The gradual implementation of organisational identifiers (OrgIDs)

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Knowledge Exchange

Case study

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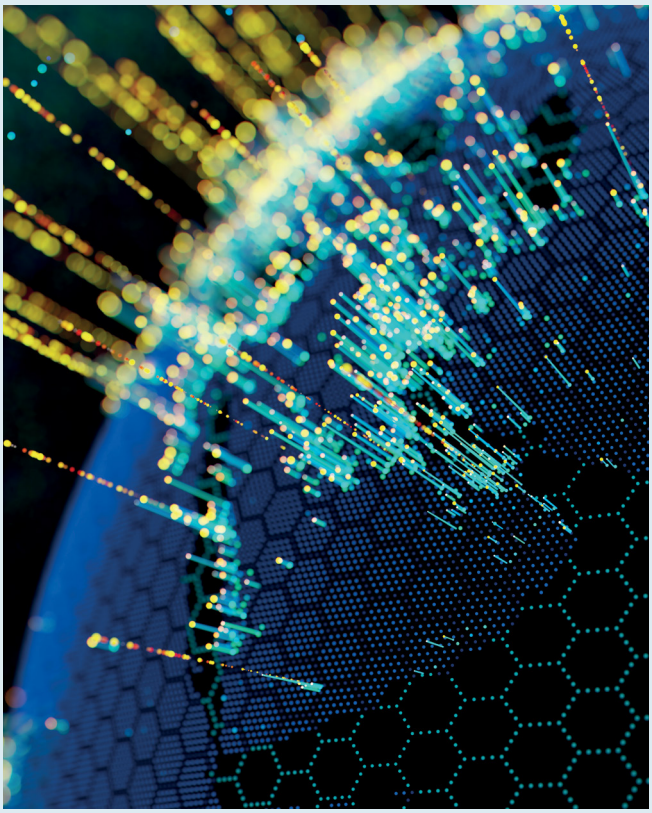
February 2023



This case study is part of a series that has been produced within the study on “Risks and Trust in pursuit of a well-functioning PID infrastructure for research” commissioned by the Knowledge Exchange in July 2021. The main outcome of this study is a report examining the current PID landscape with an emphasis on its risks and trust-related issues.

This complementary series of case studies aims to provide a deeper insight into specific areas of activity, workflows and stakeholders within this wider PID landscape.

DFG CSC Jisc cnrs SURF DeiC

Title: The gradual implementation of organisational identifiers (OrgIDs)

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1. Rationale

Same as in the case of persistent author identifiers before international players like ISNI and ORCID arrived, it makes sense for organisational identifiers (OrgIDs) to be initially collected and maintained at a national level.

This is particularly so in view of the complexity associated to OrgIDs, with entries for organisations frequently undergoing changes that need regular updates. OrgIDs are significantly more complex to implement than author IDs – in a way, it's as if authors actually changed their name every few years, only the ownership of an OrgID record is not as easy to assign as it is in the case of authors. Moreover, as opposite to author IDs, the most relevant use cases for OrgIDs do not lie with publishers but with other stakeholders such as research funders. Although a significant number of countries already keep some kind of national registry for (research-performing) organisations, it's only in January 2019 that the Research Organization Registry (ROR) was officially launched as the default international approach for the persistent identification of organisations[1].

There is thus a certain tension between 'centralising forces', meaning attempts to provide a unique, international framework for OrgID implementation, and a myriad of 'centrifugal pressures' which may drive specific stakeholders (specifically national-level funders) to choose their own way forward in the confidence that a mechanism will eventually be found to reconcile both trends.

This case study looks first into the process that led to choosing ROR – initially based on the Digital Science Global Research Identifier (GRID) database – as the default international framework for the provision of OrgIDs.

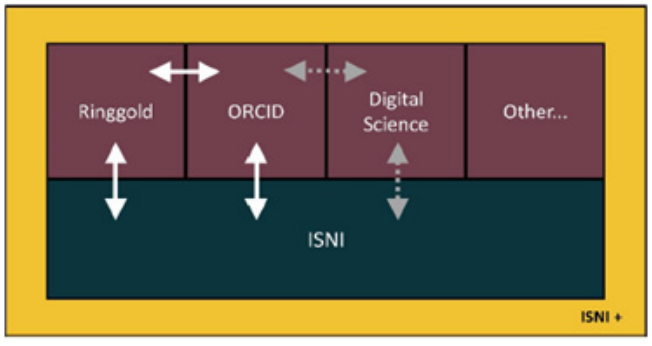
An attempt is also made at providing an insight into the challenges posed by the current developments such as this need to reconcile comprehensive registries kept at a national level with the parallel emergence of international OrgIDs. This specifically raises the issue of multiple-level OrgIDs and how this objective may be achieved going forward. In line with the general aim of the wider work for the Knowledge Exchange, the emerging OrgID landscape will be examined from a risk and trust perspective.

2. The gradual implementation of organisational identifiers (OrgIDs)

2.1 OrgIDs: a bit of history

The case for the persistent identification of research-performing organisations has been out there for quite a long time – OrgIDs were already on the radar shortly after ORCID was launched as an international persistent identifier for authors, since it made sense to couple the author ID to an additional, specific ID for the organisations authors are affiliated with[2]. At the time, back in 2013, Ringgold was proposed as an early solution to couple ORCIDs to OrgIDs.

