




EUROPEAN REGIONAL DEVELOPMENT FUND
MALTA 2007-2013

**SEIS-MALTA Geoportal: Malta's Shared Environmental
INSPIRE GeoInformation System**



SEIS MALTA

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**22η Πανελλαδική Συνάντηση Χρηστών Γεωγραφικών
Συστημάτων Πληροφοριών ArcGIS**



Operational Programme I – Cohesion Policy 2007-2013
Investing in Competitiveness for a Better Quality of Life
Project part-financed by the European Union
European Regional Development Fund (ERDF)
Co-financing rate: 85% EU funds; 15% National Funds
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Presentation Outline



- What is SEIS?
- SEIS Concept
- Geodatabase Design
- SEIS Data Themes
- Geoportal



SEIS
Shared environmental information system

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 **Epsilon Geodatabase**


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The SEIS Geodatabase includes:

- INSPIRE elements for which a correspondence with the source data has-been found
- Additional elements not existing in the INSPIRE data model but present in the source data
- INSPIRE elements not existing in the source data
- All elements existing in the EEA reporting schemas

Database creation via ESRI technology (Feature Classes, Tables, Coded Value Domains, etc.).

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 **Epsilon Geodatabase**

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User requirements

- The MEPA (Malta Environment & Planning Authority) overall system architecture is based on an ArcGIS Server platform and ArcSDE have been employed to manage the underlying geospatial data that will be stored in Microsoft's SQL Server RDBMS.



GeodataBase Design



- A 6 steps methodology:
 - Step 1: Analysis of the target Data Model (INSPIRE Data Specifications and EEA reporting schemas)
 - Step 2: Analysis of the Source Data (MEPA)
 - Step 3: Conceptual design of the geodatabase
 - to include all the INSPIRE elements for which a correspondence with the source data has-been found
 - to include all the additional elements not existing in the INSPIRE data model but present in the source data
 - to include the INSPIRE elements not existing in the source data
 - to include all the elements existing in the EEA reporting schemas



GeodataBase Design



- A 6 steps methodology:
 - Step 4: Preparation and filling-in of the matching table (MT)
 - Step 5: Creation of the geodatabase structure, using different tools, according to the theme concerned
 - Step 6: Import of the geodatabase in SQLServer (provided also an ESRI geodatabase for each theme, as an additional resource available)



Conceptual design of the geodatabase

The INSPIRE Environmental Monitoring Facilities data model has been structured in order to be adapted to the modelling of different typologies of data.

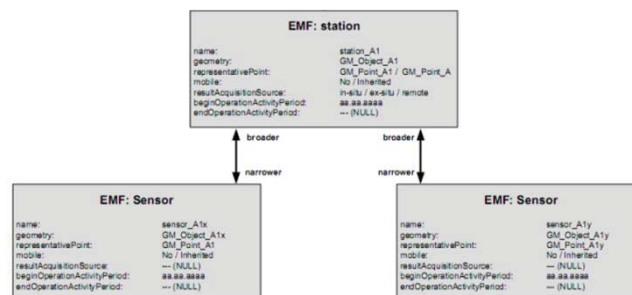
In the AIR data modelling the following structure has been used:

- EnvironmentalMonitoringNetwork Feature Type, for the modelling of the measuring networks
- EnvironmentalMonitoringFacility Feature Type, for the data modelling of the Air Monitoring Stations
- EnvironmentalMonitoringFacility Feature Type, for the data modelling of the sensors installed on the stations



Conceptual design of the geodatabase

The data model provides the possibility to use the same feature type to model objects at different levels with the possibility to take into account the hierarchy, as in the case of stations and sensors.





SEIS Data Themes

SEIS Malta features 5 enviro-themes:

1. Air
2. Water
3. Noise
4. Radiation
5. Soil

Other can be added (e.g. Nature)



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Esri Geoportal Server 1.2.4
Learn about [what's new in the Esri Geoportal Server 1.2.4](#)

Whitepaper
[How to Set Up Esri Geoportal Server 1.2.2 \(PDF\)](#) on Windows is a new whitepaper that updates the article [How to Set Up an Esri Geoportal Server](#) from the Summer 2011 issue of *ArcUser*. It gives step-by-step instructions for installing Esri Geoportal Server on an internal Windows test machine.

