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## D6.8 – Final report on the liaison and contribution to EOSC and other EU initiatives

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## Terminology

Terminology/Acronym	Description
EOSC	European Science Cloud
EC	European Commission
EOSC	European Open Science Cloud
FAIR	Findable; Accessible; Interoperable; Reusable
GA	Grant Agreement to the project
KER	Key Exploitable Results
KPI	Key Performance Indicator
MoU	Memorandum of Understanding
SRIA	Strategic Research and Innovation Agenda

## Executive Summary

The FAIR-EASE project as part of the European open Science Cloud aimed at delivering sustainable services for the communities. This project happened within an ecosystem evolving really fast and, marked by the launch of the EOSC EU Node as well as the consolidation of EOSC as a federation of nodes. In this new context, FAIR-EASE has positioned itself strategically by reinforcing its connections with relevant nodes, in particular those led by Data-Terra and Blue-Cloud, thereby contributing to the broader coherence and interoperability of the federation.

Over the few past years, FAIR-EASE has strengthened its collaborations with several key EOSC initiatives and stakeholders. Notably, the project signed two Memorandum of Understanding (MoUs), respectively with Blue-Cloud and EGI, which represent important steps towards enhanced alignment and synergies across communities. These collaborations not only reinforce FAIR-EASE's role within the EOSC ecosystem but also expand its capacity to deliver value for users and stakeholders.

Beyond the EOSC framework, FAIR-EASE has proactively explored additional partnerships to increase its impact and foster innovation. In this regard, the project engaged with Galaxy Europe, further broadening its network of collaboration and ensuring complementarities with other research infrastructures and services of strategic relevance.

Importantly, these strengthened linkages and partnerships contribute directly to the sustainability of FAIR-EASE services, ensuring that its outputs are embedded within long-lasting structures, widely adopted by user communities, and aligned with the evolving governance and operational model of EOSC. This approach guarantees that the project's achievements will continue to generate value and impact well beyond its end.

Through these concrete actions and collaborations, FAIR-EASE has consolidated its role as a bridging initiative, actively contributing to the shaping of EOSC's federated model while fostering cross-domain and cross-community collaborations that are essential to advance open science in Europe and beyond.

## 1. Introduction

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This deliverable aims to present the main achievements of the FAIR-EASE project and to highlight its contributions to the European Open Science Cloud (EOSC) and other relevant European initiatives. It follows and concludes on the discussions introduced in a previous intermediary deliverable, providing an updated overview of the project's strategic actions and results.

Throughout its first implementation phases, FAIR-EASE has positioned itself within the EOSC ecosystem, establishing strong collaborations with key projects, initiatives, and infrastructures. The project has actively contributed to EOSC Association activities, notably through its engagement in the EOSC Focus Opportunity Areas, and initiated synergies with several EU-funded projects such as FAIR-IMPACT, EuroScienceGateway, Blue-Cloud 2026, and AquaInfra. In parallel, the project developed collaborations with other initiatives, including Gaia Data, the French national flagship project aiming at developing distributed infrastructures capacities for Earth System and Climate research domains, D4Science, and the Galaxy community in Europe and worldwide. These liaisons ensured that FAIR-EASE results were visible across relevant communities, and created the foundation for their future sustainability and usability, particularly within the European Open Science landscape.

After having established contacts with all of these European projects and initiatives, FAIR-EASE has chosen to focus its efforts and reinforce collaborations with selected partners where synergies are strongest and most impactful. This targeted approach reflects the project's commitment to ensuring both efficiency and sustainability in its contribution to the broader EOSC ecosystem.

The project's strategy for active involvement in EOSC remains very strong. In particular, FAIR-EASE has taken into account the major structural evolution of EOSC: the introduction of the EOSC Candidate Nodes, and the transition of EOSC towards a federation of nodes. This change has been central in shaping the project's positioning and engagement with relevant stakeholders.

The deliverable is structured to provide a clear overview of FAIR-EASE's achievements and collaborations. Firstly, it is important to highlight the global status of EOSC in the last year of the project as there is a new EOSC governance. This document will also focus on the main collaborations established by FAIR-EASE. Another section describes how FAIR-EASE has actively contributed to the EOSC Association, ensuring that project outcomes are aligned with and fed into the wider community processes. Finally, the deliverable provides an updated evaluation of FAIR-EASE's key performance indicators (KPIs), measuring the extent to which the project has achieved its objectives and delivered impact within the EOSC ecosystem.

