Key Exploitable Results

Dissemination level: Public
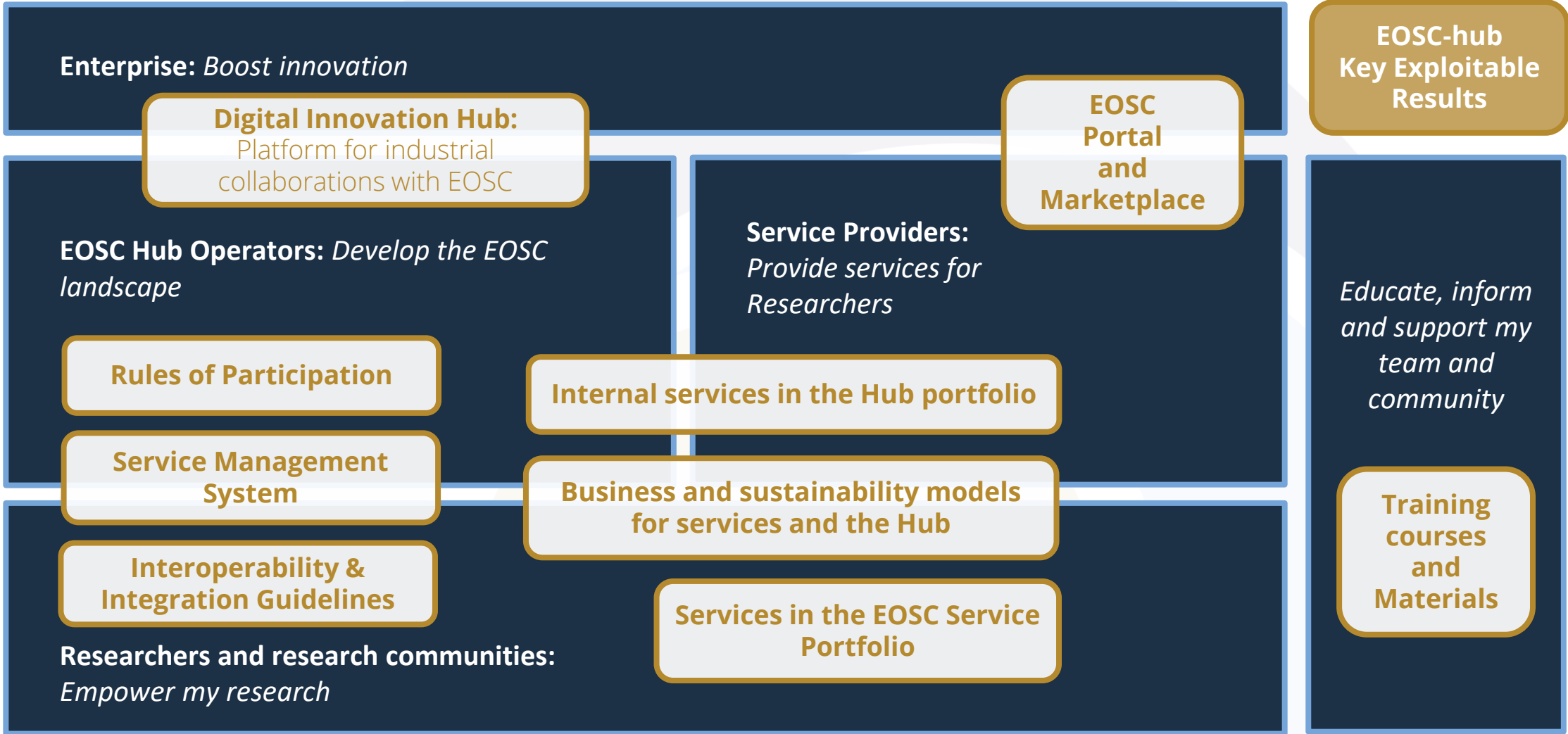
eosc-hub.eu

@EOSC_eu

- EOSC Portal was the result of 2019 EOSC Portal collaboration agreement between EOSC-hub, OpenAIRE-Advance and eInfraCentral
  - Initially featuring two lists of services, the Marketplace delivered by EOSC-hub and a catalogue from eInfraCentral.
  - Service lists now merged and will be upgraded by the EOSC Enhance - support the service discovery and access in EOSC.

- A delivery **channel connecting the demand-side and the supply-side** which showcases the potential of **integrated and coordinated access** to European services, data and other scientific outputs

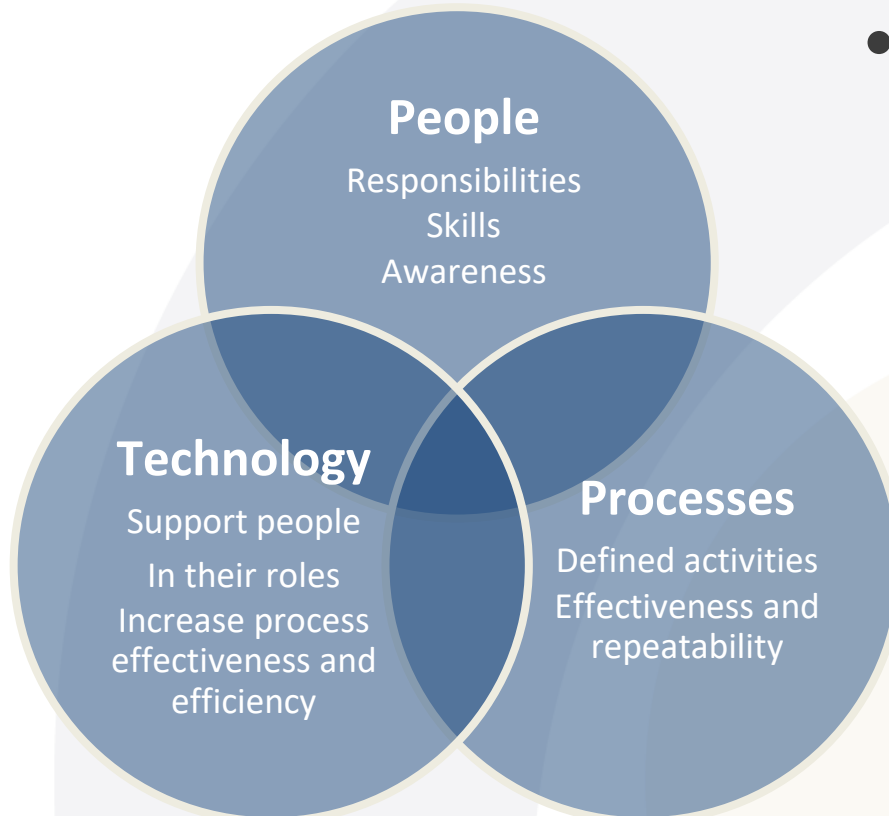For more information, visit: eosc-hub.eu/eosc-hub-key-exploitable-results#KER1

