

FAIR-IMPACT: Expanding FAIR Solutions across the European Open Science Cloud

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Expanding FAIR Solutions across Europe



**Call HORIZON-INFRA-
2021-EOSC-01-05**

*Enabling discovery and
interoperability of federated
research objects across scientific
communities*

**Expanding FAIR
solutions in Europe**

**Partly following up on
FAIRsFAIR**

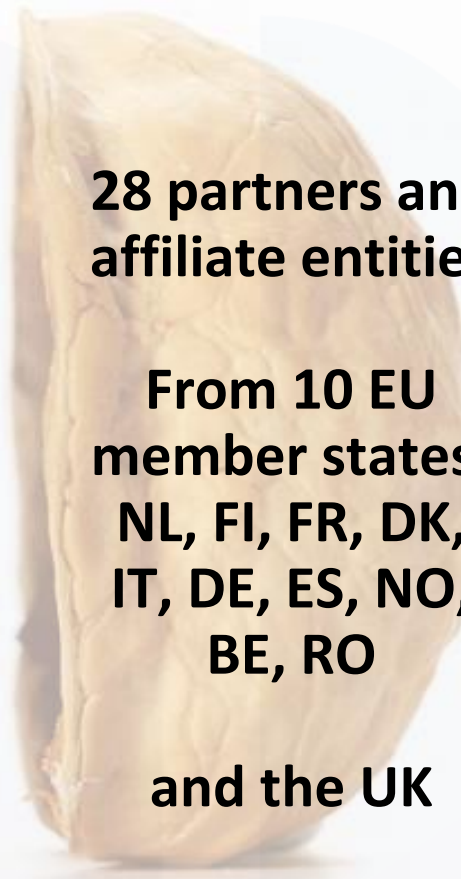


EU funded project

**Coordination and
Support Action**

10 million euro

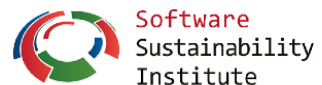
**36 months, starting
1 June 2022**



**28 partners and
affiliate entities**

**From 10 EU
member states:
NL, FI, FR, DK,
IT, DE, ES, NO,
BE, RO**

and the UK



WHAT:

to realise a FAIR EOSC by **supporting the implementation** of FAIR-enabling practices across scientific communities and research outputs at a European, national, and institutional level;

HOW:

- **identifying** current and emerging components for enabling FAIR (practices, policies, tools & technical specifications);
- **translating** viable solutions, guidelines and frameworks that have been developed for one domain or research output and **supporting** their application in others;
- taking the next step in implementation by **defining** the support, governance, and coordination mechanisms required to ensure the continuous function of FAIR-enabling practices in the EOSC.





European Research Data Landscape (2021-2022)

The study was commissioned by the European Commission Directorate-General for Research and Innovation (DG RTD) and focuses on describing the characteristics of the research data ecosystem in the EU, Horizon 2020 Associated Countries (AC) and the UK, by looking at research data production, reuse, and depositing practices, as well as FAIR data principles (findability, accessibility, interoperability, and reusability).

The project was led by Visionary Analytics and partners included the Digital Curation Centre (DCC), Data Archiving and Networked Services (DANS), and European Future Innovation System (EFIS).

VISIONARY
ANALYTICS

Data Archiving and Networked Services
DANS



D | C | C

 EFISCENTRE

Country of primary affiliation



More than 15,000 respondents to the survey

>500	
Italy	2497
Germany	1646
France	1235
Spain	933
UK	836
Turkey	786
Portugal	794
Poland	602
Sweden	509

200-499	
Switzerland	434
Netherlands	422
Austria	367
Serbia	303
Romania	260
Greece	255
Ukraine	252
Czech Rep	244
Belgium	240
Israel	210

<200	
Finland (192)	Estonia (99)
Norway (184)	Iceland (98)
Croatia (181)	Latvia (87)
Hungary (166)	Tunisia (84)
Lithuania (145)	Ireland (82)
Bulgaria (140)	Denmark (71)
Slovenia (123)	Georgia (66)
Slovakia (105)	Albania (58)

