

The role of national and regional CRIS in the implementation of PIDs

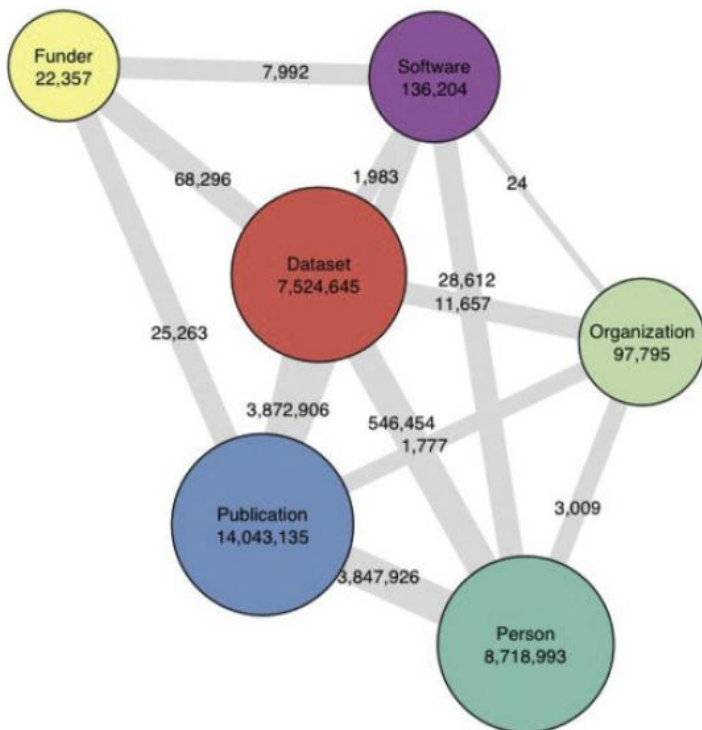


Figure: PID graph as described by FREYA in Aug 2020 – with a strong focus on research outputs

Pablo de Castro
euroCRIS Secretary

Open Access Advocacy Librarian
University of Strathclyde

pablo.de-castro@strath.ac.uk

<http://orcid.org/0000-0001-6300-1033>

@pcastromartin

The “Building the Plane” report – and associated case studies



- “... to identify, through investigation, analysis and recommendations, the best possible **strategic and operational paths** to achieve a well-functioning PID infra for KE member states and beyond”
- “... to identify the **main risks** when pursuing a well-functioning PID infrastructure for research, and to better understand the most important elements of **trust** in creating said infrastructure”

DFG



Jisc

CNRS

SURF

DeiC
DATA INFRASTRUCTURE COOPERATION

The “Building the Plane” report – and associated case studies

Report:

Building the plane as we fly it: the promise of Persistent Identifiers, <https://zenodo.org/record/7258286>

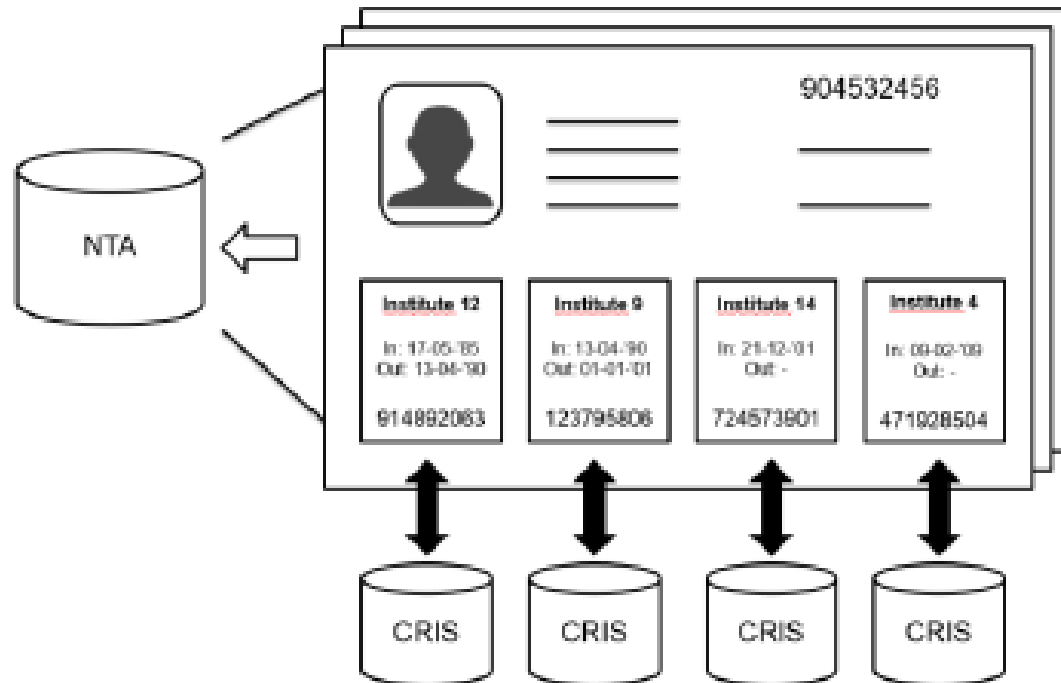
Case studies:

- Adoption of the DAI in the Netherlands and subsequent superseding by ORCID/ISNI, <https://zenodo.org/record/7327505>
- The gradual implementation of organisational identifiers (OrgIDs), <https://zenodo.org/record/7327535>
- PIDs for research instruments and facilities: an emerging PID domain in need of coordination, <https://zenodo.org/record/7330372>
- IGSN – building and expanding a community-driven PID system, <https://zenodo.org/record/7330498>
- RePEc Author Service: An established community-driven PID, <https://zenodo.org/record/7330516>
- Failed PIDs and unreliable PID implementations, <https://zenodo.org/record/7330527>
- The role of research funders in the consolidation of the PID landscape, <https://zenodo.org/record/7258210>

CRIS – and specifically national/regional CRIS – uniquely placed to adopt/implement PIDs at a national level

- ‘Historical’ case study: Digital Author Identifier (DAI) in the Netherlands

De Digital Author Identifier (DAI) is het unieke nummer voor Nederlandse wetenschappelijke auteurs. Dit nummer is in 2005 als onderdeel van het SURF DARE programma ontwikkeld en sindsdien in gebruik bij alle Nederlandse universiteiten en een aantal onderzoeksinstituten.



Figuur 1: Visualisatie van NTA record met onderzoeksblokken van verschillende instellingen.

This potential trust-related issue was successfully addressed via the direct involvement of institutions – mainly via their CRIS administrators – in the process for issuing author identifiers of one sort or another. The original workflow for minting DAIs involved the coupling between the institutional METIS CRIS and the Dutch Thesaurus NTA as shown in the figure on the next page. This was a manual process carried out by each METIS CRIS administrator. Multiple or successive researcher's affiliations with various Dutch institutions could thus overlap into a single DAI that would receive input from different CRIS systems.

"Nota toekomst Nederlandse infrastructuur voor auteurs identifiers",

<https://docplayer.nl/8892670-Nota-toekomst-nederlandse-infrastructuur-voor-auteursidentifiers.html>

CRIS – and specifically national/regional CRIS – uniquely placed to adopt/implement PIDs at a national level

- OrgIDs being centrally implemented by the NVA CRIS in Norway (formerly CRISin) by merging a number of authority data sources (incl ROR)

 The Brønnøysund Register Centre

Language 

Search 

The content is not available in English.

[Forsiden](#) | [Produkter og tjenester](#) | **Nøkkelopplysninger fra Enhetsregisteret**

Nøkkelopplysninger fra Enhetsregisteret

Organisasjonsnummer:

919 303 808

Navn/foretaksnavn:

SINTEF AS

Organisasjonsform:

Aksjeselskap

Forretningsadresse:

Strindvegen 4
7034 TRONDHEIM

Kommune:

TRONDHEIM

Postadresse:

Postboks 4760 Torgarden
7465 TRONDHEIM

CRIS – and specifically national/regional CRIS – uniquely placed to adopt/implement PIDs at a national level

