

FAIRfest:

Celebrating
advancements of
FAIR solutions in
EOSC

Post event report

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1. FAIRfest: Celebrating advancements of FAIR solutions in EOSC

On February 20-21, 2025 FAIR-IMPACT and FAIRCORE4EOSC welcomed the European research community to FAIRfest, a festival dedicated to progress in FAIR solutions within the European Open Science landscape. Held in Madurodam (www.madurodam.nl), a beautiful miniature park in the Scheveningen district of The Hague, The Netherlands, the event ran alongside the 19th International Digital Curation Conference (IDCC25), fostering collaboration between European and international stakeholders.

Engaging Discussions and Real-World Applications

Over 333 delegates joined from Europe, abroad and online, to learn and debate the latest achievements around the design, adoption and implementation of FAIR solutions in the European Open Science research landscape. The FAIRfest provided a space to explore key advancements in:

- ☐ Findability: Persistent Identifiers & Knowledge Graphs
- ☐ Accessibility: Semantic Artefacts
- ☐ Interoperability: From technical to legal aspects
- ☐ Reusability: Certification, metrics & guidelines for FAIR data and software

The programme combined **plenary sessions with parallel technical tracks**, offering a mix of thought-provoking keynotes, real-world case studies, and in-depth discussions. The diverse agenda ensured ample opportunities for learning, exchange, and networking in a dynamic and collaborative environment. Standing keynotes kick-started provocative discussion items along four plenary sessions, and case studies and use cases were described during two parallel sessions in the afternoon of the first day. The wide-ranging agenda was conceived to leave participants time to think, discuss, and enjoy food, coffee, tea and company.



Figure 1: FAIRfest registration desk at Madurodam, Den Haag, The Netherlands

A true festival, with Marketplace

Aside from the main conference room, the FAIRfest Marketplace served as an interactive hub where adopters and implementers of FAIR solutions presented tools, methodologies, and practices. Adopters and implementers of FAIR enabling solutions, tools, methodologies and practices did a showcase in a marketplace-like settled area. 12 corners were set up in the Foyer as a Marketplace, offering an interactive space throughout the event. Participants had the chance to go around stands, coffee tables and poster areas, stop at those that grab their attention and ask all questions to those who already “did it”.

