EOSC-ES Preparatory project status

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¿Why a Spanish EOSC Node?

- **Spain is a leader in scientific production, open science, and participation in INFRAEOSC projects.**
- **The ENCA 2023–2027 explicitly states the following need:**
  - Objective 1: To ensure the existence of interoperable digital infrastructures that are sufficiently robust and well-coordinated to absorb the impact of implementing a national open science policy, and to facilitate their integration into the international ecosystem—and, where appropriate, into the European Open Science Cloud (EOSC).
  - Axis B, Action 4 (A4):
    - Interoperability of all open science digital infrastructures, ensuring their sustainability and facilitating the integration of data and services into the European Open Science Cloud (EOSC).
    - An Interoperability Plan for open science digital infrastructures will be developed, in coordination with EOSC and OpenAIRE guidelines, RECOLECTA's repository certification services, the Standardized Curriculum Vitae (CVN), and FECYT's journal evaluation services.
- **This aligns with all the principles of open science as developed at the national level.**

We cannot afford not to establish a node

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High involvement of Spain in INFRAEOSC

Sustained participation on around 70%

EOSC cancer AI4 EOSC EOSC SIESTA EOSC TITAN FLUID-AI AI4SOCIALPLUS

6

Coordinated by Spanish Institutions

EOSC-ARENA RAISE-CONNECT EOSC-MESH GenAI4Earth RenAI EOSC DataGEMS EOSC OSCARS Open Science Clusters' Action for Research & Society ostrails

EOSC Focus Skills 4 EOSC EOSC Blue-Cloud2026 A federated European FAIR and Open Research Ecosystem for oceans, seas, coastal and inland waters EOSC RAISE EOSC FAIR-IMPACT Scilake EBY-COVID

EOSC AquaINFRA EOSC EVERSE EOSC BEYOND EOSC DATA COMMONS EOSC RAISE Suite

EOSC FAIR2Adapt EOSC United EOSC FIDELIS EOSC ENTRUST European Network of Trusted Research Environments EOSC EuroScienceGateway

25

Spanish Institutions in the consortium

EOSC GRAVITY CRAFT-OA RDA TIGER graspos open research metrics dataspace EOSC EDEN Enhancing Digital preservation strategies at European and National level EOSC FAIR-EASE

