OpenAIRE compatibility for CRIS systems: recent progress

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Abstract

Several contributions on the implementation of the OpenAIRE Guidelines for CRIS Managers have been presented at previous CRIS conferences, both in St Andrews in 2016 and in Rome in 2014. However, by the start of 2018, the number of CRIS systems included on the list of OpenAIRE data providers was still zero. One key reason for such a slow progress in the implementation of this key step in the area of system interoperability has been the development of an updated version of the CERIF-XML-based OpenAIRE Guidelines for CRIS Managers that has taken place in the meantime in order to enable a smoother and more effective information exchange process.

With the early 2018 awarding of funding to the euroCRIS METIS2OpenAIRE project proposal by OpenAIRE, this stalemate position should start to quickly evolve towards a far more interoperable landscape with an increasing number of CRIS systems registered as OpenAIRE data providers. METIS2OpenAIRE aimed to ensure OpenAIRE compatibility for a first institutional research information management system, namely METIS at Radboud University Nijmegen in the Netherlands. With a three-and-a-half-month project lifetime, METIS2OpenAIRE set out not just to test the implementation of version 1.1 of the OpenAIRE Guidelines on a specific institutional system, but also to support a number of parallel implementations by external, budget-neutral stakeholders that would ensure a widespread adoption of the newly released CRIS interoperability standard. This were PURE, the single most widely adopted CRIS platform worldwide, and OMEGA-PSIR, a widespread CRIS solution in Poland.

This paper describes the work carried out under the METIS2OpenAIRE initiative and its results as of mid-2018. These results critically include the development of a minimally sufficient OpenAIRE validator for CRIS systems. While this piece of software was specifically tailored to the interoperability needs for the METIS institutional CRIS at Radboud, it should evolve into the default mechanism for other CRIS systems to use in order to test their own level of compliance with the OpenAIRE Guidelines. Also, as per the terms of agreement signed with OpenAIRE, the METIS2OpenAIRE project outputs are openly available in a GitHub repository, allowing other platforms to follow the trail that METIS has pioneered. Finally, while the external stakeholders mentioned above did not commit to the short implementation time-window covered by METIS2OpenAIRE itself, by mid-2018 significant progress in the route towards OpenAIRE compatibility for both Pure and OMEGA-PSIR is to be expected

The paper also explores specific scenarios where a gradual implementation of the OpenAIRE Guidelines will mean significant improvements for a more comprehensive and effective aggregation of research information. These mainly include situations where it’s not possible to achieve OpenAIRE compatibility via literature and/or data repositories. Particular attention will be paid to the implications of a potential application of the METIS2OpenAIRE strategy towards interoperability to national CRIS systems.

Keywords

CERIF, research information management; current research information systems; system interoperability; information exchange; OpenAIRE; METIS; PURE; OMEGA-PSIR

1. Introduction: the benefits of CRIS interoperability with OpenAIRE

In the past few years there has been steady progress towards turning Current Research Information Systems (CRIS) into suitable data providers for OpenAIRE sitting alongside Literature and Data Repositories. A first version (1.0) of the OpenAIRE Guidelines for CRIS Managers based on CERIF-XML was officially presented at the April 2014 CRIS2014 Conference in Rome [1] and a subsequent presentation 'Progress in the Implementation of the OpenAIRE Guidelines for CRIS Managers' was delivered at the CRIS2016 Conference in St Andrews [2]. Following recent progress in the development of an updated version 1.1 that will result in a more effective information exchange mechanism [3], the stage has been reached where an implementation of such guidelines on a specific CRIS can be attempted.

There are several reasons why enabling this specific element of system interoperability will mean significant progress towards a more comprehensive collection of research information for the European Research Area:

- The gradual addition of CRIS systems to the list of OpenAIRE data providers [4] will mean a qualitative leap in the volume of contextual metadata that gets delivered for research output records, including research data, publications and other text-based outputs. CRIS records typically contain detailed information on areas like organisational affiliation and research funding that may not be so thoroughly covered by other platforms. This additional input will potentially allow OpenAIRE to step up one gear in the quality of the information offered from the aggregator.

- The interoperability between CRIS systems and OpenAIRE will also mean progress for the purpose of complying with the European Commission's policies on Open Access and Open Research Data. While most institutions in Europe currently rely on their institutional repositories for delivering the relevant information on EU-funded project outputs to OpenAIRE, there are numerous cases where this is not technically feasible – mainly due to the lack of system interoperability. This is for instance a frequent case in the UK, very few of whose institutional repositories are listed as OpenAIRE-compliant at the moment. This means that FP7 and H2020 project outputs produced at UK institutions often fail to reach the OpenAIRE aggregation and do subsequently not appear on the publications section of the project pages on the EU CORDIS database.

- National-level CRIS systems are often playing a key role in the wide-scoped aggregation of research information in countries where the repository infrastructure is yet insufficiently consolidated. These national-level platforms not being connected to OpenAIRE due to the lack of interoperability mechanisms, it means that all these outputs are again missing in the OpenAIRE aggregation, with the subsequent negative impact on their visibility and exposure. At a European level, this issue is mainly arising in specific Central and Eastern European countries these days, but recent surveys of the research information management landscape [5] show that it may well be a frequent situation in other geographies too.

While an increasing alignment on international repository infrastructures is already ensuring a much higher level of interoperability across continents [6], the expansion in the amount of contextual metadata resulting from the integration of CRIS systems into the wider range of OpenAIRE data providers will mean a much more comprehensive approach to a fully interconnected database of all research outputs.

2. The role of the METIS2OpenAIRE project in enabling CRIS interoperability

- 2.1. The project proposal
- 2.2. Technical work
- 2.3. Parallel engagement with external stakeholders to ensure widespread uptake
- 2.4. Project outputs and dissemination activities

3. Next steps towards a generalised CRIS interoperability via CERIF-XML

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