CERIF for Knowledge Graphs
Common European Research Information Format

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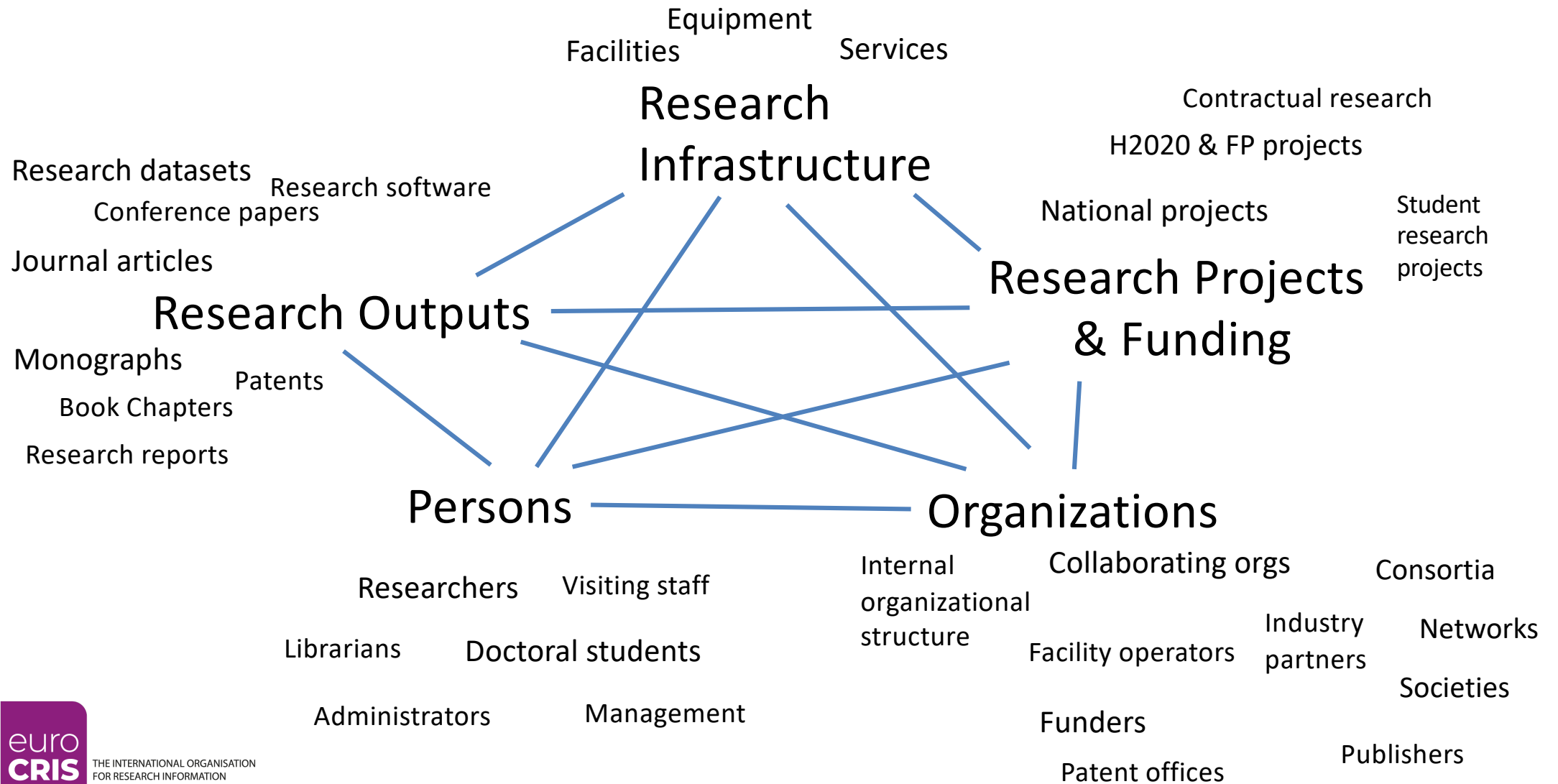euro CRIS THE INTERNATIONAL ORGANISATION FOR RESEARCH INFORMATION

Current Research Information System

A system to help collect, manage, document, report on and disseminate information on research activities done:

- at an **Institution**
- with funding from a **Funder**
- by institutions in a country / region (**governmental**)
- using a **Research Infrastructure**

Current Research Information System contents

Equipment
Facilities
Services

Research Infrastructure

Research datasets
Research software
Conference papers
Journal articles

Contractual research
H2020 & FP projects
National projects
Student research projects