Lumen EOSC EOSC EOSC ClimateAdapt EOSC EOSC FAIRCORE4EOSC

STARDAST EOSC-MARINE FDIF4EOSC EOSC-CONNECT EOSC AIssistant

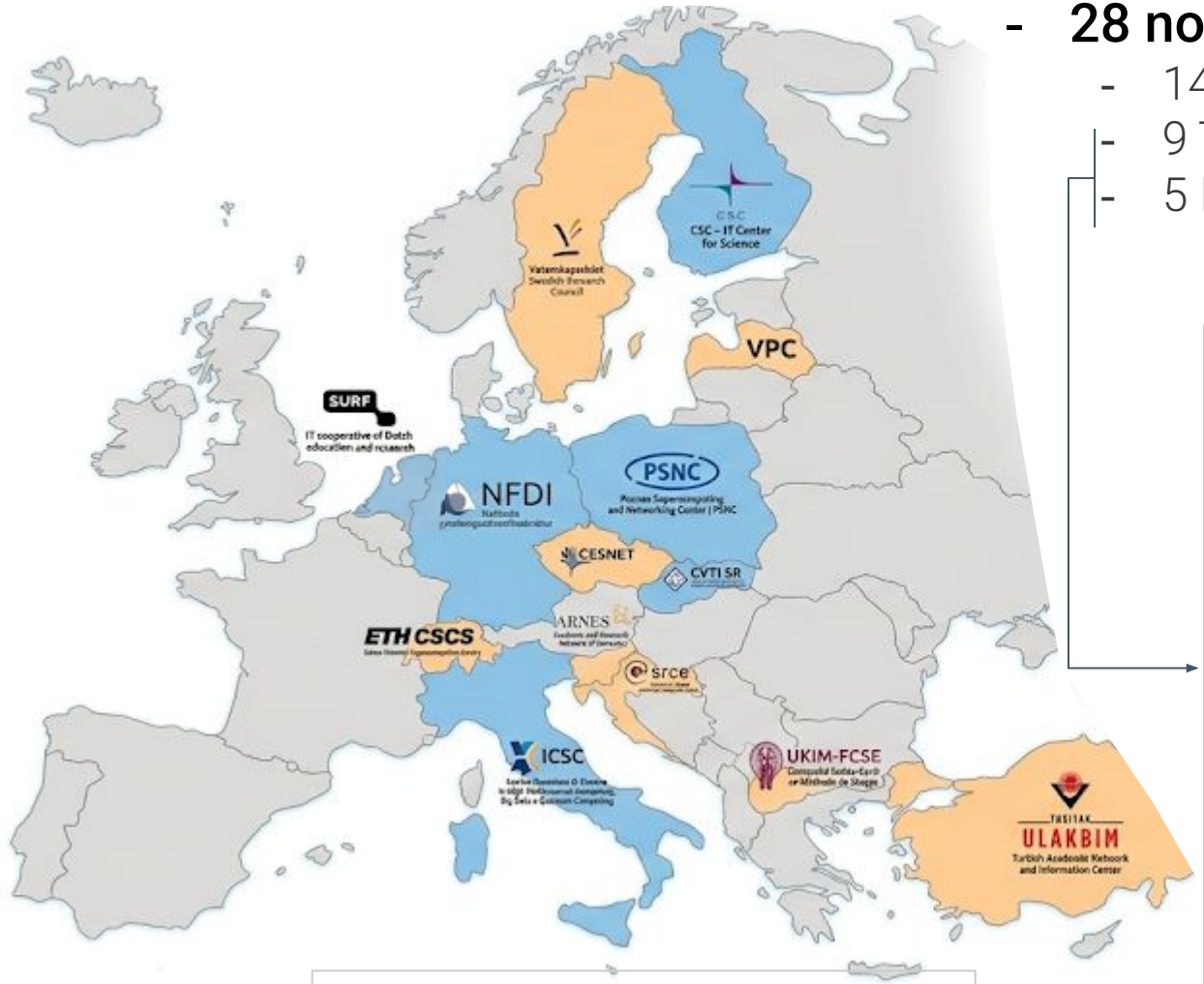
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However, Spain is not yet an EOSC Node



- **28 nodes selected in the 2 calls**
  - 14 National Nodes
  - 9 Thematic Nodes.
  - 5 Infrastructure nodes (Including the EU node).

First Wave

ESRF · panosc photon and neutron open science cloud · BBMRI-ERIC · EUDAT · DATA TERRA · eosc Blue-Cloud2026 · CERN · elixir · EMBL · EURO BIOIMAGING · instruct ERIC

Second Wave

GÉANT Networks • Services • People · EGI · OpenAIRE · OPERAS open scholarly communication in the european research area for social sciences and humanities · ACTRIS · METROFOOD INFRASTRUCTURE FOR PROMOTING METROLOGY IN FOOD AND NUTRITION · EBRAINS

