



EUROPEAN FEDERATION OF
DATA DRIVEN INNOVATION
HUBS

EUHubs4Data Technical Aspects

HPC & BIG DATA/AI 2022-03-15



The EUHUBS4DATA project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 951771



BIG DATA VALUE
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This project is part of [BDV PPP](#)

Understanding the model

Definition and objectives to build a federation of DIHs

The federation

- EUHubs4Data is a project that **will result in a federation of DIHs**
- Currently we have **21 DIHs**
- ...and more will be joining in 2022
- **Each one having its own**

EUHubs4Data catalogue of services, datasets



1st step

- We want to **work as a single entity**; the federation.
- Offering a global catalogue from a local perspective
 - Common **catalogue**
 - Local **support**



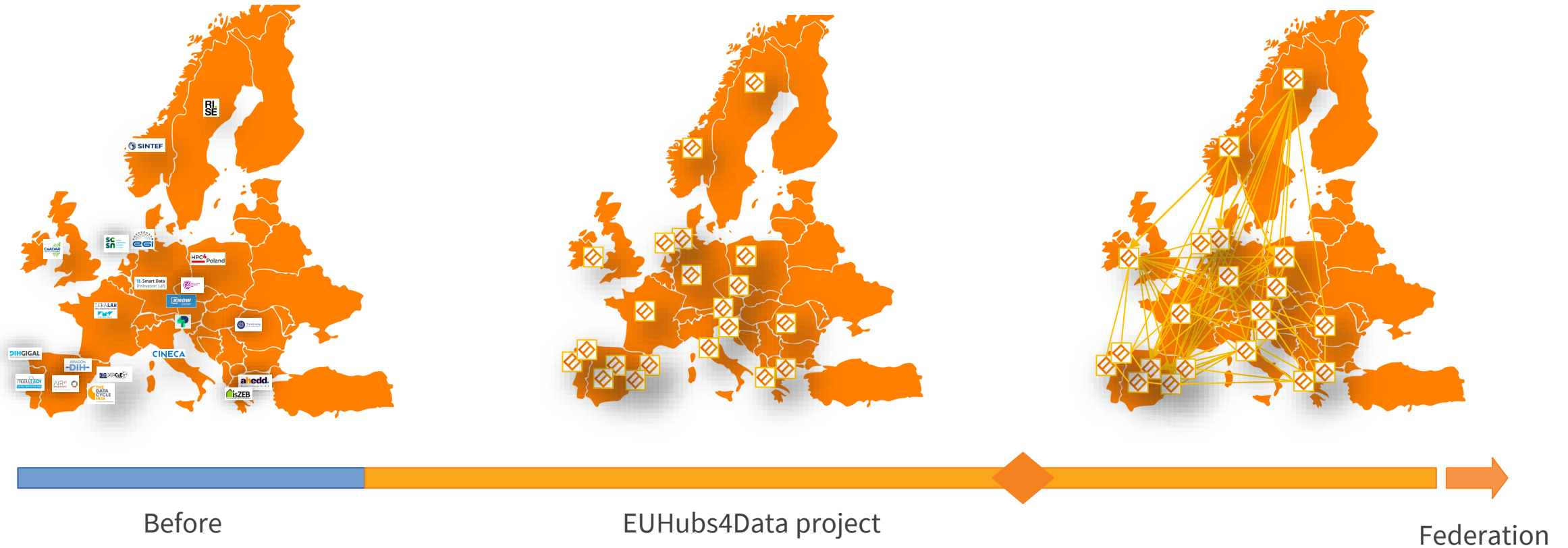
2nd step

The objective is to create a **Real Federation**

- Reach **interoperability** between DIHs.
- Offer **services** and **datasets** to SMEs as a federation.



Where we are?