Research Outputs

Monographs
Patents
Book Chapters
Research reports

Research Projects & Funding

Persons

Organizations

Researchers
Visiting staff
Librarians
Doctoral students
Administrators
Management

Internal organizational structure
Collaborating orgs
Consortia
Facility operators
Industry partners
Networks
Funders
Societies
Patent offices
Publishers

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CERIF: The Comprehensive
Data Model for Research Information

Entities

— Projects, Organisations, Persons, Funding, Research Outputs, Events, Research Facilities, Equipment, Services, Skills, Prizes, Indicators, …
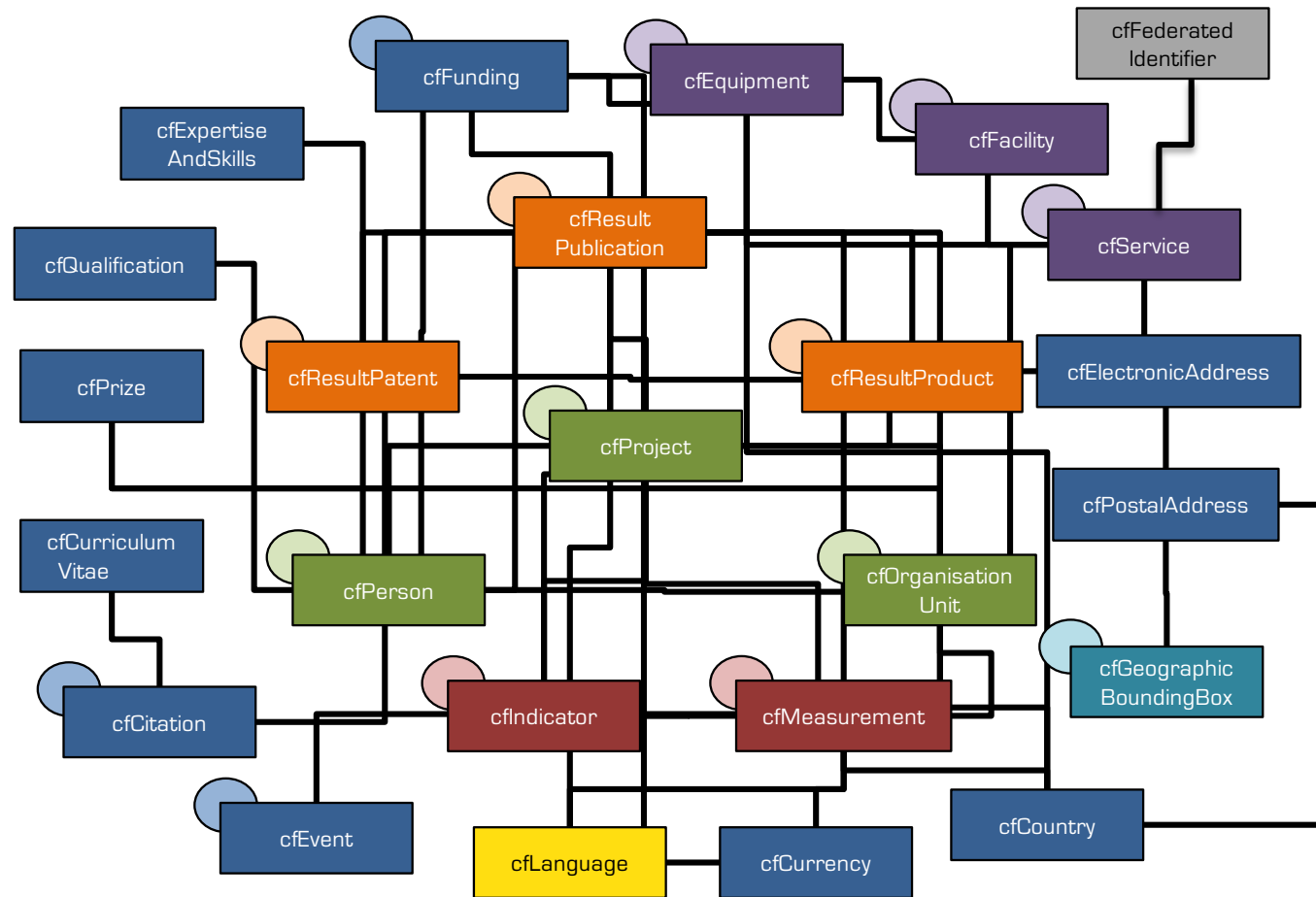
— 25 in total

