



Connected Research

PTCRIS: Planning and implementing a national CRIS ecosystem

João Mendes Moreira



<https://orcid.org/0000-0002-9081-2728>

Cátia Laranjeira



<https://orcid.org/0000-0003-3952-8294>



GOVERNO DE
PORTUGAL

MINISTRO DA CIÊNCIA,
TECNOLOGIA E ENSINO SUPERIOR

Outline

- About FCT
- About PTCRIS
 - Why
 - How
 - What
 - PTCRISync
 - Org Ids
 - Funding/Projects
 - Outputs
 - Ciência Vitae (CV)
- Conclusions

FCT

Fundação para a Ciência e a Tecnologia

MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

Foundation for Science and Technology in an Nutshell



Fundação para a Ciência e a Tecnologia (FCT)

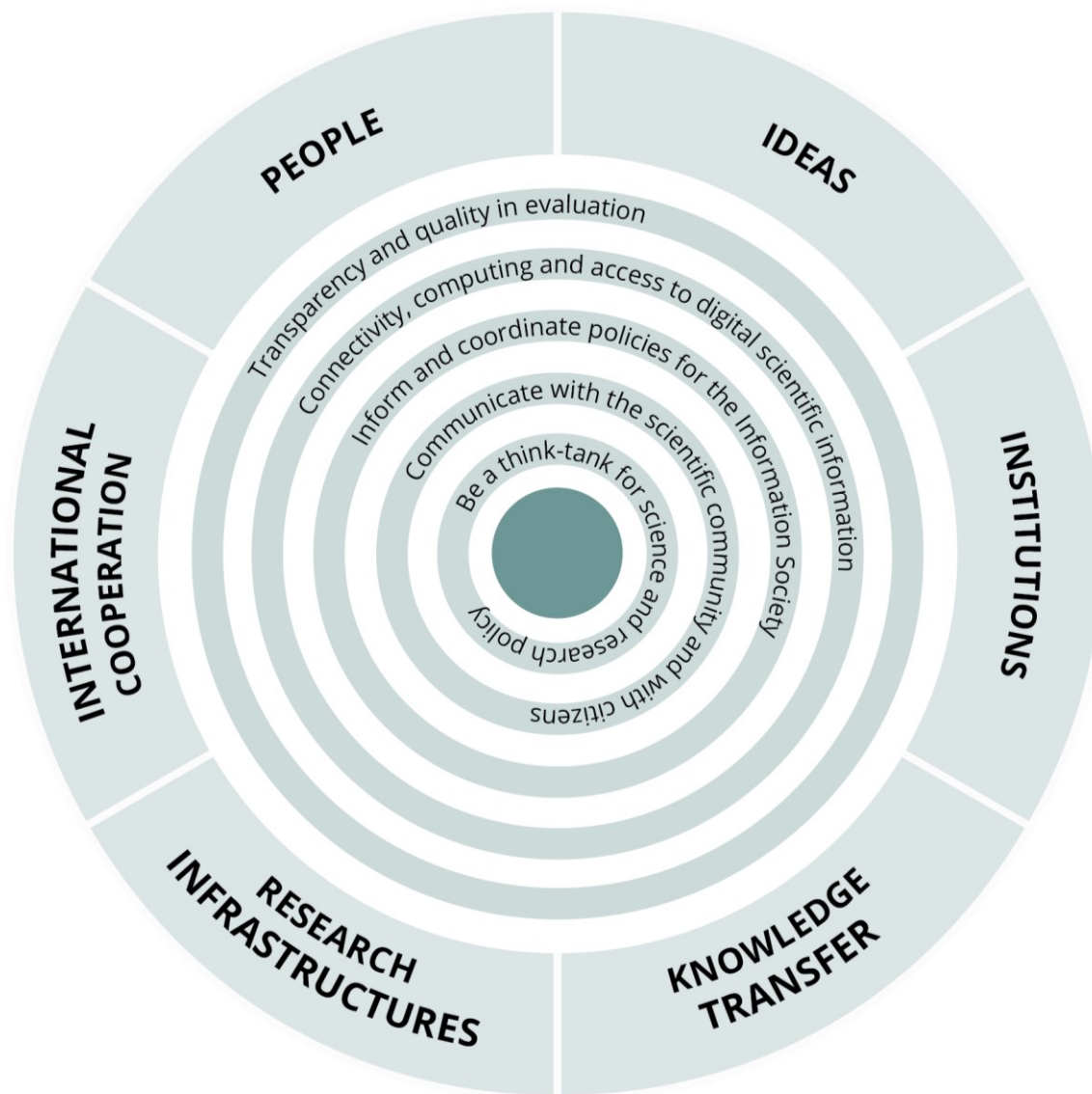
is the Portuguese national funding agency for science and research.

FCT is a **publicly-funded government agency**, under the responsibility of the Ministry for Science, Technology and Higher Education.

FCT's vision

- To establish Portugal as a **global reference for research and innovation**
- To ensure knowledge generated by scientific research **underpins social and economic development**

FCT supports the **whole spectrum of funding instruments**



Main pillars



CONNECTIVITY

COLLABORATION

KNOWLEDGGE

COMPUTING

SECURITY

Scientific Information

Mission:

- 1) To ensure the community **access** to sources of **scientific information** of recognized prestige and quality;
- 2) To promote, support and facilitate **open access** to Portuguese scientific production:
- 3) To **facilitate management and access** to information on national **scientific activity**



2004



2008



2015



Connected Research

PTCRIS in a nutshell

20
anos | **FCT** Fundação
para a Ciência
e a Tecnologia



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TECNOLOGIA E ENSINO SUPERIOR

Why?

Scientific community

Equipa liderada por portuguesa faz novas descobertas no combate ao cancro



Maria Mota faz descoberta que pode ser chave para sobreviver à malária



Transistor de papel: a descoberta de Elvira Fortunato que já revoluciona o mundo

- **Simplify** the management and reporting of information on scientific activity

Managers



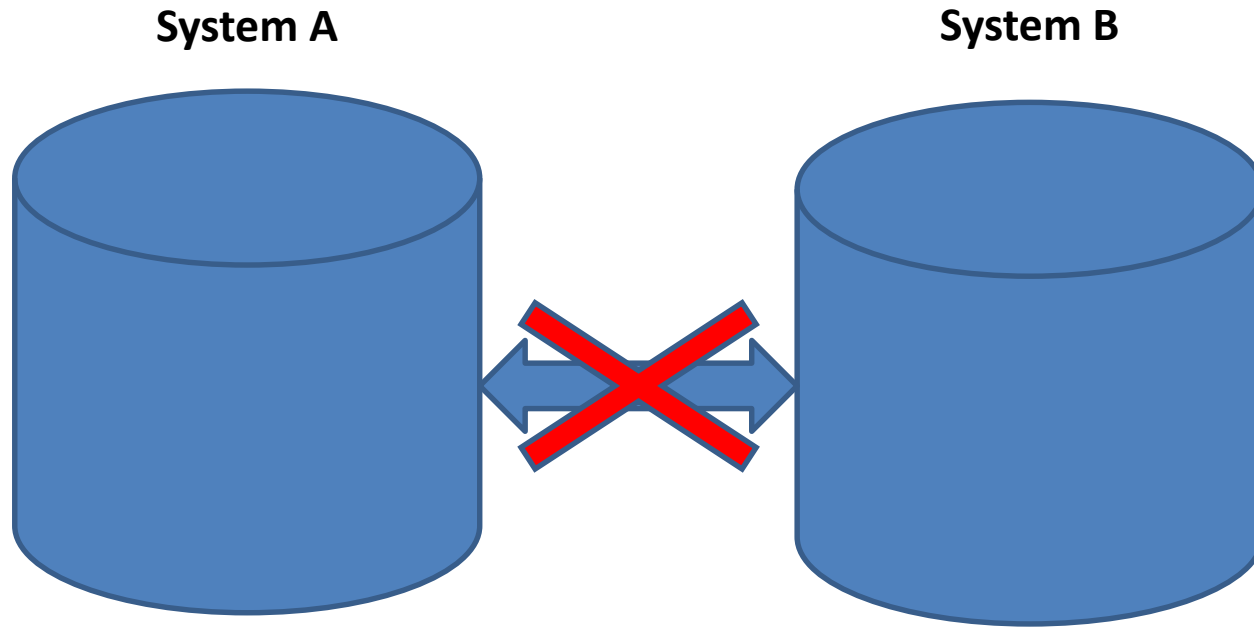
- **Optimize** the **evaluation** of the scientific practice, the **administration** of the information systems on the same and report

Public



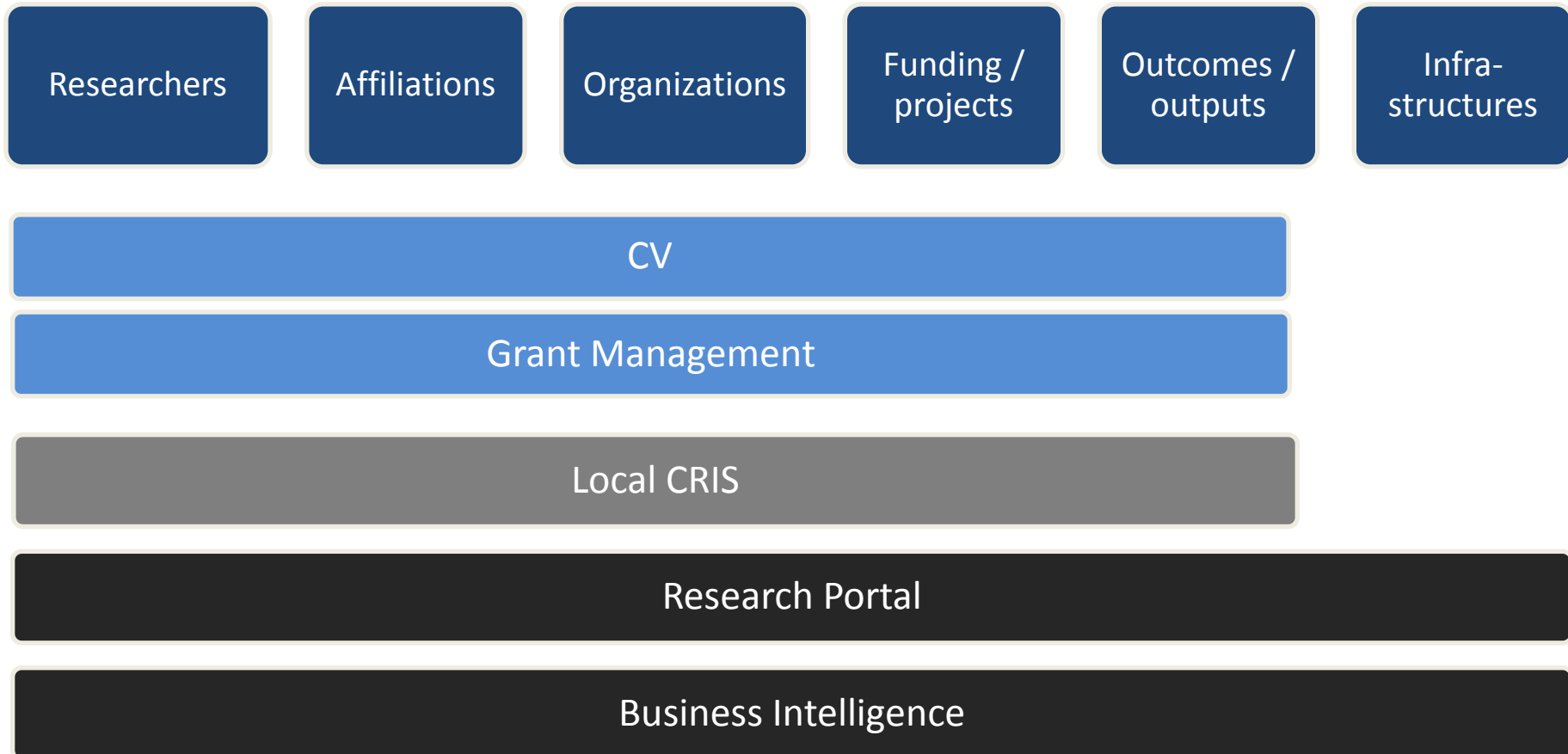
- **Facilitate the discovery** of innovative ideas
- **Foster** the approach between **Science and Society**.

The problem



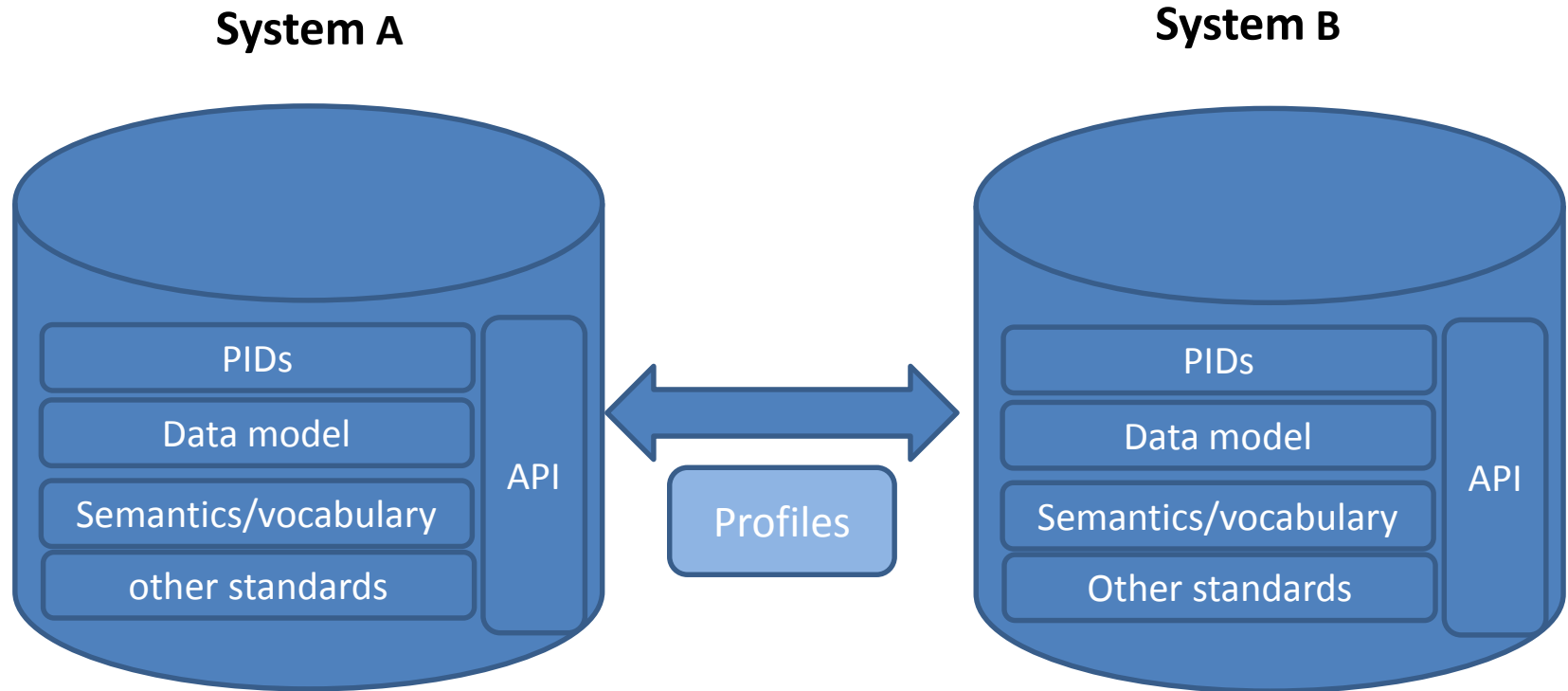
Unnecessary effort, incomplete and unreliable information!

Ecosystem of Science and Technology



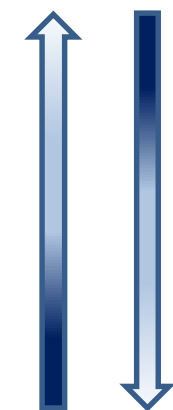
SoS = System Systems = ecosystem

Interoperability

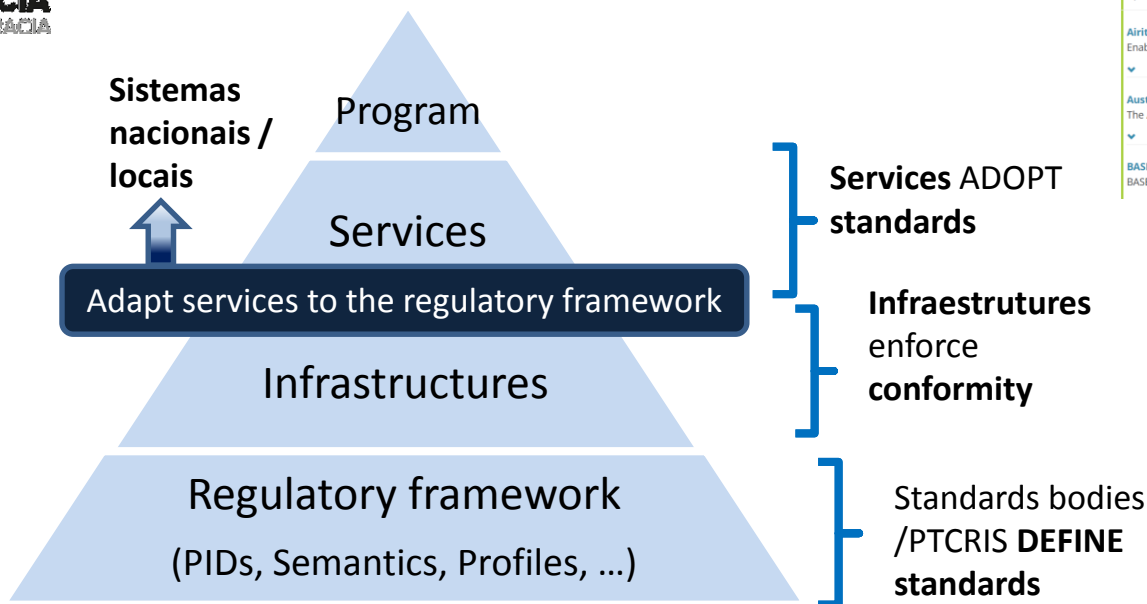


Mission

Ensure the creation and sustained development of a **regulatory framework** (protocols/standards) and **infrastructures** to implement an integrated **national information ecosystem** (PTCRIS) to support the **management of scientific activity**.