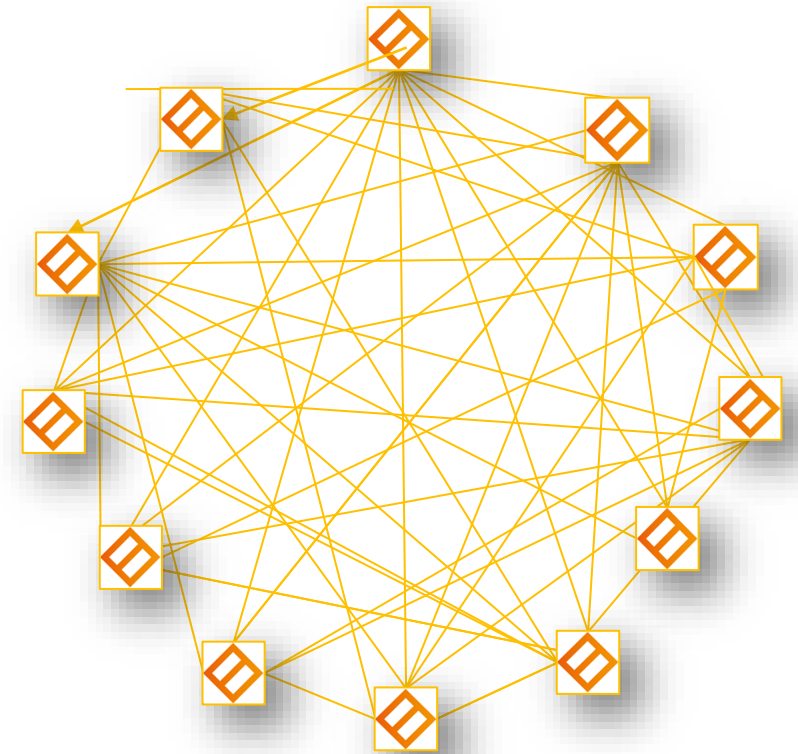
Building the federation model

How we are achieving this

Federation implementation


We are **working** mainly on:

- 1) The federated catalogue
- 2) Interoperability, using IDSA components
- 3) Service Delivery Framework



The federated catalogue

- **Currently the 2nd version** is available and the 2nd Open Call is running
- **Planned feature:** add features to share the catalogue as a federation



THE FEDERATIONTHE CATALOGUETHE COMMUNITYEXPERIMENTSOOPEN CALLSNEWS & EVENTSTHE PROJECT

SERVICES

Discover all the services the EUHubs4Data members can offer to your organization.

ALL SERVICESOPEN CALL SERVICES

Showing 1 to 20 of 162 entries

FILTERS

TYPE OF SERVICE▼

MEMBERS▼

SEARCH

Type and search

SERVICE NAME	CATEGORY	DESCRIPTION	KEYWORDS	MEMBER
Access and support to Big Data-AI stack environment	Big Data Platforms (PaaS)	Access and support to a ready-to-use Big Data and AI experimental...	analytics, artificial intelligence, HDFS, notebooks, Python libra...	The Data Cycle Hub
Access to Big Data resources & consulting services	Big Data Platforms (PaaS)	CESGA offers access to ready-to-use Big Data solutions as well as...	analytics, Big Data, Hadoop, HDFS, Jupyter Notebooks, Spark, stor...	DIHGIGAL
Access to Cloud computing resources & consulting services	Computing and Storage Infrastructure (IaaS)	CESGA offers cloud computing resources and support to create diff...	cloud, containers, virtualization, VM	DIHGIGAL
Access to Cognitive Big Data Infrastructures and	Big Data Platforms	CeADAR provides access to this platform to all its member	Big Data, Docker, GPU, HPC,	CeADAR



