



# PID Policy & Implementation: 2 years of an EOSC Association Task Force

**Tibor Kálmán**  
GWDG

*tibor.kalman@gwdg.de*



**Themis Zamani**  
GRNET

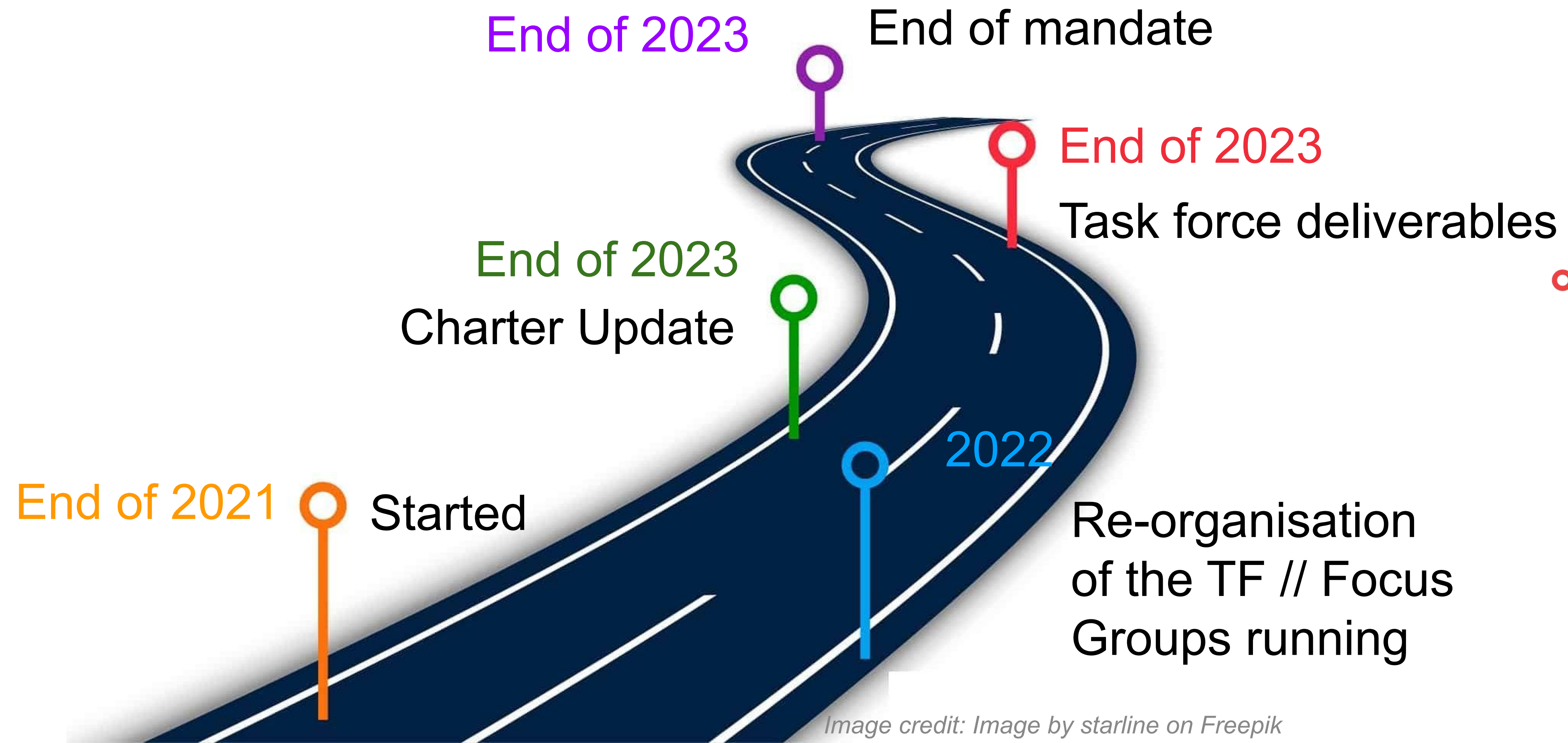
*themis@grnet.gr*



Co-funded by  
the European Union



# The Journey

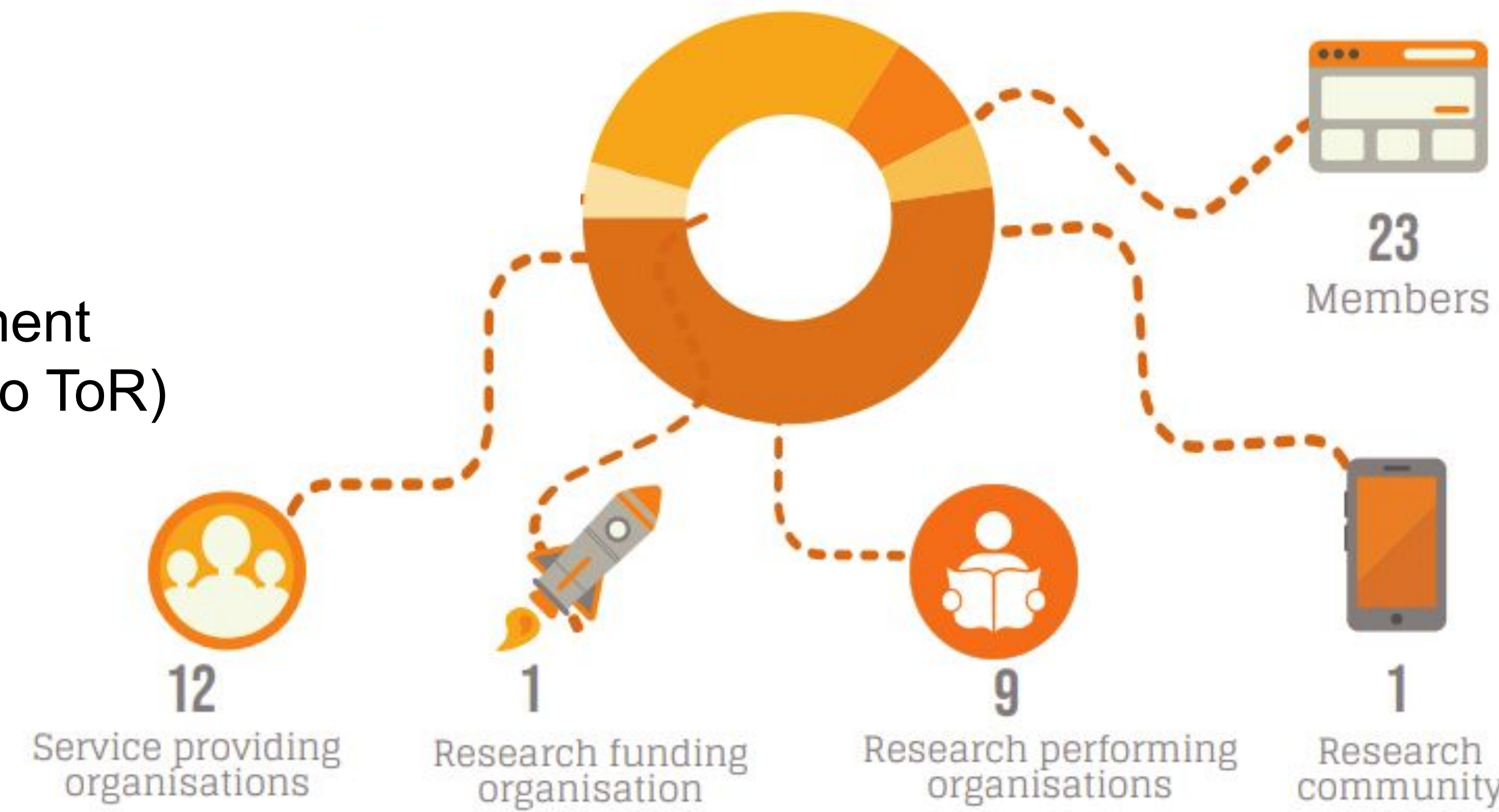




# How the journey started



EOSC PID Policy document  
EOSC PID Architecture document  
TF Charter (2023 ⇒ updated to ToR)  
SRIA



■ A balanced group of PID users , PID experts (including technology and domain experts), and PID Providers.

# Task Force Goals

## TF main work

### Objectives

1. Provide input based on identified gaps in the PID ecosystem (i.e SRIA, MAR);
2. Monitor and provide community feedback
3. Make recommendations to the EC via the EOSC Association for the integration of PID services in the EOSC ecosystem, its implementation and test.

### The “core activities”

1. **Liaison**, **monitoring** and **collaboration** with the relative initiatives
2. Identify and describe both emerging and standardised identifiers for resource types
3. Global PID resolution
4. Type definitions for the most common data formats or building blocks.
5. Observe, give feedback & comments EOSC PID Graph
6. Criteria against which PID will be certified eventually to be implemented by tools supporting the certification of PID infrastructure against the EOSC PID Policy.
7. Best practices and PID use cases



# PID TF: Activities



## Focus Groups

### Group A: Mapping current PID-related activities

- A subset of PID types that could be the primary focus for EOSC
- A list of PID-related projects and providers.

