

HOMER

Harmonising
Open data in the
Mediterranean through better access and
Reuse of public sector information

Open Data seminar - 24th May 2013

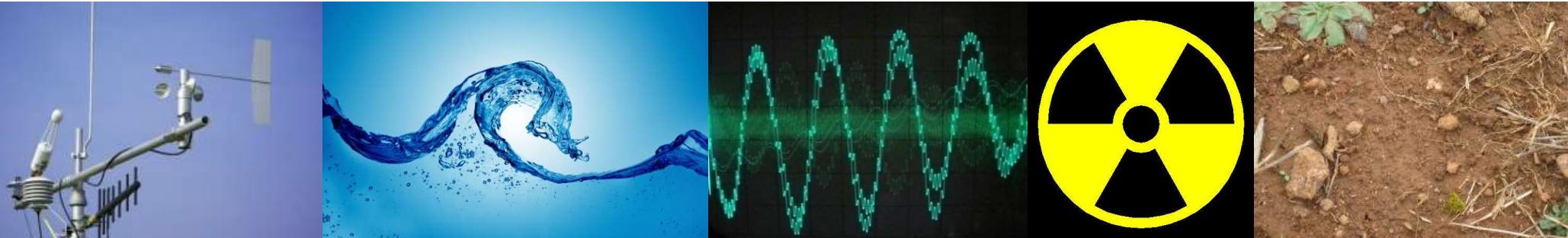
The 3D Map of Malta

Presented by: Dr. Saviour Formosa PhD



EUROPEAN REGIONAL DEVELOPMENT FUND
MALTA 2007-2013

ERDF 156: Developing National Environmental Monitoring Infrastructure and Capacity



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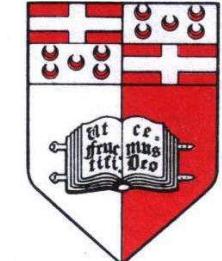


Operational Programme I – Cohesion Policy 2007-2013
Investing in Competitiveness for a Better Quality of Life
Project part-financed by the European Union
European Regional Development Fund (ERDF)
Co-financing rate: 85% EU funds; 15% National Funds



Investing in your future

The Target

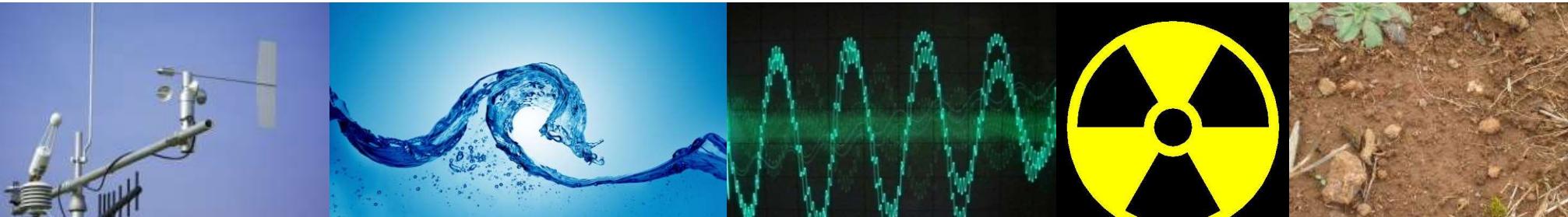
Project Title	Developing National Environmental Monitoring Infrastructure and Capacity
Beneficiaries	Malta Environment and Planning Authority
Partners	University of Malta, Environmental Health Directorate National Statistics Office, Malta Resources Authority
Budget	€ 4.4 M
co-funded by ERDF (85%) national Government (15%) € 0.2 m MEPA co-financed	 NATIONAL STATISTICS OFFICE • MALTA
Duration	Q3 2010 - Q2 2012
	 MRA MALTA RESOURCES AUTHORITY
	 Environmental Health Directorate

The Scope

To develop the national environmental monitoring infrastructure and capacity for Malta, with the focus on monitoring 5 environmental themes:

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

IR Factor: Themes are integrated with Information Resources **systems**



The Initial Scoping 2006-2009

Due to the various national/EU environmental obligations, MEPA is committed to upgrade Malta's environmental regulatory capacity, including efforts to ensure full compliance with relevant Community Directives as well as national legislation.

However....

Environmental monitoring and reporting is hampered by:

- incomplete monitoring strategy
- lack of baseline environmental data on ambient conditions
- lack of monitoring infrastructure & modern monitoring equipment
- limited human resources

Needed....

Enhancement of national monitoring programmes in the five environmental themes through:

- Identification of information gaps in monitoring processes and filling data gaps
- Carrying out environmental baseline surveys
- Procurement of monitoring equipment & information management systems
- Training of staff