National Nodes

First Wave · Second Wave

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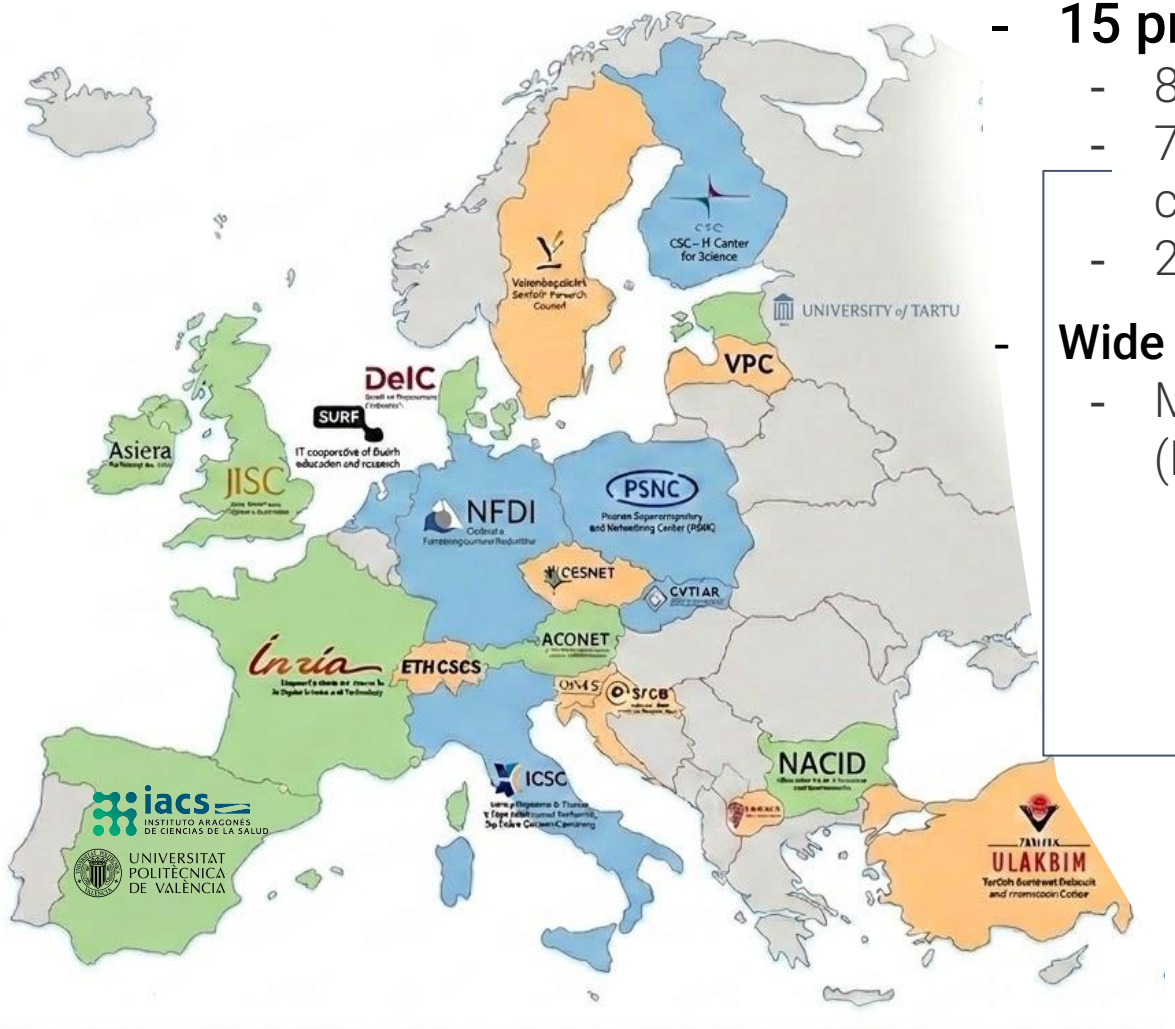
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EOSC-Gravity calls

	Enrolment call of EOSC Tripartite Governance	Cascading grants under EOSC Gravity	Inter-project call openings
Total funding	NO FUNDING involved	€800k	€800k
Max. grant amount	Not applicable	€50k	€50k
Details	Call for further Candidate EOSC Nodes only Evaluation, selection, decision-making with Tripartite Governance	1 geo-grants call opening Support for preparatory work for potential future Candidate EOSC Nodes Deliverable: Project Charter	2 call openings Support for: • Onboarding of resources to existing EOSC Nodes • Use case deployment • Support of selected OAEG
	https://eosc.eu/wp-content/uploads/2025/11/20251103_EOSC-Tripartite-Governance_Enrolment-call-documents.pdf	https://eosc.eu/wp-content/uploads/2025/10/20251103_EOSC-Gravity_Preparatory-Grants_Call-documents.pdf	https://eosc.eu/wp-content/uploads/2025/10/20251103_EOSC-Gravity_Inter-Projects-Grants_Call-1_Call-documents.pdf

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EOSC Gravity Call outcome



- **15 proposals approved**
  - 8 para la construcción de nodos nacionales.
  - 7 temáticas (materiales, alimentación, arquitectura, ciencia ciudadana, integridad y reproducibilidad)
  - 2 españolas (EOSC-ES Prep e Ibercivis)
- **Wide EU coverage**
  - Most countries with relevant policies in Open Science (Except Belgium, Norway and Portugal).

