Annex No. 1

Contracting authority's note: It will be an annex to the contract

**Technical specification of the public contract for the acquisition of a service to support open science and research for the STARS EU university alliance**

**1. Subject-matter of the contract**

The subject of the public contract is the acquisition of digital infrastructure provided as a service that will be used to visibility, share and monitor research results in accordance with the principles of open science. The service will be provided in the form of an access package, which will include two main components:

* **Portal for the presentation of research outputs**
* **Monitoring tool for analysis of research data and outputs (Monitor Dashboard)**

The service will be available to **all 9 members of the STARS EU university alliance** (<https://starseu.org/>) and will be provided for a period of approximately **25 months**, specifically from the effective date of the contract until **October 31, 2027**.

**2. Functional requirements**

**2.1 Portal for the presentation of research outputs**

The proposed system must support the following functionalities:

* **Custom-Branded Community Portal**  
  Ability to create a dedicated, custom-branded portal accessible via its own domain, including visual customization options (logo, name, colors, typography, and layout).
* **Consistent User Experience**  
  Maintain visual and functional consistency with existing alliance services, using the main portal (e.g., <https://starseu.org>) as a reference for user interface styles and branding.
* **Flexible Website Structure**  
  Support for a customizable page structure, including editable homepage, menus, and subpages, with the option for content editing by designated users.
* **Administrative Access**  
  Unlimited number of administrators and managers, with differentiated access and editing rights.
* **User Authentication Options**
  + Federated login via academic identity providers (eduGAIN),
  + Social login via Google, GitHub, ORCID,
  + account-based login,
  + Integration with the STARS EU Alliance SSO authentication system (SAML 2.0), e.g., <https://campus.starseu.org/login>, leveraging released identity attributes where needed.
* **Advanced Search & Filtering**  
  Discovery and filtering of research outputs by:
  + Type of access (open, closed, embargo),
  + Type of output (e.g., publications, data, software),
  + Field of science (FoS),
  + Sustainable Development Goals (SDGs),
  + Community affiliation,
  + Funding source, language, and date range.
* **Output Linking & Author Integration**  
  Ability to group and link outputs under specific projects and associate them with author identifiers (e.g., ORCID).
* **Repository Compatibility**  
  Integration with public data repositories (e.g., Zenodo) for harvesting and display of research outputs.
* **Custom Output Identification via TDM**  
  Ability to integrate or deploy a text and data mining (TDM) algorithm to identify alliance-relevant outputs with high accuracy.
* **Usage Dashboards and Visual Reporting**  
  Standard and customizable analytics dashboards to display statistics at the level of the entire alliance and per institution.
* **Automated Data Refresh**  
  Support for monthly data updates from publicly available and authoritative sources.
* **Integration with External Systems**  
  Provide interoperability with other platforms and tools via embeddable components (iframe), export features, and accessible APIs.

**2.2 Monitoring tool**

The proposed instrument must support the creation of a dynamic monitoring and analytics dashboard designed to track key research indicators across an alliance of universities. These indicators may include research excellence, collaboration patterns, societal and scientific impact, and compliance with institutional and policy priorities (e.g. Open Science, FAIR data, SDGs). The system must allow monitoring at multiple levels — both aggregated across the entire alliance and broken down by individual institutions — to support evidence-based strategy, benchmarking, and coordination.

The instrument must include the following functionalities:

* **Customizable Dashboard Interface**  
  Ability to fully customize the dashboard’s visual identity (name, logo, structure), accessible from the client’s designated domain.
* **Cross-Institutional Monitoring & Filtering**  
  Capability to monitor, filter, and visualize research outputs at both the alliance-wide level and for individual member institutions.
* **Granular Access Control**  
  Support for multiple access levels, including:
  + Public dashboards,
  + Restricted internal dashboards (for alliance members),
  + Private dashboards (for draft review and internal analysis).
* **Role-Based Management**  
  Management by multiple administrators with the ability to invite users, assign roles, and configure permissions.
* **Text & Data Mining (TDM) Integration**  
  Integration of TDM capabilities to automatically classify and map research outputs to projects, authors, institutions, and domains.
* **Data Export & Embedding**  
  Export of graphs, data tables, and analytics in common formats: CSV, XLS, PNG, PDF, SVG, with the option to embed visualizations in external websites.
* **API Access**  
  Access to standard and bulk APIs to retrieve structured metadata on research outputs, projects, funding, licenses, and related entities.
* **Umbrella Dashboard Support**  
  Ability to present combined indicators and activities from multiple institutions within a unified view.
* **Automated Monthly Updates**  
  System must support automated monthly updates based on current, publicly available Open Science sources.
* **User Documentation & Support**  
  Access to detailed user guides, system documentation, and ongoing technical support.