- Funding registry within PT-CRIS (will eventually lead to grantIDs)



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Volume 211, 2022, Pages 74-82



Part of special issue

15th International Conference on
Current Research Information
Systems

Edited by Miguel-Angel Sicilia, Pablo De-Castro,
Sadia Vancauwenbergh, Ed Simons, Orel Ognjen

Developing a national science & technology funding registry in Portugal

[Cátia Laranjeira](#)^a , [Joana Nabais](#)^a, [Daniel Gomes](#)^a, [Pedro Lopes](#)^a, [João Mendes Moreira](#)^a

Abstract

Funding information is one of the pillars of the research information ecosystem. Despite this, it is still very challenging to associate scientific outputs to all the entities that financially support a project and all the stakeholders involved. To tackle such limitation, PTCRIS—a national integrated research information management ecosystem—developed a new infrastructure to support the management of funding attributed to the scientific triad in the Portuguese scientific ecosystem: organizations, people and projects. The SciPROJ database is the new national database that aggregates funding records (national and international) that support science and technology activities carried out in Portugal.

<http://hdl.handle.net/11366/1969>

CRIS – and specifically national/regional CRIS – uniquely placed to adopt/implement PIDs at a national level

- FRIS already collecting info on research instruments and facilities in Flanders

FRIS: Metadata model for research infrastructure

► Characteristics

→ 25 metadata fields

- Identifier
- Federated identifier
- Name
- Acronym
- Description
- Keywords
- Type
- Location type
- Accessibility
- User modalities
- Starting date
- End date
- Location(s)
- Contact
- Website
- Technology classification (Fraunhofer-35)
- Research disciplines (FRDS)
- Data provider is consortium coordinator?
- Consortium coordinator
- Organisation(s) of consortium partners of infrastructure project
- Affiliations of consortium partners of the infrastructure project that provide data to FRIS
- Link to funding project(s)
- Link to projects utilizing infrastructure
- Link to publications utilizing infrastructure
- Link to other infrastructure

A two-stage PID implementation process*?

1. Data collection based on internal IDs (these will often be persistent but not always resolvable)
2. Adoption of 'international' PIDs once the standard is mature

Roadmap (2023/24)



