Nationale Forschungsdateninfrastruktur (NFDI)

Project Charter

Towards an EOSC National Node for Germany

1. Project Summary

The aim is to start with the onboarding of various disciplinary services from the NFDI and to pave the way for the provision of a German node in the EOSC Federation.
This German node should enable access to a wide range of high-quality and FAIR-compliant interdisciplinary data sets and open science services from the NFDI community in Europe.
The objectives of the first phase towards the provision of a German Node in the EOSC Federation are:

- O1: Provision of data-intensive data outputs from the photon and neutron communities such as the SciKat repository, allowing access to high value datasets by integrating the NFDI DAPHNE4NFDI community research outputs to the PaNOSC research infrastructure.
- O2: Provision of the European Galaxy server that allows researchers to analyse and share scientific data using interoperable APIs and various user-friendly web-based interfaces. Galaxy is providing a framework for researchers across a wide range of research fields.
- O3: A seamless addition to the EOSC “resource catalogue”, by harnessing the outputs of an Invenio repository for business management and related fields and providing proof-of-concept to further make NFDI/national repositories compatible and available within the EOSC Federation.
- O4: By leveraging the German AAI solution, the research resources from these repositories will be made available via the Resource Catalogue of the EOSC EU for researchers across Europe. Other horizontal services will be added.

This envisioned two-way visibility and accessibility would foster an expanding user base for NFDI services and contribute to the overall research potential within the EOSC Federation. The overall priority is to harness the wealth of community-driven resources within NFDI. This will pave the way for sharing NFDI’s multi-disciplinary research outputs and harnessing the multitude of RDM initiatives that currently exist.
The activities of establishing the node will also bring experience of operational models and contribute to ongoing discussions at European level. A framework for security aspects for participating services at national level will also be produced.

2. Value Proposition

We empower European research by providing seamless access to high-quality FAIR data from a broad variety of disciplines and specialized services, fostering digital sovereignty, inclusivity, and innovation in alignment with the European Open Science Cloud. By lowering barriers for German science organizations to join the EOSC Federation through integrated AAI connectivity, we contribute to a unified and accessible European Knowledge Commons. Our specialized services developed by all scientific disciplines in a bottom-up approach, including NFDI terminology services, enhance interoperability, collaboration, and the full exploitation of Europe’s digital potential, strengthening Europe's strategic autonomy in research and innovation.

3. Use Case(s)

Use Case ID	Use Case Description	Federation Contributions & Value to Users
1	Onboarding an Invenio repository as blueprint for further disciplinary InvenioRDM repositories	This use case aims to integrate Invenio-based repository management systems with the EOSC Federation, using the Meta-Knowledge Graph of the EOSC EU Node to enhance metadata representation. By doing so, it seeks to streamline the connection between Invenio-based repositories and the EOSC Federation, enhancing data discoverability and interoperability. Additionally, this use case will provide an interface as a service that supports onboarding of InvenioRDM instances, especially disciplinary repositories, directly with the EOSC-EU Node. As a start, the BERD Data Portal (https://berd-platform.de) will serve as a blueprint. The BERD data portal provides a manually curated collection of high-quality FAIR digital research objects from the field of business, economics, and social sciences. A unique feature of the BERD data portal is that it not only allows to store and retrieve research data, but also to link it to related publications that used the research data and software that was used to generate the scientific results. Access Policy: “Open Source” Connection to AAI service of NFDI (IAM4NFDI) to be investigated.
2	Galaxy and Science Thematic Nodes: Provide raster data (e.g. image data) management and analysis resources for European researchers.	Galaxy will orchestrate the conversion and migration of data between repositories like OMERO, IDR, BIA, ENA, Copernicus, Zenodo … with compute resources from Czech, France, Germany, EGI, EU-Node … Advanced workflows (ideally from workflowhub.eu) will be distributed across Nodes. Users will be enabled to bring their data (e.g. from InvenioRDM, Zenodo, institutional OMERO instances etc) and combine that with national or thematic computational resources. This will all work in a browser and will be accessible to non-IT heavy

