# EOSC-hub contribution to the EOSC implementation, the Hub concept and engagement with stakeholders

*Yannick Legré*

eosc-hub.eu

@EOSC_eu

- Project overview
- Contribution to the EOSC Hub & the implementation roadmap

# PART I

Project overview

EOSC-hub mobilises providers from 20 major digital research infrastructures, EGI, EUDAT CDI and INDIGO-DataCloud jointly offering services, software and data for advanced data-driven research and innovation

# The Project in numbers

- European Commission Horizon2020 programme

- 100 Partners, 76 beneficiaries (75 funded)

- 3874 PMs, 108 FTEs, more than 200 technical and scientific staff involved
    - Budget: €33,331,180 contributed by:
        - European Commission: €30,000,000
        - EGI Foundation and its participants: €3,331,180
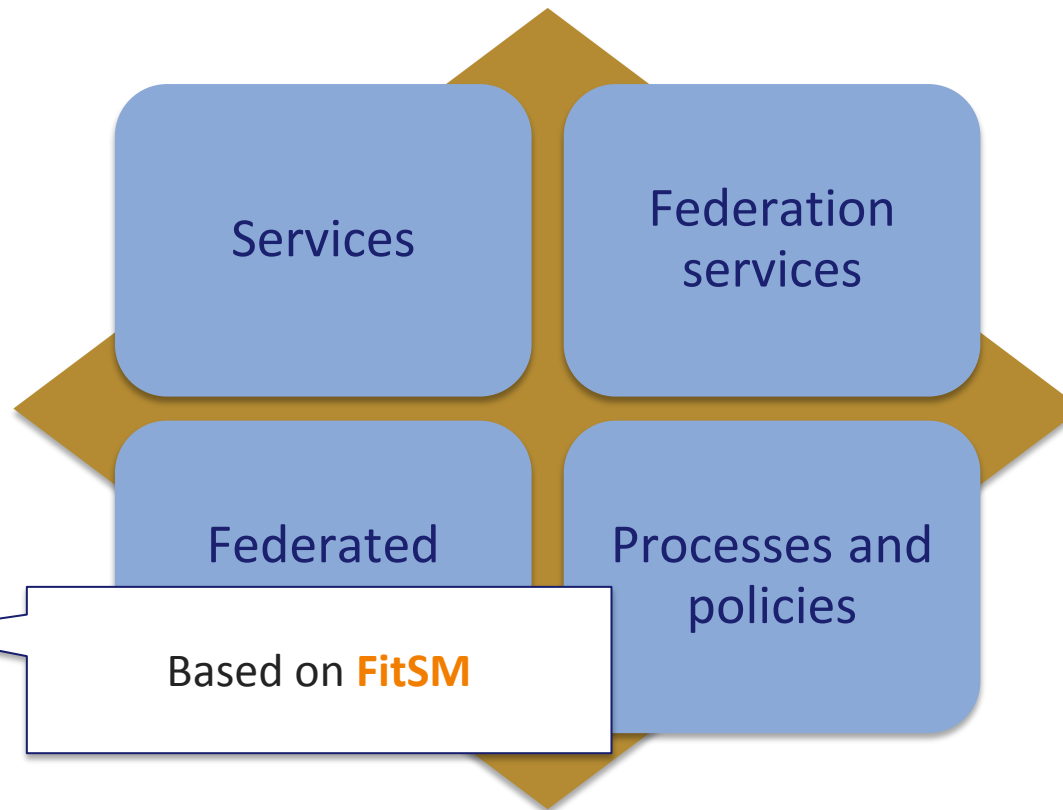
- 36 months: Jan 2018 – Dec 2020

# EOSC-hub Mission

The project will create **EOSC Hub:**
integration and management system

By the consortium and
**external contributors**

Participation according to
**Principles of engagement**
(ref. EOSCpilot)

- Data
- Applications & tools
- Baseline services (storage, compute, connectivity)…
- Training, consultants

- Lightweight certification of providers
- SLA negotiation
- Customer Relationship Management
- …

| Services | Federation services |
|----------|---------------------|
| Federated | Processes and policies |