How to achieve interoperability

Create a **trusted data exchange** environment

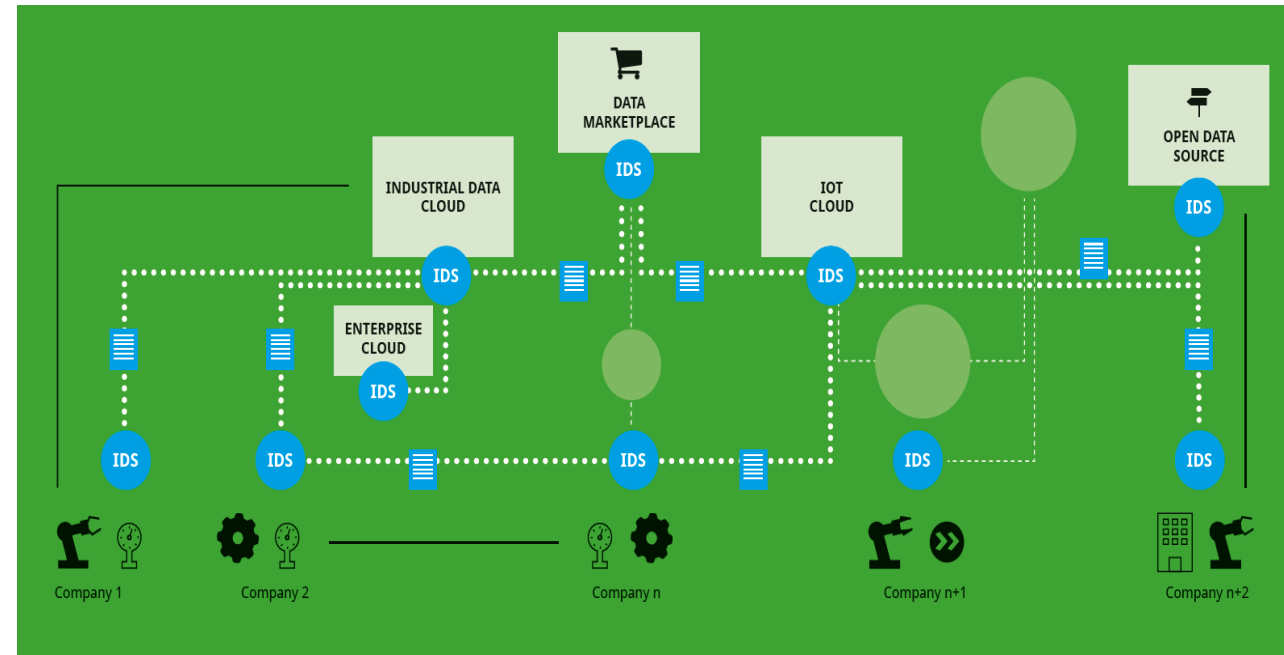
- **Adopting** technological standards
 - IDS Reference Architecture model
- **Implementing** them
 - Deploying most important components of the RAM: connectors, broker, daps