| Short name        | Long name                                               | Official page                                                                                                                                                                                                                                     | Maturity | Include | Globally resolvable |
|-------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|---------------------|
| <u>ADSbibcode</u> | Astrophysics Data System - Bibliographic Reference Code | <a href="https://ui.adsabs.harvard.edu/">https://ui.adsabs.harvard.edu/</a>                                                                                                                                                                       | High     |         | Needs token         |
| ARK               | Archival Resource Key                                   | <a href="https://arks.org/">https://arks.org/</a> ; see also N2T resolver                                                                                                                                                                         | High     |         | Yes                 |
| arXiv             | arXiv identifier scheme                                 | <a href="https://arxiv.org/">https://arxiv.org/</a>                                                                                                                                                                                               | High     |         | Yes                 |
| ASIN              | Amazon Standard Identification Number                   | <a href="https://sellercentral.amazon.ca/gp/help/external/_/200317470?language=en-CA&amp;ref=mpbc_200576730_cont_200317470">https://sellercentral.amazon.ca/gp/help/external/_/200317470?language=en-CA&amp;ref=mpbc_200576730_cont_200317470</a> | High     | no      | Yes                 |
| ConfID            | Conference identifier                                   | <a href="https://indico.cern.ch/event/780651/attachments/1776614/2888642/Conference_PIDs_and_Crossmark.pdf">https://indico.cern.ch/event/780651/attachments/1776614/2888642/Conference_PIDs_and_Crossmark.pdf</a>                                 |          |         | ?                   |
| Crossref DOI      | Articles registry                                       | <a href="https://www.crossref.org/">https://www.crossref.org/</a>                                                                                                                                                                                 | High     |         | Yes                 |
| Crossref_funders  | Crossref Funder Registry                                | <a href="https://www.crossref.org/services/content-registration/grants/">https://www.crossref.org/services/content-registration/grants/</a>                                                                                                       | ?        |         | Yes                 |

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |         |            |                       |                         |                 |                                                               |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|------------|-----------------------|-------------------------|-----------------|---------------------------------------------------------------|
| DICE                                            | preservation, identification, metadata curation, and implementation of FAIR principles for data-intensive research projects. DICE-1010172017 H2020 project "Data infrastructure capacity for the European Open Science Cloud" led by CINECA, <a href="https://cordis.europa.eu/project/id/101017207">https://cordis.europa.eu/project/id/101017207</a> Start-date Jan 1st, 2021, End-date June 30th, 2023 Project description: Big data storage and management is the cornerstone of digital services, and Europe cannot afford to leave its digital infrastructure lacking. One of the key tools for researchers and science professionals in the EU is the European Open Science                                                                                                                                                                                                                                                                                                                                   | PROJECT        | RUNNING | 30/06/2023 | HANDLE DOI / B2HANDLE | Debora Testi@ cineca.it | Themi s Zama ni | <a href="https://eosc.eu">https://eosc.eu</a>                 |
| eosc   PID Policy and Implementation Task Force |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |         |            |                       |                         |                 |                                                               |
| DONA                                            | Cloud (EOSC), which offers a multitude of services, including storage, data management, processing and analysis. The EU-funded DICE project will provide cutting-edge data management services and a significant amount of storage resources for the EOSC. The data services offered via DICE through EOSC are designed to be multidisciplinary and to fulfil the needs of different research communities. The goal is to enhance the EOSC infrastructure and ensure the best possible support to guide European research and innovation into the future. Digital Object Interface Protocol - The Digital Object Interface Protocol (DOIP) version 2.0 specifies a standard way for clients to interact with digital objects (DOs). It is assumed that such DOs are managed by DO Services, which we often refer to as DOIP services in this document, and that the protocol implementation is part of those services. In this context, a DOIP service itself is considered a digital object. But its very nature is | INFRASTRUCTURE |         |            |                       |                         |                 | <a href="https://www.donaweb.org">https://www.donaweb.org</a> |



# PID TF: Activities

doi 10.5281/zenodo.11396767

**PiD**  
fest  
CONFERENCE  
ON PERSISTENT  
IDENTIFIERS  
2024

## Focus Groups

**Group B: Collecting community-specific use cases and perspectives on the EOSC PID architecture and the EOSC PID policy**

### The main areas for this FG:

The scope for focus group B is to “collect community-specific (and stakeholder category specific) perspectives on the EOSC PID architecture and the EOSC PID policy, in particular priorities for addressing gaps, as well as use cases”

- Develop survey to gather perspectives, define gaps and highlight community-specific / stakeholder-specific requirements / Running a survey
- Validating the results
- Report (published)

Mapping current PID-related activities in the EOSC context

Report Focus Group "A" (draft)  
Prepared on 2022-04-28 by Themis Zamani, Beate Guba, Paavo Suominen, Pablo De Castro, Tibor Kalman, Mario Valle Incorpora, and contributions of other Task Force members.

Goal of the Focus Group "A"

The focus group's main goal is to make an inventory of current PID-related activities in the EOSC context and specifically to list existing PID types and PID-related projects that are of interest to EOSC or are already part of it.

This report collects the output of the focus group work and is shared with the whole Task Force with the goal to assess the usefulness of the approach and to increase the set of data collected and their correctness.

This report is not the final deliverable of the TF-PID, but it is an input for the work of the task force itself in producing recommendations to EOSC.

