

The LifeWatch Eric Semantic Platform

Nicola Fiore

20-22 September 2023

Madrid, Spain

#EOSCSymposium23

 eosoc

 EOSC Future

 EU23
SPANISH PRESIDENCY
COUNCIL OF THE EUROPEAN UNION



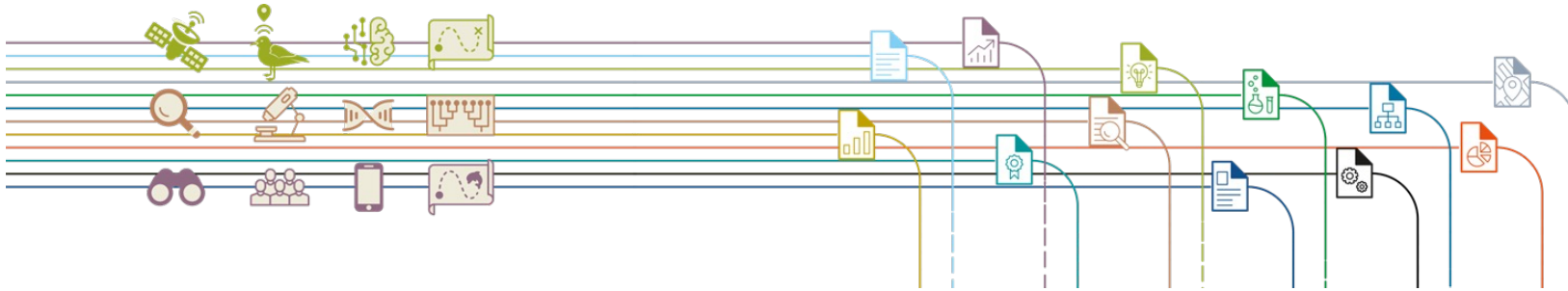
Funded by
the European Union

LifeWatch ERIC

LifeWatch is the European Infrastructure supplying e-Science research facilities to scientists

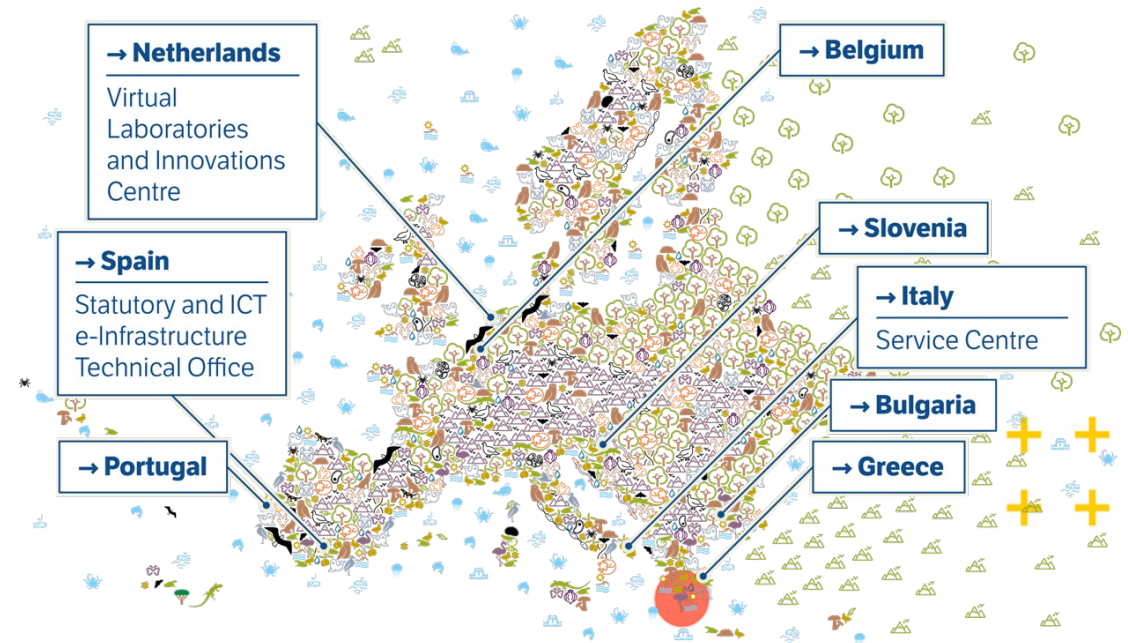


LifeWatch ERIC



adding knowledge and deepening understanding on **Biodiversity** organisation and **Ecosystem** functions and services

by **federating** distributed physical observatories, research and institutional environment management centres ...

