SIGMA CRIS
An implementation of VIVO in Spain

SIGMA
helping universities succeed

VIVO
connect
share
discover

What we will see…

1. Why we need to improve the institutions visibility?
2. How to select the best tools? Analyzing the national scenario
3. How to select the best tools? Analyzing the international scenario
4. SIGMA’s experience with VIVO
5. The CERIF2VIVO project
6. Conclusions

Introduction

Introducing us…

SIGMA is a nonprofit organization of Spanish public universities where we develop and maintain their scholarly information systems. In this way, SIGMA is owned by the universities that compose it.

Focusing on the Institutional Visibility

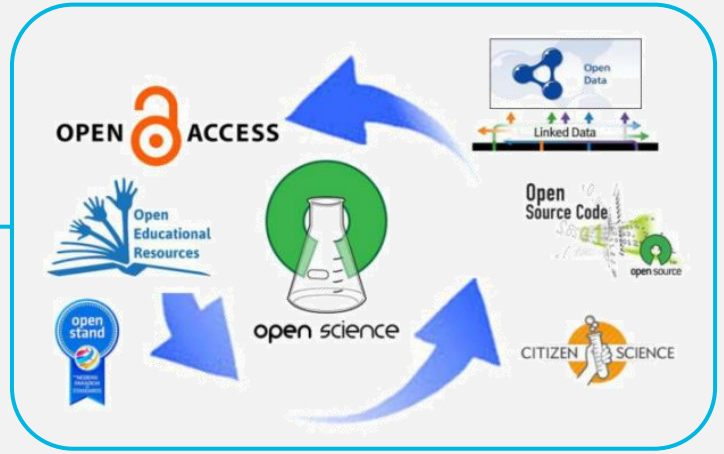
Introduction

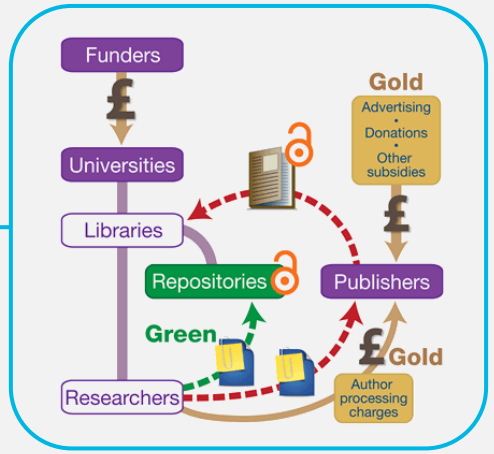
Focus on the institutional visibility: dissemination of research information

"A Current Research Information System commonly known as "CRIS", is any information tool dedicated to provide access to and ***disseminate research information"***

CRIS: Stakeholders, Benefits, History, Process, Architecture https://slideplayer.com/slide/9028352/

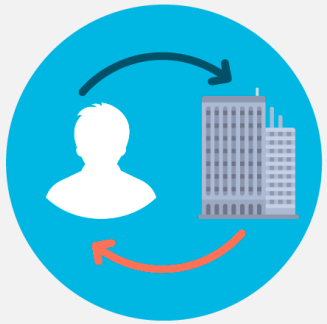
Institutional Visibility





Institutional Visibility

The main goals for the institutions visibility are, among others:



Transfer the Research results to the business sector and to the society in general.

Reporting to the rankings providers, for evaluation, reuse…

Access to the media and other colleagues to public profiles: discoverability

To do this better, the institution needs to easy the public access to their results.

One of the SIGMA strategic goals: The semantic approach

The goal was defined as:

"We must improve the visibility of the SIGMA's institutions providing them scientific output Portals and experts' guides with semantic approach, easing the search and discovering of the information.

This information must be linked with the OpenAccess repository of the institution and the tools must be provided in the Cloud."

One of the SIGMA strategic goals: The semantic approach

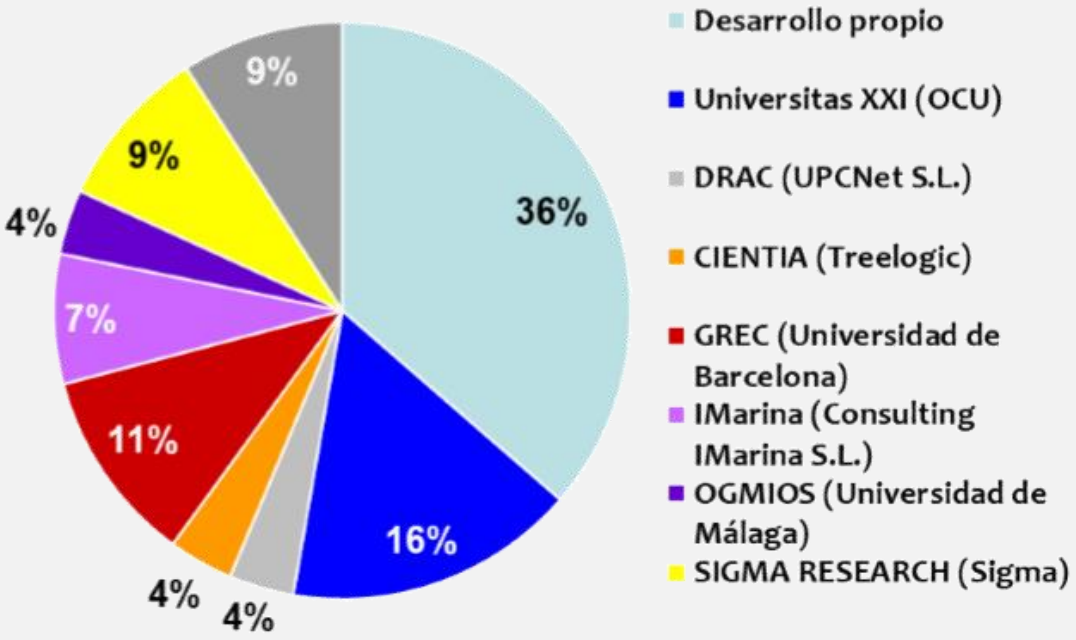
How to select the best tool?: Analyzing the Spanish scenario

Spanish Scenario

2018 CRUE survey answered by 62 of 76 Spanish universities

81,57% responses

1 There is no homogeneity in the use of solutions and universities already rely on own solutions.



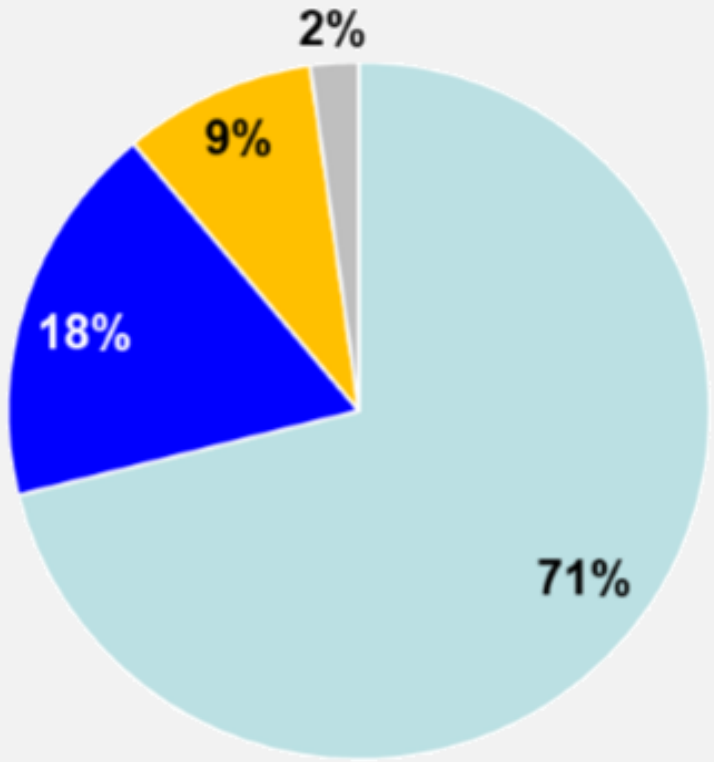
- **The most used option is the development of own applications.**
- It is worth highlighting the presence of the Universitas XXI application in its research and / or economic modules, GREC and SIGMA Research.
- In the section of others, Fundanet (Semicroll), DspaceCRIS (Dspace), Widi and Open Vivo are cited, in general, open source solutions.

