



Trans-National and National Access to the H2IOSC RIs Cluster Services

LIST OF SERVICES

March 2025

E-RIHS.it for H2IOSC

PILOT Interlumo: Analytics services for remote interactions

The Interlumo service provide a comprehensive suite of functionalities design to capture, process and inspect interactive sessions performed in remote infrastructural nodes/equipment, public exhibits or web-applications, with a strong focus on Visual/Immersive Analytics.

This service enables remote applications to define and track custom attributes for interactive sessions. These attributes may include spatial data (such as virtual/physical 3D locations, 2D eye movements, focal points, HMD location in physical space, GPS coordinates, etc.), interaction states related to application logic or equipment (e.g., EEG voltages from BCI headsets, signals from wearable device, sensor data, etc.) or other relevant attributes.

Interlumo operates as an integrated pipeline, consisting of three stages, encompassing a series of web-based services tailored for analytics workflows. The process begins with data tracking and recording (Kapto), allowing remote applications, equipment or installations to capture raw interactions. It is followed by the examination and filtering of incoming raw data, processed using advanced techniques and Machine Learning models (Procezo). Finally, such data can be analyzed through Visual/Immersive Analytics inspection tool (Merkhet): this end-to-end solution ensures a seamless and efficient approach to deriving actionable insights from complex interactive sessions, including real-time collaboration with remote analysts in the virtual space.

CATEGORIES: Analytics and descriptive statistics; Data analysis; Data representation & visualization; Query and data extraction; Data curation and preservation; Data processing; XR interaction & spatial interfaces; Machine Learning

[Slide show](#)

Max number of Users/User teams for the call: 1

Specific data policy on reuse: Captured records (sessions) will be stored on the hub for a period of 6 months. The User/Team can access and save a copy of the data at any time via session ID provided by the service. For the last stage (Visual/Immersive Analytics) the User/Team is required to upload 3D data on ATON service preferably under an open license.

Providers: CNR ISPC | Operating Units: Rome

Contact person: Bruno Fanini

Email: bruno.fanini@cnr.it

ATON: WebXR services for Heritage Science

ATON is an open-source framework to present and interact with 3D models and scenes on the web, primarily targeting Heritage Science communities. Its adaptive presentation layer allows interactive, liquid 3D visualization - ranging from mobile devices, museum kiosks, workstations, up to immersive XR devices - without any installation required for final users. The adoption of robust open-source ecosystems and international standards, alongside a REST API, maximize interoperability and integration with other platforms and H2IOSC services. The E-RIHS.it service offers public access to research institutes, laboratories, museums, experts and researchers, willing to rapidly integrate interactive 3D tools into their workflows. User-friendly interfaces, modular components and multi-user capabilities allow wide customizations for different use cases. Furthermore, a plug&play architecture provides an accelerator for development and deployment of cross-device and interoperable Web3D/WebXR applications or pilots.

CATEGORIES: 3D Presentation; Immersive Visualization; PWA; Data representation and Visualization; Data curation and Preservation; Data collection

[Slide show](#)

Demo Videos

- [Built-in tools](#)
- [Multiresolution 3D models](#)
- [Navigation tools](#)
- [Immersive VR \(WebXR\) and Multiresolution](#)
- [Mixed Reality presentation \(WebXR\)](#)
- [Plug&Play Apps](#)

Max number of Users/User teams for the call: 3

Specific data policy on reuse: The User/User team is required to share the data produced during the TNA/NA activities under an open license.

Providers: CNR ISPC | Operating Units: Naples and Rome

Contact person: Bruno Fanini

Email: bruno.fanini@cnr.it

SENNSE

SENNSE is a hardware/software platform for the monitoring and preservation of cultural heritage assets through the acquisition and subsequent analysis of multiple data feeds acquired from a large-scale wireless sensor network. The sensors and related nodes, based on widely used commercial technologies and microcontrollers such as Arduino, Esp32 and Raspberry PI, cover a wide range of micro-environmental measurements such as temperature, humidity, air quality, light quantity and many others. SENNSE natively implements the MQTT IOT protocol, ensuring that the data sent from the sensors, through the relevant nodes, will be small in size, and that transmission, even under difficult conditions and poor network coverage, will occur correctly.