Public API



Increase data quality,
coverage and usage



Discovery into value-added
features



Understand institutional
systems and workflows



Review metadata
standards and PIDs



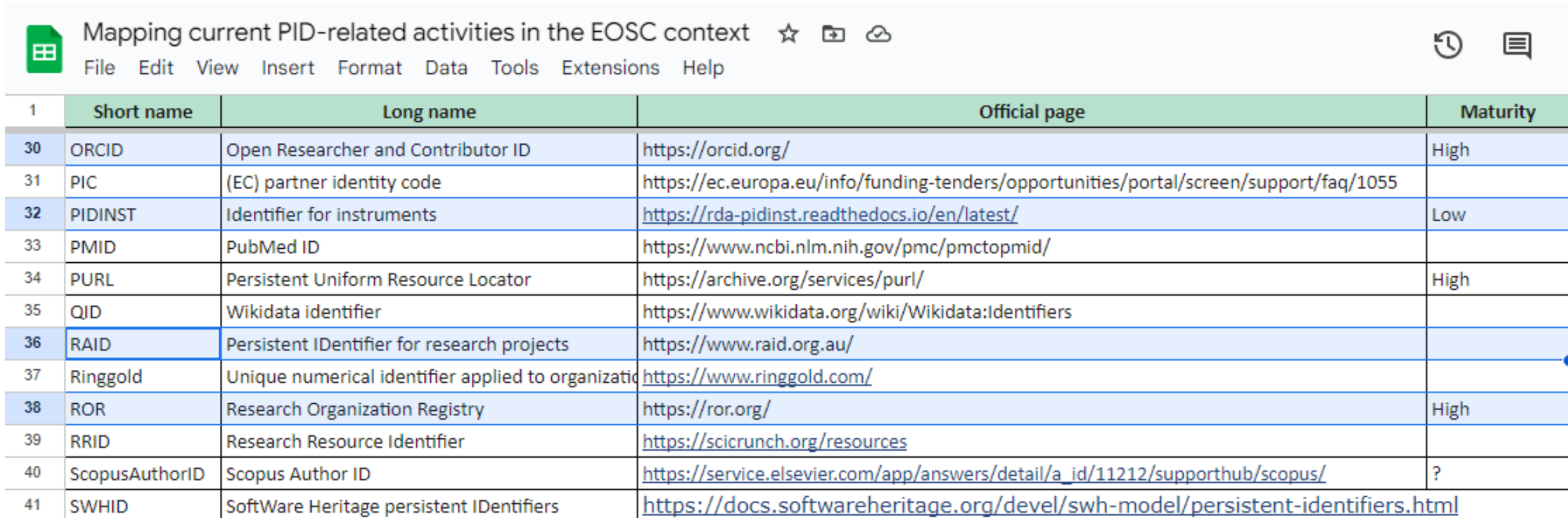
Sustainability / Strategic
partnership

* Not necessarily via CRIS, it may be any database

<https://equipment.data.ac.uk/>

Good – but how long does it take for a ‘new’ PID to consolidate?

1. Data collection based on internal IDs (these will often be persistent but not always resolvable)
2. Adoption of ‘international’ PIDs **once the standard is mature**



Mapping current PID-related activities in the EOSC context

File Edit View Insert Format Data Tools Extensions Help

1	Short name	Long name	Official page	Maturity
30	ORCID	Open Researcher and Contributor ID	https://orcid.org/	High
31	PIC	(EC) partner identity code	https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq/1055	
32	PIDINST	Identifier for instruments	https://rda-pidinst.readthedocs.io/en/latest/	Low
33	PMID	PubMed ID	https://www.ncbi.nlm.nih.gov/pmc/pmctopmid/	
34	PURL	Persistent Uniform Resource Locator	https://archive.org/services/purl/	High
35	QID	Wikidata identifier	https://www.wikidata.org/wiki/Wikidata:Identifiers	
36	RAID	Persistent Identifier for research projects	https://www.raid.org.au/	
37	Ringgold	Unique numerical identifier applied to organizations	https://www.ringgold.com/	
38	ROR	Research Organization Registry	https://ror.org/	High
39	RRID	Research Resource Identifier	https://scicrunch.org/resources	
40	ScopusAuthorID	Scopus Author ID	https://service.elsevier.com/app/answers/detail/a_id/11212/supporthub/scopus/	?
41	SWHID	SoftWare Heritage persistent IDentifiers	https://docs.softwareheritage.org/devel/swh-model/persistent-identifiers.html	

Good – but how long does it take for a ‘new’ PID to consolidate?



☰ DataCite Sign into Fabrica

PIDs for instruments: a way forward

📅 March 17th, 2020 Uncategorized 2 min Read

<https://doi.org/10.5438/tdk2-2g94>

As a community-driven organization, we continue to focus and explore use cases with our members. The persistent identification and citation of scientific instruments is a particular use case that continues to gain momentum across community stakeholders. The capacity to uniquely identify an instrument is critical for the community to gather contextual information and interpret the related data accordingly. As such, we are interested in continuing the conversation on how we can better serve this use case.

We have been working to understand specific use cases in more detail and ensure that our services are aligned to support these. The [RDA Persistent Identification for Instruments WG](#) reached the consensus that *an initial DOI for each instrument would work well*. If, however, the instrument should receive a new identifier every time it is overhauled or calibrated or deployed, then a second more flexible system (using the initial DOI of the instrument as a connecting identifier) would be useful. The group released the current draft for the data accordingly. As such, we are interested in continuing the conversation on how we can better serve this use case.



