European Open Science Cloud
Current and future EU support to the EOSC and EC way forward from EOSC Summit to Roadmap for Implementation

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e-IRG workshop - Tallinn, 3 October 2017

EU support to the EOSC in 2016-2017

➢ **Pilot action** for EOSC in 2016 under the H2020 RI WP part

  To demonstrate how to ensure availability of scientific data and data-analysis services through a cloud infrastructure and design a stakeholder driven governance framework.

➢ E-Infrastructures topics in 2017 under the H2020 RI WP part for **federation & interoperability of data e-infrastructures**

➢ *Building over substantial investments in previous years (more than 500 M€ under FP7 and first two years of H2020) supporting :*

  ❑ integration at EU level of national scientific data infrastructures,

  ❑ development and interoperability (even at global level) of pan-European Thematic Data RI,

  ❑ development of data & distributed computing e-infrastructures, e-Infrastructure for open access, VRE

  ❑ global interoperability through the Research Data Alliance

  and delivering a wealth of generic and thematic data services, work-flows, interoperable standards and ontologies, ….

WP 2018-2020: Call INFRAEOSC

DRAFT

Topic 1: Access to commercial services through the EOSC hub **(2018)**

Topic 2: Prototyping new services **(2019)**

Topic 3: *Integration & consolidation of pan-European access mechanisms to public e-infrastructures & commercial services through the EOSC hub* ***(2020)***

Topic 4: Connecting ESFRI RI through Cluster projects **(2018)**

Topic 5: Support to the EOSC governance **(2018-2019)**

Topic 6: Enhancing the EOSC portal *and connecting thematic clouds* **(2019-*2020*)**

e-Infra topics in INFRAEOSC

DRAFT

Topic 1: Access to commercial services through the EOSC hub **(2018)**

To set-up a legal and technical mechanism to integrate supplementary commercial services (including the ones accessible through the Copernicus 'DIAS' platforms) into the EOSC hub in order to make them available to the scientists.

Topic 2: Prototyping new services **(2019)**

To develop a fit-for-purpose and sustainable service offering accessible through the EOSC hub that can satisfy the evolving needs of the scientific community by stimulating the design and prototyping of novel innovative digital services. Targeting gaps in the service offering including needs rising from particular scientific communities which can then be generalised, as well as needs of new users like industry and the public sector.

Topic 3: *Integration & consolidation of pan-EU access mechanisms to public e-infras & commercial services through the EOSC hub* **(2020)**

Follow-up of EINFRA-12-2017. Scope of the topic to be fine-tuned with the WP amendment in 2019

RI and OS topics in INFRAEOSC

DRAFT

Topic 4: Connecting ESFRI RI through Cluster projects **(2018)**

Clustering ESFRI, ERICs and IO infrastructures in large thematic domains to ensure stewardship of data handled by the involved RI in line with the FAIR principles, integration and interoperability of data in those domains as well as interoperability with other relevant domains and connection to the EOSC to expose RI data and tools under the EOSC portal.

Topic 5: Support to the EOSC governance **(2018-2019)**

a) **Setup of an EOSC coordination structure (2018),** which will support the EOSC Executive Board and the EOSC decision making process, help to coordinate all EOSC relevant activities funded under H2020, help to set rules and methods of participation, develop innovative business models for the delivery of EOSC core functions;

b) **Coordination of EOSC-relevant national initiatives across Europe and support to prospective EOSC service providers (2018-2019),** to foster coordination, convergence and federation of EOSC relevant national initiatives for open research data and services

RI and OS topics in INFRAEOSC

DRAFT

Topic 5: Support to the EOSC governance **(2018-2019)**

c) **FAIR data uptake and compliance in all scientific communities (2018),** to facilitate coordination of initiatives across MS & AC and develop and implement measures on FAIR data policy addressing, among others, data curation, the creation of metadata catalogues, standards for data management and certification schemes for data repositories.

Topic 6: Enhancing the EOSC portal *and connecting thematic clouds* **(2019-*2020*)**

a) **Support to the EOSC Portal (2019),** to ensure a functional, sustainable and comprehensive user interface to the EOSC services; building on existing scientific gateways, developed under FP7 & H2020, in particular eInfraCentral, and strengthening the implementation of the EOSC Hub.

b) ***Connecting thematic clouds into the EOSC (2020),*** to ensure functional interoperability and gradual integration of existing thematic clouds into the EOSC.