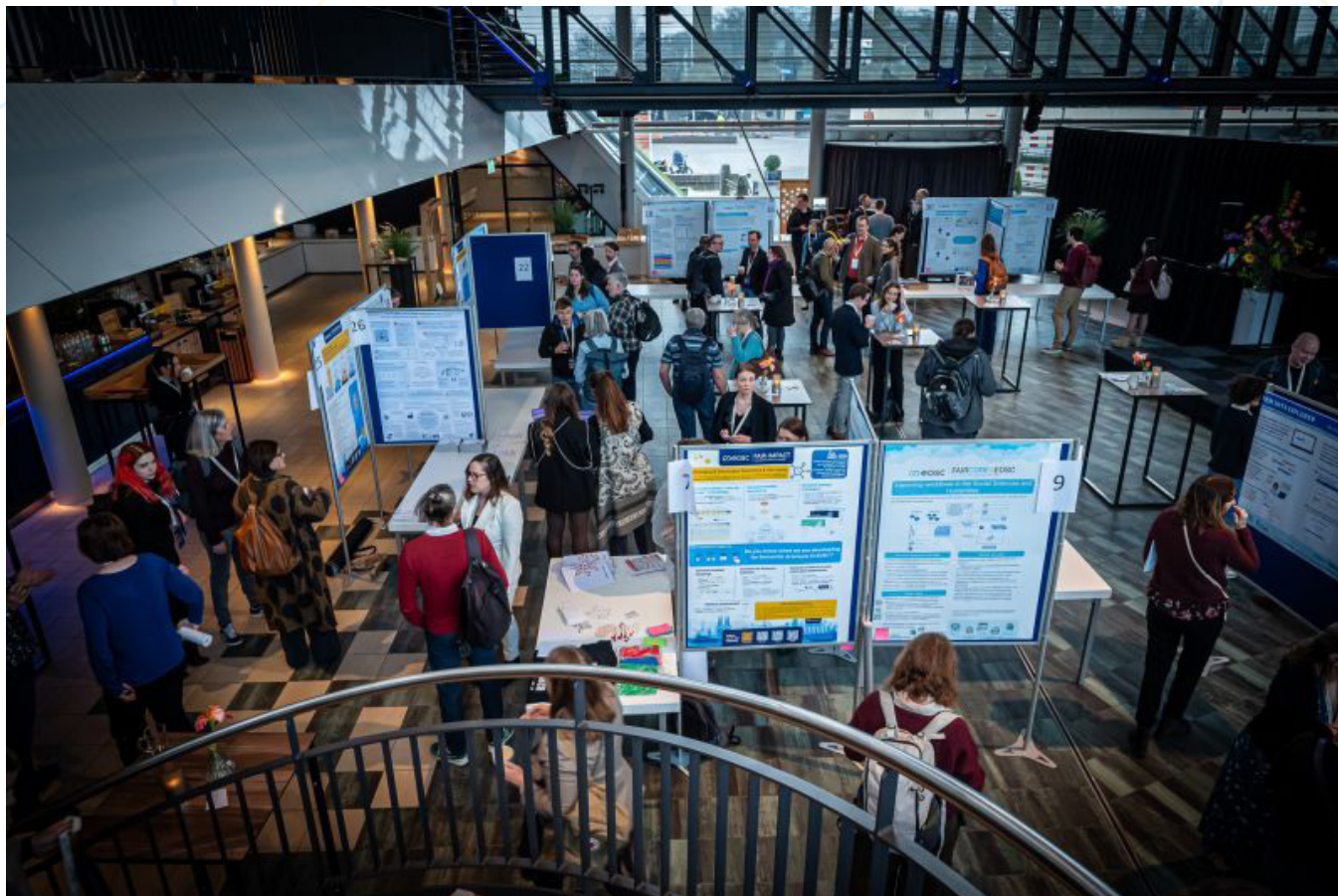


Figure 2: FAIRfest Adopters Marketplace area

The marketplace hosted demonstrations of the FAIRCORE4EOSC components, and there was the opportunity to listen to stories of implementation of the FAIR techniques in real research scenarios from the teams who received support from the FAIR-IMPACT support programme, as well as the opportunity to meet FAIR Champions, FAIR ambassadors, interoperability experts and practitioners. The programme also featured fifteen adopters of FAIR practices who gave 10-minute pitches during the morning coffee breaks and lunch break on February 20 in the Foyer.

FAIRfest counted more than 330 attendees (333), 233 in the Hague and 100 who joined online.

The event saw the highest participation from the Netherlands (84 attendees), Germany (24), the United Kingdom (20), and France (15) followed, indicating strong regional interest. Northern and Western European countries like Finland (12), Belgium (11), and Italy (10) also had notable representation. Outside Europe, Japan (7) and the United States (2) were among the few non-European participants.

