eosc | Tripartite

ETH Zurich

Project Charter

EOSC Node Switzerland

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1. PROJECT SUMMARY

Switzerland is contributing to the EOSC Federation through establishing the **EOSC Node Switzerland (EOSC-CH)**, a coordinated national node that strengthens the country's participation in the European research ecosystem. The initiative comprises a national EOSC Resource Hub and interoperable Resource Platform, the implementation of mandatory federating capabilities, including federated AAI, resource cataloguing, onboarding workflows, PID and metadata alignment, and foundational monitoring and service management elements. It is led by ETH Zurich, in collaboration with SERI [1], the SNSF [2] and swissuniversities [3] with the engagement of national stakeholders [4] onboarded through the Swiss EOSC Forum.

EOSC-CH builds on Switzerland's strong ORD and FAIR foundations and addresses the need for a more integrated, interoperable national research landscape. This long-horizon national effort will consolidate capabilities across institutions and disciplines, reduce fragmentation, and improve alignment with European digital research infrastructures to strengthen Swiss participation in shared European scientific practices.

Beyond national benefits, EOSC-CH contributes to the EOSC Federation by broadening the coverage of high-quality FAIR datasets and services; providing tested patterns for AAI integration, onboarding and metadata harmonisation; enabling cross-node scientific workflows through interoperable analysis environments; and offering a trusted cooperation model between global partners, strengthening EOSC's inclusiveness and resilience.

Building on a preparatory phase[5], EOSC-CH will refine its proof of concept for an EOSC-interoperable Resource Hub and Platform, map national research resources and community needs. Key outcomes include an interoperable Hub and Platform, cross-node use cases, defined onboarding pathways, validated federating components, training modules, and a White Paper on governance, legal frameworks, and sustainable business-model options.

[1] Swiss State Secretariat for Education, Research and Innovation
[2] Swiss National Science Foundation
[3] Umbrella organisation and Rectors' Conference of Swiss higher education institutions
[4] Additional stakeholders are referenced in the section 3 & 4.
[5] In the preparatory phase the Swiss EOSC Node Prototype Project (SENPro) funded by swissuniversities was implemented.

2. VALUE PROPOSITION

EOSC-CH reinforces Switzerland's strategic contribution to the EOSC Federation by integrating national research resources into a coherent, interoperable, and trustworthy **European Knowledge Commons**. Switzerland is, e.g., hosting a high number of globally relevant biodata resources as critical data infrastructure for the European and international research community. Building on these and many others, **EOSC-CH addresses key challenges** including fragmented visibility, divergent interoperability practices and onboarding processes, as well as limited cross-disciplinary connectivity. By aligning Swiss capabilities with EOSC standards, it ensures meaningful participation in the European Web of FAIR data while enhancing the Federation's overall operational maturity. Building on national Open Science and FAIR initiatives, it federates research outputs across domains and **implements core EOSC capabilities**, including AAI, resource catalogues, and metadata services. It reuses and extends EOSC EU Node components to ensure compatibility and efficiency. Defined onboarding, metadata harmonisation, and interoperable registries reduce barriers for HEIs, RIs, ERICs, and public data providers, while integrated AAI via Switch eduID[6] and MyAccessID provides secure Single Sign-On to compute, storage, repositories, workflows, and training services across domains and borders. Implementing these principles in the use cases directly benefits researchers in the involved communities by facilitating access to and reuse of quality resources in their workflows.

- **EOSC-CH expands the EOSC catalogue by onboarding FAIR aligned Swiss resources**[7] through an EOSC ready Hub and Platform supported by national guidance, best practices, and robust tools. Building on HEI and multinational RDM experience and EOSC CONNECT, it strengthens metadata harmonisation, machine actionability, and alignment with European catalogues. It brings together communities, including SRDSN[8], CLARIN, DARIAH, CESSDA, and ICOS, whose multimodal resources (from text to 3D to library collections) and metadata expertise broaden the Federation's disciplinary coverage. EOSC-CH also federates long term Swiss environmental datasets to support integrated climate and ecosystem research, linking the World Glacier Monitoring Service, Empa's ICOS Cities Zurich pilot, and Eawag's Datalakes platform. (Deliverables 1, 3, 5, 9-15; Use Cases 1, 2, 3, 4, 5)
- **EOSC-CH enables seamless cross-node scientific workflows**[9] through privacy-aware multisite execution environments and secure orchestration. Through SRC and Waldur, it manages resource allocation and builds a Swiss EOSC service catalogue interoperable with SURF, the GÉANT Digital Research Environment, and EuroHPC. Waldur APIs integrate heterogeneous providers, including HPC centres, facilitating automated provisioning and cross border interoperability. (See Deliverables 2, 3, 5, 6, 7, 8, 9, 13, 14, 15 and Use Cases 2, 3, 4, 5, 6)
- **EOSC-CH facilitates onboarding of further Swiss institutional repositories and collections** while **harmonising metadata** from specialised schemas into EOSC compatible catalogues and ensuring visibility and reusability across the Federation. Deployment through EOSC4ALL on the GÉANT Digital Research Environment simplifies onboarding and sharing. MyAccessID ensures secure cross-border access through standard OIDC/OAuth2 protocols. Core node capabilities can be deployed locally or consumed as a service from other nodes, enabling consistent cross-country reuse and low-friction pathways for providers to reach TRL ≥ 7. (See Deliverables 1, 2, 3, 4, 5, 6, 9-15 and Use Cases 1, 2, 3, 4, 5, 6)
- **EOSC-CH contributes to European integration and science diplomacy**. Switzerland's central European location and decades of collaboration with EU research frameworks plus its experience as a third country, position EOSC-CH as trusted, reliable and policy-aligned partner. This unique context equips EOSC-CH with practical expertise in European research governance, interoperability, and cross-border operations. It demonstrates how a secure, and dependable federation can operate across diverse legal and organisational environments while maintaining trust and knowledge-security. This neutral, integrative role strengthens EU science diplomacy by enabling responsible global cooperation and supporting Horizon Europe's international engagement. EOSC-CH enhances Europe's geopolitical resilience through secure-by-design practices, trusted cross-border workflows, and foreign interference mitigation via training and best-practice exchange. Combining technical robustness with disciplinary breadth, it reinforces interoperability, secure collaboration, and Europe's leadership in open, high-quality research. (See Deliverables 4, 5, 7, 8, 9 and Use Cases 1, 3, 6)

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[6] Lifelong digital educational identity, https://eduid.ch/?lang=en
[7] See section 3: HUB1, REPDATASWITCHODN
[8] Swiss Research Data Support Network, https://www.researchdatasupport.ch/
[9] See section 3: PLAT1, RSSWITCHCLOUD

3. REPOSITORIES AND SERVICES DELIVERED

EOSC-CH can mobilise a broad portfolio of services for integration into the node and, subsequently, into EOSC. This portfolio exceeds what can be comprehensively detailed within the Project Charter. Accordingly, we present only the services at TRL 7 or higher that directly support the defined use cases. Additional candidate resources for future onboarding are **provided in Appendix A.**