**INTERNATIONAL DATA
SPACES ASSOCIATION**



IDSA connectors deployment

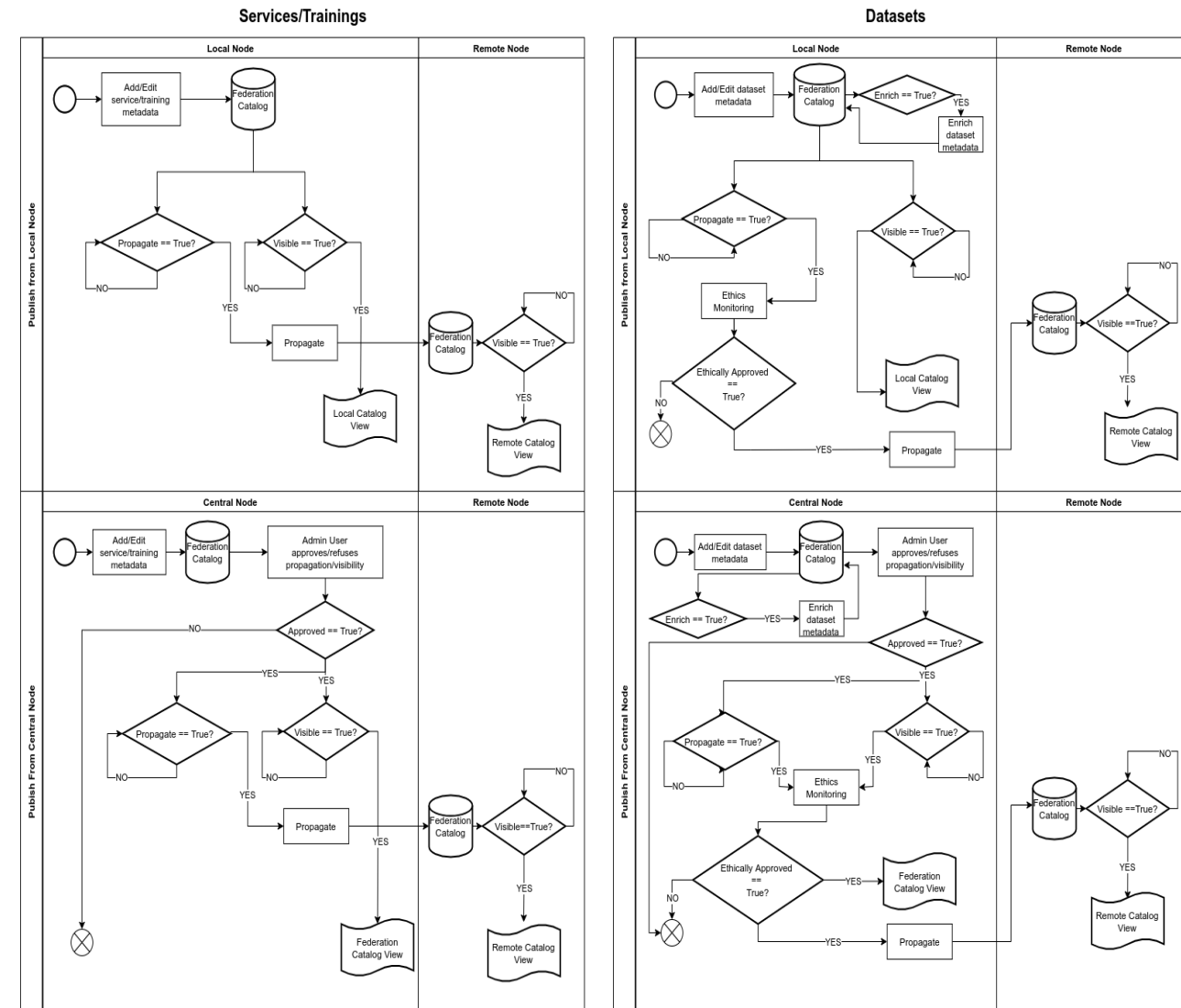
- We are **using** (deploying) the DataSpace Connector (**DSC**) **V6.x**
- First objective: provide **access to datasets** through IDSA connectors
- Currently we have a test



environment where **two**
different Hubs share assets

Service Delivery Framework

- This software component **updates the catalogue** of assets
- It will **interact also with DSC** connectors
- Currently there is a **PoC implementation**
- **Planned feature:** Control over the catalogue (Service Delivery Framework)



HPC, Big Data & AI

Our practical experience

Experiments and Services

- Hubs are offering
 - Services (including HPC infrastructure)
 - Direct support to the SMEs (executing experiments)
 - Consultancy (technical, and business oriented)



Lessons learnt until now

- Positive points
 - High level of **collaboration** between Hubs and SMEs
 - **Useful services** to improve SME's AI technologies
- What could be better
 - **Complexity** in terms of deploying connectivity through IDSA connectors
 - **Learning curve on** Reference