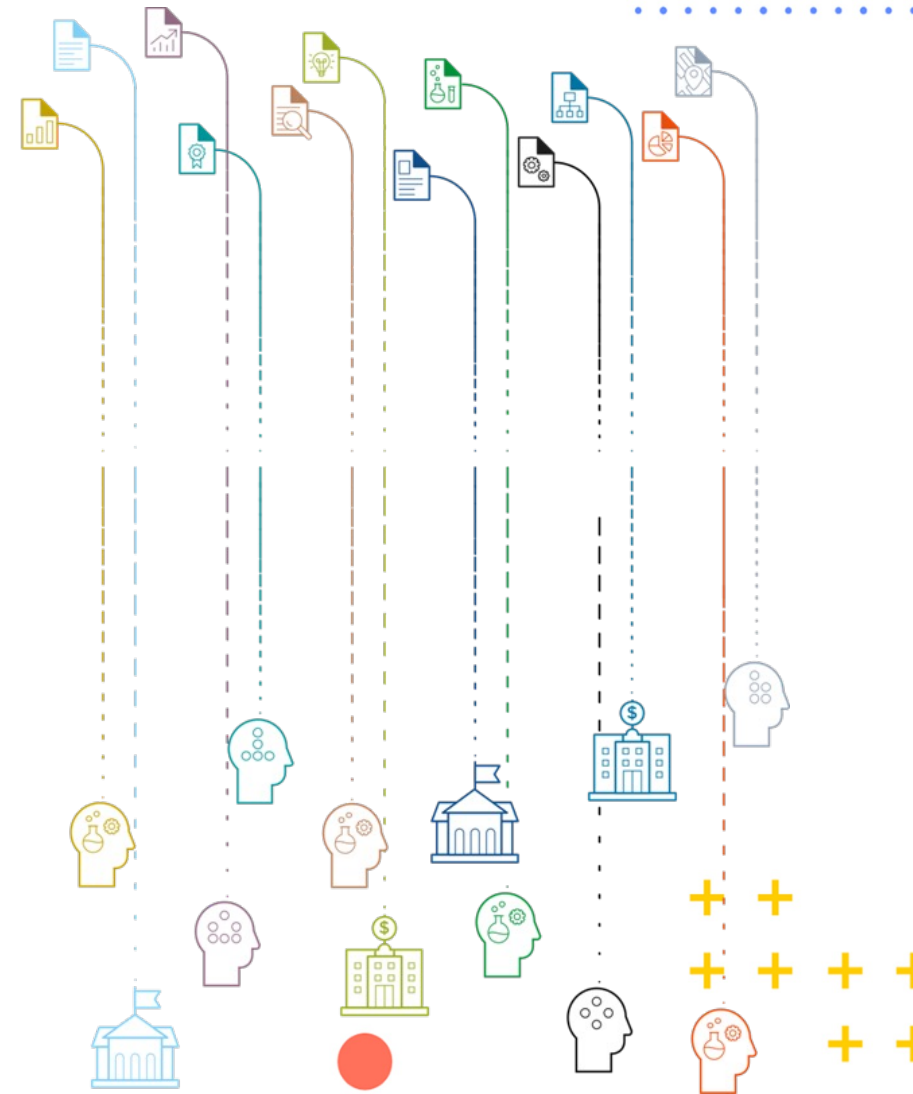


LifeWatch ERIC

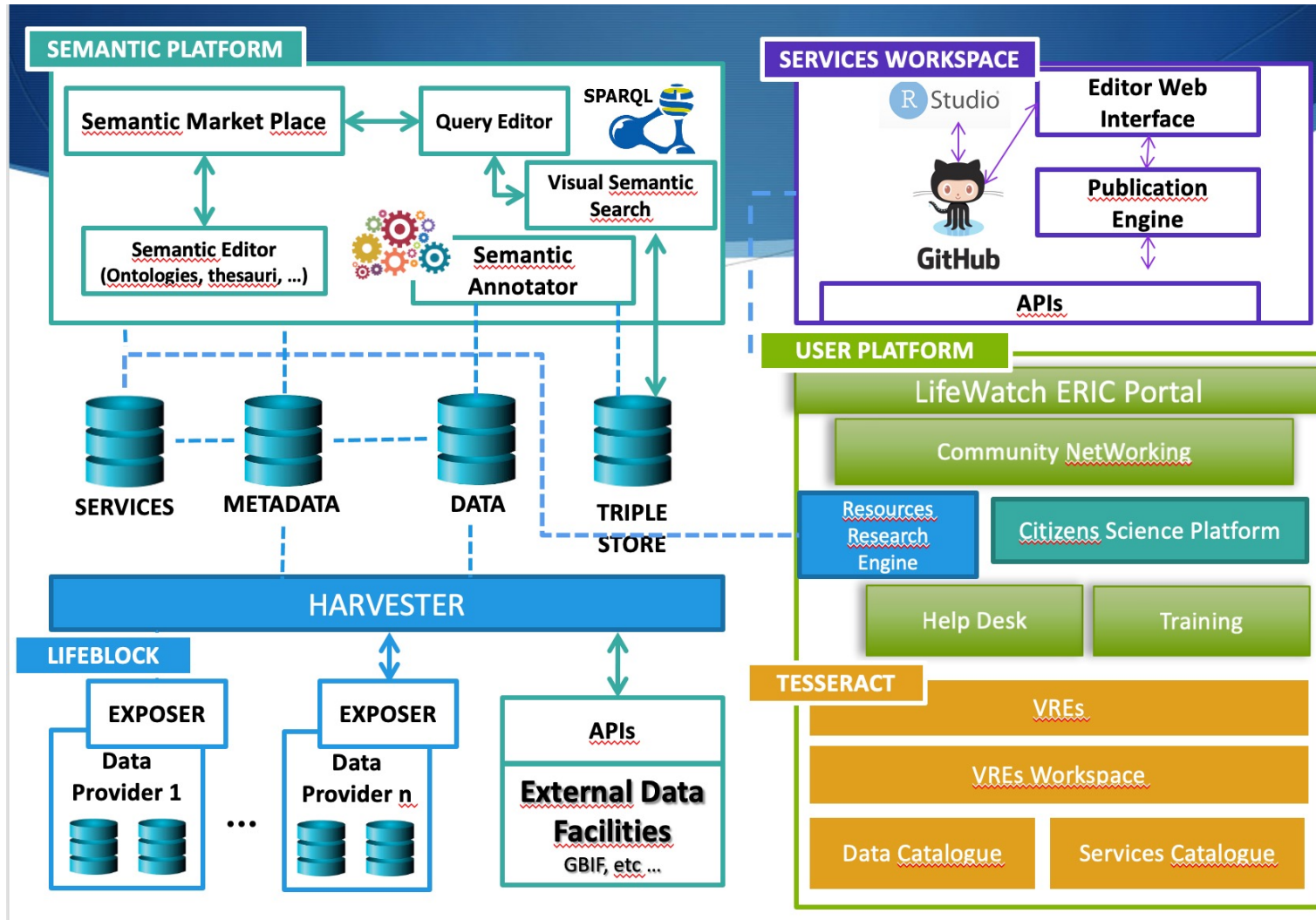
... and by bringing together **scientific communities** into a single accessible web space



in **support** of our **societies** to address **key planetary challenges**



Architecture Overview



EcoPortal

Welcome to EcoPortal, the LifeWatch ERIC repository of semantic resources for ecology and related domains