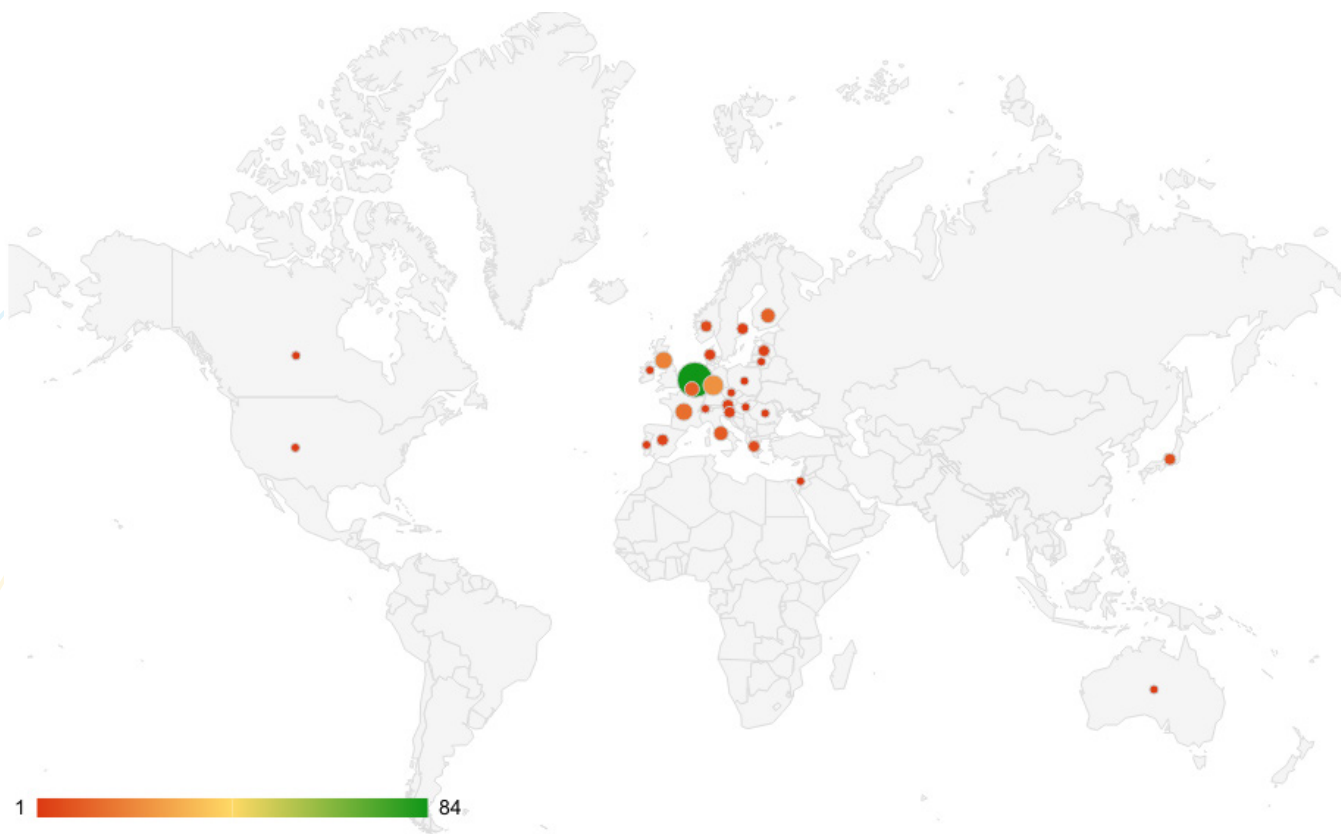


Figure 3: Country of origins of on-site attendees of FAIRfest in the world

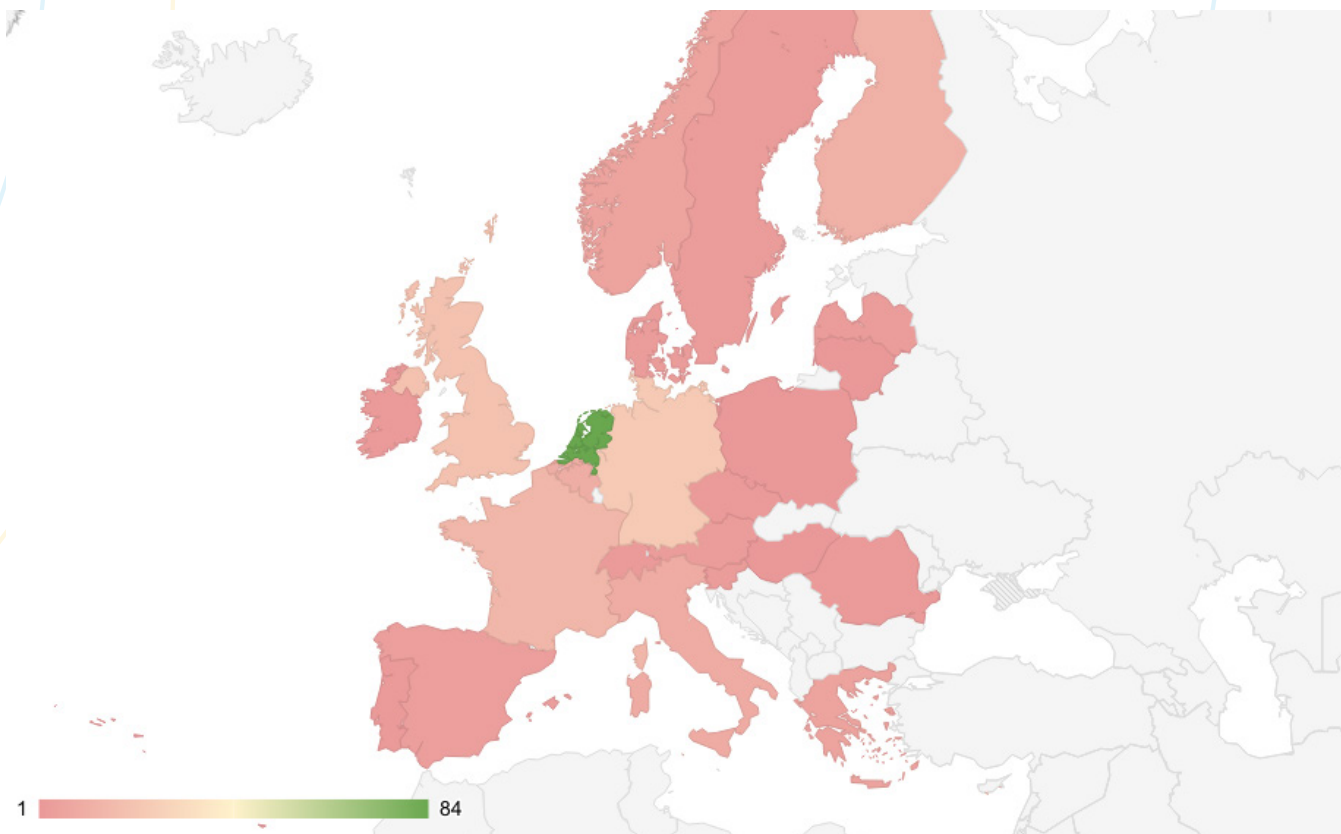


Figure 4: Country of origins of on-site attendees of FAIRfest in Europe

2. The programme

The structure of the FAIRfest was carefully crafted to encourage both in-depth exploration and interactive engagement, ensuring that participants could immerse themselves in the latest advancements in FAIR solutions while networking with peers and experts in the field.