## 2. FAIR-EASE within the framework of EOSC Nodes

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Since the start of FAIR-EASE, the governance and operational landscape of the European Open Science Cloud (EOSC) has undergone major changes. At the time of the project's proposal, the EOSC Marketplace served as the central entry point for services. However, this structure has since been phased out, and as of April 2024, it no longer exists.

EOSC has entered a new phase of strategic transition, characterised by the implementation of the EOSC Federation Architecture. This evolution was marked by the official launch of the EU EOSC Node during the EOSC Symposium 2024 in Berlin. This transition represents a decisive move away from the centralised Marketplace model towards a federated ecosystem of Nodes, which can take the form of national, European, or thematic service entry points.

As the EOSC Federation enters its build-up phase, FAIR-EASE has focused on integration opportunities within national or thematic EOSC Nodes with a strong relevance to environmental sciences, earth system research, and multidisciplinary data infrastructures.

The launch of the EU EOSC Node and the evolution towards a federated model are particularly significant for FAIR-EASE, as they create new opportunities to showcase its services in collaboration with domain-specific Nodes. In this regard, the project has established strong linkages with the Data-Terra Node, representing the Earth system and environmental science community, and with the Blue-Cloud Node, focusing on marine and aquatic domains. These connections provide a natural pathway for FAIR-EASE to integrate its outputs into strategically relevant parts of the EOSC Federation, ensuring broad accessibility and cross-domain interoperability.

Further details on FAIR-EASE's positioning and strategy in relation to the EOSC Nodes are provided in Deliverables D1.4 (Sustainability Plan) and D6.11 (Policy Brief), which outline both the practical and strategic considerations underpinning this approach.

## 3. FAIR-EASE focused collaboration with other projects and initiatives

### 3.1. Blue Cloud

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FAIR-EASE has built strong collaboration with the Blue Cloud Project since the early beginning. During the last year of the project, the projects' coordinating organisations have signed a Memorandum of Understanding (MoU) which has set the following areas of collaborations:

- Establishment of a Working Group on Data Access to share best practices, scale data processing (e.g. PANGEO tools), and explore data lake approaches and reference data spaces.

- Access provided by Blue Cloud to a D4Science-based VRE, enabling testing, integration, and deployment of FAIR-EASE services (e.g. WebODV, Examind, IDDAS, Galaxy).
- Joint sharing of experiences and expertise to inform Blue-Cloud's strategic roadmap and FAIR-EASE's implementation pathways.
- Mutual participation in events, webinars, training activities, and consultations.
- Establishment of a Working Group on Impact Pathways, focusing on exploitability and sustainability of results from both projects.

This MoU provided an official framework for collaboration, reinforcing synergies between Blue-Cloud 2026 and FAIR-EASE in developing federated, interoperable, and sustainable data services within the EOSC ecosystem, with benefits for both the marine and environmental science communities.

A concrete example of this collaboration is the Blue-Cloud webinar held on 28 August 2025, which focused on advancing interoperability and seamless data access across scientific domains. The event showcased FAIR-EASE services such as ARCO, STAC, OpenEO, and the Uniform Data Access Layer (UDAL), and how these were combined with the Blue-Cloud 2026 BEACON software system for high-performance data access. Beyond discovery and access, the webinar also demonstrated the integration of the FAIR-EASE Galaxy service into Blue-Cloud's D4Science environment, enabling its use as a Virtual Lab within the Blue-Cloud Computing Platform (CCP).

In addition, during the EGI 2024 Conference, FAIR-EASE contributed to a Blue-Cloud session by presenting the Semantic Analyser.

### 3.2. EGI

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In addition to the MoU signed with Blue Cloud, FAIR-EASE has also signed a MoU with EGI in collaboration with the University of Fribourg.