Action items and timeline

First of all, we want to reiterate that this report is not the final deliverable of the TF-PID. We are in a comment phase accepting contributions from our and other TFs.

That said, you can contribute to this report by:

1. Reviewing the overall structure of the report. There are missing pieces? Is there anything you think is needed for the intended future use of the report (as detailed in the next section and in the conclusions)?
2. Reviewing the lists of PID types. Is there any type of PID missing? Is there any type that you judge not interesting for a research environment like EOSC? The grayed-out types are the ones defunct or not appropriate for this inventory. Do you think another column about PID Graph classification (see below) could help? Are all the entries PID types or are some of them PID providers that add services to the PID?
3. Reviewing the collection of PID-related projects. Is there any project, study or

**EUROPEAN OPEN SCIENCE CLOUD**

**EOSC-A PID Policy & Implementation Task Force (deadline June 30, 2022)**

As part of the TF efforts, we are seeking input and feedback regarding community-specific use cases. In this context, we are seeking to collect the EOSC PID architecture and the EOSC PID policy, in particular priorities for addressing gaps, as well as use cases.

The survey will be open until June 30, 2022.

Please complete the form below.

In Google anmelden, um den Fortschritt zu speichern.  
Weitere Informationen

• **Erforderlich**

Which categories align with your domain / discipline? \*

- ☐ Natural Sciences
- ☐ Engineering & Technology
- ☐ Medical & Health Sciences
- ☐ Agricultural Sciences
- ☐ Social Sciences
- ☐ Humanities
- ☐ Sonstiges:

Please briefly describe your community or you as a stakeholder? \*

Meine Antwort

Does your organization provide PID services? \*

☐ Yes  
☐ No

Does your organization and/or researchers make use of PID services? \*

☐ Yes  
☐ No

### Expected output(s)

- Draft recommendations for community feedback / comment
- Report outlining the synergies, key priorities and gaps that should be addressed within the context of the SRIA



# PID TF: Focus Group B

## Conclusions of Report

- In general, the SRIA priorities are considered important.
- Need to gather further insight.
- Reach out to projects & activities regarding their work on priorities we clustered.  
Investigating interoperable services related to resolution and PID metadata creation, supporting emerging resource types.
- **Development of metrics** (adoption at scale across borders and domains, ease of use and interoperability across infrastructure services).
- **Integration of widely used and adopted persistent identifier services.** The EOSC should leverage widely adopted open infrastructure
- **Interoperability:** define a pathway for interoperability within the EOSC framework and related services.
- **Sustainability:** Critically, the (meta)data stored by the services should be a community property and openly available. The services should have robust long-term sustainability plans and align with the EOSC plans for sustainability.