Service ID	Service Description	Access Policies	Federation Contributions, Value to Users & Use Cases (UCs)	TRL
HUB1	EOSC.CH Resource Hub with catalogues for datasets, services, infrastructures, training; Registry Services for onboarding.	AP0	Makes Swiss resources findable; reduces fragmentation; aligns with EOSC EU Node Catalogue & Registry Services. **All UCs**	7
PLAT1	EOSC.CH Resource Platform Instance for access to compute, storage and services via federated AAI and accounting.	APA1 to APB; education tiers for notebooks	Interoperable access flows with Switch eduID (MyAccessID); prepares for EOSC Federating Capabilities. **All UCs**	7
GLITTR	Inventory of bioinformatics training from SIB – glittr.org	Open	Adds bioinformatics training content to EOSC. **UC1**	8
REPDATA DaSCH	DaSCH Service Platform DSPMeta; ARK; REST/GraphQL.	Open	Structured cultural heritage & humanities data for EOSC. **UC2**	7
SWISS-MODEL	Protein structure homology model structure database & repository	Open	Adds protein structure homology models to EOSC **UC2,5**	9
RSSWITC HCLOUD-	Switch Cloud - compute, storage, Kubernetes, S3; Swiss hosted	Registered; Restricted	Core compute and storage, filesync backbone for federated Swiss EOSC Node. **UC2**	8
REPHIST DOC	Books as Data: Repository for historical documents (110 Mio.), metadata, DOI, ARK, OAI-PMH	Open; Restricted	Provides historical textual and visual data in quantity for reuse. **UC2**	7
REPDAT ASWITC HONDN	Switch Open Data Navigator	Open	Enables crossrepository CH dataset discovery, provides the basis for **Hub1**	7
SRV-BMT	National Trusted Research platform for biomedical research. Inc UniBas/sciCore, UniL/SENSA and ETHZ/LeonhardMed.	Registered; Restricted	Adds Swiss infrastructure for biomedical research, in production since 2018, to EOSC. **UC3**	9
REP-DATAFOR S	SWISSUbase from FORS. Mature FAIR repository for long term preservation of SSH & linguistics research data	Open; Restricted	Feeding Hub1;. Connected with CESSDA-ERIC, ESS-ERIC and CLARIN-ERIC.EOSC onboarding. **UC3**	9
RSCHUVE BRAINSMI PCHORU S	EBRAINS Medical Informatics Platform, CHORUS SPE—federated data analytics and machine learning	Registered; Restricted; Controlled	EHDS aligned Federated SPEs across institutions and member states; privacy preserving computation, cloud native. **UC3**	8
MATERIA LSCLOUD	Open repository for research data relevant to computational materials science.	Open	Curated OA materials science datasets + open disciplinary data with curation. **UC4**	9
PSIDATA CATALOG	PSISciCat – curated descriptions of experimental data from PSI and other Swiss facilities. Landing page for OA datasets.	Registered; Restricted; Open	Fosters curation and reuse of PSI data. Enables open access and provides DOIs (connected to PaNOSC node). **UC4**	9
REPPUBS IB	Biodiversity PMC – One Health Library (SIB) Publications and Supplementary Data Index JATS/BioC; RESTAPI; SPARQL.	Open; Restricted	Adds high value machine/ semantic actionable lifescience literature & semantic search. **UC5**	8-9
Expasy/Ex pasy GPT	Swiss bioinformatics resource portal with AI driven tool	Open	Adds Swiss bioinformatics resou-rces & AI database search to **UC5**	9
SIBiLS	Literature retrieval with semantic enrichment	Open	Adds access to text mining data and tools to EOSC. **UC5**	8

4. USE CASES

This section presents all Swiss EOSC Node use cases and situates them within the EOSC Federation's expectations for cross-node workflows. The federated capabilities described in Section 2 form the foundation of these use cases. They include **catalogue and FAIR integration** (adoption of FAIR principles and indexing of Swiss resources in EOSC catalogues), **infrastructure integration** (cross node resource allocation), and **federated access** (EOSC AAI) node workflows. The federated capabilities described in Section 2 form the foundation of these use cases. They include node resource allocation), and node workflows. The federated capabilities described in Section 2 form the foundation of these use cases.

Use Case ID [1] Enhancing federated multidisciplinary training material	**Timeline** M1-M24
Use Case Description: Contributing to the common training platform developed by the ELIXIR and used in the Life Science Connect and PaNOSC nodes (PaNOSC charter Use case 4) by collecting and curating high-quality FAIR training materials, events, and workflows. It links training resources to the analysis services and data products they rely on, providing contextual information along descriptive training paths. The catalogue, based on ELIXIR's Tess platform, is further federated through the OSCARS-funded mTess-X project, integrating the PaNOSC and ELIXIR training catalogues to support cross-domain interoperability and reuse. Partners in EOSC Node Switzerland will contribute with training material such as *glittr.org* to this unified platform. **In scope:** Integration of platforms, collection and harmonisation of training materials; **Out of scope**: Compute, storage	
Federation Contribution: Demonstrates cross-domain aggregation and integration of training materials using common schemas and interoperable tools, strengthening EOSC's shared infrastructure for education and skills. **Value to Users**: A unified, cross-disciplinary space for accessing FAIR training resources, fostering knowledge exchange, community building, and reproducible learning workflows. Contributes Swiss training content to the federation and broadening access to international materials for Swiss users.	
Participating organisations: PSI, SIB	
Other Nodes involved: 1st wave nodes: Life Sciences Connect, PaNOSC	

Use Case ID [2] Multidisciplinary reconstruction of human history	**Timeline** M7-M24
This use case addresses complex questions of human migration, cultural transitions, and chronological reconstruction by integrating ancient DNA (aDNA), archaeological evidence, and historical astronomical observations. The scientific goal is to synthesize these disparate lines of evidence—such as using modelling of celestial events to date historical eras or genetic alignment to map populations—a task requiring distributed data (REPDATADaSCH, REPPUBSIB amongst other databases listed in the Annex) and specialized tools that transcend individual institutional capacities. To achieve this, the Galaxy platform serves as a shared environment for community building and the development and execution of reproducible, interoperable workflows that do not require advanced programming skills (D14). The EOSC Federation facilitates this interdisciplinary research by providing cross-node access to distributed resources, with the EOSC-CH Galaxy instance leveraging Waldur to orchestrate scalable computation across Switch Cloud and CSCS HPC. This framework ensures that high-performance computing and provenance tracking are seamlessly integrated, lowering barriers for cross-domain collaboration. **In scope:** Transdisciplinary and disciplinary reproducible workflows; community building; tool onboarding. **Out of scope:** Tool development.	
Federation contribution: The Swiss Node provides a scalable federation blueprint by using Galaxy to connect distributed repositories and compute via EOSC AAI and FAIR standards. This architecture supports provenance tracked cross node workflows integrating genetic and astronomical data while leveraging Waldur to orchestrate high performance execution across Switch Cloud and CSCS HPC. This model demonstrates a functional pathway for EOSC to bridge specialized scientific pipelines with large scale national infrastructure. **Value to Users:** Researchers gain unified access to multi omics, archaeological, and astronomical datasets through a no code environment that eliminates the need for advanced programming skills. By providing versioned reproducible workflows, the node reduces technical overhead and ensures the data integrity required for chronology reconstruction. These integrated services accelerate interdisciplinary breakthroughs by allowing scientists to focus on cross domain synthesis rather than infrastructure management.	
Participating org: ETH Zurich, DaSCH, Universities of Basel, Geneva, Lausanne, SIB, Switch	
Other Nodes involved: All 1st & 2nd wave nodes using Galaxy	

Use Case ID [3] Federated analysis of sensitive data in Trusted Research Environments (TREs) – cross health and social sciences & linguistics	**Timeline** M1-M24
Use Case Description: (a) Building on Switzerland's achievements in TREs including BioMedIT, ongoing work with EOSC Entrust, and bilateral collaborations—we will explore federated analysis of sensitive data across nodes. This includes life science data (leveraging the European Genomic Data Infrastructure) as well as sensitive social science and linguistics data via SWISSUbase. Sensitive datasets from Czechia and Switzerland will be analysed locally within TREs, with only aggregated outputs shared to address cross domain research questions. Planned use cases demonstrate the breadth of federated TRE applications: [1] **Population genomics:** GWAS across national Genome of Europe datasets to derive population specific polygenic risk scores. [2] **Rare disease genomics:** Federated variant frequency analysis to improve classification of uncertain variants. [3] **Cancer genomics:** Privacy preserving survival and treatment response analyses using federated learning across cancer registries. [4] **Social sciences & linguistics:** Federated analysis of survey and linguistic data hosted in SWISSUbase. This collaboration enables both countries to contribute mature, federated safe access capabilities to EOSC, spanning multiple research domains and aligned with first wave node efforts. **(b)** In parallel, we will collaborate with EBRAINS RI, its prospective EBRAINS EOSC Node (including TREs, the Medical Informatics Platform, and CHORUS), and the MINDR repository operated within EOSC-CZ. Together we will test and codevelop federated access, analysis workflows, and interoperability for **clinical and neuroscience research**—providing a concrete example of how thematic European e-Infrastructures and national EOSC Nodes jointly create value for the Federation. **In scope**: Coordination of parallel research, AAI integration, aggregation of results; **Out of scope**: TRE buildup, Data provisioning	
Federation contribution: BioMedIT provides a production grade TRE that enables federated, privacy preserving analysis of sensitive health, social science, and linguistics data under national governance. A reusable model and technical blueprint for secure, GDPR aligned cross-border analytics. **Value to users:** Researchers can analyse sensitive data across countries without moving raw data, accessing more diverse cohorts while staying legally compliant. Standardised federated workflows improve reproducibility and lower administrative and technical barriers to cross-border research.	
Participating organisations SIB, FORS, CHUV, ETH Zurich, University of Basel, Lausanne, Zurich	
Other Nodes involved 1st Wave Nodes: Life Sciences Connect, potentially other nodes working on sensitive data e.g. 1st wave node EOSC Node Finland; 2nd wave nodes Czechia & EBRAINS	

