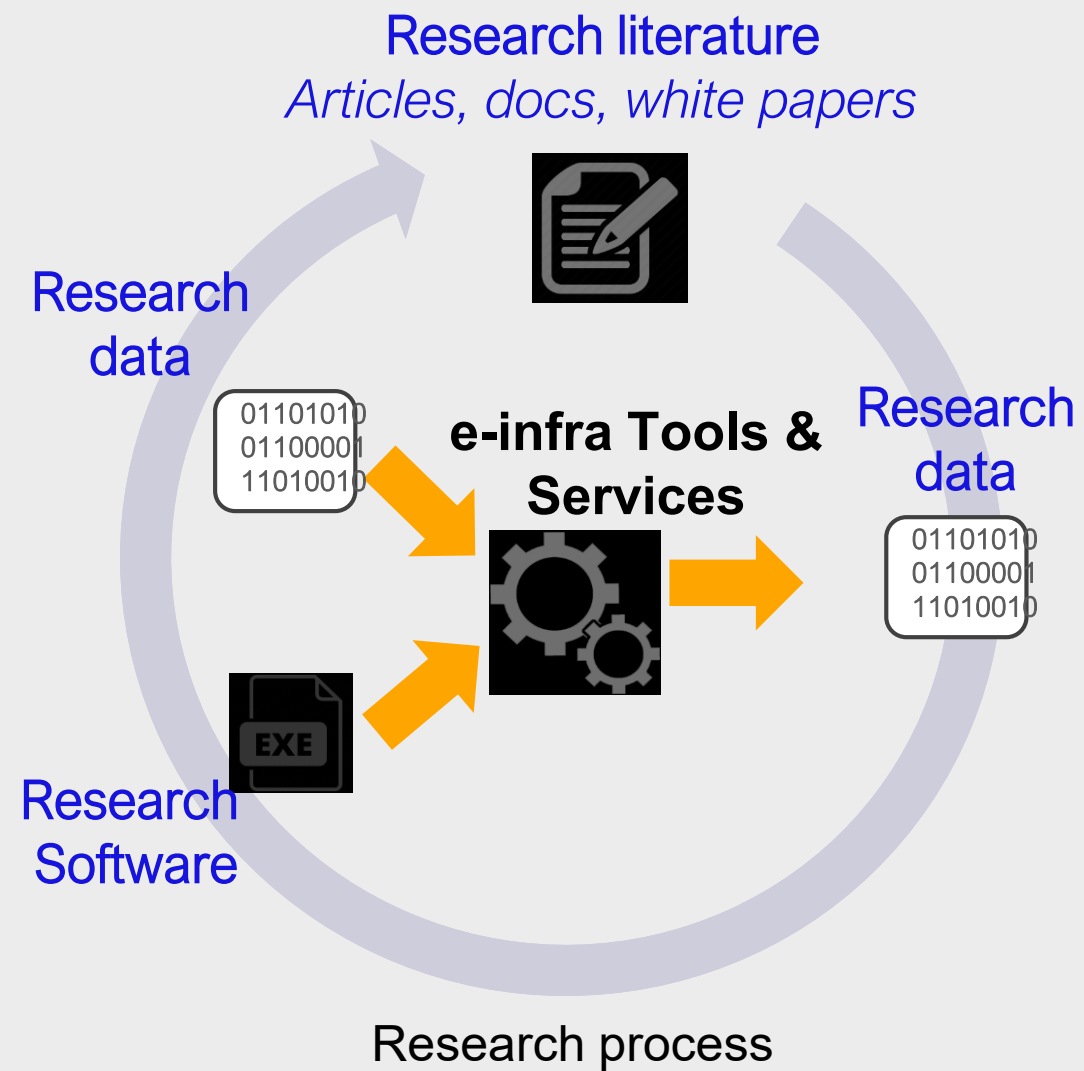
annotations

linked Open Science (provenance & context)