Day 1: February 20, 2025 (Thursday) 09:00 - 18:00 CET
08:00 - 09:00 Welcome Coffee & Registrations
9:00 - 9:30 Welcome & Introduction
9:30 - 10:00 Adopters' Marketplace Elevator Pitches
10:00 - 10:30 Coffee Break and FAIR Adopters' Marketplace
10:30 - 12:00 F for Findability: Persistent Identifiers & Knowledge Graph
12:00 - 14:00 Lunch and FAIR Adopters' Marketplace
14:00 - 15:30 A for Accessibility: Semantic Artefacts
15:30 - 16:30 Supporting FAIR Implementation: FAIR-IMPACT Stories & FAIRCORE4EOSC Case Studies
16:30 - 16:40 Coffee Break
16:40 - 18:00 I for Interoperability: from technical to legal interoperability
18:00 Closure
Day 2: February 21, 2025 (Friday) 09:00 - 12:30 CET
08:00 - 09:00 Welcome Coffee & Registrations
9:00 - 10:30 R for Reusability: Certification, metrics & guidelines for FAIR data and software
10:30 - 11:00 Coffee Break and FAIR Adopters' Marketplace
11:00 - 12:30 Concluding session: reflections from stakeholders
12:30 Event Closure

The structure of the FAIRfest allowed for a balanced mix of plenary sessions, interactive marketplace engagement, and technical discussions, ensuring that all attendees had ample opportunity to connect with experts, explore practical solutions, and deepen their understanding of FAIR practices.

The official opening of Day 1 set the stage for the event. After the welcome and introduction by Ingrid Dillo and Tommi Suominen, coordinators of the FAIR-IMPACT and FAIRCORE4EOSC projects, the Adopters' Marketplace Elevator Pitches (09:30-10:00) session featured 15 adopters of FAIR practices, each delivering a concise 1-minute pitch about their presentation scheduled in the Marketplace area, encouraging participants to explore their solutions further during the coffee breaks and lunch.



Figure 4: Ingrid Dillo, FAIR-IMPACT coordinator, welcoming the FAIRfest participants

The morning session continued with the session dedicated to **Findability**, focusing on persistent identifiers and knowledge graphs. After lunch, the focus shifted to **Accessibility**, exploring semantic artefacts and open access to research. In the afternoon, two parallel sessions presented **case studies** from FAIR-IMPACT and FAIRCORE4EOSC. The day concluded with a session on **Interoperability**, addressing both technical and legal aspects of data sharing across systems.

On Day 2, the event resumed a session on **Reusability**, which discussed certification and guidelines for FAIR data and software. After a coffee break and more time at the Marketplace, the event wrapped up with a **Concluding panel discussion**, where stakeholders reflected on the festival's discussions and future implications for FAIR solutions. The event officially closed at 12:30, leaving participants with valuable insights to advance FAIR practices in their research.



The Adopters' Marketplace programme

During the FAIRfest 15 adopters and implementers of FAIR enabling solutions, tools, methodologies and practices were invited to provide a showcase in the Marketplace area on a stage during coffee and lunch breaks. During this session the audience had the opportunity to witness **10 minute pitches** from the adopters', presenting their experience with FAIR enabling solutions.

Speaker	Topic (FAIRfest Zenodo Community)
Day 1 - Thursday 20 February 2025	
Maxence Azzouz-Thuderoz	Archiving, Referencing, Describing and Citing Software: The swMATH Experience with Software Heritage
Carole Goble & Nick Juty	Practical webby FAIR Digotal Objects with RO-Crate and FAIR Signposting
Morane Gruenpeter	Building a community driven vision for Research Software
Hilde Orten	Cross-domain data integration and the importance of provenance metadata: from proprietary to standard data and metadata format
Elena Breitmoser	FAIR software metrics
Robert Huber	Practical FAIR assessments using F-UJI
Nina Grau	Making collective knowledge into FAIR Semantic and machine-readable Metadata
Guillaume Alviset	OntoPortal instances especially EarthPortal
Joonas Kesäniemi	MSCR and Vocabulary Service
Konstantina Galouni	RDGraph Portal: Features and Capabilities Unveiled
George Katsogiannis	NL Search and Recommendation services for the RDGraph
Wim Hugo & Themis Zamani	Prove It or Lose It: Compliance Evidence Matters!
Day 2 - Friday 21 February 2025	
Saadet Bozaci	FAIR supplementary materials: A publisher's perspective
Heinrich Widmann	Interoperability between data spaces in climate science - use of DTR for specifications of STAC catalogs defined as FDO
Yann Le Franc	FAIR Mapping recommendations



Figure 5: FAIR Adopter's Pitch at the FAIRfest Marketplace

Useful links

- [☐ FAIRfest programme](#)
- [☐ FAIRfest community on Zenodo](#)
- [☐ Photogallery](#)
- [☐ FAIRfest Video Recordings from the sessions](#)

3. Highlights from the sessions

The FAIRfest was the closing event of two projects funded by the European Commission: FAIR-IMPACT and FAIRCORE4EOSC, both focused on the implementation of the FAIR principles within the EOSC ecosystem. As sister projects with complimentary goals the projects kicked off in a combined event almost three years ago and the circle is now closed with a combined event to celebrate the advancements they brought to FAIR solutions in EOSC.

In their opening remarks the two project coordinators welcomed the participants in the room as well as online. They provided a high level overview of the current state of implementation of the FAIR principles in the European data landscape and introduced the FAIRfest programme as a celebration of the advancements the two projects made as a community, because we have certainly come a long way.