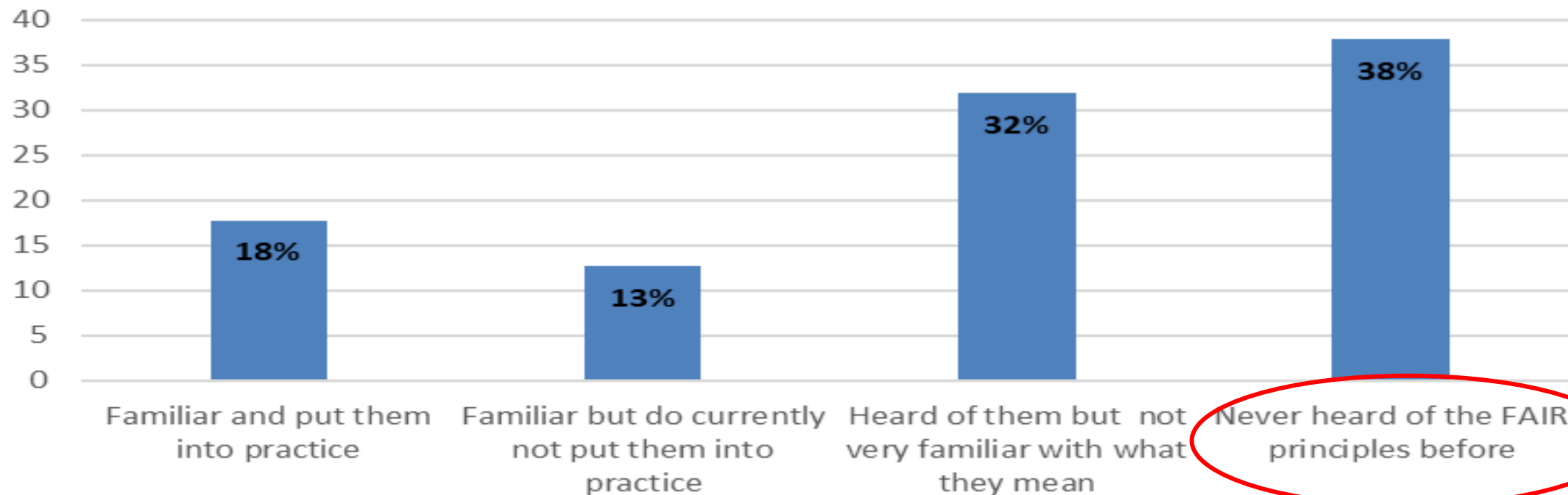
<50:
 Luxembourg, Malta, Montenegro, Armenia, Moldova, N. Macedonia, Faroe Islands