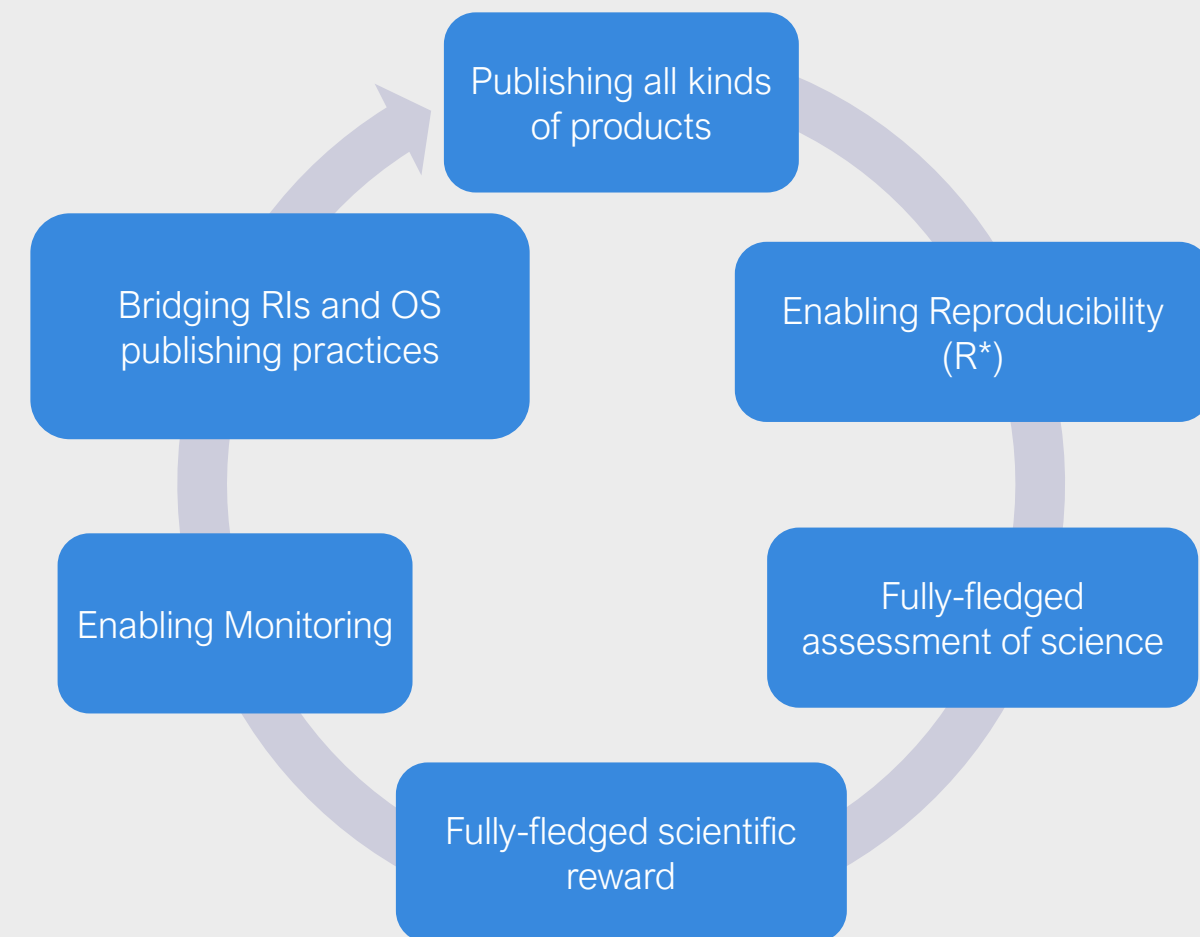
access to resources for analytics

How - Scholarly Communication transition to Open Science

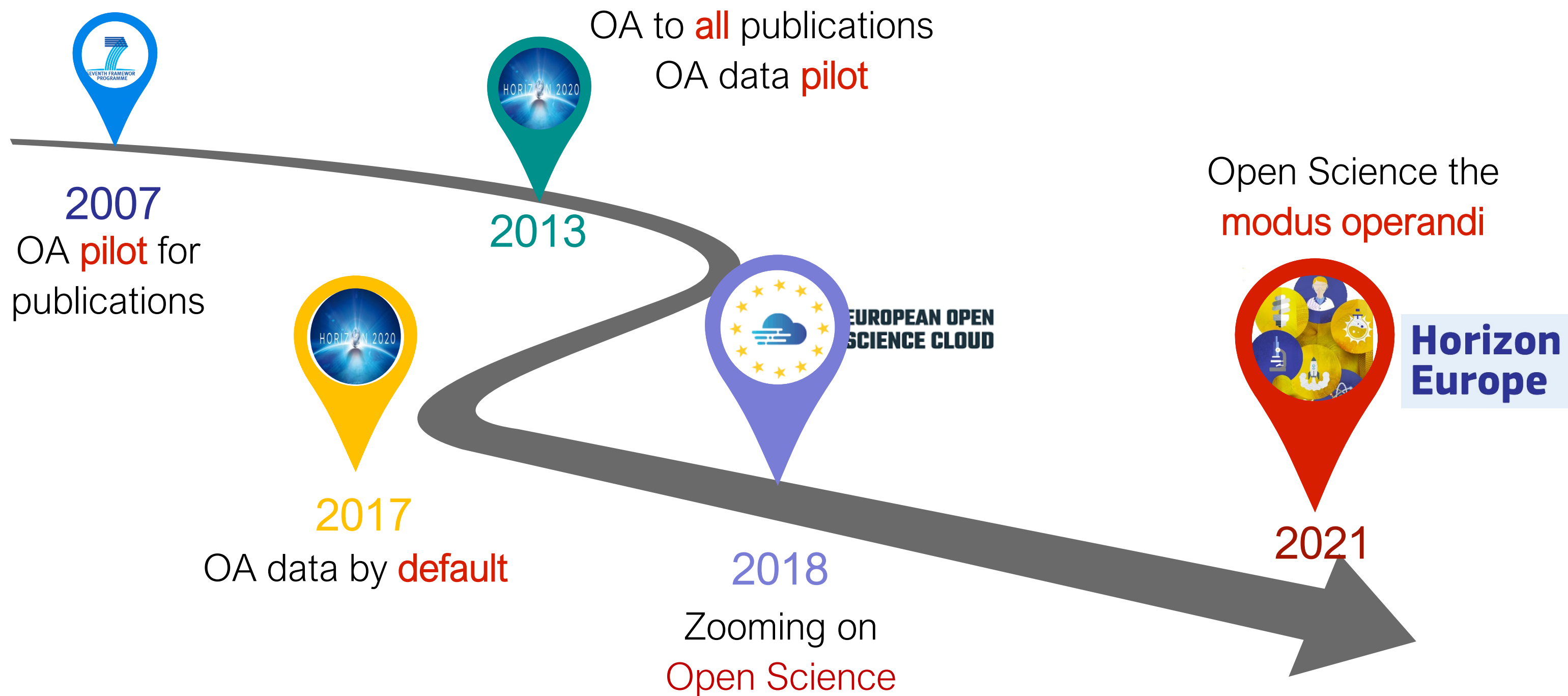
> Research Infrastructures



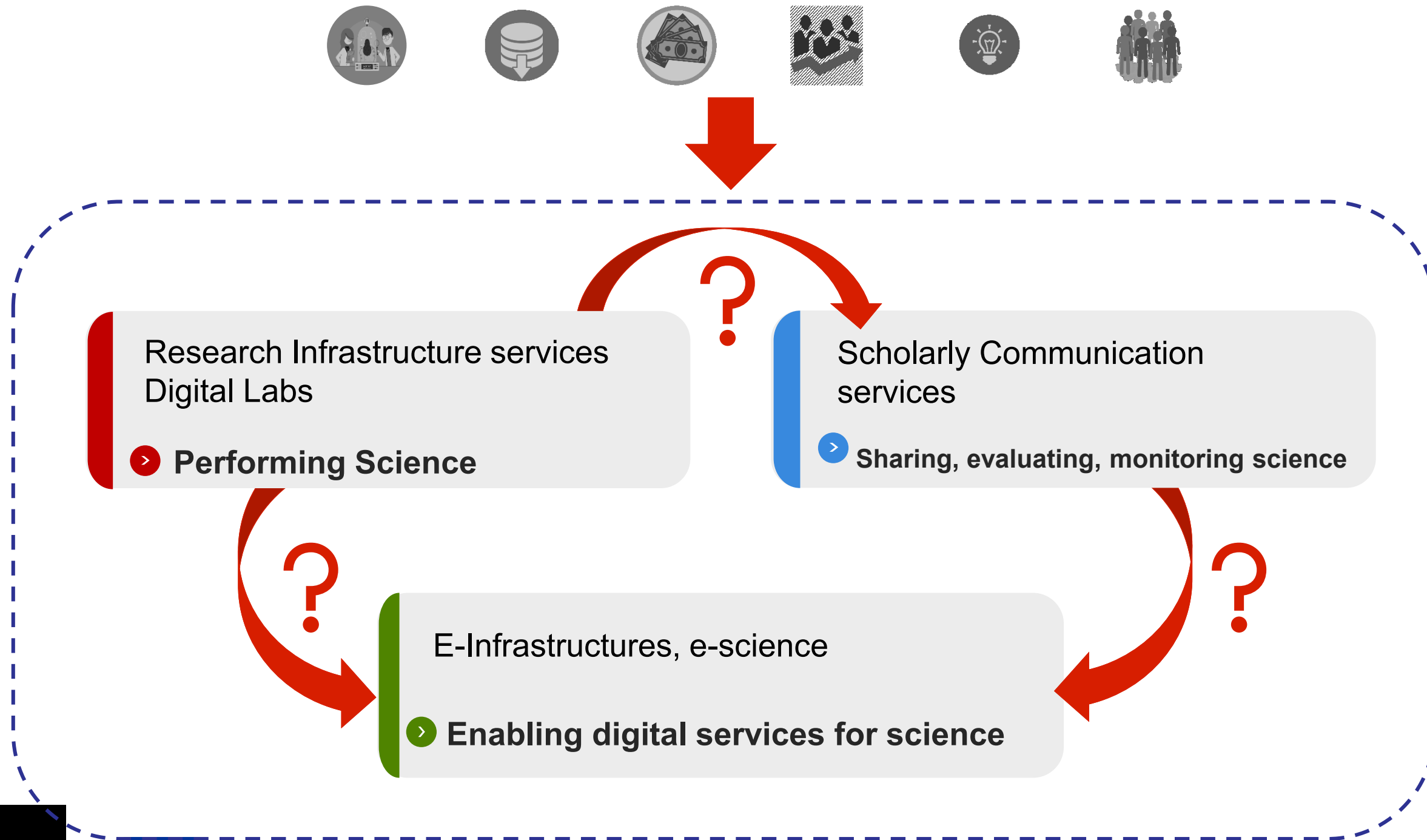
> Scholarly Communication Infrastructure



Open Science in the EU



What we have now: fragmentation







DATA SHARING



“1.7 million European researchers and 70 million professionals in science and technology a **virtual environment** with **free at the point of use**, **open** and **seamless** services for storage, management, analysis and **re-use of research data**, across borders and scientific disciplines”