EOSC-hub

Interface for Customers to create and manage the **orders**

EOSC-hub Service Portfolio 1

Service Portfolio 2

Service Portfolio 3

AAI

MP Dashboard

Marketplace Frontend

Service DB

MP Portfolio Dashboard

Publication of Service information in MP according to SDT

Order DB

Interface for Service Owners to manage MP service entries

Service Order Management Back Office (SOMBO)

SOMBO Dashboard

Orders forwarding

Interface for Experts to manage the **orders**

Order Mgmt System 1

Order Mgmt System 2

Order Mgmt System N

People
Responsibilities
Skills
Awareness

Technology
Support people
In their roles
Increase process
effectiveness and
efficiency

Processes
Defined activities
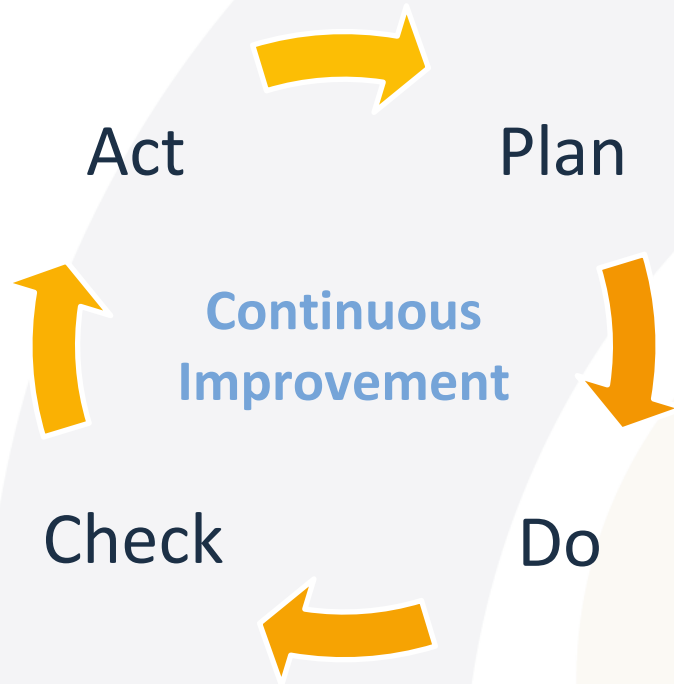Effectiveness and
repeatability

- EOSC-hub defines and implements the EOSC IT service management system (ITSM): plan, deliver, operate and control services offered to customers

  - **Directed by policies** and are structured and **organised by processes and procedures**

  - **Maintain customer focus** while sharing the load and responsibilities dynamically across providers

  - **Shared awareness across organisations** – e.g. coordinate updates, maintenance breaks to minimise disruptions

What do we need to achieve?

How can we put it in practice?

FitSM-0: Overview and vocabulary
FitSM-1: Requirements

FitSM-4: Selected templates and samples
FitSM-5: Selected implementation guides

How can we organize it?

How did we perform?

FitSM-2: Objectives and activities
FitSM-3: Role model

FitSM-6: Maturity and capability assessment scheme

https://www.fitsm.eu/
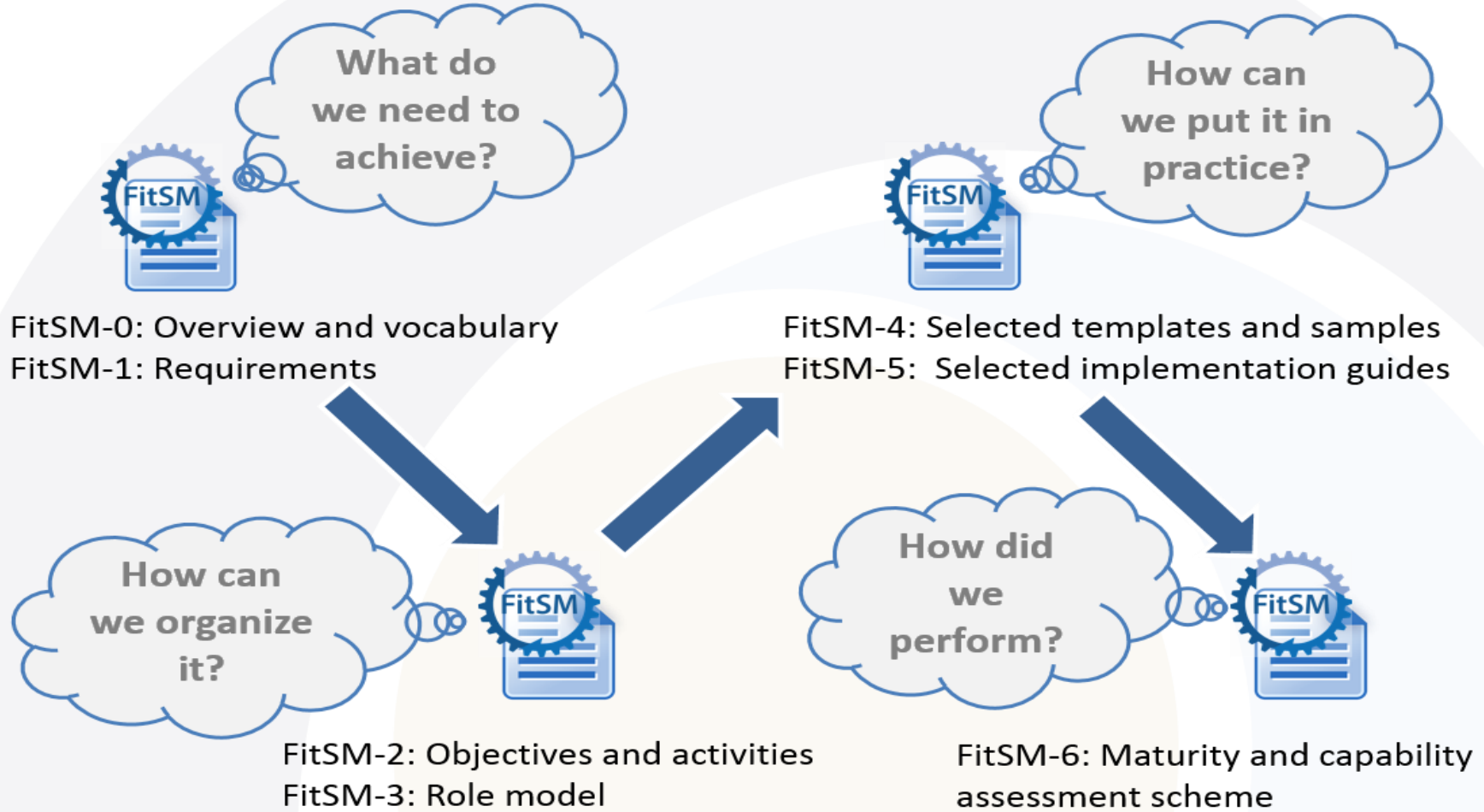
SMS aims to **structure, plan, implement, monitor and continually improve all service management processes** that support the services **within the EOSC**.