"We will take stock of where we are now, look to the future and discuss the challenges ahead. Challenges that will be picked up again by new initiatives and European projects in the years to come. And of course we hope that the results from both our projects, that will be shown here in the coming days, will be used to build on".

- Ingrid Dillo

F for Findability: Persistent Identifiers and Knowledge Graph

The session "F for Findability" discussed the crucial role of Persistent Identifiers (PIDs), knowledge graphs and supporting tools and services in enhancing findability and discoverability of research outcomes and the importance of good practices and policy conformance when using PIDs. In an EOSC context, **PIDs constitute vital building blocks when forming the EOSC Federation**. However, PIDs and their impact on research findability is based on **a multifaceted framework, which requires establishment of sustainable collaboration frameworks and convergence** through the involvement of various stakeholders to ensure robustness and consistency. We are observing emerging trends in EOSC related to PIDs, such as introduction of basic features for authorisation and the protection of sensitive data at the PID level. Other trends include typing in PIDs through the [FDO Forum](#) and the [Research Data Alliance](#), and emerging PID types. It is good to keep an eye out on these developments.

New PID services and tools, such as the [PID Meta Resolver \(PIDMR\)](#), the [Compliance Assessment Toolkit \(CAT\)](#) developed in the FAIRCORE4EOSC project, and [Research Activity Identifier](#) developed in collaboration with ARDC, were presented. PIDMR integrates different systems, is able to route different PID types, and improves machine-actionability. The service also facilitates the standardised use of PIDs to promote effective data management and data analytics while supporting FAIR Digital Objects (FDOs). CAT encodes, records, and queries compliance with the EOSC policy and is scalable to also encompass compliance assessments with other frameworks. RAiD functions as a PID, a registry, and a collaborative metadata management system, thus serving multiple purposes. The service provides persistent, unique and resolvable information linking organisations, project members, inputs and outputs, enabling long term impact analysis.

Scientific knowledge graphs (SKGs) are vital for enhancing discoverability of research outputs. Research Discovery Graph (RDGraph) and PIDGraph comprise cross-disciplinary (metadata) maps of science used for discovery and research assessment. It was emphasised that although PIDs in SKGs enhance findability, misuse and non-compliance with policies can create potential authoritativeness, reliability, and consistency issues. Clear usage policies and robust quality control measures are essential to ensure proper implementation and adherence.

Practical guidelines on PID implementation and usage help navigate the concerned stakeholder in complying to best practices and in accordance with the EOSC. FAIR-IMPACT and FAIRCORE4EOSC have in collaboration produced supporting documents, such as:

- ❑ **PID guides for national level initiatives**, service providers and institutions, which is a hands-on framework for adopting PIDs in alignment with EOSC policies and core solutions providing clear, actionable steps for incorporating PIDs into existing workflows
- ❑ **Guidelines for PID Managers** to support them in formulating and assessing PID policies in a standard, comprehensive, user-friendly and EOSC compliant manner
- ❑ **End user guidelines on best practices of Persistent Identifiers (PIDs) for end users**, as defined by seven integrated use case partners participating in the FAIR-IMPACT project

Updating the EOSC PID Policy is fundamental for the EOSC Federation. The [EOSC Nodes](#) should have their own PID policies in place and can easily assess their compliance with the EOSC PID Policy through the Compliance Assessment Toolkit and get useful information on PID implementation through the related Knowledge Base (in which published practical guides will be included). All relevant stakeholders within EOSC need to get engaged in the multi-layered PID landscape to achieve convergence and take joint actions in furthering the utilisation of PIDs when necessary. A growing number of valuable guidelines, services, and tools are now available to support various stakeholders in advancing PID implementation, usage, and policy—so let's put them to use!



Figure 6: Panellists of the "F" session

In this picture: Josefine Nordling (CSC), Tibor Kalman (GWDG), Giacomo Cannizzaro & Clifford Tatum (SURF), René van Horik (DANS), Natascha van Lieshout (SURF), Paolo Manghi (OpenAire), Mike Bennet (DataCite), Sven Bingert, GWDG, Wim Hugo (DANS).



A for Accessibility: Semantic Artefacts

This joint plenary session aimed to highlight the transformative contributions of the FAIR-IMPACT and FAIRCORE4EOSC projects in advancing FAIR principles in the domain of semantics, focusing on metadata & ontologies, mappings, and research software. The session provided an opportunity to reflect on achievements, evaluate impact, and collaboratively envision the future of FAIR-compliant and semantically enabled science within EOSC.

The session opened with a keynote by **Carole Goble (University of Manchester)**, emphasizing that accessibility is a critical aspect of FAIR. She argued that **without access, data and software effectively do not exist**, highlighting the risks posed by missing object archives. Carole stressed that access is not just about protocols—semantics matter and require robust infrastructure, capacity-building, and equitable participation. She also addressed controlled and inclusive access, ensuring that semantic artefact infrastructure and services remain available to all researchers, including those in underrepresented communities. AI's growing role in metadata automation and semantic accessibility was also discussed, with an emphasis on maintaining transparency and usability in AI-driven solutions.