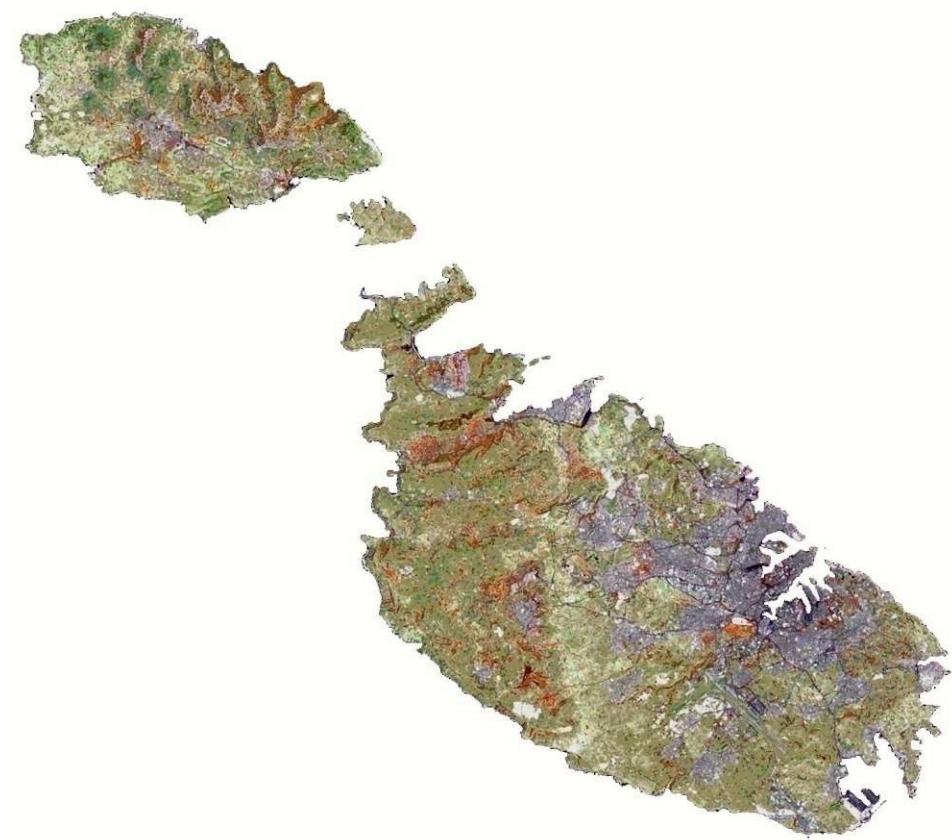
The Two Fulcrums: 2010 - 2013

(1) Environmental monitoring requirements

in the areas of air, water, noise, radiation, and soil, an environmental monitoring strategy and detailed monitoring programmes to be designed and drafted.

The strategy is accompanied by detailed tender specifications for the procurement of equipment, systems, training and data collection requirements that could not be identified prior to the completion of the strategy.

(2) Baseline studies conducted in the areas of water, noise, radiation and soil, together with 3D terrestrial spatial surveys and bathymetric surveys of coastal waters within 1 nautical mile.



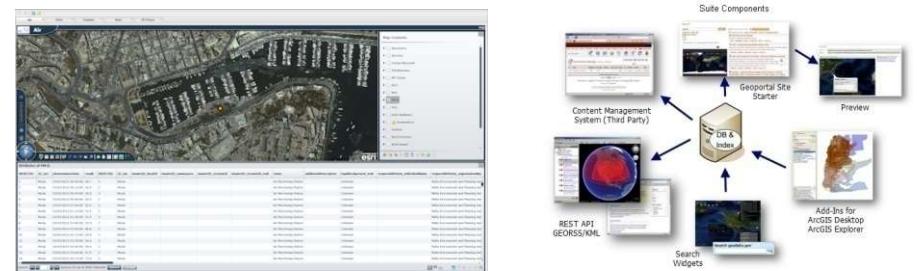
The Outcomes

(1) Strategy for Environmental Reporting in the areas of air, water, noise, radiation, and soil.

(2) Baseline Studies conducted in the areas of water, noise, radiation and soil, together with 3D terrestrial spatial surveys and bathymetric surveys of coastal waters within 1 nautical mile.

(3) Acquisition of Equipment for the collection of real-time and ad hoc data.

(4) Dissemination Tools for the distribution and reporting of data to the Public, Scientific Domains and EU/International Reporting.



The Tenders: Strategy & Service

- Service Tender for the Development of Environmental Monitoring Strategy, and Environmental Monitoring Baseline Surveys (air, water and radiation)
- Service Tender for Consultancy and Field Surveys to implement the EU Noise Directive 2002/49/EC in Malta
- Service tender for a soil baseline survey
- Service tender for the development of a long-term monitoring strategy for the marine environment, a social and economic analysis of the use of marine waters and costs of degradation, and baseline sediment survey in inland waters.



The Tenders: Supply

- Supply tender for the installation, commissioning and testing of Environmental Monitoring Information Resource Systems (Lot 1) and Air Monitoring Systems (Lot 2)
- Supply tender for the provision, installation, commissioning and testing of noise mapping software, hardware and measuring equipment
- Supply tender for the provision, installation, commissioning and testing of environmental radiation monitoring equipment and early warning system



The Tenders: Dissemination

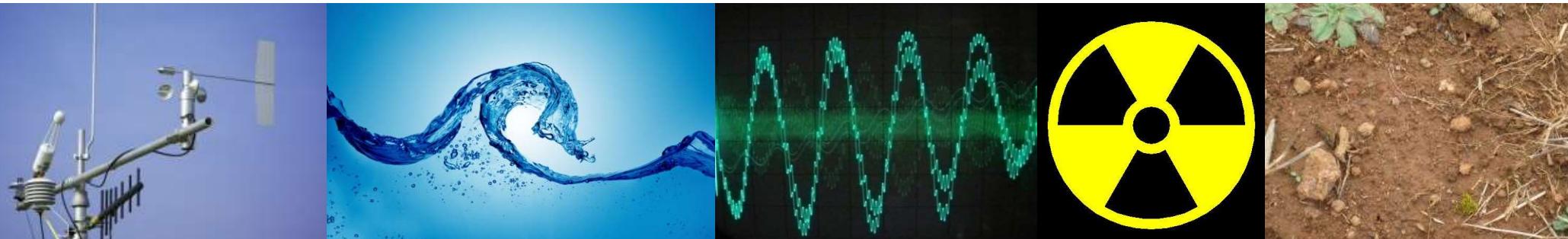
- Information and Dissemination Services for the Project “Developing National Environmental Monitoring Infrastructure and Capacity”
- Service Tender for the Design of the Shared Environmental Information System (SEIS) and development of a web-based GIS interface