The open infrastructure can be easily customized facing the needs of users who, thanks to the implemented software platform can create their own dashboards and have the clearest possible information about the status of the monitored property. SENNSE can implement customized alarms to inform the user that certain preset thresholds are exceeded. In future, thanks to the use of actuators, users will be able to respond to these alarms by activating direct and effective countermeasures, and thanks to the use of artificial intelligence modules (under development) the system will be able to discovery data trends, to predict possible site Issues and to suggest correct tasks to be performed.

CATEGORIES: Remote monitoring; Diagnostic; Analytics and descriptive statistics; Data representation & visualization; Data processing; Documentation, Virtual research environment; XR interaction & spatial interfaces; Data analysis; Query and data extraction

[Slide show](#)

Max number of Users/User teams for the call: 1

Specific data policy on reuse: to be defined with the providers

Providers: CNR ISPC | Operating Units: Lecce

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CLARIN-IT for H2IOSC

EpiLexO Editor

EpiLexO is an interface for creating lexica for epigraphic languages conformant to Semantic Web principles linked to their testimonies (encoded in TEI-EpiDoc) and related bibliographies. EpiLexO is a web-based platform designed for the creation, editing, and linking of lexical resources for ancient languages. It is based on a Service-Oriented Architecture exposing RESTful APIs. The platform facilitates historical linguists in encoding multilingual lexica, linking lexical data to inscriptions, bibliographies, and other external Linked Open Data resources. Its user-friendly interface supports collaborative editing and is particularly aimed at scholars in historical linguistics and digital humanities, providing essential tools for managing and interlinking lexical information and inscriptions.

CATEGORIES: Data representation & Visualization

[Slide show](#)

Max number of Users/User teams for the call: 2 (teams of max 5 collaborators each)

Specific data policy on reuse: The User/User team is responsible for the data redistribution policy. The User/User team is encouraged to share the data produced during the TNA/NA activities under an open license and, possibly, the deposit of said data on the repository

[ILC4CLARIN](#)

Providers: CNR ILC | Operating Unit Pisa

Contact person: Michele Mallia, Valeria Quochi

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eScriptorium: a web platform for Handwritten Text Recognition (HTR)

eScriptorium is a web platform which integrates Handwritten Text Recognition (HTR) through kraken HTR engine and cooperative proofreading of automated transcriptions. Through the HTR United Project not only new performant HTR models are provided, but the entire process of image acquisition / recognition / HTR model refinement / proofreading / deposit of digital resources is open and replicable, in compliance to the principle of Open Science.

CATEGORIES: Data processing; HTR & Proof Reading

[Slide show](#)

Max number of Users/User teams for the call: 12

Specific data policy on reuse: The User/User team is responsible for the data redistribution policy. The User/User team is encouraged to share the data produced during the TNA/NA activities under an open license and, possibly, the deposit of said data on the repository

[ILC4CLARIN](#)

Providers: CNR ILC | Operating Unit Pisa

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SKOSMOS Vocabulary Service

Skosmos is an open-source web application designed to offer a standardised way of publishing and browsing vocabularies, taxonomies, ontologies, and thesauri as linked data, encoded using the popular SKOS (Simple Knowledge Organization System) vocabulary. Skosmos offers an intuitive, user-friendly interface for searching, exploring, and retrieving concepts through hierarchical or alphabetical navigation. The platform supports internationalization and customization, making it ideal for academic, library, and research projects. The service includes data conversion into SKOS from formats such as CSV/TSV or JSON, and vocabulary hosting. Advanced features such as autocomplete, semantic relationship visualization, and output in various formats enhance usability may also be available, in addition to integration with GraphDB, ensuring high performance even with large RDF datasets.

CATEGORIES: Data representation and visualization; Knowledge representation and visualization

[Slide show](#)

Max number of Users/User teams for the call: unlimited users

Specific data policy on reuse: The User/User team is responsible for the data redistribution policy. The User/User team is required to share the data produced during the TNA/NA activities under the open license Creative Commons CC BY-SA in the repository [ILC4CLARIN](#)

Providers: CNR ILC | Operating Unit Pisa

Contact person: Michele Mallia

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DARIAH-IT for H2IOSC

PILOT: DPH – Digital Philology HUB

The Digital Philology HUB (DPH) is a platform for the development of a workflow to make born digital critical editions of texts in ancient Italian with manuscript tradition.

