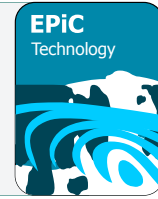




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Crossref Grant Linking System: Enabling Transparent and Comprehensive Research Evaluation Through Open Funding Metadata

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Abstract

Responsible research evaluation increasingly requires transparent, interoperable data infrastructures to track funding through to outputs and be able to recognise a diversity of contributions. The Crossref Grant Linking System (GLS) addresses this gap by enabling funders to register open metadata for grants using Crossref grant DOIs. With more than 200,000 grant records from almost 50 funders, GLS integrates with Current Research Information Systems (CRIS) to reduce manual data entry, improve attribution accuracy, and support responsible assessment practices aligned with CoARA and the Barcelona Declaration. Evidence from early adopters, including FCT Portugal, demonstrates GLS's potential to strengthen national and institutional research evaluation through complete, high-quality, openly available funding metadata.

1 Introduction

Research evaluation increasingly demands comprehensive, transparent, and interoperable data infrastructures that can accurately track the full lifecycle of research activities from funding to outputs. While the scholarly community has successfully established persistent identifiers for research outputs (DOIs), researchers (ORCID), and institutions (ROR), a persistent way to identify and link funding information was lacking until recently. This limitation has impeded institutions and funders from effectively measuring research impact, demonstrating value for investment, and supporting responsible research assessment practices.

The Crossref Grant Linking System (GLS), launched in 2019, addresses this infrastructure gap by providing funders with a mechanism to register open, persistent, and interoperable metadata about their grants and awards. As Current Research Information Systems (CRIS) serve as central repositories for institutional research information and play key roles in research evaluation and assessment, the integration of GLS data represents a significant opportunity to enhance evaluation practices aligned

with principles articulated in the Barcelona Declaration on Open Research Information and the Coalition for Advancing Research Assessment (CoARA).

2 The Crossref Grant Linking System

The GLS enables research funders to join Crossref as members and register comprehensive metadata for grants, awards, fellowships, facility access, and other forms of research support. Each registered grant receives a globally unique DOI, creating a persistent identifier that can be cited and referenced throughout the research ecosystem. As of 2025, almost 50 funders have joined as members and created more than 200,000 grant records with open funding metadata.

The GLS includes several key components:

- **Funder-designed metadata schema:** Developed collaboratively with Crossref's Funder Advisory Group, the schema captures investigator information, funding amounts and types, project titles and descriptions, award dates, and classifications
- **Open distribution infrastructure:** All grant metadata is freely accessible through Crossref's REST API, which handles nearly 2 billion monthly queries globally
- **Integration with existing ecosystems:** Crossref houses more than 178 million metadata records, including grants, articles, preprints, datasets, reports and peer reviews. By incorporating grant metadata into this same infrastructure, Crossref's GLS creates the possibility for interconnections between research objects, funding and people and across the research lifecycle.
- **Flexible registration mechanisms:** Funders can register grants through online forms, XML deposits, or third-party grant management systems with built-in Crossref integration

3 The role of funding metadata in research evaluation and CRIS Systems

The Barcelona Declaration on Open Research Information emphasises that research information used for evaluation, policy-making, and discovery must be openly accessible, with exceptions only for privacy or sensitivity concerns. The GLS directly supports this principle by creating transparent, traceable funding relationships that can be systematically recorded and shared. As noted by the International Science Council, transparency in funding strengthens trust in science and counters misinformation.

Traditional research evaluation has often relied on fragmented, inconsistent funding acknowledgements extracted manually from publications or captured through heterogeneous institutional systems. This approach creates several problems, such as incomplete data, limited traceability or attribution and disambiguation errors.

3.1 Integration with CRIS systems

CRIS systems provide institutional and national infrastructure for aggregating research information. Research assessment has been identified as one of the primary drivers of CRIS implementation, particularly following exercises such as the UK Research Excellence Framework (REF) (McGrath & Cox, 2014, #)

The GLS complements CRIS functionality by offering standards, structured metadata and PIDs that are interoperable across systems. Open funding metadata also enables comparative analysis across institutions, disciplines and time periods, which, together with automated ingestion of standardised metadata, decreases manual data entry and manual labour.