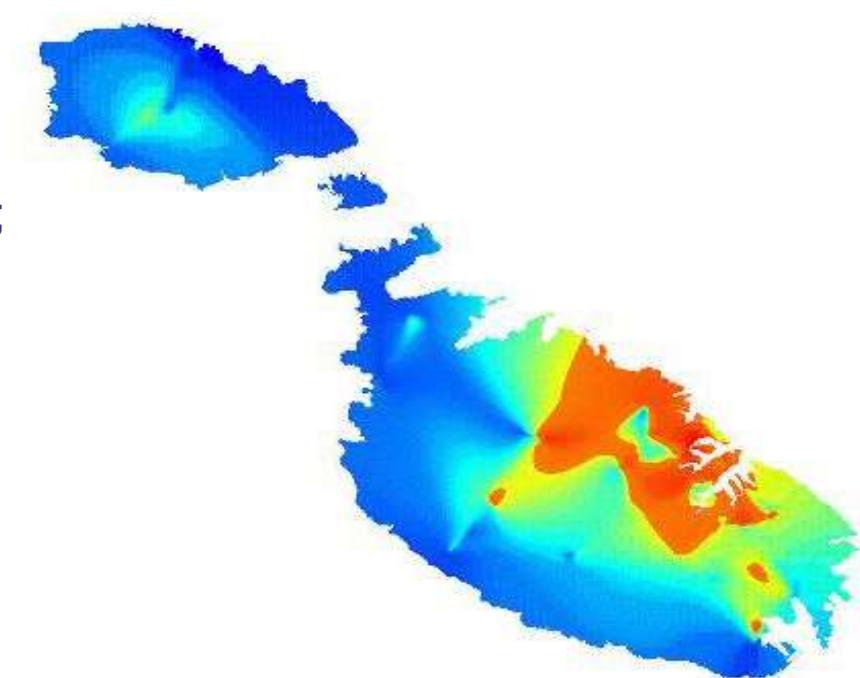
The Themes



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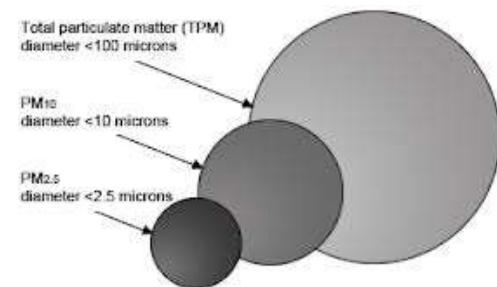


- Main objective was the analysis of the current set-up of the monitoring networks and the delineation of the air quality zones. Aim to improve quality assurance by means of ensuring traceability and the development of modelling capabilities.
- This goal will be achieved through the formulation of feasibility studies on:
 - i) the implementation of a National Reference Laboratory (NRL) that supports the air monitoring process;
 - ii) the implementation of the Malta Integrated Assessment Modelling System (MIAMS) which will eventually provide Malta with modelling capability.



Air

- The baseline survey for air consist of one year continuous (daily) sampling of PM10 at Gharb, Kordin, Msida and Zejtun resulting in the collection of dust samples smaller than 10 microns and analysing them to check for pollutants within them).
- To carry out the tasks required by the AQ Directive, such as:
 - Intercomparison exercises for particulate matter (sampling equipment and an automatic weighing system),
 - Improvement in data quality and data capture (dedicated instruments for calibrations and quality, and
 - Investigation of source contribution and dispersion of pollution (mobile station, traffic counters and specialised analysers).



Water

- Development of a long term monitoring, including **coastal and inland waters**, which covers all aspects of environmental water monitoring, including **ambient, investigative and compliance monitoring**.
- A baseline survey on hydromorphological, physicochemical and biological parameters in coastal waters around the Maltese Islands up to 1 nautical mile. **Chemical substances** are also being monitored in the water, in biota and in sediments. As well as seasonal monitoring on the **health status of indicator biota**, such as macroalgae, phytoplankton, *Posidonia Oceanica* and benthic invertebrates present in coastal waters.
- Service tender for the development of a **long-term monitoring strategy for the marine environment**, a social and economic analysis of the use of marine waters and costs of degradation, and baseline sediment survey in inland waters.

