



Open Science as a Service

for repositories and research communities

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OPEN



Innovation | Knowledge | Repositories

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AGENDA

**1 Project
factsheet**

**2 Motivations,
vision and plans**

**3 Use-cases and
services**



Project factsheet

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Project factsheet

Duration 30 months | January 2017 – June 2019 | 11 partners

3 technical partners

- CNR
- ARC
- ICM



5 research communities

- CNRS
- ICRE8
- IRD
- PIN
- UniHB



3 content provider representatives

- CERN
- UMinho
- Jisc



Project partners



CONSIGLIO NAZIONALE DELLE RICERCHE - ISTI

CNR

Italy



ATHENA RESEARCH AND INNOVATION CENTER IN INFORMATION COMMUNICATION & KNOWLEDGE TECHNOLOGIES

ATHENA RC

Greece



UNIWERSYTET WARSZAWSKI (ICM)

UNIWARSAW

Poland



UNIVERSIDADE DO MINHO

UMINHO

Portugal



UNIVERSITAET BREMEN

UniHB

Germany

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

CNRS

France

PIN SOC.CONS. A R.L. - SERVIZI DIDATTICI E SCIENTIFICI PER L UNIVERSITA DI FIRENZE

PIN SCRL

Italy

INTERNATIONAL CENTER FOR RESEARCH ON THE ENVIRONMENT AND THE ECONOMY

ICRE8

Greece

INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT

IRD

France

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

CERN

Switzerland

JISC LBG

JISC

UK



Project Highlights

**Extending the technological services and networking bridges
(human/social/support) today offered by the OpenAIRE**

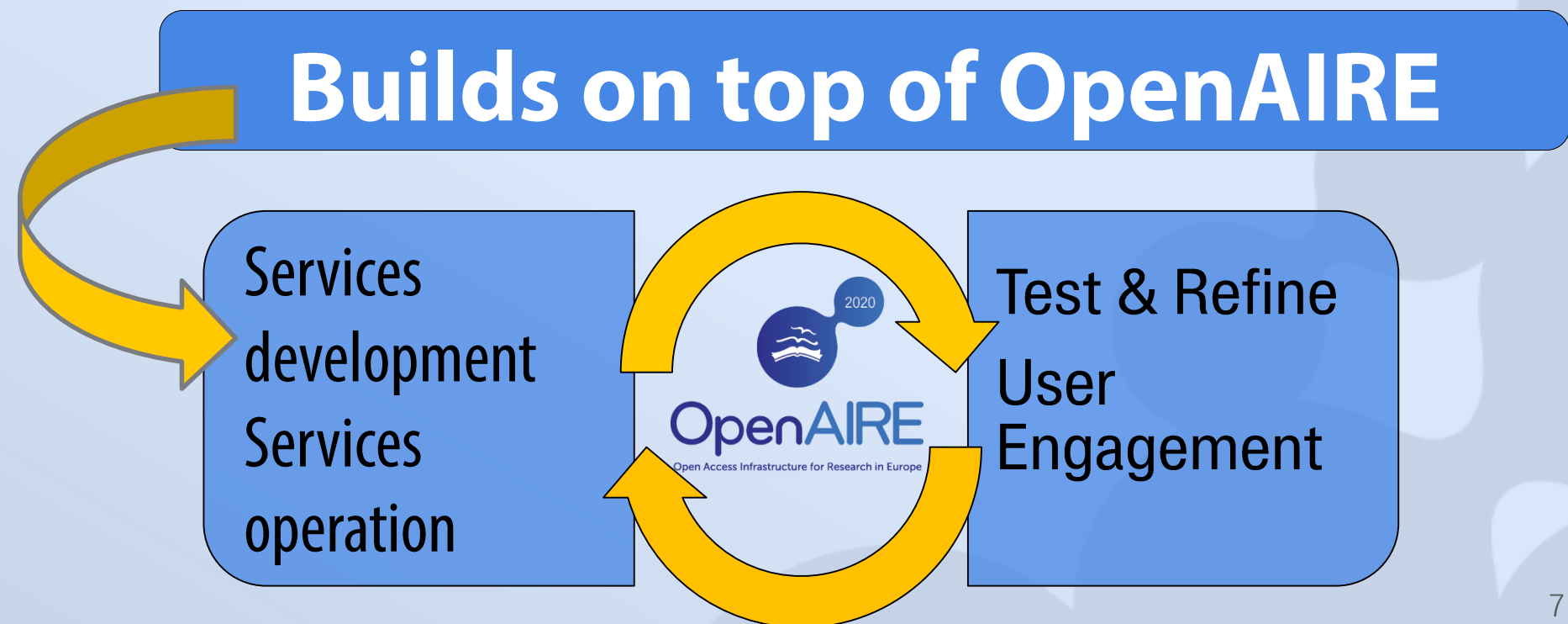
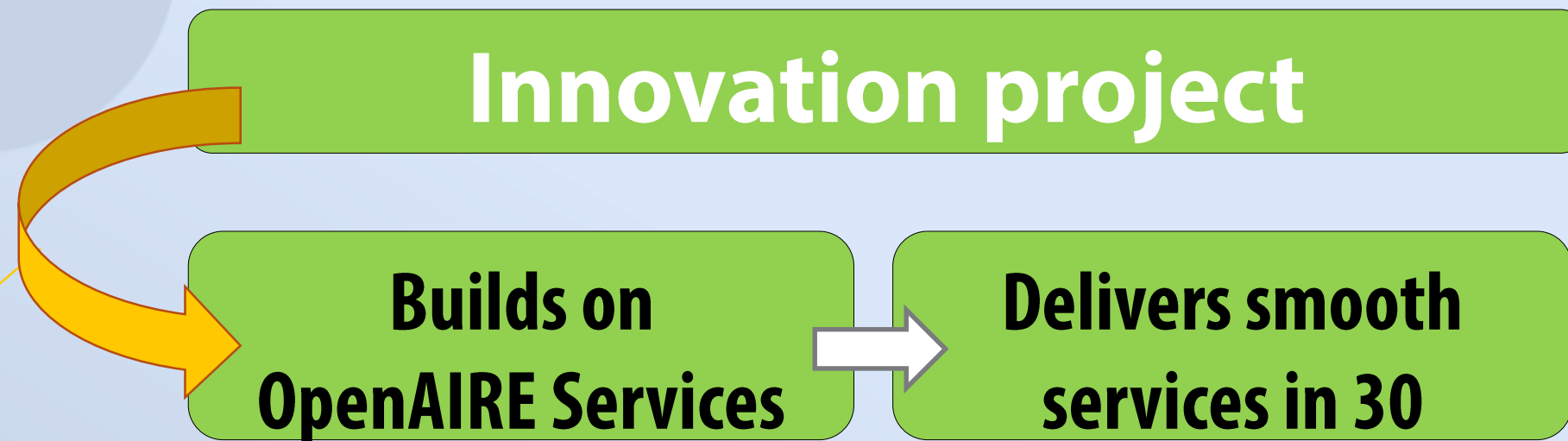
REALIZATION OF OPEN SCIENCE SERVICES