The Hub service portfolio: internal services
- Services enabling EOSC (the Hub) and supporting EOSC SMS.
  - E.g. accounting, monitoring, helpdesk, AAI, order management tool
- **Scope**: all service management processes, high expectations and close control.

EOSC service portfolio: external services
- EOSC services promoted and delivered to the research communities, that can be found and ordered via EOSC portal.
  - E.g. storage, compute, processing, data management
- **Scope**: Portfolio management (Rules of Participation), Service level management, Order management, Customer Relationship Management
  - Possible limited interaction with Incident management, change management etc.

Act

Plan

Continuous Improvement

Check

Do

- **Robust and resilient service delivery** within the hub to the EOSC federated infrastructure;

- **Facilitate communication between customer and providers** by introducing single point of contact (helpdesk, marketplace etc.);

- **Shares service delivery best practices** among providers;

- **Aligns service management activities of all of the service providers**,
- supporting different integration levels with the centralised services;

- **Integrates services provided by the different providers into the common marketplace and monitoring frameworks** in a way that provides value for EOSC.

- KER page on the
  EOSC-hub website:
  www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER2

- FitSM standard:
  www.fitsm.eu/

Enterprise

EOSC-hub Operators

Rules of Participation

Service Providers

Researchers and research communities

Educate, inform and support

- Rules of Participation at multiple levels
  - **EOSC Executive Board Working Group on Rules of Participation** (WG-RoP)
    - High level rules and policies governing participation in EOSC from all groups, expected behaviours
  - **EOSC-hub Rules of Participation Taskforce** (tf-RoP)
    - Specific rules for which services and service providers should be discoverable and accessible through EOSC on the EOSC Portal.
  - **EOSC-hub onboarding team**
    - Implement rules based on WG-RoP and tf-RoP, escalate exceptions, edge cases and examples which provide input on new or updated rules

- EOSC-hub has developed practical criteria for what should be included in EOSC,

  Taking draft Rules from WG-RoP once released and offering them to EOSC.

  - Feed experience into future RoP and practical implementation in future projects
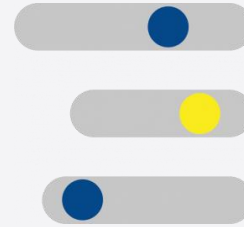
"Designing the Rules of Participation that shall define the rights, obligations governing EOSC transactions between EOSC users, providers and operators"

- *The consultation and available evidence suggest that the rules ought to address:*
  - *the use of the tools, specifications, catalogues and standards (EOSC shared resources) and applicable methodologies (framework for FAIR research data);*
  - *the principles for regulating transactions (e.g. financial mechanisms and procedures, agreements/bylaws established by the EOSC governance framework); and*
  - *the applicable legal frameworks (e.g. GDPR, copyright, Data Security and Cybercrime, dispute resolution and redress mechanisms, e-commerce directive).*

The following criteria are those currently used by EOSC-hub to understand which services should be onboarded. These criteria are still under development, by our team in the EOSC-hub project and EOSC Portal collaboration, but also at a larger scale by the EOSC Executive Board appointed by the European Commission. The EOSC Executive Board may define broader criteria in future, but these are the current criteria we are using.

1. It must be an actual service
   a. It must be a service according to the IT Service Management definition [1]. It should be an ongoing activity offered 'live' to customers. This may be an IT service, or a human service (e.g. training, consultancy).
   b. It may not be a research product, for instance, a document, a dataset or a piece of software.
2. The Service must be coherent. It must be available and offer value on its own. It may not be only a feature of a larger service.
3. Service must meet at least **one** of:
   a. The service must be targetted to the research community
   b. The service must be provided by the research community
   c. *The service comes from an EOSC related H2020 funded project*
   d. The service is part of a procurement framework targeting researchers.
4. The service must be both available in Europe and available in a European language. See https://europa.eu/european-union/about-eu/eu-languages_en
5. The required fields in the Service Description Template must be filled, including required linked information.
   a. URLs must be Fully Qualified Domain Names (FQDN)
6. The provider must agree to periodically update their data to keep it current (to be covered in Provider agreement, TBC)
7. *Key information must be in English*
   a. The SDT must be in English
   b. The basic information in the User Interface for the service must be available in English
   c. Privacy statements, terms of use and SLA/SLS must be available in English. Other documentation may be in native language only.
   d. The Helpdesk must be able to answer queries in English at a minimum.