EU support to the EOSC in 2016-2017
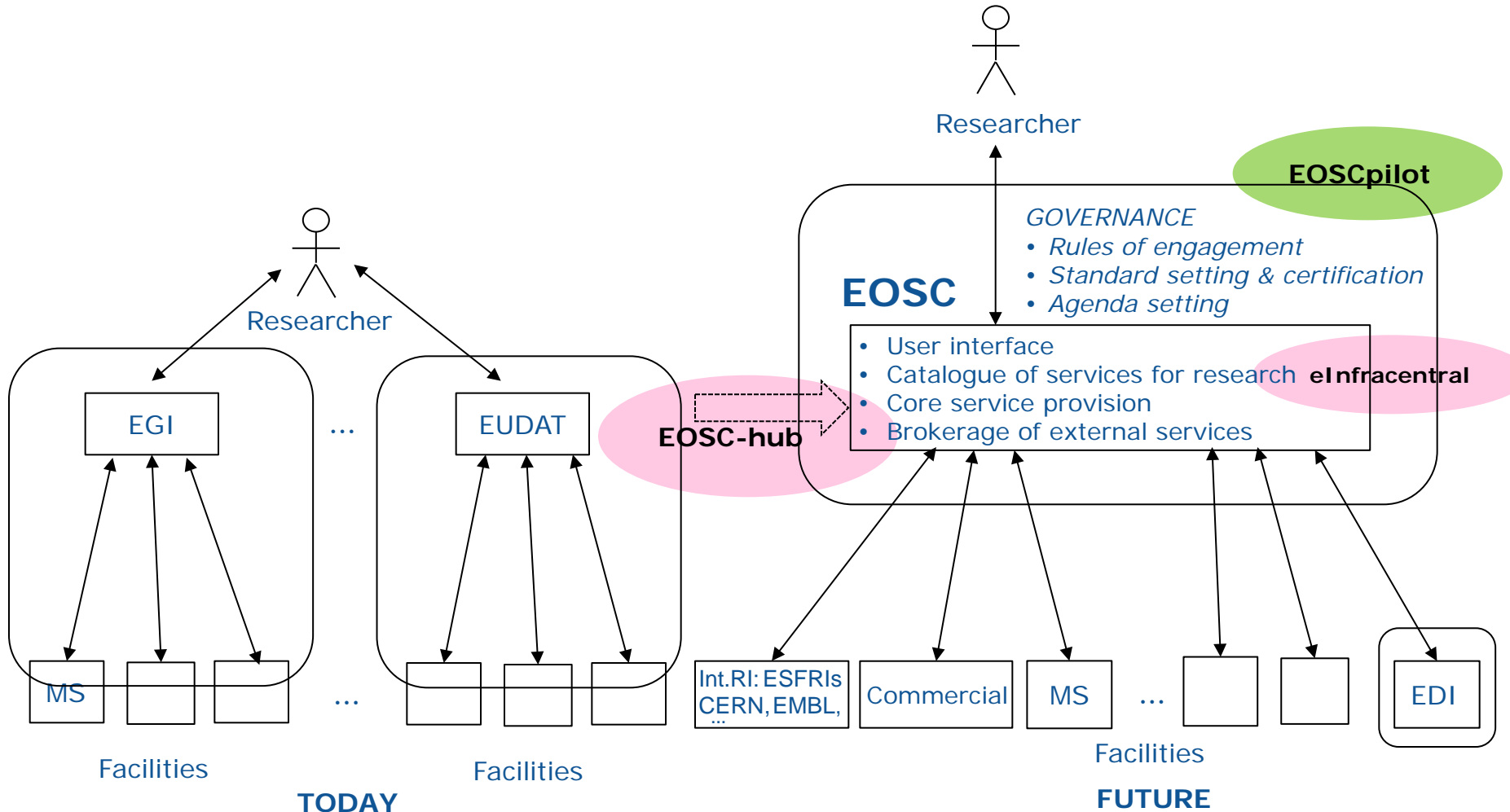
Mapping of 2018-2019 actions