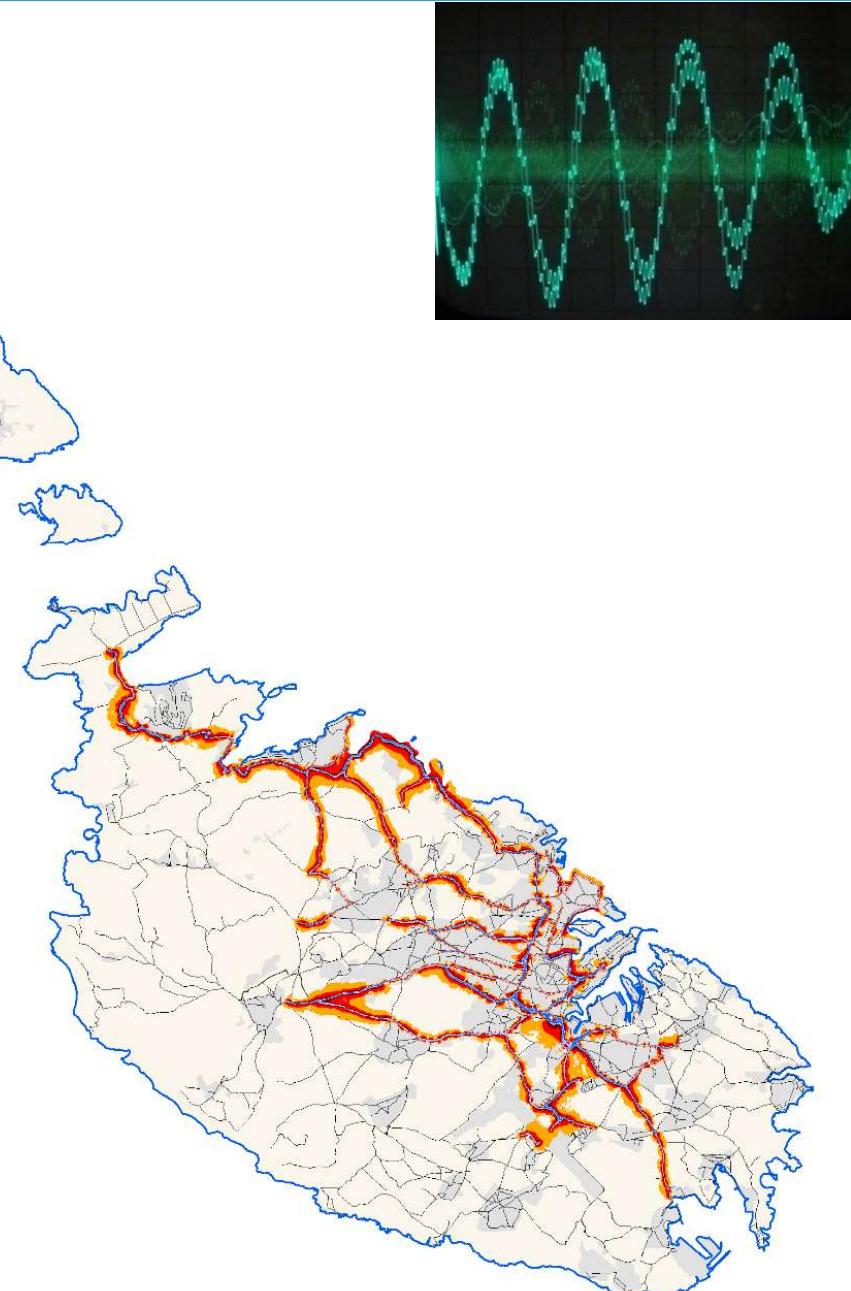


Noise

- This activity will be used to reach MEPA's obligation with respect to the Environmental Noise Directive. The main deliverables from this directive are to compile **strategic noise mapping** and to implement a **noise action plan**.

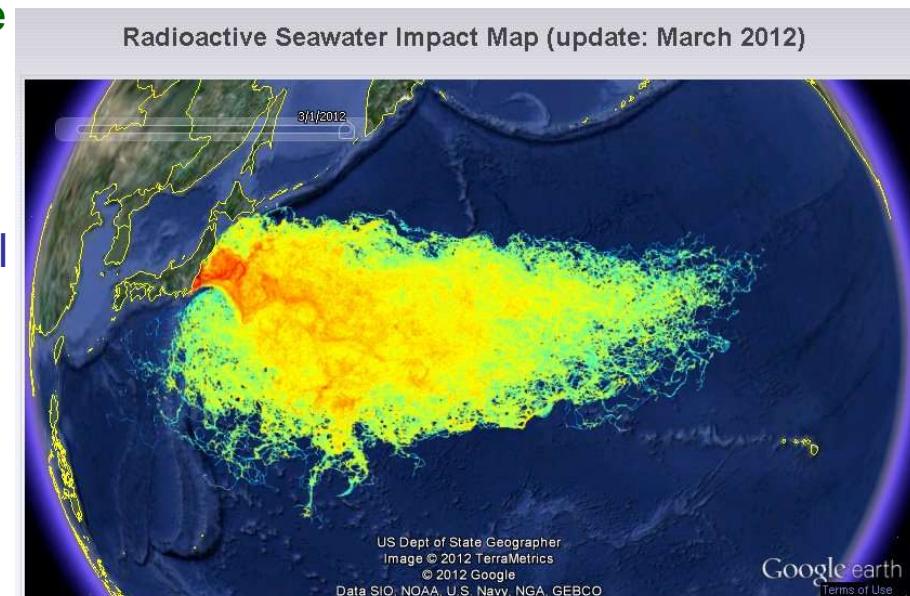
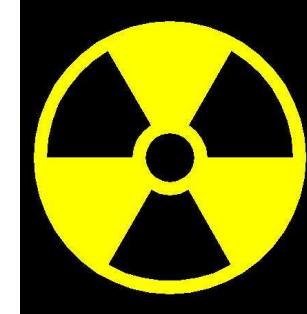


- The main supplied deliverables include:
 - (a) Hand held sound level meters
 - (b) Noise mobile vehicle
 - (c) Computers hardware
 - (d) Noise mapping software



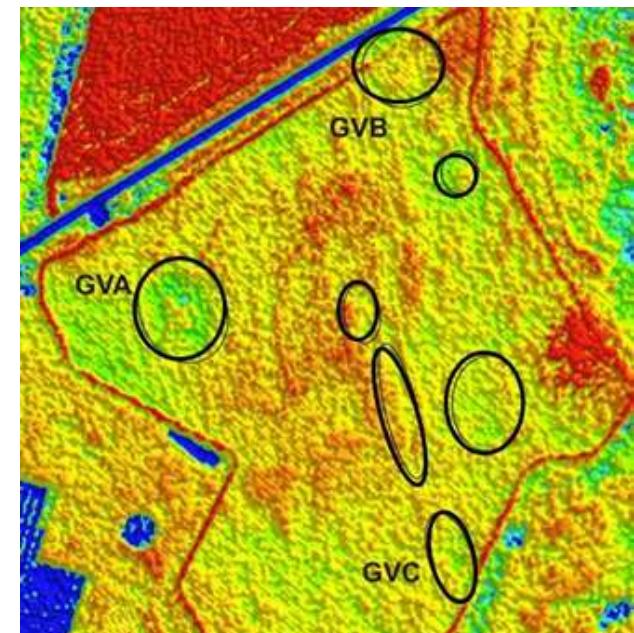
Radiation

- Scope was aimed to assess Malta's current status in measuring ionizing radiation, develop recommendations to adhere to the current European, international regulations and the latest recommendations of the International Atomic Energy Agency (IAEA)., including those issued in the aftermath of the Fukushima accident.
- Outputs include baseline study of radioactive isotopes in Malta's coastal waters, soils and marine sediments.
- Procurement of three monitoring stations to detect radioactive isotopes in air (in near real time).