CRUE survey October 2018: ESTADO DE LA CUESTIÓN DE LOS CRIS EN LAS UNIVERSIDADES ESPAÑOLAS (REBUIN)

Spanish Scenario

2018 CRUE survey answered by 62 of 76 Spanish universities

2 Most of the solutions are not in the Cloud (SaaS model), that is the second part of the SIGMAs goal.



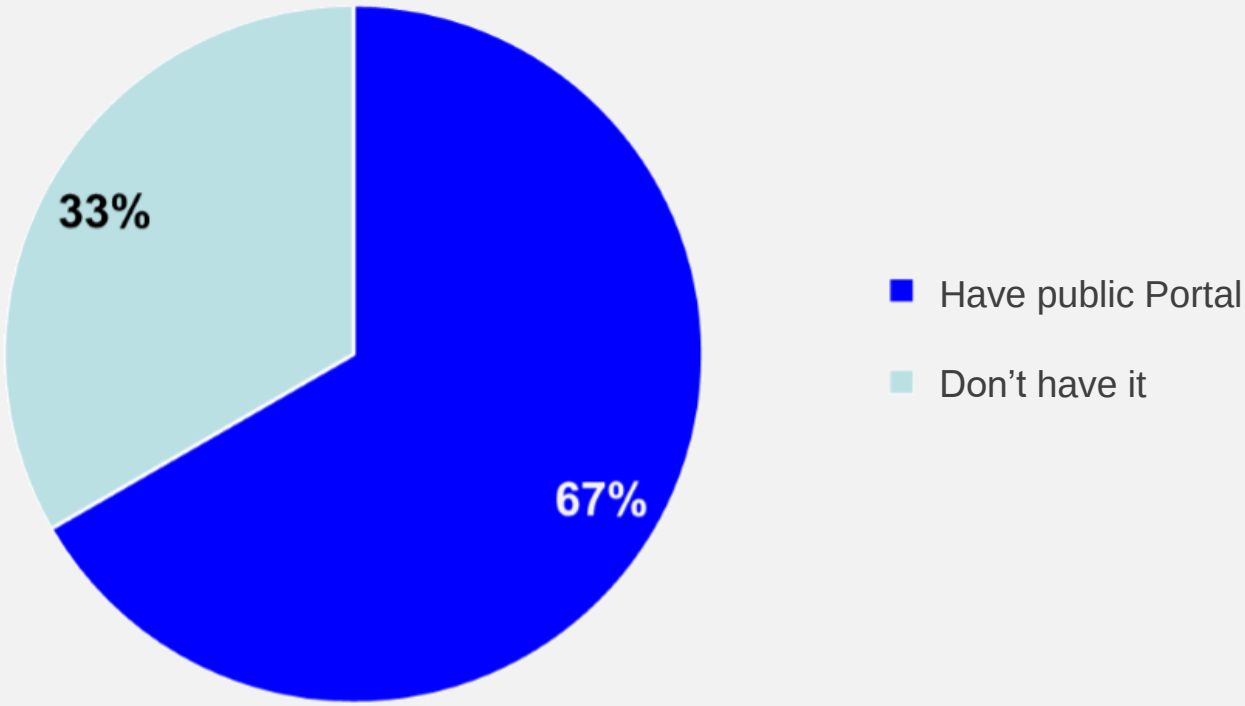
- Only 18% are housed outside the university in a **SaaS system or similar**.
- 71% of the solutions are hosted in the campus
- 9% of mixed solutions (SaaS/no SaaS)
- 2% don't know

CRUE survey October 2018: ESTADO DE LA CUESTIÓN DE LOS CRIS EN LAS UNIVERSIDADES ESPAÑOLAS (REBUIN)

Spanish Scenario

2018 CRUE survey answered by 62 of 76 Spanish universities

3	Some solutions still don't provide Public Portals.



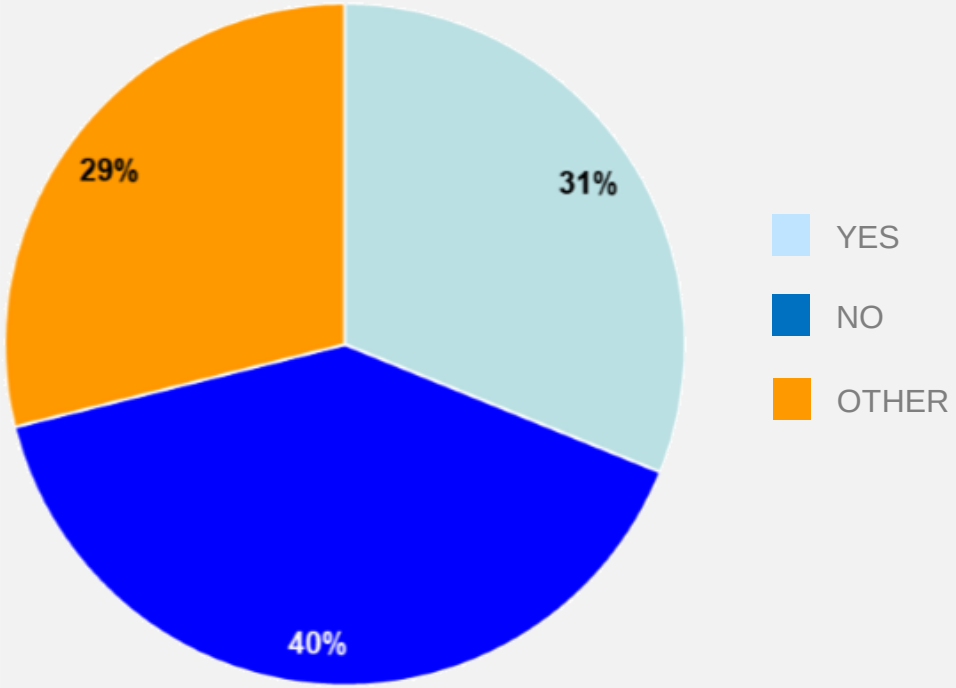
- **33% don't have a Public Portal** for the Research.

CRUE survey October 2018: ESTADO DE LA CUESTIÓN DE LOS CRIS EN LAS UNIVERSIDADES ESPAÑOLAS (REBUIN)

Spanish Scenario

2018 CRUE survey answered by 62 of 76 Spanish universities

4 **Almost half of the CRIS systems are not linked with the openAccess Institutional repositories.**



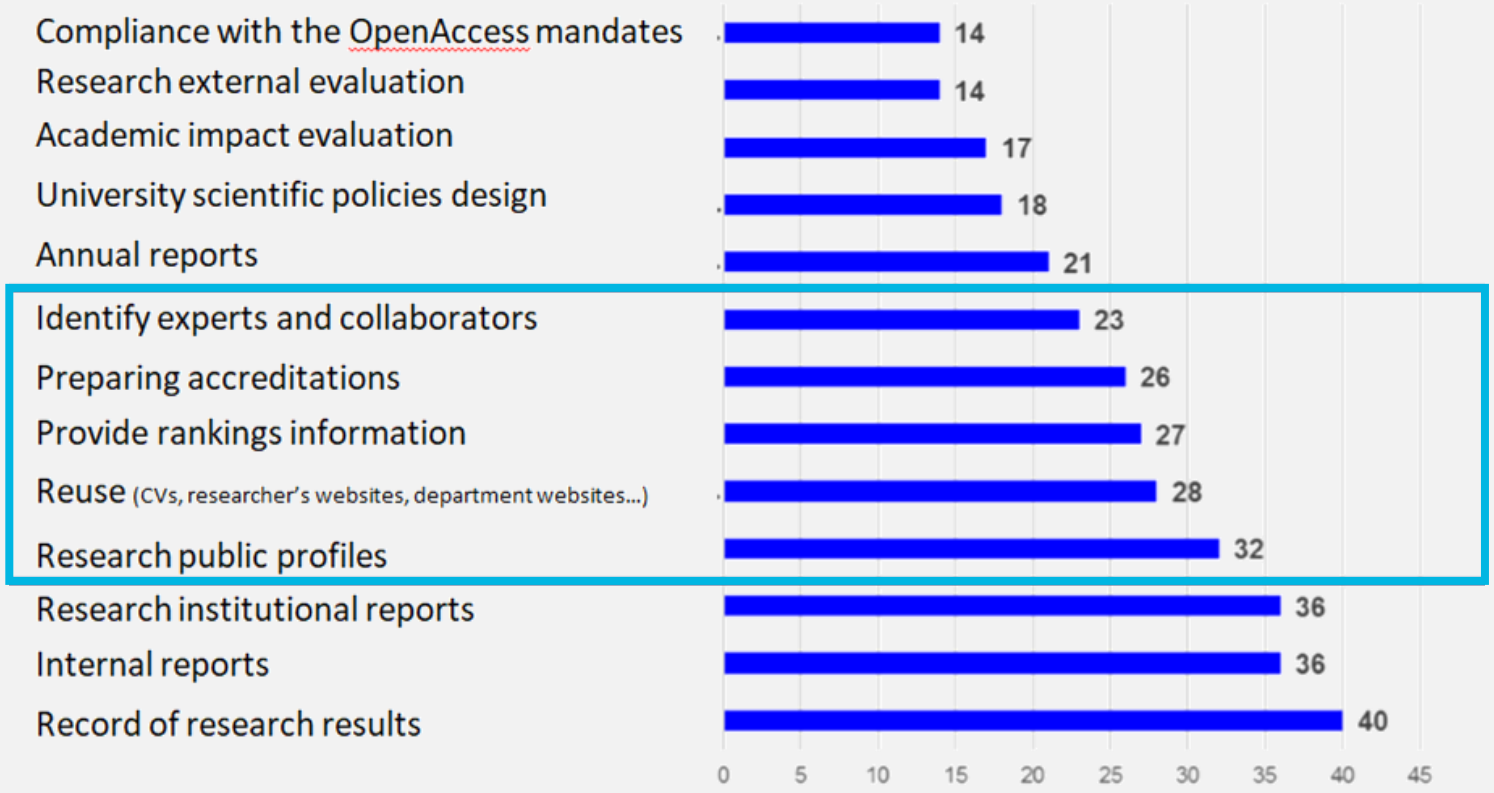
- Another surprising finding was **that 40% don’t have the CRIS** linked with the IR.

