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Plan4all

Deployment of Metadata - the First Stage

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Author(s) *Olomouc, TDF, LGV Hamburg, ZPR,
PROVROMA, FTZ, GEORAMA,
NASURSA, GIJON, DIPSU, EPF, ADR
Nord Vest, Lazio, MEEDAT*



eContentplus

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¹ OJ L 79, 24.3.2005, p. 1.

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1. Introduction

1.1. Objectives

The aim of the WP 7.1 is to publish existing metadata transformed into the plan4all metadata profile.

1.2. Report Overview

Introduction into the task T7.1 is mentioned in the Chapter 1.1.

Chapter 2 gives an overview of involved partners.

Chapter 3 presents steps in providing Plan4all INSPIRE themes metadata according to the INSPIRE and Plan4all metadata profile by Plan4all content partners. In this line each partner had to answer these questions:

- Do you have any metadata related to spatial planning and INSPIRE Plan4all themes? (Chapter 3.x.1.1.)
- Do you have a local or regional Metadata Portal implementation or do you use the Plan4all metadata catalogue? (Chapter 3.x.2.1.)
- Do you provide metadata related to spatial planning and Plan4all themes as a CSW Web Service service? (Chapter 3.x.2.2.)
- What software metadata solution do you use for providing CSW services? (Chapter 3.x.2.2.)
- Do you extend your existing metadata related to spatial planning into the plan4all profile? (Chapter 3.x.3.)
- Do you integrate a thesaurus supporting multilingual discovery of data? (Chapter 3.x.4.)

1.3. Plan4all Metadata Profile Overview

Information contained in the Implementing Rules for INSPIRE metadata seems not sufficient enough to describe all spatial data theme specific aspects. Therefore a Plan4all metadata profile with respect to specific aspects of the spatial data theme (i.e. land use) was defined. In Task 3.2 a European spatial planning metadata profile (Plan4all metadata profile) was designed on the analysis of national requirements on spatial planning metadata (Task 3.1) as well as on the experiences of designing conceptual data models for selected INSPIRE themes (Task 4.2). The Plan4all metadata profile extend the INSPIRE metadata requirements. It is compliant to ISO 19115/19119/19139 standards, INSPIRE metadata profile and INSPIRE metadata implementing rules.

The Plan4all metadata profile is intended to provide metadata of

- spatial plans according to national legislation (digital or non digital): spatial plan metadata,
- datasets which are part of digital spatial plans: dataset metadata,
- spatial services providing access to digital spatial plans: spatial service metadata.

2. Partners and Themes Overview

Overview of partners and Plan4all CSW Metadata services provided by them.

Task 7.1 participants

[edit]

No.	Short name	Country	Role	PMS	People	Conceptual model	provide metadata as service (url)	collect metadata in Plan4All Portal
2	ISOCARP	NL	technology provider	2	Kathi Mitterer			
3	Olomouc	CZ	content provider	4	Miloslav Dvorak, Lea Manakova	Land Use		Yes - harvest from our catalogue
4	TDF	LV	content provider	2	Sarmite Barvika, Raitis Berzins, Peteris Bruns		http://geoportal.tdf.lv/metadata/csw/index.php?REQUEST=GetCapabilities&SERVICE=CSW	
6	LGV Hamburg	DE	content provider	2	Kai-Uwe Krause, Thomas Eichhorn	Land use		No
8	ZPR	LV	content provider	3	Inga Berzina, Armands Strautkalns, Baiba Barbale, Inese Belkska	Land Use,	http://giz.zpr.gov.lv/metadata/csw/index.php?REQUEST=GetCapabilities&SERVICE=CSW	
9	PROVROMA	IT	content provider	2,5	Anna Maria Eremitaggio, Monica Rizzo	Land use, Land cover	http://plan4all.hyperborea.com/geonetwork/srv/en/csw?REQUEST=GetCapabilities&SERVICE=CSW	
11	GEORAMA	GR	content provider	2	Manolis Viennas, Efrosini Sourla, Mirsini Paschou, Evangelos Sakkopoulos, Kostas Poulas		http://plan4all.georama.org.gr/geonetwork/srv/en/csw?REQUEST=GetCapabilities&SERVICE=CSW	
1	NASURSA	ES	content provider	2	Xabier Velasco	Land use, Land Cover	http://gisportal.tracasa.es/plan4all/csw?request=GetCapabilities&service=CSW&QueryLanguage=en	No
13	Hyper	IT	technology provider	1	Alfredo Iembo, Raffaele Guerriero	support to PROVROMA	http://plan4all.hyperborea.com/geonetwork/srv/en/csw?REQUEST=GetCapabilities&SERVICE=CSW	
14	GIJON	ES	content provider	3	Agustin Lanero, Jeronimo de la Iglesia, Pedro Lopez		http://ide.gijon.es:8080/geonetwork/srv/es/csw?REQUEST=GetCapabilities&SERVICE=CSW	Yes - harvest from our catalogue
15	MAC	IE	technology provider	1	Joe Cantwell, John O'Flaherty	Land Use	http://gis.mac.ie/geonetwork	No
16	CEIT ALANOVA	AT	technology provider	2	Manfred Schrenk, Wolfgang Wasserburger, Julia Neuschmid, Daniela Patti			
17	AVINET	NO	technology provider	1				
18	DIPSU	IT	content provider	2	Flavio Camerata, Rosa Marina Donolo	Land use	http://www.dipsuwebgis.uniroma3.it:8081/csw-dipsu/srv/en/csw?request=GetCapabilities&service=CSW&acceptVersions=2.0.2	
19	EPF	BG	content provider	2	Stelian Dimitrov, Tzanko Arnaudov	Landuse	http://213.91.166.6:8080/geonetwork/srv/en/main.home	
20	ADR Nord Vest	RO	content provider	2	Michaela Mihailescu		http://geoportal.nord-vest.ro:8080/geoportal/csw/discovery?Request=GetCapabilities&Service=CSW&Version=2.0.2	
21	Lazio	IT	content provider	2				
22	HF	CZ	technology provider	1	Petr Horak, Martin Vlk	Land Use		Yes
23	AMFM	IT	technology provider	1				
24	MEEDDAT	FR	content provider	1	François Salgé	any	SOAP : http://www.geocatalogue.fr/api-public/services/CSWService.CSWServicePort/ REST : http://www.geocatalogue.fr/api-public/servicesRest/	Yes - harvest from our catalogue
10	FTZ	MT	content provider	1	Lawrence Attard, Saviour Formosa	Land Cover, Area Management	http://ftzgeo.org:8080/geoserver/ows?service=wfs&version=1.1.0&request=GetCapabilities	Yes