4 Findings: Impact on research evaluation practices

4.1 GLS supports relationships between funding and research outputs

Crossref's analysis of grant-to-output matching demonstrates the system's potential. By combining registered grant DOIs with funding acknowledgements in publication metadata, Crossref identified thousands of previously hidden relationships (Tkaczyk, 2025). However, challenges remain:

- Systematic discrepancies between how publishers record funding information and how it appears in grants prevent some matches
- Variation in metadata quality affects linking accuracy

These findings highlight the importance of grant DOIs as unambiguous identifiers superior to internal award numbers alone and serve as evidence to support institutional policies and practices.

4.2 Case study: FCT Portugal (Fundação para a Ciência e a Tecnologia)

Portugal's national funding agency implemented GLS as part of its PTCRIS information ecosystem. Prior to adoption, the lack of persistent identifiers for grants was identified as a major system shortcoming. FCT piloted approximately 6,000 grants before scaling to full implementation. The implementation of Crossref GLS, according to the funder, has enabled them to “link grants to any other object and entity that comprises the ecosystem: people that execute that funding, projects, institutions, outputs” (Gaudioso Pedraza & Laranjeria, 2025).

The implementation addressed Portugal's need to aggregate scattered scientific outputs in one place to trace and evaluate programs in light of related outputs, demonstrating the value for national-level research assessment systems powered by complete and high-quality metadata.

4.3 Supporting responsible metrics use

The GLS aligns with principles from the Leiden Manifesto, the San Francisco Declaration on Research Assessment (DORA), and CoARA by providing context for quantitative indicators and data to support evidence-based assessment and decision-making. Transparent funding relationships enable proper attribution of research outputs to funding sources for impact analysis while supporting understanding of funding patterns across disciplines and career stages. Complete, robust, high-quality and openly available metadata will support CRIS systems in empowering universities, research-performing organisations and funders in delivering their research assessment reform ambitions and open science mandates.

5 Conclusions

The Crossref Grant Linking System serves as essential infrastructure for transparent, comprehensive research evaluation within CRIS systems. By providing persistent identifiers and open metadata for

research funding, GLS enables institutions, funders, and evaluators to track research from investment through impact with accuracy and completeness.

As research evaluation continues its shift toward responsible metrics, contextual assessment, and open science principles articulated in initiatives like the Barcelona Declaration (de Jonge, 2025) and CoARA, the integration of standardised funding information becomes increasingly critical. CRIS systems, positioned at the intersection of institutional research management and external reporting requirements, serve as the natural integration point for this infrastructure.

Evidence from early adopters demonstrates both the feasibility and the value of GLS implementation. However, realising the full potential requires sustained commitment from the research community to adopt persistent identifiers, contribute open metadata, and prioritise interoperability. The CRIS2026 conference community is uniquely positioned to advance this agenda and shape the future of research evaluation through open, interconnected information systems.

References

- De Jonge, H. (2025, 10 23). *Moving funding metadata forward: key takeaways from a Barcelona Declaration round table*. Barcelona Declaration. https://barcelona-declaration.org/news/20251023_community_roundtable/
- Gaudioso Pedraza, R., & Laranjeria, C. (2025, 10 15). *Integrating grant metadata for seamless research interconnectivity at FCCN|FCT*. Crossref.org. <https://doi.org/10.64000/9gjfp-5p698>
- McGrath, A., & Cox, M. (2014). Research Excellence and Evaluation Using a CRIS: A Cross-institutional Perspective. *Procedia Computer Science*, 33, 303-308. <https://doi.org/10.1016/j.procs.2014.06.048>
- Tkaczyk, D. (2025, 8 20). *Crossref relationships between grants and research outputs*. Zenodo. <https://zenodo.org/records/16914170>