- **Research community services:** offering support for a uniform transition towards Open Science publishing.
- **Content provider services:** leveraging the transition towards Open Science publishing.
- **Testing, validation, deployment, integration** in OpenAIRE technical infrastructure.

BUILDING COMMUNITY CAPACITIES for European and global alignment on Open Science

- **Engaging and supporting communities and content providers**
- **Interoperability guidelines to facilitate metadata exchange**
- **Support of OpenAIRE networking services**

Project character and philosophy

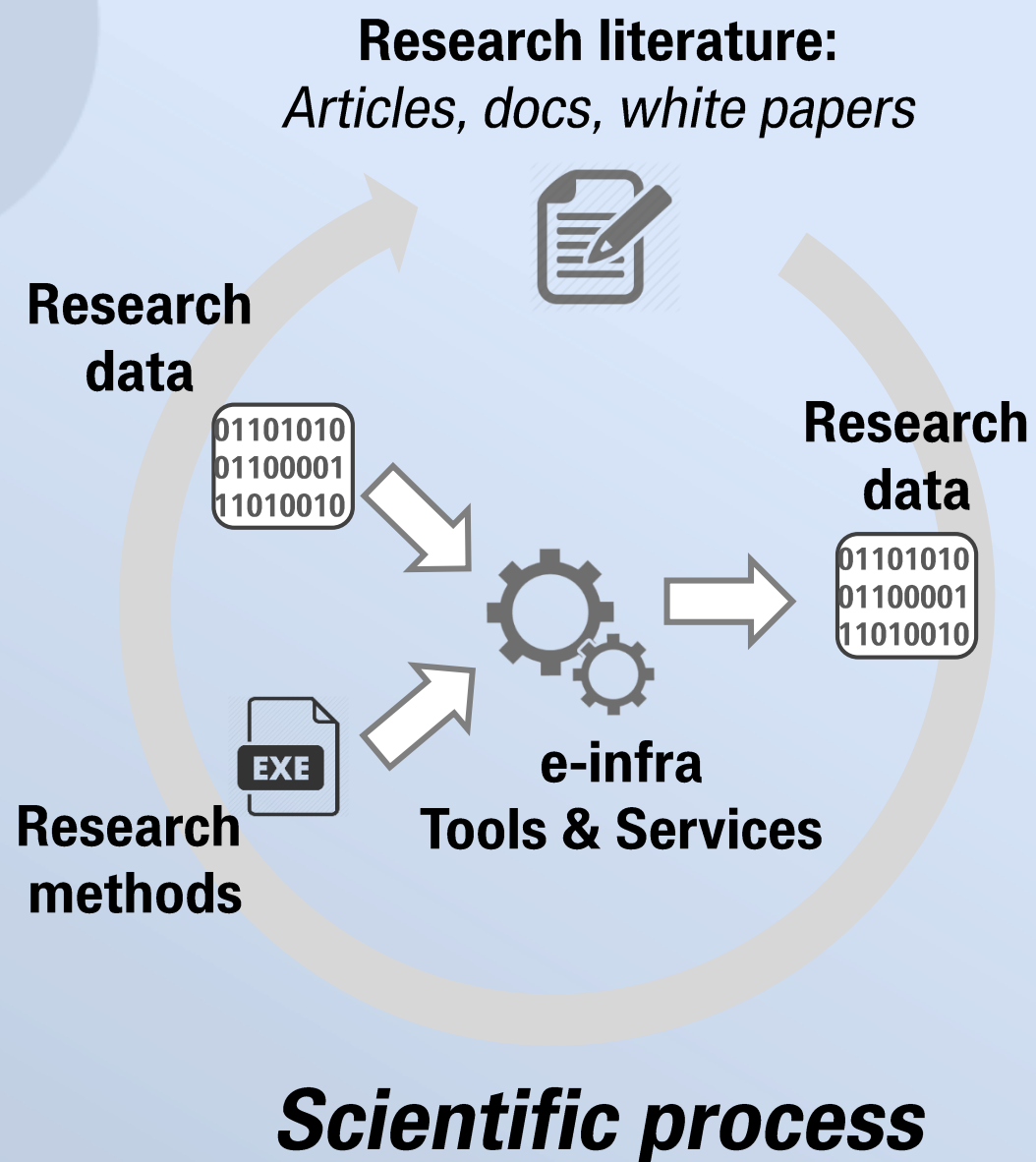


Motivations, vision and plans

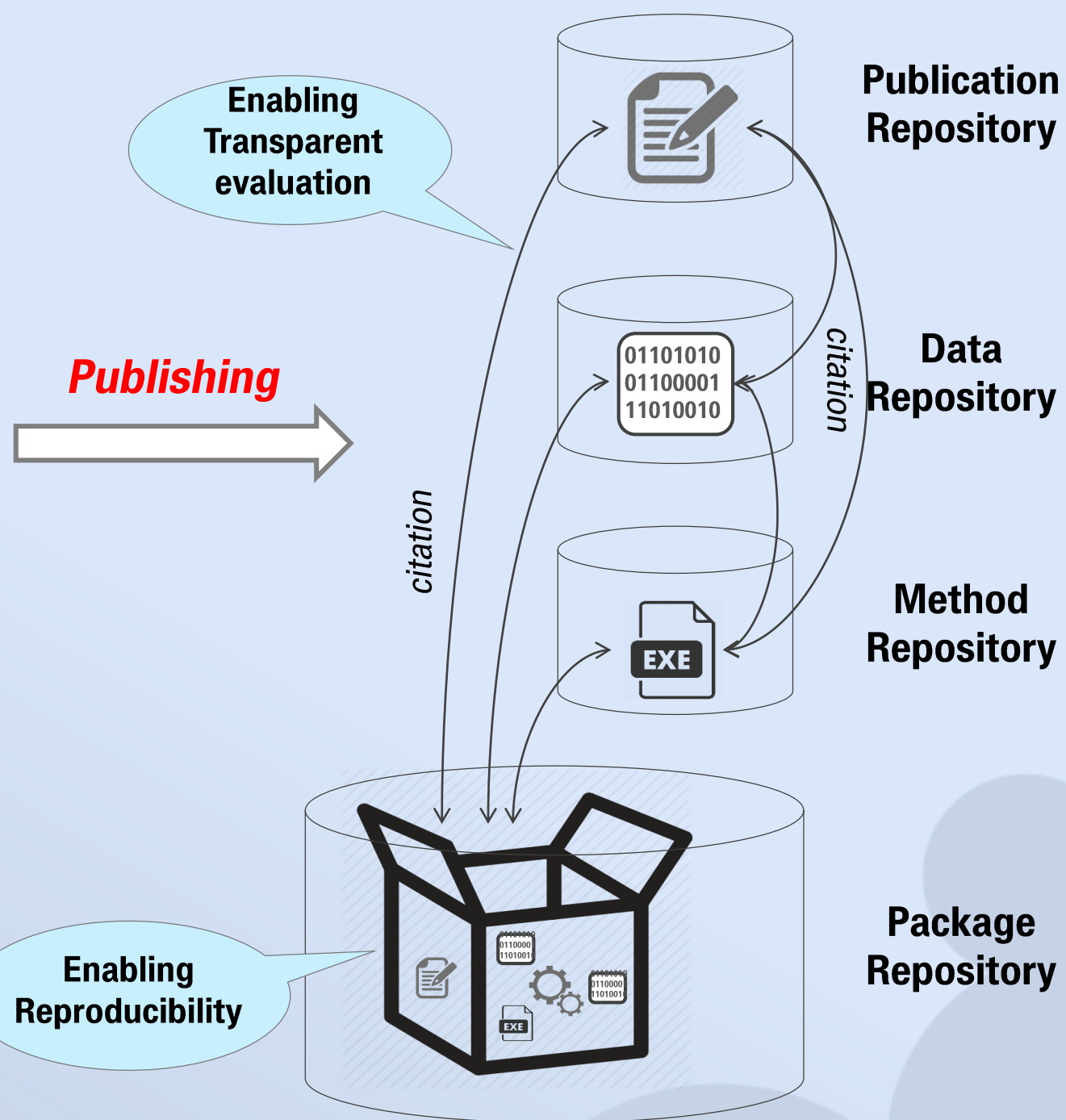
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Open Science publishing

Supporting reuse/reproducibility & transparent evaluation



Methods: e.g. software, workflows, protocols, algorithms, scripts



Open Science publishing



Enabling
transparent evaluation

Enabling
reproducibility

Publishing of all kinds of research artefacts

Publishing packages of artefacts

