PUBLICA MUNDI

SCALABLE REUSABLE OPEN GEOSPATIAL DATA

PUBLICA MUNDI AIMS TO DEMOCRATIZE OPEN GEOSPATIAL DATA PUBLISHING AND REUSE, MAKING EASIER FOR PUBLISHERS TO SHARE DATA AND FOR DEVELOPERS TO DISCOVER AND REUSE DATA

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PublicaMundi is a research project originating from everyday problems faced by open data publishers and data consumers. Simply stated, open geospatial data are cumbersome to easily publish and consume for non-GIS experts. While most data publishers and developers are familiar with handling and using typical data (e.g. csv), they are not familiar with the intricacies of geospatial data. Coordinate reference systems, geospatial databases, map servers, special APIs, are some of the tools and know-how required to publish and reuse open geospatial data.

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PublicaMundi will research and develop scalable, reusable tools and technologies to facilitate the publication, discovery and reuse of open geospatial data

I
EXTEND OPEN DATA CATALOGUES
to fully support the publishing, curation and management lifecycle of geospatial data

II
DEVELOP AND INTEGRATE TOOLS
enabling the interlinking and multi-linguality of geospatial data

III
PROVIDE SCALABLE TECHNOLOGIES
to create and reuse on-demand maps

IV
DEVELOP ANALYTICS SERVICES
to monitor the usage of open geospatial data

V
DEVELOP REUSABLE DATA APIS
and scalable technologiessupporting querying, processing, and analysis of open geospatial data

CHALLENGES

GEOSPATIAL-AGNOSTIC CATALOGUES

Open data catalogues provide limited support for geospatial data. Geospatial data is treated as *second class citizens*, with insufficient capabilities in publishing methodologies and tools, limited technical foundations to support value added services, and simplistic non-scalable support for geospatial data visualization

NON-INTERLINKED DATA

Open geospatial data are rarely interlinked with other data. Because of this, disambiguation issues arise regarding geospatial entities and as a consequence cleansing, curation and fusion become hard processes relying on manual labor. As a result, data cannot be efficiently and immediately used by the private sector and especially SMEs, undermining their efforts to build value added services

INEFFICIENT MAP PROVISION

The foundation of geospatial applications is the visualization of information on interactive web maps where information is overlayed. Currently, map provision support in open data catalogues is limited, not allowing custom of on- the-fly thematic maps by combining various datasets, nor APIs for integrating web maps to third-party services. Moreover, maps are not optimized for multimodal delivery, being resource intensive for mobile applications

INEFFICIENT PROCESSING

Due to their nature, querying and processing geospatial data is inherently resource-intensive. Open data catalogues provide support for typical tabular data but lack support for geospatial data. In particular they do not support Web Processing Services (WPS) which extend a web mapping server to provide efficient geospatial processing and analysis services

GEOSPATIAL DATA AS FIRST CLASS CITIZENS

PublicaMundi will provide reusable tools and technologies for comprehensive, sophisticated and scalable publishing of open geospatial data, with emphasis on streamlining and maximizing their reuse in value added services and applications.
In particular we will deliver:

GOALS

A sustainable, efficient, traceable and easy to use **publishing methodology**, fully supporting the entire lifecycle of open geospatial data

An open geospatial **data catalogue** with full support for open geospatial data curation and management, integrating the advanced data interlinking, multi-linguality, processing, analysis, mapping, and visualization software components developed

Technologies and tools to assist in **interlinking** and **multilingual** support of open geospatial data in order to increase their value, relevance, and applicability for value added applications

Reusable software components implementing **mapping** and **analytics** services for demand-aware visualization of open geospatial data, enabling rapid integration in multimodal and value added applications

Comprehensive, real-world **validation** through **geodata.gov.gr**, of the project's methodologies and software components regarding usability, sustainability and purposefulness for developing valued added applications

A **showcase** of EU innovation for open geospatial data, mobilizing EU members states, SMEs and individuals towards realizing the **EU Data Economy**

The project's impact will be to accelerate the establishment of a Data Economy in the EU for open geospatial data, and the materialization of its tangible benefits:

- **Innovative and lower cost products**
- **Value added services and applications**
- **New business models based on data-intensive applications and analysis**

The project addresses the specific needs of the data economy stakeholders in relation to open geospatial data reuse.