**3. Ability to interconnect and collaborate with existing systems**

The proposed solution must demonstrate full capability to interoperate with institutional, national, and international research infrastructures currently used by STARS EU Alliance partners. It must enable seamless discovery, monitoring, and reporting of research outputs through a centralized interface, while maintaining compatibility with established standards and diverse repository platforms.

**The solution must support:**

* **Standardized Data Access**  
  Provision of data access via well-documented and secure application programminginterfaces (APIs) for integration with third-party tools and systems.
* **Flexible Metadata Export**  
  Export of metadata in widely used, interoperable formats (e.g., JSON, XML, CSV) to support reuse and reporting.
* **Federated Authentication**  
  Support for user login via multiple identity providers, including but not limited to:
  + eduGAIN
  + SAML 2.0-compliant systems, such as the STARS EU Alliance SSO (<https://campus.starseu.org/login>)
  + ORCID
  + Google
* **Repository Interoperability**  
  Ability to connect with and harvest content from public and institutional researchrepositories, using standard protocols (e.g., OAI-PMH) and structured metadata schemas.
* **Standards-Based Aggregation**  
  Compatibility with established harvest protocols & metadata interoperability frameworks, including:
  + OAI-PMH
  + Dublin Core
  + DataCite Metadata Schema
  + Guidelines (Literature, Research Data, CRIS)

**Target Repositories and software platforms (examples currently in use by alliance members):**

* Dataverse (<https://dataverse.org/>)
* Dataverse NL (<https://dataverse.nl/dataverse/hanze>)
* DSpace (<https://dspace.org/>)
* DiVA (<https://www.info.diva-portal.org/>)
* DORIS – Swedish National Dataservice (<https://snd.se/en/doris-researchers>, <https://researchdata.se/en>)
* Digital Commons (<https://research-data.ull.es/research-data/>)

The Service shall guarantee immediate, automated monthly harvesting of all repositories that already expose a standards - compliant OAI‑PMH or equivalent interface. In cases that some of the repositories above have not meet required standards, the Supplier will provide the following support for their future aggregation:

* prepare and deliver to each repository operator a technical guideline (EN) describing the exact steps required to expose an OAI‑PMH or REST compatible interface,
* organise a webinar for repository managers explaining the requirements, with recording and slides made publicly available,
* provide an e‑mail Q&A helpdesk,
* integrate any repository that becomes compliant into the regular monthly harvesting workflow,
* if a repository has not enabled a compliant interface, the Supplier will offer manual metadata ingestion. This service is subject to an additional fee and does not guarantee monthly updates; updates may occur on a semi-annual or annual basis, depending on the data sources‘ characteristics.

The solution must ensure that research outputs from across the STARS EU Alliance are **aggregated, searchable, and openly accessible** through a centralised interface, enabling **transparent monitoring, policy compliance tracking, and collaborative visibility** across member institutions.

**4. Duration of performance**

The performance of the public contract will be for a definite period of time, from the effective date of the contract until 31 October 2027.

The performance will include:

* activation of the service within 5 days of the effective date of the contract,
* initial testing phase (pilot operation) – 60 days from service activation,
* during the testing phase of online user training (approx. 10 people for each alliance partner) in the range of at least 10 hours,
* Production deployment immediately after the end of the testing phase.

**5. Service and Support**

* ensuring operation, including maintenance, backups and updates,
* guaranteed service availability of at least 99.9% outside of planned maintenance,
* Access to user support with a maximum response time of 48 hours.
* training and onboarding of users of all alliance partners in the range of min. 10 hours,
* the ability to export all data after the end of the service,
* Retention of data after the end of the service for at least 90 days.