PTCRIS
Connected Research



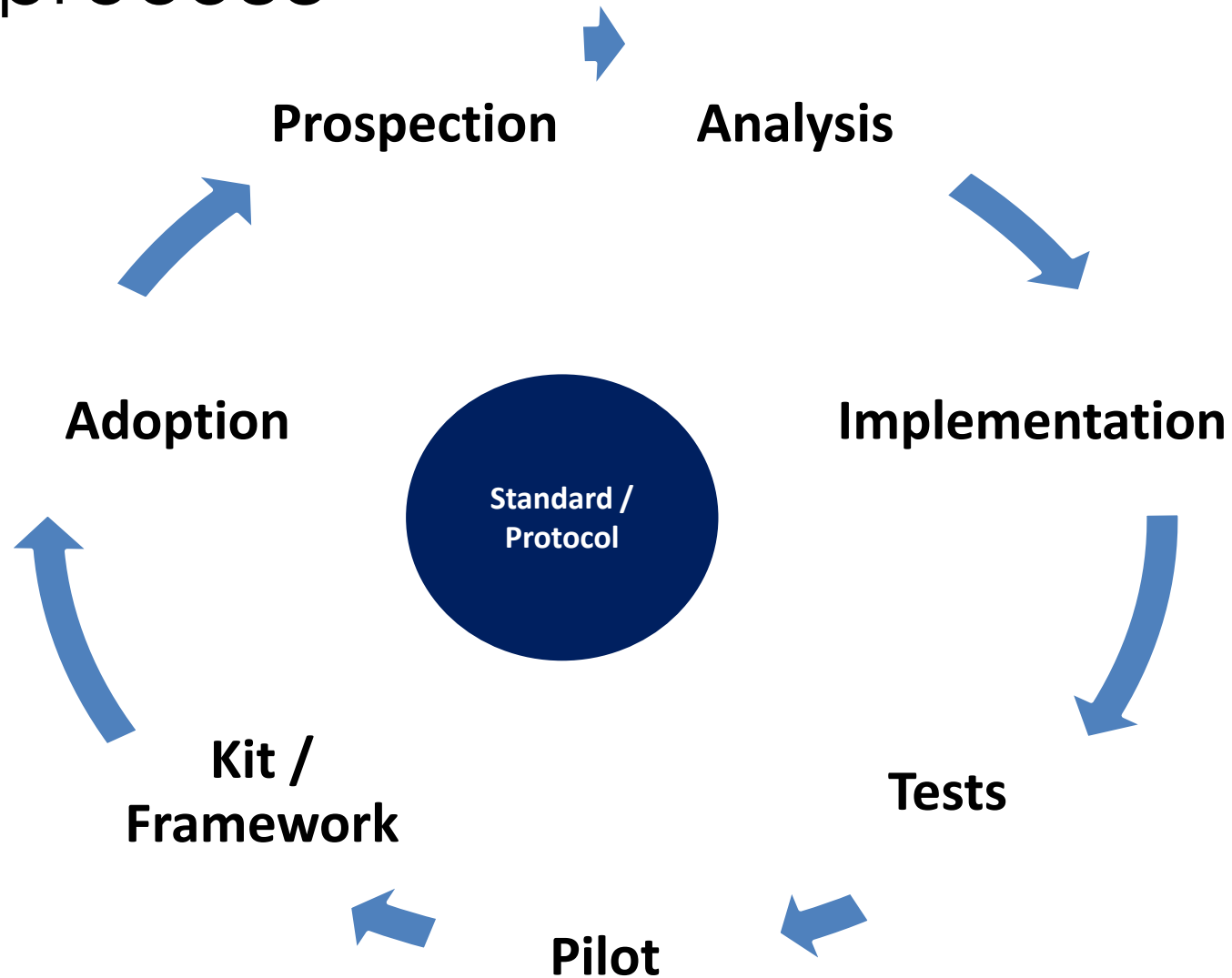
National cooperation



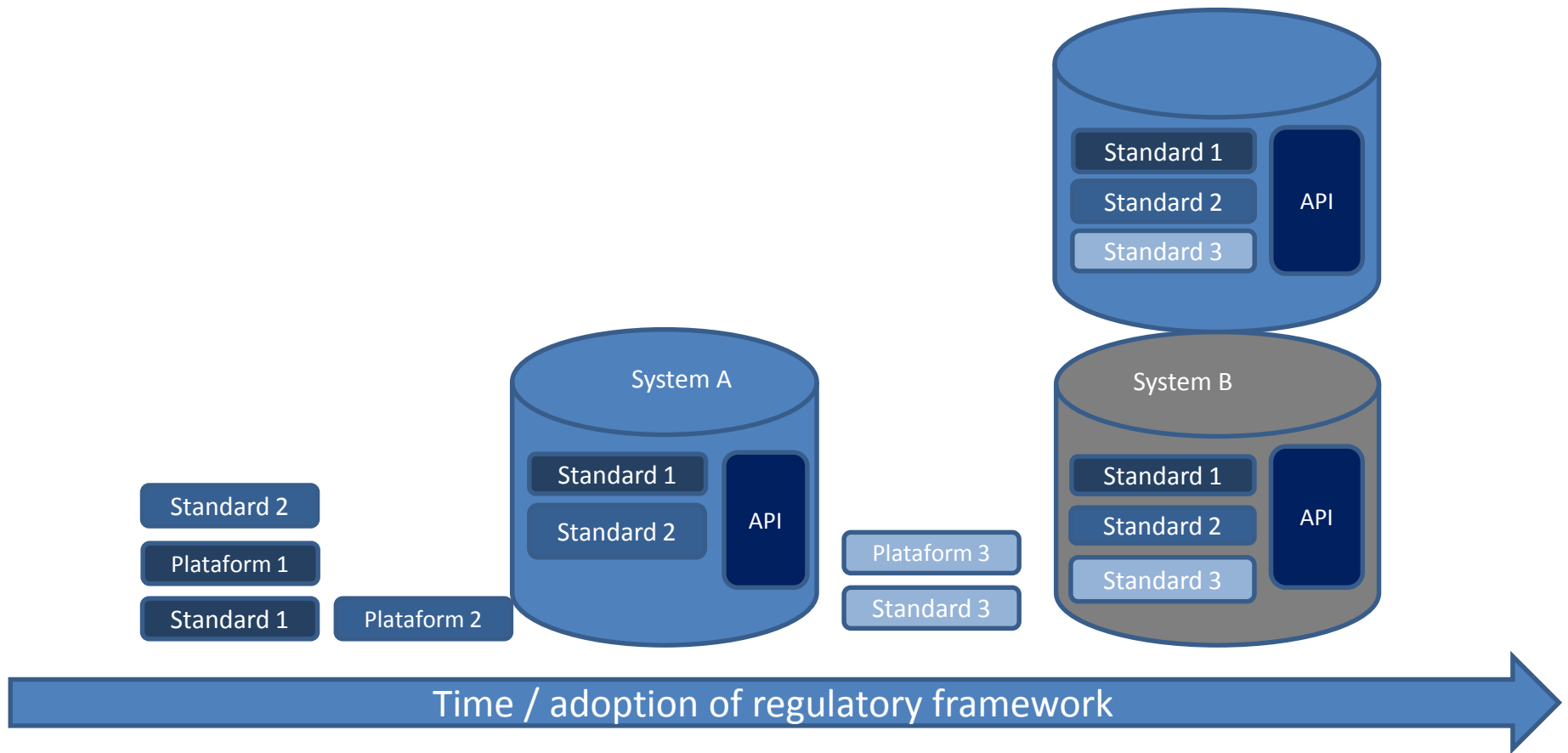
Cooperation / “Lobby”