Use Case ID [4] Materials science data acquisition to FAIR publication	**Timeline** M1-M24
Use Case Description: This use case demonstrates an end-to-end materials research workflow that integrates muon experiments, first principles simulations, and open data services within the Swiss research landscape. Muon techniques—one of PSI's core largescale capabilities—provide unique insights into local magnetic fields and atomic scale dynamics. Experimental data are complemented by atomistic simulations, executed through reproducible workflows with full provenance. All metadata and results are curated and shared via Materials Cloud, an international FAIR platform for computational materials science data and workflows, enabling EOSC aligned open access for the wider community. This workflow is a uniquely Swiss combination of one of Europe's two muon sources with mature, internationally adopted digital research platforms. It builds on the infrastructure and expertise developed in NCCR MARVEL and will be further extended through the newly approved NCCR Muoniverse, ensuring continuity from established excellence to future muon centred materials research. **In scope:** Federated search, AAI integration, onboarding of workflows and catalogues. **Out of scope:** Ontology development; data production/collection; compute and storage.	
Federation Contributions & Value to Users: Through alignment with PaNOSC, the use case illustrates how muon facilities can be integrated with EOSC services for interoperable data, provenance, and reuse, providing a concrete, scalable example of end-to-end open science enabled by the Swiss EOSC national node and allow direct integration with PaN-Finder, the EOSC federation scientific use case for AI data discovery. This use case will further demonstrate the value proposition of EOSC-CH expansion of the EOSC catalogue by onboarding FAIR aligned Swiss resources and utilising EOSC-CH enabled available cross node-scientific workflows.	
Participating organisations PSI, Empa, ETH Zurich and UZH	
Other Nodes involved: 1st wave nodes: PaNOSC, EOSC Node Germany	

Use Case ID [5] Accelerating drug discovery and biodiversity research	**Timeline** M1-M24
Use Case Description: The Swiss EOSC Node facilitates biomedical and environmental research by federating globally recognized biodata resources into interoperable, FAIR workflows. For drug discovery, curated datasets are accessed via standard APIs and workflow environments like Galaxy and Jupyter, enabling cross-node pipelines for target identification. Within this ecosystem, SWISS-MODEL and its Repository provide automated homology models and curated structural data that complement PDB and AlphaFold predictions for protein interaction assessment. These AI-enhanced workflows prioritize candidate interactions and guide in vitro and in vivo follow-up. Parallel biodiversity research is supported by SIBiLS/Biodiversity PMC, offering large-scale literature annotations and programmatic access via OpenAPI/SPARQL. Federation is achieved through a distributed RDF/SPARQL knowledge-graph layer that enables queries across independent services while maintaining data sovereignty. ExpasyGPT exemplifies this pattern by translating natural-language queries into federated SPARQL, lowering entry barriers for cross-node integration. Collectively, these capabilities link multi-omics, biodiversity, and literature evidence to address global One Health challenges, focusing on semantic interoperability, federated search, and AI-readiness, while excluding storage and compute. **In scope**: Rich semantic interoperability, Federated search, AI-readiness, Language models as a service; **Out of scope**: Storage and compute.	
Federation Contribution: The Swiss Node provides a scalable blueprint by connecting authoritative biodata resources through interoperable APIs, workflow services, and a federated RDF/SPARQL architecture. ExpasyGPT demonstrates this standards-based access for cross-node integration. Integration with Zenodo enables curated depositions (e.g., BLR, Plazi) and bidirectional publication cross-referencing within Biodiversity PMC. Furthermore, incorporating Data Terra onto-terminological resources into the Biodiversity PMC pipeline enhances semantic linking across the EOSC ecosystem. **Value to Users:** Researchers gain streamlined access to trusted multi-omics, structural biology, biodiversity, and literature data via reproducible workflows and federated queries. By bridging these domains, the node reduces data preparation overhead, ensures high-reliability analysis, and accelerates research in drug discovery and One Health sustainability.	
Participating organisations: SIB, HES-SO, University of Basel	
Other Nodes involved: 1st wave nodes: Life Science Connect, Data Terra, CERN	

Use Case ID [6] Multidisciplinary, reproducible cross-Node data analysis workflows	Timeline M1-M24
Use Case Description: This use case enables reproducible, cross-Node food data analysis by dispatching computation to the Nodes where data resides, including environments hosting sensitive or closed datasets. It integrates federated catalogues and AAI with container-based cloud compute, REANA workflow orchestration, and FTS-based data transfer, with participating Nodes deploying interoperable storage and execution endpoints. A central feature is the creation of encapsulated analysis “tarballs” that package workflows, software dependencies, and metadata to ensure reproducibility across infrastructures. Building on earlier compute to data demonstrators, the use case extends support to secure closed data analysis and federation wide reproducibility, raising the technology readiness from TRL 6 to TRL 8. **In scope**: Federated access to compute, storage, data, and selected analysis services. **Out of scope**: Data production, primary data collection, domain specific data curation.	
Federation Contributions: This use case strengthens the EOSC Federation by operationalising a secure, interoperable compute to data model across heterogeneous Nodes. It combines federated catalogues, AAI, containerised compute, REANA workflow orchestration, and reliable cross-Node data transfer. Encapsulated analysis packages improve workflow portability and reproducibility, offering a practical integration blueprint for new Nodes and moving federated workflow execution from demonstrator level to a scalable TRL 8 capability. **Value to Users:** Researchers can run scalable analyses on distributed datasets without moving large data volumes, enabling compliant processing of sensitive or restricted data while maintaining reproducibility. Encapsulated workflows simplify sharing, validation, and re-execution across domains. Infrastructure providers gain visibility and increased use of their hosted data and compute services, making secure, cross disciplinary, reproducible analysis a practical reality within EOSC.	
Participating organisations: Premotec, Switch and ETH Zurich	
Other Nodes involved: 1st wave nodes: BBMRI, CERN, EOSC Node Poland; 2nd wave node*:* METROFOOD-RI	

5. COMPLIANCE WITH TECHNICAL REQUIREMENTS

EOSC-CH is fully committed to becoming an active and reliable contributor to the EOSC Federation. It will maintain continuous alignment with the EOSC Tripartite Governance, proactively engage in EOSC initiatives and task forces, and participate in the EOSC Mandated Organisations Forum. This ensures early awareness of evolving Rules of Participation and compliance criteria and supports coherent development across the Federation.

From the outset, EOSC-CH agrees to comply with all mandatory technical specifications governing participation in the Federation. In line with the enrolment call requirements and the architectural, operational, and interoperability framework described in the EOSC Federation Handbook, the Node will implement all required federating capabilities and ensure that its services and resources are technically, semantically, organisationally, and legally interoperable within the EOSC Federation.

Building on the achievements of the SENPro project, a Swiss national precursor project to build the Swiss EOSC Node, EOSC-CH enters the build-up phase with a strong preparatory foundation. SENPro demonstrates initial AAI interoperability, early catalogue exposure, and provides a structured testbed for aligning Swiss infrastructures with EOSC architectural requirements. EOSC-CH already meets most important eligibility criteria established for first-wave EOSC Nodes: it is operated by a legally recognised organisation with clear accountability for all Node functions, demonstrates technical readiness through established AAI interoperability and catalogue exposure, and allocates sufficient full-time equivalent (FTE) staff to ensure both a successful build-up phase and long-term operational sustainability.