Use Case ID	Use Case Description	Federation Contributions & Value to Users
		users. This use case will be developed together with EuroBioImaging, ELIXIR, EGI, (checkin and compute), EUDAT (B2DROP connection). In detail: We want to demonstrate that we can use one workflow to analyse data from 3-4 different communities., all of them using Imaging data. The data is coming from different (community specific) respositories, are injested into Galaxy, the workflow is coming from WorkflowHub, the jobs are scheduled in different Euoprean Countries, the results are exported into (community specific) repostiores and get a DOI. The provance of the workflow is exported to Zenodo. A more detailed "playbook" can be found at https://docs.google.com/document/d/17pZV23BdT0VKRbgC0Ktw6LuQ-Ixid0Hp-hgcfotpA5w/ The AAI service of NFDI (IAM4NFDI) will be used by the European Galaxy server (work in progress).
3	(Meta-)Database provisioning photon and neutron data use case as Collaboration of DAPHNE4NFDI and PaNOSC.	Photon and neutron (meta)database available at public-data.desy.de. This service will provide an input mask and database for curated Photon and neutron metadata and a doi to data stored at Zenodo (or another locations). This service will also be provided in the PaNOSC thematic node. The use case will be developed together with the PaNOSC node. There will be a collaboration with the AAI service of NFDI (IAM4NFDI).

4. External Dependencies & Key Risks

External Dependencies & Risks	Actions	Deadline
Use Case ID 1: We will not be able to successfully implement this use case if the following information is not available in a timely manner	1. Architectural information about the technical set-up of EOSC-EU node and MKG 2. Technical documentation of API of EOSC EU Node for mandated services 3. Access to source code of API for mandated services 4. Any further technical or architectural information that the EOSC EU Node specifies for onboarding services that are not yet known to us.	April 2025
Use Case ID 2: Complications and delays on the political level and partners dropping out.		
Use Case ID 3: Onboarding	Need support to onboard	October 2025
Alignment of Deployment Strategies	Need to clarify if and how updates of the EOSC EU Node impact on onboarded services and vice versa.	end of 2025
1) technical specifications from EOSC EU Node; 2) required credits for operation of services at EOSC EU node; 3) limit expectations wrt. ITIL frameworks	1) what specs are needed for the onboarding 2) use of services onboarded depend on properly available credits at EU node level 3) what are the minimal documents/agreement needed for on boarding	as early as possible in 2025

5. Contributions

The NFDI delivery concept begins with individually mandated services that address the diverse needs of various scientific disciplines. Each of these services operates with its own operational, security, and legal frameworks. A key ongoing task of the NFDI is to align and consolidate these individual frameworks where possible.

Similar to the federation of nodes and services in the EOSC Federation, the NFDI functions as a federation of services that in the future will collectively form the German EOSC node within the EOSC Federation. While each service operates independently within this federation, the NFDI aims to establish a harmonized governance framework. As part of the further development of the German EOSC node, it is planned to introduce minimal uniform templates for essential elements such as service level agreements, incident response protocols, and IT service management procedures. These templates will facilitate the adoption of standardized practices by existing services while accelerating the onboarding of new services.

Additionally, the NFDI plans to establish service management system support processes to oversee and coordinate NFDI services, ensuring consistency and efficiency across the federation.

Furthermore, more core federating capabilities in addition to the AARC blueprint AAI service, will be established that serve the wider German research services landscape and reduce the reliance on the EOSC EU node.