Attributes

— Just the basic ones

— Multilingual free-text ones

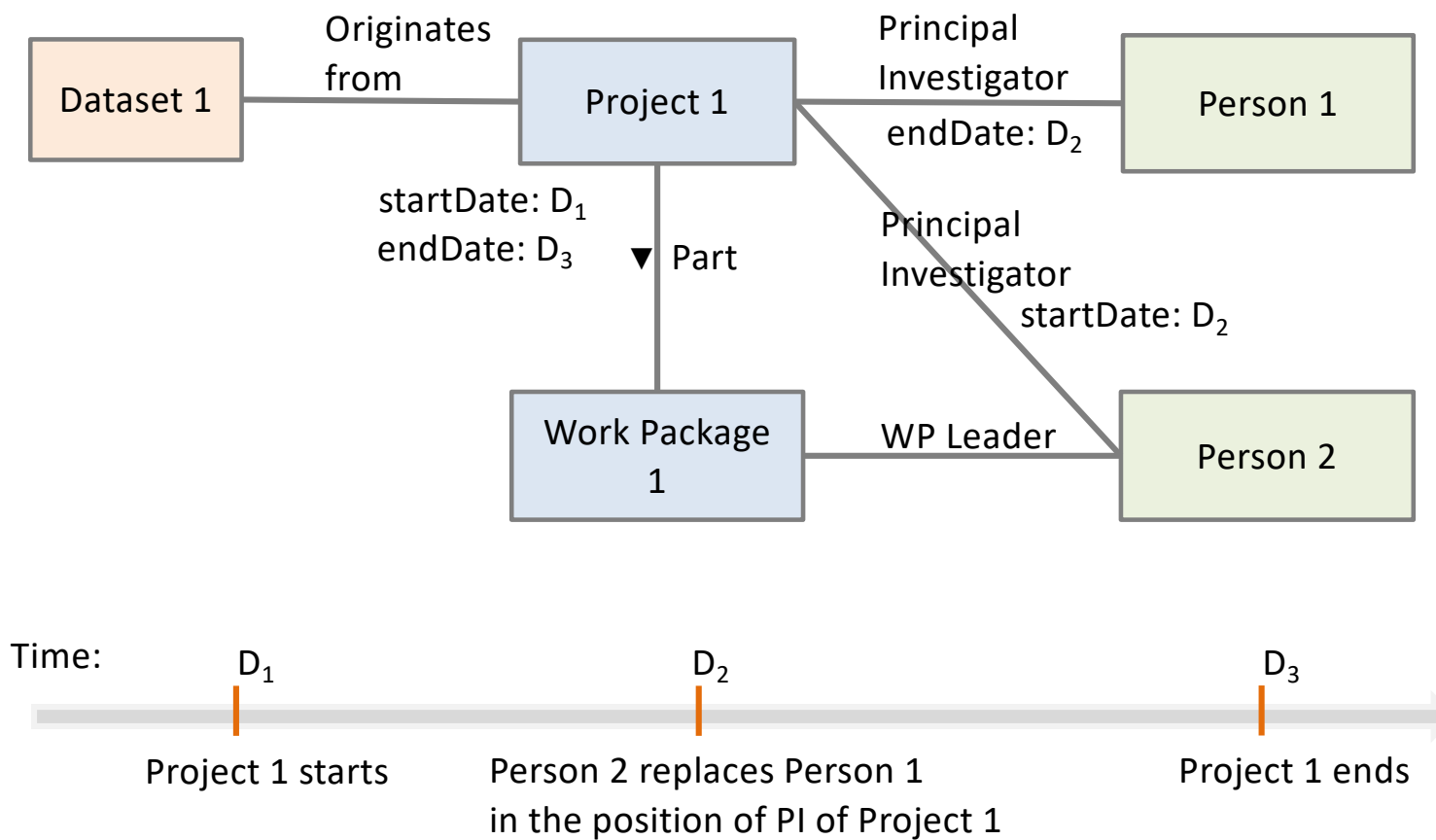— External identifiers (DOIs, ORCID iDs, ROR Ids, …)