DRAFT
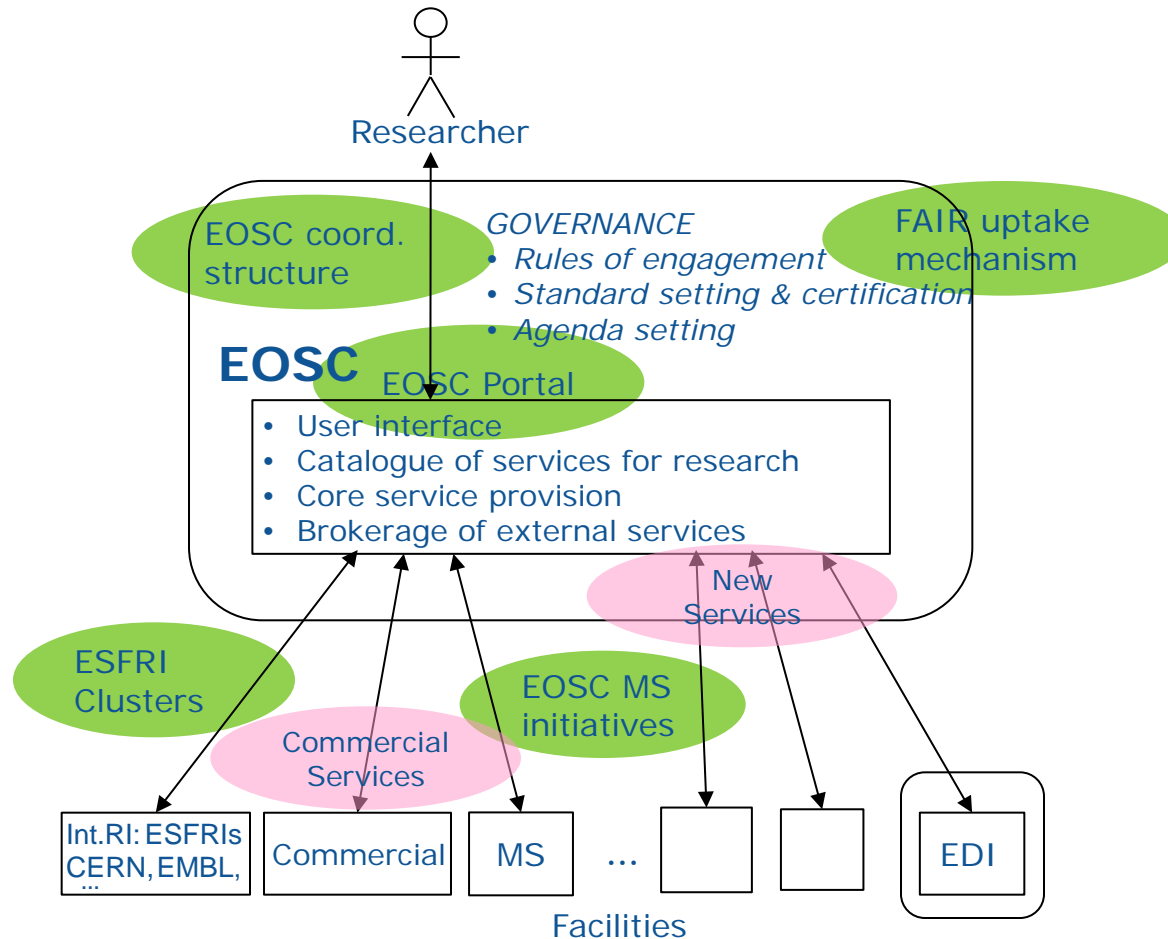
EOSC Summit: figures

- 110 key participants

- 80 from all scientific fields

- 15 national scientific infrastructures

- 13 research funders

- 19 officials from Member States and Associated Countries

- Overall, 23 Member States and Associated Countries represented

- 1800 via web stream and extensive coverage via Twitter

EOSC Summit Highlights

*The Summit provided **strong support for the implementation of the EOSC** and marked a step change in the initiative*

*Ground European science in a **common culture of data stewardship & sharing** throughout research data lifecycle. Only a **considerable cultural change** will enable long-term reuse of research data*

*Develop the **EOSC as a commons** of research data, knowledge and infrastructure with different roles and responsibilities by actors at EU and MS level*

*Stimulate compliance through **incentives and rewards***

EOSC Summit Highlights

Make **FAIR principles pragmatic**, equally encompassing all four dimensions: findability, accessibility, interoperability and reusability

