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SUMMARY

This report is a short document accompanying the Deliverable “D4.2 Opening of Open Data VRE”, which is of type: “Websites, patents filling, etc.”. It describes the design of the software components involved in the Open Data VRE, deployed to serve the current needs of the RISIS community.

1 Introduction and overview

The Open Data Virtual Research Environment (VRE), empowered by the D4Science infrastructure [1], has been equipped with the capability of bridging the RISIS Core Facility Framework (RCF) and OpenAIRE¹. This VRE allows delivering tailored and specific datasets collected by OpenAIRE, and selected to satisfy the needs of the RISIS community, to the RISIS project members and community.

The Open Data Virtual Research Environment is part of a wider setting involving partly Work Package 6 and all three infrastructures, namely OpenAIRE, D4Science, and RISIS. The whole setting is shown in Figure 1, its goal is to eventually enrich the RISIS research e-Infrastructure in terms of datasets and tools available for the RISIS Community.

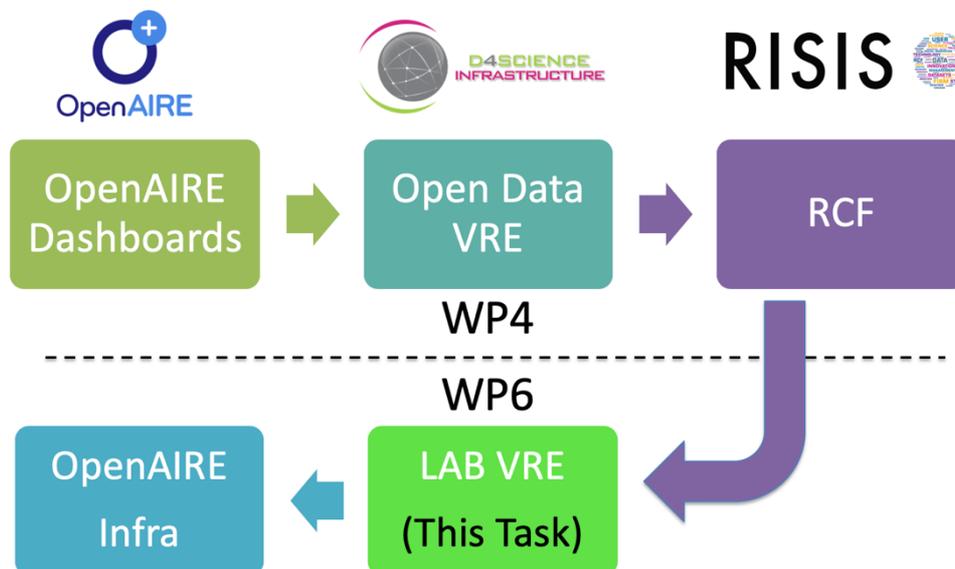


Figure 1. Open Data VRE role in WP4

¹ OpenAIRE www.openaire.eu

2 Open Data VRE

The end-users access the VRE by exploiting the RISIS2 Infrastructure Gateway, a web portal to access all the D4Science VREs dedicated to RISIS2 Project. This gateway is accessible via the URL <https://risis2.d4science.org> and it is expected to be the end-user access point to all RISIS2 Virtual Research Environments.

The bridging with the OpenAIRE infrastructure, aiming at providing access to the OpenAIRE datasets via API (programmatic) and via Web User Interfaces, has been implemented by customising, deploying and operating a dedicated Catalogue based on the CKAN open source technology, available at the URL <https://risis2.d4science.org/catalogue>. The welcome page of this Open Data VRE Catalogue is shown in figure 2.