3. Metadata Deployment in Regions

3.1. Olomouc (content provider)

3.1.1. General description of existing metadata

Olomouc has cca 200 dataset level metadata records for Planning analytical materials according to ISO 19115 standard but not fully compliant to INSPIRE profile. Datasets cover partially data from INSPIRE themes:

Annex I - Administrative Units, Transport Networks, Hydrography, Protected Sites

Annex III – **Land Use, Utility and Governmental Services**, Population Distribution and Demography, **Area management/restriction/regulation zones & reporting units**, **Natural risk zones**, Bio-geographical regions

Datasets carry only attributes essential to urban planning so it does not cover theme's scope, therefore within Plan4all project only selected parts will be harmonised.

All planning analytical materials metadata records we check, update to fit actual state of datasets and extend to fulfil INSPIRE requirements.

During T7.1 we prepared metadata records for historical and contemporary land use plans (Plan level metadata in Plan4all metadata profile).



Metainformační systém

Tematické zařazení | **Metadata**

Hodnotová mapa
Plan4all
Územně analytické podklady
koncepty

Vyhledávání
Pokročilé vyhledávání
Přihlášení
Přihlášen: Miloslav Dvořák
Odhlásit
ISO normy
Katalog byl vytvořen v souladu s implementačními pravidly INSPIRE a splňuje restrikce nadřazených norem ISO 19115
Nařízení evropské komise (implementační pravidla INSPIRE)
Vytvořit metadata

ZSOP_zona_havar_plan_p
Územně analytické podklady | 27. 04. 2011 | 
Ostatní jevy grafických příloh ÚP - problémové jevy a urbanistická koncepce-Zvláštní a specifická ochranná pásma-ZSOP_zona_havar_plan_p(ZSOP_zona_havar_plan_p.shp)
[Celý záznam...](#)

další dostupné informace
Územně analytické podklady | 27. 04. 2011 | koncept
119 - další dostupné informace Vytvořeno
[Celý záznam...](#)

ZEP_zakl_funkc_plocha_p
Územně analytické podklady | 27. 01. 2011 | 
Základní funkční plochy
[Celý záznam...](#)

PZ_pam_zona_rez_p
Územně analytické podklady | 08. 01. 2011 | 
Kulturní hodnoty a jejich ochrana-Památkové zóny-PZ_pam_zona_rez_p; Kulturní hodnoty a jejich ochrana-Památkové zóny-PZ_op_pam_zona_rez_p (PZ_pam_zona_rez_p.shp)
[Celý záznam...](#)

koncept Směrného územního projektu města Olomouce (1954)
Územně analytické podklady | 30. 11. 2010 | koncept
koncept Směrného územního projektu města Olomouce (1954)
[Celý záznam...](#)

Ostatní jevy grafických příloh ÚP - problémové jevy a urbanistická koncepce-Zvláštní a specifická ochranná pásma-ZSOP_voj_ujezd_p (ZSOP_voj_ujezd_p.shp)
Územně analytické podklady | 29. 08. 2010 | koncept
Ostatní jevy grafických příloh ÚP - problémové jevy a urbanistická koncepce-Zvláštní a specifická ochranná pásma-ZSOP_voj_ujezd_p (ZSOP_voj_ujezd_p.shp)
[Celý záznam...](#)

