

Case study

Portuguese Foundation for Science and Technology Adopts Ringgold Organizations to Create Integrated Ecosystem to Support the Management of National Scientific Activity

Fundação para a Ciência e a Tecnologia (Portuguese Foundation for Science and Technology, FCT) is the Portuguese public agency that supports science, technology and innovation, in all scientific domains, under responsibility of the Ministry for Science, Technology and Higher Education.

FCT provides funding for research conducted across the country and tracks and manages research grants and output. It found that its information was contained in a disconnected array of national and international systems, data silos, and formats, and multiple systems managed specific components of research tracking, such as grants, thesis and dissertations, and research units. Portugal had two national CV platforms, and multiple systems performing one core function: research output management. Most systems were unable to effectively exchange data, and they were not aligned with international data standards.

To improve the infrastructure for researchers, institutions and itself, FCT identified that a new technical and interoperability framework was needed to provide researchers a one-stop-shop of resources pertaining to their research, foster collaboration between individuals and across organizations, and support the development of consistent reporting and impact assessment.

The key to providing the Portuguese government with a reliable and robust way to manage the nation's research activity lay in restructuring the data architecture and systems and adopting appropriate standards and persistent identifiers for all entities represented. This led to the development of PTCRIS (Portuguese Current Research Information System) - a system of systems or "SoS," providing an infrastructure to transform the many information systems supporting scientific activity into a single, coherent, and integrated ecosystem, designed to ultimately be interoperable with the Grant Management Systems.

The framework consolidates functions and is built upon standards to ensure its long-term functionality. PTCRIS required unique, persistent, and globally-accepted identifiers for both researchers and organizations. ORCID and Ciência ID, the Portuguese national researcher identifier, were selected for individuals. Also, DOIs will soon be assigned for grants.

About Fundação para a Ciência e a Tecnologia

Company: **Fundação para a Ciência e a Tecnologia**

Location: **Portugal**

Fundação para a Ciência e a Tecnologia is the Portuguese public agency that supports science, technology and innovation, in all scientific domains, under responsibility of the Ministry for Science, Technology and Higher Education. Since March 2012, FCT has coordinated public policies for the Information and Knowledge Society in Portugal, after the integration of the Knowledge Society Agency-UMIC. In October 2013, FCT took over the attributions and responsibilities of the Fundação para a Computação Científica Nacional (FCCN), [Foundation for National Scientific Computation].



Ringgold Organizations

Ringgold Organizations was chosen as a core component of PTCRIS's national database of organizations, to complement the International Standard Name Identifier (ISNI). Because ISNI records hold only enough metadata to identify a party, Ringgold Organizations provides valuable supporting structure and augmented metadata, including:

- Organizational hierarchies providing the link between parent and child organizations, such as departments of study and universities, or government ministries and subsidiary agencies.
- Structured designation of both official and alternative organization names, including translations, acronyms, and former names.

By combining ISNI's open standard bridge identifier with Ringgold's expanded and curated information, FCT developed a national organizational database capable of supporting PTCRIS's complex array of data. The ORCID registry also uses Ringgold for organizational affiliations and transmits Ringgold IDs to PTCRIS via API. As a result, PTCRIS can now easily synchronize data about both primary entity types, researchers and organizations.



By using Ringgold's data along with ISNI's open standard bridge identifier, we consolidated organizational information that was once scattered through a disconnected array of national and international systems."

João Moreira

Head of Scientific Information
FCT

The Results

PTCRIS was launched in 2014, and the national organization database is an integral part of the CRIS Universe infrastructure. PTCRIS has developed a protocol for ongoing maintenance and expansion of the organization database, by regularly synchronizing data with Ringgold.

Systems which rely upon the national organization database have undergone successful usability testing, streamlining processes for researchers and other constituents. One example is the CienciaVitae CV platform, which was released in 2018. Now, when researchers need to apply for grants within the scope of the national funding agency, they do so within the CienciaVitae CV platform, which is now integrated with the Grant Management System. Additionally, it is estimated that the CienciaVitae CV platform has saved researchers 90,000 hours collectively up to now registering curricular information.

By acting as a "glue," PTCRIS allows greater interoperability between national and international research management systems. Research is now easily tracked, and output is reliably quantified, satisfying a core mission of FCT. Over the coming years, PTCRIS plans to release new standards and infrastructure components based on international standards (CERIF, CASRAI), and to foster their adoption by national and regional research information systems.

Persistent identifiers and structured data such as that provided by ISNI, ORCID, and Ringgold will continue to be a key component of the system architecture.

About CCC

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