Example Onboarding InvenioRDM:

- Documentation of technical and agreed (with EOSC EU Node) concept for onboarding InvenioRDM to EOSC EU Node
- Successful implementation of InvenioRDM proxy based on InvenioRDM for business management: https://berd-platform.de/
- Documentation of rules for participation for InvenioRDM instances to connect with the InvenioRDM proxy

Example Galaxy:

- operation, ISO27001 certified: https://galaxyproject.org/news/24-01-2025-27001-certification/
- data protection: https://usegalaxy-eu.github.io/gdpr/tos.html
- deployment strategy: https://github.com/usegalaxy-eu/
- incident reporting: https://github.com/galaxyproject/galaxy/blob/dev/SECURITY.md

Example IAM4NFDI/NFDI-AAI:

- Policy Framework based on well-established international standards and best practices, addressing the management of Virtual Organisations, Data Protection, Identity Assurance and Security Incident Response: https://doc.nfdi-aai.de/policies/

6. Timing and Milestones

ID	Milestone Description	Target Delivery Date
1	Kick-Off-Workshop with all partners	March 2025

ID	Milestone Description	Target Delivery Date
2	Use Case ID 2: Finish the "playbook" for the Demo.	April 2025
3	Use Case ID 3: Catalogue available	April 2025
4	Use Case ID 3: Metadata schema on offer Manual upload and download ● API ● AAI (Helmholtz)	April 2025
5	Selection of services for the onboarding on the EOSC EU Node (first phase services)	April 2025
6	Project charter for each use case	April 2025
7	Start legal clarifications for the onboarding of services → Draft Letter of Intent	April 2025
8	Use Case ID 1: Feasibility analysis for end-to-end use case with CERN and requirements analysis Exploration ● Review Meta Knowledge Graph of EOSC EU Node ● Familiarise with OpenAire Harvester ● Explore semantic interoperability between MKG and Invenio metadata schemas. ● Assess API for onboarding services to EOSC EU Node	May 2025
9	Use Case ID 2: Have the final endorsement from all contributing partners.	May 2025
10	Use Case ID 1: ● Presentation of interim results and possible obstacles for next steps at F2F event in June ● Prototype linking of research data from the BERD data portal with publications on Zenodo. ● Implement MKG-based metadata enrichment and synchronization processes. ● Link metadata elements with Zenodo	June - August 2025
	Use Case ID 2 ● Deploy Galaxy instances on EOSC Nodes in order to allow researchers to run data analysis workflows on the EOSC.	June 2025

ID	Milestone Description	Target Delivery Date
	• Facilitate automation of Galaxy deployments using the EOSC Node technology stack. • Identify scientific use cases for federated execution of data analysis workflows amongst collaborating EOSC Nodes in order to allow researchers to send computations close to where the data sits.	
11	Use Case ID 2: • Demonstrate the federation of execution of workflows amongst collaborating EOSC Nodes. • Deploy Galaxy single-user instances on the EOSC EU Node and/or other participating Nodes.	July 2025
12	Use Case ID 3: • Onboarding to EOSC • AAI (helmoholz)/Eduteams (once it is available)	July 2025
13	Use Case ID 3: Adapt to various metadata schema registry	August 2025
14	Use Case ID 1: • Presentation of interim results and possible obstacles for next steps at F2F event in Sept/Oct	September 2025
	Use Case ID 2: Onboard the Galaxy technology stack towards using the EOSC AAI (note: we are dependent here on EOSC-AAI)	September 2025
15	Use Case ID 1: • Deployment of an end-to-end use case	October 2025
	Use Case ID 2: Demonstrate the running of scientific workflows on remote EOSC Nodes' resources.	October 2025
16	Legal Clarifications for the onboarding of Services, extended legal framework for the onboarding of services into the EOSC federation → Letter of Intent	October 2025
17	Onboarding of services in the EOSC EU Node to an extent that allows an presentation of end-to-end use cases during the EOSC Symposium	November 2025