5.1 Integration with the EOSC Federated AAI

To fulfil the mandatory AAI integration requirement, EOSC-CH will connect Switch eduID and eduGAIN to the EOSC AAI Architecture 2025 (EOSC AAI Architecture 2025 - https://zenodo.org/records/15388270), following integration patterns validated by first-wave Nodes, such as the UmbrellaID → eduTEAMS → MyAccessID alignment model. A compliant AAI proxy will enable federated identity management and Single Sign-On (SSO) across services, supporting harmonised attribute release, role-based access control, and identity assurance levels aligned with EOSC policies.

Integration will ensure interoperability with European and international identity federations and will implement robust identity lifecycle management procedures, including onboarding, offboarding, and incident response related to authentication events. Cross-node authentication workflows will be validated through multi-node use cases to guarantee secure and seamless access to federated services.

5.2 Integration with Resource Catalogues and Registry Services

In compliance with the mandatory requirement to expose resources and services via EOSC catalogue(s), EOSC-CH will integrate its service and research product catalogues with the EEN Resource Catalogues and Registry Services. The Node will implement the necessary adapter to send catalogues' entries to the EEN catalogues based on the Interoperability Guidelines (DOI: 10.5281/zenodo.15516020), ensuring compatibility with the EOSC Registry and Provider Dashboard.

All exposed services will provide machine-readable metadata through standardised APIs and will adopt persistent identifiers (e.g. DOI, ORCID where applicable) to guarantee findability and citability. Swiss resources will thus become seamlessly discoverable via the EOSC Resource Hub, fully aligned with the EOSC Interoperability Framework. Synchronisation mechanisms between national catalogues and the EOSC federated catalogue will ensure consistency and timely updates.

5.3 Compliance with the EOSC Interoperability Framework

EOSC-CH will fully align with the EOSC Interoperability Framework (EOSC IF), encompassing the Interoperability Guidelines, the EOSC IF Registry, and the associated EOSC IF Governance structures. The Node commits to implementing the definitions, standards and specifications set out in the Interoperability Guidelines, including agreed metadata schemas, API requirements, PID policies and semantic interoperability principles. All onboarded services will be validated against these requirements prior to federation exposure.

Should EOSC-CH onboard new federated capabilities, it will ensure accurate and compliant registration of new Guidelines in the EOSC IF Registry and to follow the EOSC IF Governance. In

addition, EOSC-CH will actively engage in EOSC IF Governance processes to remain aligned with evolving rules and updates to the IF. Through this structured approach, interoperability compliance is embedded both technically and organisationally, ensuring coherent integration within the Federation.

5.4 Node Core Capabilities and Service Management

In accordance with the EOSC Federation Handbook, EOSC-CH will implement the required Node Core Capabilities which are currently AAI federation and Resource Catalogue and Registry Services while helpdesk, service monitoring and service management system will become mandatory in 2026.

Beyond the mandatory baseline, EOSC-CH will progressively implement additional capabilities that enhance operational maturity and user experience. This includes participation in a federated helpdesk, integration with federated monitoring and accounting services, adoption of a service management framework aligned with FitSM or ITIL principles, and workflow orchestration aligned with established models such as CERN/REANA and SURF.

A structured Service Management System (SMS) will support incident, change and problem management, and define Service Level Agreements (SLAs) or Operational Level Agreements (OLAs) where appropriate. Drawing on operational practices demonstrated by first-wave Nodes, EOSC-CH will ensure compatibility and coherence within the Federation.

5.5 Cybersecurity Compliance

Aligned with the cybersecurity provisions of the EOSC Federation Handbook, EOSC-CH will implement Information Security Management (ISM) based on recognised standards such as ISO/IEC 27001 or equivalent national and European information security regulations. Security incident response procedures will be coordinated with EOSC-level mechanisms where applicable. Logging, monitoring, vulnerability management and regular risk assessments will ensure infrastructure resilience and service integrity. Security compliance will be embedded in service onboarding procedures. In addition, regular risk monitoring and assessments will be conducted, a Computer Security Incident Response Team (CSIRT) will be created, and trainings will be organised to raise awareness and knowledge about cybersecurity.

5.6 Data Protection Compliance

EOSC-CH will operate within a comprehensive data protection framework ensuring compliance with the Swiss Federal Act on Data Protection (FADP) and, where applicable, the EU General Data Protection Regulation (GDPR), in alignment with EOSC Federation requirements.

Each service integrated into EOSC-CH will be required to clearly designate its controller and processor roles in accordance with applicable data protection legislation. Data protection requirements will be embedded into the service onboarding process. Prior to integration, each service will undergo a structured compliance review covering: (i) verification of documented processing activities, (ii) review and alignment of terms of use and privacy policies, (iii) assessment of data minimisation practices, and (iv) confirmation of roles and responsibilities vis-à-vis EOSC-CH and end users. Services processing personal or sensitive data will be required to implement enhanced technical and organisational measures, including secure processing environments, controlled access workflows, encryption standards, and audit logging where needed.

EOSC-CH recognises that regulatory responsibility ultimately lies with individual services. Designated legal and security officers will oversee and coordinate compliance in accordance with the call.

6. EXTERNAL DEPENDENCIES & KEY RISKS

Category	External Dependency / Risk	Impact on EOSC-CH	Mitigation & Coordination Measures	Deadline / Monitoring Cycle
Evolving and Alignment with EOSC Federation Require-ments and Handbook	Ongoing evolution of first and second wave Node standards, including changes to mandatory and recommended federating capabilities.	Transition cost to AAI, Catalogue, Monitoring, Accounting or governance processes.	Continuous alignment with EOSC-SB, EOSC-A Mandated Organisations; participation in public consultations; early review of impacts before implementation.	**Quarterly review**
EOSC EU Node (EEN) Services	Dependence on stability of AAI, Resource Catalogue, APIs, and onboarding workflows.	Changes may delay onboarding or disrupt service visibility.	Early testing of new releases; adaptation to metadata and API updates (DOI:10.5281/zenodo.15516020).	**sync every 6 months**
Stakeholder Onboarding	Rolling ingestion of national or institutional data/services into EOSC-CH	Reduced visibility of Swiss resources.	Clear stakeholder pathways; onboarding guides; proactive communication and training; prioritisation of high impact resources.	**M10–M12**
National Dependen-cies (CH)	Switch edu-ID/eduGAIN, national storage/compute RIs, domain repositories.	Disruption effects of AAI, compute or longtail research workflows.	National MoUs; monitoring dashboards; redundancy planning.	**Annual review**
Interna-tional Depe-ndencies	eduGAIN, GÉANT, PID providers, semantic registries; cross-border access frameworks.	Reduced interoperability or global reach.	Participation in RDA, eduGAIN, OpenAIRE, GEANT policy groups.	**Annual risk scan**
Cybersecur-ity & CSIRT Coordinatio n	Cross-Node vulnerabilities, threat propagation, alignment gaps between national security postures.	Impact on service continuity and trust, inclusion of sensitive data use-cases.	Coordination with national & EU CSIRTs; shared threat intelligence, e.g., joint exercises.	**Quarterly exercises**
Data Protection Compliance	Potential divergences between European and Swiss data protection laws may require ongoing adaptation; ensuring compliance of onboarded services in a rapidly growing service catalogue creates scalability risk.	Non-compliance with evolving regulations could expose EOSC-C and necessitate suspension of affected services	Establish a regulatory monitoring process; embed compliance checkpoints in the service onboarding workflow; maintain modular policy templates.	**Continuous**
Sustainabili-ty & Fund-ing Stability	Post-2027 EOSC funding model still evolving.	Long-term operational uncertainty.	Engagement in EOSC sustainability discussions; multi-year national planning.	**Annual budget cycle**

7. CONTRIBUTIONS

The project will generate a set of deliverables that together constitute the foundational technical, organisational, and operational outputs required for the establishment and maturation of EOSC-CH. These deliverables include both tangible outputs, such as documentation, software components, APIs, metadata profiles, monitoring endpoints, legal and governance materials, and intangible outputs such as operational procedures, coordination models, onboarding pathways, compliance assessments, and knowledge generated throughout the buildup phase.