UK Research and Innovation

EuroFIR
European Food Information Resource

ibercivis
gente haciendo ciencia

UNIVERZA V LJUBLJANI

WAGENINGEN
UNIVERSITY & RESEARCH

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EOSC-ES Prep

- Objectives
  - Improve the integration of Spanish stakeholders into the EOSC
    - i) Inventory and map Spanish e-infrastructures, ICT, data spaces, repositories, and open science services in accordance with federation requirements;
    - ii) Propose a sustainable governance model for a distributed national ecosystem;
    - iii) Define an initial portfolio of services, federation capabilities, and mechanisms for interaction with other EOSC nodes and the EOSC Academy.
  - Prepare a proposal for a Spanish EOSC node for the Q1 2027 call.

The proposal has been evaluated as <u>excellent</u>

"EOSC-ES Prep is an excellent and convincing proposal. It is a proposal from a top-tier Spanish consortium with a clear vision for creating a national EOSC Node.. The proposal is also based on a mature infrastructure ecosystem, extensive experience in European Open Science projects, and a good implementation plan with an appropriate budget."

"The value proposition is excellent, based on an already established research landscape in Spain and an ongoing presence in EOSC-related activities. The proposal shows high levels of readiness and provides a credible way forward for creating an EOSC Node"

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EOSC-ES Prep

- Consortium
  - 22 Spanish institutions (including national research infrastructures, e-infrastructures, universities, and biomedical research institutes) with expertise in AAI, HPC, FAIR data, repositories, training, semantic interoperability services, and alignment with data spaces.
- Actions
  - Compile an inventory of Spanish resources and services related to the EOSC.
  - Create a landing page for the node.
  - Organize two in-person meetings.
  - Contribute to and promote the EOSC Academy.
  - Draft the node proposal (without submitting it).

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Value proposition

Community organisation

- 25 Spanish institutions are EOSC-A members/observers; ~40 experts have served in Task Forces
- Spanish institutions lead 6 and participate in 31 of 44 EC-funded EOSC projects

Bridge to Latin America

- Spanish-language reach: 635M Spanish speakers globally, with ~37K OA Spanish publications indexed
- Spain's 2020 integration into LA Referencia.
- EOSC-ES as a bridge: Federating Capability 2 can connect European and Latin American discovery.

Singular resources

- Health: governed-access population data, clinical/One Health data spaces, and Spanish nodes of BBMRI, EATRIS, ECRIN and ELIXIR.
- Environment & marine: CSIC observation networks with long-running series
- Computing & physics: PIC/CIEMAT, BSC-CNS, CESGA and SCAYLE contribute major data-lake.

Beneficiaries & sustainability

- Researchers, technical staff and managers gain one route to Spanish data/services/compute; institutions gain European visibility without operating their own Federation interface.
- Public & provider value: funders/public bodies gain an implementation and monitoring instrument; service providers reach more users through shared federating capabilities.

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Lessons learned from discussions with other nodes

From other Nodes and from our own process — and how each lesson changed the plan

Each Node must fit its national reality	**Learned:** NFDI is one association of 327 members; EOSC-CZ is led by a single e-infrastructure. Spain has no such body, and 22 institutions are building the Node bottom-up.	**Changed:** An existing entity signs; an open collaboration agreement gives every institution a voice, so the Node does not "belong" to one organisation.
Build on what already operates	**Learned:** Nodes that grew out of operating communities (European DTO / Blue-Cloud) reached production faster than those assembled administratively.	**Changed:** Every mandatory capability is mapped onto a running national service; use cases are anchored in communities that already collaborate.
Start small, then grow	**Learned:** Nodes are best built from a few services integrated first; onboarding everything at once fails.	**Changed:** 12 resources and 4 use cases selected from 28 resources and 10 candidate cases; the rest stay in a public pipeline.
Bottom-up must meet top-down	**Learned:** Enrolment requires endorsement by the national authority; regional and national priorities must be aligned.	**Changed:** Early briefing of COS-Gob and a national tripartite meeting with the Ministry before the enrolment application.
Volunteer effort starts a Node but does not run it	**Learned:** Coordination overhead and turnover were the risks most cited.	**Changed:** Named roles with declared effort; "no named owner, no onboarding"; decision records.