Overview

Esri Geoportal Server is a free, open source product that enables discovery and use of geospatial resources including datasets, rasters, and Web services. It helps organizations manage and publish metadata for their geospatial resources to let users discover and connect to those resources. The Geoportal Server supports standards-based clearinghouse and metadata discovery applications.

With Esri Geoportal Server, you can

- Reduce time and redundancy of data production by connecting geospatial data and service producers with consumers.
- Maintain data integrity by allowing organizations to easily share the authoritative version of data among its users.
- Enable easy search and discovery of existing geospatial data and services by allowing users to create and manage descriptions of their geospatial resources and supporting easy-to-use, sophisticated, data discovery technologies.


Esri Geoportal Server was released under the [Apache 2.0](#) license, which allows developers to freely customize and redistribute the software.

Try out your own personal geoportal by requesting the [Esri Geoportal Server Live/DVD Demo](#)



The look and feel of the Geoportal Server is easily and highly customizable.

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Epsilon MEPA Geoportal

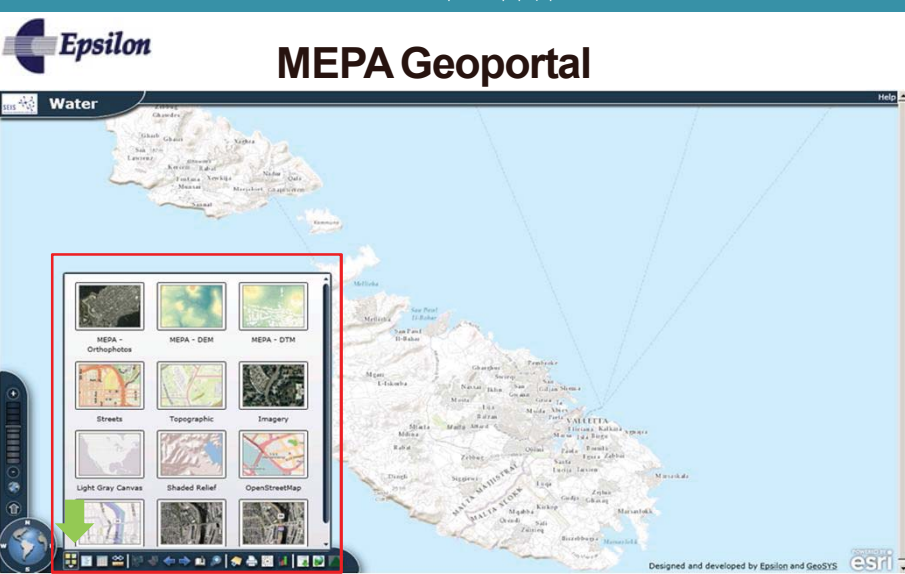
Air Water Eadation Noise Sol All Themes

Air

MAP WITH THEMES

Designed and developed by Epsilon and GeoSYS esri

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Epsilon MEPA Geoportal

Water

MEPA - Orthophotos MEPA - DEM MEPA - DTM

Streets Topographic Imagery

Light Gray Canvas Shaded Relief OpenStreetMap

CHANGE BASEMAPS

Designed and developed by Epsilon and GeoSYS esri

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Epsilon **MEPA Geoportal**

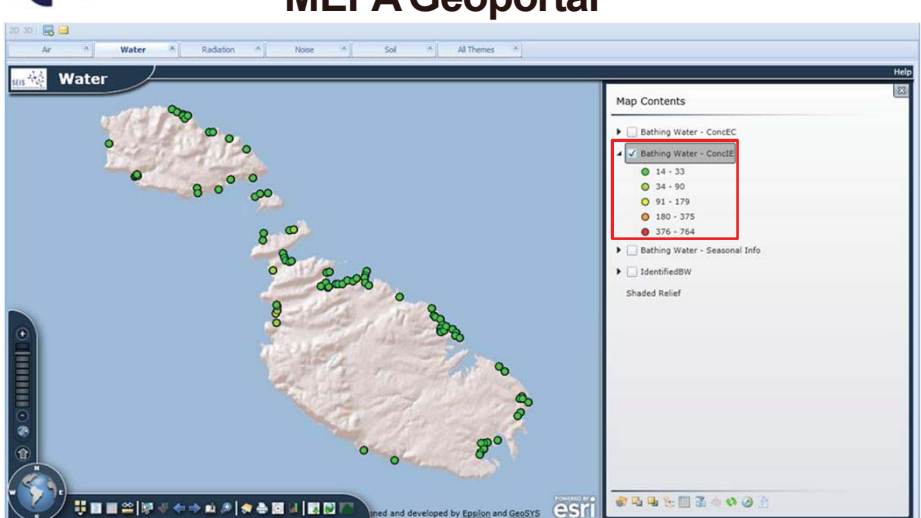


The screenshot shows the MEPA Geoportal interface. At the top, there is a header with the date '08/05/2014', the event name 'Πανελλαδική Συνάντηση Χρηστών - MDS', and the number '15'. Below the header is the 'Epsilon' logo and the title 'MEPA Geoportal'. The main content area displays a satellite-style orthophoto base map of a city, with a 'Water' layer selected in the top navigation bar. The map includes a scale bar, a compass, and a toolbar at the bottom. The 'esri' logo is visible in the bottom right corner of the map area.

