

HLanData: a European project on Land Use and Land Cover Databases Harmonization

The HLANDATA project aims to demonstrate the feasible European level harmonization of the Land Use and Land Cover datasets taking into account both the data categorization and the data models, for any of their possible uses and users, through the development of user oriented value-added services.

Land Cover is referred to the physical, chemical, ecological or biological categorization of the earth surface. Land Use is referred to the categorization of the territory based on its current and future planned socio economic purpose. Land Use and Land Cover are amongst the most important geographic information themes today because they are essential for many application areas, such as: Environmental Impact Evaluation, GMES applications, calculations on CO2 drains, irrigation land's evolution and evaluation-projection on water consumption, study on habitats and ecosystems, calculations on erosive states, study and evaluation of town-planning growth models, etc.

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Unfortunately, despite the initiatives which have already been carried out and others that are being carried out at present moment, there is no valid data harmonization model for the Land Cover and Land Use datasets, taking into account both the data categorization and the data model and the end users' specificities, which could be valid for all the application areas and at a European level.

f. The HLANDATA project aims at making a significant step forward in overcoming the aforementioned barrier, fostering the use of the Land Use and Land Cover geographic data at a European level, through the creation of value-added European services.

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In order to achieve the project goal, specific objectives have been stated:

• *Assessment of the relevant information related to the harmonization of the Land Use and Land Cover Datasets:*

- o Previous harmonization initiatives and related results.
- o Types of users and users' real needs (from the point of view of the applications).

• *Harmonization proposal of the Land Use and Land Cover datasets.*

• *Development and optimization of common data sharing infrastructure based on web services.*

• *Implementation of 3 pilot projects providing value added service to end users.*

• *Validation of the project results by the target users.*

• *Promotion of the creation of an experts' network composed of producers and users of this information.*

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The HLANDATA Project has a total budget of 3.405.601 euros, of which 50% will be granted by the European Commission in the frame of the CIP ICT Policy Support Programme.

This project is fully aligned with the INSPIRE European Directive and its Annexes, since its main objective is in fact to demonstrate the feasible European level harmonization of the Land Use and Land Cover datasets (included in the annexes II and III) taking into account both the data categorization and the data models, for any of their possible uses and users. Moreover, it follows the line of the European Directive 2003/98/EC, on the reuse of public sector information delivering as a result a set of pilot projects built on web services allowing to access and exploit the Land Cover/ Land Use geographic information.

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Project duration

The project duration is 36 months and has been organised into six work packages:

- WP 1: Diagnostic
- WP 2: Harmonization of LU/LC data and development of the baseline LU/LC data sharing infrastructure
- WP 3: Pilot projects design and implementation
- WP 4: Results assessment
- WP5: Communication and Dissemination
- WP6: Project Management and Coordination

Users

Target users of the proposed services are Land Use/Land Cover information users, particularly intermediate-level users, which need functionalities such as visualization, overlay of own information to other sources, spatial and temporal analysis and downloads of the data in different formats.

This mainly includes technicians of the Public Administrations; private companies; Universities; architects and engineers.

The Three Pilot Projects

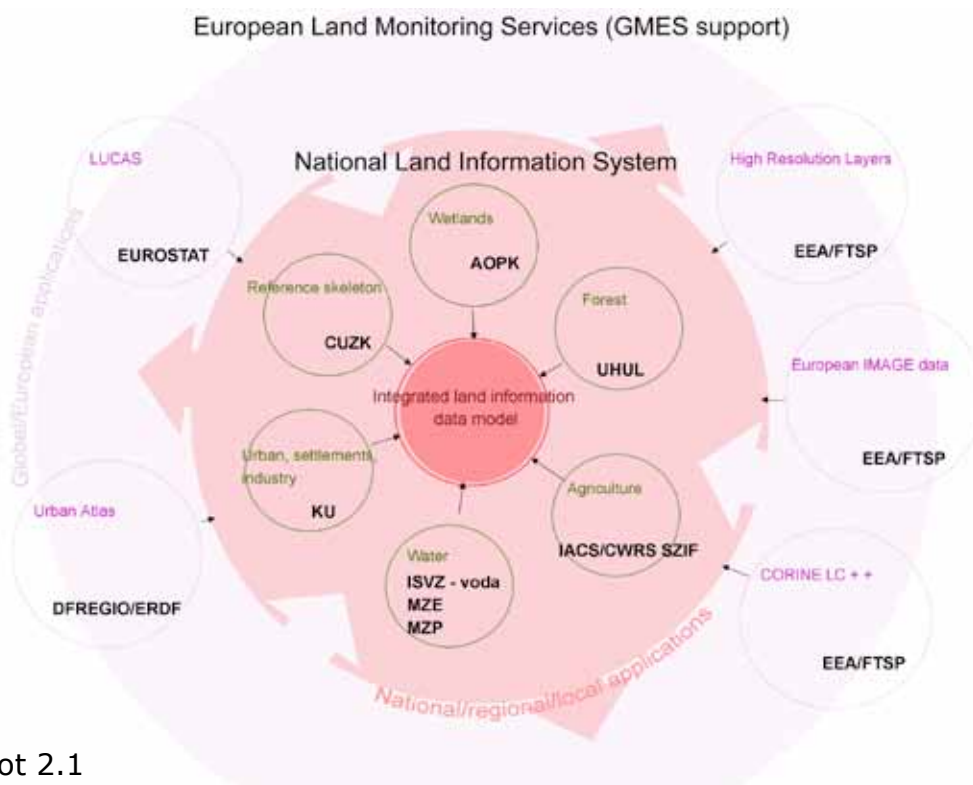
Pilot 1: LC/LU Data Analysis System for intermediate-level users