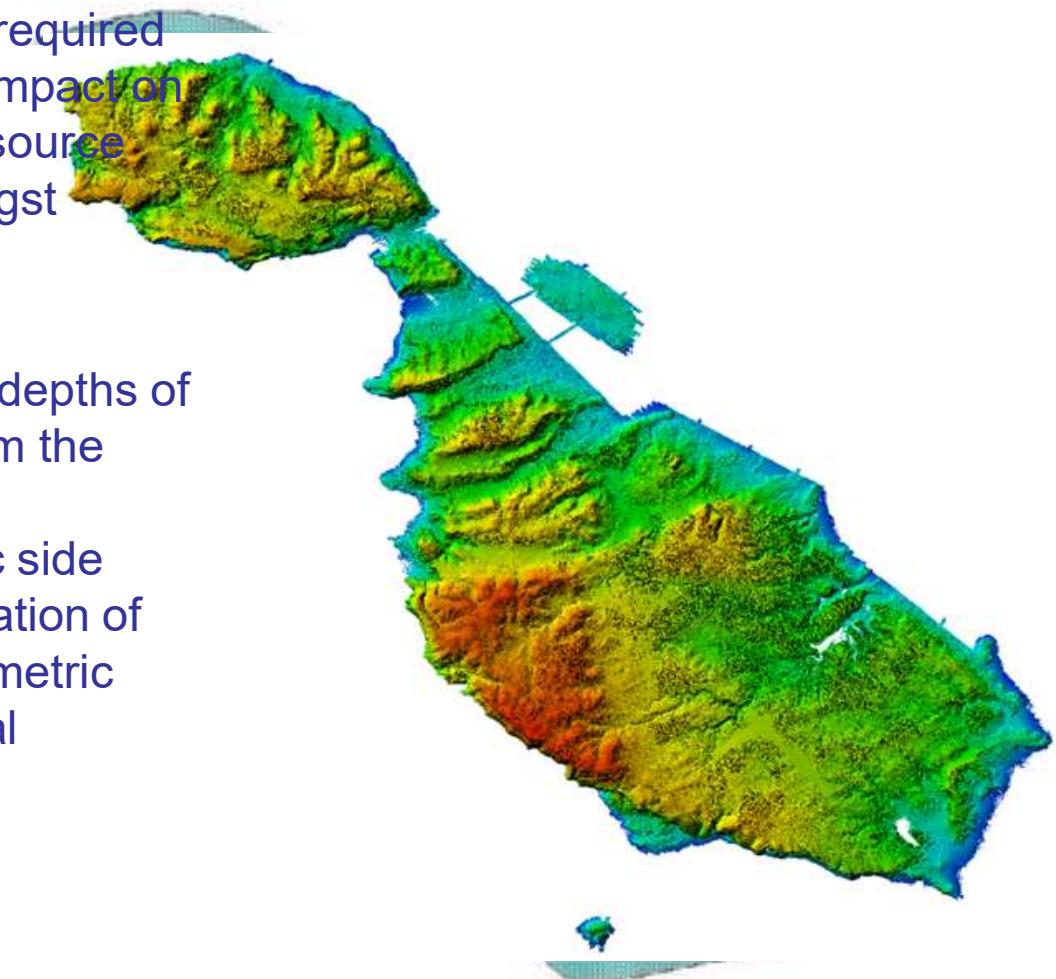
Soil

- Preparation of a regulatory framework (legislative instruments) focusing on soil contamination.
- Preparation of guidelines for short/long-term data monitoring phase to investigate likely implications behind all relevant soil degradation threats.
- Feasibility assessment of programmes, and capacity building activities for continuous implementation of lab-based evaluation.
- To carry out a soil sampling baseline survey.