Ostatní jevy grafických příloh ÚP - problémové jevy a urbanistická koncepce-Zvláštní a specifická ochranná pásma-ZSOP_objekt_po_b (ZSOP_objekt_po_b.shp)
Územně analytické podklady | 29. 08. 2010 | koncept
Ostatní jevy grafických příloh ÚP - problémové jevy a urbanistická koncepce-Zvláštní a specifická ochranná pásma-ZSOP_objekt_po_b (ZSOP_objekt_po_b.shp)
[Celý záznam...](#)

Ostatní jevy grafických příloh ÚP - problémové jevy a urbanistická koncepce-Zvláštní a specifická ochranná pásma-ZSOP_objekt_pcr_b (ZSOP_objekt_pcr_b.shp)
Územně analytické podklady | 29. 08. 2010 | koncept
Ostatní jevy grafických příloh ÚP - problémové jevy a urbanistická koncepce-Zvláštní a specifická ochranná pásma-ZSOP_objekt_pcr_b (ZSOP_objekt_pcr_b.shp)

Within Plan4all outputs, we will provide harmonised data and metadata for Land Use theme and for Natural risk zones theme. (dataset and service level metadata relevant to Plan4all data models)

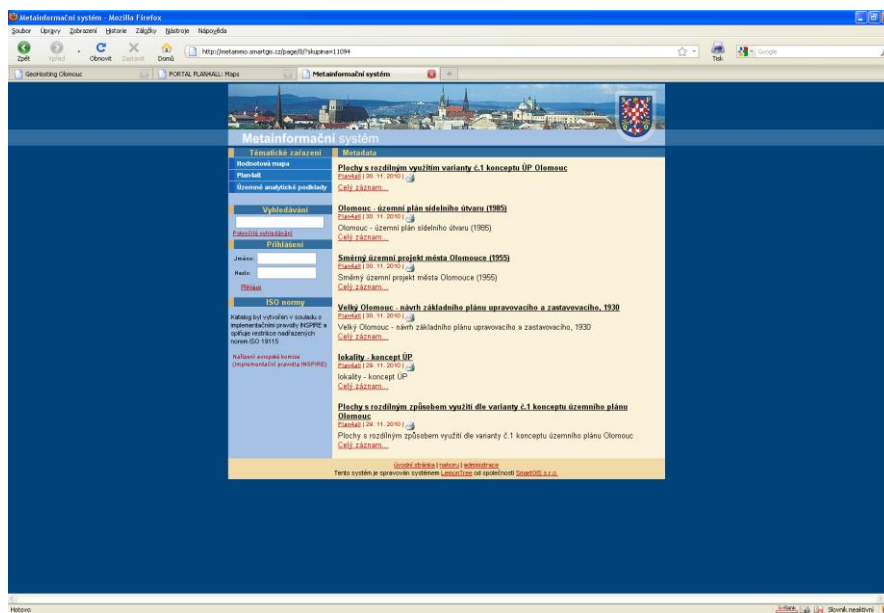
In Plan metadata level we will provide metadata on historical, valid and prepared land use plans in Olomouc. Source metadata prepared before profile extension to Plan4all profile are extended.

3.1.2. Metadata Publication

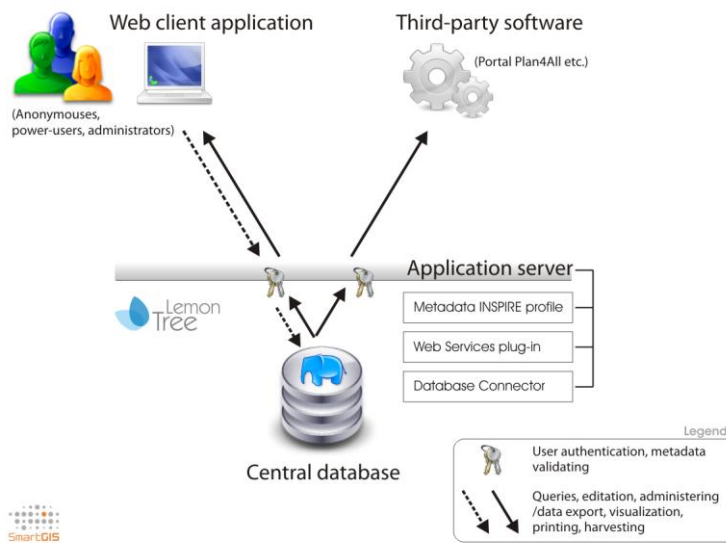
Metadata are published in web client (portal) on <http://metammo.smartgis.cz> For public view only completely filled and checked metadata are published (ready for harvest). Drafts are available only for authorized users. After extension of metadata profile to Plan4all profile records became draft. These records are now checked and will be completed.