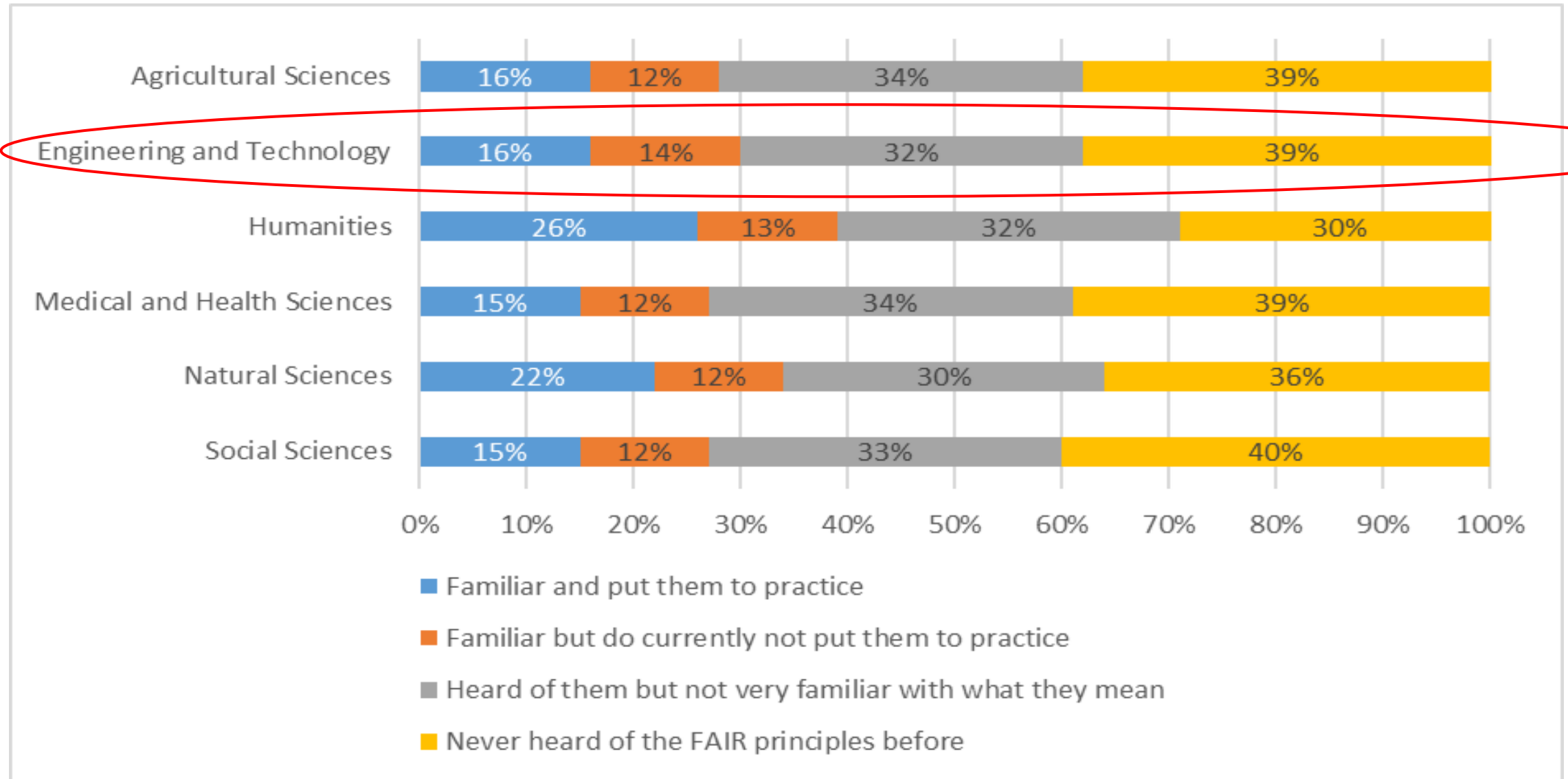
Field of Science and Role

First Field of Science	
Natural Sciences	4554
Social Sciences	3148
Engineering	3327
Medical & Health	2606
Agricultural Sciences	774
Humanities	657