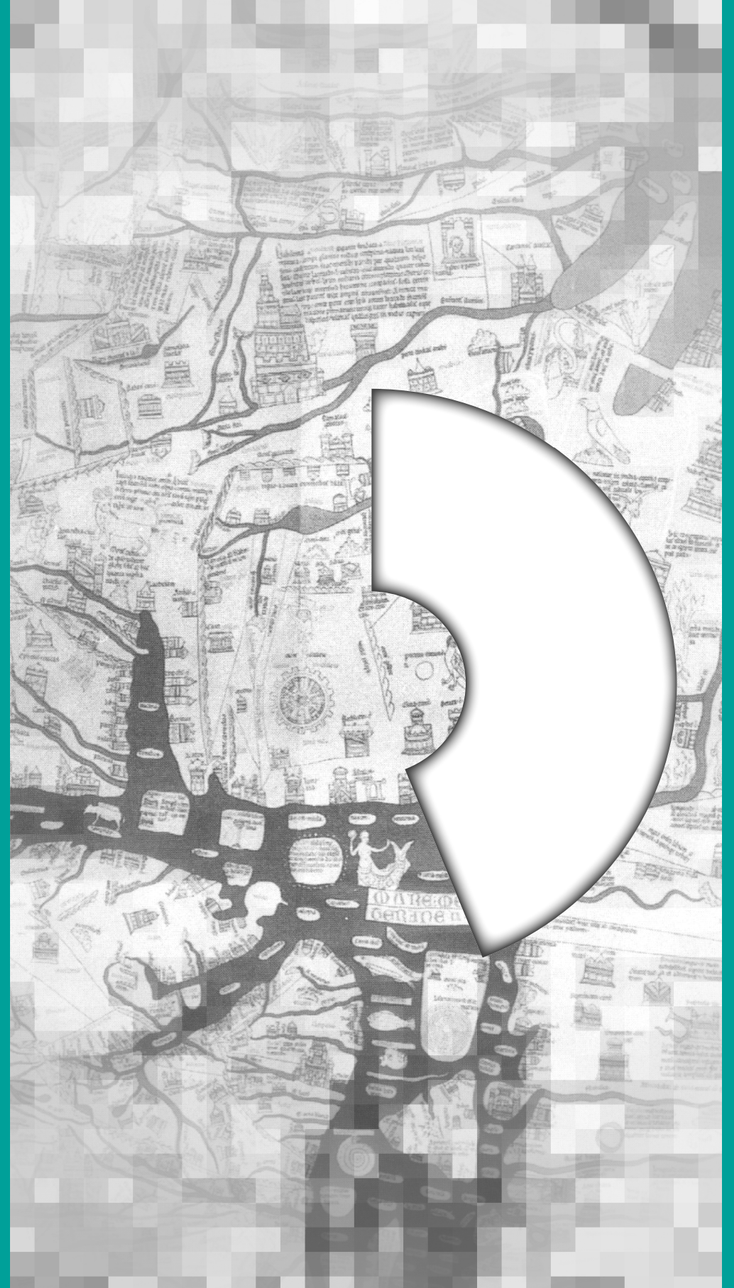
IMPACT

PRIVATE SECTOR

The private sector and specifically SMEs, will have access to high value open geospatial data and reusable, cost effective software components and services, readily available for integration in value added applications.
This can lead to significant efficiency gains, reduced implementation time, lower product/services costs, and overall higher quality services. Moreover, open geospatial data can lead to new commercial activities and services, focused on large scale, data-intensive innovation

PUBLIC SECTOR

For the public sector on an EU, national, and regional level, the application of efficient geospatial data publishing methods and tools can lead to economical, efficiency, and policy benefits.
Easier discovery and reuse of open geospatial data can result to increased administrative efficiency, de facto technical and semantic interoperability, increased quality of information, and overall reduced costs



INSTITUTE FOR THE MANAGEMENT OF INFORMATION SYSTEMS

Athena is a leading RTD institution active in research on all aspects of open data with specific emphasis on geospatial data. Athena developed and maintains geodata.gov.gr, Greece's open geospatial data catalogue. Operating since 8/2010, it was one out of eight national open data portals worldwide. It has led to direct savings of 20M€ for the public sector alone and is actively used by 1.000 users/day.

www.imis.athena-innovation.gr

ΙΝΣΥ IMIS

RASDAMAN

Rasdaman is a high-tech SME leading the development of rasdaman, an open source exascale big geospatial data analysis server. Rasdaman is a raster database system developed in the context of various RTD projects and provides fast, scalable, flexible and open standards web-based big data analysis for geospatial data.

www.rasdaman.com

rasdaman
raster data manager

PARTNERS

GeoLabs

GET

GEOLABS

GeoLabs is a high-tech SME leading the development of numerous open source geospatial projects, among which the ZOO-Project, a web processing framework for geospatial data. ZOO provides a WPS-compliant developer-friendly framework to create, manage, chain, and execute WPS

www.geolabs.fr

GET

GET is a high-tech SME active in the entire lifecycle of geospatial data. It produces, maintains and curates geospatial data and develops high-value geospatial applications. GET has significant market experience, networking ties, and exploitation channels, with emphasis in cost effective open-source based services

www.getmap.gr

ΙΜΕΥ ΙΜΙS

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