This keynote set the stage for a series of presentations showcasing key advancements from both projects:

- **Research Software Metadata Guidelines:** Developed within FAIR-IMPACT, including contributions to the CodeMeta vocabulary and the Research Software APIs and Connectors (RSAC) from FAIRCORE4EOSC.
- **FAIR Mappings Recommendations & MSCR Service:** Outlined best practices for making mappings FAIR and introduced the Metadata Schema and Crosswalk Registry (MSCR) as a key component for interoperability.
- **FAIR Semantic Artefacts and their Catalogues:** Showcased the development and consolidation of semantic artefact catalogues, with multidisciplinary efforts toward federation and interoperability models to ensure sustainability.
- **DTR on the Roadmap for FAIR Digital Objects (FDOs):** Demonstrated how the Data Type Registry (DTR) contributes to the implementation of FAIR Digital Objects, improving machine-actionability and data interoperability.

The session concluded with a panel discussion, moderated by **Clement Jonquet (INRAE) and Joonas Kesäniemi (CSC)**, featuring panelists **Carole Goble, Morane Gruenpeter, Yann Le Franc, Baptiste Cecconi, Sophie Aubin and Tommi Suominen**. Discussions centered on aligning project outcomes with EOSC objectives, long-term sustainability of semantic artefacts, and the challenges of funding, governance, and integration within the broader research ecosystem. An important topic, mappings and crosswalks (previously presented), came back several times in the discussion showing the need for convergence and continued effort on this particular topic in the EOSC context.

Ensuring the long-term accessibility of semantic artefacts requires sustainable production services and reliable governance, yet funding challenges persist. Over the past few years, the design and adoption of FAIR semantics artefacts has grown – thanks to the contribution of FAIR-IMPACT and FAIRCORE4EOSC– but implementation hurdles remain. The next steps involve strengthening semantic interoperability, shared governance, continuous support of semantic artefact related services, and ensuring that FAIR semantic artefacts remain accessible and usable across diverse research communities. Further collaboration is needed to integrate semantic artefacts services (such as the presented [OntoPortal](#) or Metadata Schema and Crosswalk Registry [MSCR tools](#)) into the EOSC distributed ecosystem, improve FAIR mappings and semantic artefacts catalogues, and explore AI-driven approaches to enhance automation and usability.



Figure 7: Panellists of the "A" session

In this picture: Clement Jonquet (INRAE), Carole Goble (University of Manchester), Morane Gruenpeter (Software Heritage) Yann Le Franc (e-Science Factory), Joonas Kesäniemi (CSC), Hans Lienhop (GDWG), Baptiste Cecconi, Sophie Aubin, Tommi Suominen.

I for Interoperability: from technical to legal interoperability

This session was chaired by **Anne Sofie Fink (DelC)**, **Mark van de Sanden (SURF)** and **Tommi Suominen (CSC)** and it investigated how to bridge between the legal, organizational, semantic, and technical (LOST) interoperability stack and explore future ways to support an interdisciplinary approach for a FAIR EOSC. **Solving the I of FAIR is probably one of the biggest challenges in adopting and implementing FAIR practices.** While many research communities have existing practices to manage interoperability within their domain. The significant challenges start when research data and other artifacts need to be shared across domains. And this sharing across domains will only increase because most of the societal challenges (e.g. climate change, health, environment, energy transition and artificial intelligence) require cross-domain solutions. Interoperability is not only a technical challenge but more frequently a challenge on the semantic, organizational, and legal level.

The [EOSC Interoperability Framework from 2021](#) addresses these challenges at the conceptual level. For the implementation level additional effort in the form of recommendations, guidelines, best practices, prototyping etc. **This session focused on how to bridge between the legal, organizational, semantic, and technical (LOST) interoperability stack and explore future ways to support an interdisciplinary approach for a FAIR EOSC.**





Figure 8: Panellists of the "I" session

In this picture: Javier de la Cueva (University of the Instituto de Empresa), FAIR EOSC Champion, Esteban Gonzalez (UPM), Tommi Suominen (CSC), Olivier Rouchon (CNRS) Anne Sofie Fink (DeiC), Maxence Azzouz-Thuderoz (FIZ Karlsruhe), Roksana Wilk (Cyfronet)

R for Reusability: Certifications, metrics and guidelines for FAIR data and Software

In the session "R for Reusability", the participants had the opportunity to discuss the question: *Are the FAIR principles enough for reusability?* The session was chaired by **Morane Gruenpeter (Software Heritage)** and had an interactive format that allowed the participants to ask the hard hitting questions on reusability to a panel of experts. The audience had the opportunity to reflect on their own services and solutions (e.g. Research Software API and Connector from Zenodo to Software Heritage, [F-UJI](#), [Compliance Assessment Toolkit](#), the [Ontology Pitfall Scanner](#) for FAIR and more) and consider what they contribute to Reusability, opening up to critical questions, suggestions, and use cases.