This Agreement establishes a long-term collaboration framework to jointly provide and use sustainable e-Infrastructure services within the European Open Science Cloud (EOSC). It identifies several key areas of cooperation, formalised in a Joint Work Plan:

- Support for FAIR-EASE computing and storage needs by leveraging EU data centres of the EGI Federation, ensuring service-level agreements for sustainability.
- Technical alignment and integration of FAIR-EASE services with EGI Check-in, improving authentication and authorisation interoperability across infrastructures.
- Expansion and operation of Galaxy services in EOSC, strengthening domain-specific communities (e.g. earth sciences, climate, ecology), enhancing geospatial support, and improving interoperability and scalability.



- Joint impact, dissemination, and outreach activities, including shared success stories, collaborative publications, events, and workshops.
- Coordinated efforts for future funding opportunities, particularly Horizon Europe calls.
- Exploration of FitSM methodology to enhance IT service management and professional delivery of federated EOSC services.

### 3.3. FAIR-IMPACT

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The collaboration between FAIR-EASE and FAIR-IMPACT was built from the very early stages of the project. Main information for the first two years of this collaboration was already highlighted in the intermediary report D6.4.

This engagement ensured that the two projects could jointly address key challenges related to the assessment and improvement of the FAIRness (Findable, Accessible, Interoperable, Reusable) of digital resources. FAIR-IMPACT brought in methodologies, metrics, and tools for assessing FAIRness, while FAIR-EASE provided concrete use cases and pilots in the Earth and Environmental Sciences domain, enabling the practical testing and refinement of these solutions.

Indeed, both projects actively participated in workshops and events to exchange best practices and discuss challenges in FAIR assessment. The collaboration with FAIR-IMPACT proved highly valuable for FAIR-EASE, supporting the selection of appropriate FAIR assessment tools, the organisation of a dedicated meeting and follow-up with the developers of F-UJI to review test results, and the development of software FAIRness assessment criteria that were subsequently incorporated into FAIR-EASE's templates.

Furthermore, a concrete example of this collaboration in action is the participation of FAIR-EASE in the FAIRFest FAIR-IMPACT event held in The Hague (Netherlands), 20–21 February 2025.

Overall, the collaboration between FAIR-EASE and FAIR-IMPACT led to the development of a feedback matrix for EOSC stakeholders, providing guidance on FAIR implementation profiles and the practical use of assessment tools.

Further insights, detailed analyses, and recommendations on improving the FAIRness of digital resources in the Earth Sciences are provided in the dedicated deliverable “D6.5 – Guidelines for the improvement of the FAIRness of digital resources in the Earth Sciences communities”.

### 3.4 Galaxy Europe

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FAIR-EASE, as detailed in D6.4, has collaborated actively with the EOSC-related projects EuroScienceGateway and AquaINFRA on improving Galaxy Europe.

As a result of this collaboration the three projects presented a poster at the EOSC Symposium 2024 in Berlin showcasing how they use Galaxy Europe to meet their FAIR data management frameworks. AquaINFRA supports marine and freshwater scientists and stakeholders, FAIR-EASE builds an

interdomain digital architecture for the integrated use of environmental data and EuroScienceGateway delivers a robust open infrastructure for data-driven research. This collaboration also opens new avenues in terms of services development beyond the end of the projects, particularly in the framework of the EOSC Federation.

Galaxy has been presented in many other events having an important audience such as the European Geosciences Union (EGU 2024 and 2025) and the Galaxy Community Conference (GCC 2024 and 2025).

## 4. FAIR-EASE participation to EOSC Association Activities

In the framework of the EOSC Association, we can address our participation in the Winter School in Spain. From the outset of the project and throughout its third year, FAIR-EASE has maintained an active role in EOSC-related activities, particularly through its engagement in the EOSC Opportunity Areas (OAs).

During the EOSC Winter School 2025 that was held in Spain, FAIR-EASE, along with other projects EuroScienceGateway, EOSC Beyond, AquaInfra, AI4EOSC, RAISE participated in the OA 4 on Virtual Research Environment (VRE).

The main objective of OA4 is to provide support in harmonizing and disseminating the progress of systems and VRE services. This helps projects streamline developments, join forces to address larger challenges, and develop state-of-the-art EOSC use cases. Moreover, the OA4 team which FAIR-EASE is part of, acted as a technical validator, testing and consolidating solutions to reinforce their robustness and support the activities of the EOSC Association Task Forces. Through this role, OA4 contributed directly to ensuring that VRE-related solutions are interoperable, sustainable, and aligned with the broader EOSC federation model.

