

TITLE: SPATIALLY MAPPING THE EU FUNDING MECHANISMS (FONDIMAP)

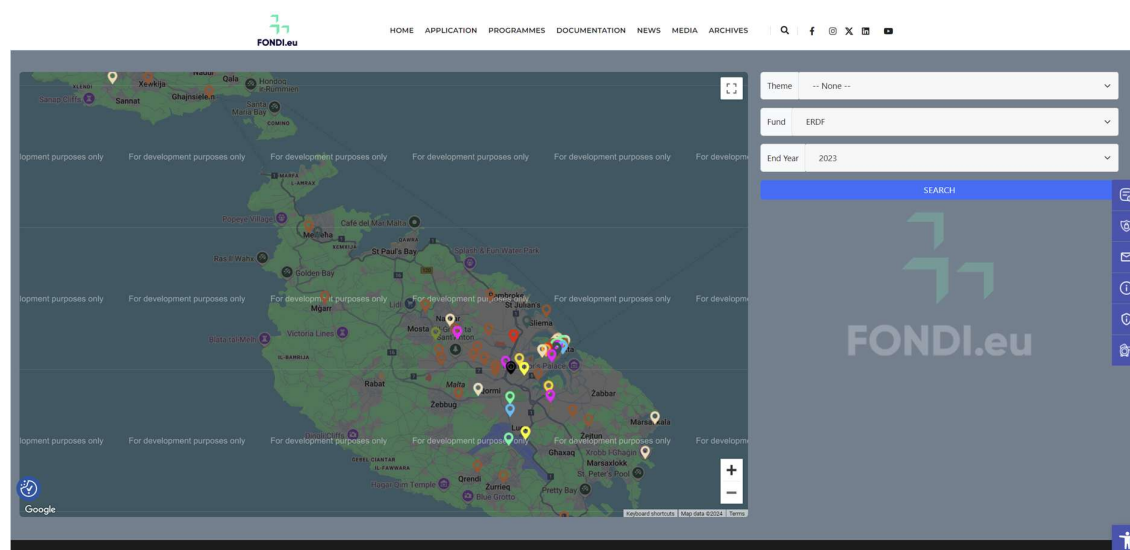
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BACKGROUND

Malta is highly efficient in the reporting of its funding mechanisms in tabular, textual and graphic formats. The innovative work carried out by the Principal Investigator in the creation of the first Maltese webmaps, inclusive of input to the PA Geoserver, the researcher's own websites on crime (www.crimemaltaobservatory.org) and the Cloudisle national mapping of terrestrial and bathymetric data (www.cloudisle.org), will serve as the launching ground for the creation of the new EU Funds mapper. This project will enable the research of new technologies and methodologies through which to build upon the current service (<https://fondi.eu/eu-funds-map/>) and enhance the project through three phases, namely: Phase 1: Foundation and Integration, Phase 2: Visualisation Enhancements and Phase 3: API Integration with European Commission Maps.



Current EUMapper: <https://fondi.eu/eu-funds-map/>

STUDY OVERVIEW

The Study focuses on the researching of, updating and redrafting of the spatial visualisation component of the current EU funding mapper that includes the 2014-2020 projects. It will result in the updating of the current webmap, the inclusion of the previous funding periods' projects and the creation of a live mapping function for the current 2021-2027 programme.

OBJECTIVES

The overall objective of the Study is to update and develop the spatial component of EU funding visualisation. The purpose of the Study is three-fold:

1. **Phase 1: Foundation and Integration** - The initial phase of the project will focus on constructing the website, which will include integration with ESRI web APIs and libraries to enable map viewing capabilities for users. The website will also feature a backend and a normalized database to ensure continuous updates with the latest data, allowing backend users to perform CRUD (Create, Read, Update, Delete) operations as needed.;
2. **Phase 2: Visualisation Enhancements** - The second phase aims to enhance the visual aspects of the site by incorporating project images and detailed infographics of map data; and
3. **Phase 3: API Integration with European Commission Maps** - The final phase focuses on integrating the project with European Commission map APIs and other local APIs to facilitate data transmission.

PROJECT TARGETS

The overall targets covering the three phases are listed below:

Phase 1: Foundation and Integration

The initial phase of the project will focus on constructing the website, which will include integration with ESRI web APIs and libraries to enable map viewing capabilities for users. The website will also feature a backend and a normalized database to ensure continuous updates with the latest data, allowing backend users to perform CRUD (Create, Read, Update, Delete) operations as needed.

Key objectives for this phase include:

- Eliminating the 'For development purposes only' message from Google
- Evaluating enhancements to the map experience through ESRI/GIS technology
- Providing backend access for managing:
 - Themes
 - Funds
 - Years
 - Projects

Deliverables for this phase will include:

- Development of a Python backend using Flask
- Design and implementation of a normalized SQLite database
- Data migration into the new SQLite system
- Transition from Google Maps to ESRI Maps utilizing the latest ESRI JavaScript API
- Development of backend logic, including a portal and security measures
- Implementation of role-based security mechanisms for backend access

Phase 2: Visualisation Enhancements

The second phase aims to enhance the visual aspects of the site by incorporating project images and detailed infographics of map data.

Key objectives for this phase include:

- Enabling the addition of project photos
- Introducing data-driven infographics to provide insights (e.g., comparisons of locations, funds, years, themes)
- Facilitating user toggling between 'Map View' and 'Infographics' screens

Deliverables for this phase will include:

- Updates to the SQLite database to accommodate image storage
- Backend integration for displaying project images on the map site
- Backend portal enhancements to support image uploads for projects
- Backend updates for transmitting infographic data to the map site
- Integration with a Chart Framework for infographic display
- Design and develop infographics
- Redesign of the map site to seamlessly switch between map and infographic views

Phase 3: API Integration with European Commission Maps

The final phase focuses on integrating the project with European Commission map APIs and other local APIs to facilitate data transmission.

Key objectives for this phase include:

- Establishing API connections with European Commission maps

Deliverables for this phase will include:

- Research and documentation of required APIs
- Designing API architecture using cutting-edge technologies
- Developing the API backend within the site's existing framework
- Creating a secure channel for API communication
- Integrating the API with both the SQLite database and the map site
- Integration with SIntegraM APIs

ACTIVITIES & RESULTS

The purpose of the Study will be achieved through a series of activities that will lead to the upgrading and enhancement of the current EUMapper (<https://fondi.eu/eu-funds-map/>) as well as a redesigning and launch of a new mapper. The following results will be delivered:

1. Foundation and Integration Q2 2025 – Q3 2025;
2. Visualisation Enhancements Q4 2025 – Q1 2026; and
3. API Integration with European Commission Maps – Q1 2026

STUDY MANAGEMENT

The Study will be led by Professor Saviour Formosa, who will serve as the Principal Investigator. The day-to-day management of the Study and programming will be performed by a Study Coordinator who will be employed as an RSOII on a temporary basis.

DURATION OF THE STUDY

It is envisaged that funds for the Study will be approved in Q1 of 2025. The Study will be 1 year in duration, delivering all results by Quarter 1 of 2026.