The session started by the audience getting to know each other and their experiences and perspectives when considering FAIR and Reusability. This facilitated an all-round lively and interactive session. Next, the panel members introduced themselves and their solutions towards reusability: **Wim Hugo (DANS)** about the Compliance Assessment Toolkit, **Hervé L'Hours (UESSEX-UKDS)** about the prototype for transparent repository information exposure, **Alex Ioannidis (CERN)** on the Zenodo InvenioRDM APIs connection to Software Heritage, **Elena Breitmoser (UEDIN-SSI)** about the FAIR assessment metrics for software, and **Daniel Garijo (UPM)** about semantic artefact reusability. After these introductions of some FAIRCORE4EOSC and FAIR-IMPACT efforts towards improved reusability, the audience again discussed with each other some critical questions, each leading to some concluding panel reflections. *Do we care about Reusability? What is the scope of Reusability?* The audience was invited to ask the questions they had always had on their mind but never dared to ask.

The session closed with a forward-looking discussion on sustaining FAIR principles beyond FAIRCORE4EOSC and FAIR-IMPACT. Panelists reflected on the challenges ahead, emphasizing the need for continuity, collaboration, and practical implementation. Hervé L'Hours highlighted reusability as a complex but essential goal, stressing the importance of defining clear objectives and measurable outcomes. Building on this, Elena Breitmoser warned of the risk of disciplinary fragmentation once these projects end, emphasizing the need for a strong community to share knowledge and avoid duplicating efforts. Daniel Garijo reinforced this point by stressing the importance of documentation and usage examples, which, while outside FAIR's direct scope, are crucial for ensuring true reusability. He encouraged researchers to consider whether their resources could be easily reused by others. This tied into Alex Ioannidis' perspective, which focused on balancing automation and user experience—capturing key metadata efficiently while minimizing the burden on researchers, yet still providing education where needed. Wim Hugo expanded the discussion by highlighting the scale of the challenge ahead. While certified repositories set a high standard, they represent only a fraction of the global repository landscape. With thousands more repositories yet to adopt FAIR-aligned practices, broadening adoption remains a major task. Together, these insights underscored a shared conclusion: sustaining and expanding FAIR principles requires not only technical solutions but also strong community engagement, shared responsibility, and ongoing efforts to bridge gaps across disciplines and infrastructures.



Figure 9: Panellists of the “R” session

In this picture: Morane Gruenpeter (Software Heritage), Hervé L'Hours (UK Data Archive), Alex Ioannidis (CERN), Elena Breitmoser (EPCC), Daniel Garijo (Universidad Politécnica de Madrid), Wim Hugo (DANS)



4. Supporting FAIR Implementation: FAIR-IMPACT Stories & FAIRCORE4EOSC Case Studies

FAIR-IMPACT selected Implementation stories

This session aimed to share the experiences of those who participated in one of the sixteen support actions and programmes offered by the FAIR-IMPACT project. Following a very brief recap of the support routes provided by FAIR-IMPACT, the session then moved on to hear from six panelists who joined one or more of our support actions and/or programmes. Panelists included **Dieuwertje Bloemen (KU Leuven)**, **Clara Boavida (Iscte - University Institute of Lisbon)**, **Vaidas Morkevicius (Lithuanian Data Archive for Social Sciences and Humanities)**, **Rory MacNeil (RSpace)**, **Mateusz Pawlik (Paris-Lodron University of Salzburg)**, and **Beth Knazook (Digital Repository of Ireland)**.

Each of the panelists shared a brief summary of the FAIR-IMPACT support action or programme they participated in and provided an update on what they have done to progress the FAIR-enabling capacity of their organisation or service. Overall, the panellists shared that they had very positive experiences during their engagement with FAIR-IMPACT support and it was truly inspiring to hear that all of the panellists are continuing to put what they learned into practice in various ways. The opportunity to exchange knowledge with peers during the support actions and programmes was something that the panelists particularly valued.

According to Beth, *"You get better by participating in communities. You don't get better on your own"*. We couldn't agree more!



Figure 10 Laurence Horton, DCC, opening the FAIR-IMPACT session on FAIR Implementation stories

FAIRCORE4EOSC Case Studies

The FAIRCORE4EOSC project is developing and realising FAIR enhancing services for the European Open Science Cloud (EOSC). Leveraging existing technologies and services, nine new services aim to improve the discoverability and interoperability of an ever-increasing amount of research outputs. To ensure that these new services are co-designed and tailored to the needs of their future users, five case studies led by thematic and data infrastructure EOSC communities drove the development and testing of the new components.

In this session, the FAIRCORE4EOSC case studies presented their work, showcasing the test implementation of the new services for FAIR data management to an interested audience and told about their lesson-learned. Diverse approaches to enhancing data stewardship across various disciplines were highlighted and allowed fresh and exclusive insights into the practical data management work of several EOSC communities.