Publishing up-to-date record of research artefacts metadata and links

Research Communication barriers to Open Science Publishing



REPOSITORIES lack support to Open Science publishing

No support for integration of repositories for methods or packages

Minimal or no support for links between artefacts in different repositories

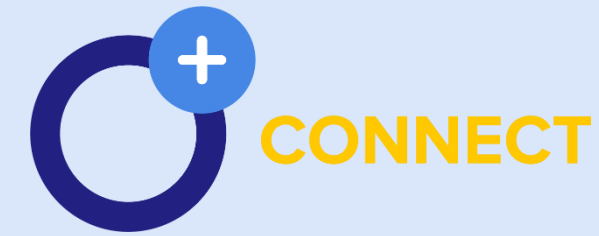
No support for keeping repositories with **up-to-date links** between artefacts

RESEARCH COMMUNITIES lack culture of Open Science publishing

Lack of e-infrastructure for Open Science: e.g. repository limits above, exchange formats, workflows

Difficulties to self-organize and sustain research communication solutions: e.g. identify the problems, see the benefits, apply economy of scale

Blowing on the fire of Open Science



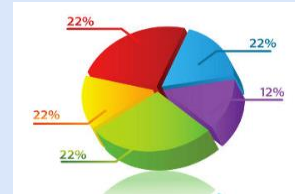
Facilitate **Research Communities** adoption of **Open Science publishing principles** by supporting artefact publishing tools as-a-Service



Facilitate **content providers** at moving towards **Open Science publishing** by supporting notification-based research communication as-a-Service