ID	Milestone Description	Target Delivery Date
18	Use Case ID 1: ● Finalize the showcase setup Prepare presentation of end-to-end use case for the EOSC Symposium	November 2025
19	Use Case ID 3: ● Interoperability with ESRF (SciCat/ICat) o Applied to a PaN use case o Current available definition of API PaNOSC	November 2025
20	Use Case ID 3: Archive service	December 2025
21	Use Case ID 3: Interoperability with other catalogues	2026
22	Establishment of node core capabilities: Integration in AAI, Connection to Monitoring	2026-27
23	Establishment of initial components of operational management (service management system) (FitSM based) for first phase services: 1) customer relation management (CO) 2) change management (OM) 3) information security management (SO) 4) problem management (OM) establishment of selection and onboarding system of services	2026-27
24	Use Case ID 1: ● Cleaning up of showcase ● Collection lessons learned (also together with other EOSC Nodes) ● Development and provision of learning/support material for other EOSC Nodes (e.g. from 2nd wave) to join the EOSC federation	January - March 2026
25	Use Case ID 1: ● Development of a generic service interface based on the blueprint for the BERD data platform	April - September 2026
26	Operation clarification for the enrolment of the EOSC National Node	October 2026
27	Use Case ID 1: ● Deployment of service interface	October - December 2026

ID	Milestone Description	Target Delivery Date
28	Legal Clarifications for the enrolment of the EOSC National Node (Clarification with the EOSC, clarifications with NFDI association members for the provision of services to the EOSC National Node); extended legal framework for enrolment of the National Node	March 2027
29	Establishment of EOSC National Node Germany EOSC Symposium showcase (November)	October 2027

7. Contact & Submission

Role	Name	Email
Coordinator	York Sure-Vetter	york.sure-vetter@nfdi.de
Operation Manager	Jos van Wezel	jos.vanwezel@kit.edu
Security Officer	Philipp Wieder	philipp.wieder@gwdg.de
Scientific Officer	Stefanie Weidtkamp-Peters	stefanie.weidtkamp-peters@hhu.de

1. GUIDANCE MATERIAL

The project charter is intended to be a living document and will serve as a guideline for both your organisation and the other Candidate Nodes. It will help identify dependencies, commonalities, and gaps with other Candidate Nodes and the EU Node. If there are multiple partners within your organisation, the submitting organisation is responsible for managing the process and ensuring that only one project charter is submitted on behalf of all partners within the organisation. We invite you to provide a first draft for the kick-off workshop, which can be refined during the session and afterward to accurately reflect your contributions and use cases. For the kick-off workshop, we suggest that the filled-in content does not exceed 10 pages.

2. 1. PROJECT SUMMARY

Maximum 300 words. This section should clearly articulate the primary purpose of your organisation's participation in the EOSC Federation. Highlight how your organisation's activities will support the federation's overarching mission to enable open science, foster collaboration, and facilitate seamless access to FAIR data and services across disciplines and borders.

Describe how your organisation will contribute to the EOSC ecosystem, such as by providing high-value FAIR data, single sign-on AAI, open science interoperability, technical infrastructure, research services, and community coordination.

Clarify the geographic, thematic, disciplinary, or technical scope of your organisation's activities including onboarding and node enrolment activities into the federation. Summarise your organisation's key functions, such as data provision and/or hosting, single sign-on AAI integration, EOSC interoperability framework development, supporting training programs or developing standards.

3. 2. VALUE PROPOSITION

What is the value proposition of your organisation to the EOSC Federation? Identify specific challenges or gaps in the EOSC ecosystem that your organisation aims to address by joining the Federation (e.g., lack of data hosting, integrating federating capabilities, need for specialised computing capabilities, interoperability framework development, cross-discipline scientific use cases/workflows). Who are the beneficiaries of your organisation's contribution to the EOSC Federation Research Institutions and Universities, public sector bodies, research user community, citizens and society

Clearly define the target user audience (e.g., researchers, institutions, policymakers, private sector) and how your organisation will better meet their needs as part of the Federation. What unique capabilities does your organisation offer? Highlight specialised infrastructure, tools, expertise, or regional focus that differentiates your organisation from others.

4. 3. USE CASES

This section should define the expected use cases that will be delivered to the users and to the organisations participating in building the EOSC Federation. Use cases represent the high-level capabilities that are critical to delivering the expected benefits to stakeholders and users. Use cases should demonstrate the added value of the EOSC Federation, for example developing multi-node scientific workflows, scaling service provision, sharing common capabilities etc.