The Digital Philology HUB consists of an application workflow for digital philology that aims at the construction of a critical edition assisted by digital and, in part, (semi-)automatic tools. The added value of the DPH lies in the modular architecture of the system, whereby all services necessary for the construction of the critical edition will be available in the same environment.

Currently, the DPH is divided into modules corresponding to the phases of philological work:

- Manuscripts addition
- Transcription
- Collation
- Varia lectio analysis
- Critical text and apparatus

The user will be able to use a single service, concentrating vertically on a single phase of philological work, or use several services linked together to produce a digital edition.

CATEGORIES: Data processing; data collection; digital philology; workflow

[Slide show](#)

Max number of Users/User teams for the call: 2

Specific data policy on reuse: The User/User team is responsible for the data redistribution policy. The User/User team is recommended to use open licenses and deploying data in the DARIAH-IT repository to make it more accessible and reusable.

Providers: CNR OVI | Operating Unit Florence

Contact person: Federica Spinelli

E-mail: federica.spinelli@cnr.it

TIGRO - Tesoro Italiano delle Origini, gestore ricerche

TIGRO is a software for the lexicographic and linguistic analysis of textual corpora. Leveraging on the experience gained with GATTO, a reference tool in the field of lexicography of variants in antique Italian texts developed by OVI, TIGRO introduces also a set of procedures for FAIR principles implementation, providing a flexible, scalable and reusable solution for textual data analysis. Features include: construction of custom corpora out of collections texts in standard formats (XML-TEI, plain TXT, DOCX files); searching by forms and/or headwords (also using wildcards and advanced search options, such as filtering texts by user selection and/or metadata); downloading of the textual contexts identified through searches in different formats (e.g. PDF, DOC, DOCX, RTF, XML-TEI) with the possibility of customizing the context breadth, and of including bibliographic information; searching for co-occurrences; an API set that allows interoperability of the tool with other software. As for RAISE, the TIGRO modular architecture, based on micro-services, can be adapted to the scientific needs of the users and integrated in various contexts and with different systems, promoting interoperability and long-term sustainability.

CATEGORIES: Query and Data Extraction; Data representation & Visualization

[Slide show](#)

Max number of Users/User teams for the call: 3

Specific data policy on reuse: The User/User team is responsible for the data redistribution policy. The User/User team is recommended to use open licenses and depositing data in the DARIAH-IT repository to make it more accessible and reusable.

For any other specification, please see the [DMP - Tigro - Tesoro Italiano delle Origini, gestore ricerche](#)

Providers: CNR OVI | Operating Unit Florence

Contact person: Federica Spinelli

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MFE – MetaFAIR Ecosystem

MFE is a Platform for the integrated management of digitised manuscripts. Designed for researchers, scholars, and institutions such as libraries, archives and museums, it enables them to catalogue, preserve and enhance documents in a unified environment.

Some of its key features include:

- Cataloguing: Supports national and international cataloguing standards, enabling an accurate description of cultural assets.
- Digitisation: Manages digitisation processes, ensuring the acquisition and archiving of images and documents in digital format.
- Digital Preservation: Ensures the long-term preservation of digital content, implementing strategies for the preservation of data integrity and accessibility.
- Access and Use: Provides tools for consultation and research of digital collections, facilitating public or restricted access to materials.
- Integration: Integrates with other information systems and platforms, facilitating interoperability and data exchange between different cultural institutions.

MFE is in the development phase. A dedicated version will be selected from the current development phase for the TNA call. The federation authentication service developed by Nanotec and integrated in the project's API manager is used.

CATEGORIES: Data processing; data collection; query and data extraction.

[Slide show](#)

Max number of Users/User teams for the call: 2

Specific data policy on reuse: The User/User team is responsible for the data redistribution policy. The User/User team is recommended to use open licenses and deploying data in the DARIAH-IT repository to make it more accessible and reusable.

Providers: CNR OVI | Operating Unit Florence

Contact person: Federica Spinelli

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Helpdesk Contact

For any questions, please contact the Access Coordination and Management Unit of H2IOSC at tna.h2iosc@h2iosc.cnr.it