CRUE survey October 2018: ESTADO DE LA CUESTIÓN DE LOS CRIS EN LAS UNIVERSIDADES ESPAÑOLAS (REBUIN)

Spanish Scenario

2018 CRUE survey answered by 62 of 76 Spanish universities

5 It's correct to assess that the information of the CRIS are used in a relevant way for the institutional visibility



- Another finding was the certainty that the CRIS information is used to **improve the research visibility.**

Spanish Scenario. Findings

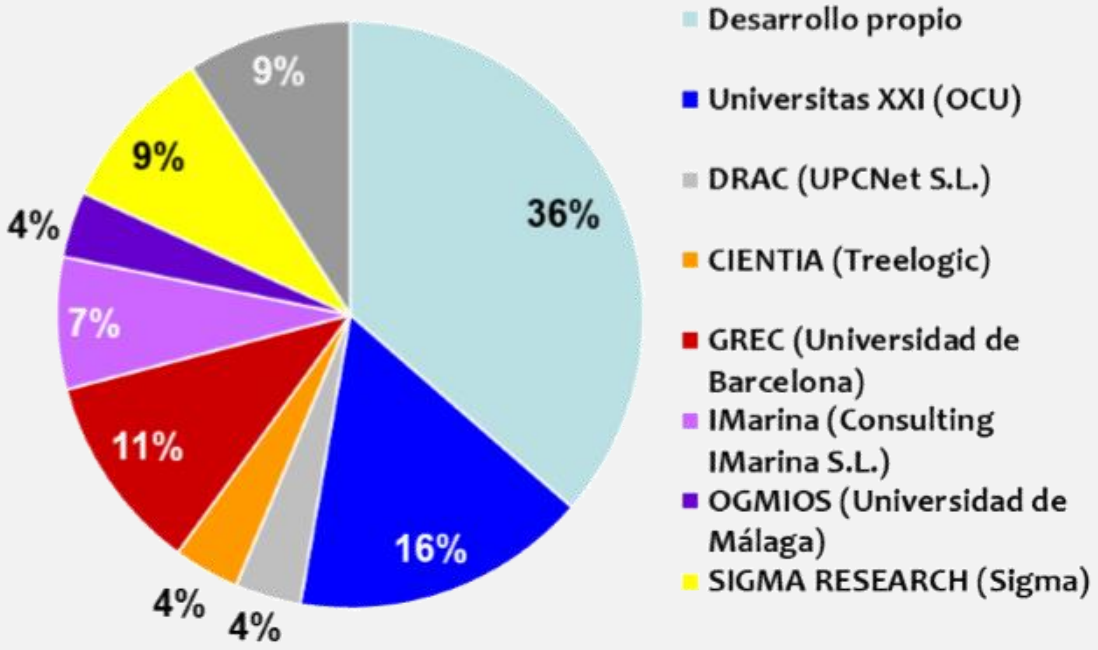
There is no homogeneity in the use of solutions, great percentage of them are own developments, mainly hosted in the university, not connected with the IR, and some not provide public portals.

Spanish Scenario

We analysed the tools showed in the first graphic:

- Drac
- Universitas XXI
- Cientia
- Grec
- We also analyse the PRC (Scientific Output Portal for Catalan universities)

In order to define possible collaborations.



Spanish Scenario, conclusions:

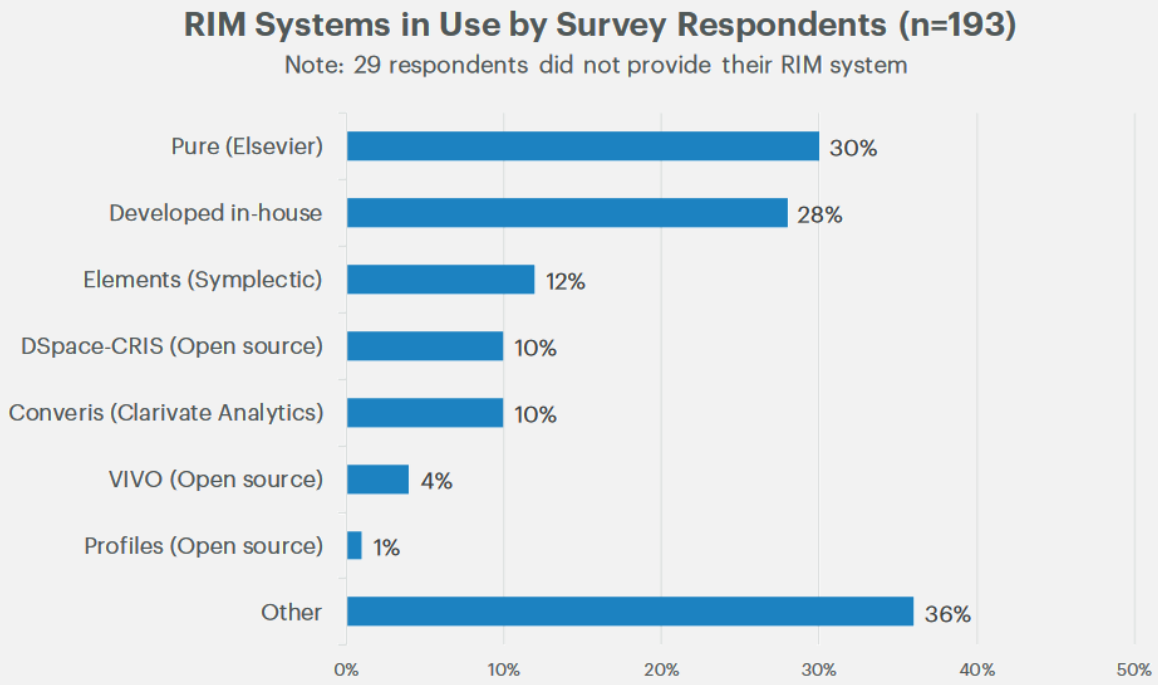
None of the solutions analysed fits at a high percentage with our strategy. The majority doesn't contain a semantic approach or are not provided in SaaS, among others. Seeing that no one Spanish solution fits completely with our strategy, **we started to analyse solutions at international level.**

How to select the best tool?: Analyzing the International scenario

International Scenario

2017/18 OCLC / euroCRIS survey Practices and Patterns in Research Information Management (381 responses from 44 countries)

1 There is no homogeneity in the use of solutions



- **Almost the most used option is the development of own applications.**
- Pure(Elsevier) it's widely use specially in the UK, US and Australia.
- The rest use heterogeneous solutions

OCLC/euroCRIS survey :
Practices and Patterns in Research Information Management: Findings from a Global Survey.