Deliverables will be produced collaboratively by contributors across Swiss higher education institutions (HEIs) and national service providers. Each will bring domain expertise and technical capabilities relevant to the Node's implementation. This distributed contribution model reflects the collaborative nature of the Swiss research ecosystem and ensures that each component benefits from the strengths, operational maturity, and disciplinary depth of the institutions involved. Where multiple contributors participate in a deliverable, their respective roles and contributions will be clearly identified.

A defining characteristic of the EOSC-CH project is that its deliverables are not static artefacts, but continuously evolving outputs. As the EOSC Federation's specifications, interoperability guidelines, and federating capabilities mature (through updates to the EOSC Federation Handbook, the SRIA, the EOSC EU Node interfaces) and requirements validated in first and second wave Nodes, the project will iteratively extend, refine, and update its deliverables. This applies to all major components, including AAI integration packages, catalogue onboarding records, metadata and PID profiles, FAIR and compliance assessments, monitoring and accounting endpoints, training materials, legal frameworks, and security documentation.

Throughout the project, Swiss HEIs are expected to progressively increase their level of engagement and resource commitment. This includes strengthening technical teams, mobilising institutional data stewards, integrating disciplinary repositories and services, enhancing workflow orchestration capabilities, and expanding security and compliance functions. As a result, deliverables will gain depth and operational relevance over time, align with evolving European best practices, and be enriched through feedback from stakeholders, national service providers, and EOSC governance bodies.

In addition to their national relevance, the deliverables produced through EOSC-CH provide tangible added value to the EOSC Federation. Switzerland's internationally recognised strengths in high-performance computing and data services (anchored in CSCS and complemented by PSI's largescale scientific facilities and data intensive research environment) ensure that the Node contributes technically robust, scalable, and production grade components that other Nodes can reuse with confidence. These capabilities, combined with Switzerland's longstanding expertise in trusted research infrastructure operation and Switch's established leadership in identity, network, and AAI services, position EOSC-CH as a reliable source of high-quality implementation patterns, onboarding models, metadata and PID frameworks, and federating capability building blocks. As a non-EU yet deeply interconnected research nation, Switzerland also offers a unique bridging function, enabling EOSC to prototype and validate third country onboarding processes under stable governance, compliance, and interoperability conditions. This strengthens the Federation's operational resilience, extends its reach, and supports the integration of high value resources beyond EU borders.

Deliver-able ID	Deliverable Name	Responsible	Deadline
D01	EOSC-CH Resource Hub & Registry (populated with partner resources)	Switch and all Swiss stakeholders	M12
D02	EOSC-CH Resource Platform (AAI + accounting prototype)	ETH Zurich, Switch	M12
D03	Researcher/RI onboarding pathways & guidance	FORS, SIB, HES-SO, ETH Zurich, EPFL	M12

D04	White Paper: governance, legal & business model	UZH, CHUV, ETH Zurich, SIB, FORS	M12
D05	Overall Implementation Plan	ETH Zurich	M3
D06	Technical Implementation Plan	ETH Zurich / EPFL / Switch	M6/M12/ M18 / M24
D07	Operational Quality Guidelines	Premotec	M6
D08	Legal Framework for EOSC Node | Switzerland	SIB, University of Fribourg	M24
D09	Report on cross-Node use cases with EBRAINS and MINDR (CZ) (UC3b)	CHUV	M18
D10	Use case 3: Report on cross-Node use case with CZ node	SIB, FORS	M24
D11	Use case 1: Integration of multidisciplinary FAIR training material into Tess in use case	PSI and SIB	M10
D12	Use case 5: Report on cross-Node use case	HES-SO, SIB	M22
D13	Use case 6: Multidisciplinary, reproducible cross-Node data analysis workflows	PMT	M24
D14	Use case 2: Transdisciplinary & disciplinary workflows and tutorials	DaSCH, SIB	M24
D15	Use Case 4: Demonstration of Materials science data acquisition to FAIR publication	PSI, PaNOSC, Empa, ETH Zurich and UZH	M20

8. COMMUNITY ENGAGEMENT

Rather than building a Node and then engaging the community, EOSC-CH took the opposite path. In the Swiss tradition of subsidiarity and consensus-driven governance, where decisions are made as close to the people as possible and all voices are heard before moving forward, the Swiss Node was designed together with the researchers, institutions, and infrastructures it is meant to serve. Via SENPro, community needs assessments were conducted with researchers and research infrastructure providers, followed by two full iterations of prototype development, user testing, and feedback integration. It ensures that the Node's services, onboarding pathways, and governance reflect actual community needs. The EOSC-CH consortium includes partners spanning all five ESFRI Science Cluster domains, HEIs spanning all regions of Switzerland, as well as policymaking and funding institutions (SERI, SNSF, swissuniversities). This cross-domain and cross-stakeholder representation positions EOSC-CH uniquely among national nodes, where first-wave nodes typically engaged the research community through a narrower institutional or disciplinary base.

This structure guarantees ongoing engagement and representation of Swiss research actors throughout the entire build-up phase:

- Building on existing national ORD, FAIR, and Open Science initiatives, EOSC-CH will progressively expand its **support mechanisms** (e.g. generic and domain-specific data stewardship services), **outreach activities** (e.g. community workshops and surveys), **and user engagement strategies** (e.g. iterative testing, feedback integration) so that researchers, ORD practitioners, and institutions across Switzerland can participate in, contribute to and benefit from the EOSC ecosystem from day one.
- EOSC-CH will facilitate broad and sustained participation through established national engagement channels, including the Swiss EOSC Forum, the ORD initiatives coordinated by swissuniversities and the SNSF, and collaborations with disciplinary and institutional ORD networks (e.g. CLARIN-CH, DARIAH-CH, SSHOC-CH, ICOS-CH, ELIXIR Switzerland, Swiss Research Data Support Network SRDSN). These platforms enable the **exchange of national experiences**, the presentation of Node capabilities, and the **continuous collection of community feedback** to refine onboarding processes. Particular emphasis will be placed on strengthening the adoption of FAIR practices, specifically metadata quality, semantic and technical interoperability, and long-term stewardship, in alignment with the Swiss and European ORD Strategies.
- To further support participation, EOSC-CH will deliver **targeted capacity building activities**, including training for data stewards, support for institutional service providers, and **dedicated integration pathways** for third party resources such as institutional repositories, disciplinary data services, and research software catalogues. The Node’s distributed governance model ensures that expertise from Swiss HEIs, national research infrastructures, and service providers is fully mobilised, enabling organisations of all sizes to participate effectively. New resources may be onboarded at any point during the project, even if not included in the initial list in Section 3, ensuring openness, responsiveness, and continuous national growth.
- EOSC-CH will also incorporate **lessons learned** on the one hand from the first wave of EOSC Nodes (e.g. predictable user journeys, harmonised onboarding procedures, coherent AAI integration, metadata alignment, proactive stakeholder communication) and on the other hand from the SENPro project (e.g. comprehensive needs assessment, iterative testing, governance models). These insights inform engagement processes that are inclusive, stable, and scalable, **lowering barriers** for institutions interacting with EOSC for the first time.
- Finally, Switzerland’s longstanding support and collaborations enhance EOSC-CH’s engagement efforts by bringing **perspectives from partners beyond the EU into the EOSC context**. This complementary positioning strengthens EOSC’s relevance, promotes responsible and trusted international collaboration, and supports the joint advancement of Open Science across borders.

EOSC-CH will track its community engagement through three concrete KPIs aligned with Federation-level objectives: the number of stakeholders actively engaged and their disciplinary diversity, the number of third-party resources onboarded and their domain coverage, and user satisfaction scores collected through iterative feedback cycles. These indicators will be reported at regular intervals and used to continuously refine the engagement strategy.