Matt Buys

<https://datacite.org/blog/pids-for-instruments-a-way-forward/>

The (Currently) Fragmented PID Landscape

Competing Technical Solutions

- OrgIDs: ROR vs Ringgold, record maintenance and the issue of multiple-level Org IDs

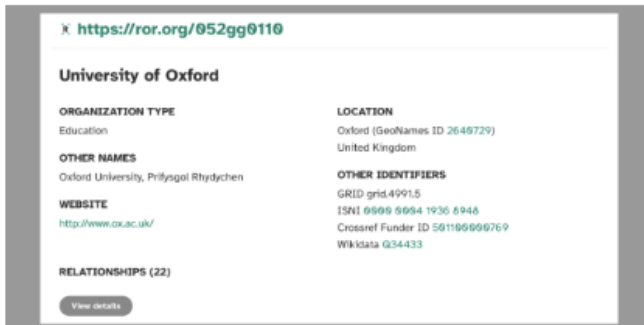


Home > Press Releases > CCC Announces Acquisition of Ringgold, Leading Provider of Organization Identifiers in Scholarly Communications

Press Releases CCC Announces Acquisition of Ringgold, Leading Provider of Organization Identifiers in Scholarly Communications

3 May 2022 – Danvers, Mass.

Acquisition Reflects CCC's Ongoing Commitment to Promoting Interoperability, Addressing Market Friction, and Collaborating with Stakeholders



<https://ror.org/052gg0110>

University of Oxford

ORGANIZATION TYPE	LOCATION
Education	Oxford (GeoNames ID 2649729) United Kingdom
OTHER NAMES	OTHER IDENTIFIERS
Oxford University, Prifysgol Rhydychen	GRID grid.4991.5
WEBSITE	ISNI 0000 0004 1936 6946
http://www.ox.ac.uk/	Crossref Funder ID 5011000090769
RELATIONSHIPS (22)	Wikidata Q54433

[View details](#)

Use the registry

The Research Organization Registry (ROR) includes IDs and metadata for more than 102,000 organizations and counting.

Registry data is CC0 and openly available via a search interface, REST API, and data dump. Registry updates are curated through a community process and released on a rolling basis.



The (Currently) Fragmented PID Landscape



Persistent Identifiers

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[Home](#) / [ORCID](#) / ORCID will no longer support the RINGGOLD ID

ORCID will no longer support the RINGGOLD ID

[ORCID](#) / By [Hana Janečková](#) / 26. June 2023

Starting **from 1 August 2023**, the ORCID registry will no longer receive updates related to the unique [RINGGOLD ID](#) organization identifiers.

RINGGOLD IDs created after 1 August 2023 will no longer be processed by ORCID. The list of RINGGOLD ID identifiers already used by the ORCID registry will be maintained for the foreseeable future. However, as it will no longer be updated, the data will slowly become outdated.

Organisations using ORCID services are advised to:

- use the [ROR](#) organisation identifier
- convert existing organisation metadata into ROR where possible



The (Currently) Fragmented PID Landscape

‘Community’: an ambiguous concept

- PIDs and services associated with them need to be perceived as valuable and be in turn promoted by "the community"