Apply **FAIR principles to all digital research objects**, incl. data-related algorithms, tools, workflows, protocols & services

Disciplines must develop their notion of FAIR in a coordinated fashion. **Standards are fundamental** but a one-size-fits-all approach must be avoided

EOSC Summit Highlights

Build **trust between all stakeholders**, e.g. scientific communities, e-infrastructures, research infrastructures, funders - "look outside the organisational boxes and work together"

Set out both **the science case and the financial case** to raise commitments for the EOSC, in particular of MS – "whatever we do needs to be integrated with the national systems"

Some of the actions identified will require more times than others to implement due to e.g. budget commitments, division of labour, building of trust. **Implementation will need to fast-track some actions over others**, depending on the level of priority, support and maturity

Develop a **formal framework for governing the EOSC** (open, dynamic, trial-and-error process) to sustain and strengthen related policies & programmes and secure commitment of funders and users - "what needs to be governed and how?"

EOSC – the way forward

EOSC Declaration (Sept 2017)
- o key input for the Roadmap
- o for agreement and poss. specific commitments by stakeholders
- o basis for follow-up discussion with MS (ERAC SWG 5+)

EOSC Stakeholders Forum (Nov 2017)
- o open to ALL categories represented at the Summit & endorsing EOSC Declaration
- o by end August, EC to define application procedure & working modalities
- o initially based on EOSCpilot project (Stakeholder Engagement Event 28-29 Nov)

EOSC Roadmap (Dec 2017)
- o **Governance structure** , incl. mandate & selection procedure for Executive Board
- o Broad (federated) architecture, incl. EOSC core services
- o Financing

EOSC Declaration

- **33 high level statements meant to capture our common understanding on the required**
  - ✓ Data culture & FAIR data,
  - ✓ Research data services & architecture,
  - ✓ Governance and funding

- **Sent to Summit participants for agreement (stakeholders) and discussion (MS representatives)**

- **Web-posting for wider diffusion/agreement expected early September**

EC gathering endorsement and commitments on the EOSC declaration

- EOSC Declaration won't be modified

- Action list/commitment its evolutive part

- Roadmap will follow (and will have future updates)

By endorsing the principles of the EOSC Declaration, stakeholders signal their intention to be involved in the making of the EOSC (eg. by taking specific action, by joining the Executive Board, by providing inputs via the annual stakeholder forum, or again by joining consortia , to implement the EOSC via Horizon 2020).

Objectives:

- *Identifying 'doers' out of wide range of stakeholders*

- *Promote accountability*

EOSC Declaration / Services & Architecture

[EOSC architecture]
The EOSC will be developed as a data infrastructure commons serving the needs of scientists...EOSC will federate existing resources...service provision will be based on local-to-central subsidiarity...Users should contribute...continuous dialogue to build trust and agreements...

[Implementation]
Resources, components and initiatives of pan-European relevance will be federated on the basis of objective criteria...to deliver EOSC main functionalities...

[Legacy]
The EOSC should incentivise the re-use of existing building blocks, state-of-the-art services and solutions...It should facilitate learning from the past...

[User needs]
Users should see the EOSC as a one-stop-shop...Services and functionalities shall be user driven and determined by clear use cases...

[Service provision]
Research Data Infrastructures, e-infrastructures and commercial operators will develop and provide services based on user needs...Services will be offered at highest Technology Readiness Levels (TRLs) and kept future-proof...avoid lock-in by individual service providers...

[Service deployment]
The EOSC shall support different deployment models...Software sustainability should be treated on an equal footing as data stewardship.

EOSC Roadmap

Governance – (3-layered structure, mandates, working procedures)
- o   Member States and EC (strategic)
- o   Executive Board (operational)
- o   Stakeholders Forum (advisory)