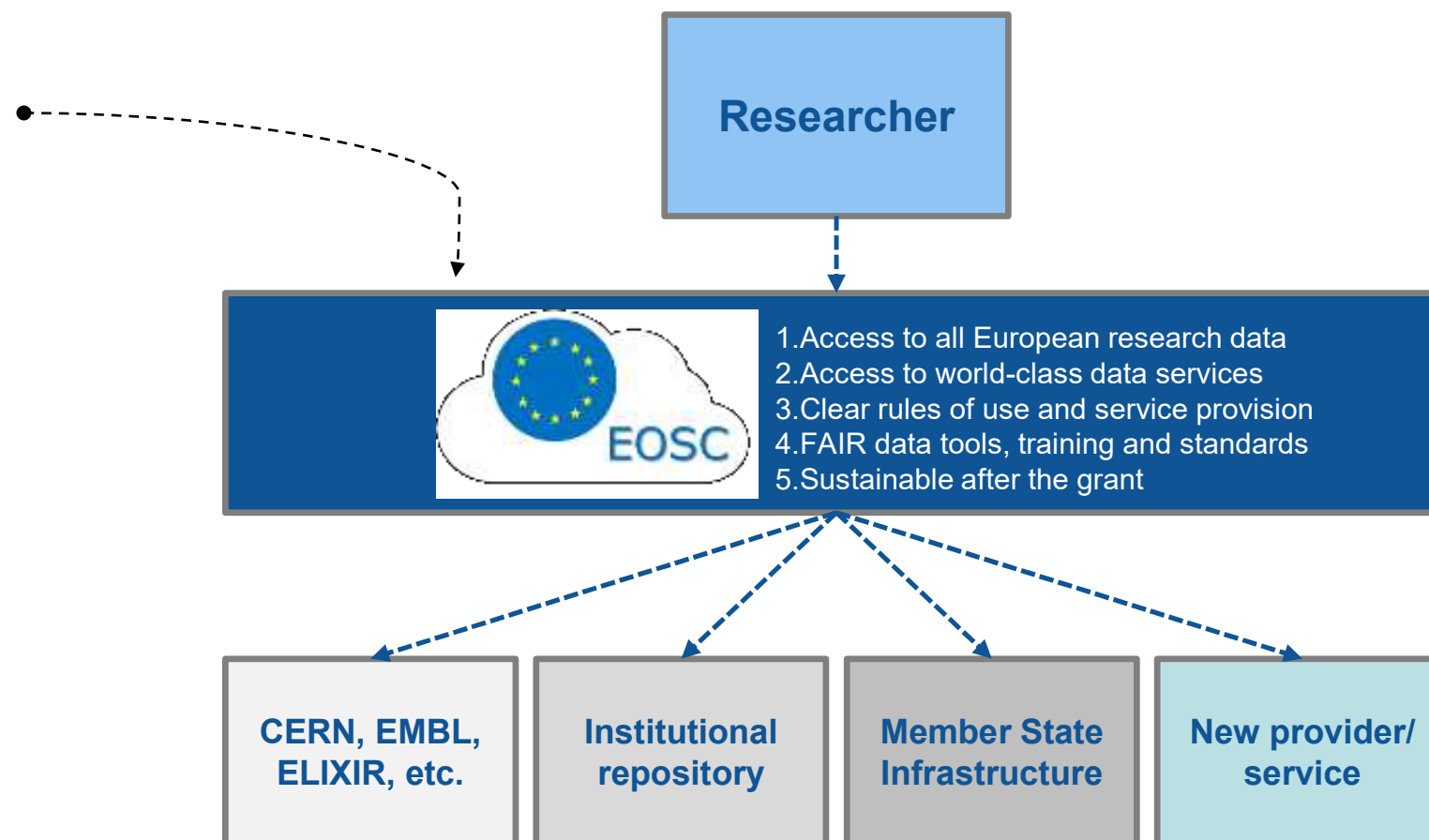
European Cloud Initiative (ECI), (COM(2016) 178 final), p.6; Part of the Digital Single Market Strategy

EOSC for a frictionless data flow

BETTER SCIENCE

SUSTAINABLE

A. The EOSC will allow for universal access to data and a new level playing field for EU researchers



- Easy access through a universal access point for ALL European researchers
- Cross-disciplinary access to data unleashes potential of interdisciplinary research
- Services and data are interoperable (FAIR data)
- Data funded with public money is in principle open (as open as possible, as closed as necessary)
- EOSC will help increase recognition of data intensive research and data science

Seamless environment, enabling interdisciplinary research

EOSC key features

- **Open, trusted, collaborative «Research Commons»**
 - ▣ Where information can be found and transformed into knowledge
- **De-centralised approach**
 - ▣ A system of systems
- **Adaptively user-oriented and inclusive**
 - ▣ across borders and disciplines
- **Research in context to support**
 - ▣ Transparency
 - ▣ Reproducibility
 - ▣ Monitoring
- **Governed by a minimal set of Rules of Participation**
- **Steered by an inclusive governance structure**