Information Resources

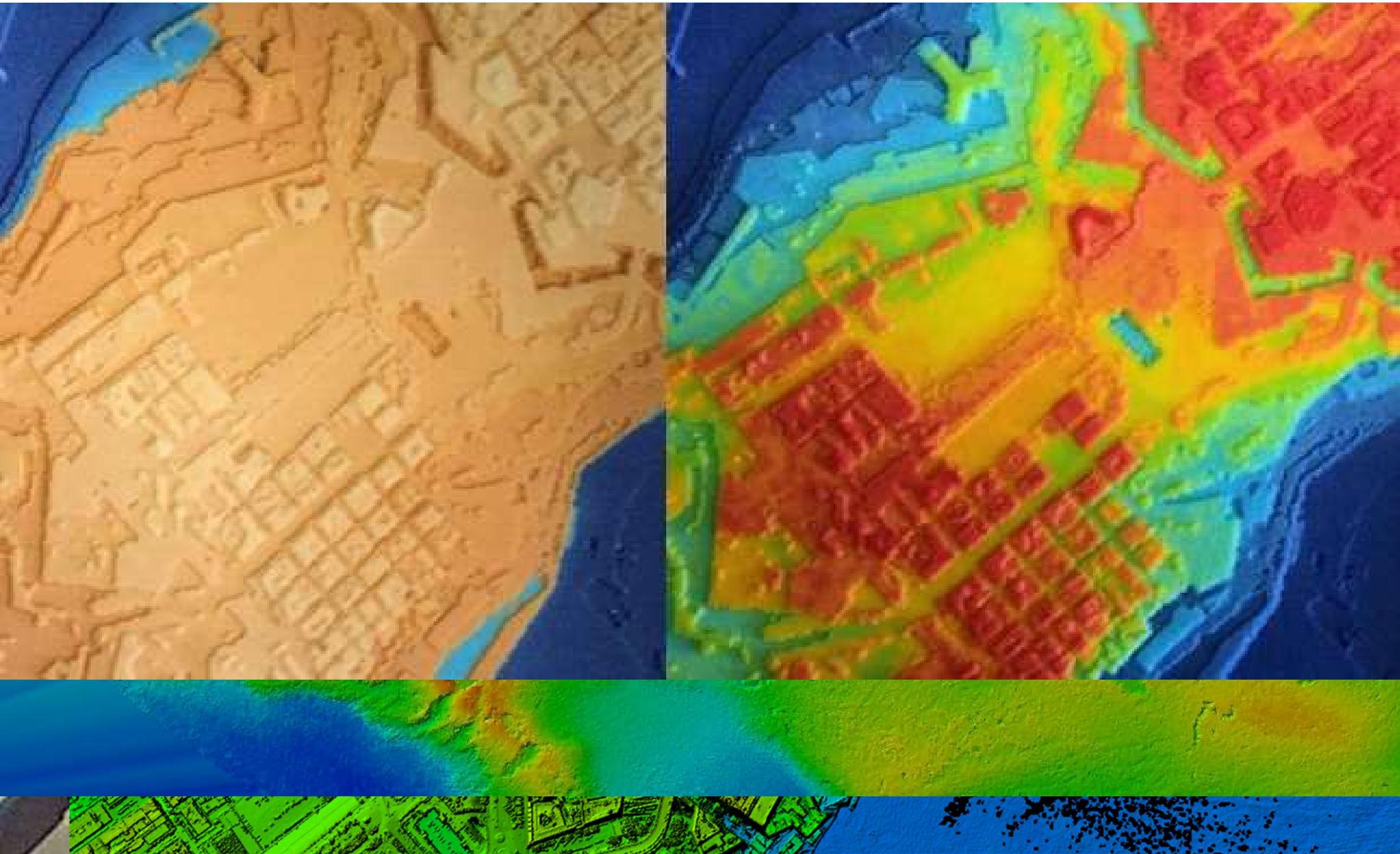
- Deliveries included a terrestrial LIDAR Scan (Topographic Light Detection and Ranging (LiDAR)) which resulted in a baseline map for the Maltese Islands infrastructure and landcover/landuse analysis which is required for the monitoring of structures that impact on noise levels, enforcement issues, resource monitoring and risk prediction, amongst others.
- Bathymetric LIDAR aerial survey for depths of 0 m to 15m within 1 nautical mile from the Maltese coastline and a ship-based bathymetric scan employing acoustic side scan sonar which will enable the creation of new nautical charts as well as bathymetric outputs that will help in marine spatial planning.