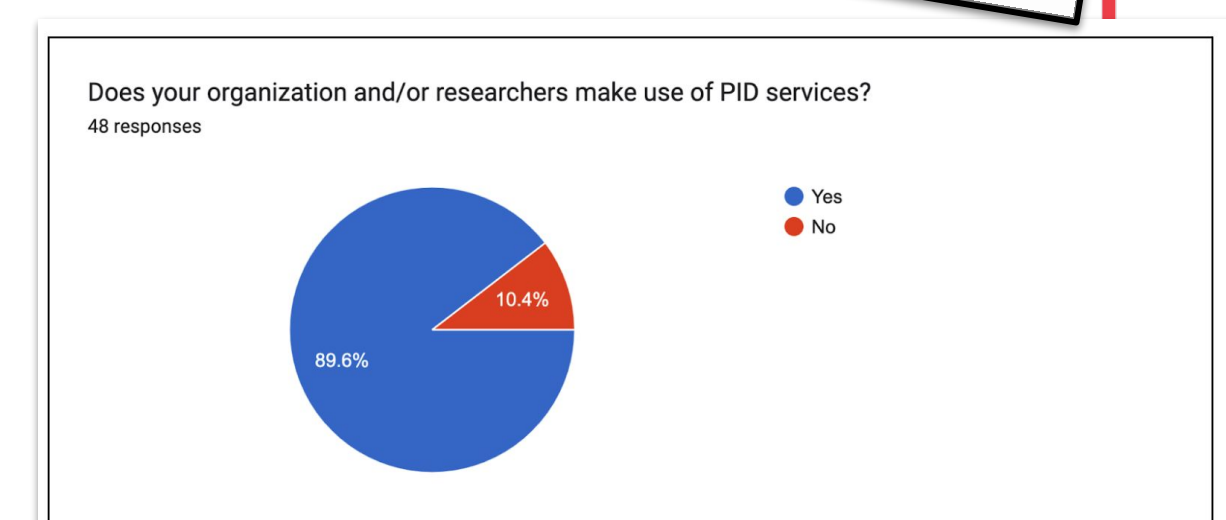
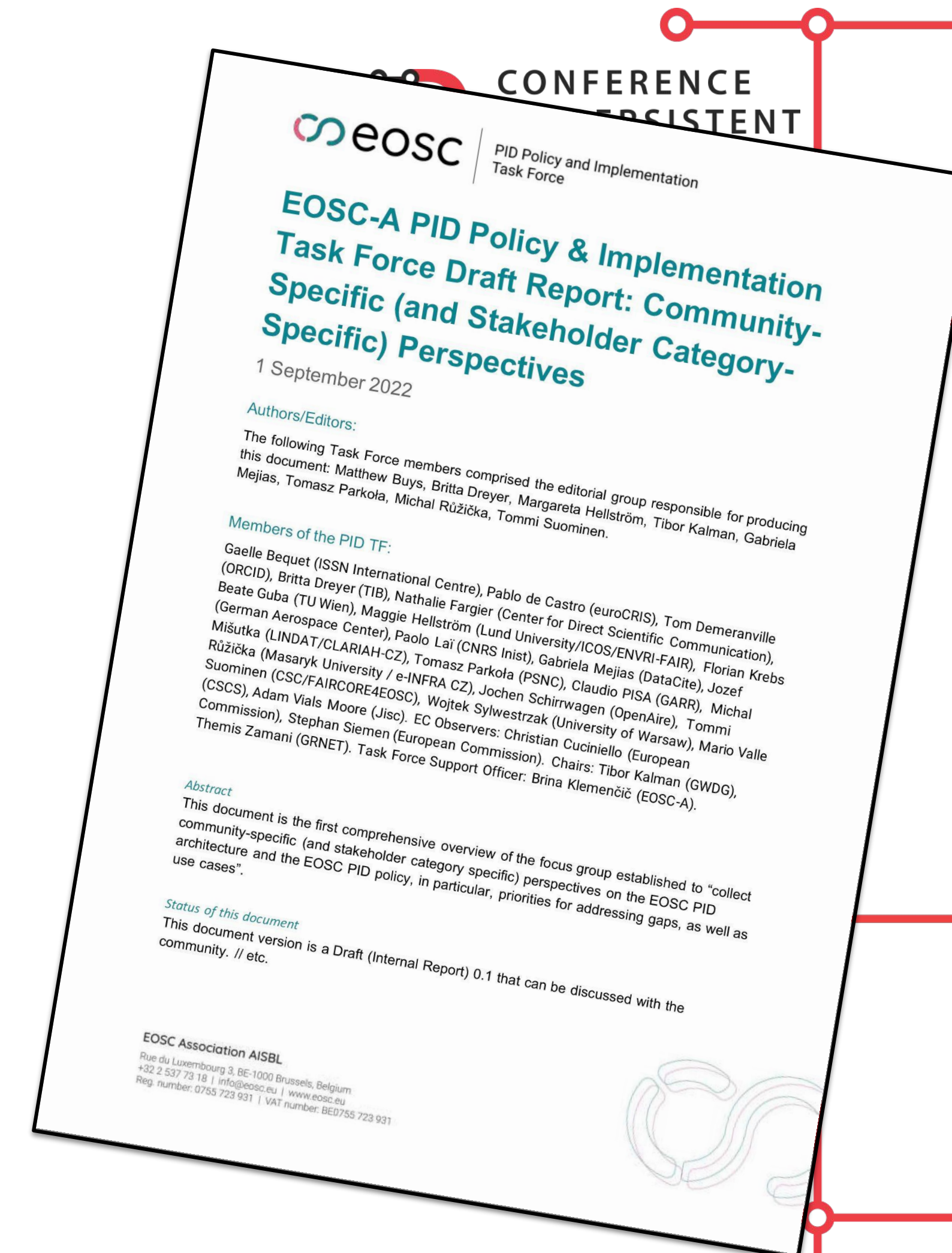


Fig 2. Percentage of respondents that make use of persistent identifier services.

# Other Focus Groups

## Group C: Harmonization of PID-related Vocabularies

### Reason:

- The lack of clearly defined **vocabularies covering** the **PID** related ecosystem

### The main areas for this FG:

- Identify **work already** done
- **Analyze** the vocabularies needed
- Try to identify the **owner** of these vocabularies in EOSC.
- Identify who will be the hosting body and the **governance body** of these vocabularies in EOSC (so that they can be used by all related projects and services)

## Group D: PID-Policy in examples

### Reason:

- (readers of the **PID Policy** saying):
  - “Are there any examples for the different sections of the document?”
- The Policy v1 describes the steps the different types of actors should follow
- Needed: practical implementation and policy examples.