Semantic Resource Visits (August 2023)

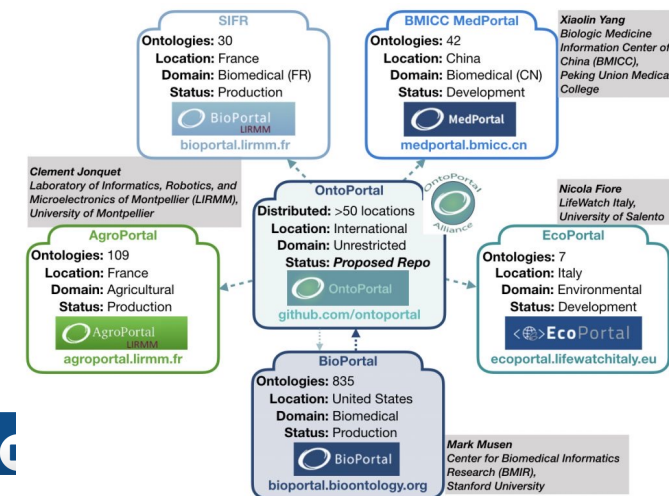
| Resource | Visits (Approximate) |
|--------------|----------------------|
| ALIENSPECIES | 85 |
| LUPO | 45 |
| ENDEMISMS | 35 |
| PHYTOTRAITS | 25 |
| ENVTHES | 20 |

EcoPortal Statistics

| | |
|--------------------|--------|
| Semantic Resources | 25 |
| Mappings | 23,538 |