Open Science as-a-Service (OSaaS) CONNECT

RESEARCHERS

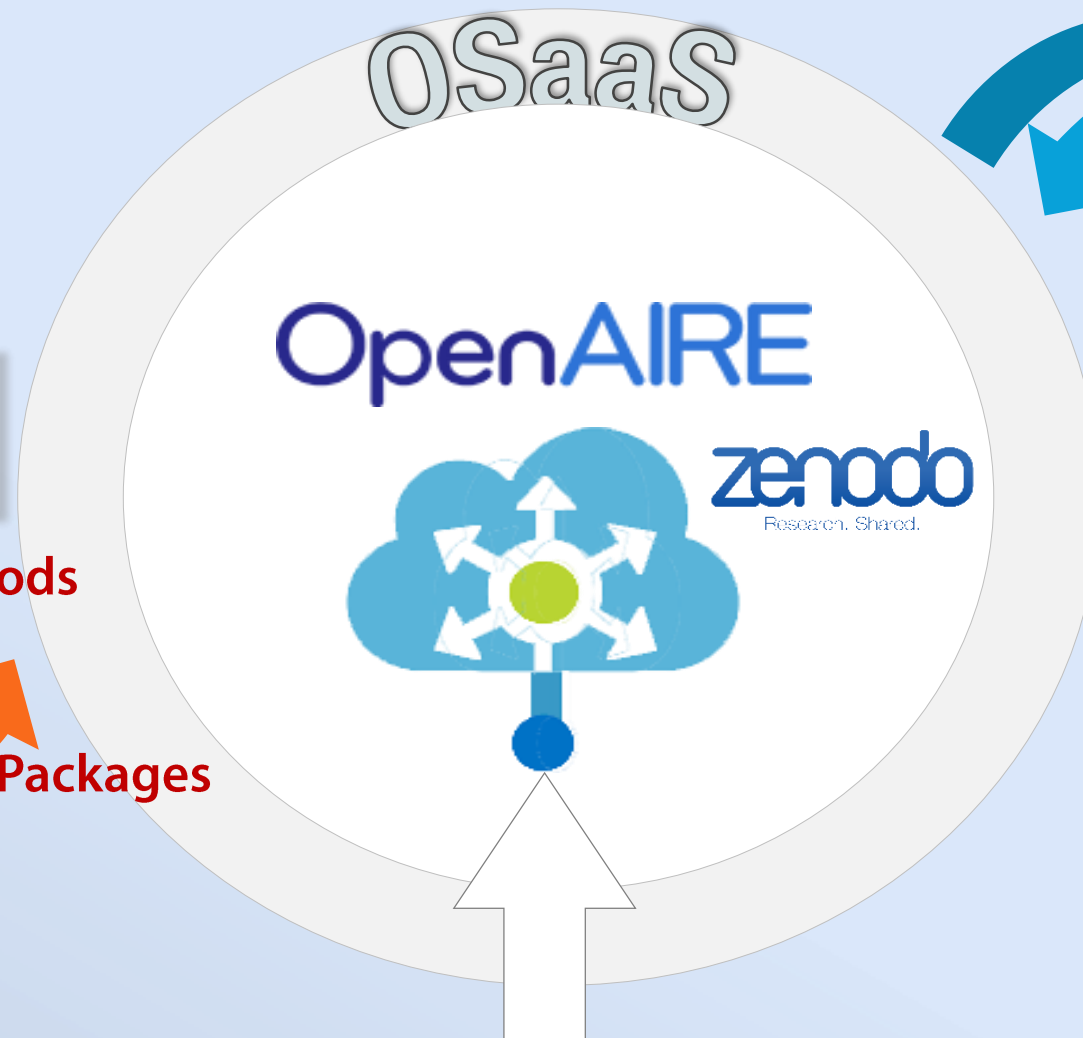


Deposit-Search-Browse-
Monitor-Research Impact

Research Community
Dashboard

Projects
Articles
Data
Methods
Packages

OpenAIRE as a mediation gateway between research communities and the scientific communication landscape