Based on **FitSM**

- Marketplace
- AAI
- Accounting
- Monitoring
- …

- Security regulations,
- Compliance to standards,
- Terms of use,
- FAIR implementation guidelines
- …

# Project workflow

# Service Providers

**EOSC-hub**
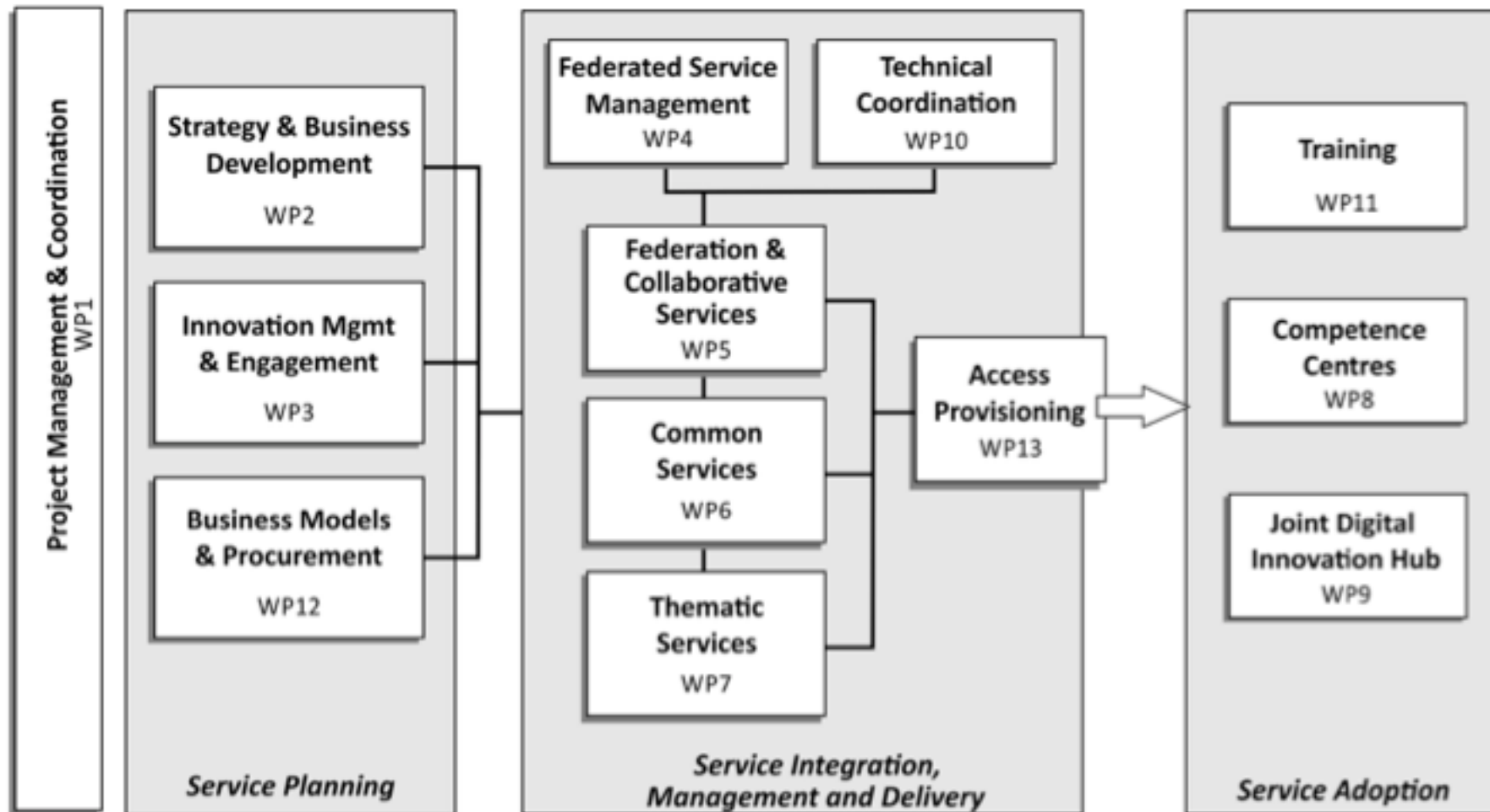
| e-Infra | Humanities | Engineering | Medical and Health Sciences | Natural sciences |
|---------|-----------|-------------|----------------------------|------------------|
| Generic and general services | Language and literature (CLARIN) | Environmental engineering (sea vessels, LNEC) | Biological Sciences (ELIXIR) | **Physical Sciences**<br>• Astronomy (LOFAR)<br>• Fusion (ITER)<br>• High Energy Physics (CMS and VIRGO)<br>• Space Science (EISCAT-3D) |
| | Arts (DARIAH) | Civil Engineering (Disaster Mitigation) | Structural biology (WeNMR) | **Earth Science**<br>• EO Pillar<br>• GEO<br>• Climate Research (ENES)<br>• Seismology (ORFEUS, EPOS) |
| | | | | **Biological Sciences**<br>• Marine and freshwater biology (IFREMER)<br>• Biodiversity conservation (LifeWatch)<br>• Ecology (ICOS) |