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International Scenario

2017/18 OCLC / euroCRIS survey Practices and Patterns in Research Information Management

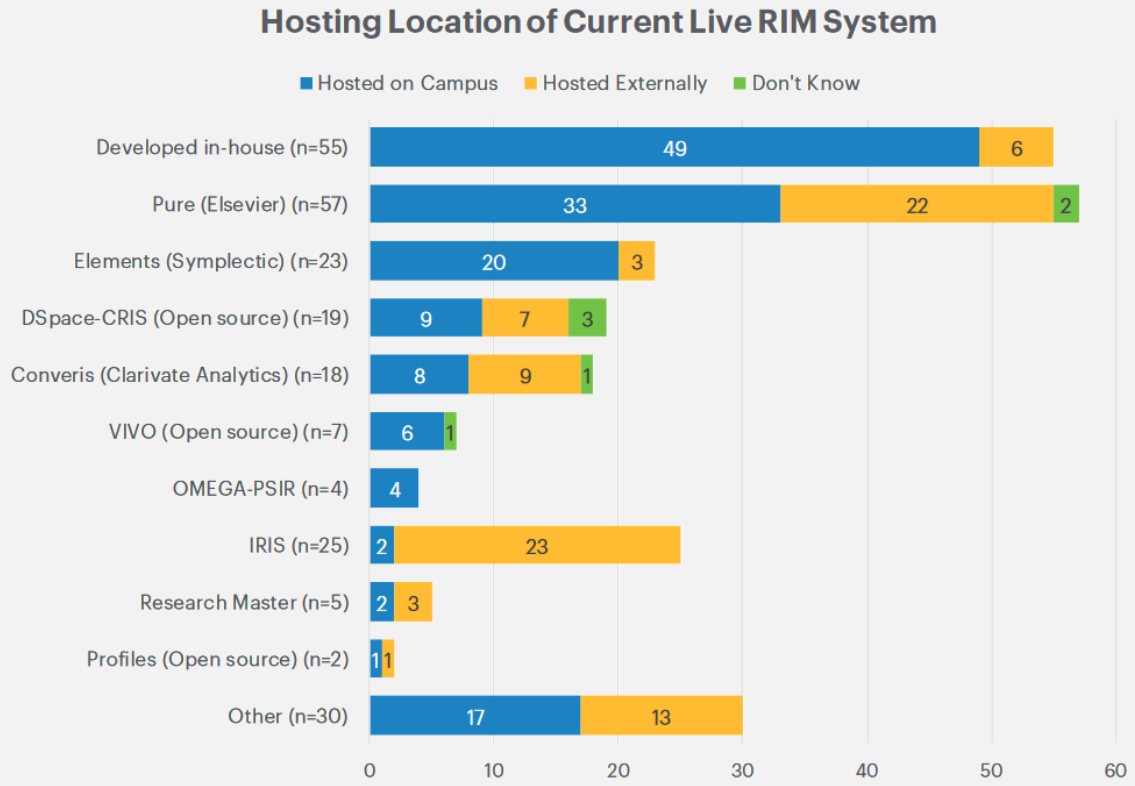


FIGURE 6. Hosting location of current live RIM system, per system used.

2 Most of the solutions are not in the Cloud (SaaS model), that is the second part of the SIGMAs goal.

- A wide range of installations are hosted in campus infrastructures

International Scenario

2017/18 OCLC / euroCRIS survey Practices and Patterns in Research Information Management

3 The information of the CRIS are used in a relevant way for the institutional visibility

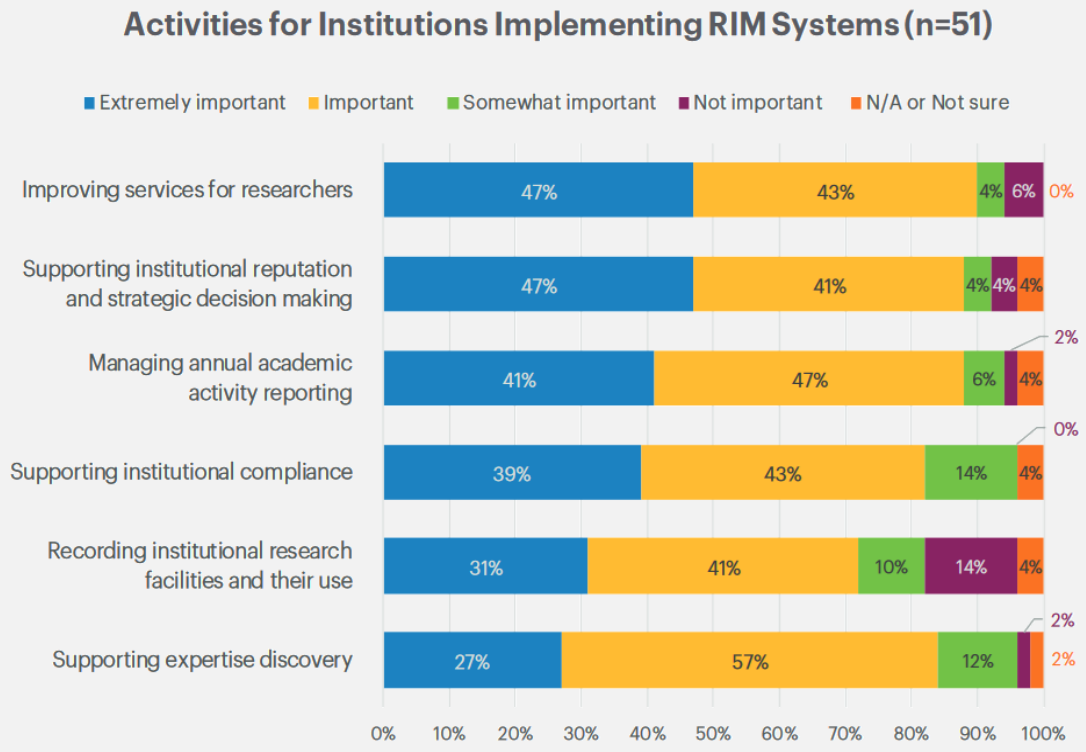


FIGURE 12. Importance of reasons for pursuing RIM activities for institutions implementing RIM systems

- Most of the activities are very similar of the Spanish scenario

International Scenario. Findings

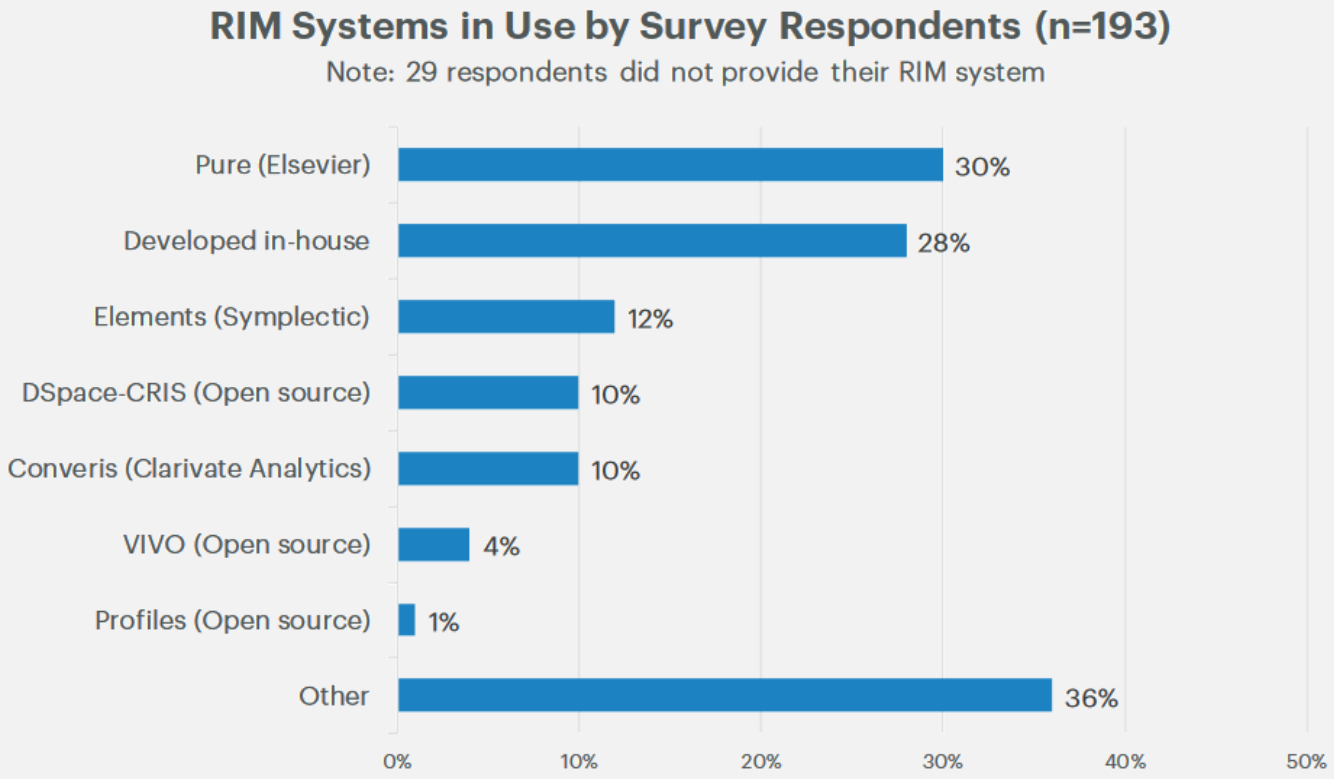
There is no homogeneity in the use of solutions and great percentage of them there are also own developments, mainly hosted in the university.

International Scenario

We analysed the tools showed in the first graphic:

- Pure
- Symplectic
- DSpace-CRIS
- Converis
- VIVO

We decided to focus on Dspace-CRIS and VIVO, for their OpenSource approach.