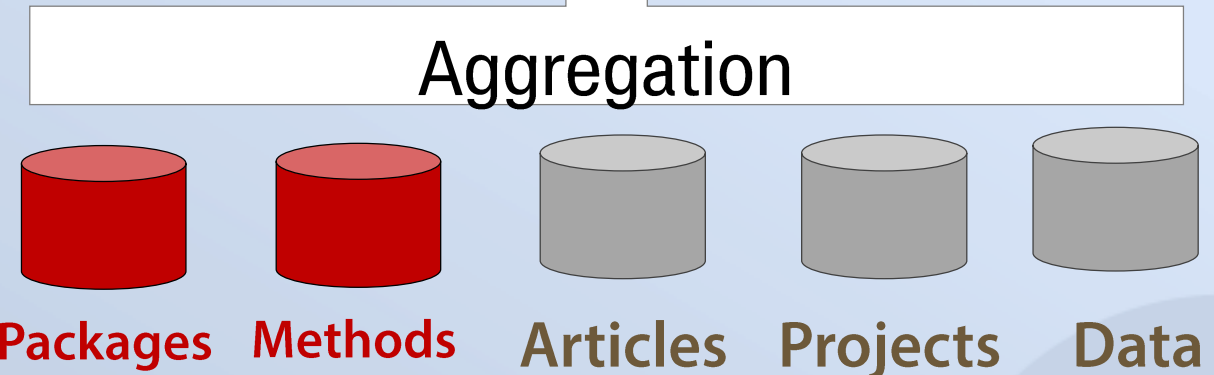


Catch-All-Notification
Broker

Subscribe & Receive Notification



CONTENT PROVIDERS



Pilot-driven approach

- **7 pilots**
 - 5 relative to the Research Community Dashboard
 - 2 relative to the Catch-All Broker Service
- **Identification of the common testing plans for the use-cases**
 - Configure and deploy web usage monitoring tools
 - Identification of the content providers and users in advance

Use-cases and services

3

OpenAIRE-Connect Pilots (1/2)

Research Community Dashboard Services

1. **Earth and Environmental Sciences (PANGAEA and ATLAS community)**
2. **Cultural Heritage and Digital Humanities (PARTHENOS research infrastructure)**
3. **Neuroinformatics (France Life Imaging national infrastructure - CNRS)**
4. **Fisheries and aquaculture management (BlueBridge & MARBEC infrastructures)**
5. **Environment & Economy (national/EU node of the United Nations Sustainable Development Solutions Network)**

Dashboard Pilots for Research communities

- Dashboard will be configured and used (depending of the community):
 - **Configuration** of research impact and **inference** algorithm of OpenAIRE
 - Use to **interlink** the artefacts of the Thematic Research infrastructures
 - **Deposition of research artefacts in Zenodo**, claiming of artefacts, **claiming** of interlinks, **creation of packages** of artefacts
 - Deposition of research artefacts constituting a “dynamic publication” (linking VREs)
 - Engaging researchers towards Open Science practices (Publishing datasets & methods)
- **Extend content providers of *tool and workflows* artefacts for publishing *tool and artefact* packages in OpenAIRE via OpenAIRE-Publishing API**

OpenAIRE-Connect Pilots (2/2)

Content providers – Catch-All Broker Service

- International representatives of Open Access publishers
 - Via Jisc and publishers
- Publication repositories
 - Via UMinho, COAR and OpenAIRE NOADs
- Data archives
 - Via Zenodo, ICSU World Data Systems/WDS



+ Interoperability guidelines: All

Catch-All Broker Pilot Service: Content providers

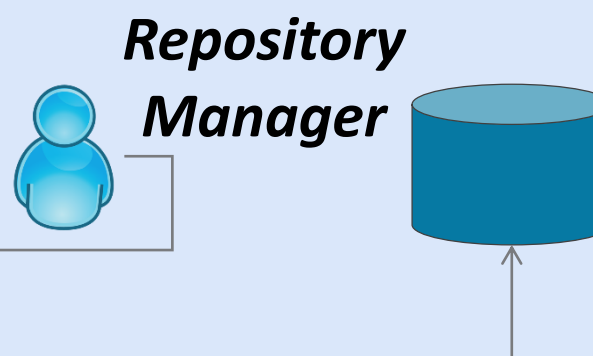
Engaging content provider to use the Catch-All Broker Service

- **UMinho** will lead the development for **Portuguese literature repositories**
- **UniHB** will lead the development for the **PANGAEA** data archive
- **CERN** will lead the development for **Zenodo's** literature and data repository
- **Jisc** will support the OA publisher committing with: **eLife, EuropePMC, Frontiers**
- **CNR** will support data archives engaged with: **ANDS, GESIS**