Information Resources



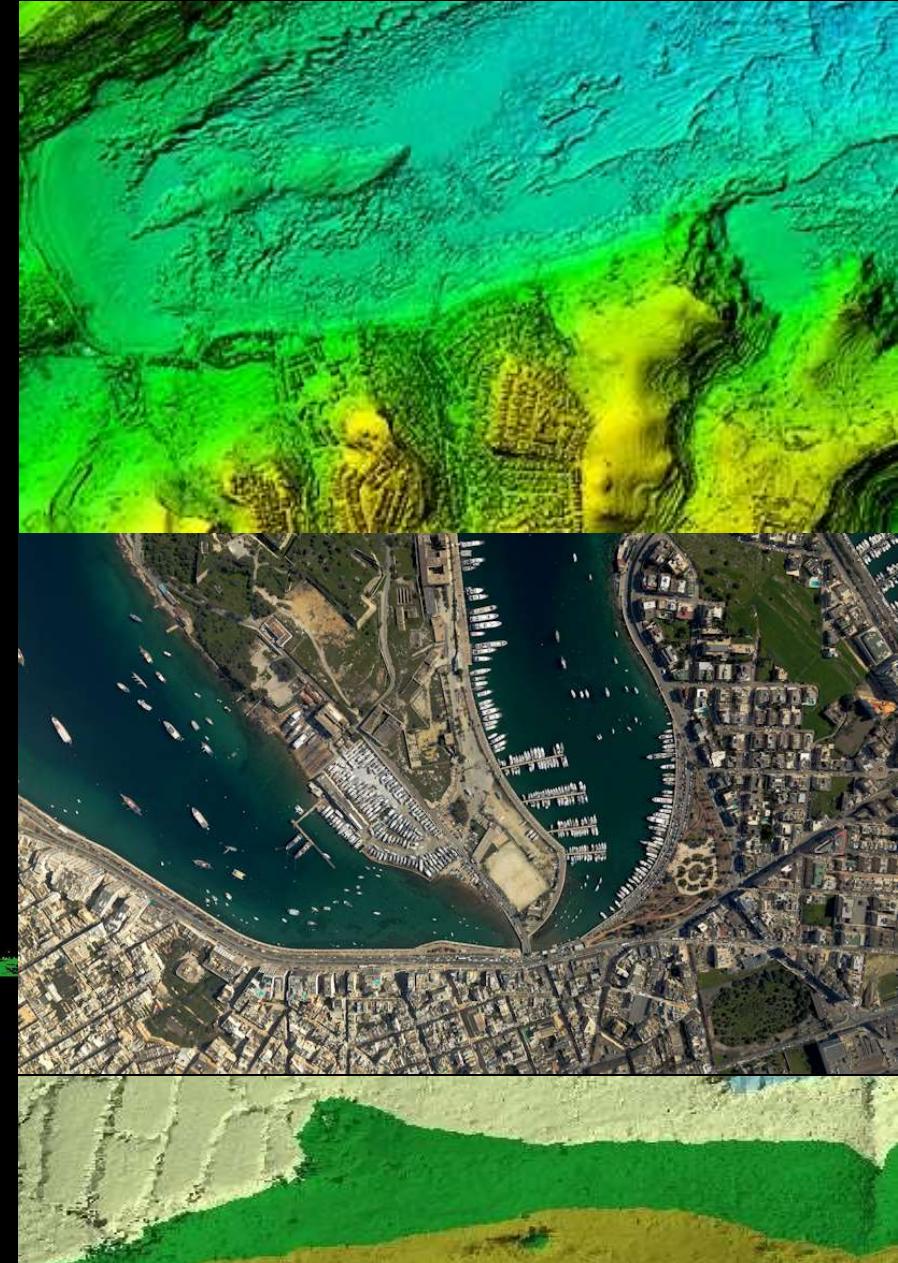
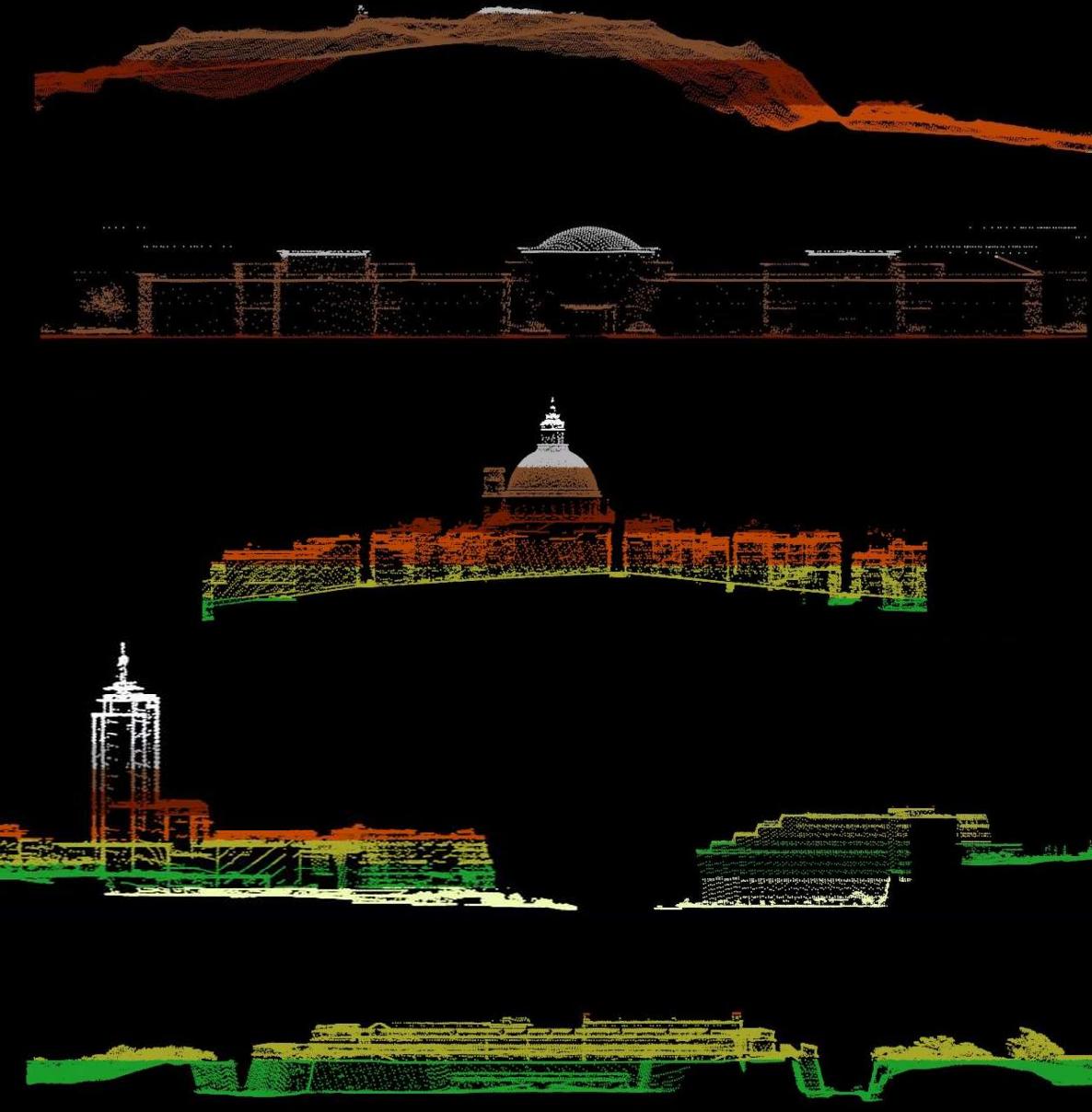
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Visualisation