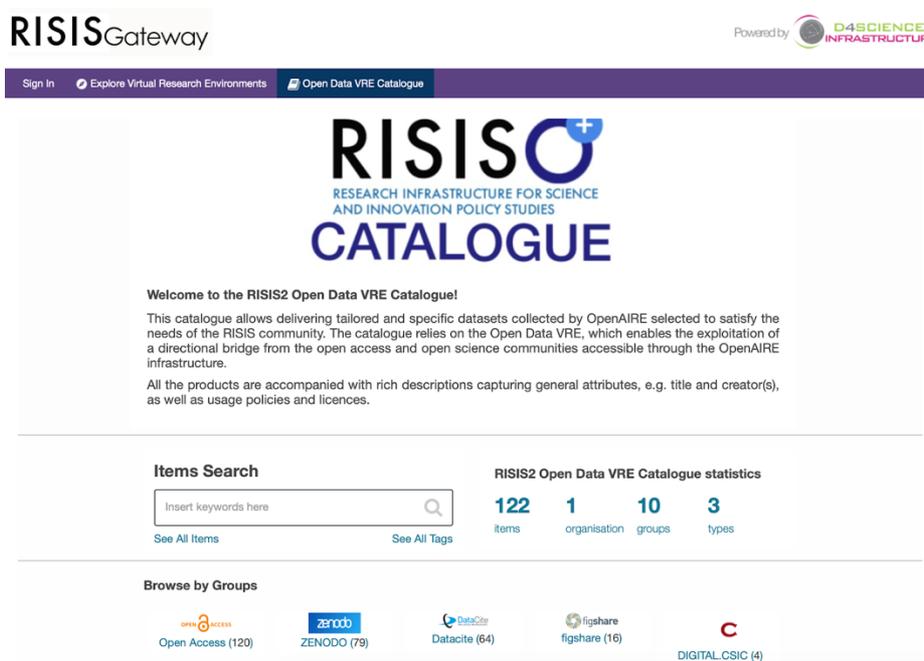


Figure 2. Open Data VRE Catalogue based on CKAN

CKAN is a data management system that makes data accessible by providing tools to streamline publishing, sharing, finding and using data, nevertheless it requested adaptation and enhancements for the RISIS2 settings and scenario. In particular, (i) the Open Data VRE users and their roles needed to be automatically recognised by CKAN and, (ii) support for multiple metadata format types have been added, thus all the products are not only accompanied with rich descriptions capturing general attributes, e.g. title and creator(s) as well as usage policies and licences, rather they can be customised to match the metadata format required for a particular data type by the RISIS Project;

Moreover, a dedicated web service, named GCat Service² has been made available as a programmatic access interface to this dedicated Catalogue.

² D4Science Catalogue Service “gCat” https://wiki.gcube-system.org/gcube/GCat_Service

The mechanism and the components involved in the bridging between OpenAIRE and RISIS Core Facility Framework (RCF) are depicted in Figure 3: from the left the OpenAIRE Research Graph -- produced by OpenAIRE by aggregating metadata records about research products from more than 1K scholarly sources world-wide -- is analysed to identify the sub-graph relevant for RISIS2 based on the configuration of the RISIS Impact Monitor Dashboard.

The identified sub-graph is made available via the RISIS Impact Monitor Dashboard (<https://risis2.d4science.org/group/risis2opendata/openaire-dashboard-beta>) and pushed into the Open Data VRE Catalogue. This catalogue is exploitable by both RISIS users (via dedicated web interfaces) and by the RISIS Core Facility Framework (RCF) thanks to the gCat Service REST APIs.

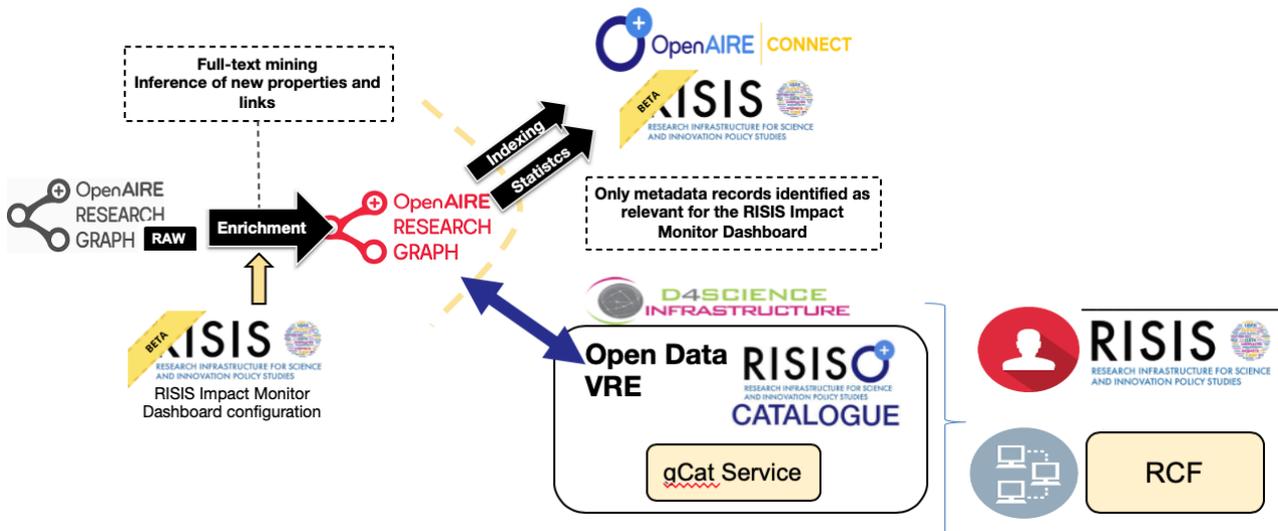


Figure 3. Open Data VRE Bridging between OpenAIRE And RISIS Core Framework (RCF)



3 References

- [1] M. Assante *et al.* **Enacting open science by D4science**
Future Generation Computer Systems., 101 (2019), pp. 555-563
DOI: <https://doi.org/10.1016/j.future.2019.05.063>