ORTHOPHOTO BASEMAP (ZOOMS TO 1:500)

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Epsilon **MEPA Geoportal**



The screenshot shows the MEPA Geoportal interface with a map of Greece. The map displays several green circular data points. On the right side, there is a 'Map Contents' panel with a legend. The legend is structured as follows:

- Bathing Water - ConcEC
- Bathing Water - ConcEC
 - 14 - 33
 - 34 - 90
 - 91 - 179
 - 180 - 375
 - 376 - 764
- Bathing Water - Seasonal Info
- IdentifiedBW
- Shaded Relief

The legend items are accompanied by colored circles: green for the first two ranges, yellow for the third, and red for the fourth. The 'Map Contents' panel is highlighted with a red border.

DISPLAY DATA LAYERS WITH LEGENDS

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Epsilon **MEPA Geoportal**

Water

Configure selected layer

- Transparency
- Symbology
- Pop-Ups
- Table
- Filter
- Auto-Updates
- Heat Map
- Clustering
- Feature Retrieval

Map Contents

- Bathing Water - ConcEC
 - Bathing Water - ConcEC
 - 14 - 33
 - 34 - 90
 - 91 - 179
 - 180 - 375
 - 376 - 764
- Bathing Water - Seasonal Info
- IdentifiedBW
- Topographic

LAYER PROPERTIES - TRANSPARENCY

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Epsilon **MEPA Geoportal**

Water

Configure selected layer

- Transparency
- Symbology
- Pop-Ups
- Table
- Filter
- Auto-Updates
- Heat Map
- Clustering
- Feature Retrieval

Map Contents

- Bathing Water - ConcEC
- Bathing Water - ConcEC
- Bathing Water - Seasonal Info
- IdentifiedBW
- Topographic

LAYER PROPERTIES - SYMBOLOGY

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Epsilon **MEPA Geoportal**

Water

Map Contents

- Bathing Water - ConcEC Heat Map
- Bathing Water - ConcEC
- Bathing Water - ConcIE
- Bathing Water - Seasonal Info

Configure selected layer

Transparency Add Heat Map

Symbology Intensity Color Scheme

LAYER PROPERTIES – HEAT MAPS

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Epsilon **MEPA Geoportal**

Water

Map Contents

- SEIS Elevation Profile
- Bathing Water - ConcEC
- Bathing Water - ConcIE
- Bathing Water - Seasonal Info
- IdentifiedBW