LIVE DOCUMENT, CHANGING BASED ON WG-ROP AND EXPERIENCE

- KER page on the EOSC-hub website
  - https://www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER3
- EOSC working Rules of Participation Working Group
  - https://www.eoscsecretariat.eu/working-groups/rules-participation-working-group
- EOSC-hub service portfolio inclusion criteria
  - https://wiki.eosc-hub.eu/display/EOSC/Criteria+for+possible+inclusion+in+the+EOSC+Service+Portfolio (live document)

Enterprise

EOSC-hub Operators

Service Providers

Internal services in the Hub portfolio

Educate, inform and support

Researchers and research communities
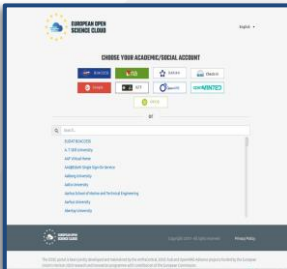
- <u>Internal Services</u> provide basic enabling services for EOSC access and operation

  - For example, access control or accounting
  - Offer common and standard interfaces to shared tools for basic services that need to be aligned in order to provide consistent user experiences.
  - Internal services in the Hub Portfolio are one of the key elements of the **EOSC federating core**.
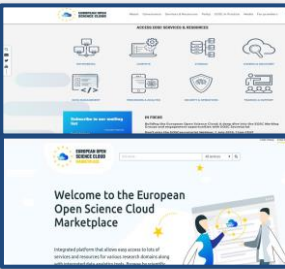
EOSC-hub
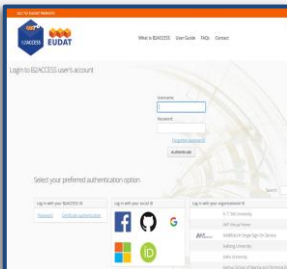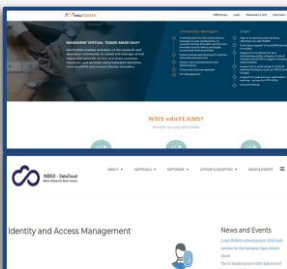
Access
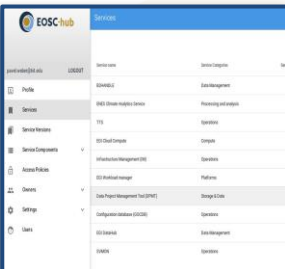
Check-in

B2ACCESS

eduTEAMs IAM
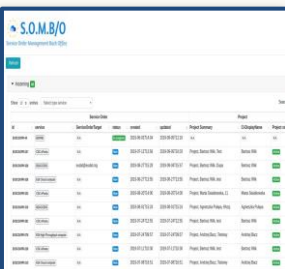
Service Discovery and Ordering

EOSC Portal / Market place
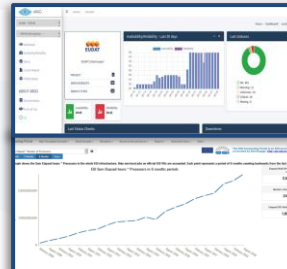
Service Portfolio Tool

SOMBO (Service Order Handling)

Operations Support
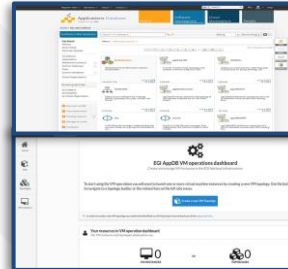
Monitoring Accounting
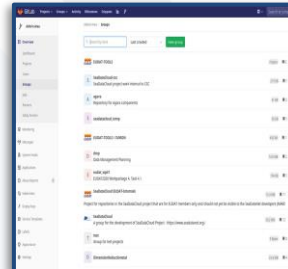
Config. Database

Helpdesk

Software and App Repositories

AppDB

GitLab

EGI Software Repo

- Provides a common toolset for integrating services to EOSC ecosystem.
  - A prerequisite for the function of the hub as a federating core
  - A mature implementation of the tools will streamline the processes of the EOSC Hub Operators.

- For the service providers, the KER provides tools to access several user communities through the hub
  - Multiple communities, single service API

- More information
  - KER page on EOSC-hub website
    https://www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER4

EOSC-hub

Enterprise

EOSC-hub Operators

Service Providers

Researchers and research communities

Services in the EOSC Service Portfolio

Educate, inform and support

- These services and solutions are "onboarded" to EOSC Portal and Marketplace and also often integrated with each other

  - They speed up the research process and enable cross-disciplinary collaboration and reuse of tools and results.
  - The services have different application areas and sustainability models.
  - EOSC Service Portfolio will support them by making the discovery of the services easier and reducing the effort needed to adopt them.
  - Off the shelf FAIR data and compute services with service integration

- In the nutshell: **EOSC is more than the sum of its parts!**
  - More information: https://www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER5

DATA DISCOVERY AND ACCESS

Providing a common data discovery and access layer for EOSC

Off-the-shelf services to support FAIR data

FEDERATED COMPUTE

Provide a multi purpose, federated compute environment
- Cloud Compute
- Container compute
- High Throughput Compute

PROCESSING AND ORCHESTRATION

Provide orchestration services to provision & configure virtual infrastructures across multiple cloud sites, and support deployment onto EOSC compute resources as well as commercial providers (AWS, Azure...)