The process

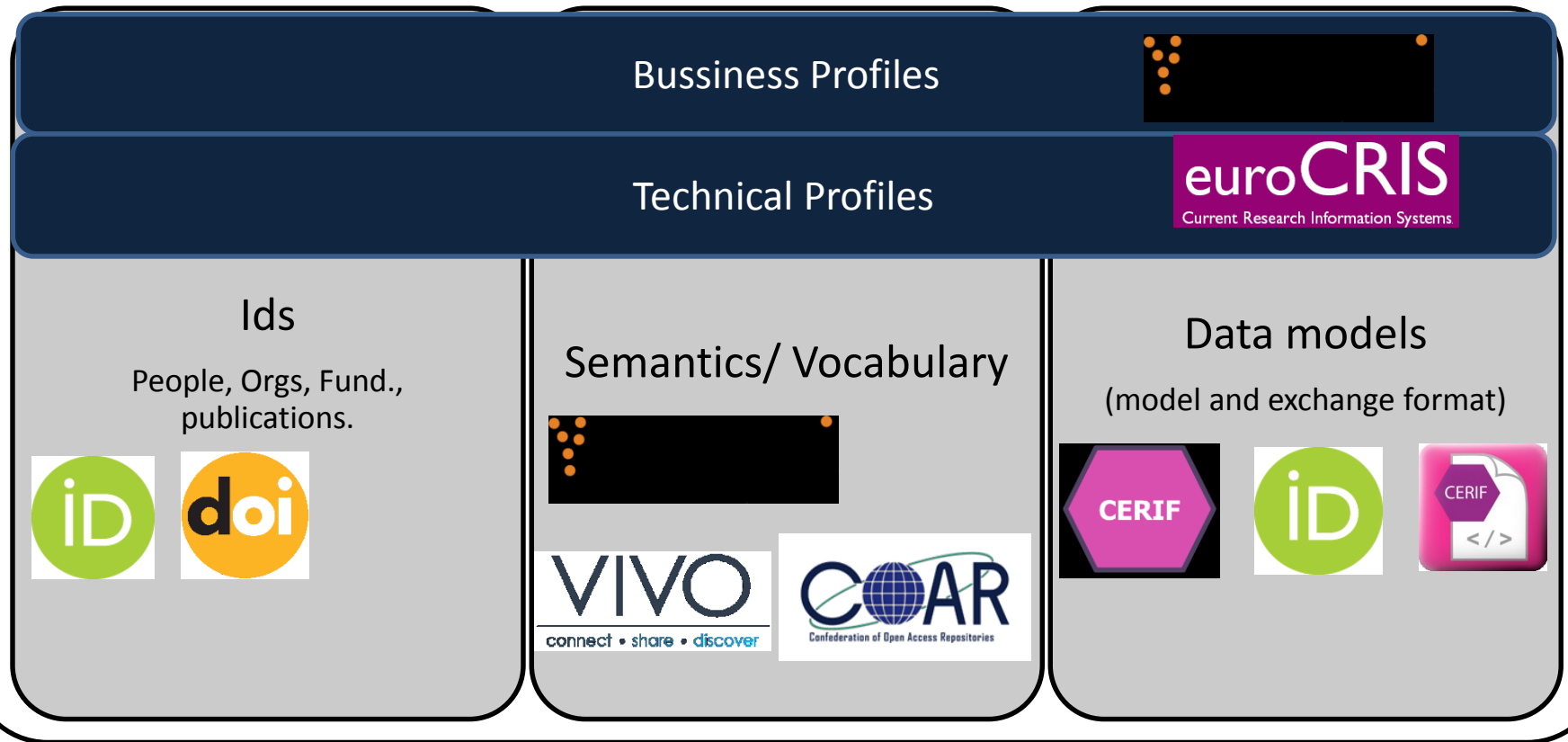


The methodology

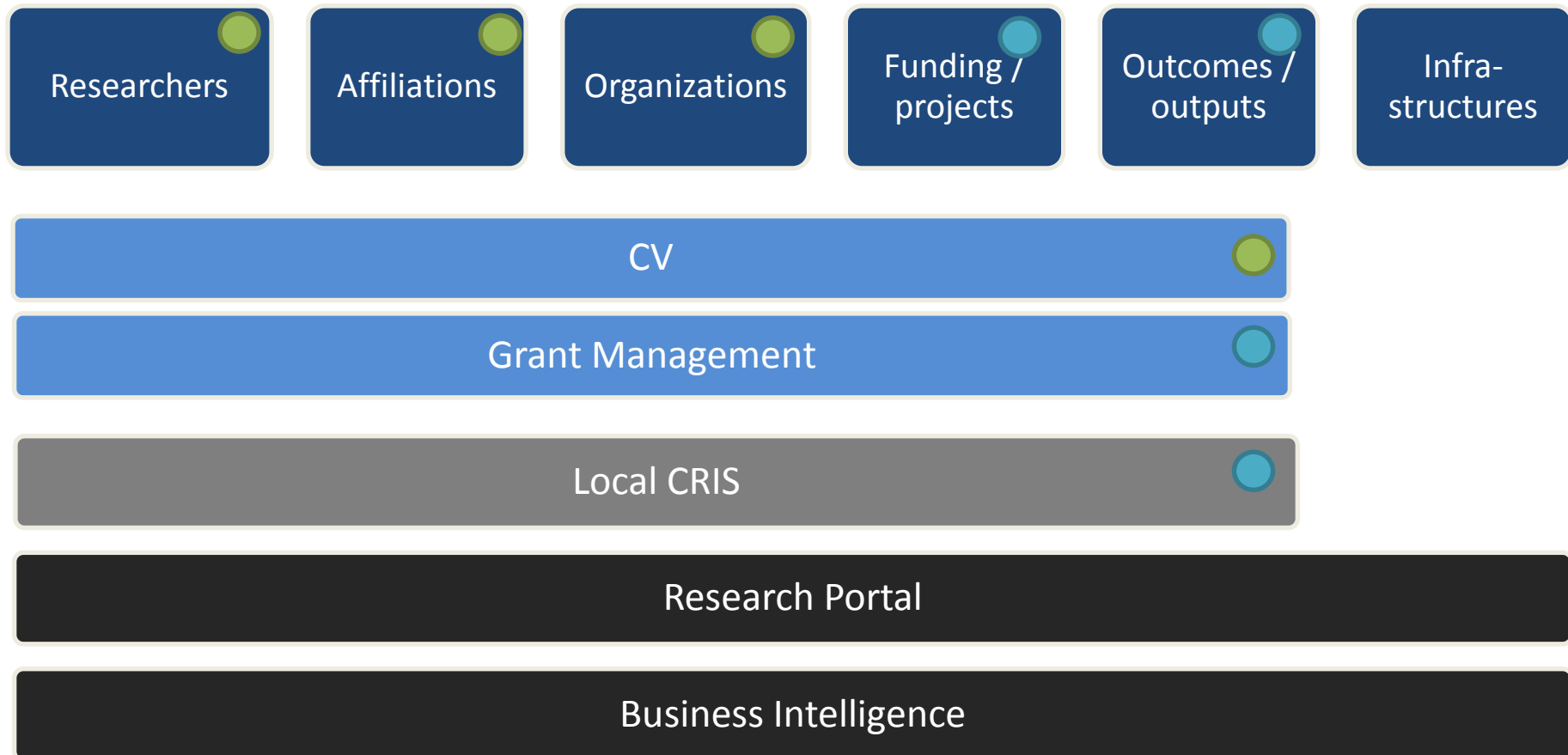


Standards

Regulatory framework



Ecosystem of Science and Technology



SoS = System Systems = ecosystem

What – PTCRISync – Motivation

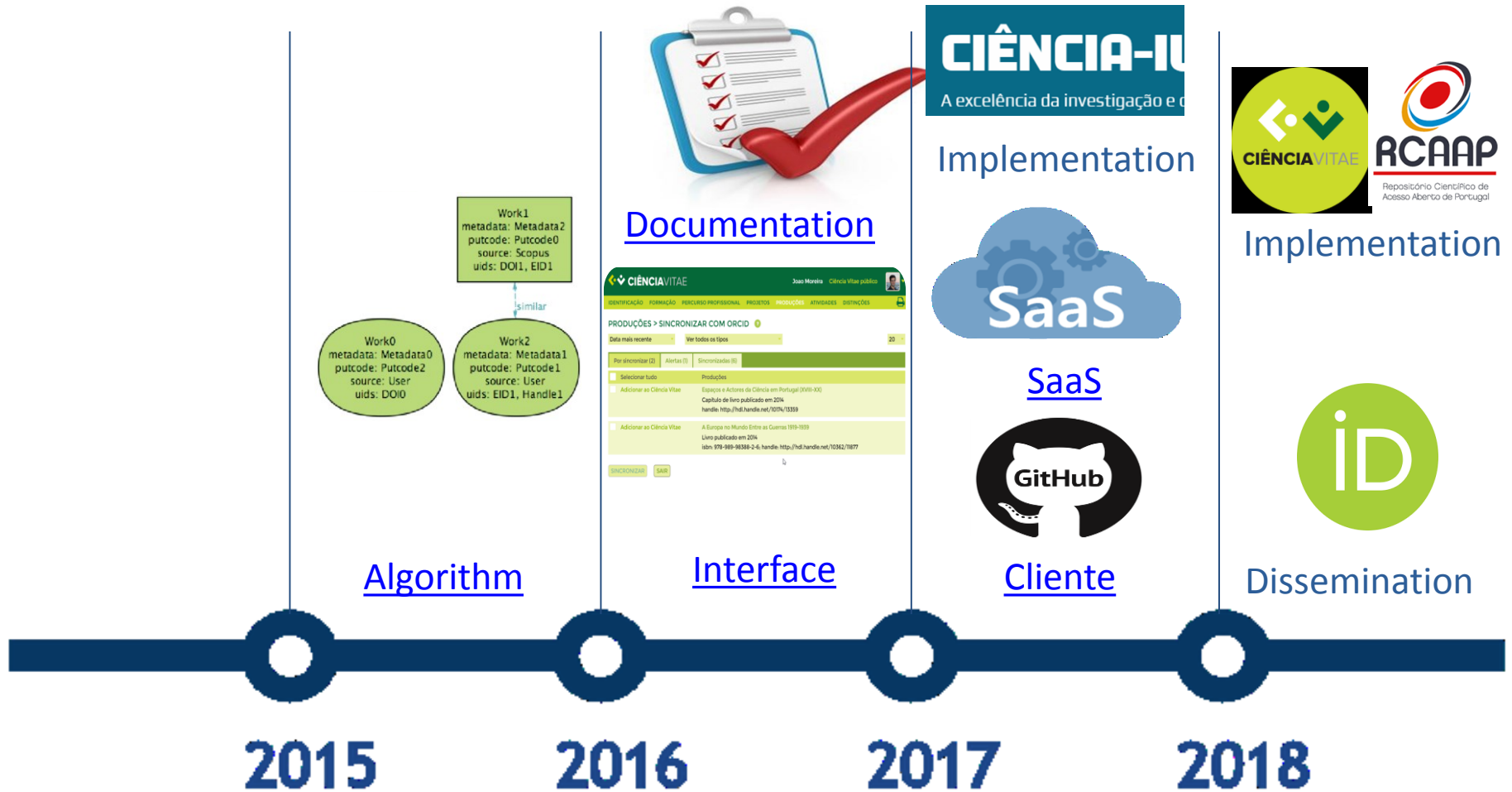
"A output should be recorded once and reused multiple"

Feb 2014, FCCN Summit
João Mendes Moreira

PTCRISync concept

<https://vimeo.com/251179542>

Timeline



Average implementation time

4 to 6 weeks

PTCRISync Demo

<https://vimeo.com/251312395>

Team



Alcino Cunha

Library design

[0000-0002-2714-8](#)



António Lopes

Integrator & developer

[0000-0003-3045-0](#)



Bruno Monteiro

UX Designer

[0000-0002-3300-7](#)



João Mendes Moreira

Project Leader

[0000-0002-9081-2](#)



Luís Pedro

Integrator & developer

[0000-0002-3936-6](#)



Nelson Madeira

Integrator & developer

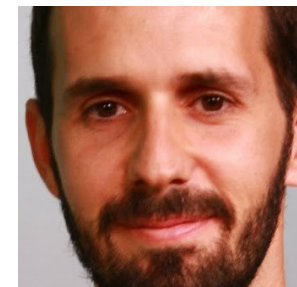
[0000-0002-4575-4](#)



Nuno Macedo

Library design & developer

[0000-0002-4817-9](#)



Paulo Graça

Developer

[0000-0002-3503-4](#)



Want to know more about PTCRISync?

Videos

- [Teaser](#)
- [Demo](#)
- [Tech](#)

[GitHub](#)

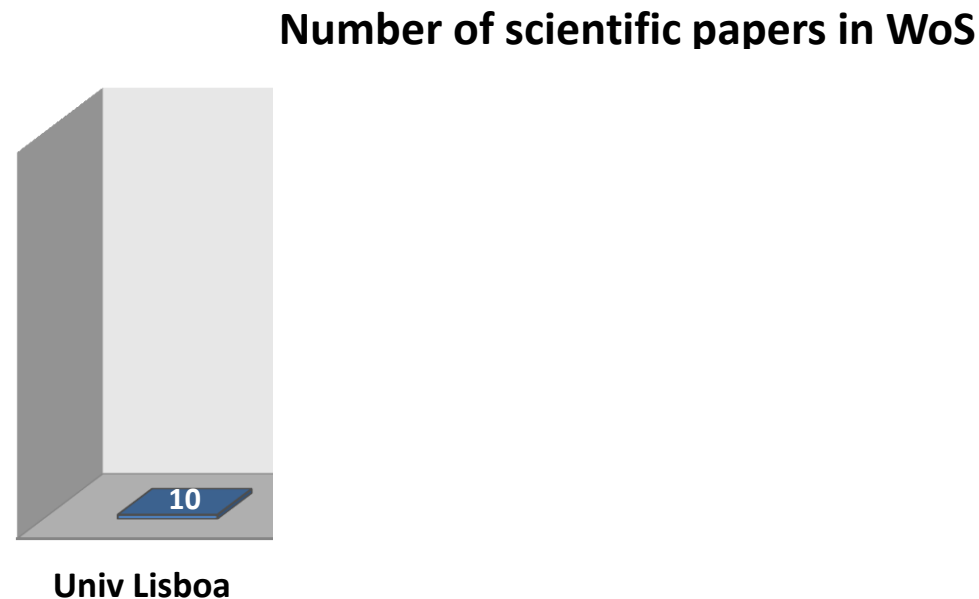
[Wiki](#)

E-mail: ptcrisync@googlegroups.com

Why?

- Problem:

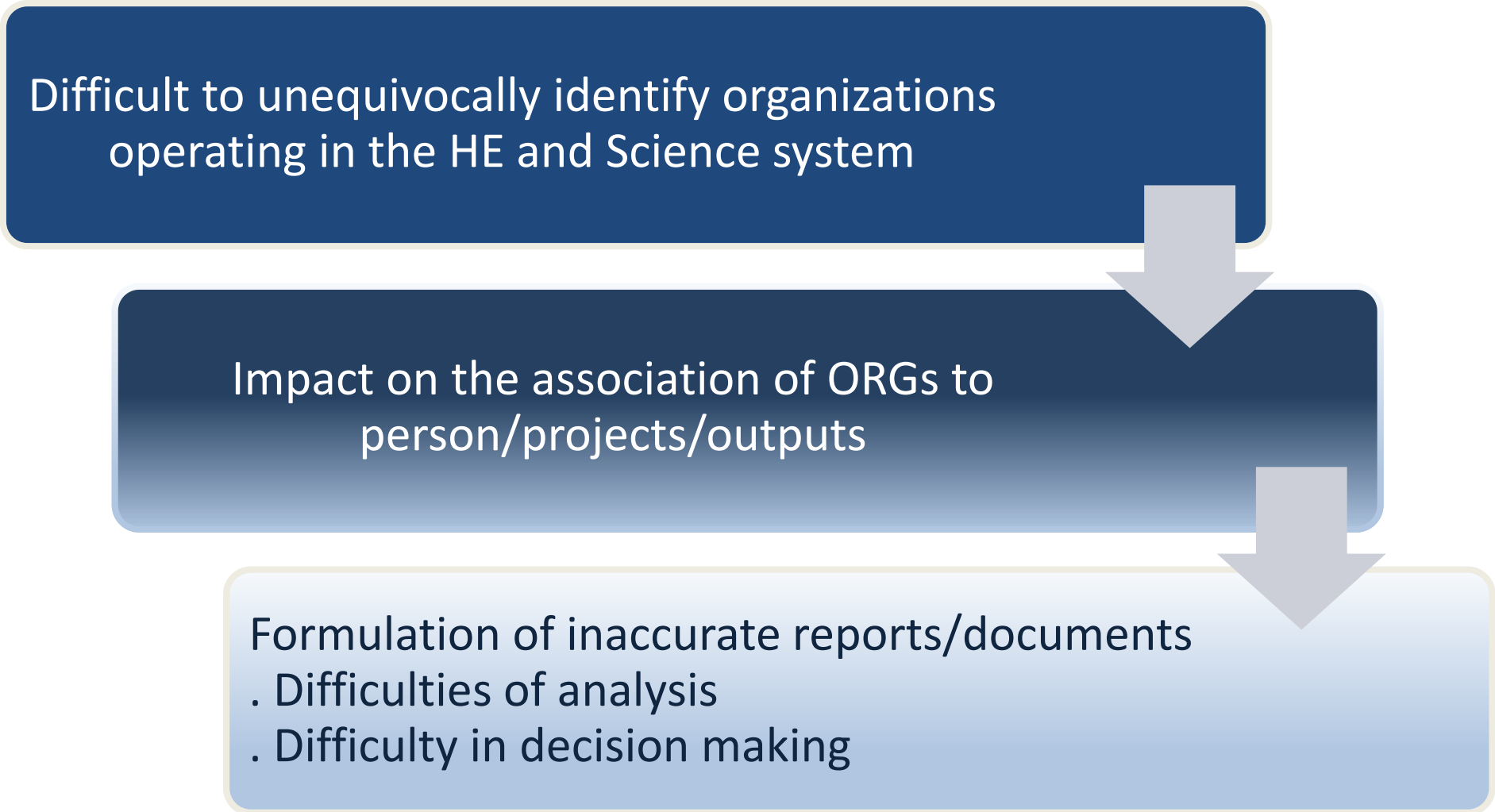
How many scientific papers from Lisbon University are indexed in WoS?



Technical sheet: WoS publications between 2010 and 2017 whose affiliation of the Corresponding Author is the University of Lisbon excluding data from the former Technical University of Lisbon, Colleges and Centers. Courtesy of Inês Fonseca.

Why?

Difficult to unequivocally identify organizations operating in the HE and Science system



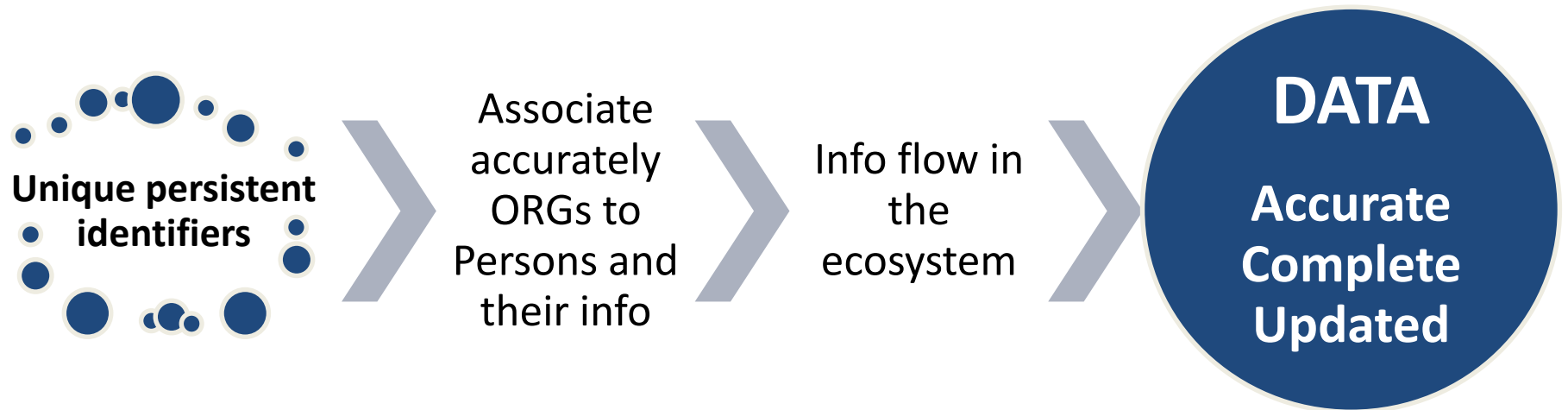
```
graph TD; A[Difficult to unequivocally identify organizations operating in the HE and Science system] --> B[Impact on the association of ORGs to person/projects/outputs]; B --> C[Formulation of inaccurate reports/documents<br/>. Difficulties of analysis<br/>. Difficulty in decision making];
```

Impact on the association of ORGs to person/projects/outputs

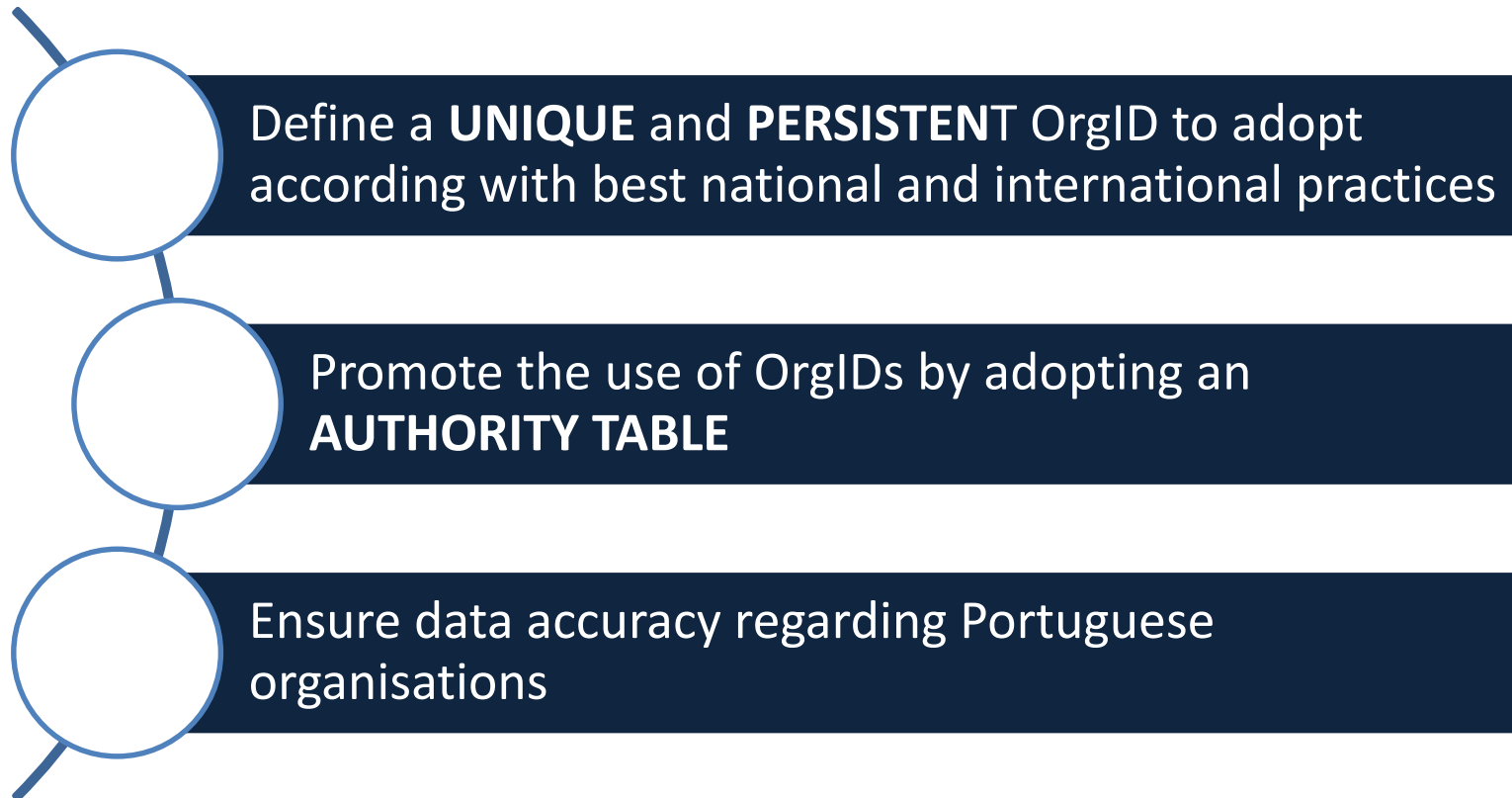
Formulation of inaccurate reports/documents