OrgIDs were one of the three main areas of work defined by the Jisc CASRAI-UK Pilot launched in 2014 to improve research interoperability. The subsequent report "Review of selected organisational IDs and development of use cases for the Jisc CASRAI-UK Organisational Identifiers Working Group" released in 2015[3] explored different approaches, technical solutions and governance models a widespread implementation of OrgIDs in the UK might eventually be based on. The report proposed a so-called ISNI+ model in which ISNI would play a backbone role for metadata collection purposes, working in tandem with a number of possible registration agencies – Ringgold and Digital Science being among the suggested ones.



The Portuguese Foundation for Science and Technology (FCT), the largest, almost hegemonic public research funder in Portugal, was a prominent member of this working group around OrgIDs and a paper on the topic was subsequently presented in 2016 at the 13th International Conference on Current Research Information Systems (CRIS2016) organised by euroCRIS[4]. In this contribution, "*PTCRIS_OrgID - Portuguese Organisation Identifiers Authoritative System*", an FCT team presented its plans "to build a first version of an authoritative National Organisations Database, to develop an organisation reconciliation service and to set up a registration system for those organisations" within the PT-CRIS national-level research information management framework in Portugal. The proposed strategy for developing such infrastructure was based on the ISNI+ model identified by the Jisc CASRAI-UK OrgID WG report above.

A more recent submission from FCT to the CRIS2022 conference to be held in May 2022[5] states that the PT-CRIS research information system is using the Ringgold Identify Database as an authoritative source[6]. Ringgold – in conjunction with ISNI – was in fact the first recommendation in the Jisc-CASRAI report and other European national funders are also considering it as the main candidate solution for implementing their own OrgID layer.

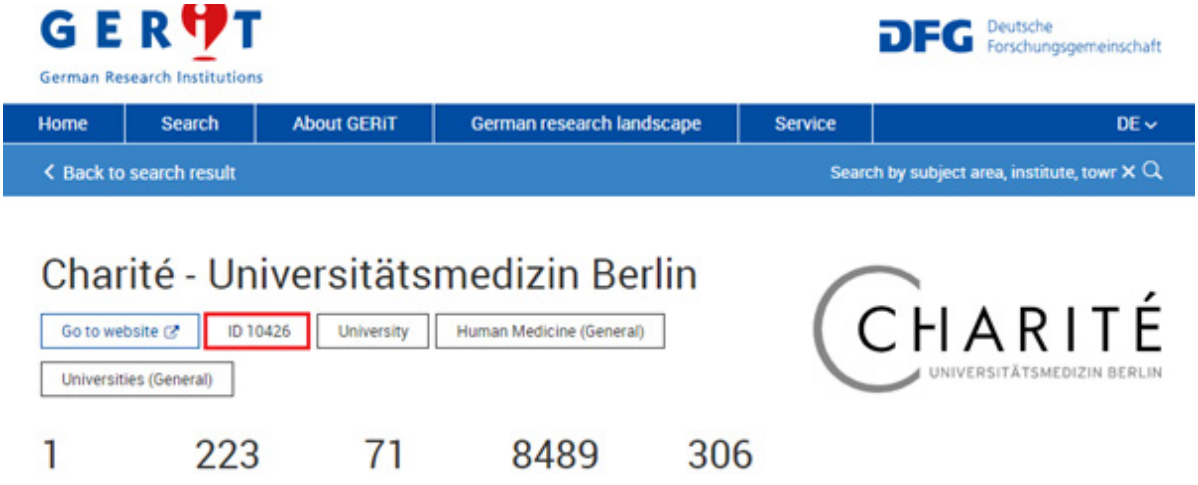
However, Ringgold is a for-profit operator, which would seem to contradict certain principles for a sustainable, community-driven PID infrastructure[7]. In fact the Research Organization Registry (ROR) international initiative that is quickly growing is actually based on the second solution identified in the Jisc-CASRAI report, namely the open GRID database of organisations that Digital Science launched in 2015 and used to maintain and curate[8]. ROR is managed by a steering group in which the California Digital Library, Crossref, DataCite,

and Digital Science are represented and makes a strong emphasis on openness. This open, community-driven solution may eventually pose some sustainability issues even if the backing of the initiative by both CrossRef and DataCite would seem to provide certain guarantees for its mid- and long-term sustainability. ROR has recently launched a fundraising campaign[9] and its evolution closely follows the pioneering approach successfully applied by ORCID, with a focus on the PID integration into a number of technical solutions by various stakeholders[10].

Domain	Cases
Publishing	▸ Research attribution ▸ Automatic allocation of Article Processing Chargers (APCs)
Business Intelligence	▸ BI for RPOs ▸ BI for research funders and regulators ▸ BI for publishers
Reporting	▸ Reporting to research funders ▸ Reporting to regulators
Administration	▸ Finance and billing ▸ Grant management
Sharing data/ access control	▸ Authentication and authorisation

One specific issue that an international, 'centralising' initiative like ROR faces is its emphasis on a very specific use case for the use of OrgIDs among the set of them that were identified in the Jisc-CASRAI report as summarised in the previous table. This is the publisher-driven "affiliation use case" where only top-level identifiers are required for persistently identifying the organisations that researchers are affiliated with. Another objective of this top-level-only OrgID layer is the identification of corresponding authors' organisations so that APC payments may be assigned to these and potential Gold Open Access eligibility under Read & Publish agreements can automatically be asserted. As stated in the ROR website, "ROR is focused exclusively on providing core high-quality open data and infrastructure that is specific to the affiliation use case"[11].

