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## Persistent identifiers and their services in digital infrastructures

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The reliable identification and location of digital objects that play a role in research is a fundamental requirement for digital infrastructures in general and the European Open Science Cloud (EOSC) in particular. And not only digital objects need identification: real-world entities such as people (researchers), funding bodies and research equipment need to be identified and linked up with other entities to address the use cases that are common to so many disciplines and research environments: facilitating reuse of data and other research outputs, assessing impact and contributing to long-term preservation.

Persistent identifiers also play a vital role in implementing the FAIR principles, enabling stability of reference, publication and dissemination of services and access to resources.

Already some persistent identifiers and their supporting infrastructures are very well established. DOIs and ORCIDs have gained enormous traction and are indispensable elements of the research landscape. Work is proceeding in several forums to develop identifiers for further entities. The question arises: how to bring all this together into a coherent and sustainable foundation for the vast distributed ecosystem of data and services that is the EOSC.

The FREYA project, funded under the EC's Horizon 2020 programme (project number 777523; see https://www.project-freya.eu), aims to develop the infrastructure for persistent identifiers as a core component of open science, in the EU and globally. FREYA will develop new PID services, new PID types and validate in a diverse set of applications.

FREYA has a vision of three key concepts needed to achieve its goals:

- The technical framework (PID Graph). The PID Graph connects and integrates PID systems, representing a map of the relationships across a network of PIDs and serving as a basis for new services. It will need to address common formats and metadata, interoperability between PID providers, interlinking and harvesting.
- A community forum (PID Forum, a stakeholder community whose members collectively oversee the development and deployment of the PID Graph; it will be strongly linked to the Research Data Alliance (RDA).
- a governance model (PID Commons), concerned with the sustainability and growth of the PID infrastructure resulting from FREYA beyond the lifetime of the project itself, defining the roles, responsibilities and structures for good self-governance based on consensual decision-making.

The presentation will introduce the concepts of FREYA, providing an update on the current thinking, illuminated by examples from the project's pilot applications, and consider how it will affect the further development of the EOSC.

## Type of abstract

Presentation

## **Summary**

The presentation will introduce the concepts of the FREYA project, which aims to develop the infrastructure for persistent identifiers as a core component of open science. It will provide an update on the current thinking, illuminated by examples from the project's pilot applications, and consider how it will affect the further development of the EOSC.

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