# Service catalogue

**WP5**

## Open Collaboration services

- Applications Database
- Repositories

**WP5**

## Federation services

- Accounting
- ARGO
- Check-in
- GGUS
- GOCDB
- Marketplace
- Operations Portal
- RC Auth
- SPMT
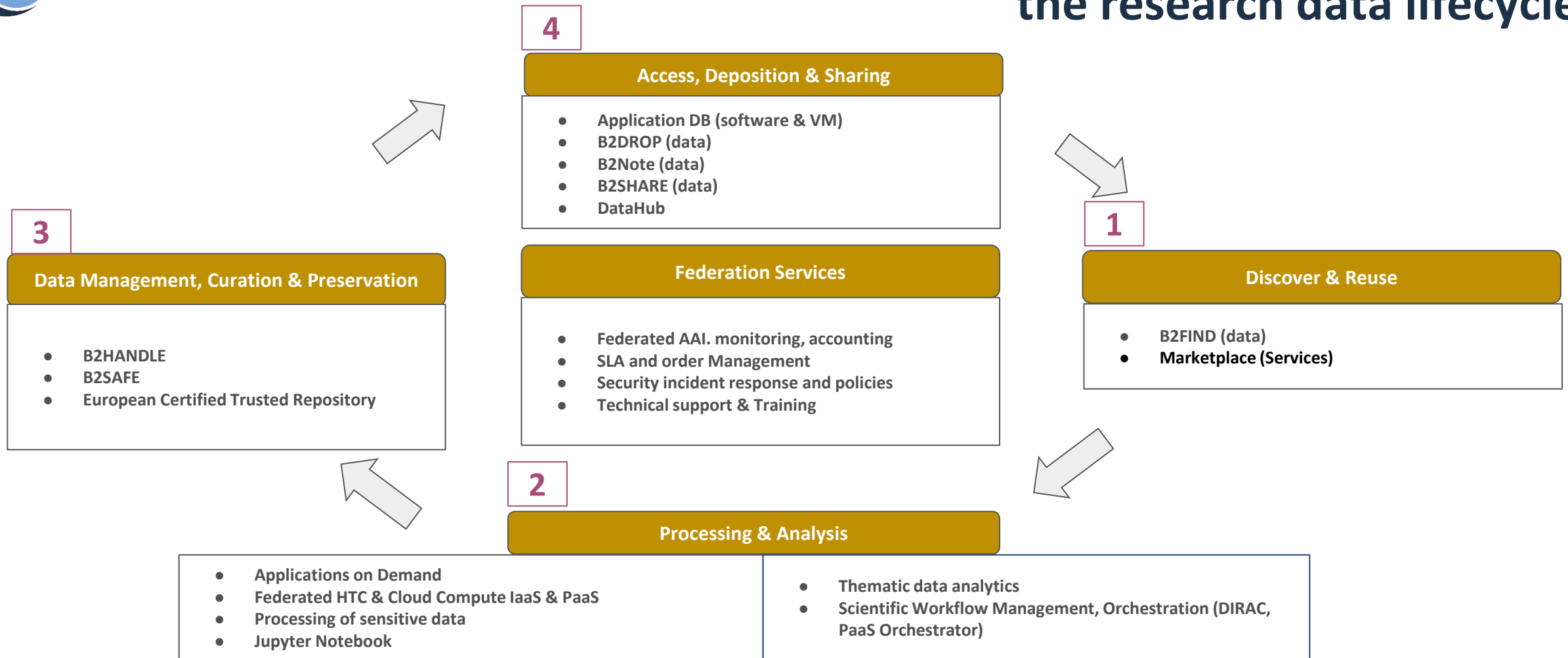- DPMT
- B2ACCESS
- TTS
- SYMON