<https://ecoportal.lifewatch.eu>

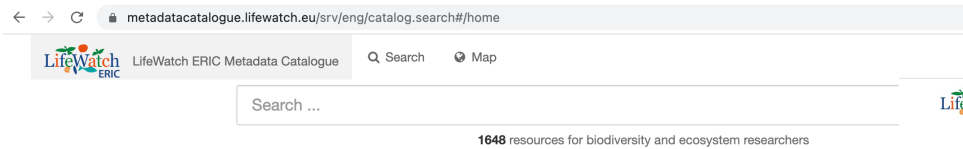
Part of OntoPortal Alliance



- 25 Semantic Artefacts Published
- more than 100 in publication

MetaData Catalogue

- a customised ISO 19139 for VREs, services, workflows and research sites;
- EML 2.2.0 profile for datasets.



Browse resources

Four filter categories are displayed with icons and counts:

- VREs**: 12
- Datasets**: 1502
- Services**: 118
- Workfl...**: 5

Latest Records | Most popular

Three featured resource cards are shown:

- An individual-based dataset of carbon and nit...**
- Metabarcoding Occurrence Intersector**
- GBIF NIS Verifier**

Active filters sidebar:

- Active filters: Remove all filters
- TYPE OF RESOURCES: Dataset
- Filter: Expand/Collapse
- TYPE OF RESOURCES: Dataset (1502)
- TOPICS: Environment (1), Climatology, meteorology, atmos... (1)
- KEYWORDS: Data (131), Marine Genomics (128), Meiobenthos (97), Biodiversity (79), Macrobenthos (77), all (15)
- CONTACT FOR THE RESOURCE: Flanders Marine Institute (VLI2) (1205), Viaams Instituut voor de Zee (173), CIBIO-InBIO, Centro de Investi... (112), Universiteit Gent; Faculteit Wete... (86), EDP - Energias de Portugal (82), all (25)
- YEARS: 2021 (1)

Search results list:

- 1 - 20 on 1502
- Sorted by relevancy
- OCEAMM harbor porpoise sightings in the North Sea**
In this study, systematic surveys were conducted to document the distribution of the harbor porpoise observed in the English Channel (North Sea, France).
Observatoire pour la Conservation et l'Etude des Animaux et Milieux Marins
- Senckenberg's collection management system**
Sesam is the Collection Management System of the Senckenberg Museum. SeSam was developed together with com2 (Bad Homburg). All collections (both zoological and botanical) of the Senckenberg Research Institute are going to use this efficient tool.
Senckenberg Gesellschaft für Naturforschung; Senckenberg Forschungsinstitut Frankfurt a. M.; Abteilung Marine Zoologie; Sektion Crustacea
- Phytoplankton data collected from a diurnal station in Sevastopol Bay (Black Sea) during 1952**
The data were collected by the IBSS staff at one diurnal station in Sevastopol Bay (Black Sea) during 1952. This dataset contains abundance data (individuals per liter) for phytoplankton taxa. No additional metadata is available.
National Academy of Sciences of Ukraine; Institute of Biology of the Southern Seas

<https://metadatalogue.lifewatch.eu>

Visual Semantic Search



HOME

BROWSE

TOOLS

Metrics

Query Templates

Structured Search

Simple Search

SPARQL

 LOGIN

LifeWatch Italy Semantic Platform

To search through and access LifeWatch Italy resources with the help of semantically enriched queries. The platform is based on a main semantic model that describes different resources and their metadata, as well as on meaningful links between the controlled vocabularies for the Biodiversity and Ecosystems domain and the resources of LifeWatch Italy.

What are you searching for?

The platform is powered by a semantic search engine that can be used in two modes - simple or structured.

Simple Search

To use the simple search, type at least two characters in the search box.

Structured Search

[Guided Tour](#)

Use the structured search to formulate more complex queries. Start by selecting the kind of resource you wish to find.



Dataset



Service



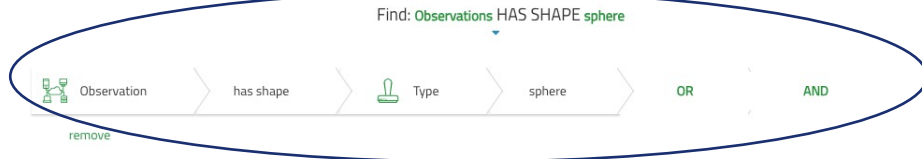
Person

<https://semantics.lifewatchitaly.eu>

Visual Semantic Search



- HOME
- BROWSE +
- TOOLS +
- FAQS
- LOGIN



Structured query

Found 47243 matches Displaying the first 1000 results

Grid Table Graph

Filters

1152 From Dataset: Phytoplankton_FEDERC OPESCA_Apulia_2006

1157 From Dataset: Phytoplankton_FEDERC OPESCA_Apulia_2006

LifeWatch ERIC Metadata Catalogue

Search ...