### The main areas for this FG:

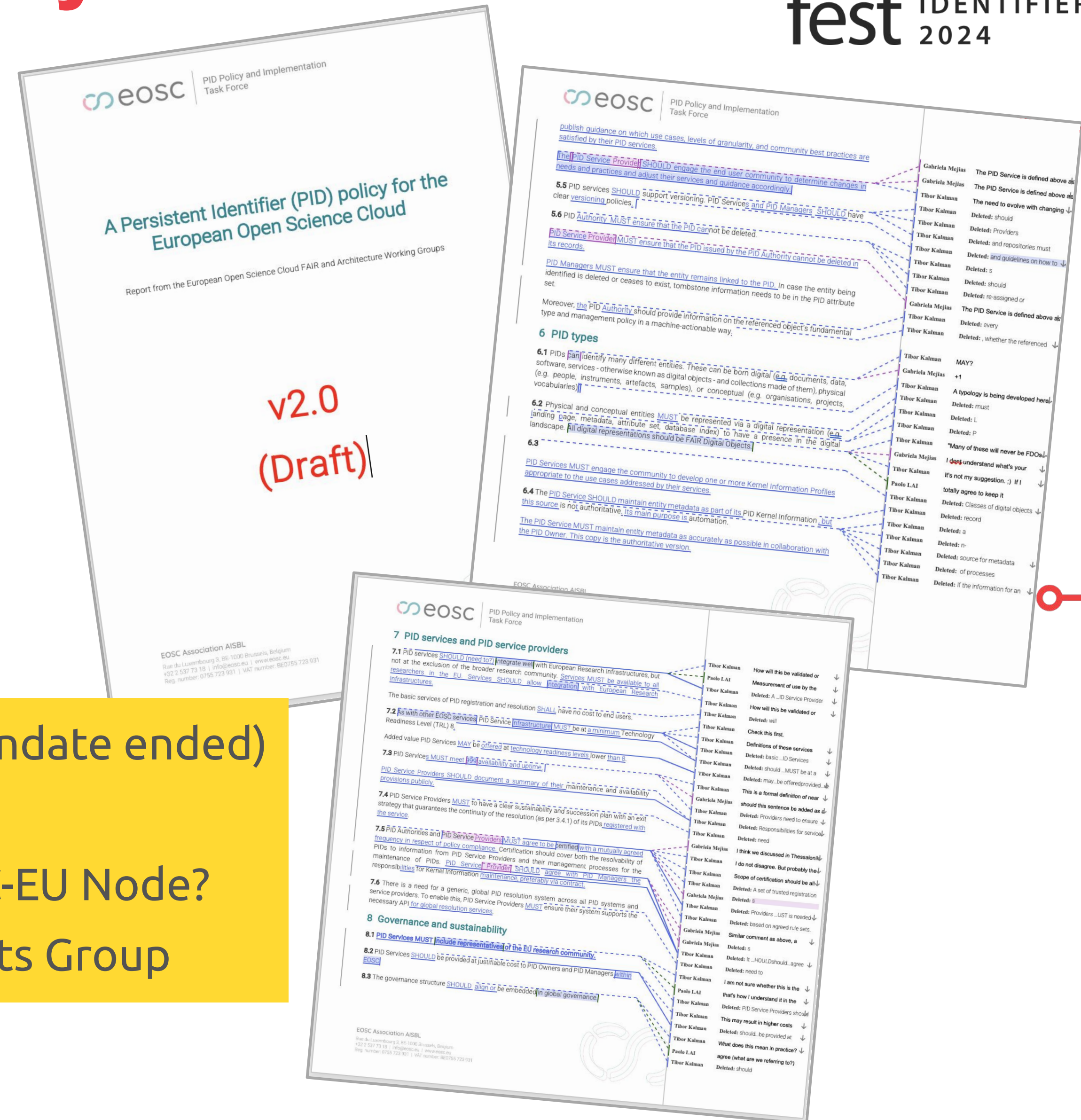
- add policy and implementation examples regarding PIDs
- collect and describe the activities going on in different areas and domains



# New Version of PID Policy

**PiD**  
fest  
CONFERENCE  
ON PERSISTENT  
IDENTIFIERS  
2024

- The v1.0 needs **update**⇒[ v1.1 | v2.0 ]
  - [ minor | major ] changes
- Projects (*FI*, *FC4E*) and other initiatives (*Procurement of EOSC-EU Node*) **provided input**
- The TF PID **coordinated** and oversaw the drafting process