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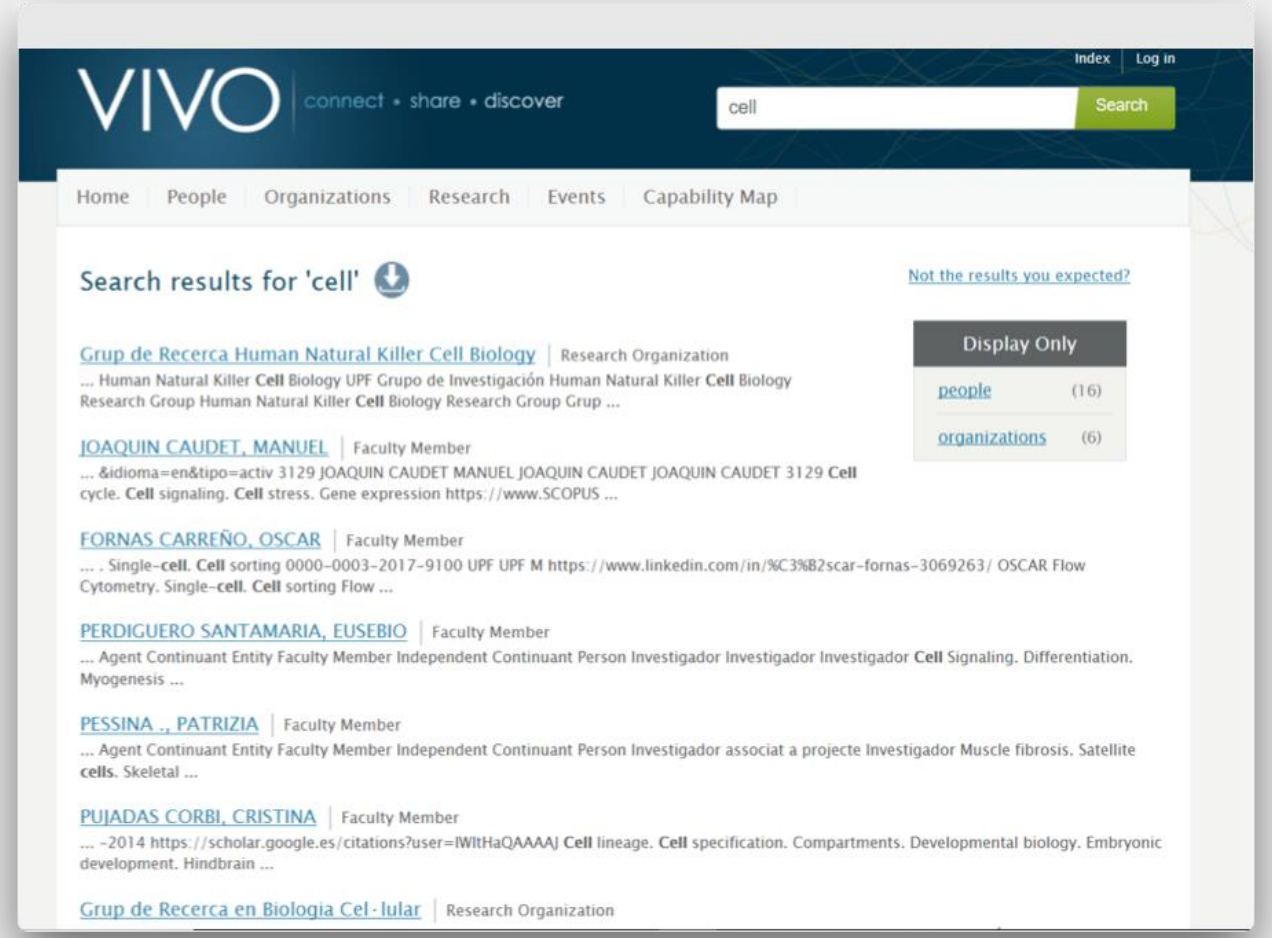
Spanish Scenario, conclusions:

One of the solutions analysed fits at about 80% with our strategy. The semantic approach, the ontology, the functionalities and the possibility to install in the cloud made that we choose VIVO. VIVO is member-supported, open source software and an ontology for representing scholarly

SIGMA’s experience with VIVO

VIVO test



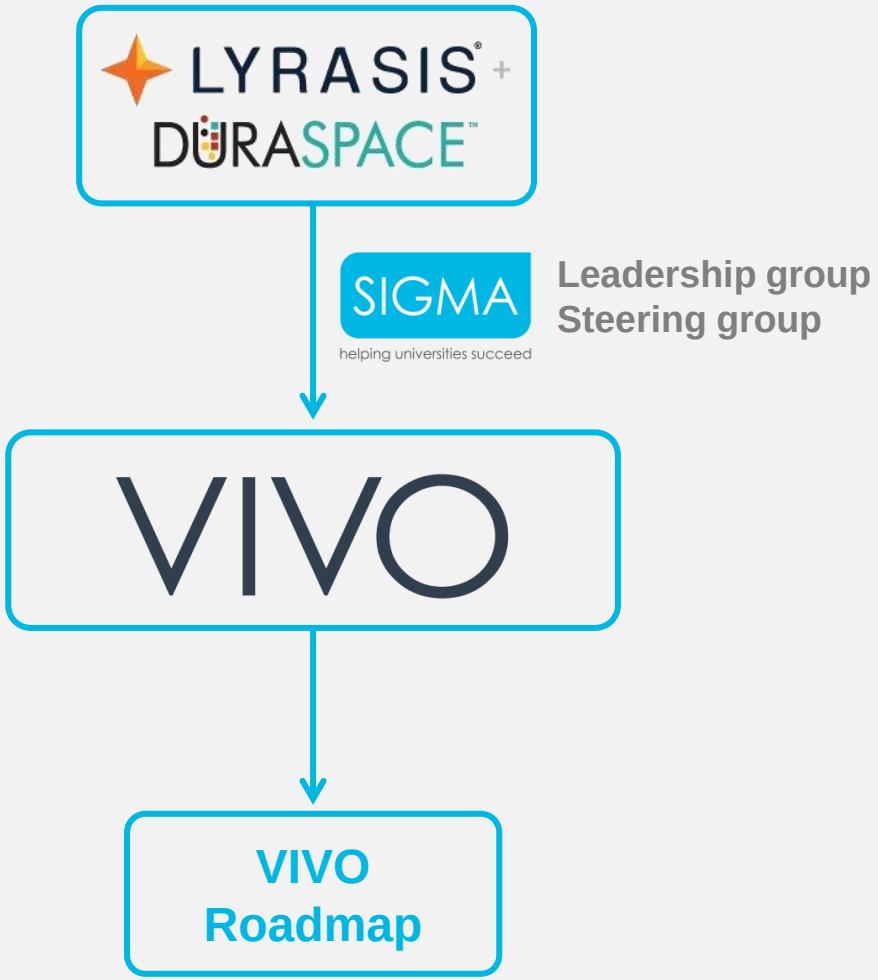
- We found that VIVO semantic model and functionalities fits almost 80% with the Spanish model for research, and is evolving and adapting to the new trends and have a great community behind.
- We start doing a test uploading information to an installation of VIVO (download from GitHub), and see how the information looks like.
- We could upload a lot of information in the ontology. This test satisfied us and finally we decided to use VIVO.

VIVO Community Collaboration

The next step was to collaborate with the VIVO community, so since March of 2018 SIGMA participates in the Leadership group. This group establishes priorities and is responsible for making strategic decisions.

During 2018 in VIVO we collaborate in the roadmap of the product definition. It was a great opportunity for SIGMA to align their strategy and goals with the advance of the VIVO product.

We also collaborate in the creation of the Steering group, a group that will bring issues to the Leadership Group for decisions, in which SIGMA is also involved.



Creating a New Experts Guide

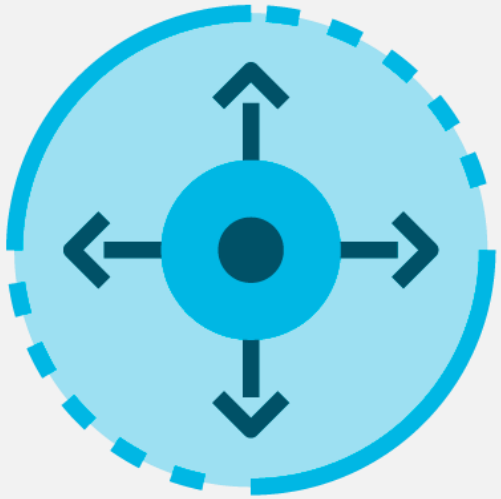
To implement a new Experts guide, we followed the next steps:

1. **Study and analyse** the VIVO ontology.