Other countries besides Portugal are seeing significant progress in the area of Org IDs. For instance, the German Research Foundation (DFG) has released an open database of German Research Institutions (GERiT) which contains approximately 29,000 institutes at German universities and non-university research institutions[12] each of which has an internal identifier, see an example below.



A similar roadmap is being drawn in the Netherlands: recommendation no 3 in the 2021 report "NWO Persistent Identifier Strategy"[13] calls for the implementation of research organisation IDs in grant application and project reporting workflows. While mentioning Ringgold, ISNI and the CrossRef Funder registry as additional relevant actors in the area of OrgIDs, the report states that “at this point, it would be sensible to recommend to implement RoR in NWO grant application and project reporting workflows”. In Austria, where a project called RIS Synergy is bringing together a number of institutions and research funders – with the Austrian Science Fund FWF notably included among the latter – under the lead of TU Wien, plans are also being put together for a widespread assignation of OrgIDs to Austrian research-performing organisation via a registration process with Ringgold.

In France, the National Directory of Research Structures (RNSR) is a database managed by the Ministry of Higher Education, Research and Innovation. It groups together public and private scientific research structures in France, in particular laboratories, and assigns them a unique identifier. Its content can be consulted publicly. It is administered by the Ministry of Research but the content is updated by RNSR correspondents of research structure supervisory institutions (mainly universities and national research organisations), who have a login and a password. Due to the decentralised curation of the database, the quality of the organisational metadata is variable and unreliable (partly incomplete and/or out of date). There are plans to evolve the RNSR in the next few years.

ACCUEIL
SÉLECTION
LISTE STRUCTURES
DÉTAIL
SIGNALER ERREUR
LISTE DES CORRESPONDANTS ÉTABLISSEMENTS

201521318L : CANCER-LILLE
Structure collaborative (situation 2022)

Responsable(s)

- Le responsable ne souhaite pas publier ses coordonnées.

Etablissements.

Université de Lille — LILLE - *Université de Lille (EPE) (FED)*
(établissement tutelle à partir de 2018)
Etablissement référent

Inserm — INSERM - *Institut national de la sante et de la recherche medicale ( )*
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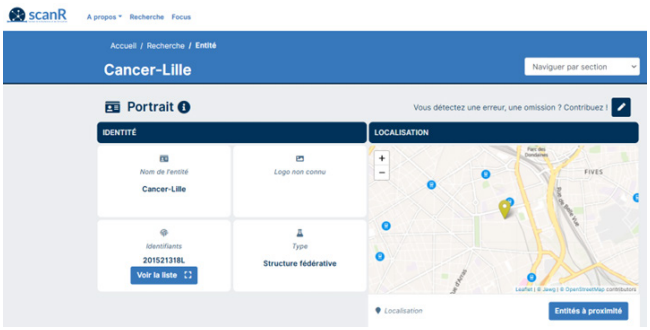
courriel : yvan.delaunoit@ibl.fr

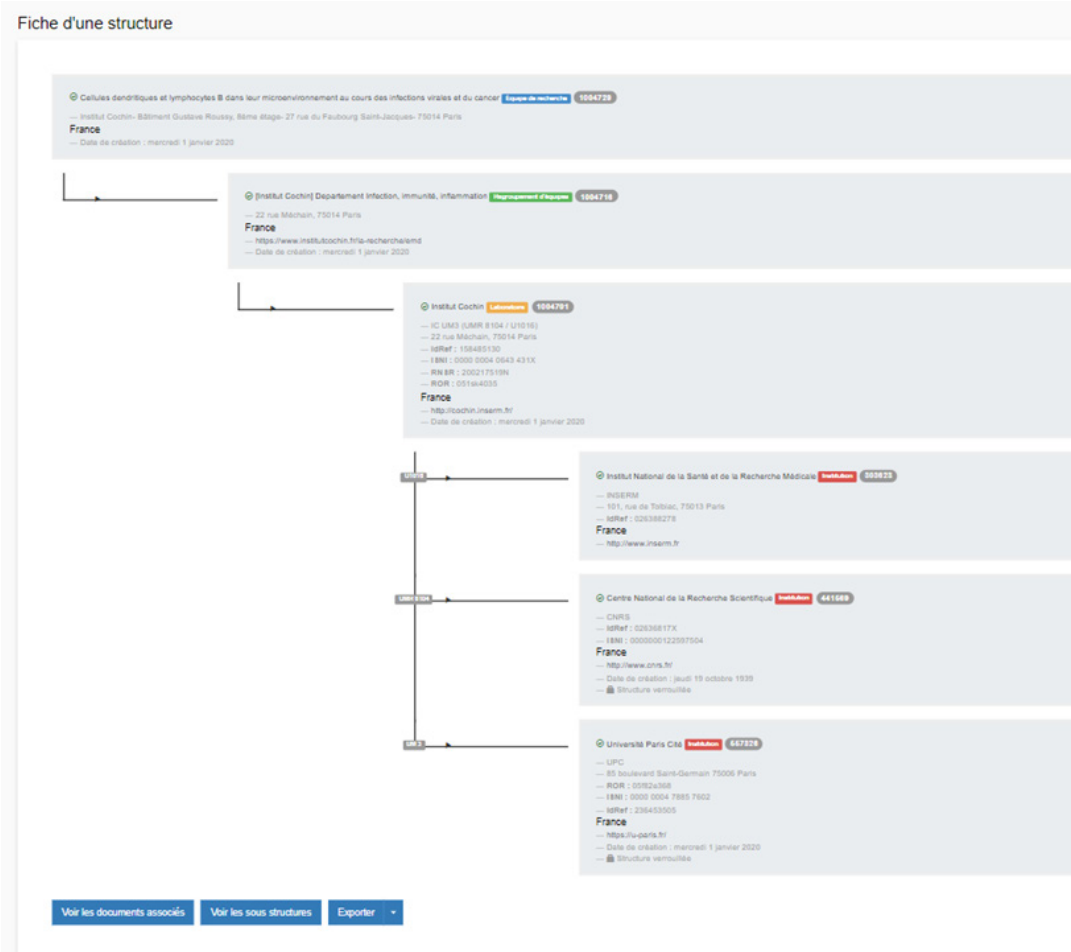
Site web : www.ibl.fr
Taille en ETP (sans compter les stagiaires): entre 10 et 50.
Descriptif : Aucun.
Année de création : 2015
Mission de la structure : Non renseignée.
Mode de gestion de la structure : Non renseigné.
SIRET de la structure : Non renseigné.
Classement scientifique ERC
Non renseigné
Domaine scientifique
Non renseigné
Ecole(s) doctorale(s) de rattachement
Non renseigné
Rattachée au(x) programme(s) LOLF suivant(s):
Non renseigné
Rattachée au(x) thème(s) de recherche suivant(s):
Non renseigné
Liens avec d'autres structures :
Aucun.
Site ESR :
Aucun.

