

## Using DSpace at Fraunhofer – Building up the Fraunhofer Open Science Cloud

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### Abstract

Since 2016, Fraunhofer-Gesellschaft, Europe's largest organization for applied research, is facing the challenge of implementing and migrating three repository systems: A new **current research information system (CRIS)**, a new open **research data repository** and the complete renovation of the longstanding **bibliographic database »Fraunhofer-Publica«**, along with its younger sibling, the open access repository »Fraunhofer-ePrints«. The goal is to implement a unique repository landscape as a key enabler for Open Science. For all systems, DSpace or DSpace-CRIS is being used. Reasons for selecting DSpace were the availability of a plug-in for individual CRIS functionalities, numerous out-of-the-box functionalities, the large, well-organized community and the high amount of successful installations around the globe. The software enables the systems to use entities such as people, projects and organizations jointly. In addition, standard submission workflows for all datatypes and a consistent user experience will be available. The poster will give a simple visual overview of the three basic systems which are or will be running with DSpace / DSpace-CRIS and it will also indicate that using DSpace / DSpace-CRIS for these three systems can offer the possibility to combine the single systems to a kind of virtual "Fraunhofer Open Science Cloud".

The poster addresses the topics of the background, the objectives, the concept and the challenges on the way to the "Fraunhofer Open Science Cloud" using DSpace and DSpace-CRIS.

### Background

With 72 individual institutes and research units, Fraunhofer carries out research projects at locations throughout Germany and abroad. With 25,000 scientists and engineers who are granted an annual research budget of 2.3 billion euros in total, Fraunhofer is Europe's largest research and technology Organization (RTO) undertaking applied research that drives economic development and serves the wider benefit of society.

The Competence Center Research Services and Open Science (RSOS) is the central service provider for publication infrastructure at Fraunhofer. At RSOS, we are running a well-established Open Access Repository, a research information system and a new research data repository. In order to increase the quality of metadata by common entities respectively authority data and to provide a consistent user experience for different user groups, the three systems should be interoperable and linked. With regard to the availability of a plug-in for CRIS functionalities, the large, well-organized community and the large number of successful installation around the globe, Fraunhofer decided to implement the three systems with the

DSpace software. As an open source product, it is well suited to adapt it to Fraunhofer requirements. First, the Fraunhofer research information system was set up using the software DSpace CRIS, followed by the research data repository using a standard DSpace installation. The »Fraunhofer-Publica« currently uses proprietary software and will be migrated to a DSpace-CRIS solution. In the long run, the publication repository and the research data repository will be brought together in such a way that entities such as persons, projects and organizations are managed as own entities and used jointly by all of the systems. There will be a standard submission workflow for both publications and research data. In the future, external crawlers, such as the OpenAIRE crawler or Google should only have one interface to the entire system including »Fraunhofer-Publica« and »Fraunhofer-Fordatis«, and should deliver the content from both of the data silos.

The three systems have various stakeholders - each with its own needs: Fraunhofer institutes, scientists, institute librarians, decision makers as well as strategists in the headquarters, research funding, public, scientific community and business. Using the same software leads to a uniform functionality and a uniform appearance. This facilitates the work of the target groups with the system .