Governance structure involving all stakeholders

Three layer structure

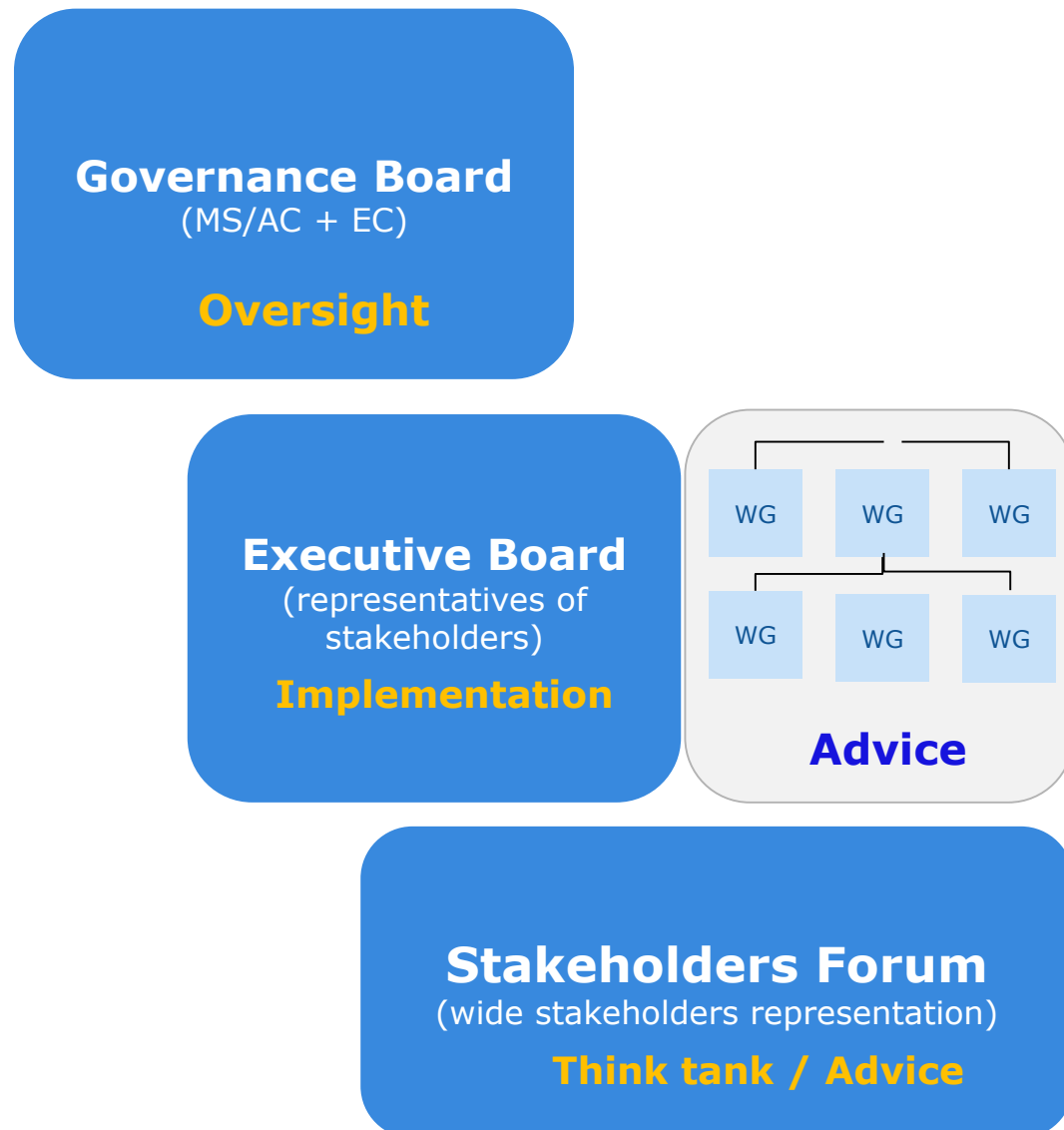
EOSC Board of member states to ensure effective supervision of EOSC implementation

Executive Board of stakeholder representatives to help ensure proper EOSC implementation and accountability

Stakeholder Forum to provide input from a wide range of actors

Working Groups (one per strategic priority)