9. TIMING AND MILESTONES

The timeline of the EOSC-CH build-up project is aligned with the minimum required duration of 24 months, ensuring that all mandatory Node capabilities are implemented, tested, and validated within the expected federation timeframe. The project follows a structured, three-phase lifecycle: (1) *Initial Alignment & Coordination*, (2*) Implementation & Testing*, and (3) *Iteration & Federation Readiness*, designed to maintain synchronisation with the evolving EOSC Federation and with first and second wave Nodes. While the present schedule covers a 24-month period, it can be extended if needed to accommodate external dependencies, changes in federation specifications, or additional integration steps.

In Month 12, the remaining milestones and deliverables will be reassessed based on project progress, federation alignment, partner readiness, and identified risks. For each deployed EOSC-CH service or component, user and administrator documentation will be provided within two months of deployment, ensuring operational readiness and transparency-service or component, user and administrator documentation will be provided within two months of deployment, ensuring operational readiness and transparency.

Three Phase Structure-Phase Structure

Phase 1 — Initial Alignment & Coordination (M1–M7)

Establishment of governance, international sounding board, architecture definition, and early engagement activities in coordination with existing EOSC Nodes.

Phase 2 — Implementation & Testing (M8–M18)

Deployment of the Prototype EOSC-CH Hub & Platform (M12), governance guidelines, onboarding pathways, and testing of federating capabilities with partner Nodes.

Phase 3 — Iteration & Federation Readiness (M19–M24)

Hardening of components, expansion of cross-Node coordination, completion of business model modules, and preparation of the full Node readiness package.

ID	Milestone Description	Target Delivery Date
M1	International Sounding Board established	Month 3
M2	Architecture definition & prototype requirements list	Month 5
M3	Engagement, Dissemination, Communication Strategy / Plan (approval checkpoint month 5)	Months 3 & 9
M4	Update national and international partners and time-based collaborators	Months 7, 13 & 19
M5	Prototype Hub & Platform deployed	Month 12
M6	Webinar to disseminate white paper and develop green paper	Month 13
M7	Governance Guidelines	Month 13
M8	Business Model Modules	Month 22
M9	Milestones definition for Year 2	Month 12

10. CONTACTS

The EOSC-CH project team consists of seven core individuals, covering all mandatory roles, Coordinator, Operations Officer, Legal Officer, Cybersecurity Officer, and Communications Officer, alongside additional expertise essential for federation alignment, community engagement, and dataspace interoperability. The team brings extensive experience in high-performance computing, research data management, legal compliance, cybersecurity, Open Science infrastructures, strategic communication, and public sector digital transformation. Except for the Coordinator and Operations Officer, whose responsibilities remain stable throughout the build-up phase, the distribution of responsibilities may evolve to accommodate the maturing processes and governance requirements of the EOSC Federation.

Role	Name	Email
Coordinator	Prof. Dr. Thomas Schulthess, ETH Zurich	schulthess@cscs.ch
A leading expert in high-performance computing, Director of the Swiss National Supercomputing Centre (CSCS) since 2008, Professor of Computational Physics at ETH Zurich, and two-time Gordon Bell Prize winner.		
Operations Officer	Dr. Karl Presser, PREMOTEC	karl.presser@premotec.ch
Founder of Premotec and international specialist in research data management, data quality, and interoperability, with extensive participation in EU research infrastructure projects and President of EuroFIR AISBL		
Cybersecurity Officer	Roland Amrein, Switch	roland.amrein@switch.ch
Holding the position of Information Security Officer (ISO) at Switch, Amrein is an IAM and IT security specialist with CIAM, ITIL, and SCRUM certifications, experienced in leading major cybersecurity initiatives and strengthening organisational security culture.		
Legal Officer	Clément Parisato, SIB	Clement.Parisato@sib.swiss
Head of Legal & Technology Transfer at SIB, with expertise in designing legal and governance frameworks for multi-centric research projects, data protection (FADP & GDPR) and IP laws-		
Communications Officer	Dr. Cristina Grisot, UZH Luca Puliafito, UniDistance Suisse	cristina.grisot@uzh.ch luca.puliafito@unidistance.ch
Cristina Grisot is National Coordinator of CLARIN-CH with expertise in research infrastructures, Open Science, community coordination, and multilingual research communication. Luca Puliafito is a senior science and public sector communication professional with experience at Ringier, Max Havelaar, Swisscom.		
Dataspace Expert	Prof. Dr. Matthias Stürmer, BFH	matthias.stuermer@bfh.ch
Head of Public Sector Transformation Institute (Bern University of Applied Sciences) and leading expert in digital sustainability, open data, open government, and digital governance.		

LIST OF ABBREVIATIONS

AAI	Authentication and Authorization Infrastructure
BFH	Bern University of Applied Sciences (Berner Fachhochschule)
CLARIN	Common Language Resources and Technology Infrastructure
CDR	Core Data Resource
CESSDA	Consortium of European Social Science Data Archives
CHUV	Vaud University Hospital (Centre hospitalier universitaire Vaudois)
CSCS	Swiss National Supercomputing Centre
DARIAH	Digital Research Infrastructure for the Arts and Humanities
DaSCH	Swiss National Data and Service Center for the Humanities
EBRAINS	Europe's Digital Infrastructure for Brain Research
EOSC-CH	EOSC Node Switzerland
EAWAG	Swiss Federal Institute of Aquatic Science and Technology
ELIXIR	European Life-science Infrastructure for Biological Information
Empa	Swiss Federal Laboratories for Materials Science and Technology
EPFL	Federal Institute of Technology Lausanne (École Polytechnique Fédérale de Lausanne)
ETH Zurich	Swiss Federal Institute of Technology in Zurich (Eidgenössische Technische Hochschule Zürich)
FORS	Swiss Centre of Expertise in the Social Sciences
FTE	Full-time equivalent
HEI	Higher Education Institution
HES-SO	University of Applied Sciences and Arts of Western Switzerland (Haute école spécialisée de Suisse occidentale)
ICOS	Integrated Carbon Observation System
LLM	Large language model
Meteosuisse	Federal Office of Meteorology and Climatology
NCCR	National Centres of Competence in Research
PID	Persistent identifier
PSI	Paul Scherrer Institute (Switzerland's largest research institute for natural and engineering sciences)
RDM	Research data management
Renku	Swiss Data Science Center's platform for open science
SDSC	Swiss Data Science Center (ETH Zurich & EPFL)
SENPro	Swiss EOSC Node Prototype project
SERI	Swiss State Secretariat for Education, Research and Innovation
SIB	Swiss Institute of Bioinformatics
SNSF	Swiss National Science Foundation

SRC	Service Resource Catalogue
SRDSN	Swiss Research Data Support Network
swissuniversities	Rectors' Conference of the Swiss Universities
SWISSUbase	National platform for sharing and preserving research data
Switch	Switzerland's National Research and Education Network
TRE	Trusted research environment
UC	use case
UNIBAS	University of Basel (Universität Basel)
UNIFR	University of Fribourg (Université de Fribourg/Universität Freiburg)
UNIGE	University of Geneva (Université de Genève)
UNIL	University of Lausanne (Université de Lausanne)
UZH	University of Zurich (Universität Zürich)
Waldur	Open-Source Cloud and HPC Platform
WGMS	World Glacier Monitoring Service
WSL	Swiss Federal Institute for Forest, Snow and Landscape Research

APPENDIX A: List of Repositories and Services delivered by EOSC Node | Switzerland