Configure selected layer

Transparency Use point clustering

Symbology Maximum points: 10

Radius: 20

Cluster Background Color

Cluster Foreground Color

LAYER PROPERTIES - CLUSTERING

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Epsilon **MEPA Geoportal**

Attributes of Bathing Water - ConcIE

SampleDate	ConcIE	BWID	BWName	ShortName	GroupID	WBName	Year_BW	Closed
30/06/2009 01:00:00	15	60	MT0150155500000C29 KAS IL-QAWKA (FHA BEN)	SAN PAWL IL-BAHAR	na	L'AHRAK TAL-MELLIHA - IL-BAJJA TAL-BALLUTA	2011	N
30/06/2009 01:00:00	15	61	MT0150155500000C30 IL-BAJJA TAS-SALINA (OPP TRIQ IT-TURISTI)	SAN PAWL IL-BAHAR	na	L'AHRAK TAL-MELLIHA - IL-BAJJA TAL-BALLUTA	2011	N
30/06/2009 01:00:00	15	62	MT0150155500000C30 IL-BAJJA TAS-SALINA (OPP TRIQ IR-RIZZI)	SAN PAWL IL-BAHAR	na	L'AHRAK TAL-MELLIHA - IL-BAJJA TAL-BALLUTA	2011	N
30/06/2009 01:00:00	15	63	MT0150155500000C31 IL-BAJJA TAS-SALINA (QUAY AT CENS TAL-GEBEL)	SAN PAWL IL-BAHAR	na	L'AHRAK TAL-MELLIHA - IL-BAJJA TAL-BALLUTA	2011	N
30/06/2009 01:00:00	15	64	MT0150155500000C32 IL-BAJJA TAS-SALINA (OPP POKTI TNE HATEL)	SAN PAWL IL-BAHAR	na	L'AHRAK TAL-MELLIHA - IL-BAJJA TAL-BALLUTA	2011	N

ATTRIBUTE TABLE – WITH TABULAR DATA EDITING

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Epsilon **MEPA Geoportal**

Attributes of IdentifiedBW

MT0150153700000C11	na	22/07/2009 01:00:00	15	30	43	MT0150153700000C11	IL-BAJJA TAL-MELLIHA (OPPOSITE DA TOMMASO)	MELLIHA	14.349725	35.972425	ETRS89	na	MTMalta	Malta
MT0150153700000C12	na	22/07/2009 01:00:00	15	30	44	MT0150153700000C12	IL-BAJJA TAL-MELLIHA (OPPOSITE MAXXINA)	MELLIHA	14.350952	35.969287	ETRS89	na	MTMalta	Malta
MT0150153700000C13	na	22/07/2009 01:00:00	15	15	45	MT0150153700000C13	IL-BAJJA TAL-MELLIHA (OPPOSITE SAN REMO)	MELLIHA	14.352246	35.967565	ETRS89	na	MTMalta	Malta
MT0150153700000C14	na	22/07/2009 01:00:00	15	15	46	MT0150153700000C14	IL-BAJJA TAL-MELLIHA (OPPOSITE TUNNY NET)	MELLIHA	14.355655	35.966431	ETRS89	na	MTMalta	Malta
MT0150153700000C15	na	22/07/2009 01:00:00	15	15	47	MT0150153700000C15	IL-BAJJA TAL-MELLIHA (DAWRET IT-TUNNARA)	MELLIHA	14.357827	35.966991	ETRS89	na	MTMalta	Malta

TOOLS TOOLBAR – FIND NEARBY

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Epsilon **MEPA Geoportal**

METADATA EDITOR

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Epsilon **MEPA Geoportal**

3D TOPOGRAPHIC VIEWER



SEIS-Malta in the EU

- True support from MEPA staff
- Technologically state-of-the-art
- Ahead of most EU MS
- Only AT, DE, FR, CZ and some other more advanced
- Flexible “tailoring” to expansion
- Easy to use
- Support from ESRI per se
- INSPIRE based and other



Thank You



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