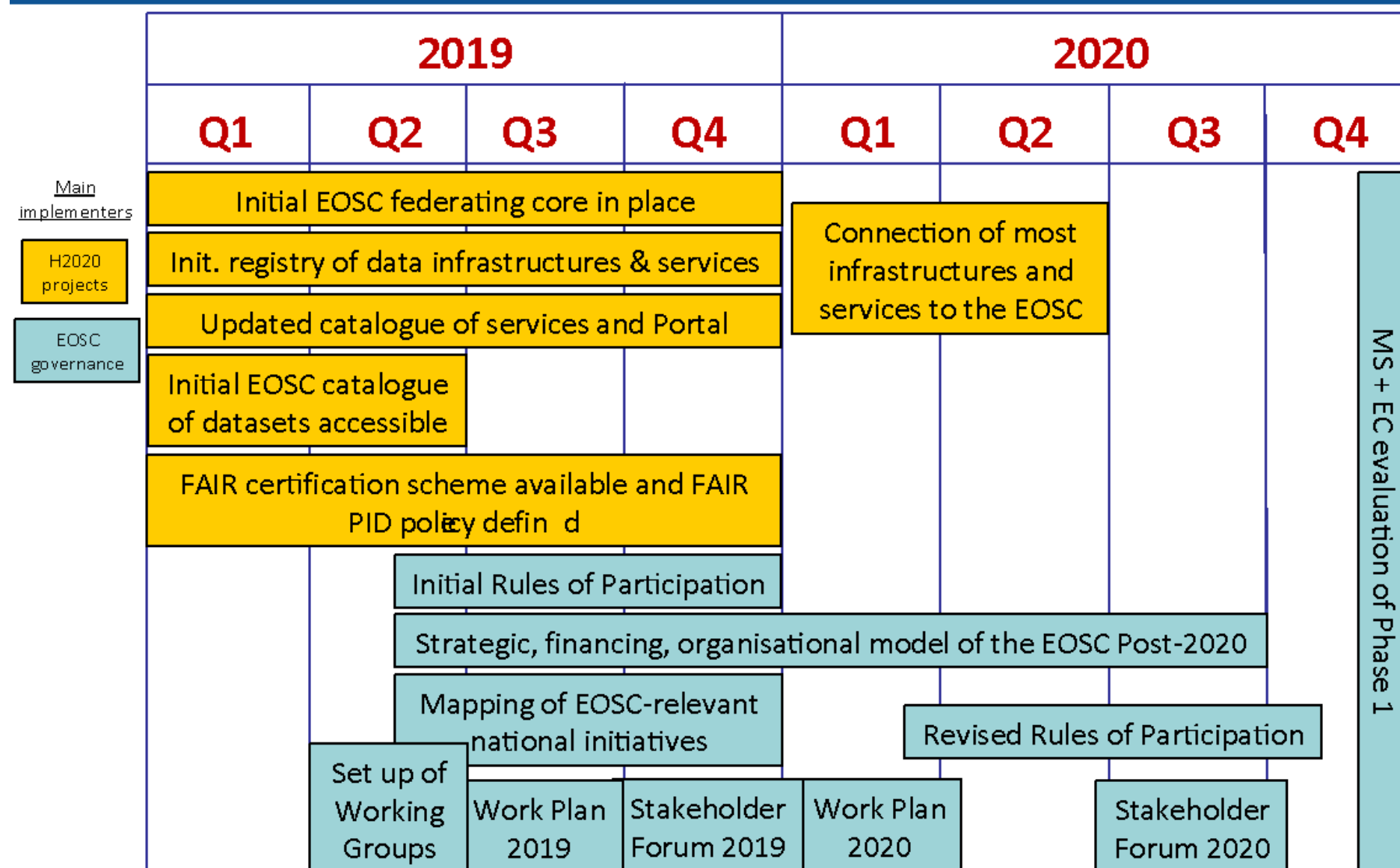
- Architecture
- FAIR
- Rules of Participation
- Landscape
- Sustainability
- Training/skills



Five strategic priorities:

- Architecture
- FAIR
- Rules of Participation
- Landscape
- Sustainability

EOSC 2019-2020: timeline

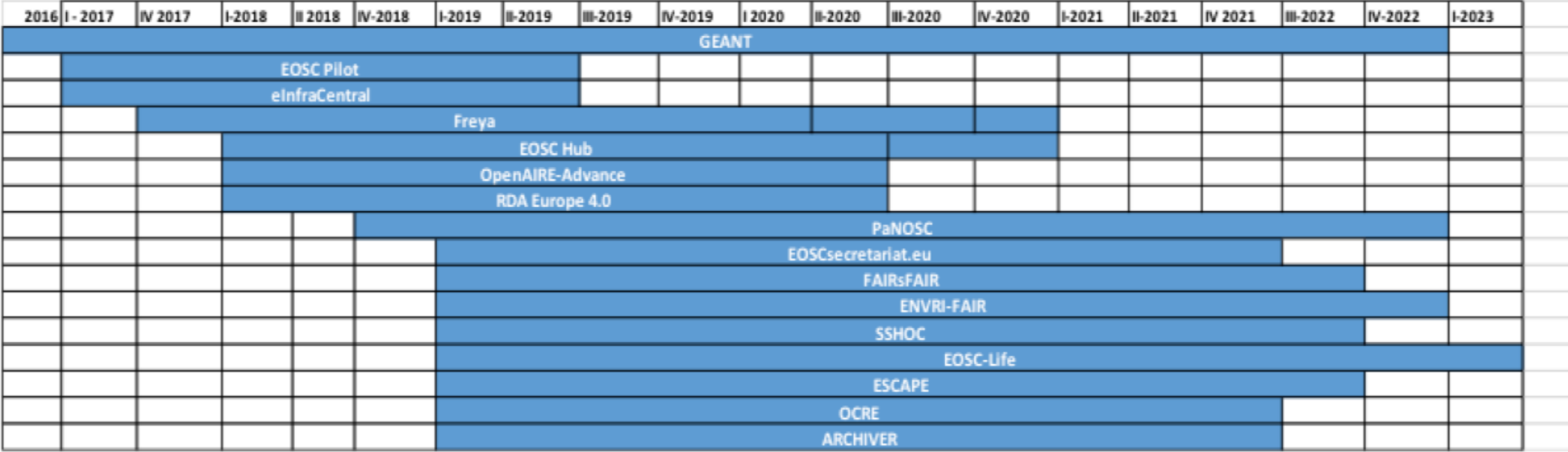


From: EOSC Strategic Implementation Plan – EOSC Executive Board, June 2019

Implementors

Annex 2 Timeline of EOSC projects funded by Horizon 2020

Timeline



INFRAEOSC-7-2020: increasing the service offer of the EOSC Portal 6 areas, one proposal per area to be funded

Annex 3 Projects supported via 2018-2019 INFRAEOSC calls (as of May 2019)