Service ID	Service Description	Access Policies to the Service	Federation Contributions & Value to Users	TRL
HUB1	EOSC.CH Resource Hub with catalogues for datasets, services, infrastructures, training; Registry Services for onboarding. Based on Switch Open Data navigator.	AP0 (public metadata); authenticated tiers as needed-0 (public metadata); authenticated tiers as needed	Makes Swiss resources findable; reduces fragmentation; aligns with EOSC EU Node Catalogue & Registry Services.	7
PLAT1	EOSC.CH Resource Platform (Marketplace) Instance for pilot access to compute, storage, and services via federated AAI and accounting.	APA1 to APB; education tiers for notebooks-A1 to AP-B; education tiers for notebooks A1 to APB; education tiers for notebooks	Demonstrates interoperable access flows with Switch eduID (MyAccessID); prepares for EOSC Federating Capabilities.	7
ONB1	Onboarding pathways and adapters (PIDs, OAI-PMH endpoint, schema mappings) aligning Swiss registries to EOSC catalogues.	Public guidance; authenticated submission	Standardises Swiss EOSC onboarding; enhances interoperability via EOSC IF.	7
SDSCUX1	Renku Platform as a common User Experience Layer unifying access to Switch, CSCS, SDSC compute/storage and access to data from repositories and cloud providers under one UI.	Open; Restricted; A1 to AP-B	Seamless user access; supports long-tail of researchers via federated credit provisioning- Provides hub-ready metadata and enables immediate data reuse; increases EOSC-level composability.	8
REP-PUB-DATAETHZ	ETH Research Collection Publications — Dublin Core + OpenAIRE; OAIPMH, REST API; PMH, REST PMH, REST -PMH, REST Research Data — DataCite; DOI + Handle; OAIPMH & REST/GraphQL; CoreTrustSeal.-PMH & REST/	Open; Custom; CC licences	EOSC-ready, interoperable scholarly repository; improves discoverability & reuse of publications and multidisciplinary research data with explicit licences for reuse	8
REPPUBSIB	Biodiversity PMC – One Health Library (SIB) — Publications and Supplementary Data Index JATS/BioC; REST API; SPARQL.	Open; Restricted	Adds high value machine actionable lifescience literature & supp. data --actionable -science literature & semantic search.	8-9
REP-PUB-UZH	ZORA (UZH) — Dublin Core + OpenAIRE; OAI-PMH, REST API	Open; Custom; CC licences	Strong SSH + multi-disciplinary coverage for EOSC Hub.	8

REPDATA FORS	SWISSUbase (FORS) — DublinCore, DataCite, DDI, CMDI; DOI; OAI-PMH; REST API; CoreTrustSeal.	Open; Restricted; Embargoed; Custom; Switch edu-ID and CLARIN IdP	Mature FAIR repository for long term preservation of social science, linguistics and humanities research data (SSH); feeding Hub1; cornerstone for Swiss EOSC onboarding. Connected with CESSDA-ERIC, ESS-ERIC and CLARIN-ERIC.EOSC onboarding.	9
REPDATA DaSCH	DaSCH Service Platform — DSP-Meta; ARK; REST/GraphQL.	Open; Embargoed; CC licenses	Structured cultural heritage & humanities data for EOSC.	7
REPDATA OLOS	OLOS Data Management Repository – DataCite; DOI; OAIPMH & RESTful API; CoreTrustSeal	Open; Registered; Controlled; Restricted, Custom	Multidisciplinary data repository	9
REPDATA UNIBE	BORIS Portal – Research Data, Data Cite, DOI, OAI-PMH	Open; Restricted; CC-licenses	Make research data available and re-usable, research data discovery	8
REPDATA SWITCHODN	Switch Open Data Navigator — CH & non CH dataset metadata aggregator.	Open;	Enables crossrepository CH dataset discovery, provides the basis for catalogues (HUB1)	7
RSFORSDSU	SWISSUbase Data Service Units — expert curation, training, discipline specific support for social sciences, linguistics and humanities.	Open docs; Registered; Restricted	Strengthens FAIR data stewardship; improves data onboarding quality for reusability and discoverability within the EOSC framework.	9
RS-CHUV-CHORUS	CHORUS Secure Processing Environment (SPE) — secure processing of sensitive data through policy-based access control and multi-tenant technology	Registered; Restricted; Controlled;	Cloud-native Swiss SPE for collaborative projects on sensitive data; portable to any secure infrastructure providing Kubernetes and S3; EOSC critical.	8
RSETHZLEONHARDMED-ETHZ	Leonhard Med TRE — secure tenants, RDM, confidential data processing.	Registered; Restricted; Controlled	National secure environment integrating with BioMedIT.	8
RS-ELIXIR-DSW	Data Stewardship Wizard — machine actionable DMPs	Open templates; Registered	FAIR-by-design planning for EOSC onboarding workflows.	8
RSSWITCHCLOUD	SWITCH Cloud — compute, storage, Kubernetes, S3; Swisshosted.hosted with Switch Drive — secure filesync & share for CH research.-hosted.	Registered; Restricted;	Core compute and storage, filesync backbone for federated Swiss EOSC Node	8
RS-UZH-LCP	LiRI Corpus Platform — text/audio/video linguistic corpus tools.	Open metadata; Registered; Restricted; eduID	Unique Swiss linguistic infrastructure integrated with CLARIN-CH.	7
RS-ZHAW-Swiss-AL	Swiss-AL workbench and multilingual corpora	Open metadata; Registered; Restricted; eduID	Unique Swiss linguistic infrastructure integrated with CLARIN-CH.	7

RS-EBRAINS-MIP	EBRAINS Medical Informatics Platform — federated data analytics and machine learning for sensitive data.	Registered; Restricted; Controlled Keycloak	Federated SPEs across institutions and member states; privacy preserving computation aligned with EHDS; critical for EOSC.	8
RS-ETHZ-OPENBIS	Open-source research data management system to store, track and organize quantitative research data.	Registered; Restricted; eduID	Support implementation of FAIR RDM by providing structured metadata and data organization that makes research outputs findable and interoperable, supporting data accessibility and reuse with versioning, audit trails and rich metadata and enabling machine-actionable metadata models that align with FAIR expectations.	8
RS-ETHZ-RRP	Reproducible Research Platform — version-controlled workflows & compute.	Registered; Restricted	Supports FAIR reproducibility across EOSC workflows.	7
OER-ETHD-DMC	ETH Domain Data Management Campus — FAIR-by-design OER library on Zenodo.	Open	Major ORD/FAIR training asset for EOSC.	7
OER-DaSCH-KH	DaSCH Knowledge Hub — humanities training materials.	Open	Adds humanities training content to EOSC.	7
OER-Swiss-AL	Swiss-AL OER (ZHAW) — NLP & linguistics training.	Open	Supports CLARIN-CH educational resources.	7
OER-CLARIN-CH-2025	CLARIN-CH Training Sessions 2025 — Swiss language resources & tools.	Open	Strengthens multilingual training within EOSC.	7
OER-CLARIN-CH-LEGAL	CLARIN-CH Legal Webinars — data protection & copyright.	Open	Supports EOSC-wide legal & ethical training.	7
OER-FORS	FORS Training materials, webinars and tutorials for social sciences	Open	Adds social sciences training content to EOSC.	8
PSIDATACATALOG	PSISciCat – stores curated descriptions of experimental data from PSI and selected Swiss facilities. Includes a landing page for open access datasets	Open; Registered; Restricted, Embargoed; eduGain	Fosters curation and reuse of PSI data, together with enabling open access and providing DOIs (already part of the PaNOSC node)	9
MATERIALSCLOUD	Open repository for research data relevant to computational materials science.	Open	Provides curated open access materials science datasets + open disciplinary data repository with curation	9
REPHISTDOCUNIBASUNIBE	Books as Data: Repository for historical documents (110 Mio.), metadata, DOI, ARK, OAI-PMH	Open; Restricted	Provides historical textual and visual data in quantity for reuse	7
RS-FSO-OGD	Portal for open government data opendata.swiss by the Swiss Federal Statistical Office	Open; (4 levels of terms of use)	Standardised descriptions (metadata) of 14’000+ datasets with a link to data in 150+ organisations of all government levels and others with a state mandate.	8
RS-ETHZ-API	ETH Library Developer Portal's Open Data APIs	Open; Registered	API-access to millions of metadata items (books, images, series, journals and other linked open data resources).	8