Fiche mise à jour par Lise GAZZOLA le 27/04/2018 à 09:43

The same national identifier is used by the French public research tool ScanR for exploring the research and innovation landscape in France.



Besides this national OrgID, there are at least two other national identifiers for research organisations in France: the main research organisation CNRS maintains an internal identifier for its over 1,100 research laboratories while the national open repository HAL contains a database (AuréHAL) with a quite precise description of the research structures (= author affiliation), with six different levels from the research team to the research organisation, with a specific identifier for each level.



Like the RSNR, the metadata is curated by local correspondents with special administration rights.

All these pre-existing attempts to provide a national-level OrgID framework are what we dub the 'centrifuge pressures' in this case study, meaning that the current strategy for a widespread international OrgID implementation using ROR as the default approach is likely to coexist moving forward with multiple national-level efforts – not that dissimilar to the DAIs which are the subject of another case study in this series – mainly driven by research funders to implement and curate national registries for research-perfoming organisations in the country, possibly aiming for multiple-level identification. These national-level initiatives will clearly require some degree of international coordination, especially around a default approach for the implementation of multiple-level OrgIDs.

At the same time, if the community-driven path that ROR is taking were able to replicate best practice integrations with research funders' initiatives at a national level like ORCID did in its time[14], a solution might be reached for a simultaneous deepening of OrgID implementation at both an international and at a national level in a growing number of countries. There is nevertheless a significant number of challenges that such a collaboration would need to address – these are explored in more detail in the section below devoted to risk and trust issues.

> ROR is another example of a scheme we were able to bootstrap very quickly, because of the previous work that we did around GRID. In other words, right now ROR is useful. You can go and find identifiers for almost any institution that's actively engaged in research and is publishing research. Is its uptake wide? No. But is it actually useful out of the gate? Absolutely. So it's difficult to judge maturity in that way. Because what you're really looking at is two things: whether it's immediately useful [in general] and [specifically] for those few people who take it up.

2.2 The drive towards multiple-level OrgIDs

The list of use cases for the implementation of OrgIDs identified by the 2015 Jisc-CASRAI report shown in the table above is collated on the basis of areas of activity: publishing, business intelligence, reporting, etc. A very useful additional classification of such use cases is by the group of stakeholders it mainly aims to serve. There are three main groups of such stakeholders: publishers, research funders and institutions. The first use case – publishing – with its emphasis on research attribution and the appropriate routing of APC payments is clearly the publishers' use case (the assignment of publications to Read & Publish – aka transformative – agreements is a further area these OrgIDs serve, even if not included in the list as these agreements only became widely implemented following the release of Plan S in Sep 2018).

All the other cases for OrgID implementation would mainly serve the needs of research funders and institutions. The fact that ROR has specifically stated that their main goal is to pursue the publishers' use case has two key implications:

- For this use case only top-level OrgIDs are required, since the goal is to persistently identify the organisation a given corresponding author is affiliated with, be it for research attribution or for Gold Open Access management purposes. While this route will clearly lead to the eventual inclusion of ROR as a standard in manuscript submission systems, or perhaps to its automated harvesting from the corresponding author's ORCID profile where the OrgID may be available, it doesn't serve the other cases for OrgID implementation in the table above;
- Leaving these other cases that serve the needs of research funders and institutions unaddressed will drive a parallel effort by these other groups of stakeholders to implement multiple-level OrgIDs so that a hierarchical subset of secondary and successive-level identifiers can also be made available. This is a challenging initiative in itself since the "keep it simple" approach initially adopted by ROR also aims to keep the number of required updates arising from changes in organisational names manageable. In countries where a national research funder is hegemonic such as those mentioned in the previous section, an alliance between institutions and such funders could be envisioned where a default workflow is defined for a collaborative approach to organisational record curation and maintenance, but this may well mean a challenging endeavour in larger countries with a more fragmented research landscape.