3.1.2.1. Metadata Portal Solutions

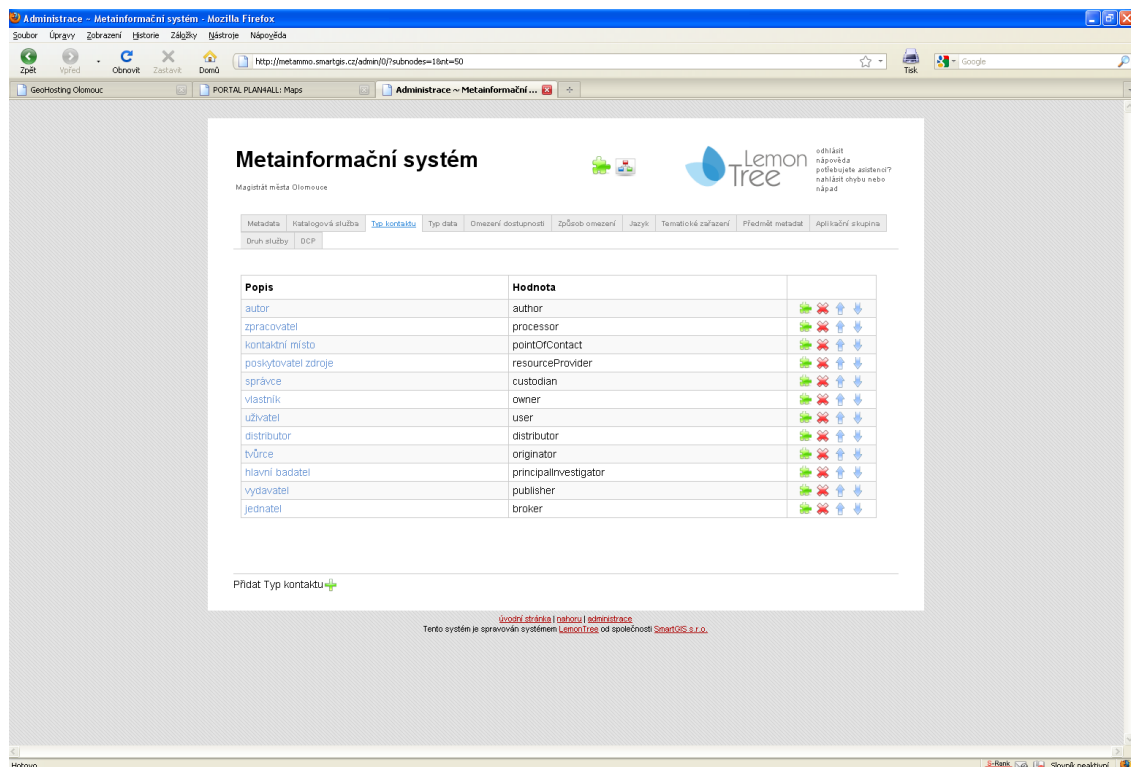
Olomouc has own solution to present metadata records based on LemonTree solution.



All metadata for spatial datasets, series and services are managed by LemonTree-Metadata (LT-M) solution. The solution is based on a client-server architecture. The architecture can be divided into three segments.



- The first one is an application server called LemonTree. The LemonTree is framework made to power web-based applications. It provides database and security tools for client's applications. Moreover it allows to communicate with third-party software.
- The second one is client application – common web browser for anonymous users to search in the catalogue and then for power users to manage the system. Client application helps advanced users to manage their metadata in the Central database in general, users and their rights etc.



- The last segment of this architecture is a **central database**. LT-M uses **PostgreSQL** in this case.

LT-M is compatible with obligatory standards for European SDI building (INSPIRE).

- LT-M uses key words from GEMET thesaurus (any other thesaurus can be added thanks to editing tools in administering back-end)
- LT-M verifies metadata according to the INSPIRE profile and saves only verified ones
- LT-M provides duplicity control tool
- LT-M integrates all mandatory official code lists
- LT-M provides harvesting web service (part of OGC CSW 2.0.2)

3.1.2.2. Web Services

LemonTree - Metadata provides harvesting web service according to CSW 2.0.2. specification. Valid metadata will be harvested to Plan4all metadata catalogue.

3.1.3. Metadata Preparation according to Plan4all profile

LT-M has extended metadata profile to Plan4all metadata profile (only monolingual).

We fill metadata related to Plan4all themes or spatial plans, that we provide (or will provide) within project, to Plan4all profile. On dataset level, we will cover Land Use and Natural risk zones theme. Missing parts of metadata records are filled and waiting for validation.

3.1.4. Thesaurus

At this tome LT-M includes ISO19915 codelists. Values coming from thesaurus like GEMET are filled manually.

3.1.5. Results

3.1.5.1. Comments on Plan4all metadata profile

Plan4all metadata profil is complex for Spatial/urban planning pourposes. It covers almost all necessary informations about planning documentation as well as informations on digital datasets composing plans and their publication. For planning practise in the Czech Republic some optional elements are useful, because they cover problematic of planning documentation evidence required by national legislation.

3.1.5.2. Recommended changes on the Plan4all metadata profile

3.2. TDF (content provider)

3.2.1. General description of existing metadata

Existing metadata are copy of original data provider data descriptions without changes since TDF is no data owner and provider. In fact TDF do not have data related with spatial planning.

3.2.2. Metadata Publication

Metadata published using HSRS & CCSS Geoportal and metadata system Micka with CSW services and in web client.

<http://geoportal.tdf.lv>

3.2.2.1. Metadata Portal Solutions

HSRS & CCSS developed Geoportal with MicKA meta-data system. However system has been set up for Plan4all project purposes.