## Current status

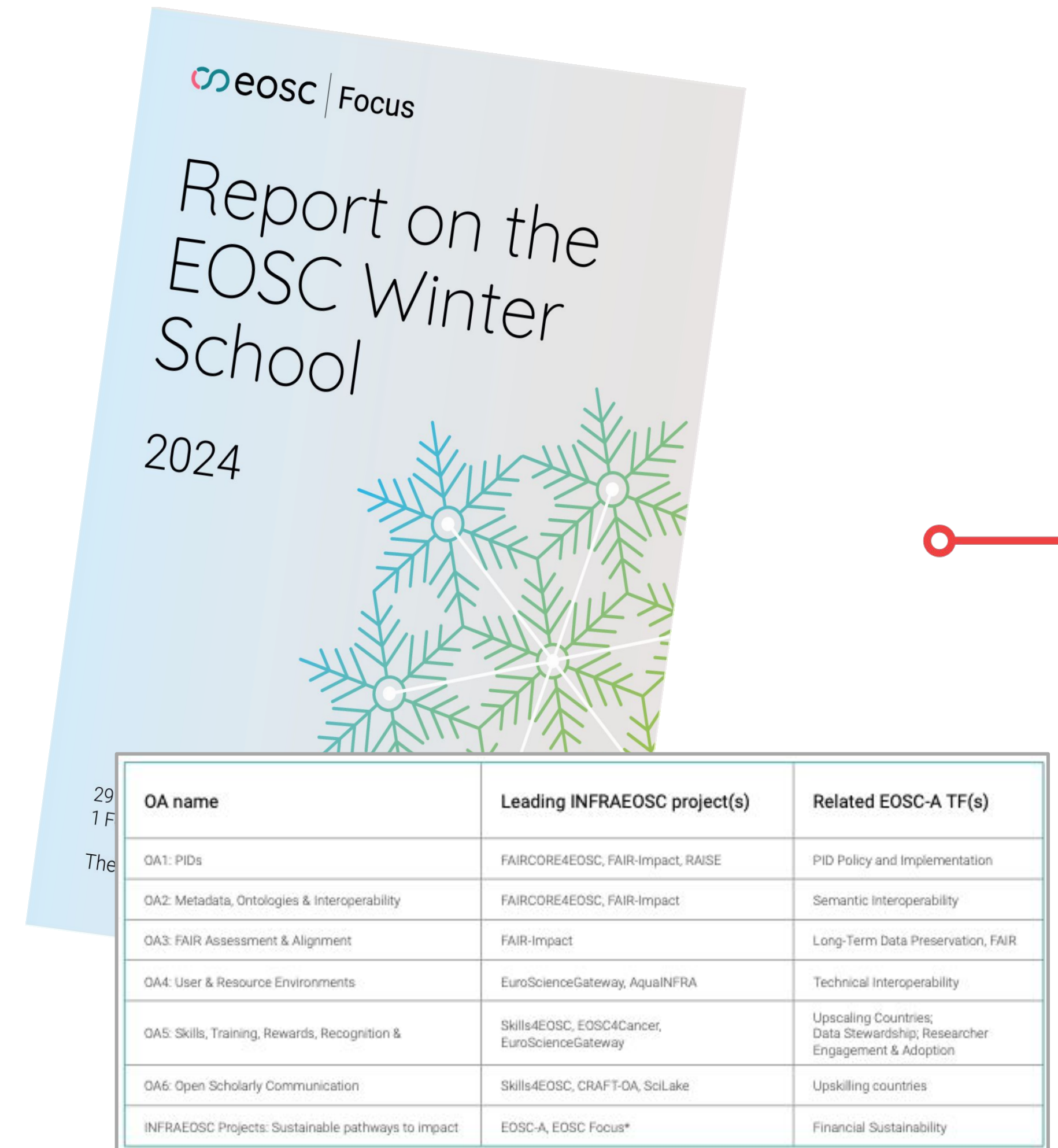
- Still work in progress (mandate ended)
- Policy for....???whom???
- Opportunity Area / Experts Group





CONFERENCE  
ON PERSISTENT  
IDENTIFIERS  
2024

- Review of the **Demand & Supply in PID Landscape:** Workflows and Use Cases & PID Systems and Services
- Overview of **Task Force PID Policy**
- **Emerging** PID types (*RAI, RAiD, PID-INST, MA DMPs, SWHID*) & PID integration systems (*PID Graph, PID Meta Resolver*)
- The EOSC PID Policy and its Implementation in the **Compliance Assessment Toolkit (CAT)**
- Review of Mechanisms for **Quality Assurance** - including EOSC PID Policy and Best Practices





