

OpenAIRE: The OpenScience European Infrastructure

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The effective implementation of Open Science calls for a scientific communication ecosystem capable of enabling the “Open Science publishing principles” of transparency and reproducibility. Such ecosystem should provide tools, policies, and trust needed by scientists for sharing/interlinking (for “discovery” and “transparent evaluation”) and re-using (for “reproducibility”) all research products produced during the scientific process, e.g. literature, research data, methods, software, workflows, protocols.

OpenAIRE fosters Open Science by advocating its publishing principles across Europe and research communities and by offering technical services in support of Open Access (OA) monitoring, research impact monitoring, and Open Science publishing. Its aim is to provide Research Infrastructures (RIs) with the services required to bridge the research life-cycle they support - where scientists produce research products - with the scholarly communication infrastructure - where scientists publish research products - in such a way science is reusable, reproducible, and transparently assessable. OpenAIRE is fostering the establishment of reliable, trusted, and long lasting RIs by (i) compensating the lack of OS publishing solutions and (ii) providing the support required by RIs to upgrade existing solutions to meet Open Science publishing needs (e.g. technical guidelines, best practices, OA mandates). To this aim, OpenAIRE is working closely with existing RIs to extend its service portfolio by introducing two services implementing the concept of “Open Science as a Service” (OSaaS):

The Research Community Dashboard. Thanks to its functionality, scientists of RIs can (i) find tools for publishing all their research products, such as literature, datasets, software, research packages, etc. (provide metadata, get DOIs, and ensure preservation of files), (ii) interlink such products manually or by exploiting advanced mining techniques, and (iii) integrate their services to automatically publish metadata and/or payload of objects into OpenAIRE. As a consequence, scientists populate and access an information space of interlinked objects dedicated to their RI, through which they can share any kind of products in their community, maximise re-use and reproducibility of science, and outreach the scholarly communication at large.

The Catch-All Broker Service. Thanks to its functionality, data sources such as institutional repositories, data repositories, software repositories can be notified of metadata records relative to products (datasets, articles, software, research packages) that are “of interest to them”, i.e. metadata records that should be in the data source, or “linked to them”, i.e. a scholarly link exists between one of the data source product and the identified product. Notifications are sent only to subscribed data sources, following a subscription and notification pattern, and can be delivered by mail, OAI-PMH end-user interfaces, or, currently under investigation, via push APIs (e.g. SWORD protocol), FTP and ResourceSync. The idea behind the service is to disseminate and advocate the principle that scholarly communication data sources are not a passive component of the scholarly communication ecosystem, but rather active and interactive part of it. They should not consider themselves as thematic silos of products, but rather as hubs of products

semantically interlinked with any kinds of research products and, more broadly, up-to-date with the evolving research ecosystem.