- . Difficulties of analysis
- . Difficulty in decision making

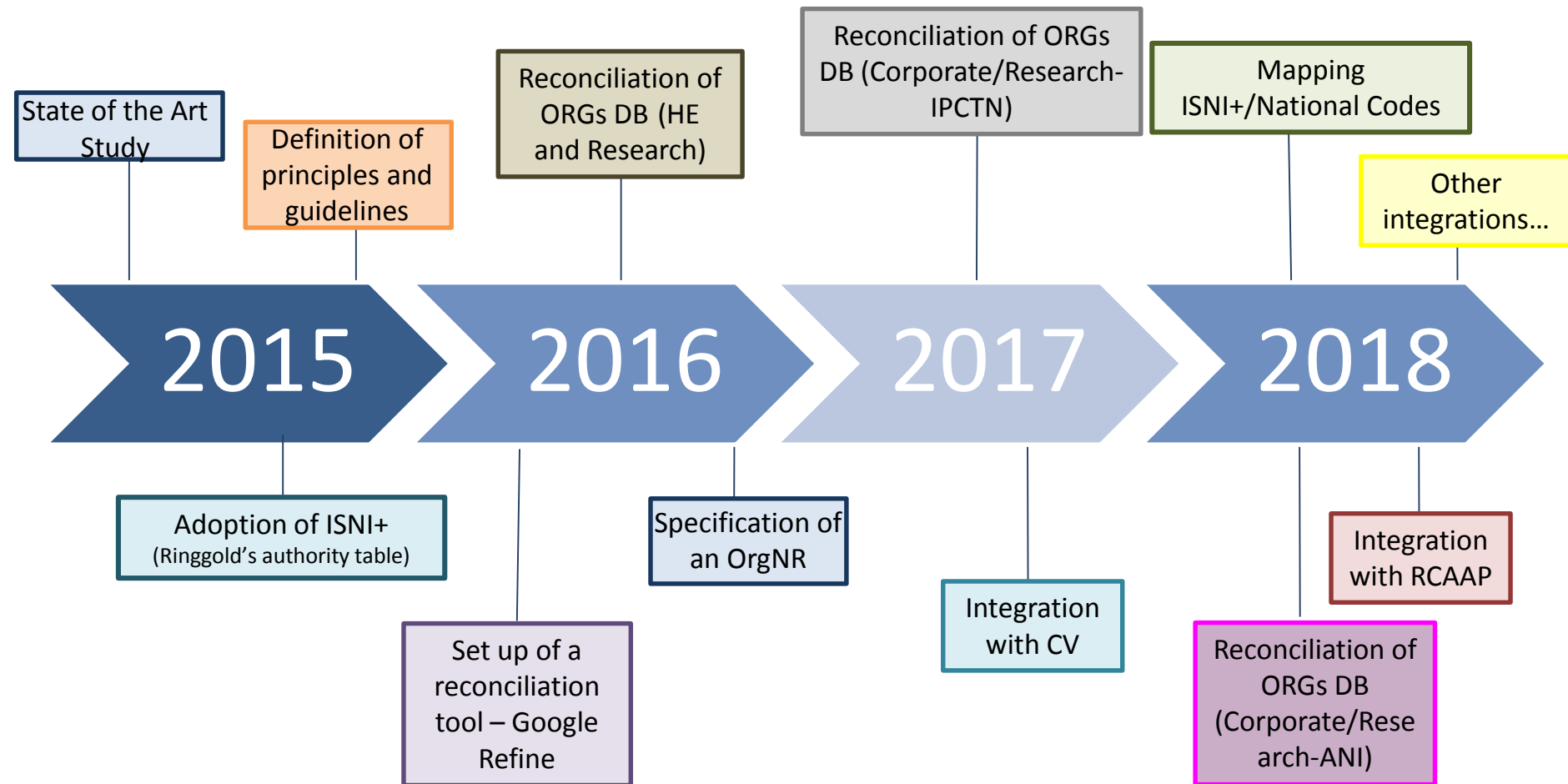
Aim



How?

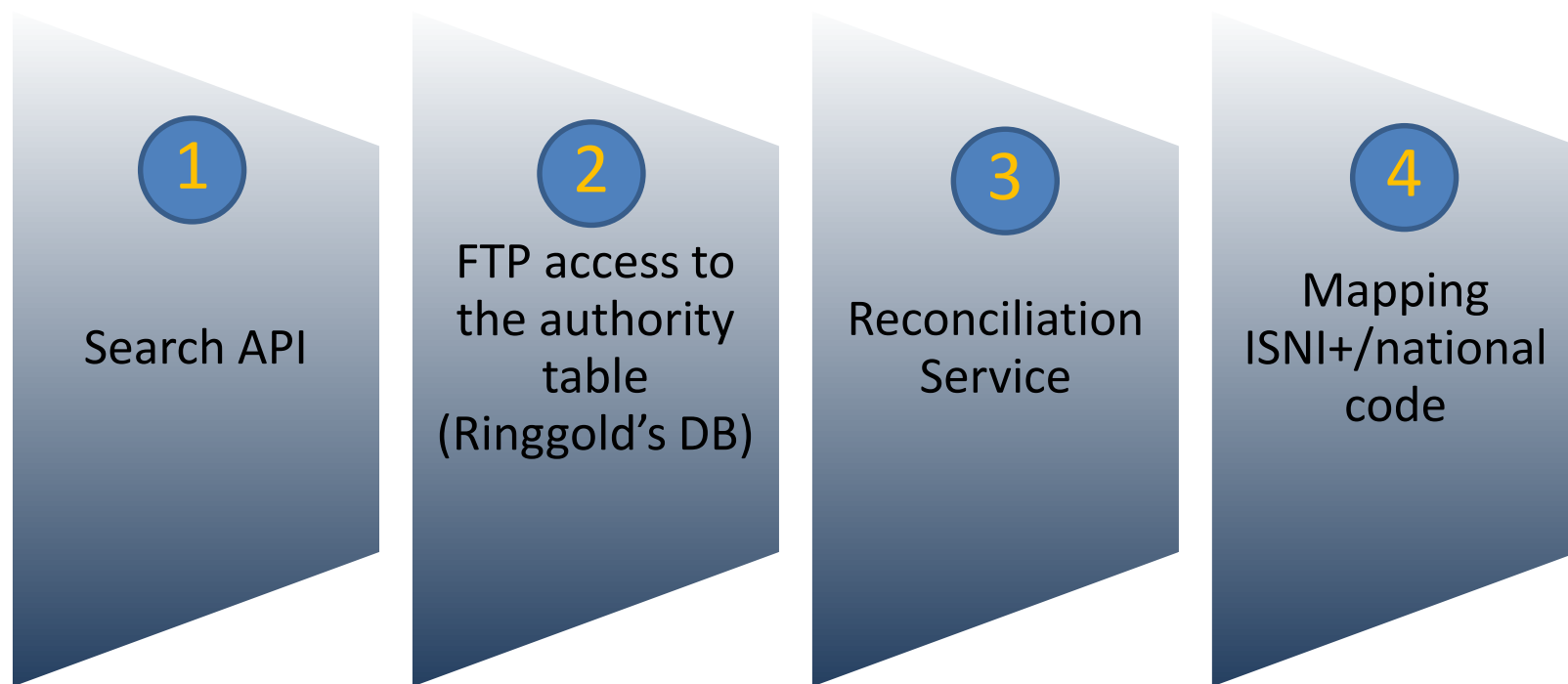


What? – implementation timeline



What?

– PTCRIS services for ORGs management –



PTCRIS services for ORGs management:

1. Search API

<https://api.cienciavitae.pt/docs/>



Ciência Vitae API's ^{1.1}

[Base URL: alpha.dsi.uminho.pt/api]

[Ciência Vitae API's Curriculum Schemas](#)

Schemes

HTTPS

Authorize

GET

/v1.1/curriculum/employment-items Fetch all Employment Items



GET

/v1.1/searches/institutions Search institutions



GET

/v1.1/searches/persons Search persons



GET

/v1.1/statistics Statistics



PTCRIS services for ORGs management:

1. Search API



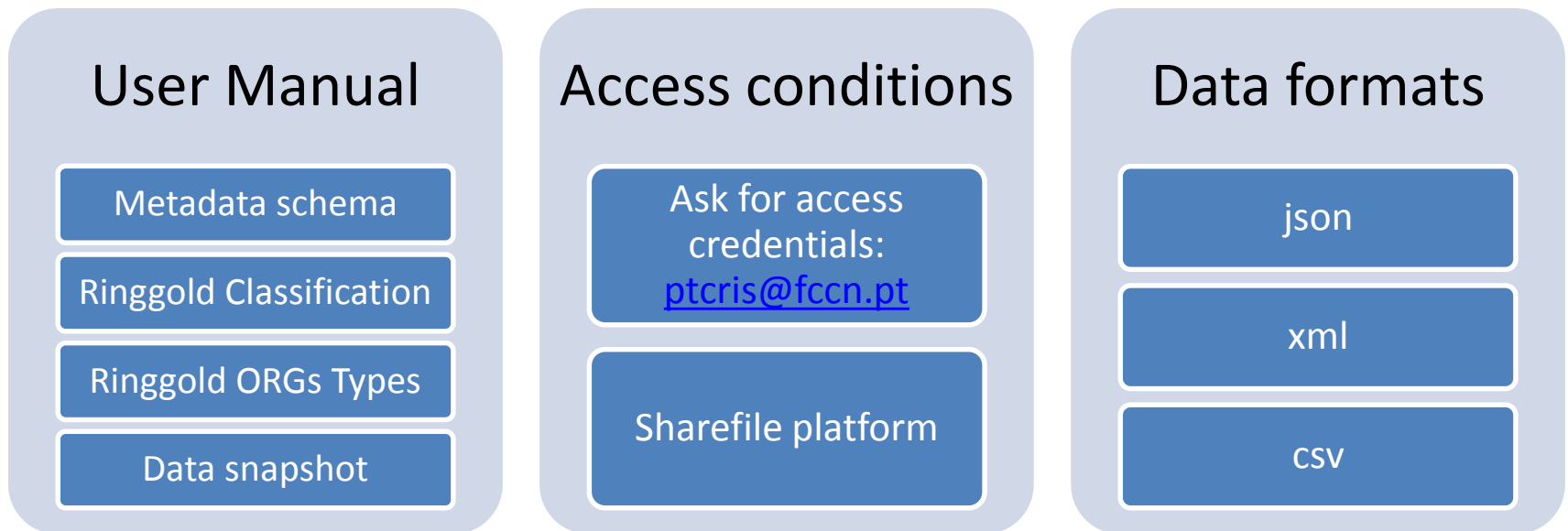
Education



PTCRIS services for ORGs management:

2. FTP access to the Authority Table

- PT ORGs



- PT ORGs and others (~500k ORGs)

Available upon signing of agreement

PTCRIS services for ORGs management:

3. Reconciliation Service



Refine OPEN EntidadesFCT_NIF0_ForRecon.xlsx [Permalink](#) Open... Export Help

Facet / Filter Undo / Redo 1

Refresh Reset All Remove All

729 matching rows (2393 total)

Show as: **rows** records Show: 5 10 25 50 rows « first < previous 1 - 10 next > last »

Facet: NomInst: judgment change

2 choices Sort by: name count

matched 340

none 389

Facet by choice counts

Facet: NomInst: best candidate's score change reset

0.90 — 1.00

☐ All	☐ idInstituicao	☐ idInstituicaoSub	☐ NomInst	☐ NomInstInsens	☐ NomInst60	☐ Sigla	☐ NomInstCompl	☐ NomInstCompl
☆	3.	1754	Universidade Eduardo Mondlane Choose new match		UNIVERSIDADE EDUARDO MONDLANE	UEM	Universidade Eduardo Mondlane	Universidade Eduardo Mondlane
☆	5.	1760	Universidade do Vale do Itajaí ☒ Universidade do Vale do Itajaí (0.96) ☒ Universidade do Vale do Itajaí (0.96) ☒ Universidade do Vale do Itajaí (0.96) ☒ Universidade do Vale do Itajaí (0.96) ☒ Universidade Vale do Rio Verde (0.792) ☒ Create new topic Search for match		UNIVERSIDADE DO VALE DO ITAJAI	UNIVALI	Universidade do Vale do Itajaí	Universidade do Vale do Itajaí
☆	6.	1761	Universidade Agostinho Neto Choose new match		UNIVERSIDADE AGOSTINHO NETO	UAN	Universidade Agostinho Neto	Universidade Agostinho Neto
☆	10.	1768	Carnegie Mellon University Choose new match		CARNEGIE MELLON UNIVERSITY	CMU	Carnegie Mellon University	Carnegie Mellon University
☆	13.	1772	Pontifícia Universidade Católica do Rio Grande do Sul ☒ Pontifícia Universidade Catolica do Rio Grande do Sul (0.92) ☒ Pontifícia Universidade Catolica do Rio Grande do Sul (0.92)		PONTIFICIA UNIVERSIDADE CATOLICA DO RIO GRANDE DO SUL	PUCRS	Pontifícia Universidade Católica do Rio Grande do Sul	Pontifícia Universidade Católica do Rio Grande do Sul

PTCRIS services for ORGs management:

3. Reconciliation Service

Cátia Laranjeira  Unpublished 

IDENTIFICATION EDUCATION AFFILIATION PROJECTS PRODUCTIONS ACTIVITIES DISTINCTIONS

Import wizard > Import thesis and dissertations

☒ Select all

☒ Add

Education level

☒ Portugal ☐ Other

Education level - Portugal *

Doutoramento

Institution/Organization *

Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia x

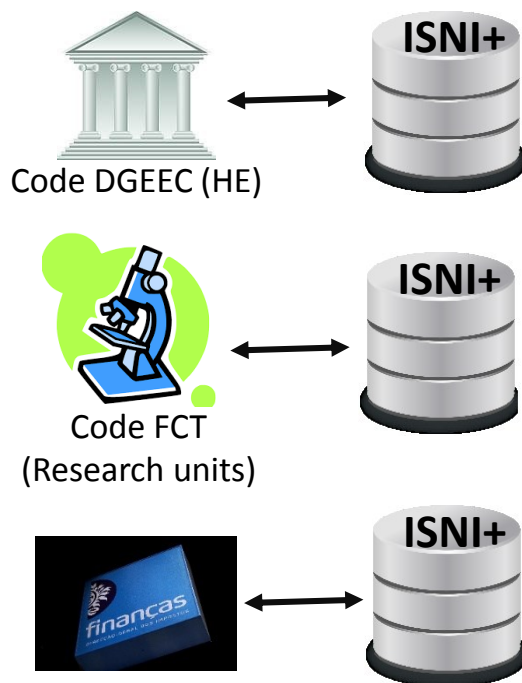




 Enter and select an institution or organization (eg. Universidade do Porto)

PTCRIS services for ORGs management:

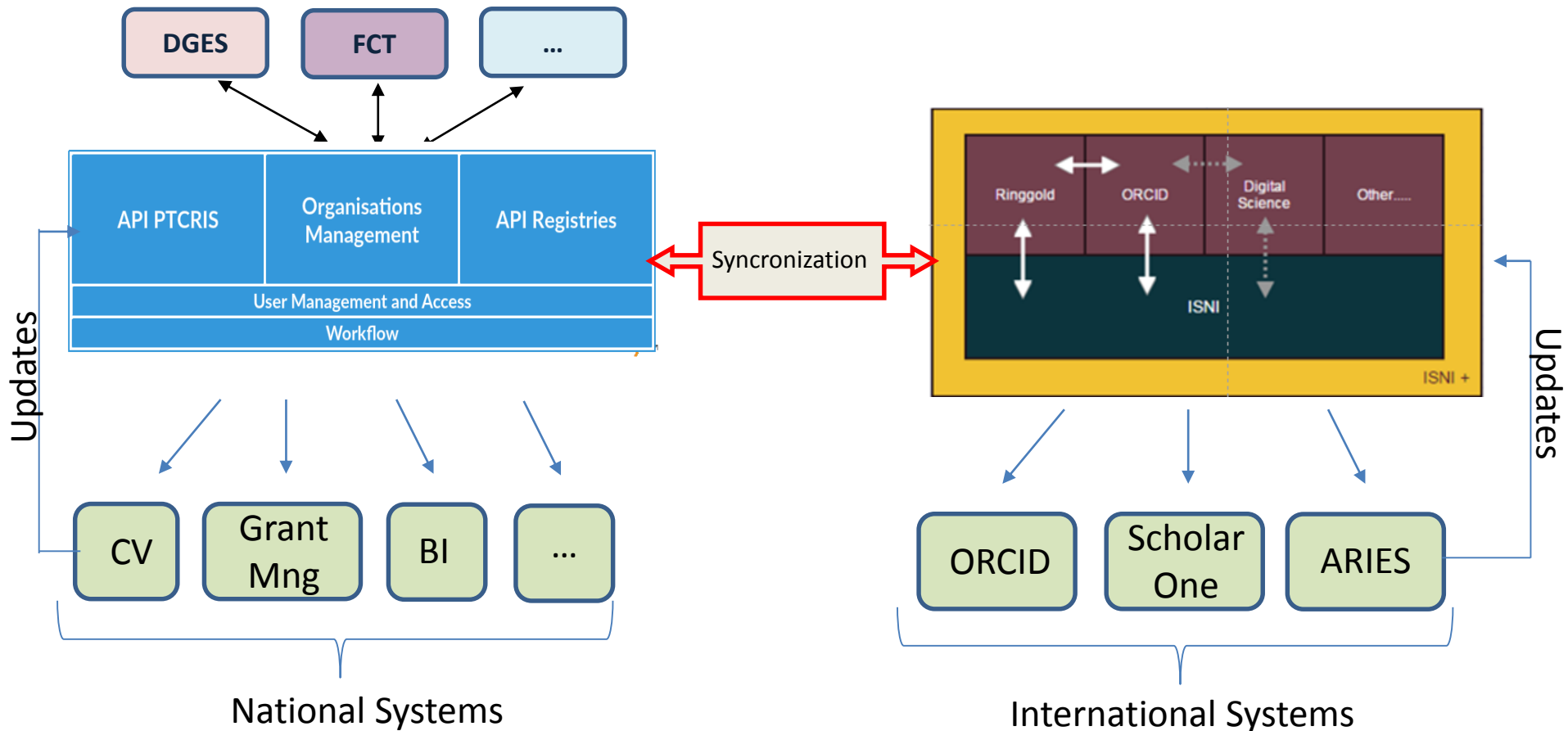
4. Mapping ISNI+/national code

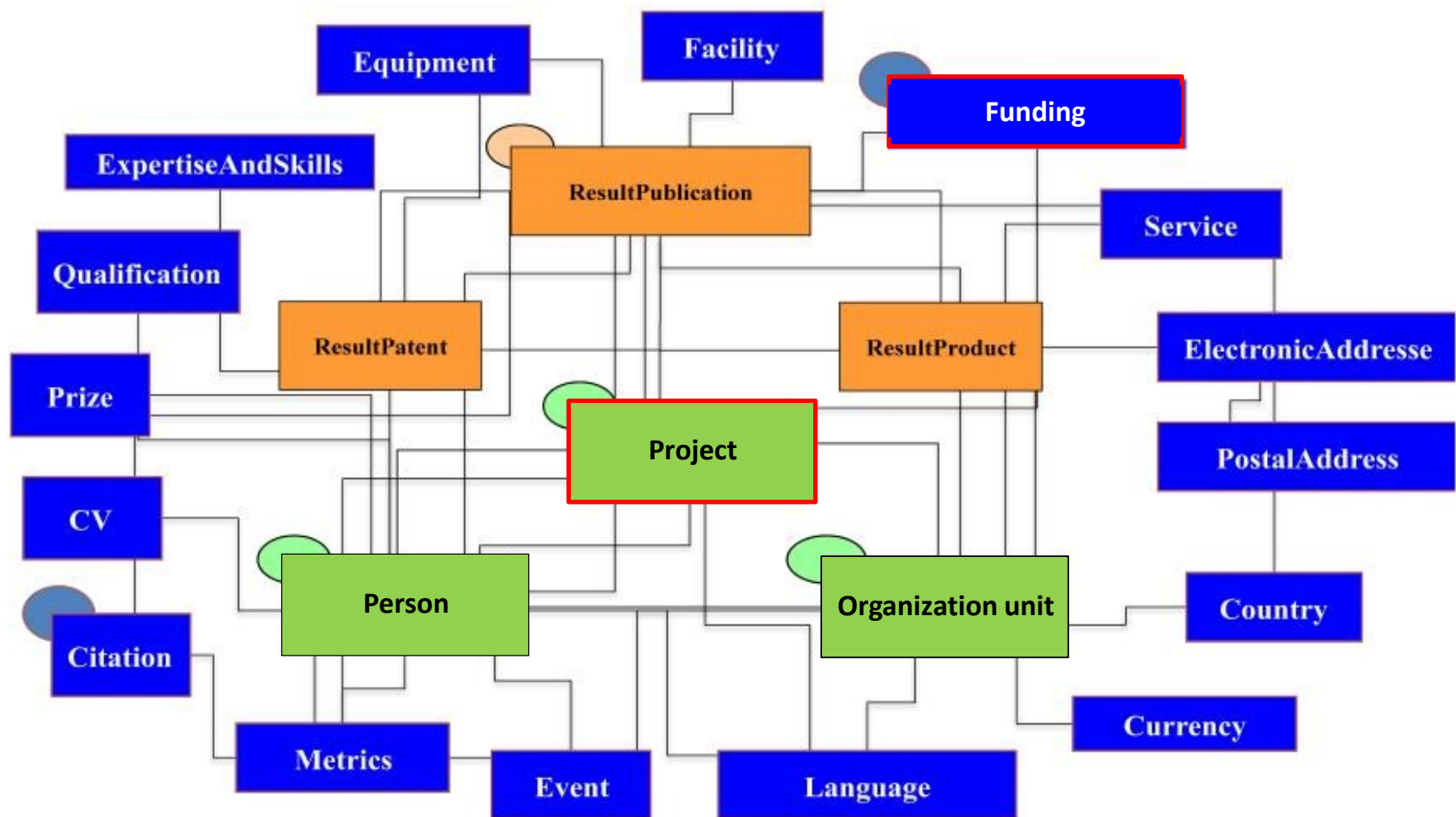


ringgold	ISNI	DGEEC	FCT	NIF
56060	0000000122872414	1512	50013	508910099
70904	0000000121913202		4555	500745684
70988	0000000406321876		4539	
86719	0000000101903701		757	
89237	0000000406209518		50005	506134466
112044	0000000403923425		50012	500825840
112046	0000000403923732		283	
112047	0000000107569687		50014	
112054	0000000121078200		693	
112057	0000000403924698		295	
112148	0000000403934941		50008	502854200
112150	0000000102798114		50021	504547593
112331	0000000403952787		4627	506346064
121429	0000000122228143	904	124	506030636

Future Work– Phase II

- ORG IDs Management System – workflow proposal



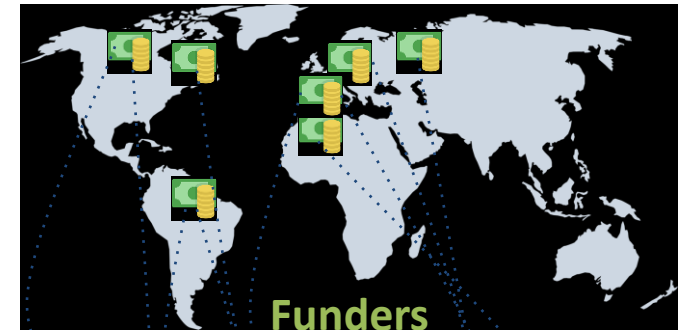


(Some CERIF entities and their relationships – adapted from <http://proj.badc.rl.ac.uk/moles/attachment/wiki/CRIS/cerif-main-structure.jpg>)

Why?

- **Difficult** to associate each researcher's contribution to a final scientific product
- Almost **impossible** to associate each funder's contribution to a final scientific product

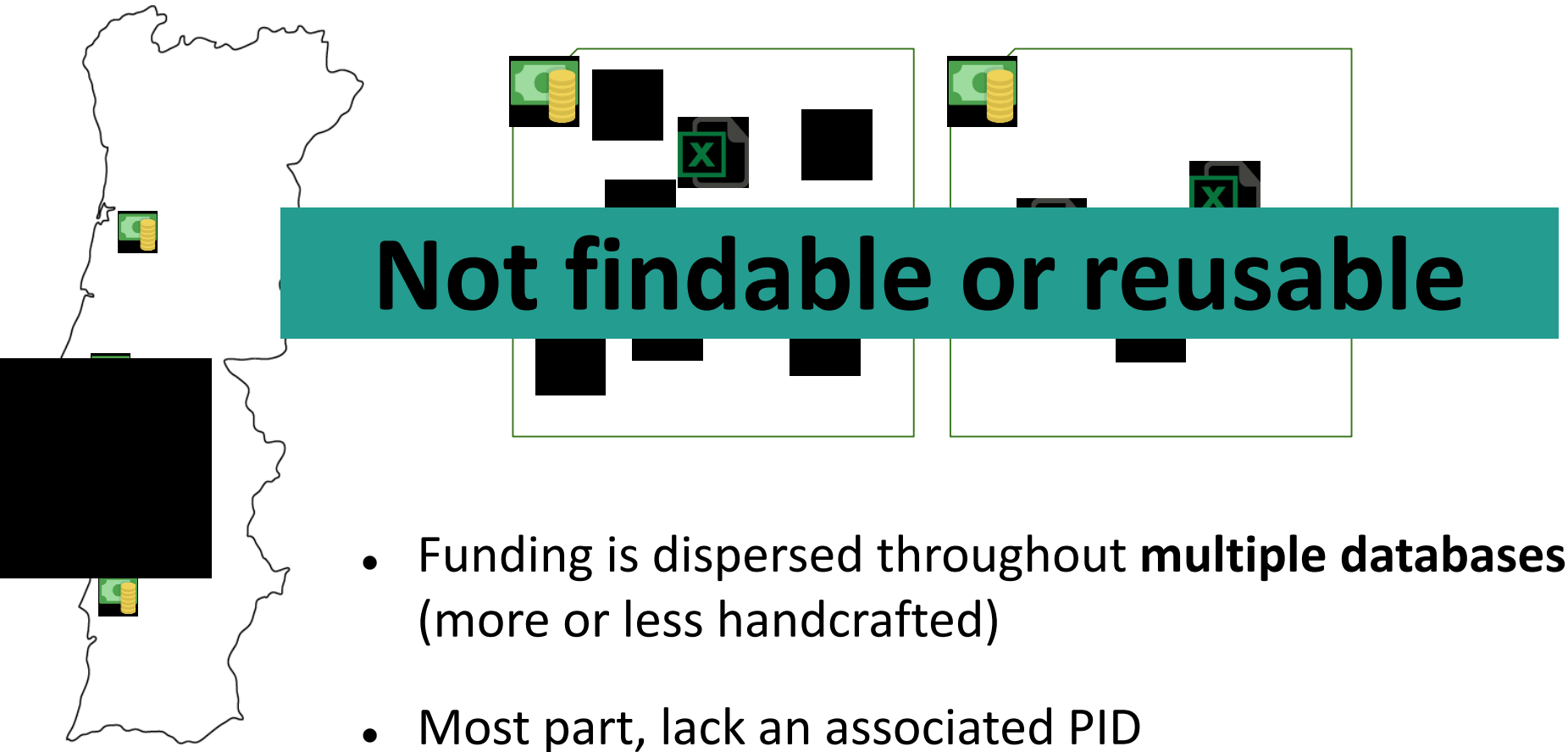
Contribution of the different players to a final scientific product shouldn't appear isolated and disconnected



Scientific Production

Images adapted from pngtree, Freepick, Furlongs.me

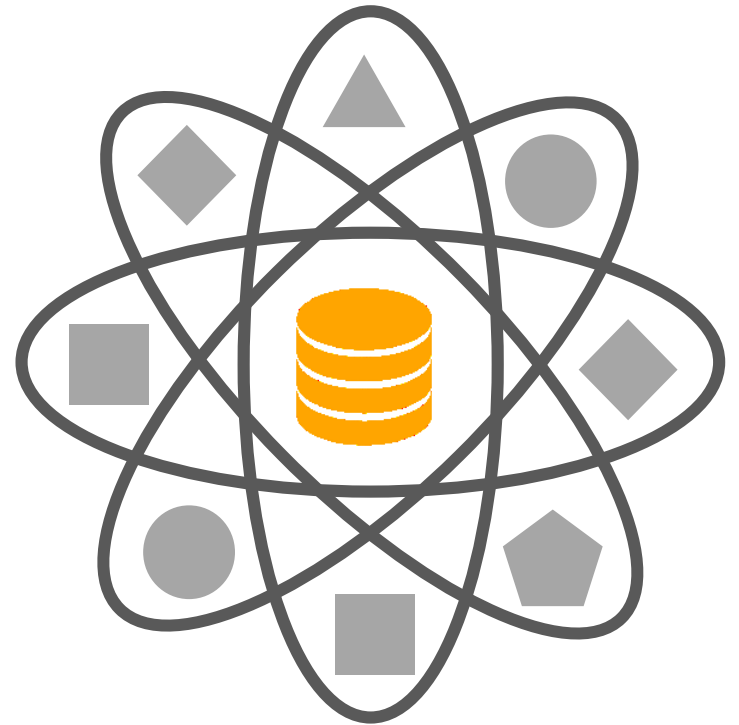
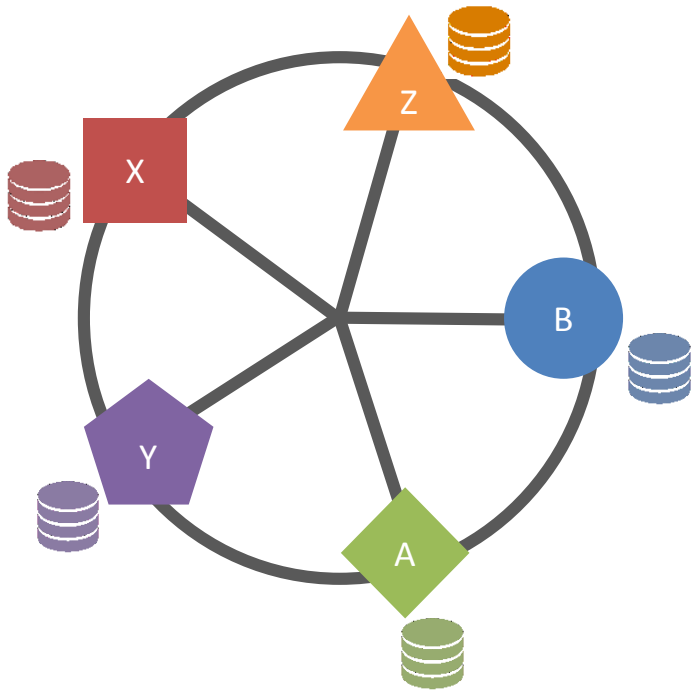
Why?



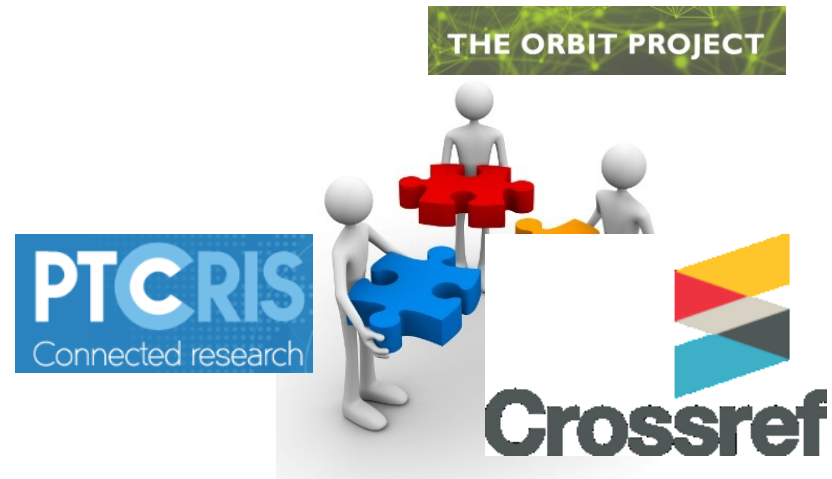
Not findable or reusable

- Funding is dispersed throughout **multiple databases** (more or less handcrafted)
- Most part, lack an associated PID

How?



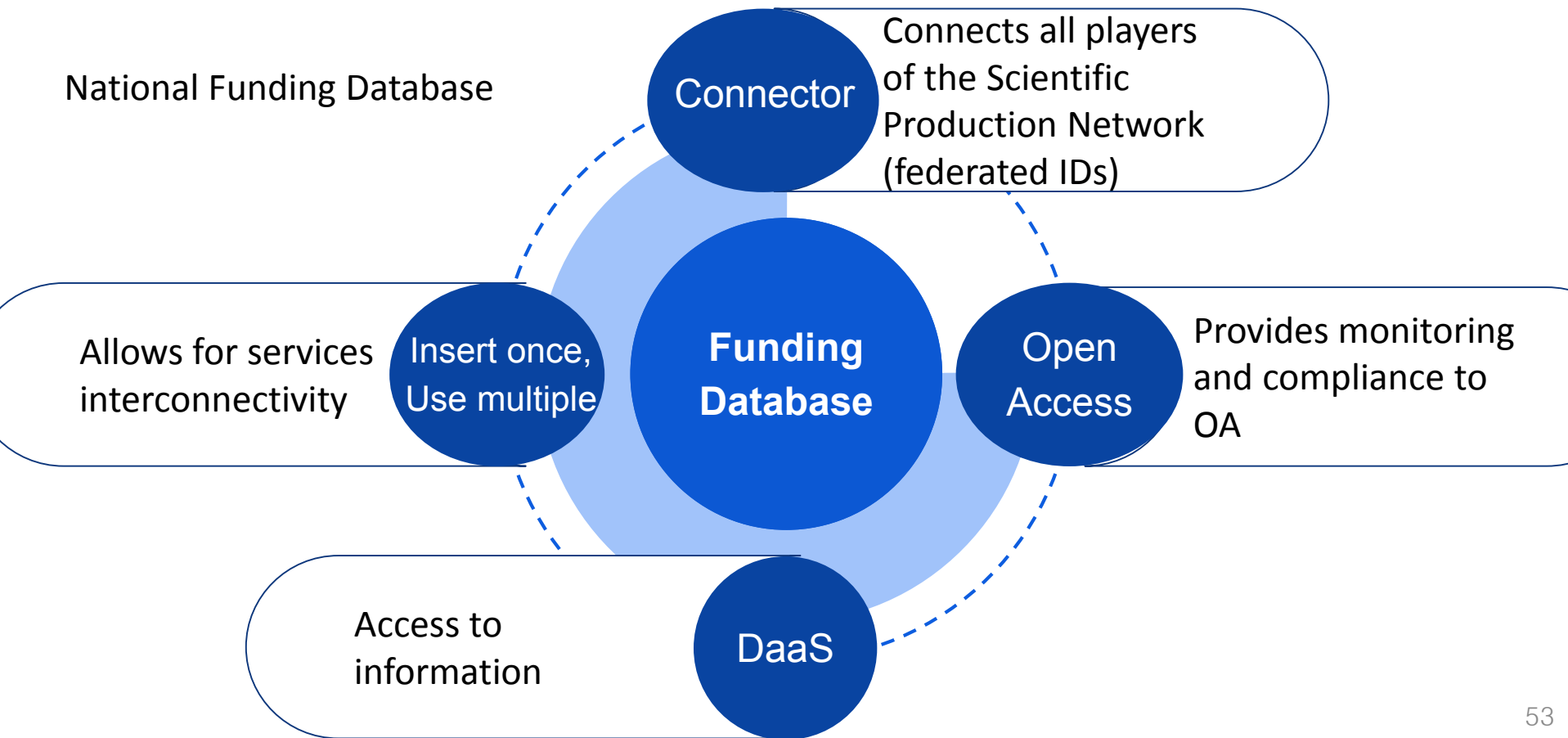
How?