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Definition of Use Cases

According to the EOSC Federation documentation

- **Definition of a use case:**
  - Use cases represent high-level capabilities that are fundamental to delivering the expected benefits to stakeholders and users.
    - At least one use case must be multi-node—or one that makes a concrete contribution to federation capabilities—in a scientific context.
  - Use cases must demonstrate the added value of the EOSC Federation.
  - At this stage, use case descriptions should be general, focusing on the required capabilities and their purpose, rather than on technical implementation details.
- **Criteria for prioritizing use cases:**
  - Level of maturity of the concept prior to EOSC.
  - EOSC Federation services that could be integrated.
  - Multi-node nature.
  - Interdisciplinary nature regarding data.
  - Commitment to execution.

We have committed to propose:

- 2 intra-node use cases
- 1 interdisciplinar, inter-node use case

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Repositories and services delivered

- **Definition of Resource / Service**
  - Resources consist of data and software repositories, as well as services that enable their utilization.
  - This also encompasses “core functions” (AAI, catalogs, helpdesk, etc.) and horizontal services (computational and storage infrastructure).
    - Access policies for these repositories/services must be included (for example, specify the type of users permitted to access them: are they restricted to your organization, your country/discipline, or the whole of Europe?).
    - It must also be indicated whether the intention is to utilize or complement existing federated capabilities, or if these services represent a new addition to the Federation’s capabilities.
  - Resources made available through an EOSC Node must operate at a minimum Technology Readiness Level (TRL) of 7.
- **Criteria for selecting use cases**
  - Level of maturity of the concept prior to its integration into EOSC.
  - Alignment with core services.
  - Potential for expansion to allow use by other nodes.
  - Commitment to its maintenance and integration.

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Use cases: overview

Four use cases the Node commits to develop during its build-up phase

Use case	Domain · Common European Data Space	Access regime	Counterpart EOSC Nodes	Lead	End-to-end demonstration
ES-UC1 Health data	Health, animal and environmental health · European Health Data Space	Governed (statutory secondary use)	Life Sciences Connect; BBMRI-ERIC; EOSC EU Node	IACS	M18 (governed-access rehearsal M15)
ES-UC2 Oceans	Marine sciences · Green Deal data space, marine component	Open and registered users	European Digital Twin of the Ocean; Blue-Cloud 2026 / CNR	CSIC, with UMU	M18
ES-UC3 Astrophysics	Astrophysics · none sectoral (EOSC as transverse data space)	Controlled (collaboration policy)	CERN Node, through the ESCAPE Data Lake	PIC / CIEMAT	M12 (workspace in operation M9)
ES-UC4 Parliamentary corpora	Social sciences and humanities · language and cultural heritage data spaces	Open	EOSC Node Netherlands (SURF); EOSC Node Slovenia; CLARIN and DARIAH ERICs	HiTZ (UPV/EHU) for CLARIAH-ES	M12

Common pattern

Discover in the Node catalogue (FC-2) → **Authenticate** (FC-1, SIR / eduGAIN) → **Analyse where the data reside** → **Publish** citable FAIR research products

Will they be developed? Implementation plans **for all four at build-up month 3** (ES-D5.0, ES-MS3); ES-UC3 and ES-UC4 demonstrated end to end at month 12 and ES-UC1 and ES-UC2 at month 18, each with a public report (ES-D5a/b). Three of them link EOSC

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The Node as users' gateway to the Federation

The concrete activities, who runs them and when

For researchers: one door

A researcher in Spain signs in with the institutional account and reaches resources of any Node; a researcher elsewhere finds Spanish resources through the **Federation catalogue**.