2. Crossref grant IDs minted by research funders

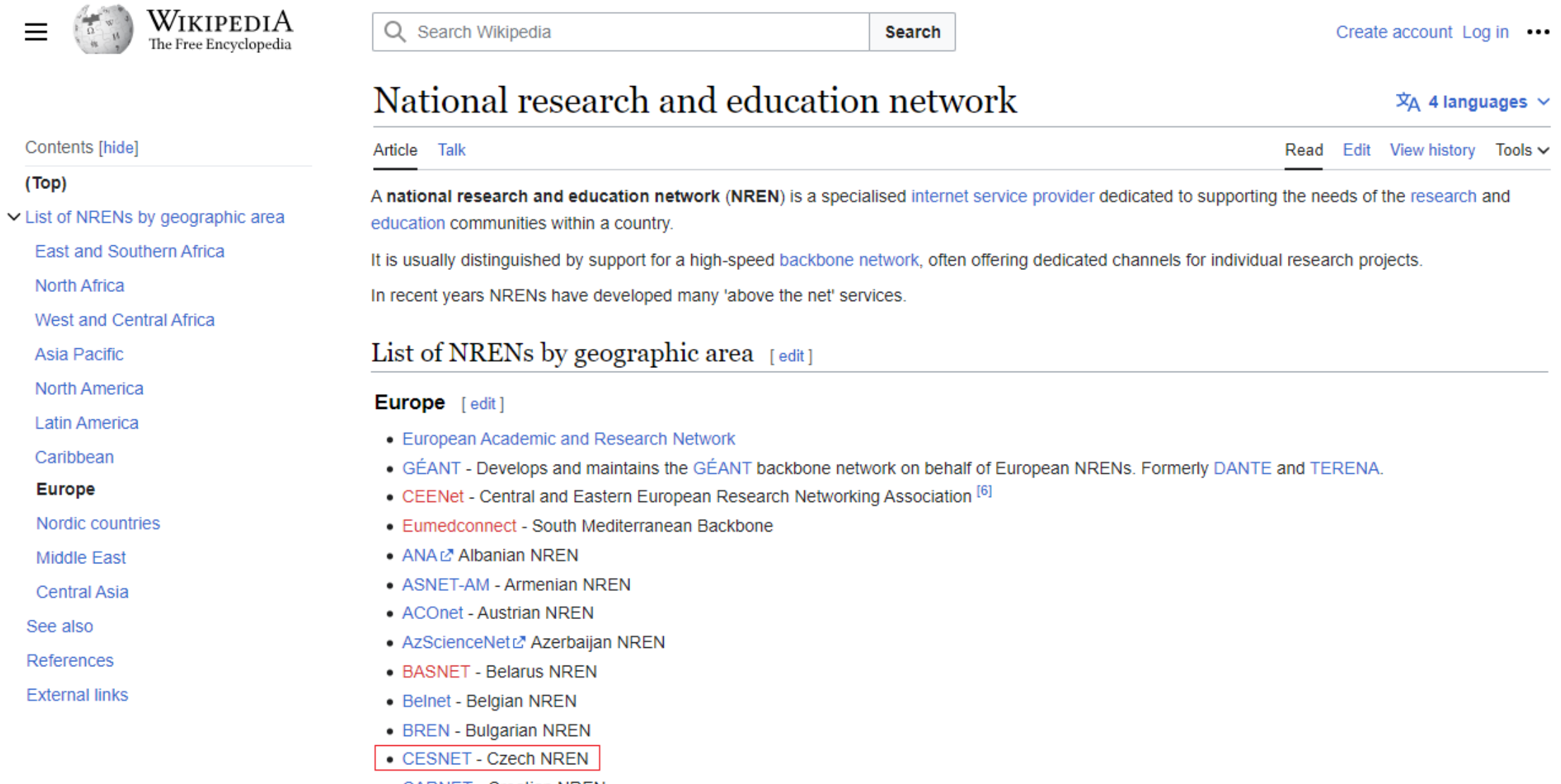
Stakeholder	Role
Crossref	PID service provider: Crossref assigns a stack of DOIs (via a funder ID praefix) to research funders and guarantees PID persistence and the correct resolving*
Research funder	PID manager: funders join the Crossref funder advisory group and gather the expertise to start minting grant IDs for their funded projects**
HEI	PID user: institutions store the grant IDs in the metadata set for funded projects they keep in their CRIS systems*** Grant IDs are included as a part of the RAiDs HEIs mint***
Researchers	PID user: prompted by their funders and HEIs, researchers include the grant IDs in the acknowledgements section of their manuscripts***
Publisher	PID user: publishers allow these grant IDs to be provided on the manuscript submission systems and include them in the metadata set exported to Crossref – allowing the references to be picked in for instance individual ORCID profiles***

PID community stakeholders

- **Governing bodies**
- **PID Service Providers**
- **(Possible) PID Federation**
- **RDA Working Groups**
- **PID-related projects and initiatives**
- **International coordination bodies**
- **Publishers**
- **National offices**
- **National research and education network (NRENs)**
- **Research funders**
- **HEIs/research centres/institutes**
- **Researchers**
- **Start-ups**

So where do CRIS fit into this diverse group of stakeholders?