<http://geoportal.tdf.lv>

3.2.2.2. Web Services

System is providing basic demonstration services:

- WMS
- WFS
- CWS

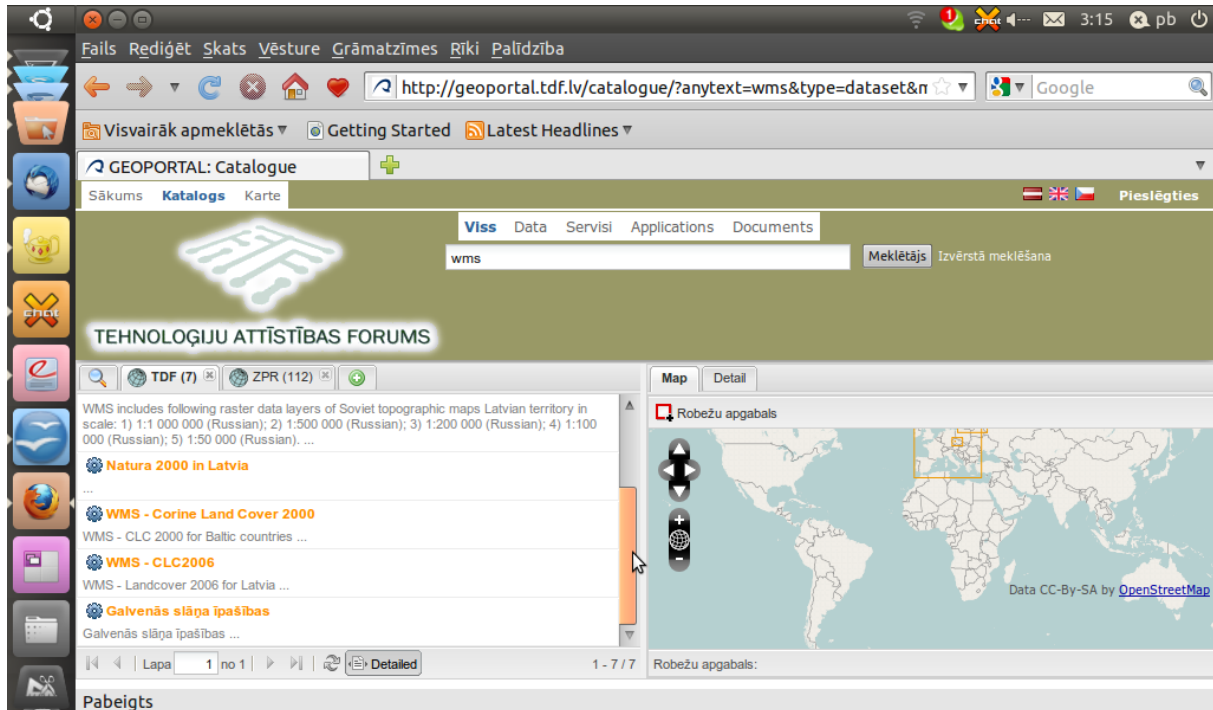
<http://geoportal.tdf.lv/metadata/csw/index.php?REQUEST=GetCapabilities&SERVICE=CSW>

3.2.3. Metadata Preparation according to Plan4all profile

3.2.4. Thesaurus

In meta-data system used GEMET thesaurus and to extend search and identify capabilities added keywords in local language.

3.2.5. Results



3.2.5.1. Comments on Plan4all metadata profile

3.2.5.2. Recommended changes on the Plan4all metadata profile

3.3. LGV Hamburg (content provider)

3.3.1. General description of existing metadata

In line with INSPIRE Monitoring 2011 LGV Hamburg has reported:

- two datasets describing land cover (UUID: HMDK:C5FE747D-F3AF-4136-AED7-BBC1237B719D and HMDK:AB8C6B21-BAFF-4230-A686-0C918FEBEE2F)
- four datasets describing land use (existing land use: UUID: HMDK:C5FE747D-F3AF-4136-AED7-BBC1237B719D and HMDK:AB8C6B21-BAFF-4230-A686-0C918FEBEE2F, planned land use: HMDK:635714B3-9878-436E-88DA-0DD9148DB199 and HMDK:DFDA2969-A041-433B-BD65-4CDA9F830A55)
- three WMS services describing land cover and existing land use:
http://gateway.hamburg.de/OGCFassade/HH_WMS_ATKIS.aspx?SERVICE=WMS&VERSION=1.1.1&REQUEST=GetCapabilities,
http://gateway.hamburg.de/OGCFassade/HH_WMS_ATKIS_SW.aspx?SERVICE=WMS&VERSION=1.1.1&REQUEST=GetCapabilities,
http://gateway.hamburg.de/OGCFassade/HH_WMS_ALKIS_Internetkarte.aspx?Request=GetCapabilities&Version=1.1.1&Service=WMS)
- two WMS services describing planned land:
http://gateway.hamburg.de/OGCFassade/BSU_WMS_DIP.aspx?Service=WMS&Version=1.3.0&Request=GetCapabilities,
http://gateway.hamburg.de/OGCFassade/BSU_WMS_FNP.aspx?Service=WMS&Version=1.3.0&Request=GetCapabilities

This datasets and services are not confirm to the INSPIRE data models and do not conform to the requested performance quality of service (COMMISSION REGULATION (EC) No 976/2009) until now.