Relationships

— Formalized semantics for the type of relationship

— Generally many-to-many
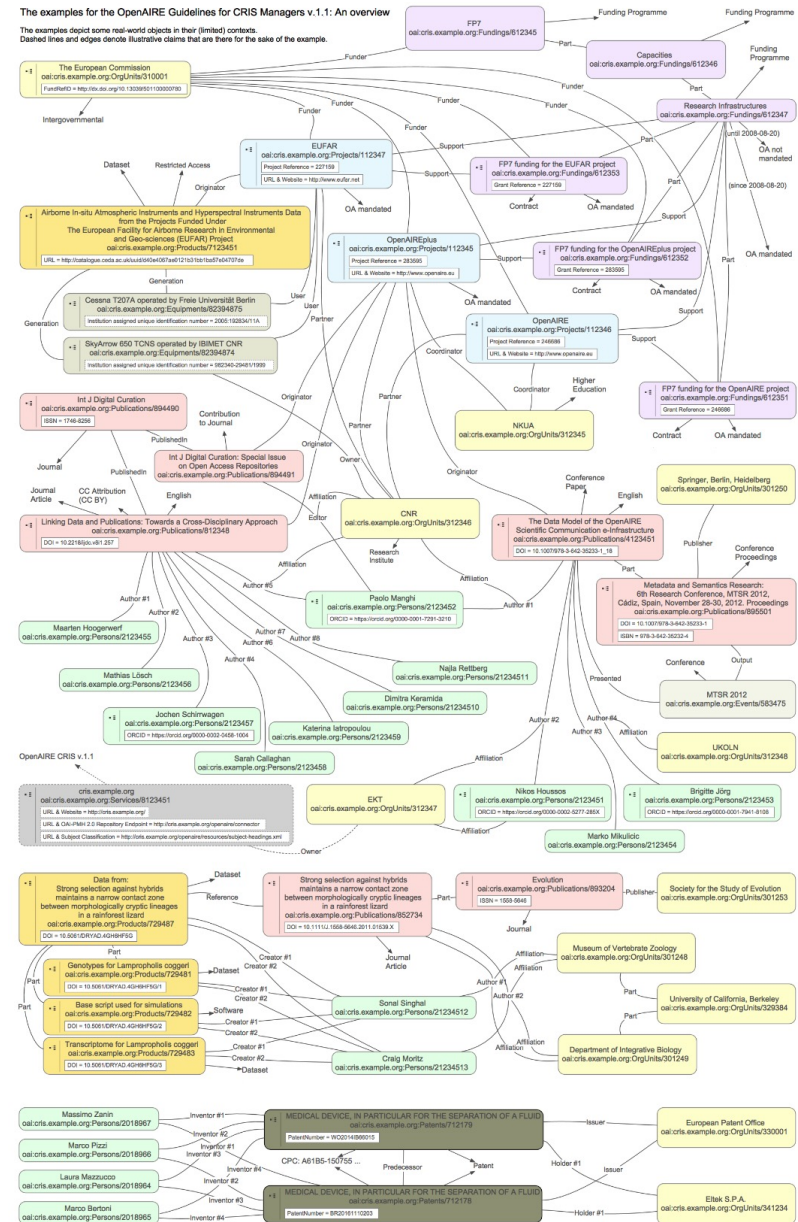
— Optional startDate + endDate

CERIF 1.6

CERIF Example

A CERIF Research Graph
The example from the
OpenAIRE Guidelines for CRIS Managers 1.1

https://doi.org/10.5281/zenodo.2316420

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The examples for the OpenAIRE Guidelines for CRIS Managers v.1.1: An overview

The examples depict some real-world objects in their (limited) contexts.
Dashed lines and edges denote illustrative claims that are there for the sake of the example.

CERIF for Research Graphs

- Nodes
  - Identifiers
  - Types
  - Names
  - Descriptions
  - States (time-based)
  - Subject classifications
  - ...

- Edges
  - Binary links
  - Explicit semantics
  - Optionally time-based
    (startDate + endDate)

Project, Organization, Person, Publication, Patent, Product (incl. Dataset), Event, Funding, Facility, Equipment, Service, Expertise&Skill, ...

But we need to go beyond that…

CERIF REFACTORING

Binary links not always sufficient

- Affiliations of contributors to research outputs
- Participation in a specific capacity

This gives additional context to the typical links of Person / OrgUnit towards something else

And also quantitive statements sometimes have a broader context than just two dimensions

CERIF AffiliationStatement

To give context to the Person / OrgUnit in his/her/its Activities, in this case a Membership.

Person   OrgUnit

Person is member

Person is member, the person is affiliated to OrgUnit

OrgUnit is member, representented by Person

OrgUnit is member, representented by Position

OrgUnit is member

Where does the person come from? Why are they there?

Who represents the orgunit? Who should we talk to?

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<u>Current</u> Research Information Systems

- Research planning
  - Funding call descriptions   --> Funding applications
  - Research Infrastructure descriptions --> Research Infrastructure usage proposals
  - Evaluation outcomes
- Ongoing research
  - Reporting
- Past research of current interest

euroCRIS Strategic Membership Meeting

November 30–December 2, 2022 @ Nijmegen, The Netherlands