- Strong variations across countries. One clear best practice case study: Finland



The image is a screenshot of the Wikipedia article titled "National research and education network". At the top left is the Wikipedia logo and the text "WIKIPEDIA The Free Encyclopedia". To the right is a search bar with the text "Search Wikipedia" and a "Search" button. Further right are links for "Create account" and "Log in". Below the search bar is a navigation bar with "Article" and "Talk" tabs, and "Read", "Edit", "View history", and "Tools" options. The main heading is "National research and education network" with a language selector showing "4 languages". The article text defines a national research and education network (NREN) as a specialised internet service provider for research and education communities. It mentions support for high-speed backbone networks and 'above the net' services. Below the text is a section titled "List of NRENs by geographic area" with an "edit" link. Under the "Europe" sub-section, a list of NRENs is provided, with "CESNET - Czech NREN" highlighted by a red box. Other NRENs listed include European Academic and Research Network, GÉANT, CEENet, Eumedconnect, ANA, ASNET-AM, ACOnet, AzScienceNet, BASNET, Belnet, BREN, and GARNET.

Contents [hide]

(Top)

▼ List of NRENs by geographic area

- East and Southern Africa
- North Africa
- West and Central Africa
- Asia Pacific
- North America
- Latin America
- Caribbean
- Europe**
- Nordic countries
- Middle East
- Central Asia

See also

References

External links

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4 languages

Article Talk Read Edit View history Tools

National research and education network

A **national research and education network (NREN)** is a specialised [internet service provider](#) dedicated to supporting the needs of the [research](#) and [education](#) communities within a country.

It is usually distinguished by support for a high-speed [backbone network](#), often offering dedicated channels for individual research projects.

In recent years NRENs have developed many 'above the net' services.

List of NRENs by geographic area [edit]

Europe [edit]

- European Academic and Research Network
- GÉANT - Develops and maintains the GÉANT backbone network on behalf of European NRENs. Formerly DANTE and TERENA.
- CEENet - Central and Eastern European Research Networking Association ^[6]
- Eumedconnect - South Mediterranean Backbone
- ANA ^[?] Albanian NREN
- ASNET-AM - Armenian NREN
- ACOnet - Austrian NREN
- AzScienceNet ^[?] Azerbaijan NREN
- BASNET - Belarus NREN
- Belnet - Belgian NREN
- BREN - Bulgarian NREN
- CESNET - Czech NREN**
- GARNET - Croatian NREN

So where do CRIS fit into this diverse group of stakeholders?

- Strong variations across countries. One clear best practice case study: Finland

National research and education network

4 languages

View history Tools

of the research and

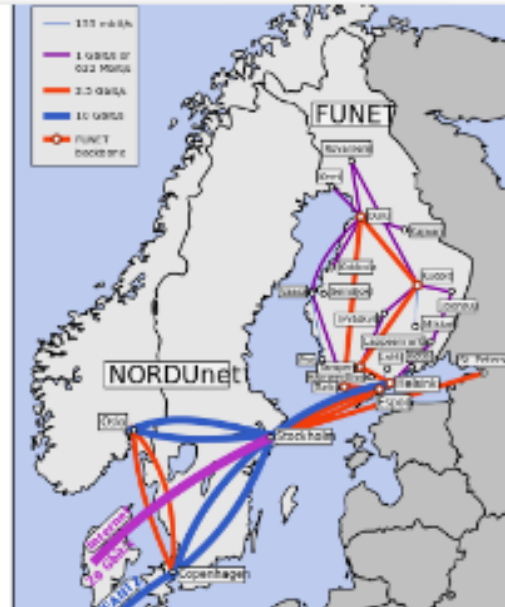
projects.

JA.

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- See also
- References
- External links

- [SANET](#) - Slovakian NREN
- [Re](#)
- [SW](#)
- [UL](#)
- [UR](#)
- [Jis](#)
- [KR](#)
- [NO](#)
- [FUNET](#) - Finnish NREN
- [RHnet](#) - Icelandic NREN
- [SUNET](#) - Swedish NREN
- [UNINETT](#) - Norwegian NREN


FUNET is the Finnish University and Research Network, a backbone network providing Internet connections for Finnish universities and polytechnics as well as other research facilities. It is governed by the state-owned CSC – IT Center for Science Ltd. The FUNET project started in



Nordi



So where do CRIS fit into this diverse group of stakeholders?