Name of the call	Resulting project(s)	Link
INFRAEOSC-4 (disciplinary clusters)	ENVRI-FAIR EOSC-Life ESCAPE PANOSC SSHOC	http://envri.eu/envri-fair to come https://www.projectescape.eu https://github.com/panosc-eu/panosc/wiki https://sshopencloud.eu
INFRAEOSC-5a	EOSCsecretariat	https://www.eoscsecretariat.eu
INFRAEOSC-5b (national initiatives)	EOSC-Nordic EOSC-Pillar EOSC-synergy ExPaNDS NI4OS-Europe	Projects to begin in Autumn 2019. Overview slidesets for each available at: https://www.eosc-hub.eu/events/eosc-hub-week-2019/programme/eosc-offering-regional-views
INFRAEOSC-5c	FAIRsFAIR	https://www.fairsfair.eu

Future calls

INFRAEOSC-3-2020: portal consolidation 1 proposal to be funded

Useful Information

- **EOSC site:**
<https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-cloud>
- **EOSC Working groups:**
<https://www.eoscsecretariat.eu/eosc-working-groups>
- **EOSC-hub and OpenAIRE-Advance joint activity plan:**
<https://wiki.eosc-hub.eu/display/EOSC/EOSC-hub+and+OpenAIRE>





The OpenAIRE Initiative

European (and beyond) infrastructure for Open Science

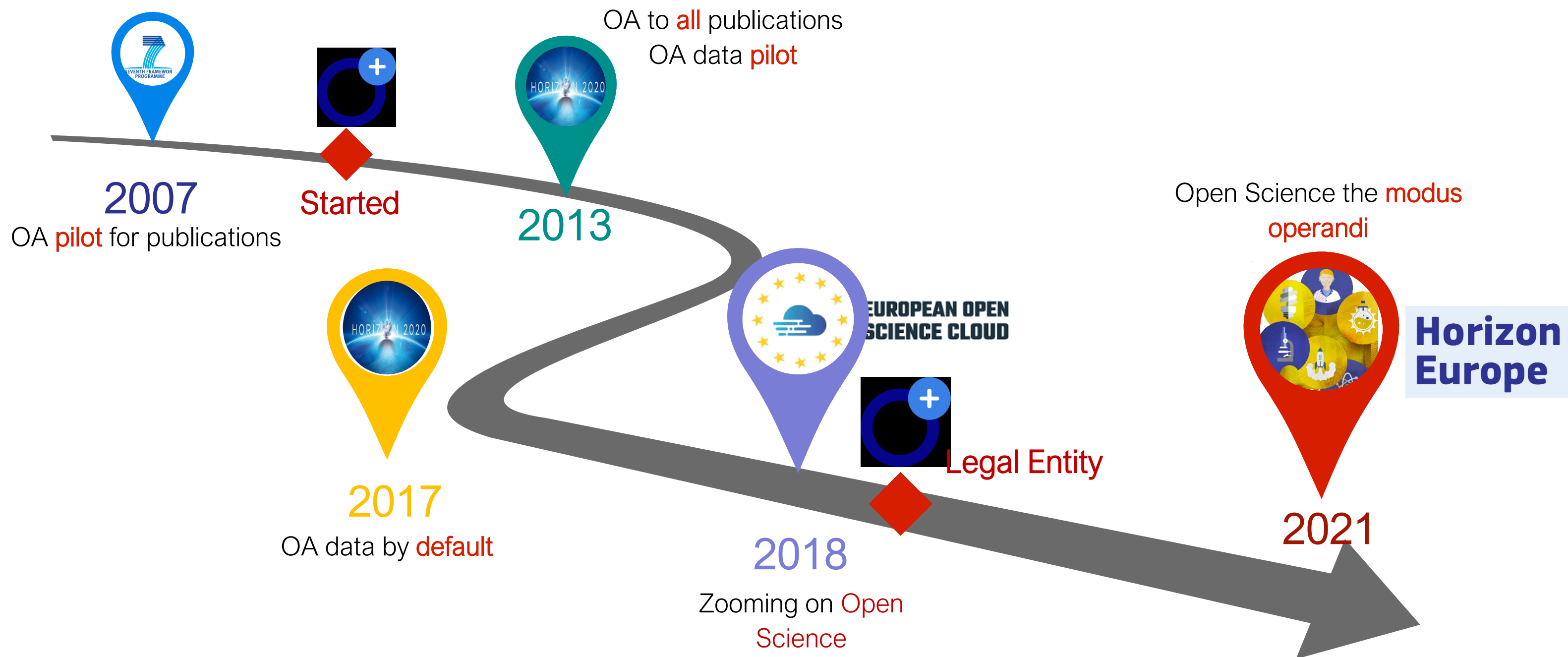


Networking infrastructure: Open Access/Science advocacy and support, interoperability, global alignment on Open Science, National Open Access Desks, FAIRness of research data, citizen science, etc.