> "For the moment, the most important topic now is the evolution of ROR and PIDs for institutions. Technically, it seems that ROR is not good enough to identify secondary-level institutions, any local laboratory at a lower level. So it's a problem. Okay, I can identify CNRS in France, or Harvard or MIT or Tübingen University, but I need to identify laboratories, institutes of research, etc. and we need a global solution very quickly. Because for the moment, every country is inventing a local solution. It was one of my concerns, and the question I would like you to answer during your inquiry would be: can you give us the maximum possible information about this topic of institutional identifiers? We know that Ringgold has done a fantastic job. But the system is enclosed, it's costly and it's not shareable. Will it be open? Will it be offered to the world and financed by somebody else? It's stupid to redo Ringgold, and Ringgold is here. So what will the next step be?"

Despite the pessimistic reflection by the 2019 FREYA project quoted below on the difficulty of coming up with a "clear and consistent policy" regarding multiple-level OrgIDs, work is currently underway to find a suitable approach for this purpose. A project called "The Path to Department Level IDs" led by the University of California Davis and the University of Harvard with the American Physical Society, the Swiss National Science Foundation and the ID Fuse start-up in the Netherlands among its partners was presented at the PIDapalooza 2020 event in Lisbon[16].

- In terms of the data modeling for institutional information, we found ROR granularity more or less aligned with the interests of Identifiers. org. However, by only modeling top level institutional information it is currently superficial and may not suit stakeholders requiring greater granularity to identify organizational subunits like departments, teams, etc.
- Due to the ROR approach of confining identifiers to entities residing on the higher levels of organization architecture (e.g. identifying institutes, but exclude departments within organizations) we are also consolidating some of the granularity of our registry if applying ROR IDs only. It is questionable whether a clear and consistent policy can even be applied in this regard considering the very fluid and complex structures within research organizations.

Two reflections on ROR ID granularity on the FREYA project D4.4 *"Organizational IDs in Practice"*[15]

The project presentation by Carolyn Grant from the Harvard/Smithsonian Center for Astrophysics meant a timely follow-up to the unofficial plenary session on OrgIDs led by Patricia Cruse, Laure Haak and Ed Pentz (respectively Executive Directors of DataCite, ORCID and Crossref) that was held at the inaugural PIDapalooza event in Reykjavik in Nov 2016[17]. The presentation also took place shortly before the Covid-19 pandemic struck, which meant an inevitable slowing of the project progress, but there's a reference to it in a footnote of the NWO Persistent Identifier Strategy report published by Maria Cruz and Clifford Tatum in the Netherlands in Apr 2021, see below. This may suggest that specific research funders are keeping this development in mind for an eventual implementation of multiple-level OrgIDs in coordination with ROR.

[1] While RoR is focused on the specific use case of top-level organizations, many have voiced interest in organization identifiers for sub-units within institutional hierarchies (faculties, departments, institutes). An international collaboration (The Path to Departmental level PIDs) is presently working to extend the RoR scheme to include departmental level organizations. Although an external project among two US universities, a European funder (SNSF), and the ID Fuse organization based in the Netherlands, the project is coordinating with RoR and plans to develop a tool to integrate hierarchical relationships in the existing RoR schema.

Footnote on page 10 of the NWO Persistent Identifier Strategy

The Path to Department Level IDs project proposes a Linked Open Data-based approach to extending top-level RORs by adding extra metadata to the ROR ID record for a given institution. These additional metadata elements would include related entries to the top-level ROR ID such as equivalent entries in other languages or – critically – parent and child organisations (see an example for UC Davis in the slide below from the project presentation in 2020). Some project documentation on extending ROR is also available for UC Davis and other organisations collaborating in the project[18].

The proposed approaches for the implementation of hierarchical OrgIDs are two-fold:

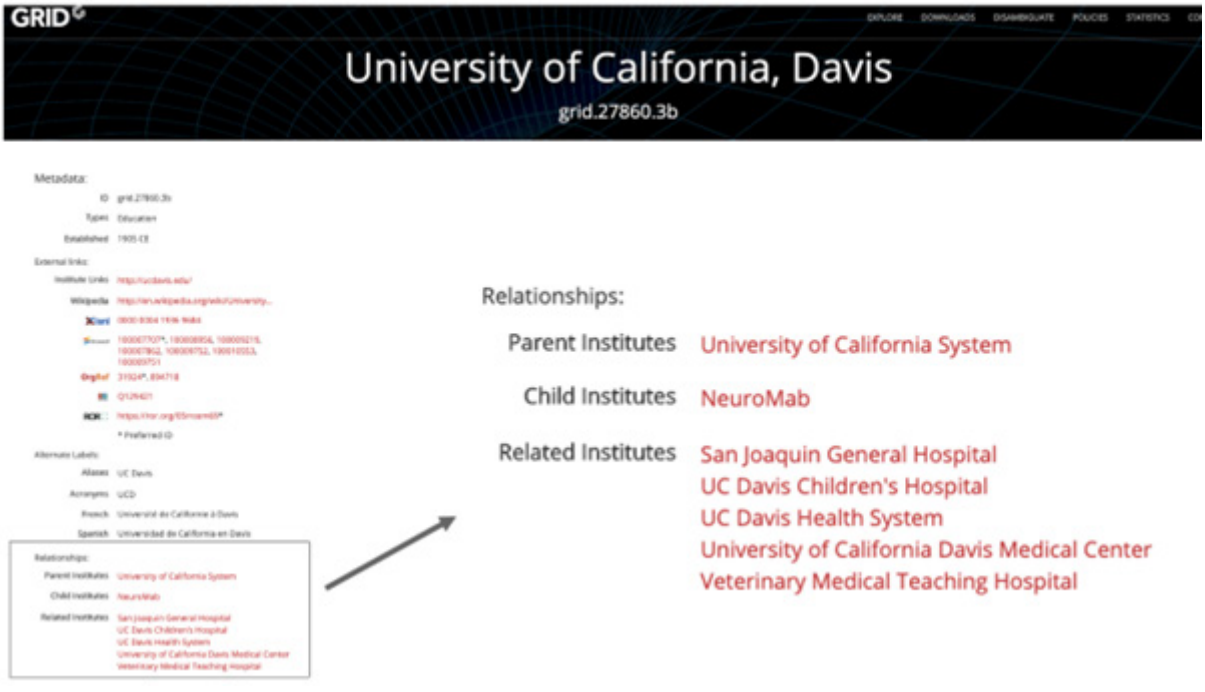
1. Creation of datasets that list the various units within a specific organisation, the relationship between such units, and some mechanism for each to extend the top-level ROR ID for the organisation. This could be a centralised or a distributed process:

    i. Centralised: generated and stewarded by a suitable stakeholder such as an institution, a consortium, a research funder or directly by ROR

    ii. Distributed: generated by a public contributor and stored in GitHub, allowing for both volunteer contributions and some provenance

2. Creating Wikidata on the institutional units that can then be used to extend or relate the data to ROR. This would be another example of a decentralised effort

Both methods would require ROR to create a metadata field that would point to the extension dataset. While this approach may raise issues of trust – more on this below -- it would also allow the stakeholders mentioned above to progress with the identification of organisational sub-units while ROR works on the implementation of the necessary metadata developments for this extension to effectively become operational. A best practice case study approach could then be disseminated for frontrunner countries where a research funder were able to bring together the research institutions in the country and figure out the most suitable mechanism for this dataset to be properly curated and maintained.



> And then ROR... ROR is pretty nascent, really, in the scheme of things and there are older and more mature commercial alternatives. Ringgold probably being the primary of them. But there are many others that have greater coverage, but don't have the benefit of that community-led kind of openness, and also interoperability with other open PID standards. So I think ROR could benefit from greater coverage. And I think, again, publishers could provide that by saying: "These are the areas that aren't being covered by ROR. How can we get those within the database?" And we're in conversation with the ROR team, when indirectly through the GRID2, the previous GRID team, as well, about how we can best support them in identifying and expanding the database.

The Path to Department Level IDs project has already engaged with several stakeholders to test its approach to multiple-level ROR IDs, see below for instance the parent-child relationship for a number of research institutes at the Italian National Research Council (CNR). Top-level ROR entries have been created for these child entries for CNR research institutes, but the feature to link a parent organisation to its secondary-level OrgIDs via the ROR ID record metadata is not yet available. The project's 'future directions' section states that it needs more stakeholders to create ROR extensions and provide feedback on the process.

master ▾ ror-extend-demo / orgs / cfa.harvard.edu / cnr_it / orgs.csv Go to file

112 lines (112 sloc) | 9.57 KB Raw Blame

Search this file...

	id	name	hasparent	keywords	ROR
2	04zaypm56	National Research Council	FALSE		https://ror.org/04zaypm56
3	02kswma64	Istituto Nazionale Per La Fisica Della Materia	TRUE		https://ror.org/02kswma64
4	000qsm026	Rete Ventures S.C.R.L.	TRUE		https://ror.org/000qsm026
5	00w6r1881	Institute of Nanostructured Materials	TRUE		https://ror.org/00w6r1881
6	01kdj2848	Istituto di Fisiologia Clinica	TRUE		https://ror.org/01kdj2848
7	0240rwx68	Neuroscience Institute	TRUE		https://ror.org/0240rwx68
8	01wqae691	Istituto per il sistema produzione animale in ambiente Mediterraneo	TRUE		https://ror.org/01wqae691
9	01zzqep61	Istituto di Tipizzazione Tissutale e Problemi della Dialisi	TRUE		https://ror.org/01zzqep61
10	054ye0e45	Istituto di Analisi dei Sistemi ed Informatica Antonio Ruberti	TRUE		https://ror.org/054ye0e45
11	041xzk838	Istituto di Biofisica	TRUE		https://ror.org/041xzk838

A recent discussion on the implementation of persistent identifiers for research instruments and facilities held within the EOSC Association Task Force for PID Policy and Implementation has hinted at the possibility of also using ROR IDs for this purpose. Where research instruments and facilities are part of the hierarchical structure for a specific organisation, these could be covered by this approach towards multiple-level OrgIDs. Where these are independent facilities not associated with any specific research organisation, they could be assigned top-level ROR IDs, see an example below.