A system allowing users to make advanced analysis (advanced viewing, overlaying different layers, spatial and temporal analysis, downloads, data maintenance (for producers), E-learning tool etc.) of the Land Use and Land Cover datasets with information coming from different sources at a European level will be developed.

Partners involved: Gobierno de Navarra, TRACASA, IGN/CNIG, TDF and CEIT.

Pilot 2: National Land information systems (sub-pilot 2.1: Czech Republic and sub-pilot 2.2: Lithuania)

The existence of reliable spatial information of LC/LU, are the pre-condition for effective informed territorial management and spatial planning in general. There is



Sub-Pilot 2.1

a strong need for harmonization of both Core Mapping Services and Downstream (added-value services) activities so that the results on content and service level are comparable between the countries as well as at European level (in line with INSPIRE principles).

Partners involved: AGI and GISAT.

Pilot 3: Stratification of waste dumps

In Slovakia long-term waste disposal on landfills is still the most frequent method of municipal waste handling (76 %) despite the efforts to decrease the number of official landfills with regard to national and European law. The main objective of this pilot is the stratification and control of waste dumps in Slovakia through an interactive mapping service including the following geographic information layers: land use and land cover, settlements, population and waste production.

Partners involved: SEA and CEIT.

Technology

HLANDATA will create value-added services for the spatial and temporal analysis in the different pilots, integrating open source developments and own developed software.

Services freely accessible through the web will be developed, assessing the different existing solutions but also guaranteeing the use of standard services (Web Map Services – WMS, Web Processing Services – WCS, Web Features Services – WFS).

HLANDATA will provide access to the services of the developed pilots in the context of the project through a Geo-gateway which will put together the project information with the access to its achieved results.

PROJECT PARTNERS

Gobierno de Navarra (Project coordinator)

The Government of Navarra is a Public Administration from the autonomous region of Navarra in Spain which is involved in the integration, management and dissemination of geographic information concerning the territory of Navarra.

CEIT Alanova gemeinnützige GmbH

CEIT ALANOVA is an applied research institute located in Schwechat near Vienna, which acts complementarily with existing organizations and in close cooperation with scientific and research institutions, enterprises and public administrations to ensure the flow of knowledge between research and practical application.

GISAT sro

GISAT is privately run SME company, formed 1990 and based in Prague, Czech Republic. It provides rich portfolio of 'state-of-the-art' remote sensing and geo-information services worldwide with focus to environmental, agriculture and spatial planning application domains.

IGN

The National Geographic Institute of Spain (Instituto Geográfico Nacional, IGN) is the National Authority for Cartography and the National Agency of the Central Public Administration with the mandate of ensuring the implementation of geographical information policy.

ISOCARP

ISOCARP is a global association of experienced, professional spatial planners, and was founded in 1965 with a vision of bringing together recognised and highly qualified planners as well as other stakeholders involved in the development and maintenance of the built environment in an international network.

Slovak Environmental Agency

The SEA is a professional organization of the Ministry of the Environment of the Slovak Republic (MoE SR) which focuses on the environment protection and landscape planning in accordance with principles of sustainable development.

Technology Development Forum

The Latvian society „Technology Development Forum“ (“Tehnoloģiju attīstības forums”) was initially registered within the Public Organizations Register of the Latvian Register of Enterprises as “Technology Development Foundation”.

Tracasa

TRACASA is a public company dedicated to providing mapping and cadastre services, as well as developing and implementing information systems in the field of Territorial Engineering and Information and Communication Technologies, located in Pamplona, Spain.

AGI

UAB “Aerogeodezijos institutas” (AGI) is a State-owned Lithuanian company with decades of experience in spatial data production and quality control. It holds ISO 9001:2001 certificate in surveying, photogrammetry, topography, cartography, geographic datasets production and remote sensing data processing and analysis.



TEHNOLOGIJU ATTĪSTĪBAS FORUMS
TECHNOLOGY DEVELOPMENT FORUM



ISOCARP

Gobierno de Navarra (GN)

GISAT

Trabajos Catastrales S.A. (TRACASA)

Technology Development Forum (TDF)

Instituto Geográfico Nacional (IGN) –
Centro Nacional de Información Geo-
gráfica (CNIG)

Slovak Environmental Agency (SEA)

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Institute of Aerial Geodesy (AGI)

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