- Node catalogue harvested by the EOSC Resource Hub (FC-2) — RedIRIS, FECYT, UPM · build-up M6
- Single identity through RedIRIS SIR and eduGAIN (FC-1) · M6
- One helpdesk, with second-level support from resource owners and the CLARIN K-centre (FC-3) · UPV, IACS · M12

For providers: an open route in

Any Spanish institution can bring a resource to the Federation without running its own Federation interface.

- Published onboarding criteria and third-party contribution policy: TRL 7+, named owner, FAIR metadata · UPM, RedIRIS · M3
- Onboarding workshops on the metadata profile, validator and AAI integration · first wave M9
- Third-party onboarding opened at the first annual event · M12
- EOSC-A membership not required

For the community and policy makers

- Annual national EOSC-ES event, with the RES Users' Conference (over 1,000 researchers) as candidate co-location · M12, M24
- Node sessions in the public parts of EU project meetings hosted by partners in Spain, at no extra cost
- eosc.es domain reserved; landing page budgeted by IACS
- Structured dialogue with COS-Gob and the Ministry of Science, Innovation and Universities; national tripartite meeting on 2 October 2026

Evidence so far. Kick-off (May); first face-to-face meeting at CSIC Madrid on 29 June with about 22 institutions and speakers from NFDI, EOSC-CZ and the European DTO Node; online consolidation meeting on 23 July. Registrations for 2 October already include organisations outside the consortium: FECYT, CSUC, Consorcio Madroño, CREAF, Navarrabiomed, Fundación Ibercivis and Universidad de Zaragoza.

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Showcase: initial portfolio

Resources from charter (section 3) R1, all TRL ≥ 7

Resource	Provider	Access	Use Cases
ES-RES01 Storage and Computing	SCAYLE, BSC-CNS, CESGA	Existing open calls	ES-UC1 to ES-UC4
ES-RES02 Scientific Data Lake	PIC/CIEMAT	OIDC and eduGAIN; control per dataset	ES-UC3
ES-RES03 FAIR suite	UPM	Open	Calidad del catálogo
ES-RES04 RAISE	Biogipuzkoa	Open with provider approval	ES-UC1
ES-RES05 AI4EOSC	CSIC	eduGAIN with quota	ES-UC1, ES-UC2
ES-RES06 Privacy toolbox	CSIC	Open	ES-UC1
ES-RES07 CosmoHub	PIC/CIEMAT	eduGAIN, controlled	ES-UC3
ES-RES08 NEREIDAS	UMU	Registered Members	ES-UC2
ES-RES09 BIGAN	IACS	Ethical approval and access permission	ES-UC1
ES-RES10 CLARIAH-ES Repositories	UPV/EHU, ULPGC	Open; eduGAIN / CLARIN SPF access restricted	ES-UC4
ES-RES11 Annotation pipeline	CLARIAH-ES	Open, quotas on rival resources	ES-UC4
ES-RES12 Training & K-centre	UPV/EHU, ULPGC	Open	ES-UC4

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Federating Capabilities

EOSC Federation Handbook v2.0: Mandatory capacities

Mandatory



Federated AAI. Federated authentication and authorization that allows users from different nodes to access services using a single, recognized identity.

Based on the AARC Blueprint Architecture, OIDC/OAuth2, and SAML2. Compatible with eduGAIN and institutional identity providers.



Federated Catalogues. Interoperable resource catalogues (data, services, software) that enable discovery and cross-node querying.

Metadata in DCAT-AP and GLUE2 formats; harvesting via OAI-PMH or ResourceSync; API descriptions using OpenAPI.

Recommended (Mandatory by end of 2026)



Helpdesk. A unified support system that channels user incidents and requests across the federation, with common traceability.

Typically implemented using OTRS, Jira Service Management, or compatible tools. Integration via cross-node ticketing.



Service Monitoring. Continuous monitoring of the status and availability of services at each node to ensure SLAs and provide federated visibility.

ARGO Monitoring Framework, Prometheus/OpenMetrics; integration with the EOSC Service Registry to map services to probes.