3.3.2. Metadata Publication

Technically the metadata portal of Hamburg (Hamburger Metadatenkatalog: HMDK) is based on the software InGrid of the German Environmental Information Portal (PortalU). PortalU was designed to help the environmental (and other) administration in Germany to comply with another piece of EU legislation, EU Directive 2003/4/EC on Public Access to Environmental Information (EU 2003). InGrid provides an ISO and INSPIRE-compliant metadata search interface, and is capable of functioning as a primary metadata publishing service, in addition to harvesting and indexing. The InGridEditor is based on the ISO 19115 and ISO 19119 conform data model, which was further adopted to meet the demands of the INSPIRE-directive. The data model was developed especially according the requirements of the environmental administration. Besides spatial information and services, organizational units, special tasks, documents, reports, literature, projects, data collections and data bases can be described.

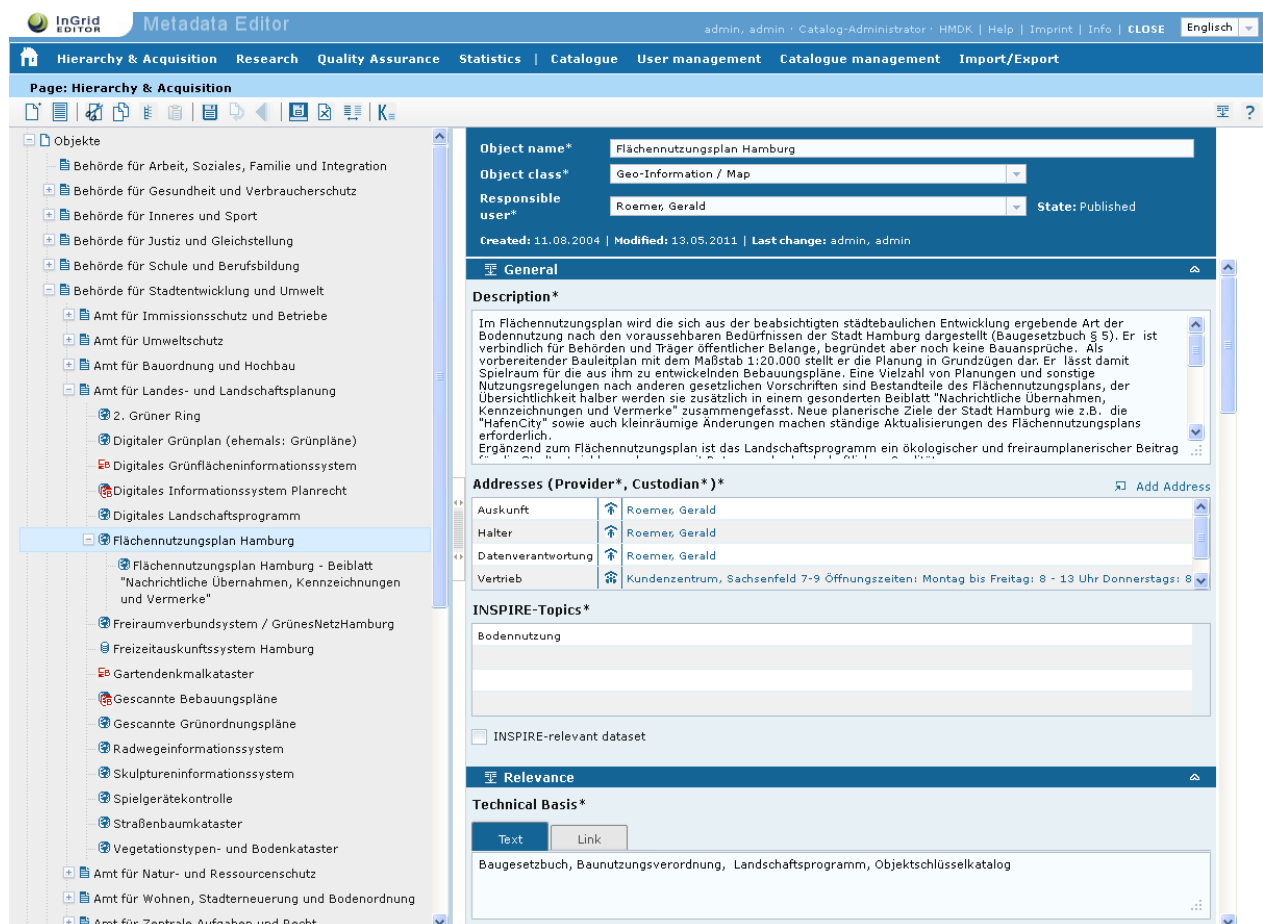
Highlights of the InGridEditor are:

- An overview and easy access to the metadata object of an InGridCatalog are provided by a hierarchical structured tree, in which all objects are integrated,
- Addresses are administrated separately from the objects. A single address has to be recorded and updated only once and will be afterwards linked to a particular metadata object. Address information of a new object as e.g. of institutions and persons as well

as the address of the metadata editor are automatically taken from the hierarchically superordinated object.