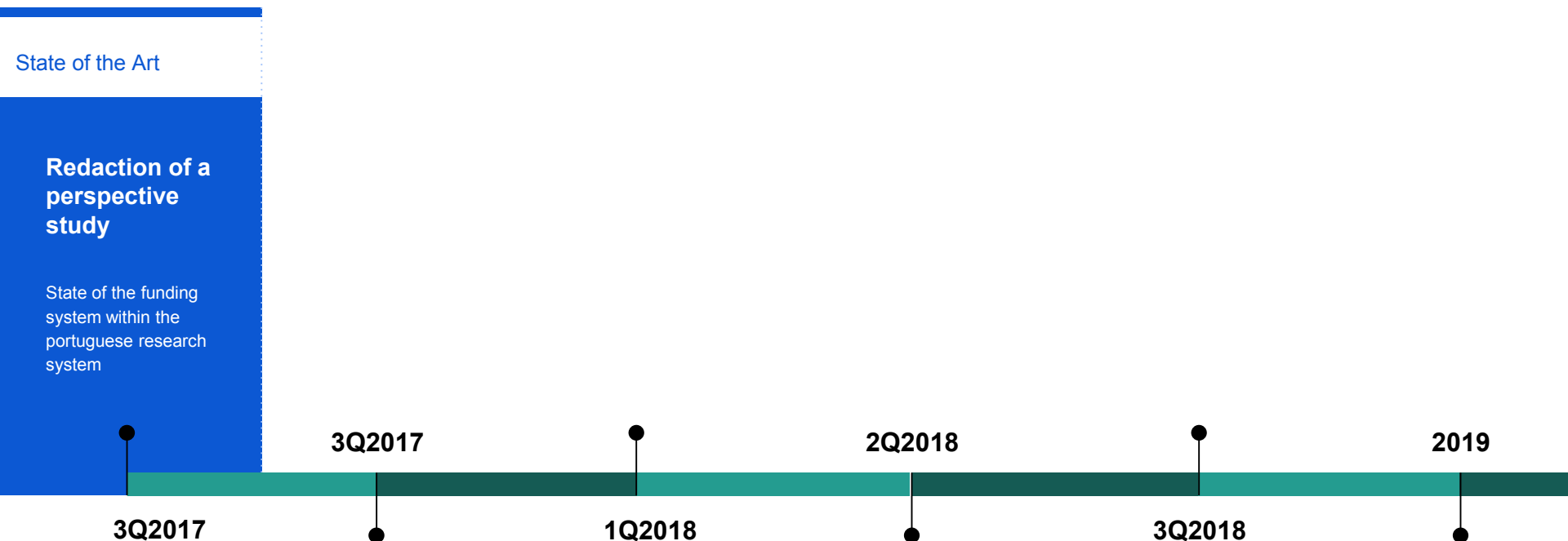
Using **Persistent Identifiers**: allowing for search and reuse

Collaborating in **international initiatives**

What?



What?



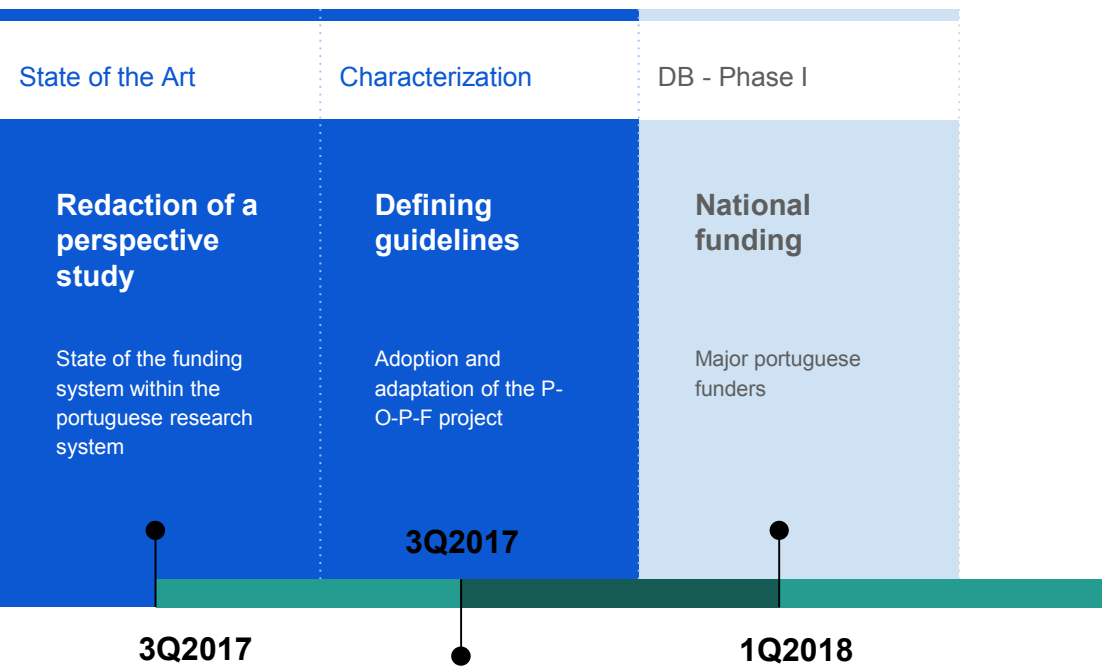
What?

National and International Funders

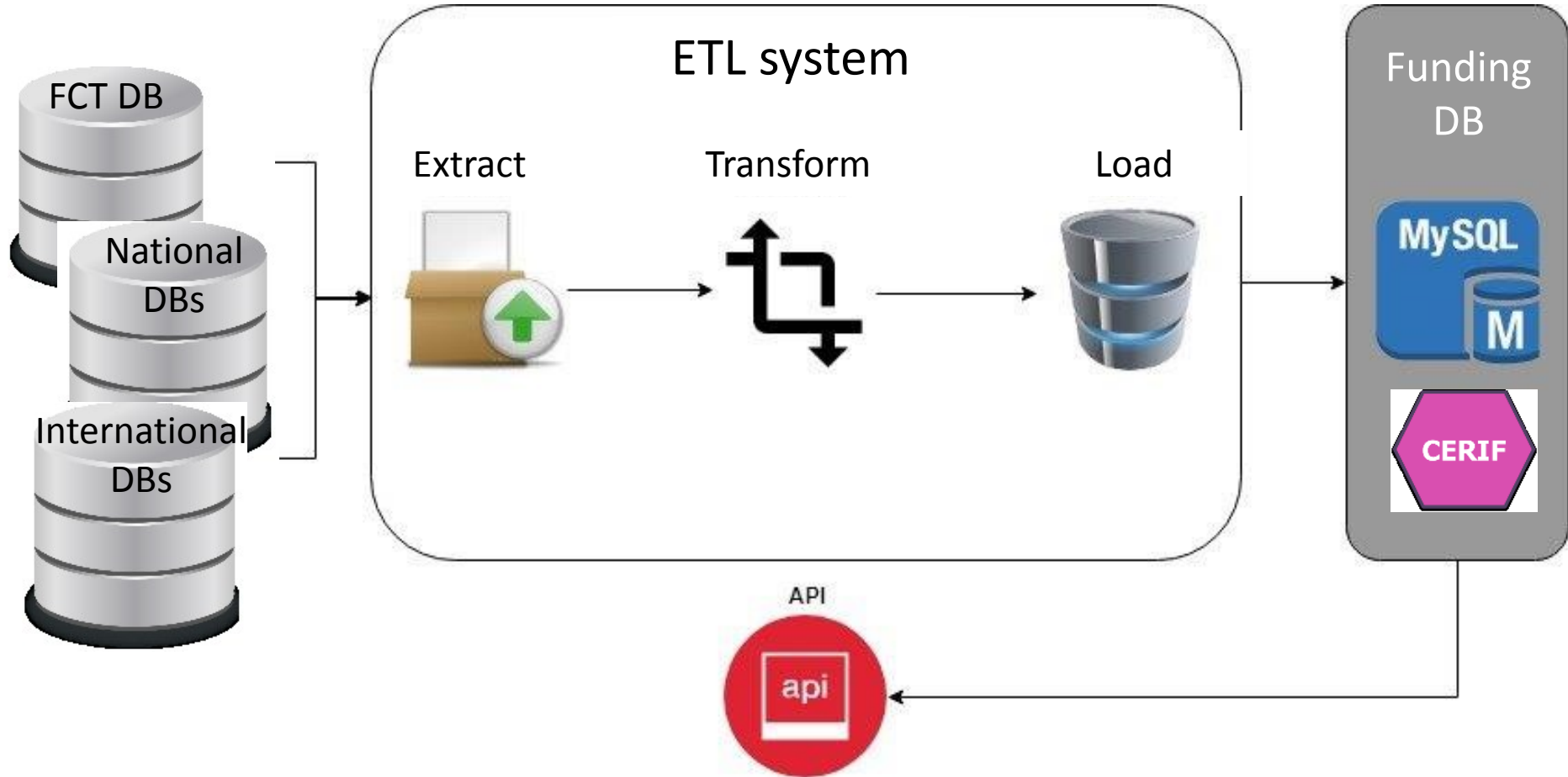


 Nonprofit corporations

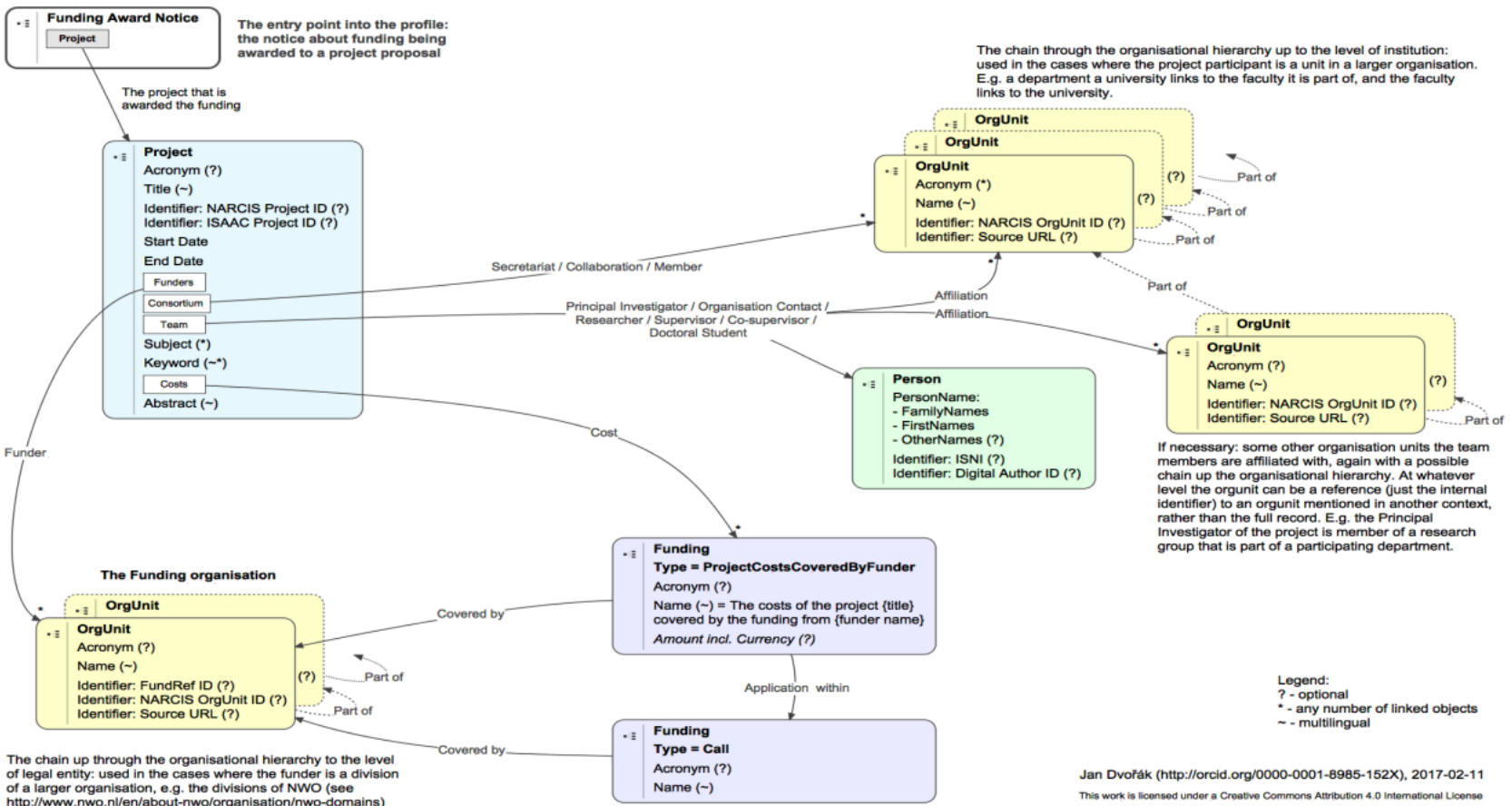
What?



What?



What?



Adopting **P-O-P-F** profile of **CERIF**: one language, many voices

DB – Phase I

**RCAAP** | Repositórios Científicos de Acesso Aberto de Portugal



[Contact](#) [FAQ](#)

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Project/scholarship details

Establishing anti-telomerase therapeutics for invasive melanoma in zebrafish

Project/scholarship ID 116821	Funder FCT - Fundação para a Ciência e a Tecnologia, I.P.	Start date 2012-02-01
Reference PTDC/SAU-ONC/116821/2010	Funder's country Portugal	End date 2015-01-31
FundRef URI http://www.fct.pt/apoios/projectos/consulta/vglobal_projeto.phtml.en?idProjecto=116821&idElemConcurso=4175	Funding program 3599-PPCDT	Date awarded 2011-12-07
	Funding amount 179.505,00 €	

FCT
Fundação para a Ciência e a Tecnologia

FCCN
Comissão Nacional de



Funders of RCAAP:



Ciência, Tecnologia
e Ensino Superior

POS CONHECIMENTO
Programa Operacional Sociedade do Conhecimento



UNIÃO EURO
FEDER

Future Perspectives

Now and Onwards





Connected Research

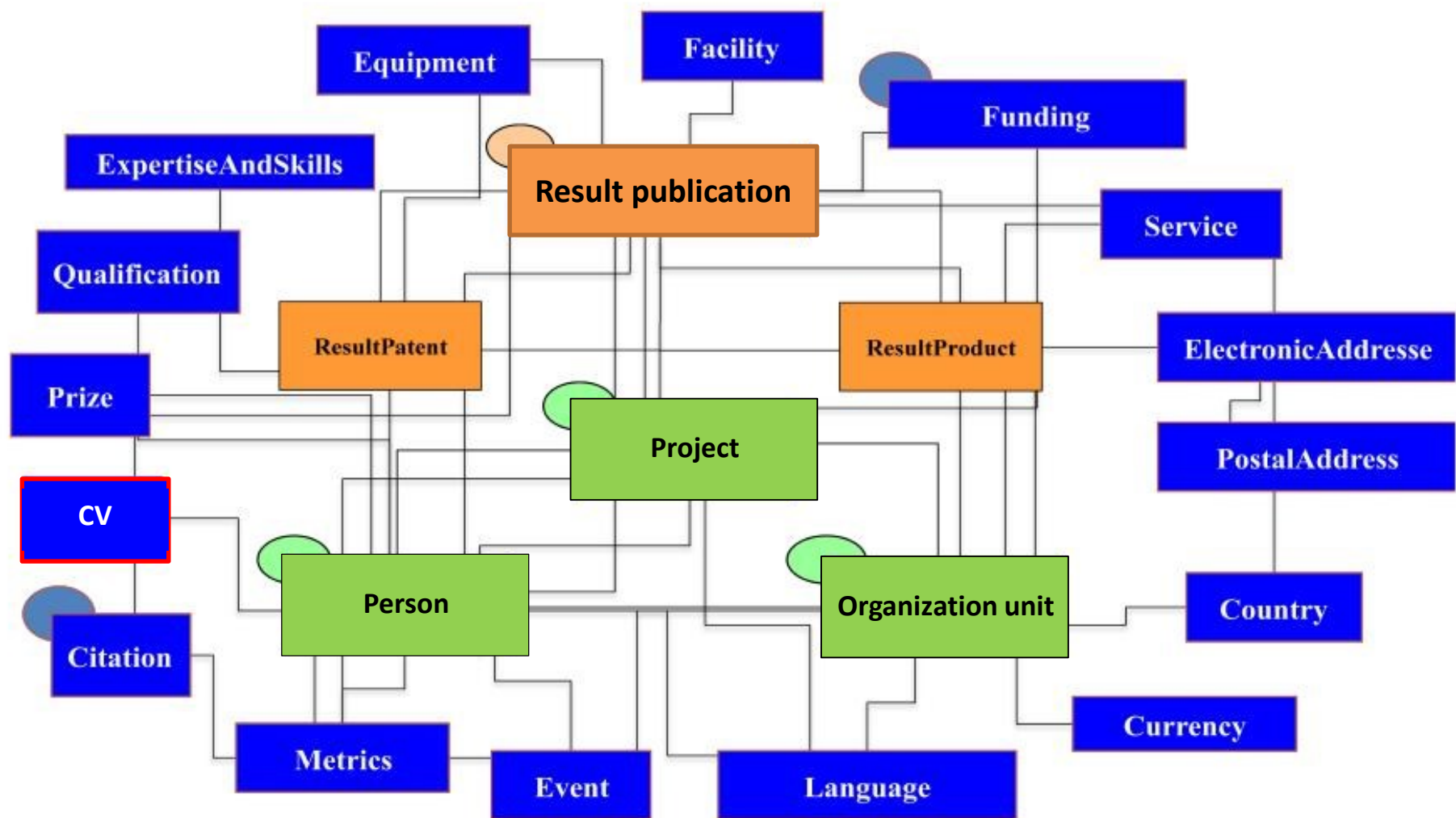
RCAAP integration with PTCRIS

20
anos | **FCT** Fundação
para a Ciência
e a Tecnologia



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PORTUGAL

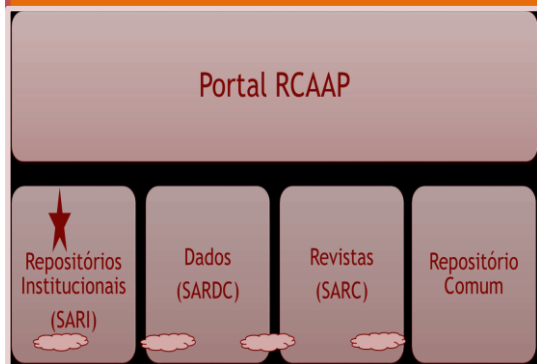
MINISTRO DA CIÊNCIA,
TECNOLOGIA E ENSINO SUPERIOR



(Some CERIF entities and their relationships – adapted from <http://proj.badc.rl.ac.uk/moles/attachment/wiki/CRIS/cerif-main-structure.jpg>)

Mission: promote, support and facilitate **Open access** to the **national scientific production**

Electronic services



> 129 Institutions

Support services



28/52 IRs
55 Shared IR
16/76 Journals

Communication, dissemination and training



~500K docs
>20M downloads

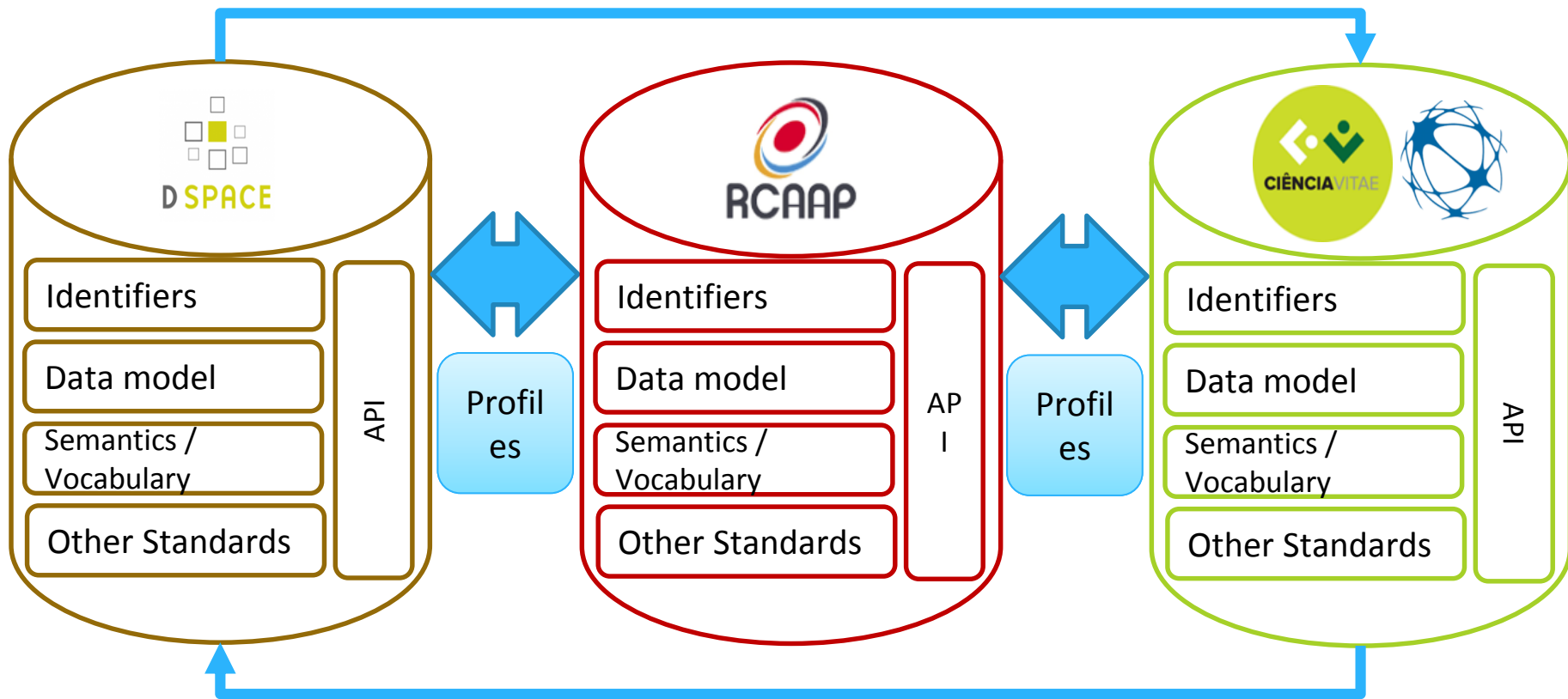
Why integrate?

- To maximize open access practice by providing **appealing**, **interoperable** and **innovative** electronic services
- To increase the visibility of scientific production
- To facilitate deposit process and information circulation and reporting

How – Strategy

- IR and National Portal adopt PTCRIS regulatory framework (protocols and standards)
- Scenario A (short/medium term)
 - Adapt Dspace 5
 - Adapt RCAAP portal (new)
- Scenario B (medium/long term)
 - Lobby / Direct participation on Dspace 7 roadmap in order to early include CRIS functionalities

How – Integration



IR integration roadmap



July / 2018

Ciência ID
Authentication



Authors IDs



OpenAIRE 4.0



November / 2018

IR deposit from
external CRIS systems

IR Deposit

Author Claim



Organizations IDs



National Portal integration roadmap



July / 2018

November / 2018

Import from CV based
on author ID



OpenAIRE 4.0
aggregation



Funding data
management



Author profiles



Integrated search for
entities (P-O-P-F)



CERIF-XML data
exposure



Ciência ID
Authentication



PTCRIS Sync



Results – DSpace

- IR Deposit with author ID

Depo na Autoridade de nomes

Por favor, intr

Introduza os i

Autores

Laranjeira, Cátia
Laranjeira (Teste), Cátia
Laranjeira, Cátia
Valor local 'Laranjeira, Cátia' (não em No

Informação

Adicionar mais



Nome: Laranjeira, Cátia
Variantes: Cátia Laranjeira
Afiliação:
Repositório:
Identificadores:

 CIÊNCIA ID FD16-786E-13CC

 ID 0000-0003-3952-8294

 Scopus 23091392500

Aceitar

Ver Mais Resultados

Cancelar

Results – DSpace

- OpenAIRE 4.0 guidelines

Metadata

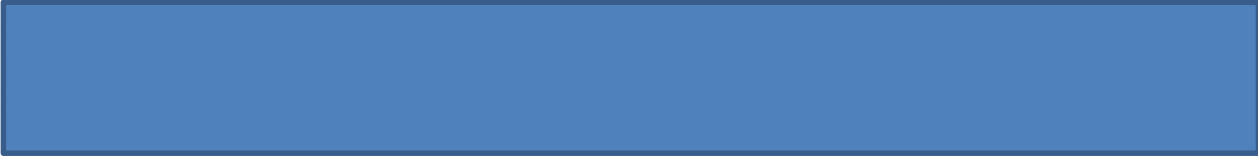
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<resource xsi:schemaLocation="http://openaire.eu/schema/v4 file:/home/schirrwagen/workspace/git/gitlab/openaire
/lit_guidelines_v4_preview/schema/openaire-v4.xsd">
  <datacite:creator>
    <datacite:creatorName>Laranjeira, Catia</datacite:creatorName>
    <datacite:givenName>Catia</datacite:givenName>
    <datacite:familyName>Laranjeira</datacite:familyName>
    [REDACTED]
  </datacite:creator>
  <datacite:contributor contributorType="HostingInstitution">
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schemeURI="mailto:webmaster@rcaap.pt">webmaster@rcaap.pt</datacite:nameIdentifier>
  </datacite:contributor>
  <datacite:relatedIdentifier relatedIdentifierType="URL">https://dev4.rcaap.pt/jspui/handle/123456789/1465</datacite:relatedIdentifier>
  <datacite:date />
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  <dc:date>2018</dc:date>
  <dc:type rdf:resource="http://purl.org/coar/resource_type/c_1843">other</dc:type>
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  <dc:rights>http://purl.org/coar/access_right/c_abf2</dc:rights>
  <version />
  <file mimeType="application/pdf" objectType="fulltext">https://dev4.rcaap.pt/jspui/bitstream/123456789/1465/1
/20180323_Multicare_Fev_2018.pdf</file>
</resource>
```

Results – New RCAAP Portal

- OpenAIRE 4.0 guidelines aggregation with authors IDs

Document details

O RCAAP e a evolução do Acesso Aberto em Portugal



Description

O livro completo encontra-se disponível em: <http://hdl.handle.net/1822/26144> Este capítulo visa apresentar a génese e evolução do projeto Repositório Científico de Acesso Aberto de Portugal (RCAAP). A primeira parte contém uma descrição sumária da evolução do Acesso Aberto em Portugal, os objetivos iniciais, serviços disponibilizados e a evolução do projeto RCAAP. A segunda parte apresenta vários indicadores do RCAAP que atestam a sua evolução e o aumento de visibilidade e reconhecimento, quer a nível nacional, quer a nível internacional e destaca alguns dos principais objetivos alcançados. Finalmente apresentam-se algumas perspetivas de trabalho futuro a realizar durante o ano 2013/2014 e os principais desafios esperados no médio/longo prazo. This chapter aims to present the genesis and evolution of the project "Scientific Open Access Repository of Portugal" (RCAAP). The first part contains a brief description of the evolution of open access in Portugal, the initial objectives, services offered and the evolution of the RCAAP project. The second part presents several indicators from RCAAP that attest is evolution and increasing visibility and recognition, both nationally, or internationally, and highlights some of the main goals achieved. Finally we present some perspectives for future work to be carried out during the year 2013/2014 and the main challenges expected in the medium/long term.

Document Type
Book

Language
Portuguese



Results – New RCAAP Portal



- Data exposure (CERIF POPF profile)

project-popf-controller : Project POPF Controller

Show/Hide | List Operations | Expand Operations

GET /api/v2/popf/projects

findAll

Response Class (Status 200)

string

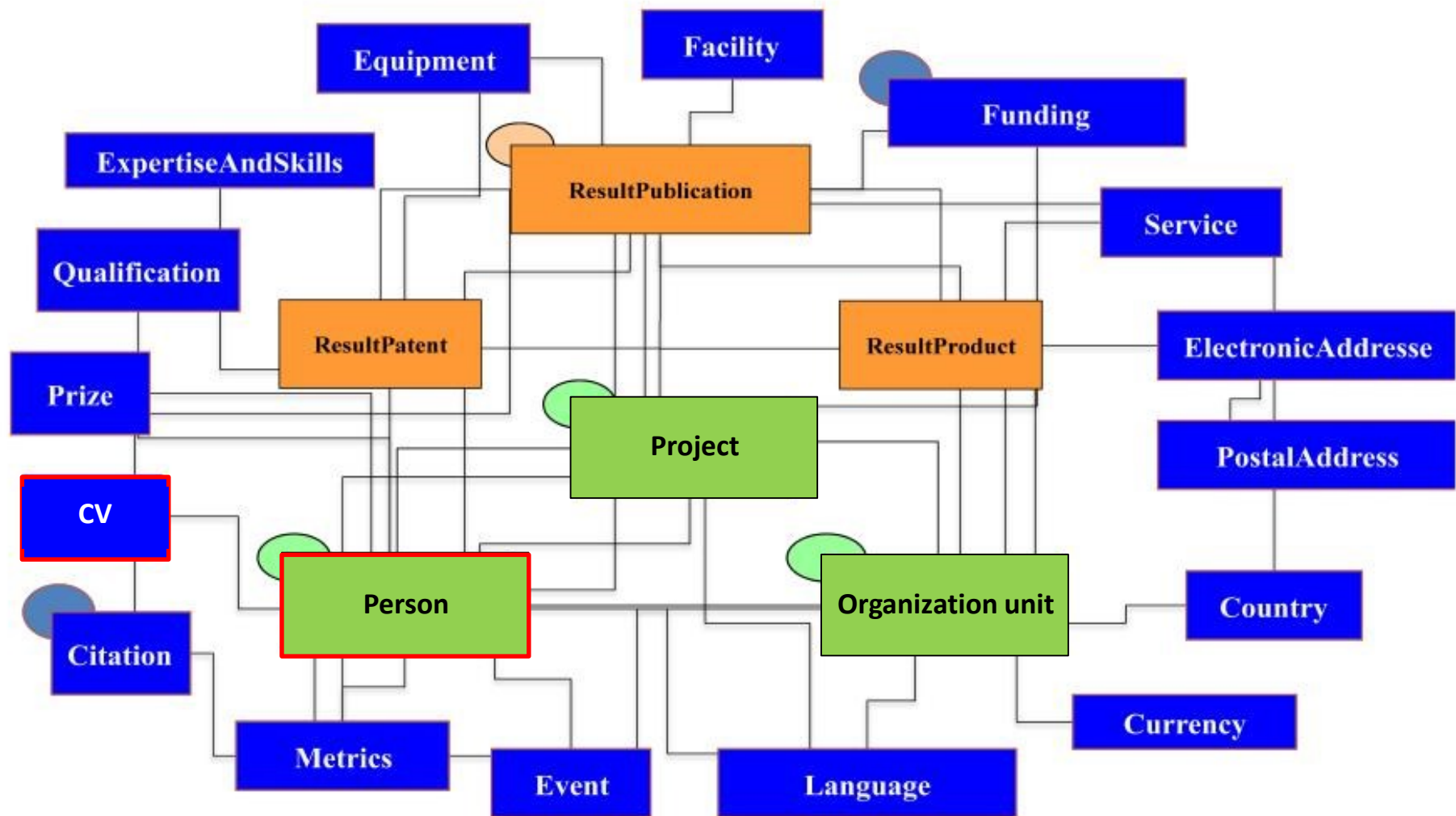
Response Content Type

Response Body