Architecture – launching EOSC stage 1 by 2020
- o   Supporting EOSC components (geographical & thematic)
- o   Core data & services through an EOSC Hub
- o   Advanced services by certified actors
- o   Catalogues of data & Catalogues of services
- o   Rules of participation
- o   EOSC Portal as a universal entry point
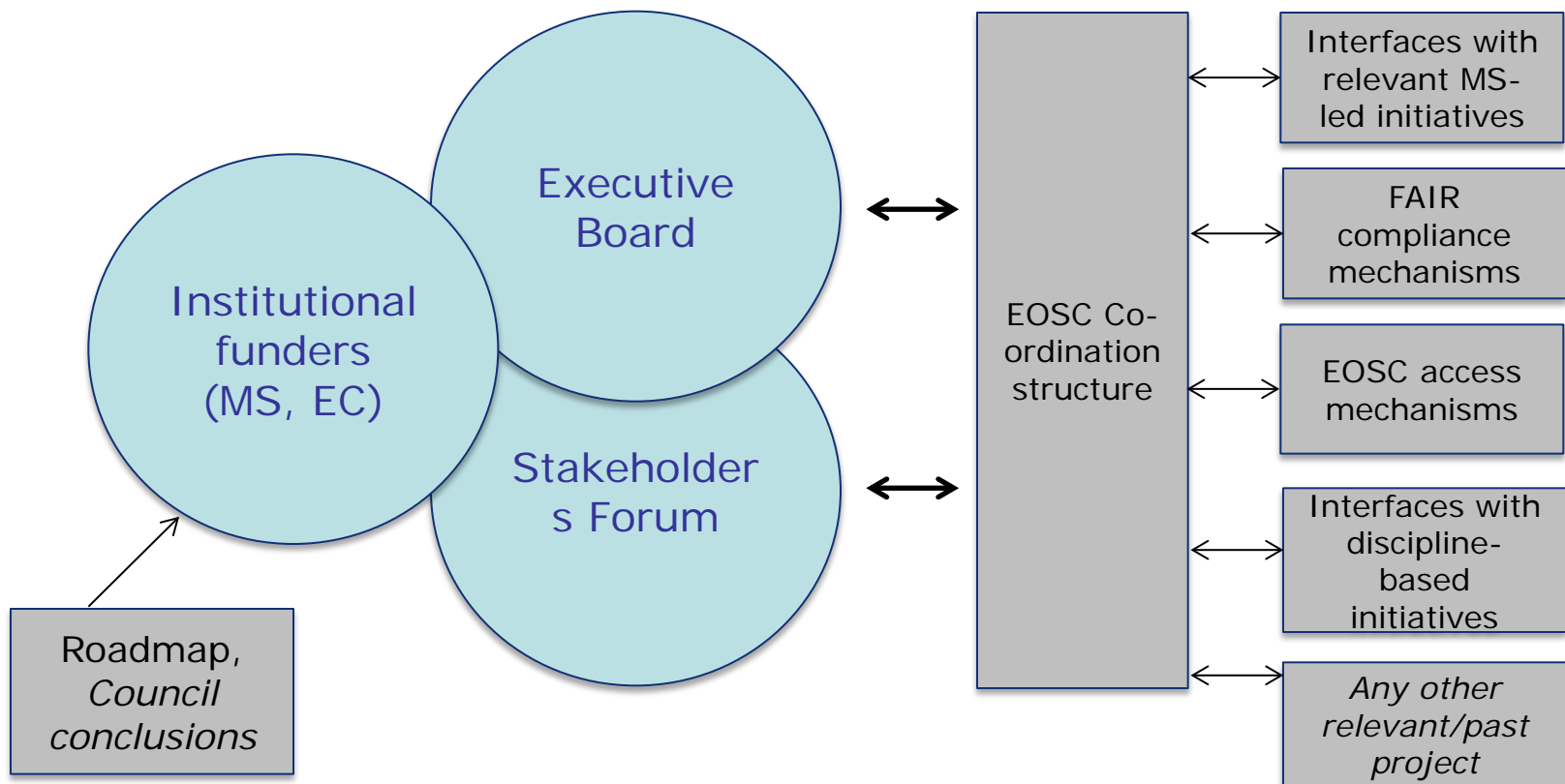- o   FAIR data / FAIR Action Plan