Service Management. Management of the service lifecycle (registration, onboarding, validation, retirement) in accordance with standards shared across the federation.

EOSC Service Management System (SMS) based on FitSM; definition of Service Profiles using PIDs; peer-review process.

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Servicios core: partida y evolución

Federating Capabilities del Nodo according to the charter R1

Capacity	Departure service	Supplier	Necessary evolution
FC-1 AAI	RedIRIS SIR, identity federation integrated into eduGAIN	RedIRIS (Red.es)	Validate the SIR ↔ EOSC Federated AAI integration: protocols, attributes, authorization and proxy. Any new component requires prior technical and institutional agreement.
FC-2 Catalog and registration	COLLECTA, data.gob.es, PLATICA (CARREDI) and thematic records; part already harvested by OpenAIRE	RedIRIS / FECYT	Minimum metadata and validator profile, harvesting model and distribution of responsibilities; progressive integration of CARREDI; evaluate the future EHDS registry.
FC-3 Helpdesk	Zammad	UPV / IACS / UJAEN	Exchange of tickets between Nodes; second level in resource owners; K-centre CLARIN as SSH support.
FC-4 Monitoring	ARGO Monitoring Framework with Prometheus/OpenMetrics exporters	To designate	Integration with the EOSC Service Registry; compatible probe as an onboarding condition.
FC-5 Service Management	SMS from services already in production	To designate	SMS based on FitSM: procedures, service profiles with PID, onboarding with peer review and security coordination between Nodes.

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Current Status and plans

Documents and phases

6th June
- Project Plan (D1)

6th September:
- Project Charter (D2)
- *Showcase event* plan (D3)

6th November:
- Use Case Report (D4)
- *Showcase event (D5)*
- EOSC Academy Contribution (D6)

March (2027) *TBC*
- Third Wave Nodes call





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Questions

https://eosc.es/index.html



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Lectura para EOSC-ES

Cruce de ambas fuentes con el modelo distribuido del Nodo

1 **La carga es del Nodo, no de cada rol**

Los 1–2,5 FTE/año de EOSC United cubren el conjunto; en EOSC-ES la idea es repartirla entre los participantes.

2 **Coordinator y Operations Officer tienen agenda fija**

NCC y NOC con cadencia mensual, que puede pasar a semanal en periodos críticos como la entrada en producción.

3 **Cada rol necesita disponibilidad real y suplencia**

El caso descrito muestra que titular y suplente pueden quedar bloqueados por otras obligaciones.

4 **Los WGs los elige el Nodo**

Cybersecurity WG y *Legal and Governance* WG son los interlocutores de Cybersecurity y Legal Officer.

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Sustainability and the way forward

Business model of the future Node and steps to the enrolment application

Business model

Operation in kind. Each institution bears the cost of the resources it contributes to Node Exchange; the Node adds a thin federating layer, not new infrastructure.

Core services on existing budgets. Identity (RedIRIS), catalogue harvesting (FECYT), compute (RES) keep their owners and funding lines.

Shared costs. The collaboration agreement sets membership, cost-sharing and exit rules; funders sit in the strategic committee.

Build-up funding. COFUND HORIZON-INFRA-2027-01-EOSC-01 through a national funding agency, national calls under PEICTI, and partners' Horizon Europe projects.

Long term. EOSC-ES in the national science, technology and innovation plans for 2028–2034.