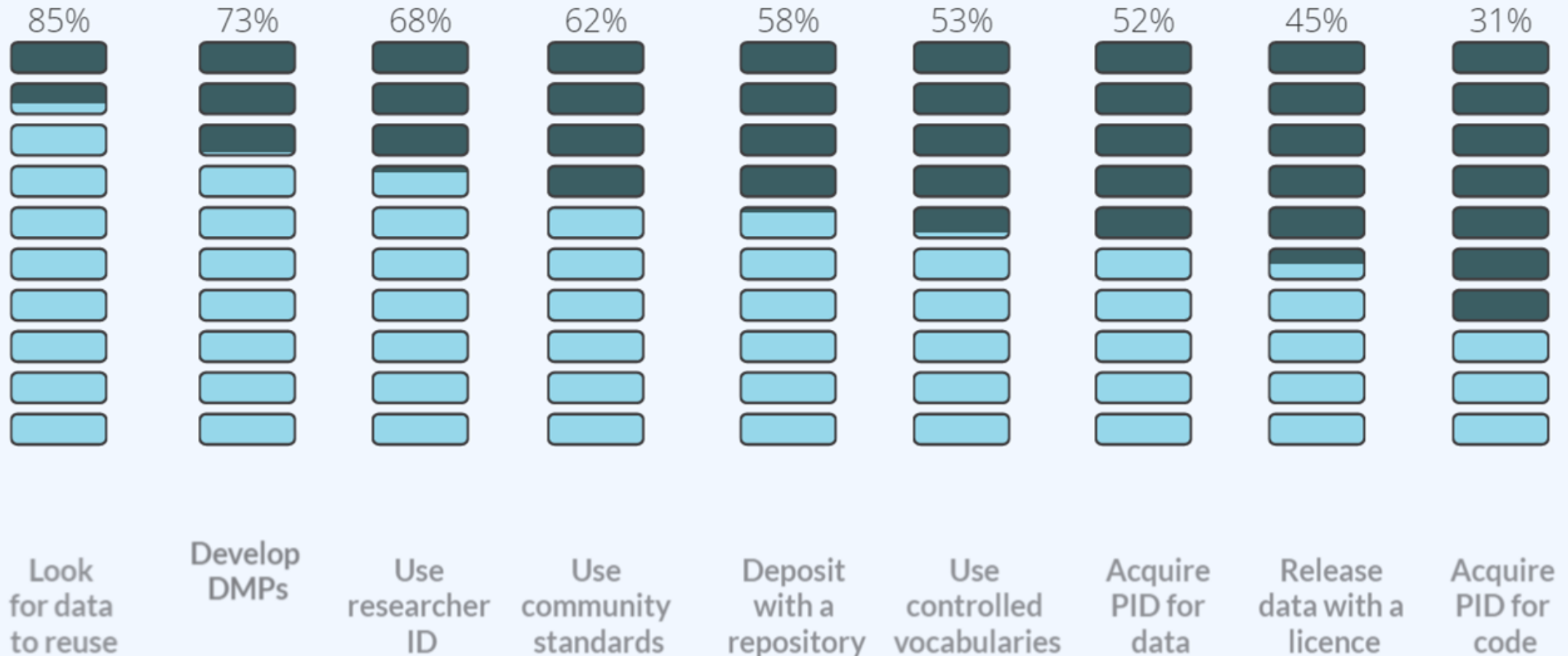
Most common role in the research team	
Researcher	6975
Principal Investigator	5492
Research Manager	4556
Work individually	684
Technical staff	600
Research Software Engineer	501
Other	141

Q5.3 How familiar are you with the FAIR principles in relation to managing and sharing data?