**WP6**

## Basic infrastructure and added-value services

- EGI High-Throughput Compute
- EGI Cloud Compute
- EGI Cloud Container
- DIRAC4EGI
- EGI Online storage
- EGI DataHub
- B2HANDLE
- B2FIND
- B2DROP
- B2SAFE
- B2STAGE
- B2NOTE
- ETDR
- Sensitive Data Service
- Advanced IaaS
- TOSCA for Heat
- OPIE

**WP7**

## Thematic services

- ECAS
- DARIAH Gateway
- OPENCoastS
- GEOSS
- EO Pillar
- WeNMR
- DODAS
- LifeWatch
- CMI

From month 19:

- IFREMER
- EISCAT_3D Portal

15 May 2018

# Mapping Services to the research data lifecycle

**EOSC-hub**

**4**

### Access, Deposition & Sharing

- Application DB (software & VM)
- B2DROP (data)
- B2Note (data)
- B2SHARE (data)
- DataHub

**3**

### Data Management, Curation & Preservation

- B2HANDLE
- B2SAFE
- European Certified Trusted Repository

### Federation Services

- Federated AAI. monitoring, accounting
- SLA and order Management
- Security incident response and policies
- Technical support & Training

**1**

### Discover & Reuse

- B2FIND (data)
- **Marketplace (Services)**

**2**

### Processing & Analysis

- Applications on Demand
- Federated HTC & Cloud Compute IaaS & PaaS
- Processing of sensitive data
- Jupyter Notebook

- Thematic data analytics
- Scientific Workflow Management, Orchestration (DIRAC, PaaS Orchestrator)

EOSC-hub service catalogue:

**https://wiki.eosc-hub.eu/display/EOSC/EOSC-hub+service+catalogue**

# PART II

Project contribution to "the Hub"

**An open set of process, policies and support tools for EOSC onboarding of providers and end-users and the human resources to run it**

# The Hub

- A European-level contact point for researchers and innovators to discover, access, use and reuse a broad spectrum of resources for advanced data-driven research.

  - Through the virtual access mechanism, more scientific communities and users have access to services supporting their scientific discovery and collaboration across disciplinary and geographical boundaries.