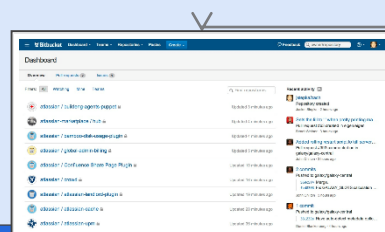
OpenAIRE OSaaS



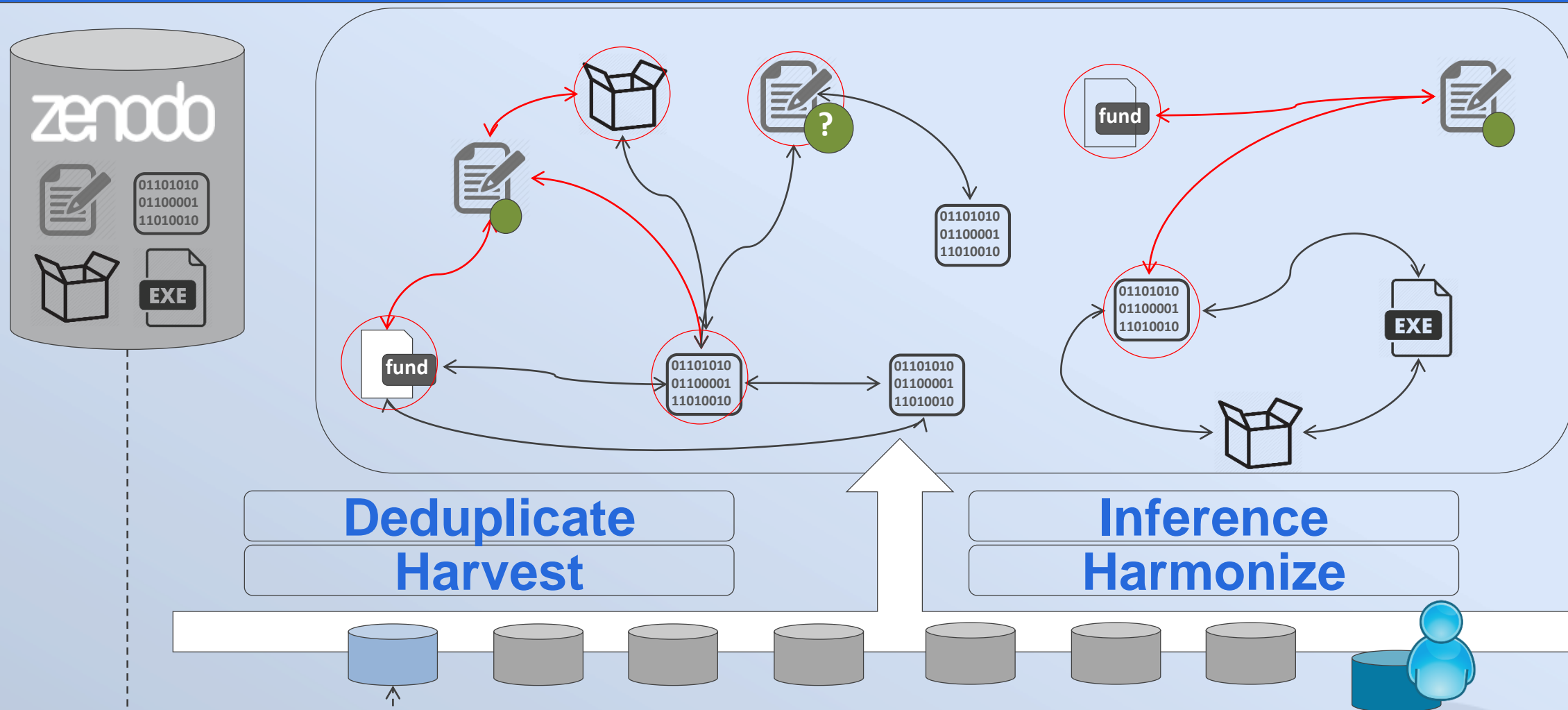
- Subscription: enrichment or additions to repository
- Notification management