O&A Members 80













Active Organisational & Affiliate members

RDA Groups WG & IGs: 107

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RDA National PID Strategies Guide and Checklist

Attachment	Size
 GUIDE and CHECKLIST Pathways to National PID Strategies (RDA WG Output) .pdf	190.44 KB
 AUSTRALIA Case Study - National PID Strategies.pdf	108.6 KB
 CANADA Case Study - National PID Strategies.pdf	87.38 KB
 CZECH REPUBLIC Case Study - National PID Strategies.pdf	108.51 KB
 FINLAND Case Study - National PID Strategies.pdf	89.72 KB
 KOREA Case Study - National PID Strategies.docx.pdf	67.42 KB
 NETHERLANDS Case Study - National PID Strategies.pdf	83.56 KB
 GERMANY Case Study - National PID Strategies.docx.pdf	95.54 KB
 NEW ZEALAND Case Study - National PID Strategies.docx.pdf	86.69 KB
 UNITED KINGDOM Case Study - National PID Strategies.pdf	151.76 KB
 GUIDE and CHECKLIST_ Pathways to National PID Strategies (RDA WG Output) FINAL.pdf	195.74 KB
 National-PID-Strategies-Checklist Visual.pdf	5.71 MB

National PID Strategies WG

Status: Recognised & Endorsed

Chair(s): Christopher Brown, Natasha Simons, Daniel Bangert, Shawna Sadler

Secretariat Liaison: Bridget Walker

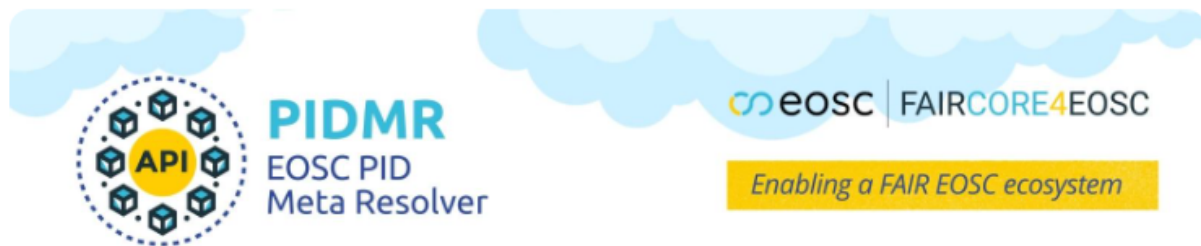
TAB Liaison: Mingfang Wu

<https://rd-alliance.org/group/national-pid-strategies-wg/outcomes/rda-national-pid-strategies-guide-and-checklist>

So where do CRIS fit into this diverse group of stakeholders?

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EOSC PID Meta Resolver (PIDMR)



Expected impact of the PID Meta Resolver:



Related Case Studies:



Mathematics



Social Sciences & Humanities

Overview

The increasing use of PIDs to reference all types of research results is a major step forward in meeting future requirements for the FAIRness of (research) data. Although this trend is very welcome, new challenges arise in processing these PIDs and integrating them into different research processes. The biggest difficulty is the multitude of systems used to create and maintain PIDs. The challenge is to know which system is responsible for the resolution process, the process that provides the referenced (meta-)data for a PID. A

Partners:



GRNET



Gesellschaft für
wissenschaftliche
Datenverarbeitung Göttingen



OpenAIRE



University of Helsinki

<https://faircore4eosc.eu/eosc-core-components/eosc-pid-meta-resolver-pidmr>

Thanks!

Questions?

TOPICS ON THE TABLE 1/2

- Lessons learned
- Persistent identifiers (PIDs)
- CERIF-based interoperability: top-down & bottom-up
- Implementation of OpenAIRE Guidelines for CRIS managers
- Promotion of a national/regional portal to different stakeholders/target groups

Pablo de Castro

euroCRIS Secretary

Open Access Advocacy Librarian
University of Strathclyde

pablo.de-castro@strath.ac.uk

<http://orcid.org/0000-0001-6300-1033>

@pcastromartin