- Open to service providers and end-users

  - The project will support the integration new thematic services and scientific products from research communities and disciplines.
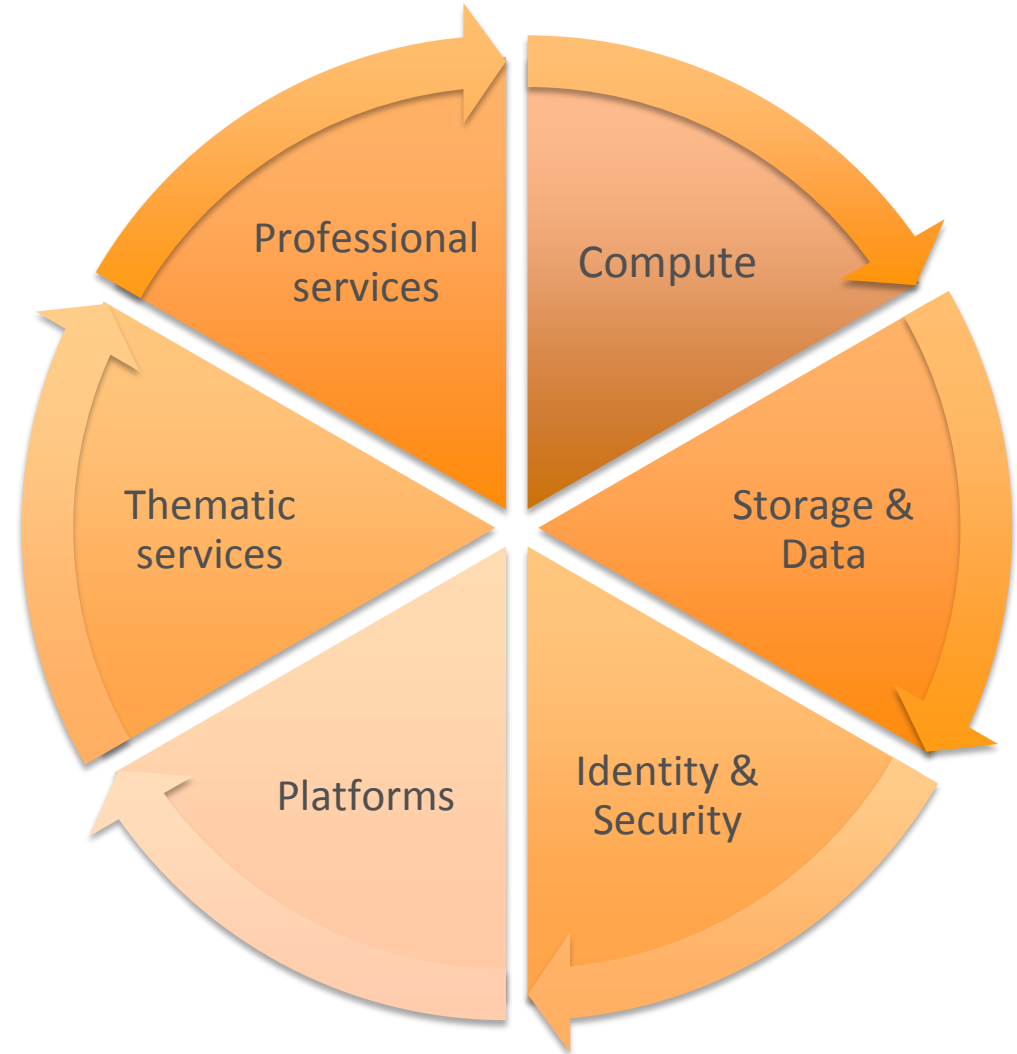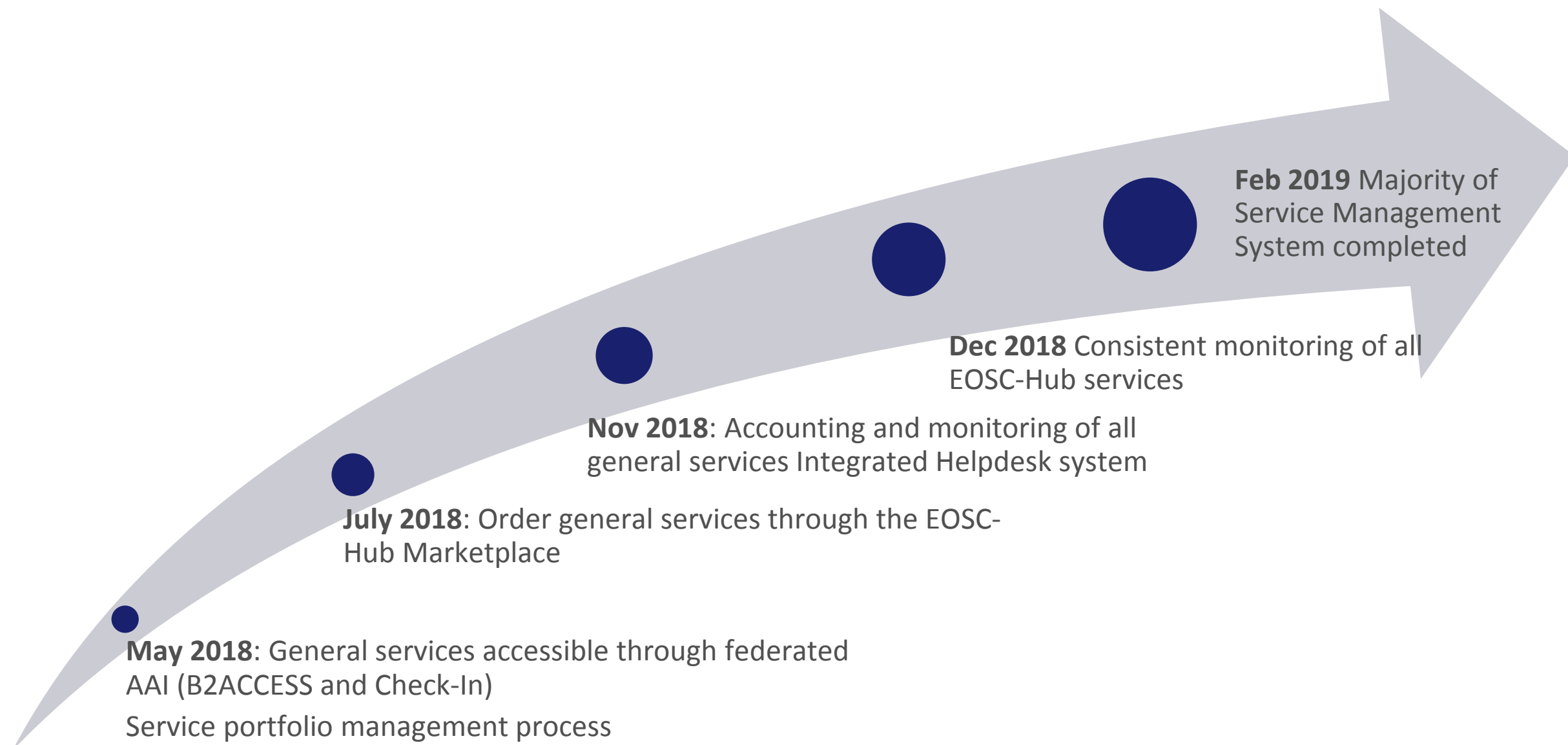
**Providers**
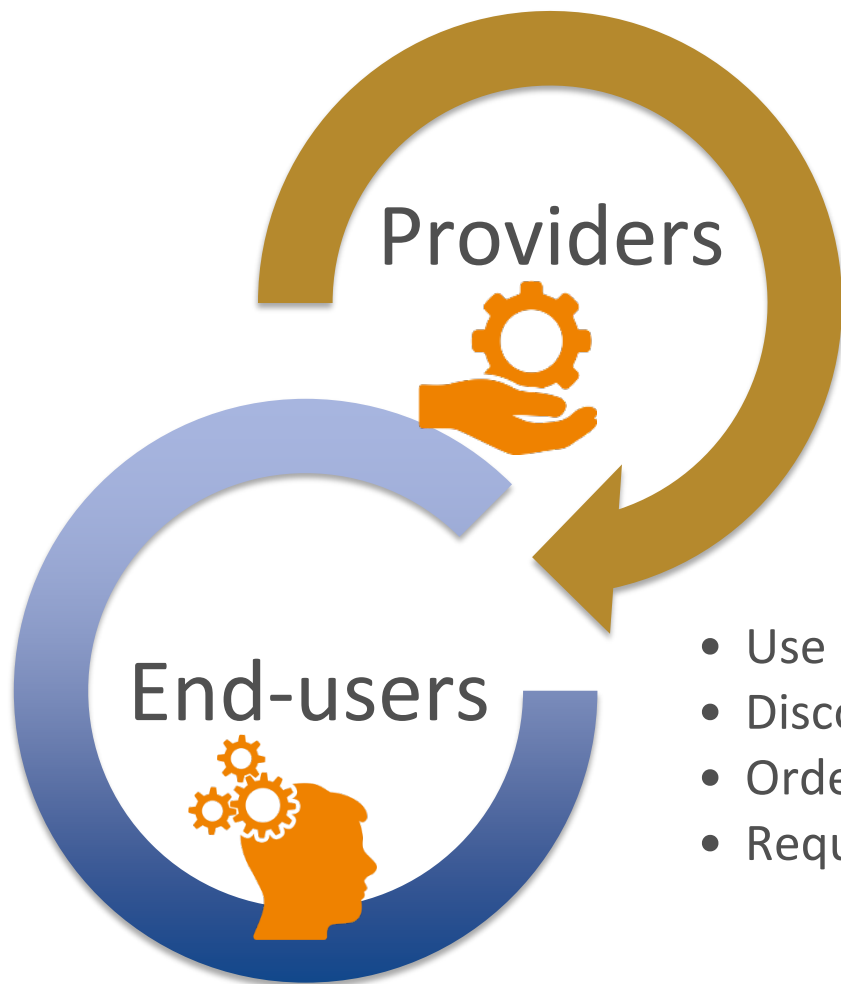
- Publish services and products
- Define Hub policies and comply to these (general & community-specific) →
  community labels
  - e.g. FAIR best practices, access and usage policies, interoperability and
    standards
- Define/Adopt standard-compliant general service management processes
  with other providers
- Exploit tools and for service management
  - Accounting, monitoring, federated AAI
  - Incident management, order management, SLA management, IT security
    management …