- Due to the hierarchical structure provided in the InGridEditor, the user administration is easy to handle.
- To guarantee the quality of metadata sets the workflow can be controlled and an expiration date can be defined. When the workflow control is activated, all new, modified or deleted metadata sets will be checked by the quality manager. He can decide to change, delete or publish the metadata set. When an expiration date is activated, the metadata editor is informed about the expiration of the metadata object (e.g. after one year). This procedure shall prevent that information becomes overaged.
- Several wizards assist the metadata entries of web services (WMS, WFS, WCS, WCTS) and internet pages. Also a wizard to propose keywords is integrated. The GEneral Multilingual Environmental Thesaurus GEMET is used to generate an automatic list of keywords for a metadata set or an internet page).
- The InGridCatalog can be accessed via a CSW conform interface provided by InGrid. Also an opensearch interface is available for metadata access. All metadata relevant iPlugs are accessed by this interface. Therefore a merged list of all connected metadata catalogs is passed by the CSW-interface of InGrid.
- The Editor is available in the languages English and German.

InGrid uses software ‘free’ software components, but the software is not free and open source software. InGrid is proprietary closed source, and both usage and access to its source code are subject to licensing.



The screenshot displays the InGrid Metadata Editor interface. The top navigation bar includes 'Hierarchy & Acquisition', 'Research', 'Quality Assurance', 'Statistics', 'Catalogue', 'User management', 'Catalogue management', and 'Import/Export'. The main content area is divided into a left sidebar showing a hierarchical tree of objects and a main panel for editing a specific metadata record.

The metadata record shown is for 'Flächennutzungsplan Hamburg'. Key fields include:

- Object name*:** Flächennutzungsplan Hamburg
- Object class*:** Geo-Information / Map
- Responsible user*:** Roemer, Gerald
- State:** Published
- Created:** 11.08.2004 | **Modified:** 13.05.2011 | **Last change:** admin, admin

The **General** tab is active, showing a detailed **Description*** in German. Below the description, there is a section for **Addresses (Provider*, Custodian*)*** with fields for Auskunft, Halter, Datenverantwortung, and Vertrieb, all pointing to 'Roemer, Gerald'. The **INSPIRE-Topics*** section includes 'Bodennutzung' and an option for 'INSPIRE-relevant dataset'. The **Relevance** section shows a **Technical Basis*** with 'Text' selected and 'Link' unselected, listing 'Baugesetzbuch, Baunutzungsverordnung, Landschaftsprogramm, Objektschlüsselkatalog'.

Figure: „HMDK“ metadata catalogue based on the „German Environmental Information Portal (PortalU)“ default metadata profile, including INSPIRE metadata profile

3.3.2.1. Metadata Portal Solutions

HMDK is built up by the modular software InGrid®. It includes several interfaces including WMS, CSW and OpenSearch. The portal has a set of viewing components for the visualisation of search results, maps and metadata content. A metadata catalogue, the InGrid Catalog, is integrated in the software. Core component of this catalogue is the ISO- and INSPIRE-compliant InGrid Editor for collection and maintenance of metadata. The HMDK software InGrid is structured in several components (Figure HMDK software architecture).