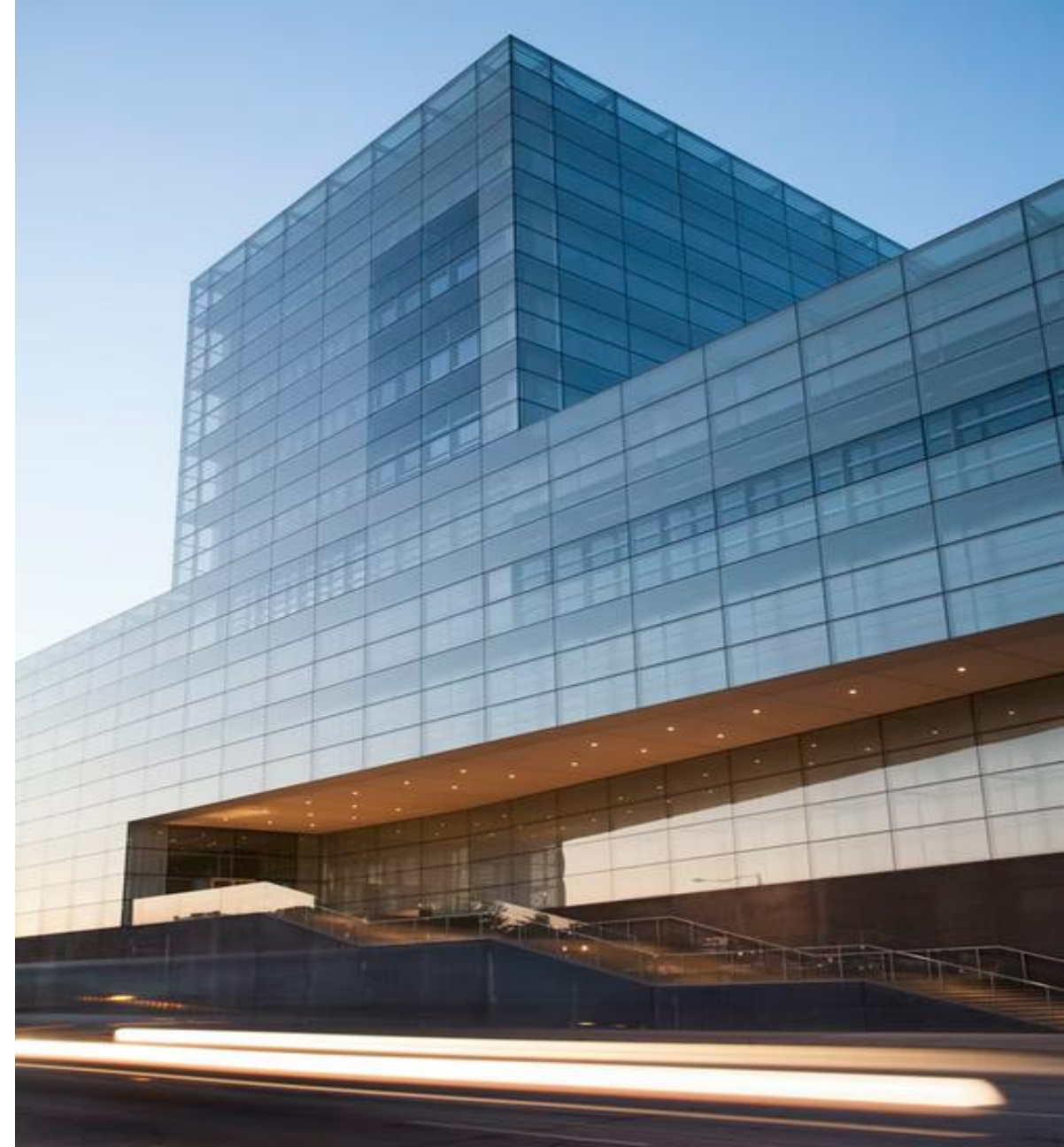
New DIHs integration

1) Catalogue

- Add new services

2) Interoperability

- Adoption of IDS RAM
- DSC v6.x → v7.x? → Eclipse DSC?





www.euhubs4data.eu



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