The Case Study representatives **Maxence Azzouz-Thuderoz (Mathematics)**, **Joonas Nikkanen (European Integration of National-level Services)**, **Chris Ariyo (Service Providers and Research Data Management Communities)**, **Willem Elbers (Social Sciences & Humanities)** and **Beate Krüss (Climate Change)** demonstrated how the FAIRCORE4EOSC services can make life easier for research data managers and data stewards through enhanced machine-actionability, as well as improved findability and metadata quality for researchers and infrastructure managers in their respective fields. To test the attentiveness of the audience, the session closed with a little humorous quiz about the FAIRCORE4EOSC services and case studies, and the winners received delicious chocolate bars to enjoy and FAIRly share at the following coffee break!



Figure 11: Parallel session dedicated to FAIRCORE4EOSC case studies



5. Concluding session: Reflections from Stakeholders

In the closing panel session **Carole Goble, Professor of Computer Science, The University of Manchester, UK** called on stage an international group of panellists to look back on over a decade of implementation of the FAIR principles. 2025 marks 11 years since the [2014 Lorentz Workshop](#), 9 years since the 15 guiding principles resulting from that workshop were [published](#) in 2016 in Nature Scientific Data under the title [“The FAIR Guiding Principles for scientific data management and stewardship”](#) and 7 years since the [Turning FAIR into Reality report](#) was released.

The panellists were asked to address the following questions: *Where are we now? Where do the audience expect these communities to be? What has changed and what is still the same? Are we working on the right aspects? What is needed in the future to “Turn FAIR into Reality”?*

The discussion explored the evolving role of FAIR in a rapidly changing world, touching on security, sustainability, and the broader adoption of FAIR principles across disciplines and infrastructures.

Natalie Harrower, Executive Director of the Canadian Research Data Centre Network, emphasized the need to **treat data as a national asset**, particularly in the face of growing security concerns. In today’s landscape, the focus has shifted towards protecting data from external influence while ensuring responsible research practices. However, efficiency remains crucial. From an international perspective, coordinated efforts, such as those within EOSC, offer a framework for organizing and advancing FAIR, something that Canada, for example, still lacks as a unifying vision.

Andrew Treloar, Director of International Strategy for the [Australian Research Data Commons \(ARDC\)](#) built on this idea, questioning whether researchers even need to know about FAIR in the first place. He compared it to a commodity, like electricity — something that powers our daily lives without requiring in-depth knowledge of how it works. The goal should be to reduce complexity and make FAIR more accessible. However, despite significant progress, not all proposed solutions will become reality. The challenge lies in balancing generality and sustainability — broad solutions come at a cost, and turning successful projects into long-term infrastructure is a difficult yet necessary task. The key question remains: *how can we ensure these efforts endure beyond the project phase?* Looking at long-standing infrastructures may provide answers for the next two decades.

Karel Luyben, President of the European Open Science Cloud Association (EOSC-A), reflected on the progress made since 2013, noting the advancements since the Lorentz Conference and setting an ambitious goal: **if by 2040, 50% of research outputs are as FAIR as possible, that would be a success**. However, obstacles remain, including cultural resistance, lack of training, and internal institutional concerns. Moving forward requires perseverance, patience, and the power to push through these barriers. He also distinguished between two types of projects—those with implementable resources and those exploring new frontiers—stressing that accessibility is the most critical aspect of FAIR. EOSC plays a key role in making data as international and interdisciplinary as possible, reinforcing the need to look ahead rather than dwell on past challenges.

Pantelis Tziveloglou, Team Leader for the European Open Science Cloud at the Open Science and Research Infrastructures Unit of the European Commission’s Directorate-General for Research and Innovation, expanded on this by discussing EOSC’s potential role in addressing research security in Europe. Beyond security, EOSC contributes to European competitiveness as part of the Fifth Freedom, helping establish a European Knowledge Commons. With AI becoming increasingly relevant, initiatives like AI factories are gaining momentum. However, awareness of EOSC remains limited, with many researchers still unfamiliar with its impact. **While only 10% of research funding comes from the EU, the real challenge is securing national-level adoption and operational support, ensuring that EOSC becomes an integral part of the research ecosystem across Europe.**

Together, these perspectives underscored both the progress made and the challenges ahead. Achieving FAIR's full potential will require sustained collaboration, simplification of processes, and a strategic push for broader adoption—both at the institutional and national levels.



Figure 12: Panellists of the Concluding session

In this picture: Carole Goble (The University of Manchester), Karel Luyben (EOSC-A), Andrew Treloar (ARDC), Natalie Harrower (CRDCN), Pantelis Tziveloglou (European Commission)



Annex 1: On-site participants at the FAIRfest by country

Countries	Values
Netherlands	84
Germany	24
United Kingdom	20
France	15
Finland	12
Belgium	11
Italy	10
Japan	7
Greece	6
Norway	6
Spain	4
Austria	3
Denmark	3
Latvia	3
Slovenia	3
Sweden	3
Australia	2
Czech Republic	2
Ireland	2
Portugal	2
Romania	2
Switzerland	2
United States	2
Canada	1
Hungary	1
Israel	1
Lithuania	1
Poland	1
Total	233



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