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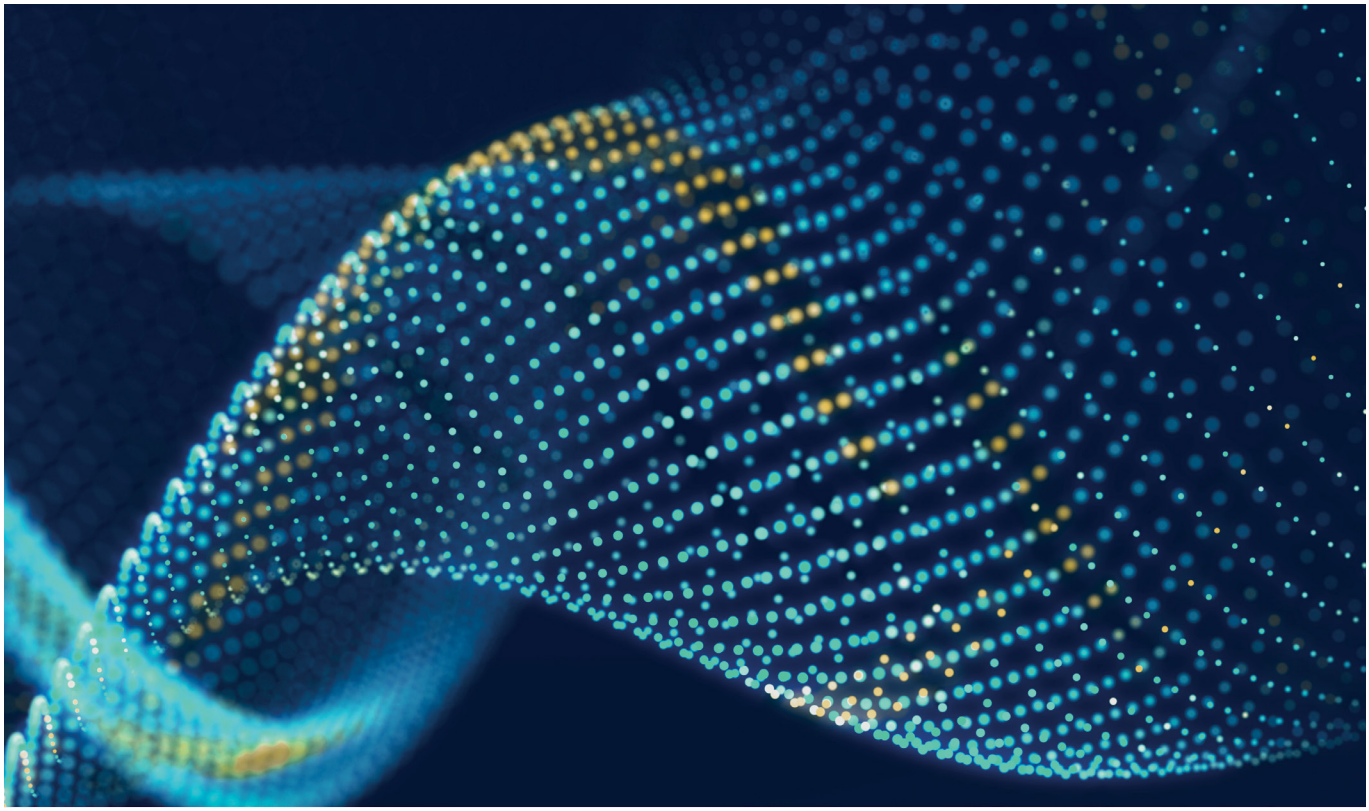
https://ror.org/05etxs293

Diamond Light Source

WEBSITE
http://www.diamond.ac.uk/Home.html

OTHER IDENTIFIERS
GRID grid.18785.33
ISNI 0000000417640696
Wikidata Q652731

UNITED KINGDOM FACILITY



3 Issues around risks and trust regarding the implementation of OrgIDs

Due to the complexity of the process to implement OrgIDs, the number of risks and trust-related issues raised by this effort may well be the largest one for any emerging 'admin-oriented' PID. Some of these issues are summarised below.

3.1 Open vs commercial infrastructure and its impact on sustainability

> We want to have persistent identifiers that are managed by organisations that operate on a not-for-profit basis. They should work according to a philosophy based on Open Science principles, transparency, reliability, sustainability. And ideally, as is the case with ORCID, for instance, we should be dealing with organisations funded by membership fees, and that they have a management elected by its members. They should also have a plan or a vision to ensure the sustainability and the longevity of the organisation in the longer run. And ideally, there should also be some transition plans explaining what should happen when the system needs to be terminated unexpectedly. Also some protection, I guess, against the organisation's takeover by commercial companies. We want to make sure that these crucial building blocks of our scholarly infrastructure do not depend on commercial interests, that they are not subject to the economic rules of the commercial market. Of course, I guess we also want to avoid a lock-in with a specific commercial vendor.

While ROR seems to be gradually consolidating as the standard of choice for a widespread international implementation of OrgIDs, a look at the ROR documentation, as well as at that available for initiatives like ORCID or even the Path to Department Level IDs mentioned above, shows that ROR is likely to coexist with other parallel OrgID approaches such as Ringgold. This raises a potential sustainability issue for the not-for-profit initiative based on an open infrastructure (ROR). Having member organisations CrossRef and DataCite in its steering committee provides a certain guarantee for mid- and long-term sustainability in this regard, but this will probably also mean a slower progress of an initiative that comes under the umbrella of organisations that are involved in the implementation of a number of additional PIDs. As mentioned above, ROR has recently launched (Feb'2022) a community fundraising appeal[9]. For sustainability purposes it would be good to see a number of solid national consortia becoming committed to ROR as a default approach to OrgIDs same as we saw the gradual emergence of an increasing number of ORCID consortia in various European countries.