Financing – stage 1 / stage 2
- o   H2020 – RI, in particular through WP2018-20
- o   Developing an EOSC Business Model for long-term sustainability
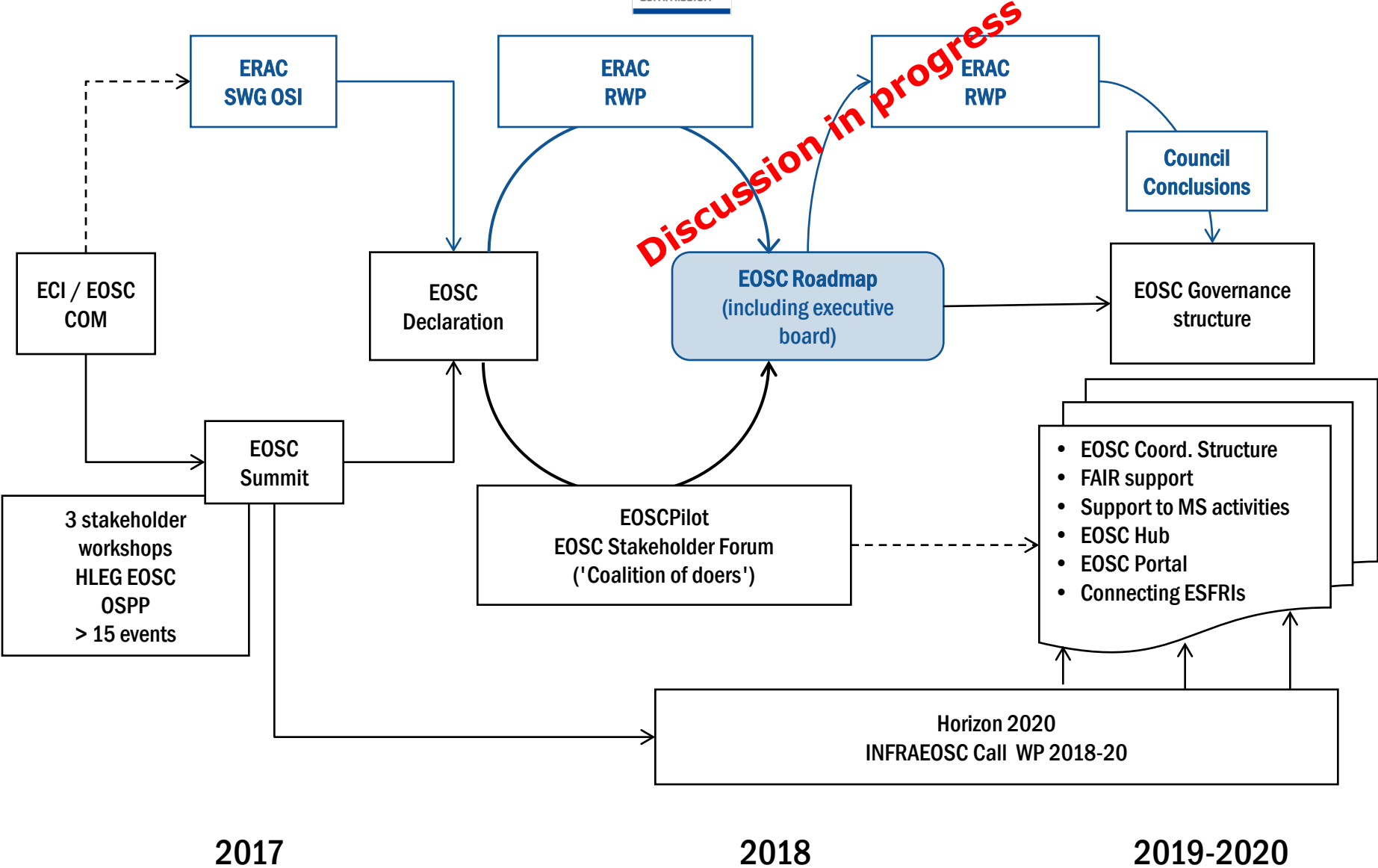
European Commission