DATA AND METADATA MANAGEMENT

FAIR data resources with seamless access from EOSC-hub computational resources

DATA PRESERVATION

Provide a Certified Trusted Digital Repository.
Fully integrated with EOSC FAIR data service
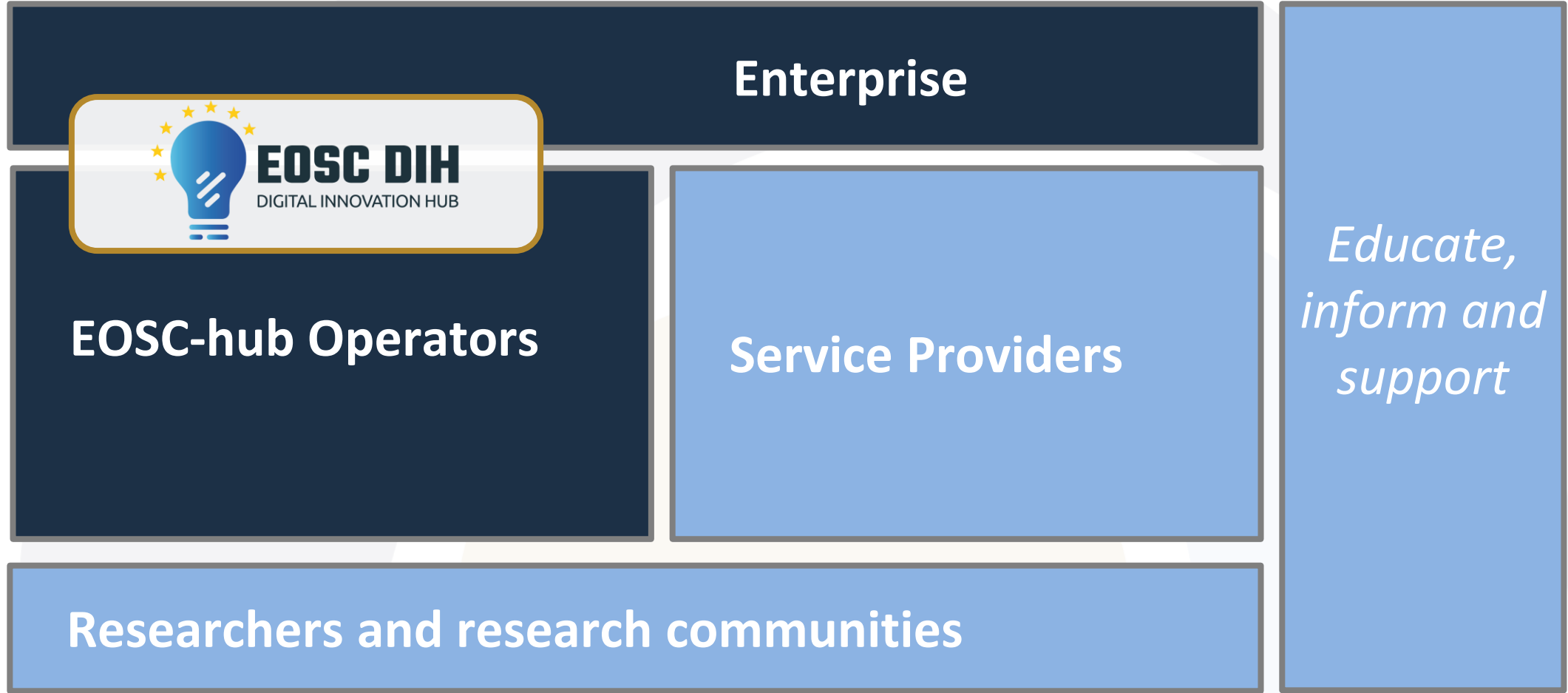
SENSITIVE DATA SERVICES

Off the shelf sensitive data services.
EOSC Integration: Exposing sensitive data services via EOSC FAIR data services.
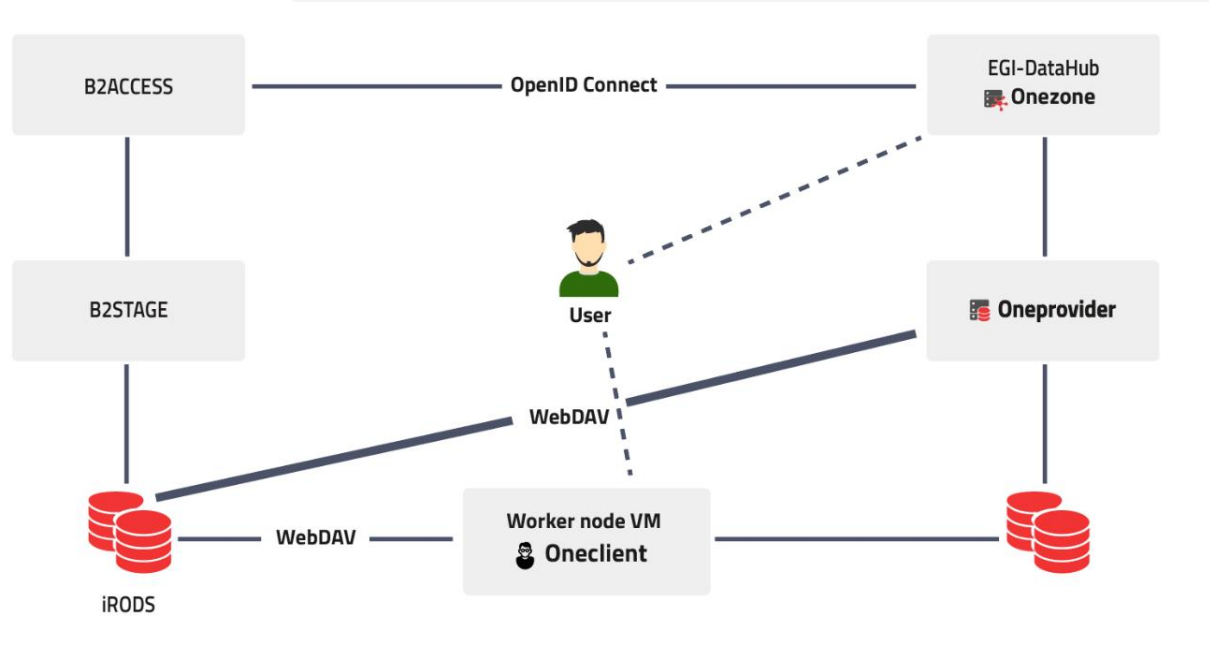
Goal: Transparent data exchange between e-infrastructures (EUDAT & EGI)

- End-user driven activity
- Solution demonstrated

The integration of the EGI-DataHub and B2STAGE/B2SAFE services for the purpose of transparent data transfer between these infrastructures