2. **Compare the SIGMA CRIS model with the VIVO ontology.** Entities and relations that exist in the SIGMA CRIS and not in the VIVO model. The VIVO ontologies gives answer to the US scholarly model that is slightly different from the European model. We found that VIVO ontology fits almost 80% with the European model for research (and therefore, the Spanish model).

Creating a New Experts Guide

To implement a new Experts guide, we followed the next steps:



3. **Extend the VIVO ontology** with the properties and entities for the Spanish model that are not in VIVO. The result was 10 entities and more or less 50 properties that are not in the VIVO ontology. I.e:

Example:

VIVO	Extended Property
Researcher - people	vivo-local#personID
	vivo-local#universityPPC
	vivo-local#urlPPC
	vivo-local#namePPC
	vivo-local#urlPhotoPPC
	vivo-local#expertGroupPPC
	vivo-local#mainResearchPPC
	vivo-local#departmentPPC
	vivo-local#surnamePPC
	vivo-local#rankingPPC
	vivo-local#expertisePPC
Estate - Organisation	vivo-local#orgID
	vivo-local#tipoEstamento
Journal articles	vivo-local#resPublID
Book chapters	vivo-local#resPublID
Books	vivo-local#resPublID
Thesis	vivo-local#resPublID

Creating a New Experts Guide

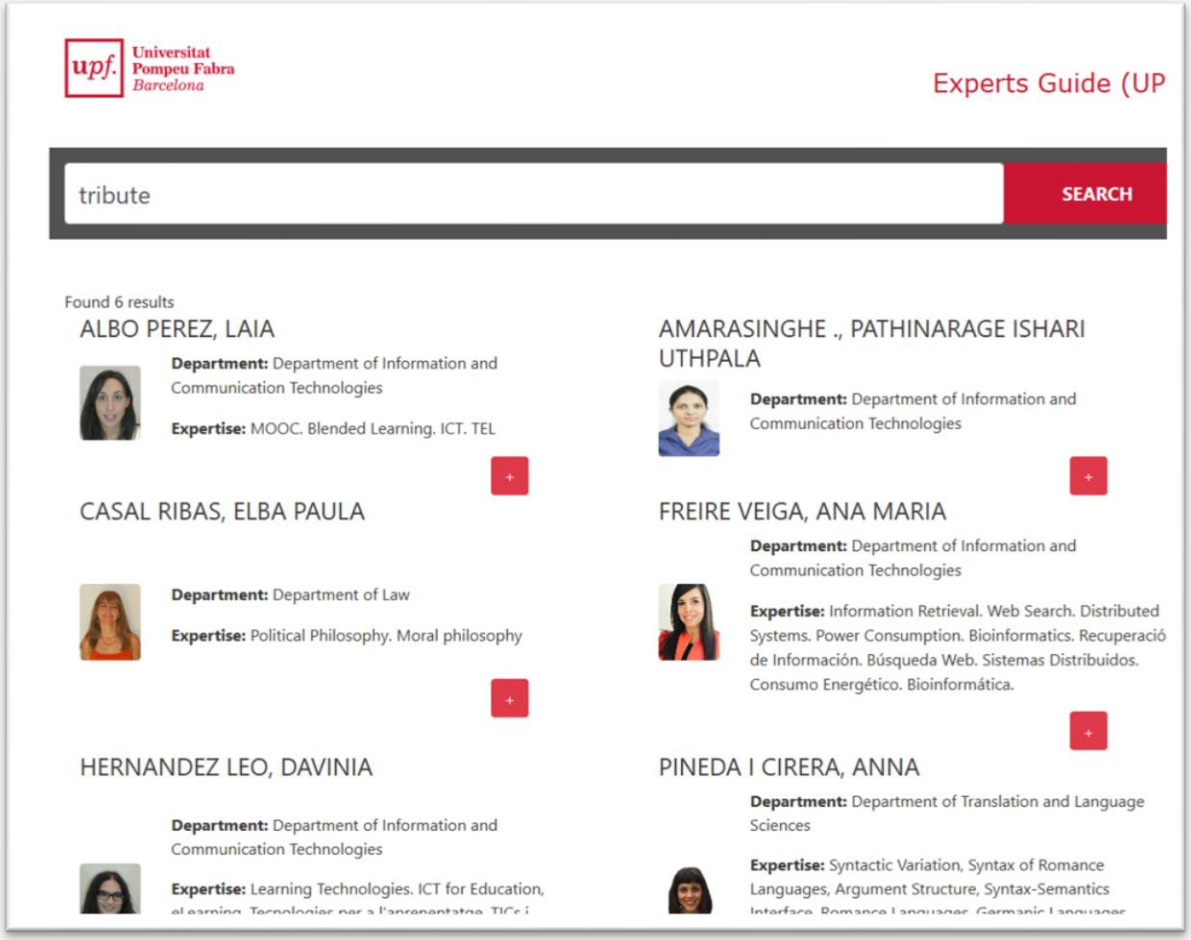
To implement a new Experts guide, we followed the next steps:

4. **Develop a process to upload** the information in VIVO in one step. We automatize the manual process, filling the information of the 2 forms (csv2rdf and rdfto ontology)

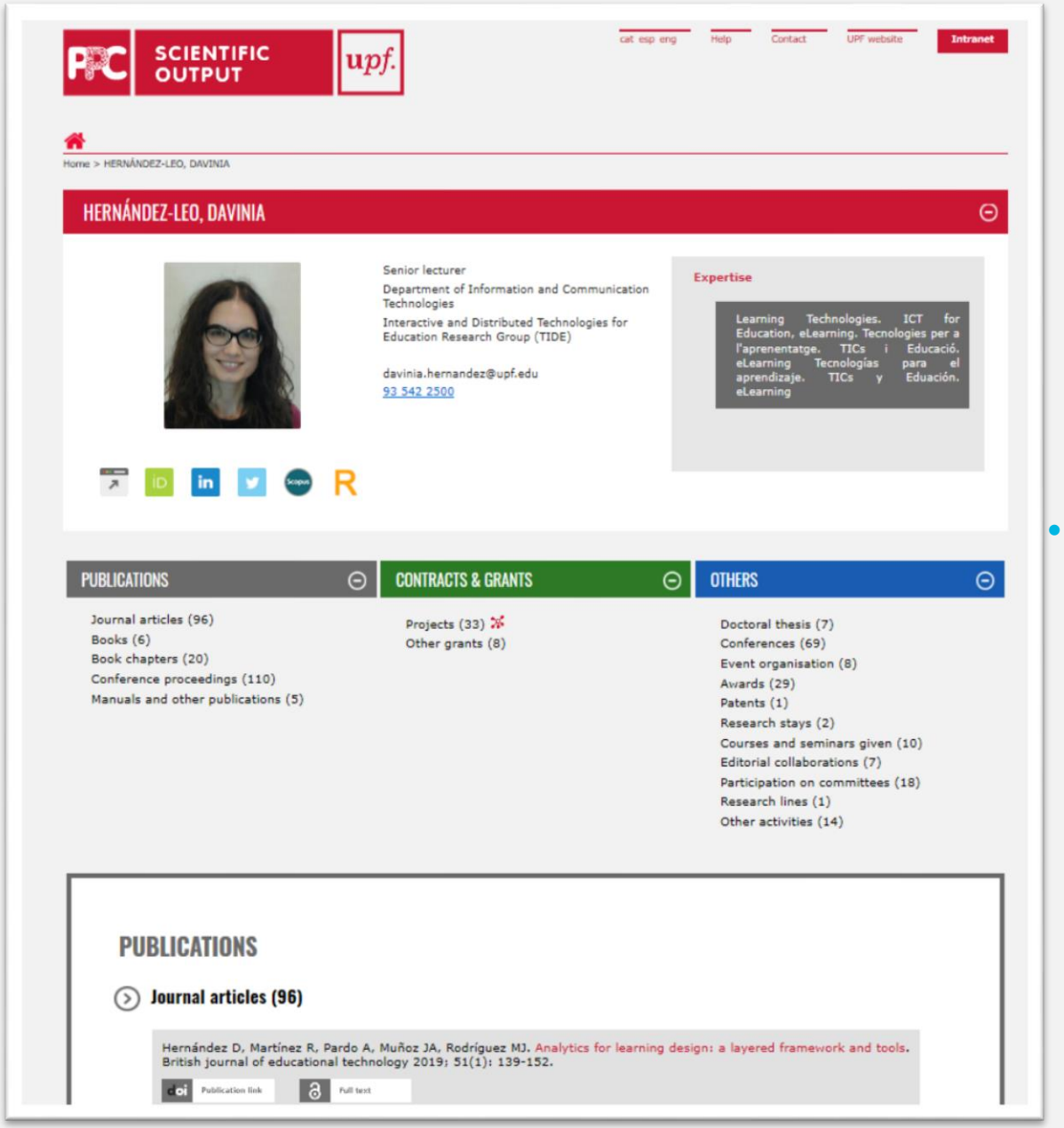
5. **Develop a new frontend angular for the Experts guide** that aligns the visual requirements of the current Experts guide of the SIGMA universities, so the process to implement VIVO will be do it as an improve of the current tools. This frontend uses the search engine of VIVO and its ontology.