# Opportunity Area / Experts Group Nr.1 (“PID”) Results

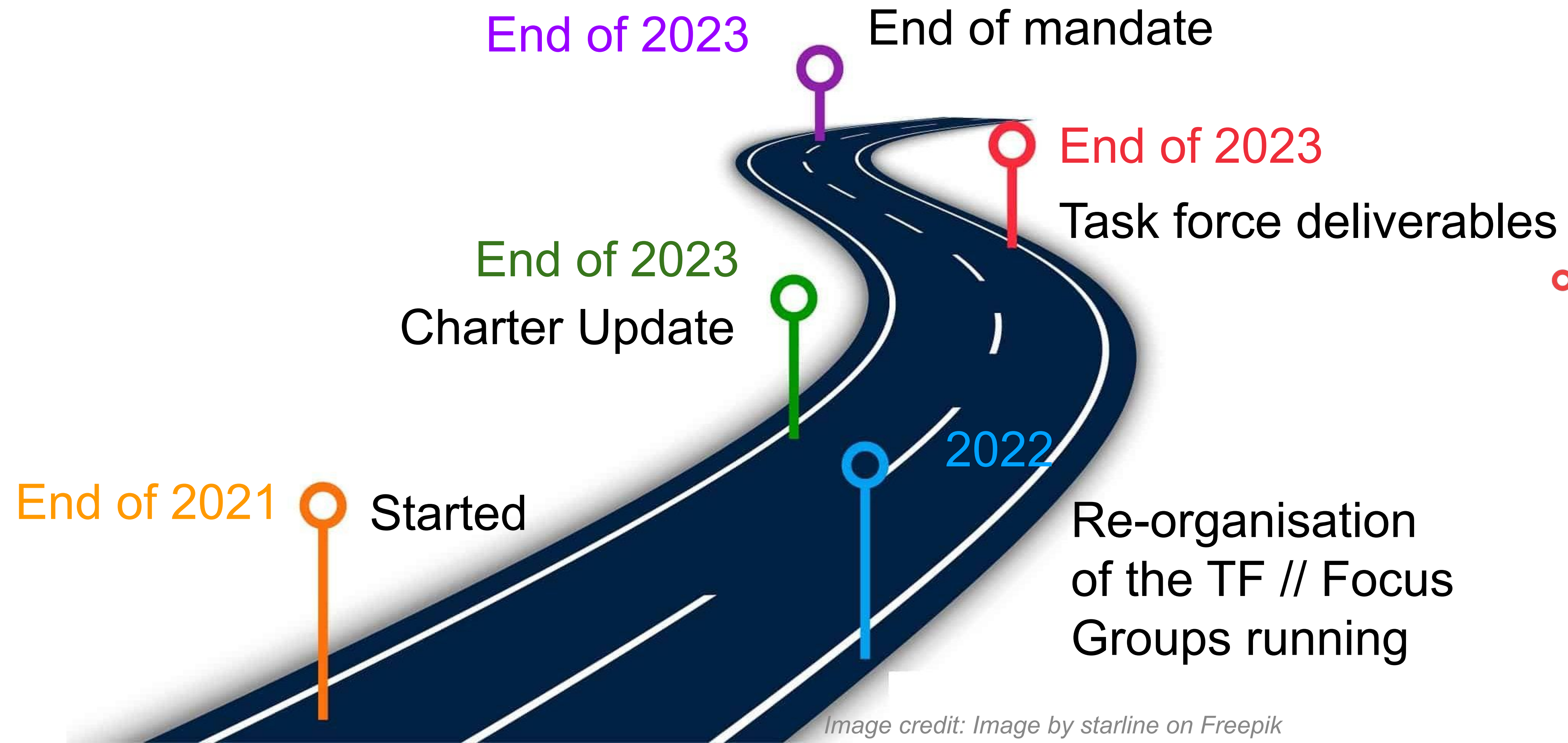
- Emphasis on **community engagement** in respect of criteria (applicability) and best practices
- Suggestions were made for **improvements** to and extensions of the **CAT** (EOSC PID Policy “Compliance Assessment Toolkit”)
- **Consensus** in the group on **interpretation** of the policy, actors’ roles and responsibilities.
- Holistic alignment on EOSC **PID policy update** and implementation (from governance, grant proposal to assessment)
- Differences between **maintenance** of **well established** PID infrastructures **vs** **emerging** PIDs
- Differences/tensions between **OPEN** **vs** **FAIR**

# Recommendations by OA1 (as of WS)

- **Certification Authority** for PID CAT:
  - need for a **mandate/authority** to take over the **certification**
- Require PID Policy reference for new projects implementing **new PID types**:
  - If new PID types are planned in project proposals, there should be a reference to PID policy
- **Transition period to new EOSC[-A] designated authority group**: formalisation of commitments and responsibilities
- Encourage adoption of community governed sustainable PID infrastructures: Fund and enforce **adoption of existing PID systems** that are **aligned with** the EOSC PID **policy**
- Shifting from creating PID systems to those **services built on top** of them
- Explore the **federation of research graphs**, and querying over federated graphs: defining value through use cases (exploiting the potential of PID graphs)



# The Journey



# Collaborations

Driven by 2 (+1) categories

**PID-related projects, communities  
and providers, technology- and  
domain experts**



## Other Task Forces

- TF FAIR metrics and Data Quality
- TF Semantic Interoperability.
- TF Technical Interoperability of Data and Services.
- TF Long-term Data Preservation.
- TF Rules of Participation (RoP)

**... and the broader PID community!**

**We acknowledge the great collaboration!**





# Thank you!

**Tibor Kálmán**  
GWDG

*tibor.kalman@gwdg.de*



**Themis Zamani**  
GRNET

*themis@grnet.gr*



Co-funded by  
the European Union