```
<Funding xmlns="urn:xmlns:nl:pop-project:cerif-profile-1.0-EXPERIMENTAL"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:xmlns:nl:pop-project:cerif-profile-1.0-EXPERIMENTAL ./schemas/p-o-p-profile-schema.xsd">
  <Project id=55095>
    <Title xml:lang="en">[From relativistic shocks to ultra intense lasers: igniting discovery in High Energy Density Science]<
    <Acronym>POCI/FIS/55095/2004</Acronym>
    <Identifier type="urn:xmlns:nl:pop-project:vocab:IdentifierTypes#source-url"[http://www.fct.pt/apoios/projectos/consulta/vglc
    <StartDate>Thu Sep 01 01:00:00 WEST 2005</StartDate>
    <Amount>86000.0</Amount>
    <Funders>
      <Funder>
        <OrgUnit id="240624">
          <Acronym>FCT</Acronym>
          <Name xml:lang="en">Foundation for Science and Technology</Name>
```

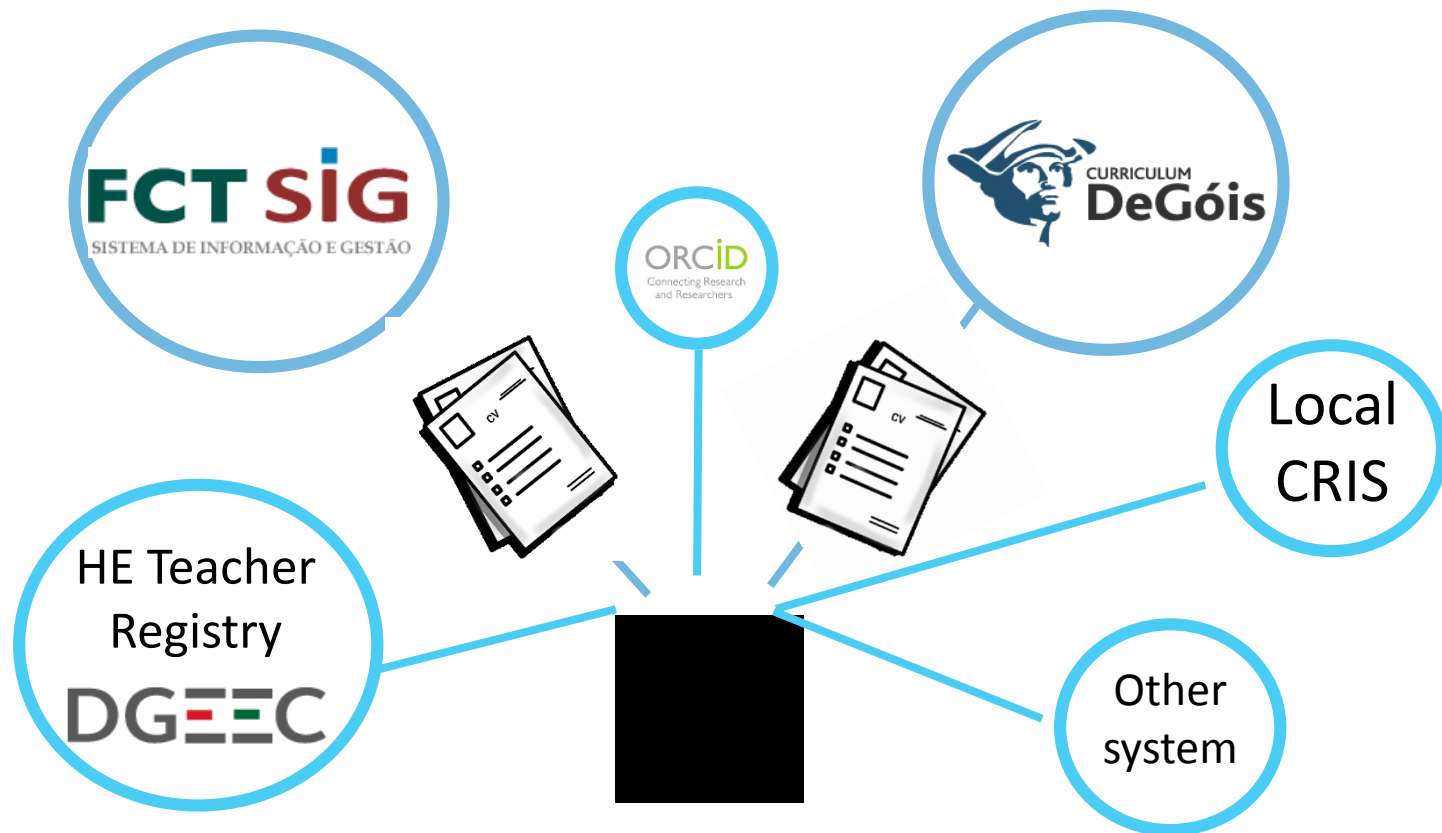
Future work

- Improvements on developed functionalities;
- Dspace 7 development collaboration;
- New services based on systems integration.



(Some CERIF entities and their relationships – adapted from <http://proj.badc.rl.ac.uk/moles/attachment/wiki/CRIS/cerif-main-structure.jpg>)

Why?



Vison / Misson



[Início](#) [Estudante ID](#) [Ciência ID](#) [Ciência Vitae](#)

Porque a nossa vida é a Ciência

Racionalidade, simplificação, desburocratização



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15 **One CV**

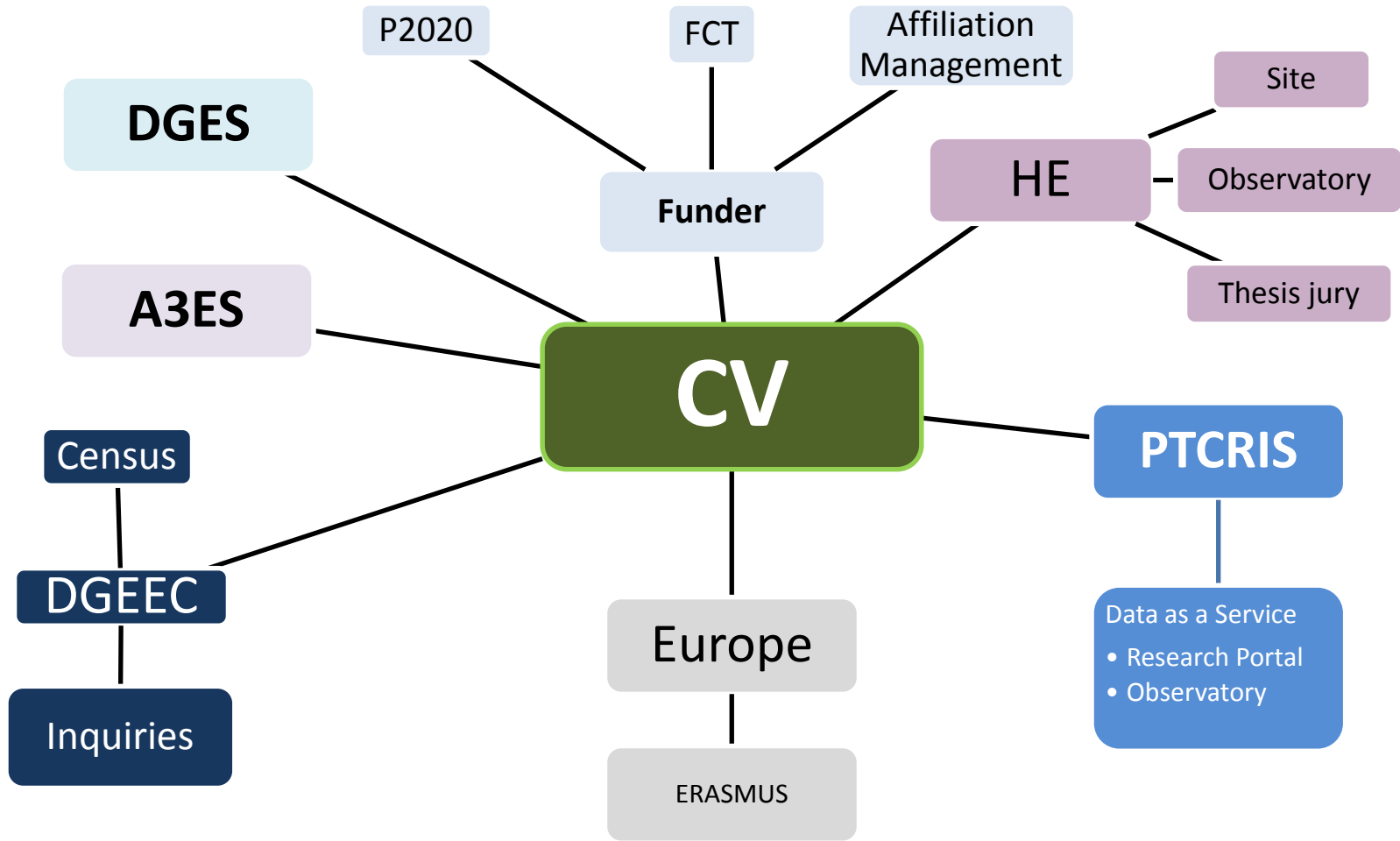
**Customise****Integrate****Promote**

One CV

– Register once, reuse often –



One CV



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15 **One CV**

**Customise****Integrate****Promote**

Customised CV

– Adapt according to your needs –



Customise

 **CIÊNCIAVITAE**

Cátia Laranjeira

 Unpublished



IDENTIFICATION

EDUCATION

AFFILIATION

PROJECTS

PRODUCTIONS

ACTIVITIES

DISTINCTIONS

Export curriculum



Export format

- ☒ PDF
- ☐ Microsoft Word (DocX)
- ☐ RTF
- ☐ XML

Save configuration to use in future exports?



Curriculum model

- ☒ Full
- ☐ Custom

Period

- ☒ All the period
- ☐ Custom
- ☐ Customized by area

Order of presentation

- ☐ Ascending
- ☒ Descending
- ☐ Custom

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One CV



Customise



Integrate



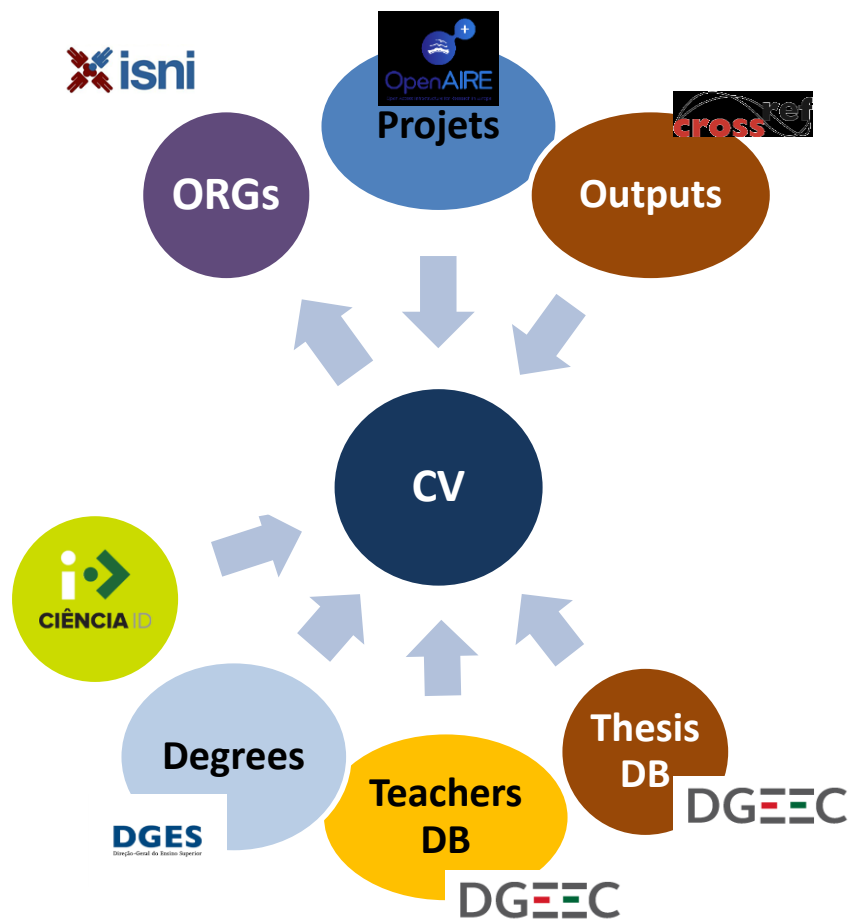
Promote

Integrated CV

– Gather your info from multiple sources –



Integrate



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One CV



Customise



Integrate



Promote

Public CV



Promote

Share:

Find CVs

Researcher name

SEARCH

 Search in 93 researchers with published curriculum
Minimum of 3 characters for search

Found 2 curricula



Cátia Laranjeira

Cátia Laranjeira.

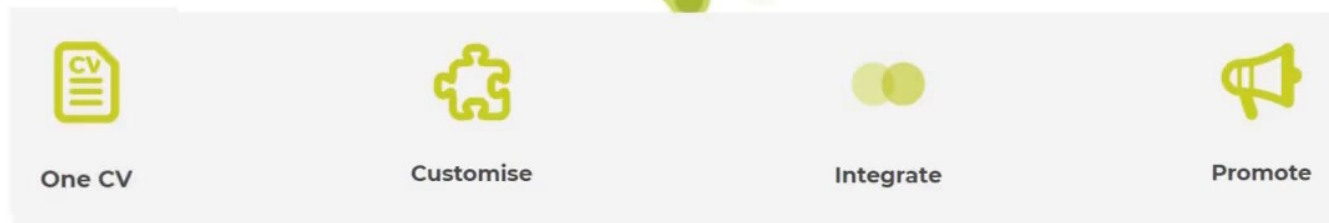
[View curriculum](#)



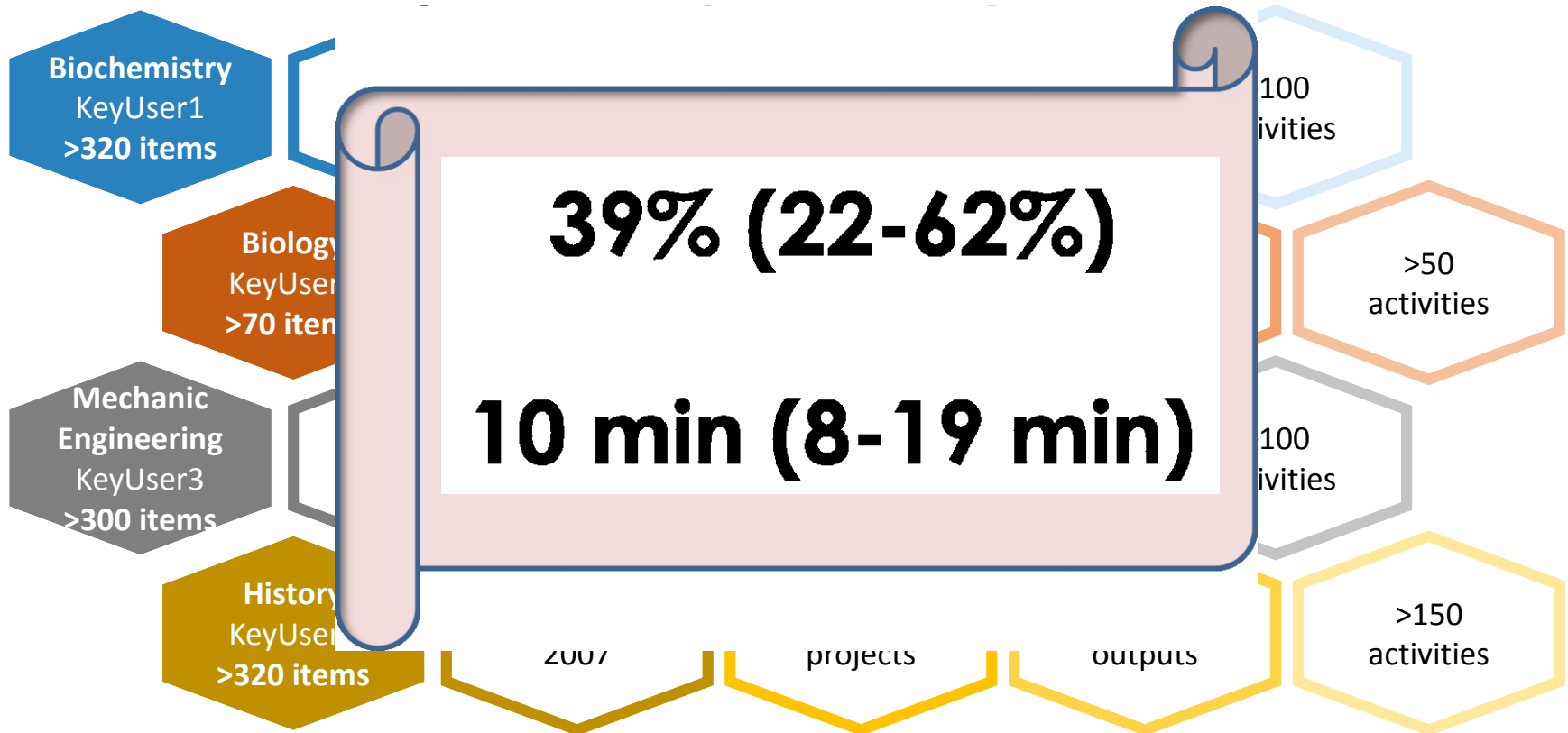
Cátia Laranjeira teste

[View curriculum](#)

Demo – Creating a CIÊNCIA VITAE



Ciência Vitae: quick and easy



Conclusions

- Managing research information effectively = managing CRIS ecosystem
- A CRIS ecosystem requires solid foundations (CRIS for managing basic entities)
- A regulatory framework is key to insure integration / interoperability
- Standards organizations are key for PTCRIS
- The definition and adoption of a regulatory framework can be made in a step by step approach
- Kits and frameworks can speed up its adoption

Future work

- Release national CV platform: Ciência Vitae
- Continue the development of structural pillars
- Move on with:
 - regulatory framework
 - adoption in national CRIS
 - adoption in local CRIS
- Develop new services
 - Research Portal (VIVO?)
 - Business Intelligence



Connected Research

Questions ?

20
anos

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