EOSC Governance structure

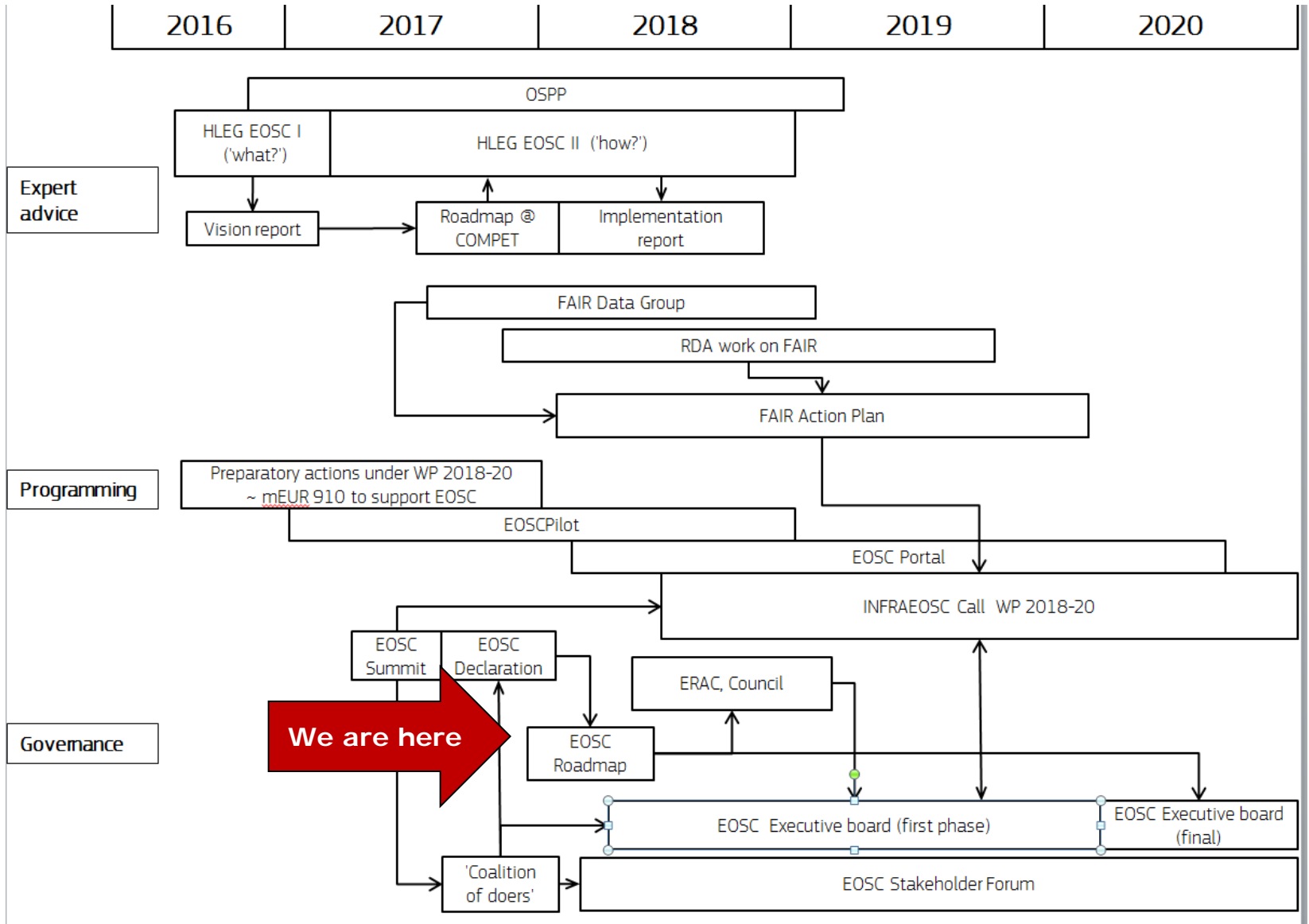**Not for discussion with stakeholders until end of November.**

Co-design process in progress with Member States at ERAC level

EOSC implementation process

European Commission

ERAC
SWG OSI

ERAC
RWP

ERAC
RWP

Discussion in progress

Council
Conclusions

ECI / EOSC
COM

EOSC
Declaration

EOSC Roadmap
(including executive
board)

EOSC Governance
structure

EOSC
Summit

EOSCPilot
EOSC Stakeholder Forum
('Coalition of doers')

- EOSC Coord. Structure
- FAIR support
- Support to MS activities
- EOSC Hub
- EOSC Portal
- Connecting ESFRIs

3 stakeholder
workshops
HLEG EOSC
OSPP
> 15 events

Horizon 2020
INFRAEOSC Call WP 2018-20

2017

2018

2019-2020

EOSC Timeline

Meeting stakeholders again soon

- 28-29 November: EOSC Pilot Stakeholder Forum – The Square – Brussels

- 30 November (tbc): Info Day Research Infrastructures WP2018-20 - Brussels

- 30 Nov -1 Dec: Digital Infrastructures for Research - The Square – Brussels

Questions?

EOSC Team

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