Enterprise

EOSC-hub Operators

Service Providers

Educate, inform and support

Researchers and research communities

- Clear interface for commercial innovation supported by EOSC
  - Part of the broader European Digital Innovation Hub landscape
  - A one-stop-shop that brings IT services, research data, technology and expertise into a single place to support innovation in the industry.
  - Several public-private collaboration models around piloting and co-design of new services
    - Proof-of-concept work, performance testing etc.
    - Technical access to different "as a Service" resources (HPC/HTC/Cloud computing, storage, data management and higher-level services via established partnerships)
    - Training and support (Technical consultancy, service management, commercialisation) and visibility
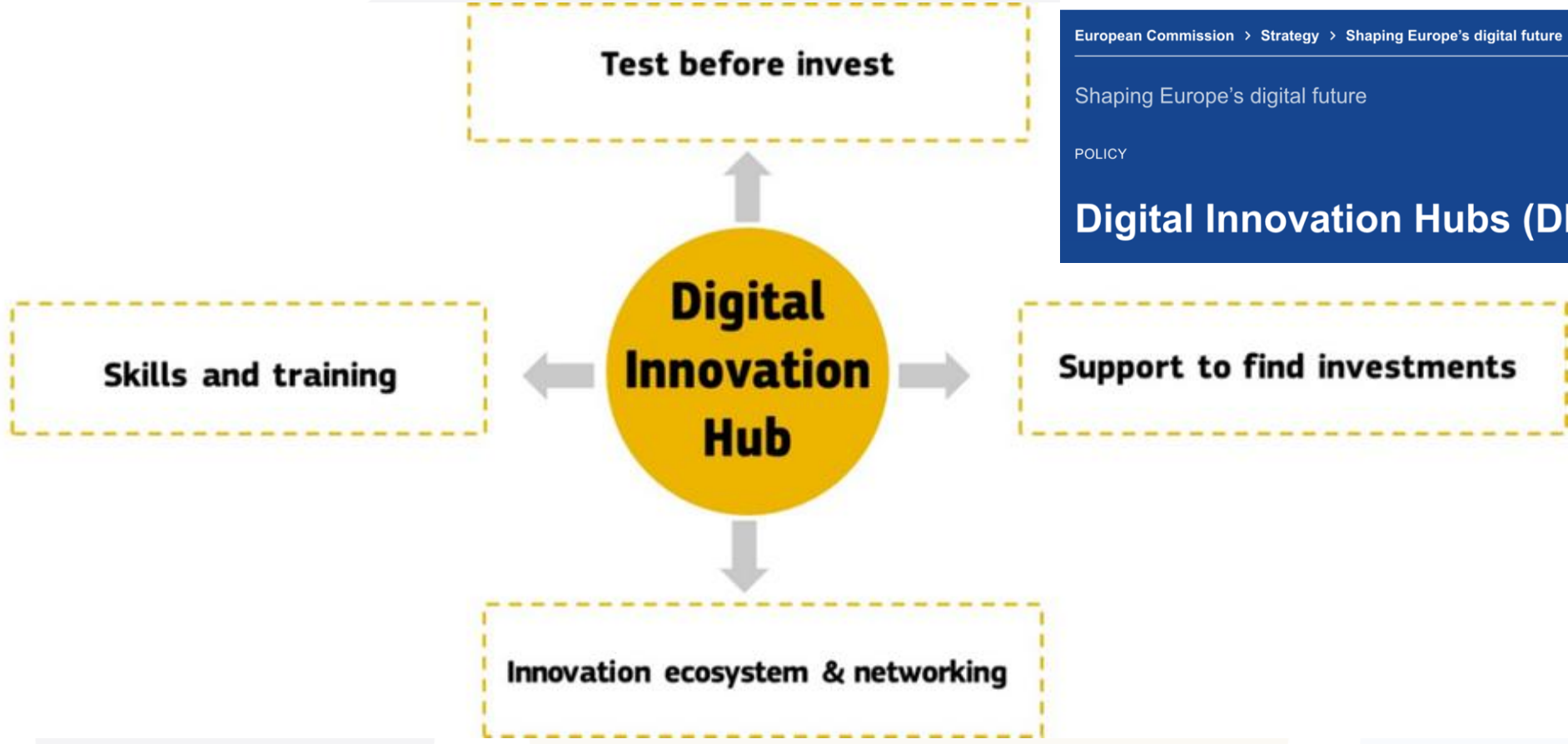   - Using the DIH as a networking tool to expand beyond local markets.

https://ec.europa.eu/digital-single-market/en/digital-innovation-hubs

EOSC-hub

Customer

Making use of existing EOSC services

Provider

Offering services to EOSC

Partner

Co-development

Procurement

Participate in the procurement framework
(see KER7)

EOSC-DIH website - https://eosc-dih.eu/

- KER page on the EOSC-hub website:
  - https://www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER6
- Catalogue of Digital Innovation Hubs
  - https://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool
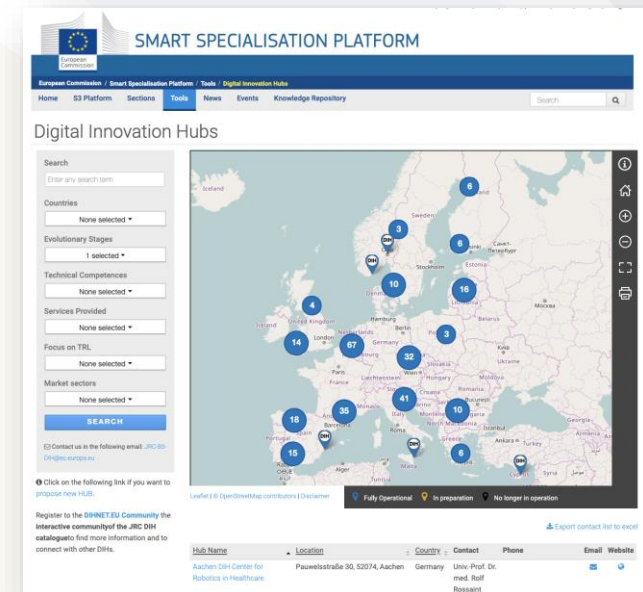
Enterprise