RS-UZH-WGMS	World Glacier Monitoring Service (WGMS): Global glacier monitoring, standardised mass balance & length-change data, long-term climate-relevant datasets	Open; CC BY 4.0	Trusted global glacier data Climate-relevant flagship dataset	9
ASAP	Automated Single-cell Analysis Portal	Registered	Adds online single-cell analysis pipeline to EOSC	9
BEAST 2	Open-source software for MCMC-based Bayesian inference of phylogenetic trees.	GNU Lesser General Public License v2.1	Adds tool used in Switzerland to quantify epidemiological dynamics in real-time during COVID pandemic to EOSC	9
Bgee	Expertly curated knowledgebase of gene expression data (including all types of transcriptomes).	Open; CC0	Adds only resource providing homologous gene expression comparisons between species to EOSC	9
BioMedIT Network	Nationwide secure infrastructure network supporting biomedical research.	Registered	Adds Swiss infrastructure for biomedical research to EOSC	9
BUSCO	Benchmarking Universal Single-Copy Orthologs	Open	Adds genome assembly, gene set, and transcriptome completeness benchmarking tool to EOSC	9
CAMEO	Benchmarking service for 3D protein structure models (including complexes).	Registered.	Adds protein structure benchmarking service to EOSC	9
Cellosaurus	Knowledge resource on cell lines used in biomedical research	Open; Creative Commons Attribution 4.0 International License	Adds global reference on cell lines to EOSC	9
CLASTR	Compares the STR profile of a cell line to that of cell lines in Cellosaurus	Open	Adds tool to compare cell lines to EOSC	9
ENZYME	Repository of information on enzyme nomenclature based on the recommendations of the Nomenclature Committee of the International Union of Biochemistry and Molecular Biology (NC-IUBMB).	Open; Creative Commons Attribution 4.0	Adds global reference for enzymes providing EC (Enzyme Commission) numbers to EOSC	9
Expasy	Swiss bioinformatics resource portal	Open; Creative Commons Attribution 4.0	Adds Swiss bioinformatics resources to EOSC	9
ExpasyGPT	AI-driven tool to query across life science databases in Expasy	Open	Adds access to powerful database search tool to EOSC	8
Glittr.org	Glittr.org is an inventory of bioinformatics training material on GitHub and GitLab.	Open	Adds bioinformatics training content to EOSC	8
Glyco@Expasy	Glyco@Expasy centralizes web-based glycoinformatics resources developed within an international network of glycoscientists.	Open; Creative Commons Attribution 4.0	Adds glycoinformatics content to EOSC	9

GlyConnect	GlyConnect integrates information to characterise the molecular actors of glycosylation, mainly glycoproteins and N- and O-linked glycans	Open; Creative Commons Attribution 4.0 International License	Adds glycan content to EOSC	9
HAMAP	Expert curated family profiles for protein classification and associated rules for protein annotation used by UniProtKB	Open; Creative Commons Attribution 4.0 International License	Adds system to classify and functionally annotate protein sequences to EOSC	9
iPtgxDBs	Integrated Proteogenomics DataBases	Open	Used to identify missing protein-coding genes in prokaryotic organisms	8
ISMARA	Models genome-wide expression data	Open; Creative Commons Attribution-NonCommercial	Adds expression dataset analysis tool to EOSC	9
MetaNetX	Repository of metabolic networks which also provides analysis tools	Open; Creative Commons Attribution 4.0 International License.	Adds metabolic network content and tools to EOSC	8
MHC Motif Atlas	Class I and class II Major Histocompatibility Complex (MHC) molecules	Open	Adds immunology content to EOSC	8
Model Archive	Archive for non-experimental structural models.	Open; Creative Commons Attribution-ShareAlike International license	Adds macromolecular structure models to EOSC	9
mOTUs	Uses phylogenetic marker gene (MG)-based operational taxonomic units (mOTUs) for profiling.	Open; GNU General Public License version 3	Adds a profiling tool to EOSC	9
Nextstrain	Open-source platform for pathogen genome analysis	Open; GNU Affero General Public License version 3	Adds tool used globally to track outbreaks to EOSC	9
OMA	Orthologs from all domains of life	Open; Creative Commons Attribution 4.0	Adds orthology content to EOSC	9
OrthoDB	Catalog of ortholog annotations.	Open; Creative Commons Attribution 4.0	Adds orthology content to EOSC	9

Progenetix	Mutation and CNV data in cancer.	Open; Creative Commons Attribution International license	Adds cancer content to EOSC	8
PROSITE	Profiles and patterns for protein domains used by UniProtKB	Open; Creative Commons Attribution 4.0	Adds protein sequence analysis tool to EOSC	9
REALPHY	Reference sequence Alignment based Phylogeny builder	Open; Creative Commons Attribution 4.0	Adds access to phylogenetic tree inference tool to EOSC	9
Rhea	Expert-curated biochemical reactions	Open; Creative Commons Attribution 4.0	Adds access to global reference for biochemical reactions to EOSC	9
sciCORE	High-performance computing and storage infrastructure.	Registered;	Adds access to Swiss computing infrastructure to EOSC	8
SIBiLS	Literature retrieval with semantic enrichment	Open; Creative Commons Attribution 4.0	Adds access to text mining data and tools to EOSC	8
SPSP	Swiss Pathogen Surveillance Platform	Registered; Restricted	Adds Swiss platform for pathogen surveillance to EOSC	9
STRING	Protein–protein interaction database.	Open; Creative Commons Attribution 4.0	Add access to the global reference for protein-protein interactions to EOSC	9
SWISS-MODEL Repository	Homology model structure database.	Open; Creative Commons Attribution-ShareAlike	Adds protein structure homology models to EOSC	9
SWISS-MODEL Server	Automated protein structure homology modelling.	Open; Creative Commons Attribution-ShareAlike	Adds protein structure homology modelling service to EOSC	9
SwissBioPics	Library of interactive biological images.	Open; Creative Commons Attribution 4.0	Adds biologically relevant schematic drawings to EOSC	8
SwissDrug Design	Web tools for drug design.	Open; Creative Commons Attribution 4.0	Adds tools for drug design to EOSC	9
SwissLipids	Knowledge resource for lipids.	Open; Creative Commons Attribution 4.0	Adds lipid content to EOSC	9
SwissRegulon	Genome-wide regulatory site annotations.	Open	Adds gene regulation content to EOSC	9
Training (ELIXIR Switzerland)	Bioinformatics courses and workshops.	Open; Fees may apply	Adds access to bioinformatics training to EOSC	9

Unilectin	Platform on lectins and carbohydrate-binding proteins.	Open; Creative Commons Attribution 4.0	Add lectin and carbohydrate-binding protein content to EOSC	9
UniProtKB	Curated protein sequence and function database.	Open; Creative Commons Attribution 4.0	Add access to the global reference for protein sequence and functional information to EOSC	9
V-pipe	Pipeline for viral genetic diversity analysis.	Open; Apache License	Add access to Swiss tool used during COVID to analyse viral genetic diversity to EOSC	9
Variomes	Search engine supporting genomic variant curation	Open	Adds access to tool to support genomic variant curation to EOSC	8
ViralZone	Resource for viral genes, families and structures.	Open; Creative Commons Attribution 4.0	Adds access to virology content to EOSC	9
REPPUBUNIBAS	Repository edoc, DOI, OAI PMH	Open; Restricted; CC Licence	Reusability of research publications and metadata	7
ICOS-CH	Long-term greenhouse gas concentrations, forest fluxes with the atmosphere and auxiliary data; https://data.icos-cp.eu/portal/	Open	ICOS-CH data are available via the ICOS RI Carbon Portal, providing highest-quality data (Class 1 Stations), facetted data search, download and metadata.	9
DATALAKES-EAWAG-CH	Data about swiss lakes: https://www.datalakes.eawag.ch/data	Open	Datalakes is an open-access sensor-to-front-end platform designed to search, visualize, and download data on Swiss lakes.	9
FoodCASE	FoodCASE is an information system to manage laboratory food analysis data, food composition data, Total Diet Study (TDS) data, food consumption data, and branded food data.	FoodCASE License	The information system FoodCASE is added to EOSC and can be linked with other food composition databases. Users can manage and access national food composition data. **UC-6**	9
SwissNWDB	Swiss national dataset for food nutrients	Open access	Adds Swiss national food nutrients to EOSC. **UC-6**	9