Much of this support will of course rely on the services that ROR is able to provide and its level of integration with other well-established solutions beyond publishers. Its work around organisational attribution for datasets or publications stored in research repositories are sound steps in this direction, but the fuzzy ownership of the institutional record makes it advisable for it to engage with university consortia and associations of research funders. The discontinuation of the PIDapalooza series

of events[19] poses a serious challenge from a dissemination perspective, but other events may be able to fill the gap and allow the presentation of best practice case studies in ROR ID implementation.

3.2 Community involvement

The current workflow for ROR ID registration mostly relies on research organisations applying for a top-level persistent identifier. While there is parallel support from DataCite and CrossRef for their member organisations to also become part of ROR, some energetic effort to engage larger research communities seems to be required. Otherwise there is a clear risk of fragmentation, at least in the short term. To the extent to which ROR may be able to follow the steps of ORCID in terms of community involvement, it could be expected for the various parallel initiatives for OrgID implementation to gradually converge regardless of the registration agency each of these originally used.

> So, for example, the problem with organisational IDs, the RORs and the Ringgolds: No [PID Advisory] Board member will ever understand why this is currently not already in place. And I need to talk to them about why it's important. And what the next steps are, that will fix some of the problems that we have there. What they can do to make sure that OrgIDs are part of the mix that will help them solve some of their impact measurement problems or monitoring or evaluation problems. And, yeah, maybe I should do that myself more, make those use cases more strategic. But it would be helpful if for all of these identifiers, there's a use case for researchers, there's a good use case that spells out to the funder, and it spells out to the board members of universities, why they should be involved.

This risk may no doubt be mitigated via a transparent reporting on the gradual uptake of ROR with statistics by country and best practice case studies, but it's also linked to an issue around trust. Specifically on the area of multiple-level OrgID implementation, some default recommended approach must be agreed and promoted. The Path to Department Level IDs project seems a well-conceived way forward at this point, and it could significantly benefit from a wider community engagement effort. This could lay the basis for a trust-building exercise which would attract a growing number of participants into the initiative.

In the area of community engagement it's also worth repeating here a remark made above regarding the (perhaps temporary) discontinuation of the PIDapalooza series of events. As the persistent identifier domain becomes ever more mainstream, it would be advisable to have specific events where progress in their implementation can be discussed with the multi-faceted community of users and implementers. PIDapalooza has traditionally offered a generic forum to discuss all things PID, but at this stage it could make sense for future events to focus on a specific set of PIDs so that the discussions can be more fruitful. The opportunities offered by virtual events – still prevalent at the time of writing – could also be exploited to allow participants from many different regions to participate without needing to travel long distances. The EOSC Association seems a particularly good candidate for organising these sorts of events going forward if PIDapalooza were not to return.

A final remark in the area of community engagement regards the possible role that Current Research Information Systems or CRISs could play in the widespread implementation of multiple-level OrgIDs. Because these systems – especially when implemented at a national or a regional level – already offer a comprehensive coverage for the research organisations operating in (and often beyond) a specific country, they could provide a very suitable basis for an automated generation of OrgIDs, both top-level and secondary-level ones. Including CRIS systems on the list of technical integrations for ROR implementation would thus represent an effective community engagement strategy on top of the currently ongoing ones.

3.3 Use case implementation: OrgID-related services

In order to benefit from a wider approach to OrgID-related services than just research attribution it's critical for stakeholders like research funders to become more proactive with regard to OrgID implementation. Only through funder involvement it will become clear how ROR IDs may be put to use in a variety of contexts such as those mentioned in the table on page 7 above. Were ROR to follow the footsteps or ORCID in terms of a gradual development of an ever wider array of services, this ORCID Reducing Burden and Improving Transparency (ORBIT) project[20] would provide a good example to try and replicate.

Related to this it's also worth raising that while there are few or no studies on the penetration of ORCID into the area of researchers working for the private sector, OrgIDs would need to specifically address this private-sector organisations given their ever increasing relevance in the research funding landscape. Research funders are uniquely placed to make this happen since many of them already have comprehensive registries of the research-performing organisations they fund both in the public and the private sector. However, best practice case studies on how to engage funders in the implementation of OrgIDs are lacking at the moment. The same applies to raising awareness of OrgIDs among private-sector organisations and devising specific services that might persuade them of the value of having such persistent identifiers.

A particularly pressing challenge in terms of trust is the need to come up with some default approach for ensuring an appropriate curation and maintenance of multiple-level OrgIDs, whereby changes in organisational names or structure would have a default and reliable mechanism for being reported and updated in a reasonably agile fashion. In some ways this marks a return to authority catalogue management as traditionally performed by libraries, and this in turn would suggest relying on ISNI for the purpose of record maintenance. There is no silver bullet around this issue though and in this regard the community will need to learn by doing, again relying on specific best practice examples.

4. Authorship

This case study has mainly been written by Pablo de Castro (University of Strathclyde and euroCRIS, ORCID https://orcid.org/0000-0001-6300-1033) within a team of consultants including Ulrich Herb (Saarland University, ORCID https://orcid.org/0000-0002-3500-3119), Laura Rothfritz (Humboldt University Berlin, ORCID https://orcid.org/0000-0001-7525-0635) and Joachim Schöpfel (University of Lille and euroCRIS, ORCID https://orcid.org/0000-0002-4000-807X) under the umbrella of scidecode science consulting (ROR https://ror.org/02c0bjd31). The work has been overseen by the Knowledge Exchange Task & Finish Group whose composition is listed at https://www.knowledge-exchange.info/event/pids-risk-and-trust.

5. Literature

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