Technical infrastructure: services for monitoring of Open Science, research impact for funders, sharing and reporting for research communities, tools supporting Open Science publishing practices

Open Science in the EU and OpenAIRE



Who is OpenAIRE

34 National

Open Access Desks

Organizations experts in OA

Regional / Topical Experts

4 regional coordinators

3 topical coordinators

50 partners from
all Europe

e-Infrastructure / e-Science

Service Providers

Infrastructure experts

Metadata experts

Big data technologists

Text & data analytics experts

Legal Experts

IPR

Data privacy

Data Communities

EU Research Infrastructures

Citizen Science

Schools

Citizen science groups

Open Innovation

Industrial cluster facilitators

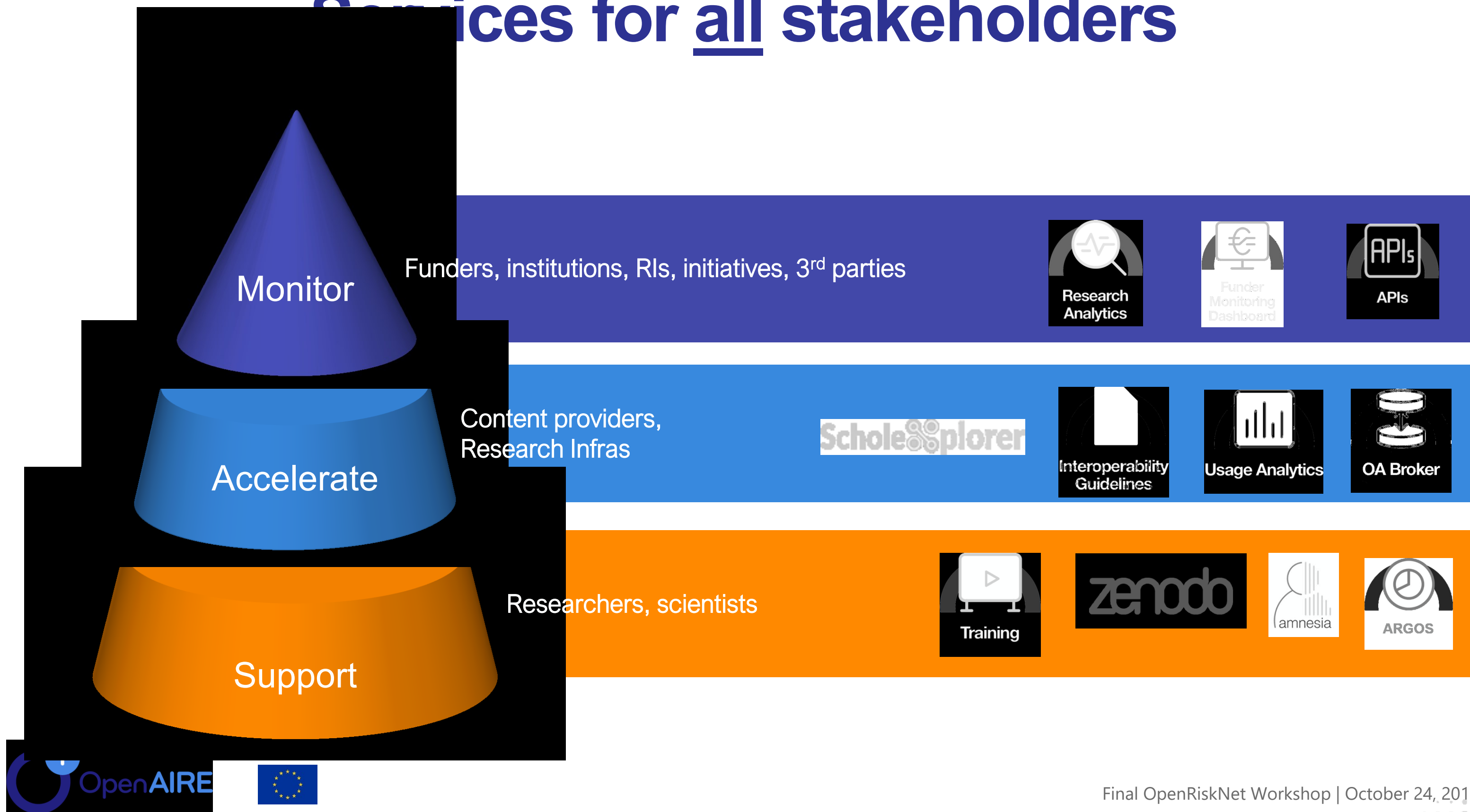
Innovation management
coordinators



3 Pillars of Action



Services for all stakeholders



The Open Research Graph - A „Public Good“



101mi publications, 8mi research data, 8mi other research products, 202K software from 9,900 content providers and 28 funders linked together for an integrated discovery of research outcomes



OpenAIRE for EOSC

- The OpenAIRE Research Graph as core EOSC resource to support research transparency, assessment, and monitoring
- **Technical Services**
 - ▣ Implementation of the EOSC portal and catalogue
 - ▣ Implementing/enhancing OpenAIRE services for EOSC (some available on the catalogue, soon on the marketplace)
 - ▣ OpenAIRE guidelines for the exchange of metadata about data, software and other types of research products
 - ▣ Collaborating with EOSC-hub, eInfraCentral, and EOSCpilot
- **Training & Support**
 - ▣ Empowering NOAD network
 - ▣ Foster the culture of FAIR data, data management
- **Policies**
 - ▣ Open Science at national level
 - ▣ Elevate NOADs into permanent national structures





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Thank you!

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