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Information Resources

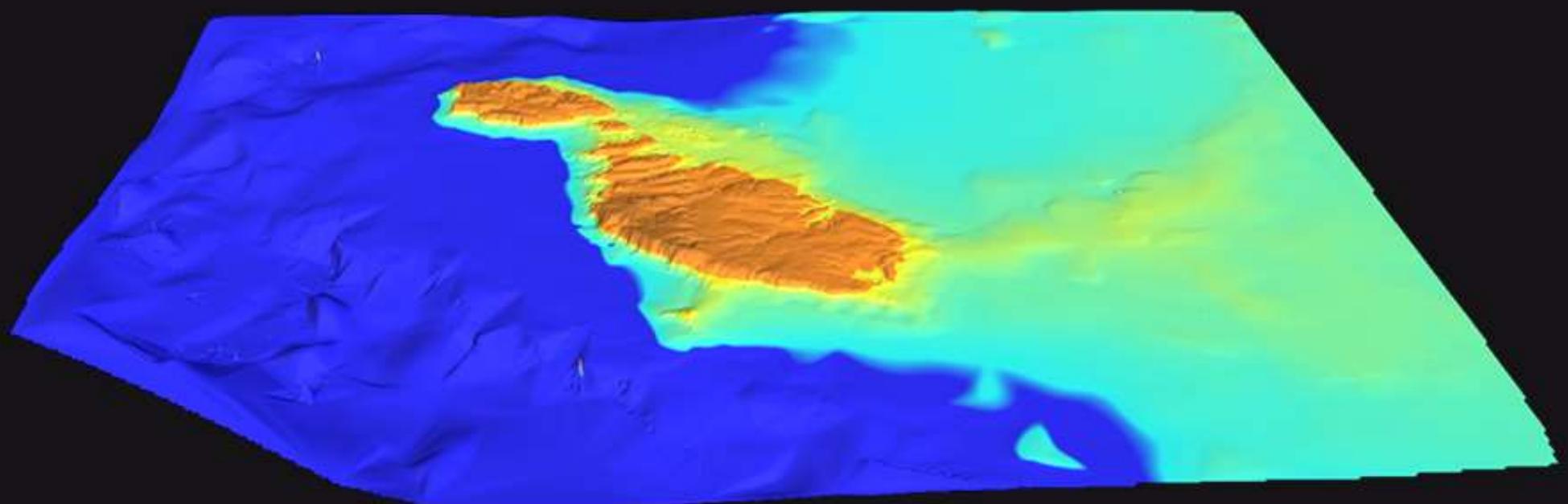
• SEIS

A Shared Environmental Information System will serve as the conveyor for such information and outputs from the project as based on INSPIRE, Aarhus and SEIS

Future Drive



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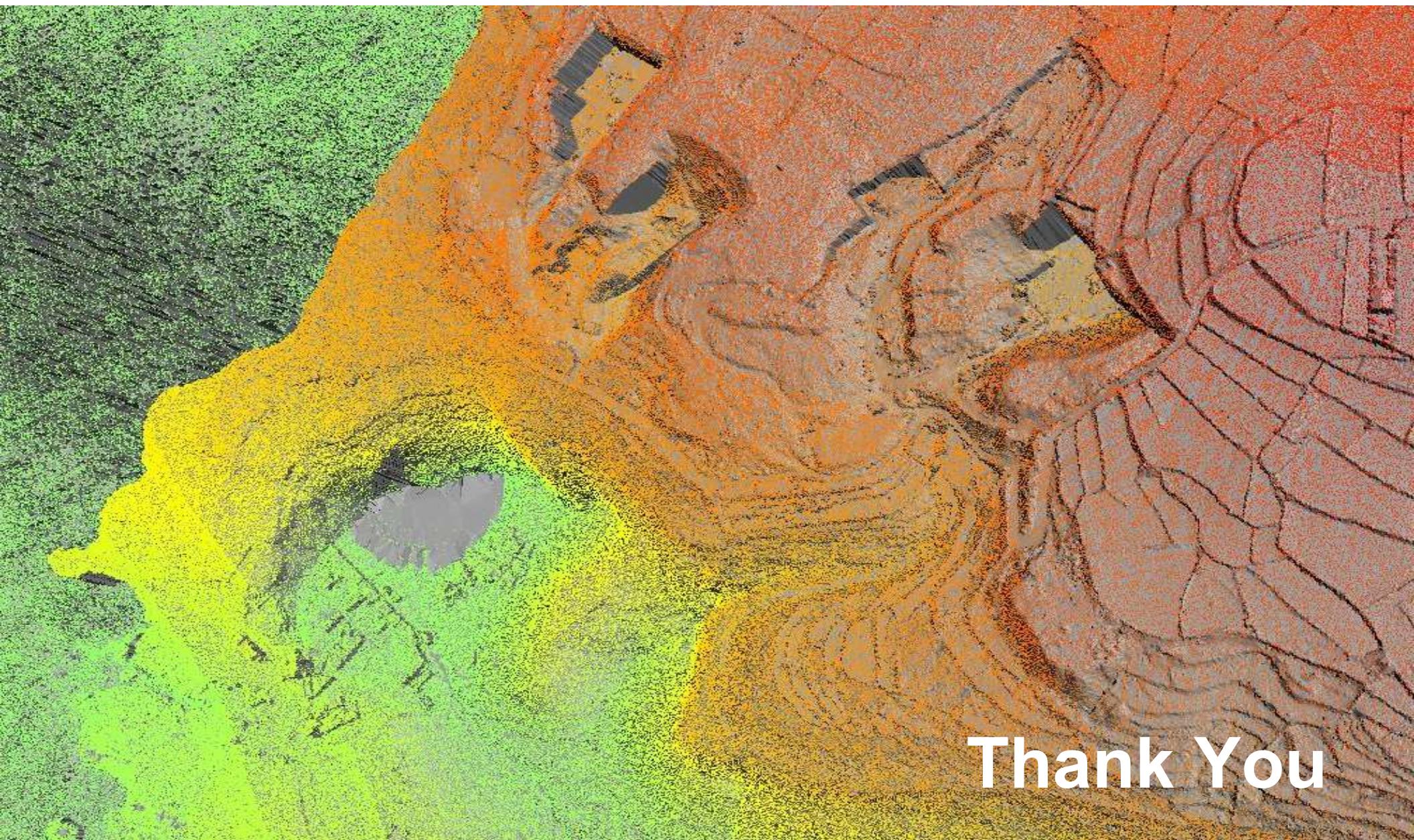


Movie



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