Active filters Remove all filters

TYPE OF RESOURCES Dataset

GROUPS LifeWatch Italy

Filter

TYPE OF RESOURCES

KEYWORDS

CONTACT FOR THE RESOURCE

GROUPS

Rotifera Monogononta in the world: 1960-1992.

Phytoplankton data collected in the Lago Maggiore, Italy, in 2002.

Fish and invertebrate communities data collected in 3 coastal lagoons located in Apulia, Italy, from 2008 to 2010.

LifeWatch Italy Datasets metadata

EcoPortal

LifeWatch ERIC Upper Ontology

Summary Classes Properties Notes Reviews Mappings Widgets

Jump to:

Actor

- Digital Object
- Dataset
- e-Service
- Workflow
- e-Infrastructure
- langString
- Person
- Project
- Research Infrastructure
- Service
- VRE
- VRE Component

Preferred Name Dataset

Definitions A set or collection of data, records or information that constitutes distinct units of information in the knowledge generation process.

description A set or collection of data, records or information that constitutes distinct units of information in the knowledge generation process.

label Dataset

prefixURI Dataset

prefLabel Dataset

subClassOf https://lifewatch.eu/ontologies/LUPO#DigitalObject

LifeWatch ERIC Upper Ontology (LUPO)

LifeWatch ITALY

Data Support About Sign in with ORCID

Alberto Basset and Ecology Unit PhytoBiomaging. 2021. Phytoplankton_FEDERCOPESCA_Apulia_2006. urn:nid:METACAT_TEST.

Citations Downloads Views Copy Citation Assessment report

| Name | File type | Size | Download All |
|--|--------------------|-------|--------------|
| Metadata: Phytoplankton_FEDERCOPESCA_Apulia_2006.xml | EML v2.2.0 | 49 KB | Download |
| Phytoplankton_FEDERCOPESCA_2006.csv | More info text/csv | 11 MB | Download |

General

Identifier urn:nid:04e7a27e-3046-4a84-ae25-af578be89e1

Abstract This dataset provides broad information on taxonomic and morphological (shape, linear dimensions, biovolume, cell abundance, cell size) structure of phytoplankton communities, in an impacted marine coastal area. The experimental activity was carried out according guidelines proposed by Ministry of Environment and Territory Protection and ICRAM (Central Institute for Scientific and Technological Research Applied to the Sea). The study was conducted in order to understand the role of anthropogenic pollution on phytoplankton community. Data were collected in 7 different areas, along a pollution gradient, located in Adriatic Sea, close to the Tortuga fish farm into the Gulf of Manfredonia, (Apulia, Italy).

LifeWatch Italy Datasets observations

Visual Semantic Search

The structured search allows users that do not know how to write SPARQL queries to formulate questions that are more complicated with respect to a simple text-based search by using only the UI.

The screenshot displays the LifeWatch Italy Visual Semantic Search interface. At the top, a search bar contains the query: "Find: Observations HAS SHAPE sphere". Below this, a visual query builder shows the structure: Observation (with a remove icon) has shape Type (with a pin icon) sphere (with a pin icon) OR AND. A blue oval highlights this query structure, with the label "Initial structured query" pointing to it.

Below the query builder, the interface shows "Found 47243 matches Displaying the first 1000 results". On the left, there are navigation links (HOME, BROWSE, TOOLS, FAQs, LOGIN) and a "Filters" section with various icons. The main area displays a grid of search results, each with a unique ID (e.g., 1152, 1157, 1158, 1159, 1160, 1167) and details: "From Dataset: Phytoplankton_FEDERC OPESCA_Apulia_2006 Observation".

On the right side, a "Additional filters on data" section is shown, listing various properties with checkboxes and icons: has species, has phylum, has class, has order, has family, has genus, has shape, has measurement remarks, has biovolume (with a range slider set from 1 to 7784140), has width, has volume eqsphere, and has volume eqcylinder.

At the bottom right, there are several yellow plus signs (+) arranged in a grid pattern.

It permits to query and browse datasets observations by fostering the investigation and collaboration between scientific communities of different domains by means of semantic artifacts.



Stay tuned

Nicola Fiore

nicola.fiore@lifewatch.eu