EOSC-hub Operators

Service Providers

Business and sustainability models for services and the Hub

Researchers and research communities

Educate, inform and support

- Contribute to the definition of "EOSC Federating Core", including cost assessment and proposals for its sustainability, and for the value proposition of the EOSC

- Analyse a number of procurement and service delivery models that are applicable to different EOSC scenarios

- Develop recommendations for sustainable business models to facilitate cross-border service provision

EOSC Governance and related Working Groups

- EOSC Sustainability Working Group published Strawman and Tinman documents focusing on financing model, legal vehicle, governance structure, regulatory and policy environment
- Main milestone: Q3 2020 "Recommendations on strategic and financing orientations and organisational settings for the future of the EOSC

OCRE project

- Goal: stimulate the adoption of commercial digital services by the European Research community
- Dedicated budget available to procure Cloud and EO services for research (EOSC-hub acting as a channel)

Highlights

- EOSC Federating Core
  - Published proposals on the structure and cost of the EOSC Federating Core

- Market research
  - Methodology & questionnaire defined
  - Extracted insights from collected data

- Procurement and service delivery models
  - Identification and high-level analysis of 3 business models

- EOSC Sustainability WG
  - Referenced by the EOSC Sustainability WG in the Strawman document
  - Feedback collected and sent

- OCRE project
  - Provided feedback to tender requirements
  - Agreed and signed collaboration MoU and voucher distributions MoU

- More information
  - KER page on the EOSC-hub website: https://www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER7

Enterprise

EOSC-hub Operators

**Interoperability &
Integration Guidelines**

Service Providers

Educate, inform and support

**Researchers and
research communities**

- Interoperability and Integration guidelines define the high-level architecture for basic EOSC technical functions

  - Consists of technical specifications, policies and procedures for FAIR data management and security, documents and reports
  - Promote EOSC standards and APIs
  - Facilitate access to services
  - Lower barriers to integrating and composing services
  - Promotes the usage of services between adjacent communities
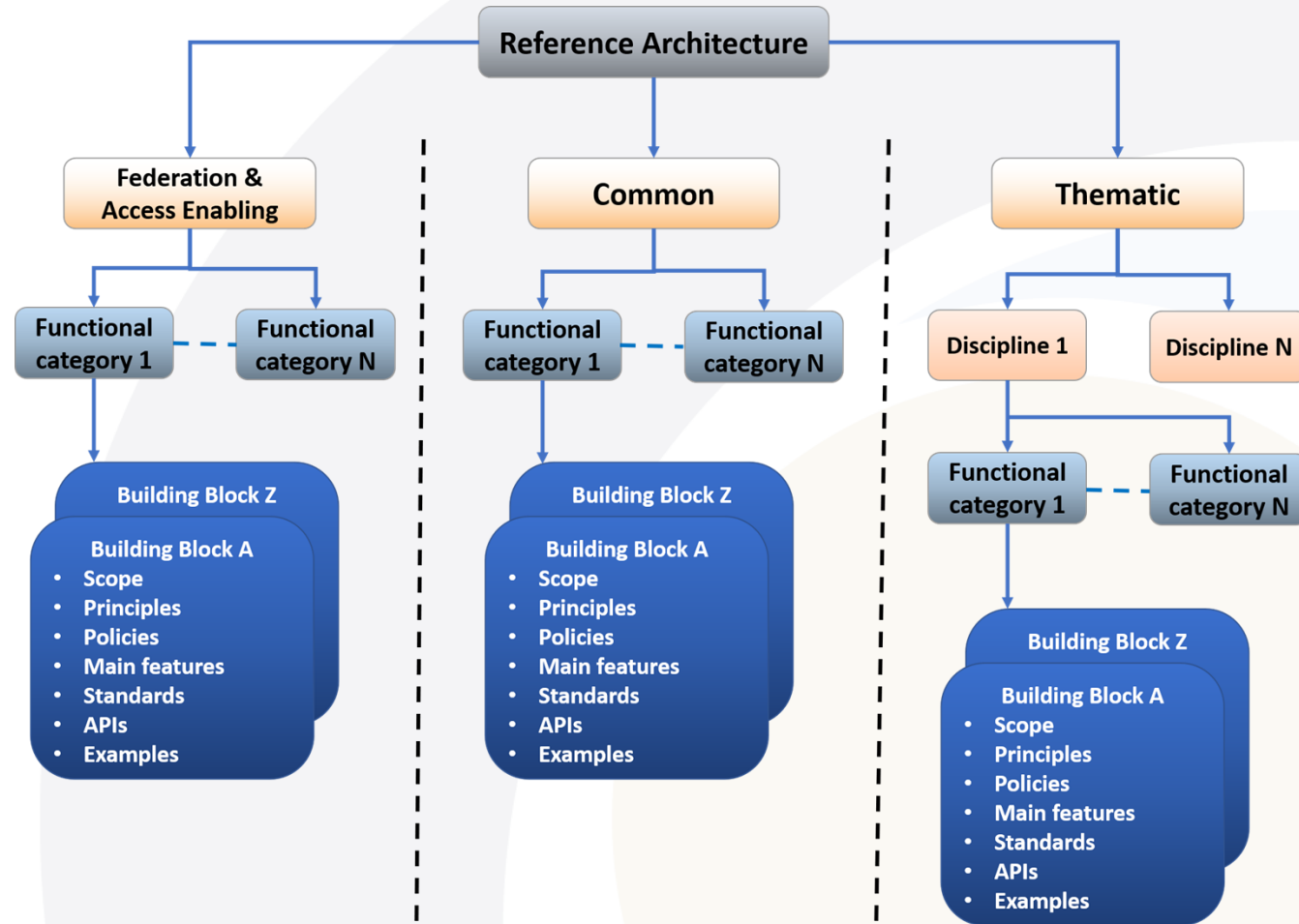
- **Reference architecture:** template solution for an architecture
  - common vocabulary
  - list of <u>functions</u> and some indication of their <u>interfaces</u> (or <u>APIs</u>)
  - internal/external interactions

- **EOSC Technical Architecture**
  - Infrastructure level
  - Working on defining:
    - Main blocks, functions, interfaces, APIs, standard as technical concepts, common vocabulary

