Periodic Reporting for period 2 - OpenAIRE-Connect (OpenAIRE - CONNECTing scientific results in support of Open Science)

Reporting period: 2018-01-01 to 2019-06-30

Summary of the context and overall objectives of the project

OpenAIRE-Connect aimed at placing key stepping stones towards the realization of an Open Science-driven scholarly communication infrastructure, where transparent evaluation of results and reproducibility of science are core principles driving the way science is conducted. To this aim, OpenAIRE-Connect fostered a scientific communication ecosystem supporting exchange of scientific
products and links between them across research communities and across content providers; it would accomplish its goal by introducing the concept of Open Science as a Service (OSaaS) on top of the existing OpenAIRE infrastructure services, by delivering out-of-the-box, on-demand deployable tools in support of Open Science. Specifically, OpenAIRE-Connect had to realize and operate a TRL9 two services. The Research Community Dashboard (RCD), to serve research communities at (i) publishing and discovering scientific products and links, and (ii) monitor their research impact, scientific trends, and Open Science trends. The Catch-All Broker Service (CAB), to engage and mobilize content providers, and serve them with tools enabling notification-based exchange of scientific product metadata and links, to leverage their transition towards Open Science paradigms. A third an important objective of the project was to establish Open Science research community-specific outreach and training services, to flank the existing OpenAIRE NOADs mainly targeting Open Access at the national level in Europe and world-wide. To this aim, OpenAIRE-Connect had to liaise with research-infrastructures and international fora were scientific communities are involved (e.g. EOSC, RDA, World Data System, DataCite, DI4R, COAR etc).

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far

The project has successfully achieved its objectives, by adopting an end-user and community driven approach which out five research communities and data sources as core use-cases and testing end-users for service development. The realization methodology, which was initially based on two cycles of requirement analysis and revision of the services, has been upgraded during the project into a more dynamic parallel activity of feedback acquisition and service upgrades, thanks to collaboration tools introduced for this purpose.

Two sub-classes of communities have been identified:
1. Research communities: communities requiring tools to share and find their research products;
2. Research initiatives: communities requiring tools for monitoring research impact.

This led to the definition of two distinct services: the Research Community Dashboard service, more properly serving the first class of communities, i.e. scientific communities, and the Research Initiative Dashboard, serving the second class of communities, i.e. organizations.

The RCD/RID and CAB services are today available from the OpenAIRE portal and catalogue of services.

Progress beyond the state of the art and expected potential impact (including the socio-economic impact and the wider societal implications of the project so far)

OpenAIRE-Connect has both immediate and long-term concrete effects that will effectively pave the road and drive forward the open scholarship e-Infrastructures:

Lower the cost of transition to Open Science (OS) publishing for research infrastructures - OpenAIRE-Connect services are delivered “as-a-Service” (OSaaS) and are intended to complement (not replace) the efforts of research infrastructures towards Open Science publishing and OS monitoring. The interest shown by several communities (D3.1) proves this principle is key for communities to move on and be engaged.
Lower the barriers for opening and sharing research - A uniform and simple way of publishing interlinked research products is an asset for all researchers and a means to the OS transition in a consistent, interoperable and most importantly hassle-free fashion. The OS helpdesk will drive communities in identifying their specific OS roadmap, based on their experience, services, current skills, and a specific adoption of the OpenAIRE-Connect services they need.

Enhance discovery of research products - The linking and contextualization of research products leads to new forms of discovery. By using the backend OpenAIRE text and data mining services OpenAIRE-Connect will empower communities with additional knowledge coming from advanced and shared inference algorithms, discovering pathways that they never thought existed, effectively broadening the community scope.

Foster inter- and multi-disciplinary science - Researchers will use the Research Community Dashboard to share and interlink their results, to make the appropriate connections within their domain, to follow the community’s progress or trends, and to identify multi-disciplinary correlations and re-use channels. Most importantly they will share tools and best practices with other communities, affecting and changing the way they think and carry out research.

Increase re-usability of research and enable transparent assessment - The OpenAIRE-Connect services populate a research graph whose product links allow science to be “reconstructed” and potentially reproduced. Researchers, but also SMEs, and citizen scientists, i) become better aware how core principles of research integrity (e.g. reproducibility), and ii) have access to a better and optimal circulation of knowledge.

Boost scientific reward - By providing a complete coverage of the research outcome, the OpenAIRE graph of products equips science and innovation policy makers, librarians and research managers/administrators, with information crucial for the realization of new metrics capable of addressing omni-comprehensive scientific rewards.

Contributing to the sustainability of OpenAIRE - OpenAIRE-Connect enriches the portfolio of OpenAIRE services, and increases the number of research communities and content providers adopting the interoperability standards and services. As long as this is accomplished in a reliable and trusted manner, fostering OS policies, more value is added to the underlying OpenAIRE e-Infrastructure.

Contribute to the European OS e-Infrastructure ecosystem - OpenAIRE-Connect takes a first and decisive step in the implementation of the European Open Science Cloud (EOSC), as this is expressed in the common vision paper from EUDAT, LIBER, OpenAIRE, EGI, GEANT, and the EOSC High level Expert Group recommendations.

Placing Europe as a frontrunner in the global federated knowledge management - OpenAIRE has diligently worked in the past 3-5 years in the Open Access international arena (synergies with the COAR regional alignment initiative, La Referencia in Latin America, SHARE in the US, KISTI in...
Korea, CAS in China, aggregation pilot with ICSU/WDS) and has already recognized the fact that federated knowledge management requires shared investments and shared responsibilities. With OpenAIRE-Connect services the same participatory principles will be applied to cross-organization and cross-country research communities.

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