Creating a New Experts Guide

- The guide is Multilanguage
- We can use some topics to search (Boolean connectors, literal words or phrases, approximated words, etc…)
- The search is in all the scientific information upload in VIVO ontology (scientific production of researchers)
- The experts are sorted by their surname. It could be sorted by relevance (not implemented yet)
- Shows the same style as the institutional web of the university
- Shows the institutional photo only if the researcher gives his consent.
- Very fast searches
- Link to the researcher profile though name of button '+'.



New Experts Guide



- Access to the complete researcher profile from the CRIS system.

New Experts Guide

The new Expert guide improvements over the current SIGMA Expert guide are:

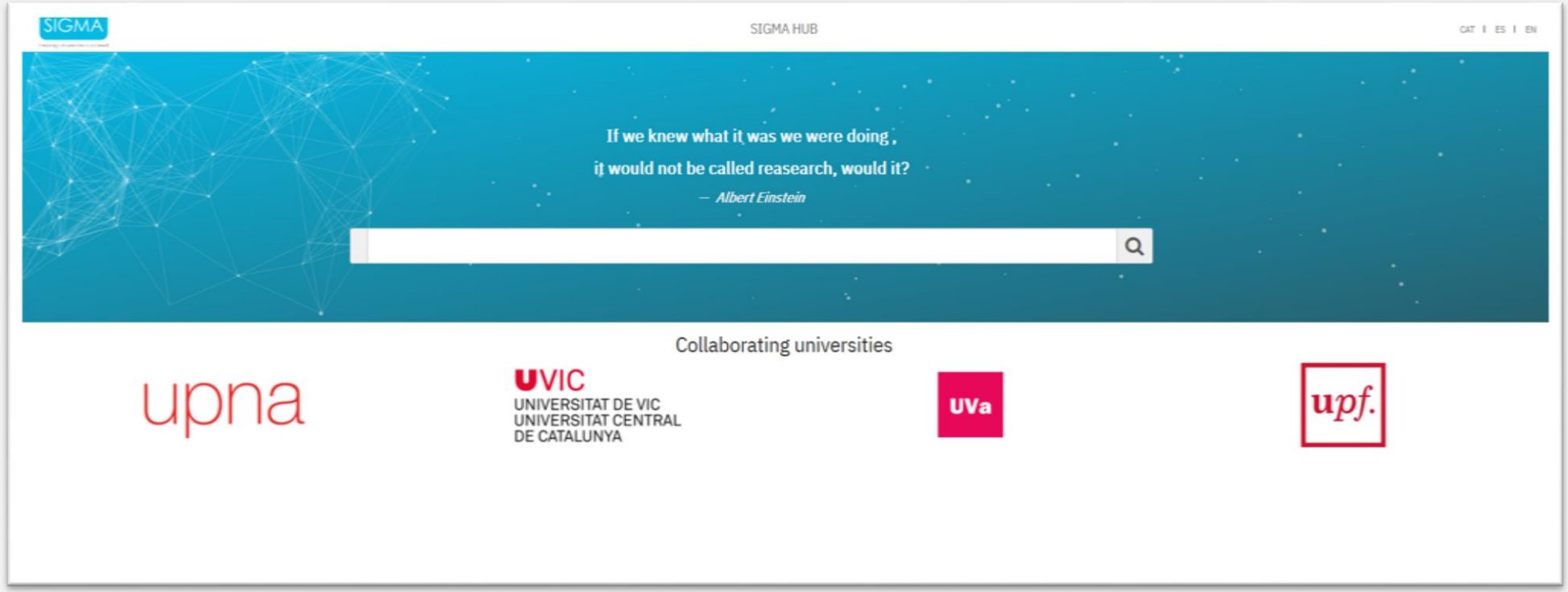
- More powerful model (ontology) that provides scalability and more easy improvements of the tool. Some that VIVO already provide and some that could be new (due the openSource model)

- More powerful search engine
  - Search in all the researchers information, easing the discoverability
  - More possibilities for the search (booleans, literal and approximated words…)
  - Very fast and efficient searches

- More sorting possibilities for the results: for relevance, citation, impact… of the researchers

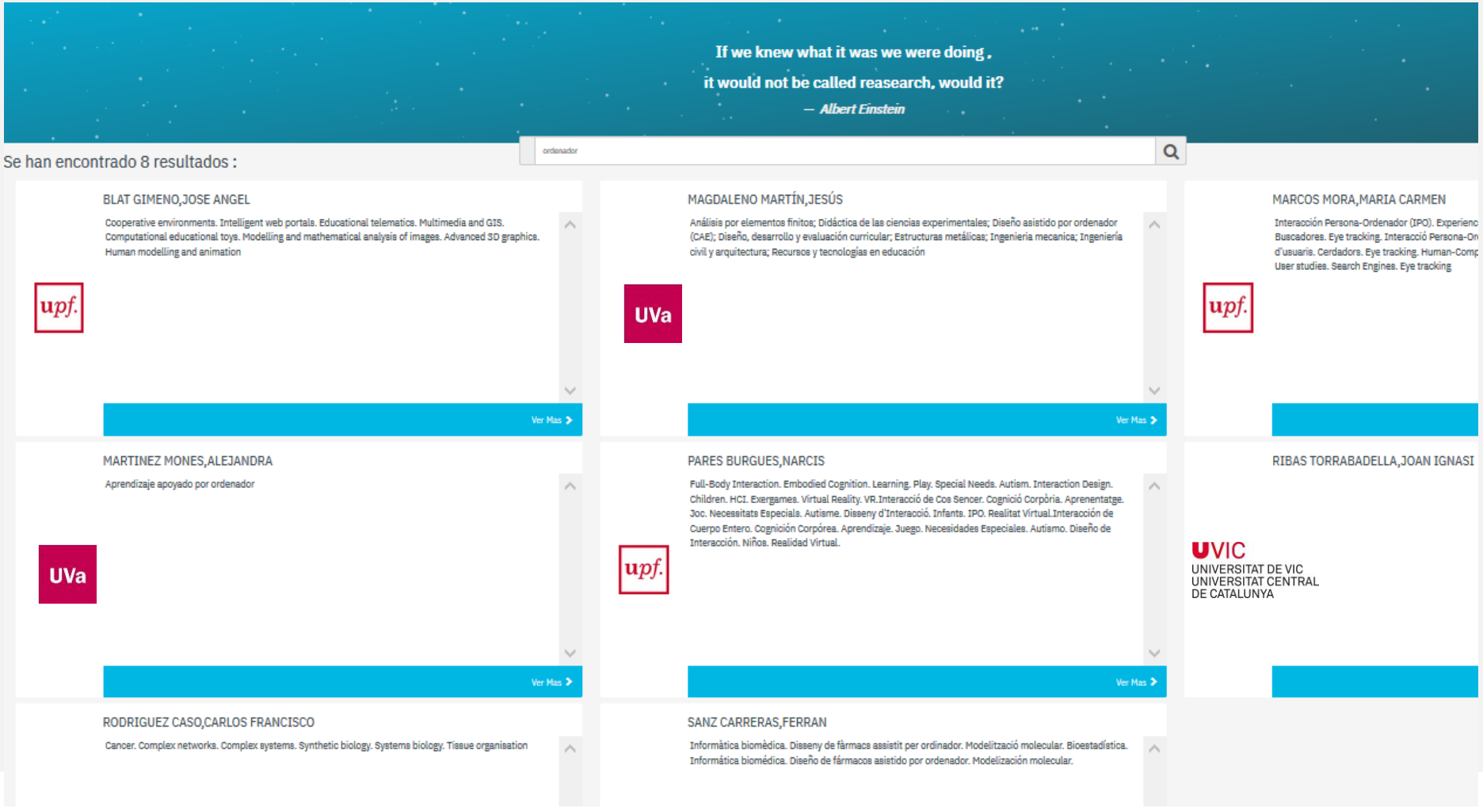
New SIGMA Hub

On the other hand, we have implemented an Experts Guide that can upload information aggregated from many universities, we called ‘The SIGMA hub’. This tool enables the showcasing of a group of universities or from the university and their related research centres.



New SIGMA Hub

It stores and show the results displaying the researchers of all the universities that matches the search.