Next steps

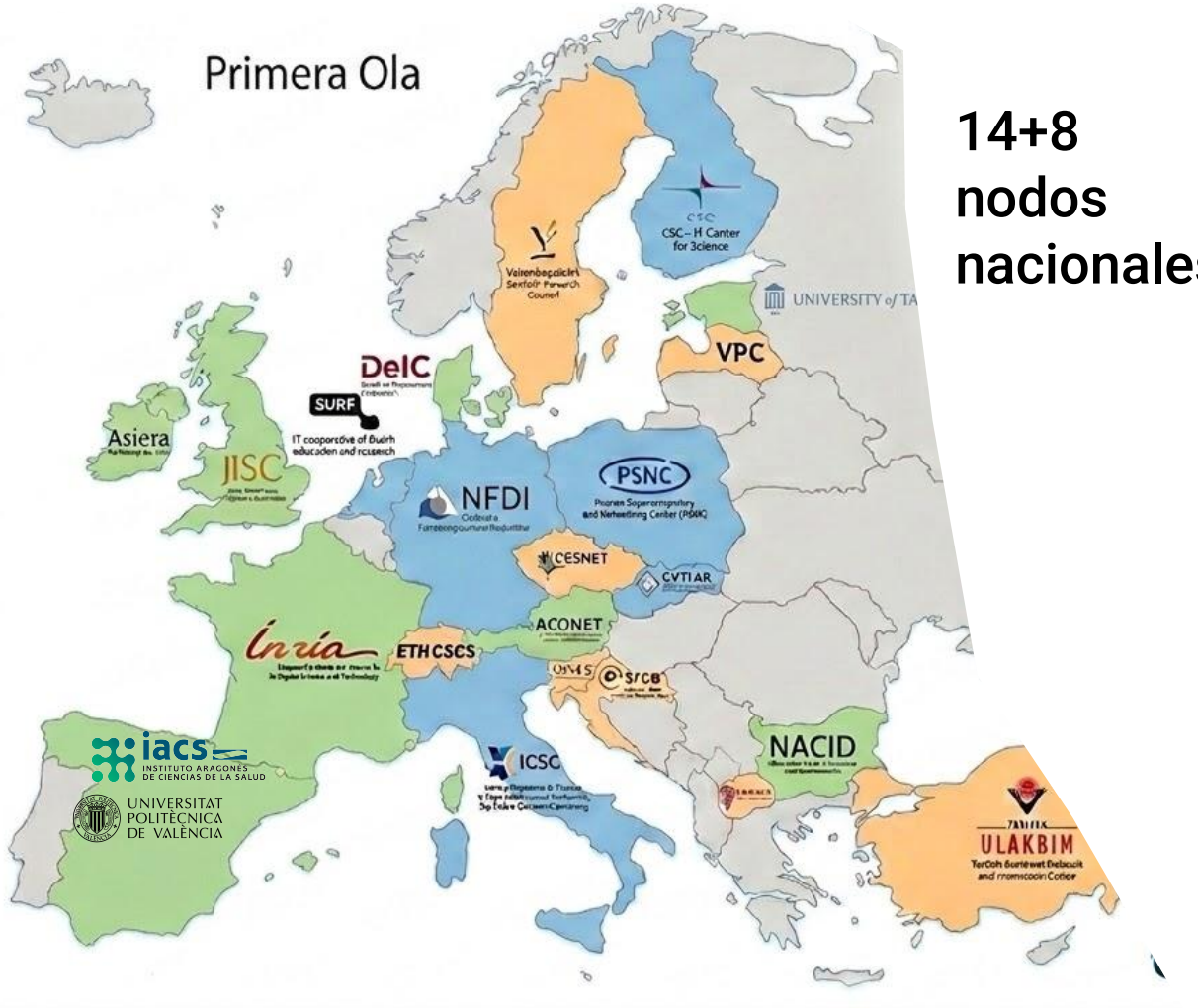
2 Oct 2026	Tripartite meeting, Zaragoza: governance model, candidates for representing entity, role holders, core-service providers, use case selection
Oct 2026	Final online meeting of the preparatory project: readiness assessment and next steps
Early Nov 2026	Use case report, EOSC Academy matrix and showcase presentation
Before enrolment	Collaboration agreement signed; representing entity and five role holders named; endorsement by the national authority (ES-MS0)
Early 2027	Application to the third enrolment wave (expected)
Build-up M1–M24	Node Core in production at M6, first onboarding wave at M9, use cases demonstrated at M12 and M18

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Mapa completo incluyendo propuestas de EOSC Gravity



14+8 nodos nacionales

9+7 nodos temáticos y 5 nodos de infraestructuras (incluyendo el nodo EU).

Primera ola

Segunda ola

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