At this stage, use case descriptions should remain high-level, focusing on the capabilities required and their purpose, rather than the technical details of implementation. These features will be further detailed as the project progresses, with a focus on how they will be implemented by the project team. A use case may also involve more than one participating organisation.

Use cases relating to the EOSC EU node include access to diverse research outputs, management of research workflows, collaboration and sharing, computational resources, data transfer capabilities, and interactive analysis.

Use Case ID	*Use Case Description*	*Federation Contributions & Value to Users*

In- Scope

This section should identify what it is considered as in scope for the project, i.e., the outputs that the project WILL deliver and which form the solution which addresses the current situation (problem, need or opportunity).

Clearly define the activities, services, and deliverables that are included by your contribution to the EOSC Federation. Focus on what your organisation will actively deliver and support.

Examples include:

***Core Functions**: Specify the primary services or infrastructure your organisation will provide (e.g., data storage, single-sign-on AAI integration, catalogues, knowledge graph, leveraging OpenAIRE Catalogue, using standardised APIs, application workflow, monitoring, accounting, helpdesk).*

***Stakeholder Support**: Detail the types of users and stakeholders your organisation is designed to support (e.g., specific research domains, universities, or SMEs).*

***Integration**: Highlight integration efforts with EOSC services and other nodes, including interoperability standards and FAIR principles.*

Out of Scope

This section should identify what it is considered as out of scope for the project, i.e., that the project will NOT deliver during the build-up phase (and beyond).

Specify what your organisation will not include to avoid confusion and manage stakeholder expectations. This is essential to prevent scope creep.

Examples include:

***Excluded Activities**: Identify specific services, activities, or tools that your organisation will not be responsible for.*

***Limitations**: Highlight any limitations in the scope of support, geographic reach, or target audiences.*

***Dependencies**: Identify activities that are expected to be handled by other EOSC Nodes or external partners.*

5. 4. EXTERNAL DEPENDENCIES & KEY RISKS

This section should describe any limitations, risks or restrictions that affect how the project can be managed and executed. These constraints could come from various sources—internal organisational factors, external environments, or specific project requirements such as EOSC EU Node dependencies—and may influence decisions on resources, timeline, technology, and scope. Identifying these constraints early on ensures that the project team can plan accordingly and address potential challenges proactively. Also list decisions and compliance related risks. Mention risks that arise both from the organisation as well as from the external (to the project or/and organisation) environments.

In the case where a separate document does not exist, then you can also include information related to security risks, document management risks, data protection risks, or other.

External Dependencies & Risks	**Actions**	**Deadline**

External Dependencies & Risks	Actions	Deadline

6. 5. CONTRIBUTIONS [DELIVERABLES (INCLUDING DOCUMENTATION)]

This section should identify the deliverables of the project and their respective contributors (where there is more than one) within the organisation. Deliverables can be tangible (such as documentation, software code, APIs) or intangible outputs created during the project. These deliverables are intended to be delivered to the project owner organisation. It is important to note that the deliverables may be produced by different partners within the organisation, each contributing specific components or outputs as part of the overall project. Below are example deliverables that may serve as a reference and source of inspiration:

7. 6. TIMING AND MILESTONES

This section should list the important project points in time of the project lifecycle (i.e. milestones) for events or project deliverables. The list can include an indication regarding the foreseen timing of the major project phases (e.g. the PM² phases of Initiating, Planning, Executing, Closing), as well as both project and project management deliverables (e.g. the Project Work Plan and the date it's expected to be finalized).

ID	Milestone Description	Target Delivery Date

8. 7. CONTACTS

This section should list the important project contact persons. Please extend the table if the roles of Legal advisor or Scientific contact are not included in the other contacts listed.

Role	Name	Email
Coordinator		
Operation Manager		
Security Officer		