### 4.1. Update of KPIs assessment

During the proposal stage, the project established a certain number of KPIs regarding the involvement of FAIR-EASE within the ecosystem. This section aims to assess these KPIs with one year remaining till the project ends.

The key KPIs is displayed in the table below :

Name of the KPIs	Number of measurement
Participation in ecosystem events	5 via both and/or presentation and/or posters

During the final year of the project, FAIR-EASE has been actively involved in many EOSC and other ecosystem related events. The project has participated by presenting a poster, organising or giving presentations to many events, reaching the KPIs set at the beginning of the project.

Name of the event	Date	Location	Participation
Gaia Data technical workshop	26/03/2024 - 28/03/2024	Montpellier (France)	Presentation of FAIR-EASE and discussion on the ARCO format
Printemps de la donnée (Data Spring)	11/04/2024	Paris (France)	Presentation of FAIR-EASE inside a workshop dedicated to Galaxy-Ecology
OSC National Tripartite Event: Belgium	16/04/2024	Brussels (Belgium)	Presentation of a poster
EGU conference 2024	14/04/2024 - 19/04/2024	Vienna(Austria)	Poster of Galaxy
IMDIS conference	27/05/2024 - 29/05/2024	Bergen (Norway)	Presentation of Galaxy
JpGU 2024	26/05/2024 - 31/05/2024	Chiba (Japan)	Presentation of FAIR-EASE
OSC National Tripartite Event: Belgium	16/04/2024	Brussels (Belgium)	Presentation of a poster
World Biodiversity Forum	16/06/2024- 21/06/2024	Davos (Switzerland)	Participation to a session
Galaxy Community Conference	24/06/2024- 29/06/2024	Brno (Czech Republic)	Participation to a session
EGI conference 2024	01/10/2024 - 04/10/2024	Lecce (Italy)	Presentation of the Semantic Analyser inside a Blue Cloud presentation

EOSC 2024	Symposium	21/10/2024 - 23/10/2024	Berlin (Germany)	Presentation of Galaxy poster
EUDAT 2024	Conference	03/12/2024 - 05/12/2024	Karlsruhe (Germany)	Presentation of a poster
3rd Greek open Science Summit		10/12/2024-11/12/2024	Athens (Greece)	Presentation of FAIR-EASE
EOSC Winter School		20/01/2025-23/01/2025	Sevilla (Spain)	Participation to session
FAIRFest FAIR-IMPACT event		20/02/2025-21/02/2025	The Hague (The Netherlands)	Poster
EGU Conference 2025		27/04/2025-02/05/2025	Vienna (Austria)	FAIR-EASE workshop
EGI Conference 2025		02/06/2025-06/06/2025	Santander (Spain)	FAIR-EASE short talk (20min)

## Conclusion

Over the course of the project, FAIR-EASE has adapted to the major transition of EOSC from a centralized marketplace to a federated model of nodes, aligning its activities with this new architecture and strategically connecting with relevant nodes such as Data-Terra and Blue-Cloud.

The project has also established concrete and long-lasting partnerships with key stakeholders. The signing of Memoranda of Understanding with Blue-Cloud 2026 and EGI formalised joint actions to strengthen interoperability, exploitability, and sustainability of services, while the collaboration with FAIR-IMPACT ensured that FAIR-EASE outputs contributed to advancing FAIRness assessment methodologies. In addition, the cooperation with Galaxy Europe and related EOSC projects demonstrated FAIR-EASE's commitment to interdisciplinary approaches and practical service integration.

FAIR-EASE has also continued to play an active role within the EOSC Association, notably through its participation in Opportunity Areas such as OA4 on Virtual Research Environments, where it contributed both to knowledge sharing and to the technical validation of solutions supporting Task Force activities. These engagements, together with the project's active participation in EOSC events and consultations, highlight its strong involvement in shaping the federation and supporting its long-term sustainability.

By strengthening these collaborations and aligning with EOSC, FAIR-EASE has positioned its services and outcomes to remain accessible, interoperable, and sustainable beyond the project's lifetime.