- **First EOSC Technical Architecture** (proposal)
  - Input to the "EOSC Architecture WG" → **EOSC Interoperability layer**
  - Feedback collection → survey in the EOSC Secretariat platform
- **Initial specifications** for a number of building blocks
  - Federation services: AAI, Monitoring, Accounting, etc
  - Common Services: Cloud IaaS, Cloud Container, PaaS, Data Repository, etc
- Ongoing collaborations with RDA
- **Several internal & external user communitie**s supported
  - **> 100 user stories & use cases** analysed
  - **> 100 technical requirements** defined for WP5/WP6,WP7
  - 2 Early Adopter Programme calls supported
- More information:
  https://www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER8

Enterprise

EOSC-hub Operators

Service Providers

Researchers and research communities

Educate, inform and support

Training courses and Materials

- Tailored to optimally fit the requirements of the diverse audience EOSC needs to reach

  - Individual researchers encountering the e-Infrastructures for the first time
  - Service providers who e.g. might benefit from technical assistance on using, integrating and providing services in EOSC
  - …and everything in between!

- Courses and material encompass a large variety of project results
  - Aimed to stimulate the establishment of a "knowledge network" of expertise
  - Help researchers from different scientific disciplines to better integrate advanced digital services, tools and data to achieve excellence in science, research and innovation.

- Topics cover all the other Key Exploitable Results

EOSC-hub
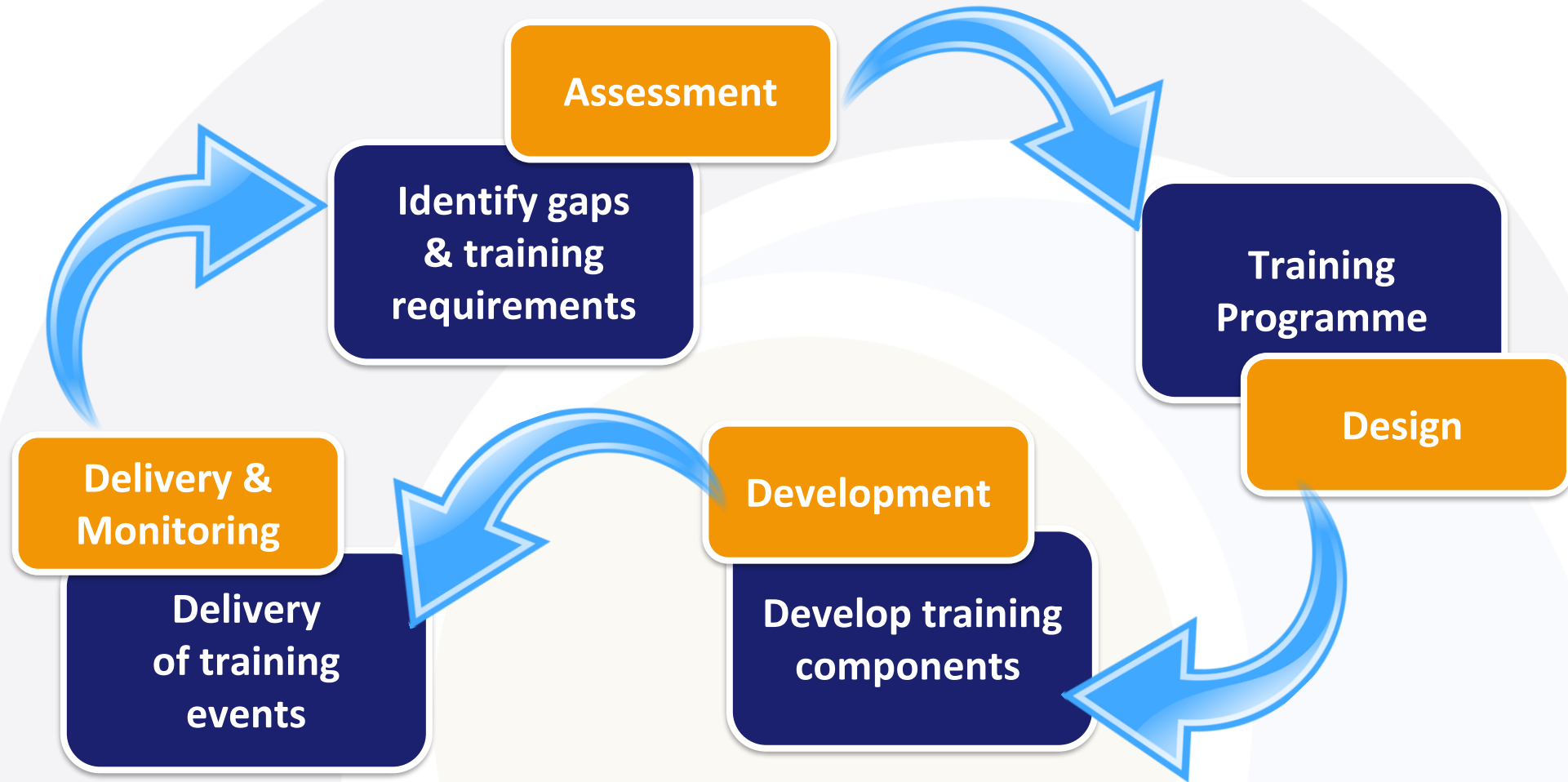
133 Training events

22 Webinar

2300+ people trained

311 training contents

4 articles published

20 FitSM trainings

23 DMP training

~150 certified participants

Involved in the Community of Practices (CoP)

68 Domain-specific training

22 Common& federated training

- *"The three days of training were excellent, informative and helpful", INSTRUCT Training course on Advanced Integration of diverse structural data"*
- *"The training really helped to understand the big picture and understand how sustainable operations should be executed; it is much simpler than ITIL, but still useful!". FitSM Foundation, April 2018*
- More information: https://www.eosc-hub.eu/eosc-hub-key-exploitable-results#KER9

Thank you
for your attention!

_____

Questions?

🔗 eosc-hub.eu   🐦 @EOSC_eu