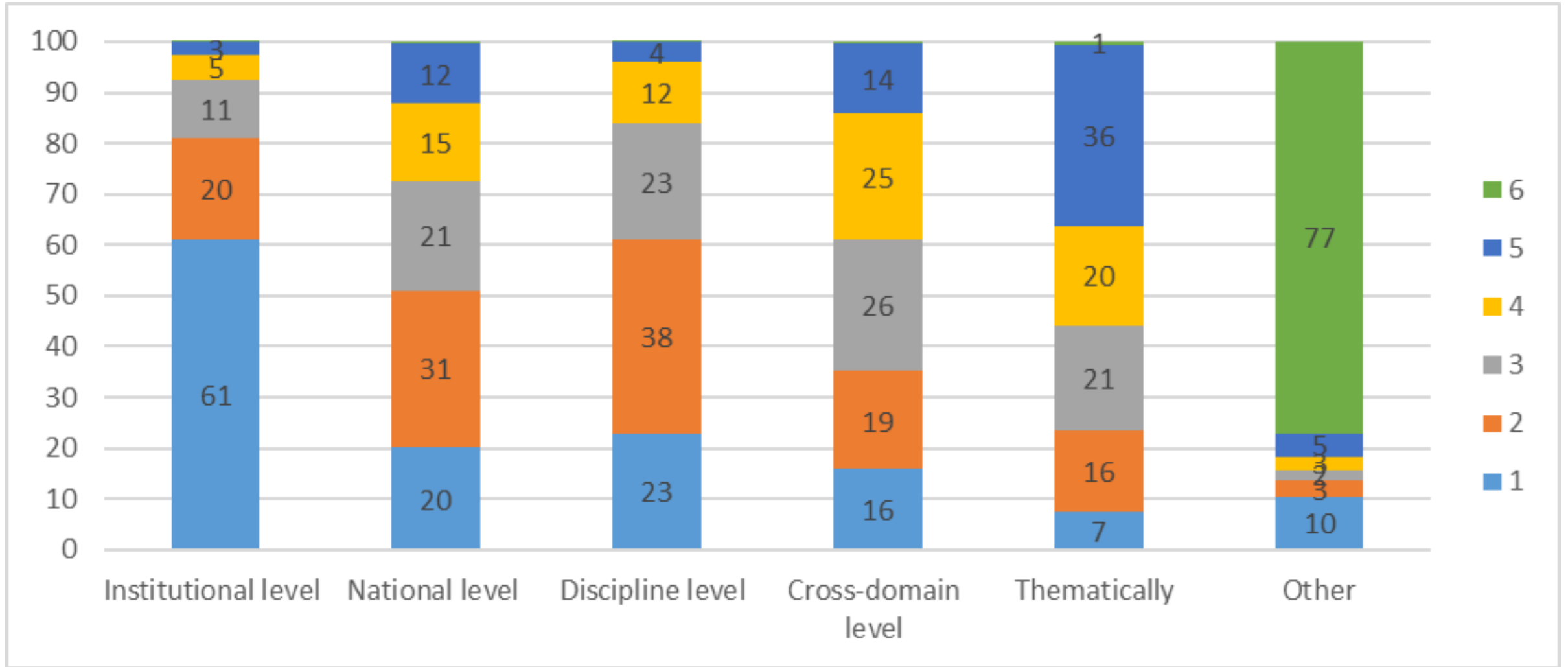




Share of respondents indicating that they carry out FAIR-aligned practices 'sometimes' or 'always'.



Enablers: who should provide support?



Respondents were asked to rank who they thought *should* be providing support for RDM and data sharing. 1 being highest ranked choice and six being the lowest ranked choice.



- FAIR-IMPACT has three thematic pillars - PIDs; Metadata & Ontologies; Metrics, Certification & Guidelines
- Interoperability is included as a cross-cutting horizontal theme
- Engagement, Adoption and Implementation is a key focus

FAIR-IMPACT Workplan

<https://fair-impact.eu/fair-impact-workplan>

Selection of key tasks

- Setting up a coordination mechanism for PID service providers to help them align services with the EOSC PID policy
- Jointly creating a shared long term vision for PID usage in the EOSC context
- Creation of a blueprint for PID practices in FAIR data management to be explored for adaptation by other communities
- Creation of guidelines to support the definition of EOSC compliant PID policies and PIDs

Key expected outcomes

- More coherent implementation of PIDs and more exact data citation leading to better data quality.
- A broader and more targeted use of PIDs, avoiding creation of zombie identifiers, corrupting trust in PID services and risking galloping costs.
- A well designed use of PIDs for sensitive data (including kernel metadata and rights), enabling research with sensitive data without transferring data across borders or outside secure environments.

<https://fair-impact.eu/wp3-persistent-identifiers>

Selection of key tasks

- Enable the creation and support of domain/discipline-specific semantic artefact catalogues federated and coordinated within EOSC
- Establish standard metadata for semantic artefacts and common APIs for their catalogues
- Establish minimal metadata models for different types of research objects –including research software, semantic artefacts and their mappings
- Design a framework to create, document and share semantic artefact crosswalks and mappings

Key expected outcomes

- Unified approach and governance of semantic artefacts across the life cycle in multiple scientific disciplines.
- A framework to create, document and share semantic artefact crosswalks and mappings.
- Guidelines for the collection and the curation of metadata to archive, reference, describe and cite research software.
- Use of semantic artefacts to describe/index data inside multiple discipline data repositories.

Selection of key tasks:

- Extend and adapt the [FAIRsFAIR data object assessment metrics](#) and embed these into [F-UJI](#) (automated FAIR digital objects assessment tool) and [FAIR-Aware](#) (FAIR awareness-raising tool)
- Adapt and enhance the FAIR principles for research software
- Design a quantitative evaluation method and utilise an automatic evaluation tool to assess the FAIRness of semantic artefacts
- Advance the capabilities of Trustworthy Digital Repositories (TDRs) that are capable of curating FAIR data and software, and improve their connections to registries and discovery portals.