**End-users**

- Use institutional credentials for access
- Discover, compare
- Order, get access and support
- Request additional services and products

# Hub service management system

- Manage alignment of services to defined policies and standards
- Align services and products metadata to community guidelines (eInfraCentral, OpenAIRE-Advance)
- Define/maintain/review service level agreements
- Conduct service audits and quality assurance reviews
- Manage end-to-end service level management performance retaining overall accountability
- Provide the tools for aggregating demand and supply, make services and research artifacts discoverable and accessible at European level etc.
- Coordinate IT security operations
- Support users with incident management

# Marketplace functions

Promote and share → Discover → Order → Access

# Marketplace
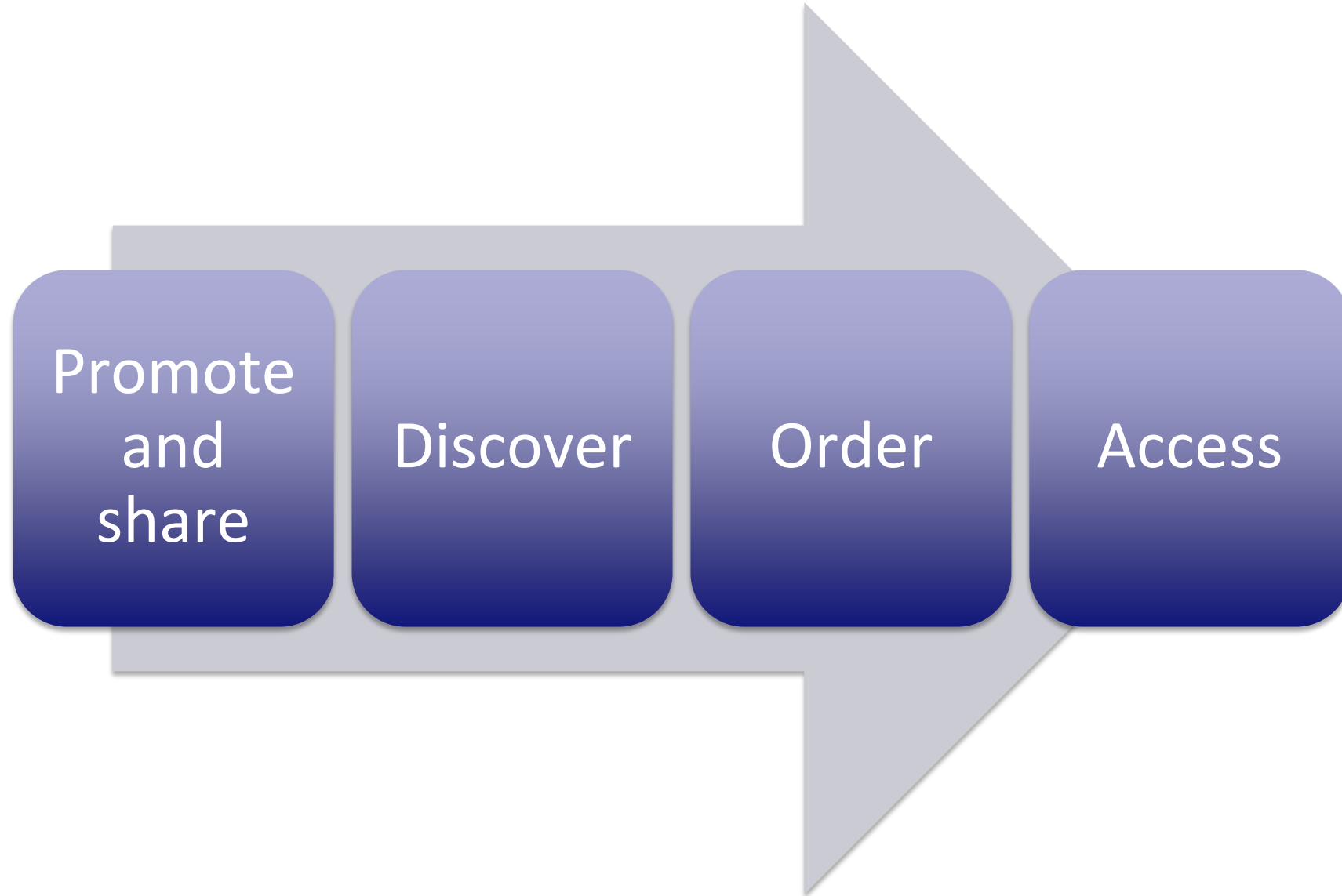
- **Open catalogue of services and products**
  - Integrated discovery, order & access management
- Service options
- Visibility to service provider's brand
- Integrated with AAI (eduGAIN, social IDs, IGTF, etc.), AARC blueprint conformant
- First release: July 2018
  - https://marketplace.eosc-hub.eu/

