

Looking for the 'O' in EOSC? An participatory infrastructure to facilitate Scholarly Communication via Open Science

Open Science is a broad and rapidly developing field, profoundly changing the way traditional scientific outputs are disseminated. There are a number of approaches to the implementation of Open Science, in particular those being promoted by funders. Against the backdrop of the the EC's new cloud infratructure and its next major scientific funding round, which has Open Science as a major theme, a major funder is leveraging Open Science to support Europe's competitive knowledge economy. There will be a new virtual environment to handle research data while building on and consolidating existing infrastructures. Parallel to this, European Open Science national agendas are implementing their mandates.

As a horizontal infrastructure, this paper focuses on how a mature infrastructure fits into this landscape by providing the 'open' in scholarly communication and facilitating a way forward for researchers for supporting open access, and for funders for monitoring national policies. Innovative services have been built to support a range of activities to support these national and funder requirements for open science.

This presentation will detail the driving 'force' that enables these services: the technical graph. It will also explain in detail one key service: The Monitor.

The technical graph links information about millions of research outputs (such as publications, datasets, software etc.) from various entities (e.g. organizations and projects). It is based on an open set of metadata of interlinked scientific items. These can include literature, datasets, software. All of these items are linked to their open access status, funding information and research community status. The graph is made unique because of the following features:

1. Complete: collection of metadata about all scientific output, with corresponding links
2. Participatory: relying on this infrastructure's growing network of content providers, repositories, publishers, infrastructures
3. Cleaned and deduplicated: duplication is inevitable, but can be overcome by applying new mechanisms for de-duplication

This key 'kernel' of information is structured around the new content acquisition policy¹ which now covers all literature (both open and closed) in short covering 'all' of scholarship. The numbers have grown exponentially since November 2018, aiming for a coverage of 100 million publications and 10 million datasets. Ultimately, it will facilitate the uptake of Open Science oriented research life-cycles and publishing workflows

One of the direct consequences of this robust graph is that on-demand services can be delivered and customised. This presentation will detail the release of this monitoring platform

which can provide a 360 degree overview of funding impact, which means a funder can see its output in terms of publications, research data and software. This ultimately leads to monitoring overall impact, reproducibility and Open Science trends.

The paper will finish with a call to collaboration: all this cannot happen without a shift in culture among funders, data providers researchers, whereby transparent services can be built via a participatory network and a set of values and commitments