Key expected outcomes:

- Disciplinary-specific FAIR assessment can be carried out to better reflect domain specific data practices
- Metrics will be developed for the assessment of software and they will be disciplinary-specific
- Guidelines for exposing repository trustworthiness status, FAIR maturity and FAIR data and software assessment outcomes in generic and disciplinary registries and portals. These measures will support the network of FAIR-enabling TDRs, an important component of EOSC interoperability.

Practical implementation of the FAIR principles starting with integrated use cases on four scientific domains

Four use cases to implement the FAIR principles

FAIR-IMPACT will identify practices, policies, tools and technical specifications towards a FAIR data management cycle starting with real-life use cases in four different domains.



Social Sciences and Humanities

The F-UJI tool will be adapted to fit SSH relevant community standards for FAIR



Photon & Neutron science

A range of components for cross-domain research data description will be tested



Life science

Data provenance will be better documented by extending RO-Crate to practices on PID usage



Agri-food

Metadata providers will implement a common API for federating access to semantic artefacts

FAIR-IMPACT will boost the uptake of FAIR data principles and practices by research performing organisations, data service providers and repositories through a dedicated **support programme**.

Series of **open calls**

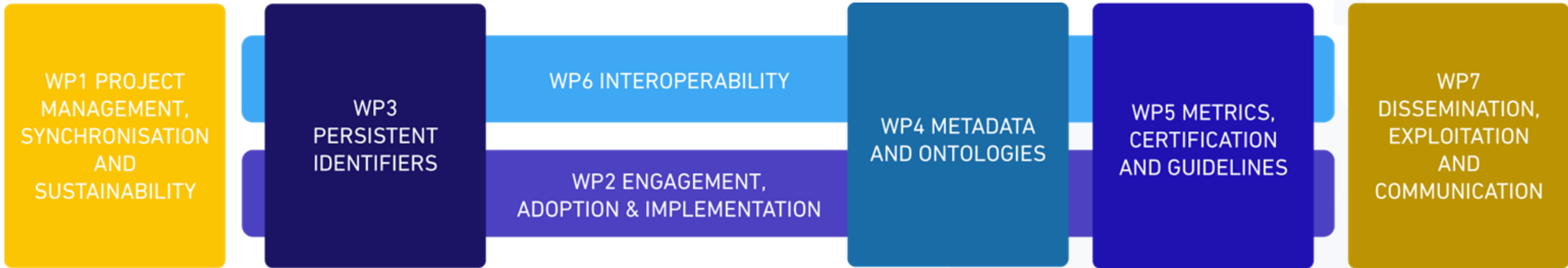
- interested parties can apply to implement a selection of current tools and methods and receive guidance and financial support to enable their participation. First open call with two defined support offers will launch in March 2023.
- interested parties can apply to receive in-kind support from FAIR-IMPACT to self assess their current FAIR-enabling capacity and to develop plans to progress. First call will launch in October

Technical Bridging Team, leading and ensuring the technical alignment between FAIR-IMPACT and other EOSC initiatives

FAIR Implementation Team, supporting adoption and implementation of FAIR-enabling practices, policies, tools or technical specifications

Synchronisation Force, in charge of establishing a dialogue among the various projects, initiatives and actors in both EOSC and FAIR ecosystems





retrace & reproduce

research software

auxiliary information

sharing & integration

authorised access

machine readability

data literacy

data publications

Scientists of all disciplines are able to retrace or reproduce all steps of engineering research processes. This ensures the trustworthiness of published results, prevents redundancies, and contributes to social acceptance.

+ FAIR-IMPACT open calls and NFDI seed funding

- Meeting with NFDI and FAIR-IMPACT in early November to discuss areas for cooperation
- Share information on your tools/methods/approaches when we launch a call to the community in May 2023
- Apply to take part in one of the open calls
- Review and comment on our deliverables. All outputs will be available for as drafts for public comment in Zenodo before being finalised. Details on outputs for community review will be added [here](#).
- Sign up to the newsletter to be kept informed about our outputs and open calls

Thank you!



@fairimpact_eu /company/fair-impact-eu-project



Funded by
the European Union