# Milestones

**EOSC-hub**

**Feb 2019** Majority of Service Management System completed

**Dec 2018** Consistent monitoring of all EOSC-Hub services

**Nov 2018**: Accounting and monitoring of all general services Integrated Helpdesk system

**July 2018**: Order general services through the EOSC-Hub Marketplace

**May 2018**: General services accessible through federated AAI (B2ACCESS and Check-In)

Service portfolio management process

# Contribution to the EOSC implementation

**Architecture** → Federating Core → General and Thematic services → Service management system (process and policies)

**Data** → Data products → Data analytics tools → FAIR guidelines from participating communities

**Services** → AAI, accounting, monitoring → Helpdesk → Service catalogue

**Access and Interfaces** → Marketplace → AAI → Standards roadmap

**Rules** → Policies for users → Policies for service/product suppliers

**Governance** → Service Management System Governance

# Engage with the Hub!



### Service/Product providers

- *Contribute to the catalogue & Integrate*
- *Promote, Train, Exploit*
- *Manage the Hub*

### Early adopters

- *Pilot*
- *Use*
- *Co-develop*

### Consumers

- *Credit allocation & exploit*
- Support
- Improve with feedback
- technical support, exploit

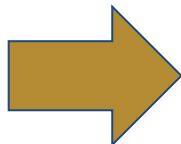# Collaborations - e-Infrastructures

- OpenAIRE-Advance
  - Service integration
    - Consumable data management plans
    - Interoperability for discovery of data, publications and software
    - AAI, annotation, data anonymization
  - Open science scientific impact
    - guidelines for the measurement and exchange of usage statistics
  - Communications, engagement, training and support
  - Strategy

- eInfraCentral
  - Guidelines for service profiling and APIs service portfolio information exchange
  - EOSC portal
- EOSCpilot
  - Validation of architecture, federated service management & service portfolio management
  - Scientific demonstrators
- GÉANT 4.2/3
  - Security, trust & identity
  - Service management
  - Engagement

# Collaboration - Research communities

- Current and future ESFRI Cluster Projects
- Thematic clouds
  - eROSA, AGRINFRA+
  - Blue Cloud
- Research collaborations
- Virtual Research Environments

- FAIR implementation guidelines
- Discovery/Access to community specific scientific products (data, publications, software) through the EOSC-hub marketplace
- technical innovation and co-design
- Scaling up of data/compute infrastructure
- AAI
- ...

# Thank you for your attention!

_____

*Questions*?

**Contact**

contact@mailman.eosc-hub.eu

🔗 eosc-hub.eu     🐦 @EOSC_eu

**EOSC-hub**