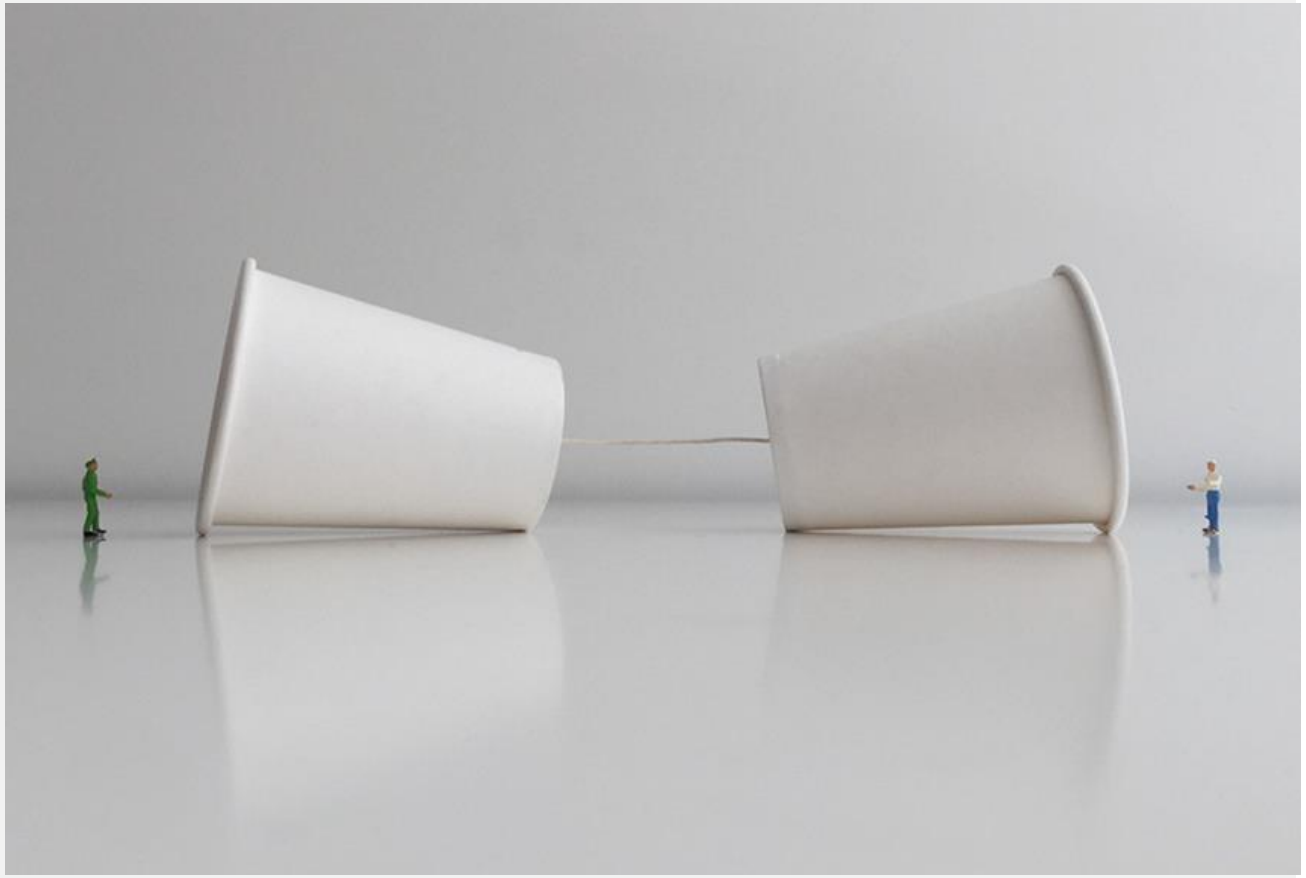


Conclusions and next steps

This is our first pilot and we start the implementation in one of our universities and parallel to this, evolving the tools until have the complete research output Portal with VIVO.

To do this step, we will wait until we have results in the VIVO Scholar project.

This tools are only for the reuse, visibility and dissemination of scientific information, so the maintenance of the CRIS is made by other products. **VIVO will be, for us, read-only.**



By the way….

We have other examples in Spain using VIVO, in this case, the UC3M, Carlos tercero university of Madrid. That since 2016 is using an implementation of VIVO with successful results.

They have also a CRIS from which they upload information to VIVO once a month.

The CERIF2VIVO project

The CERIF2VIVO Project

SIGMA is involved in the definition of the CERIF2VIVO project.

This project will be a collaboration between: euroCRIS, VIVO and SIGMA and open to other collaborations.

The goal of this project is to define an interface to upload information to VIVO always the same way independent of the source, so, the standard CERIF, seems the best option.

We have had a first experience with CERIF in the collaboration with CSUC to upload information in the PRC (Research Portal of Catalan Universities). Even though PRC only uploads a subset of the information that is stored in a CRIS (articles, books, book chapters, projects and thesis), it was a good experience.

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helping universities succeed

VIVO

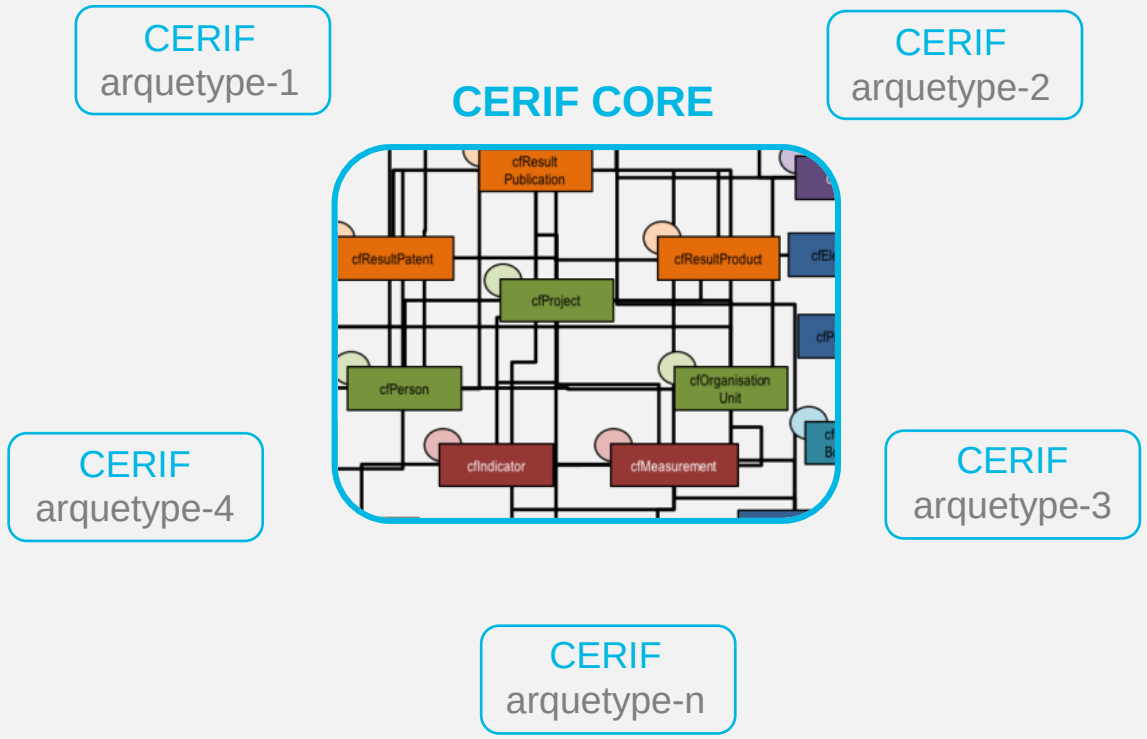
euroCRIS
Current Research Information Systems

The CERIF2VIVO Project

To do this project, we must avoid one of the current drawbacks of CERIF, that is it's complexity. The CERIF model is big and complex, so, in parallel, it's planned also the refactoring of the CERIF model.

This refactoring proposes to divide the CERIF model in a CORE model that will contain the essential entities, and then the definition of specific areas of entities that completes the model and that should be defined by experts in the area.

At the same time to do the refactoring, the mapping to VIVO will be defined.



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06

Conclusions

VIVO

Some conclusions …

- Our participation in the VIVO community it has been a great experience and an opportunity to evolve and be able to provide to our universities solutions align with the ones used by world-class universities (that leads the international rankings), that are also in the VIVO community, using and adopting their best practices at some levels.
- We can use VIVO as a scholarly showcasing tool (read-only), uploading the information from the CRIS to one university or more than one. Ideally we could use the CERIF model as the exchange format.
- euroCRIS will work in the refactoring of the CERIF model to simplify its use.
- In parallel, euroCRIS, VIVO and SIGMA will work in the mapping of CERIF to VIVO ontologies
- Five universities in the U.S. are working on VIVO Scholar, a modernized, read-only front-end for VIVO (for using as a showcasing tool)
- With these projects we will be able to upload information from any CRIS to VIVO in a consistent way (using the standard CERIF). To provide public portals and experts guides to our universities.

Thank you!!

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