- Notifications
- Mail, APIs, UIs



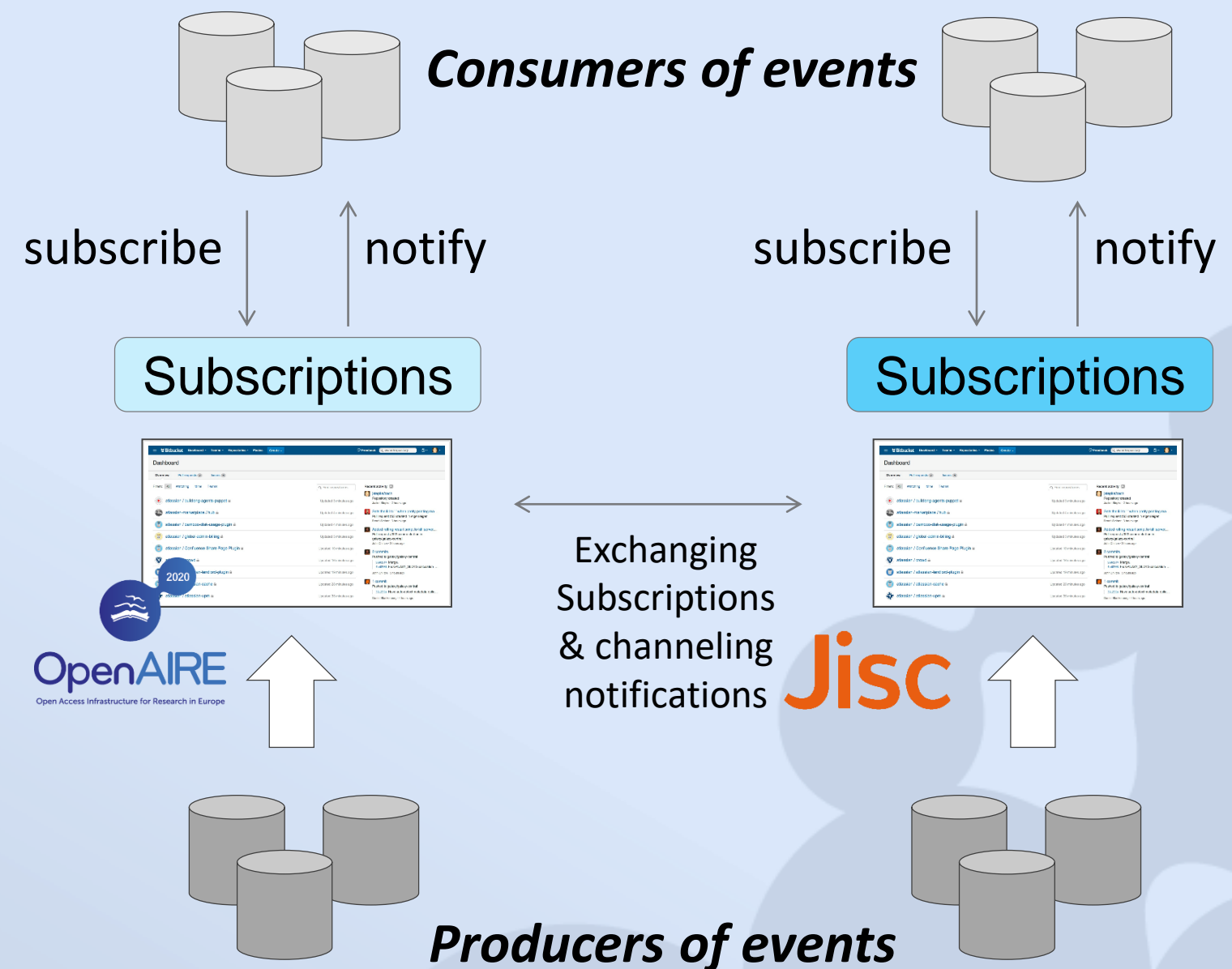
Open Science as-a-Service: Catch-All Broker Service



Catch-All Broker Pilot: Broker Services Interoperability

Exchanging subscriptions and notifications between:

- the **Catch-All Broker Service**
- and the **Jisc UK Broker Service**.
 - Handling of registration and subscription behind the scenes.
 - Paving the way for a general framework of interoperability for scientific communication broker service.



NETWORKING – REPOSITORIES COMMUNITY

targeted engagement, support and training activities



ENGAGEMENT

Interoperability guidelines
and workshops



SUPPORT

helpdesk, info kits, legal
advisory support



TRAINING

program with webinars
and elearning courses

Repositories: Open Science as-a-Service benefits



Extending repository metadata models to Open Science

- **Enabling addition of links to artefacts of any kind**

Keeping their collection up-to-date: enrichments and additions

- **“Almost real-time” exchange of information: notifications about links to other artefacts, missing properties, and missing artefacts**

Fostering notification-based and federated dissemination of knowledge

- **Enabling repositories to be notified of content of interest, enabling construction of research-focused aggregators by notifications**

THANKS!

 www.openaire.eu/connect

 [@openaire_eu](https://twitter.com/openaire_eu)

 facebook.com/groups/openaire

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 **Off-line questions are most welcome:**
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