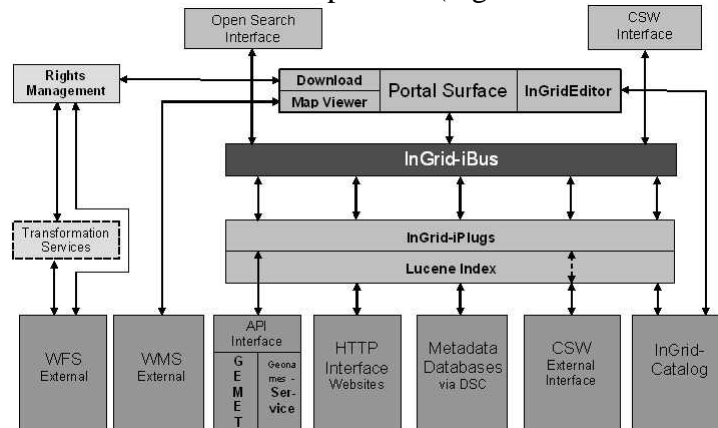
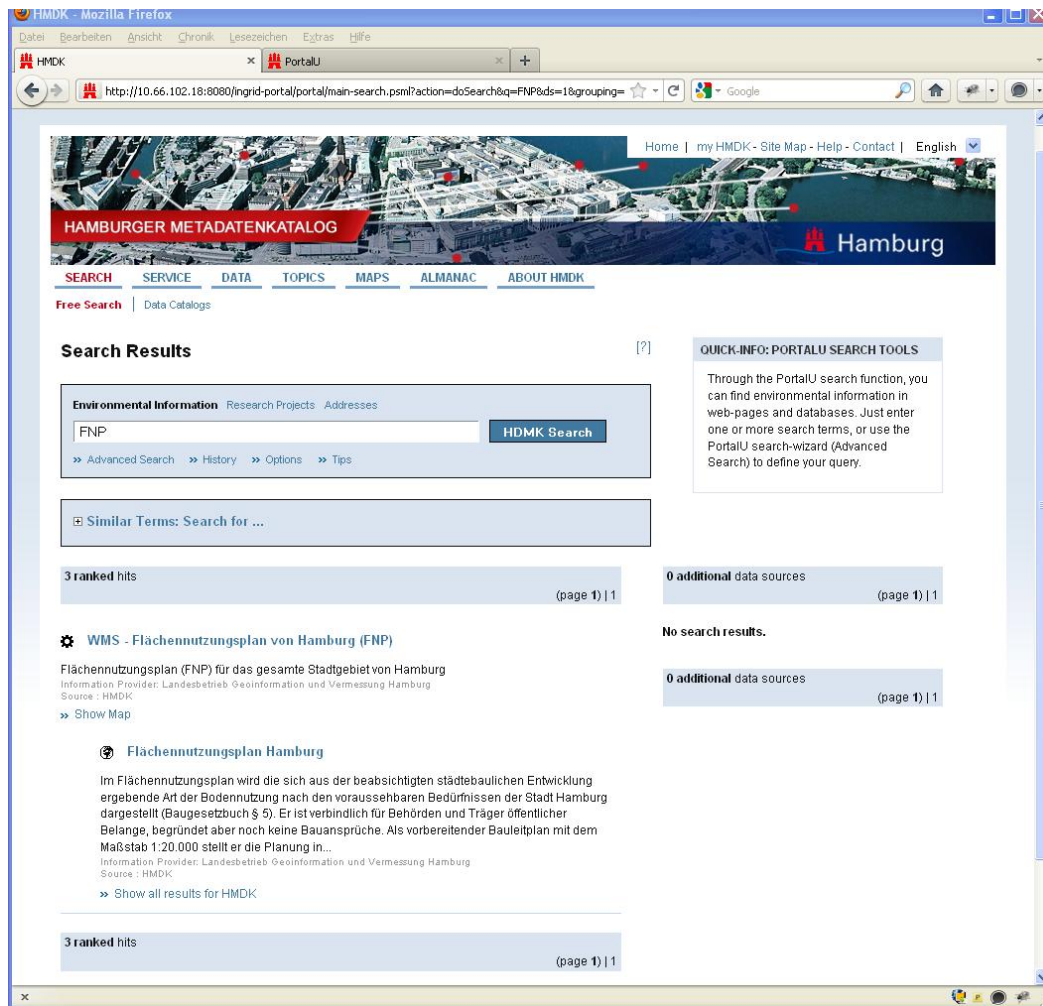


Figure: HMDK software architecture (WFS access not unrealised)

The information bus (iBus) forms the central component of InGrid. It receives and processes search queries, which come from the portal surface or from other connected interfaces. The search queries are transferred to the data sources and the query results were bundled and delivered again by the iBus. The information plugs (iPlugs) build a further part of InGrid. They can be described as generic adapters to connect data sources to the iBus. Different iPlugs are implemented to connect different kinds of data sources. Data bases and expert information systems for instance are connected by the data source client (DSC) iPlug. Thus, an access to parts of the so called hidden web is realised. New data sources are easily integrable by connecting them to existing iPlugs or by adding a new specific iPlugs. The InGrid database module consists of two parts: the database of the InGrid Catalogue (IGC) and the portal database. Metadata of the environmental catalogues are stored in the IGC, while internal information like the user administration are stored and managed in the portal DB. Furthermore metadata can be created and managed with the InGrid Editor (IGE). Further components are an integrated web map service (WMS), a WMS viewer and certainly the websurface of the portal. ¹

¹ Kruse, F., Uhrich, S., Klenke, M., Lehmann, H., Giffel, C., Töpker, S., The German Shared Environmental Information Portal, PortalU®, European conference of the Czech Presidency of the Council of the European Union, "TOWARDS eENVIRONMENT", 25-27 March 2009, Prague



The screenshot shows a Mozilla Firefox browser window displaying the HMDK (Hamburger Metadatenkatalog) search results for the query 'FNP'. The browser's address bar shows the URL: <http://10.66.102.18:8080/ingrid-portal/portal/main-search.psm?action=doSearch&q=FNP&ds=1&grouping=>

The page header includes navigation links: Home | my HMDK - Site Map - Help - Contact | English. The main navigation menu contains: SEARCH, SERVICE, DATA, TOPICS, MAPS, ALMANAC, ABOUT HMDK. Below the menu, there is a 'Free Search | Data Catalogs' section.

The search results are displayed under the heading 'Search Results'. A search box contains the text 'FNP' and an 'HMDK Search' button. Below the search box, there are links for 'Advanced Search', 'History', 'Options', and 'Tips'. A 'Similar Terms: Search for ...' section is also present.

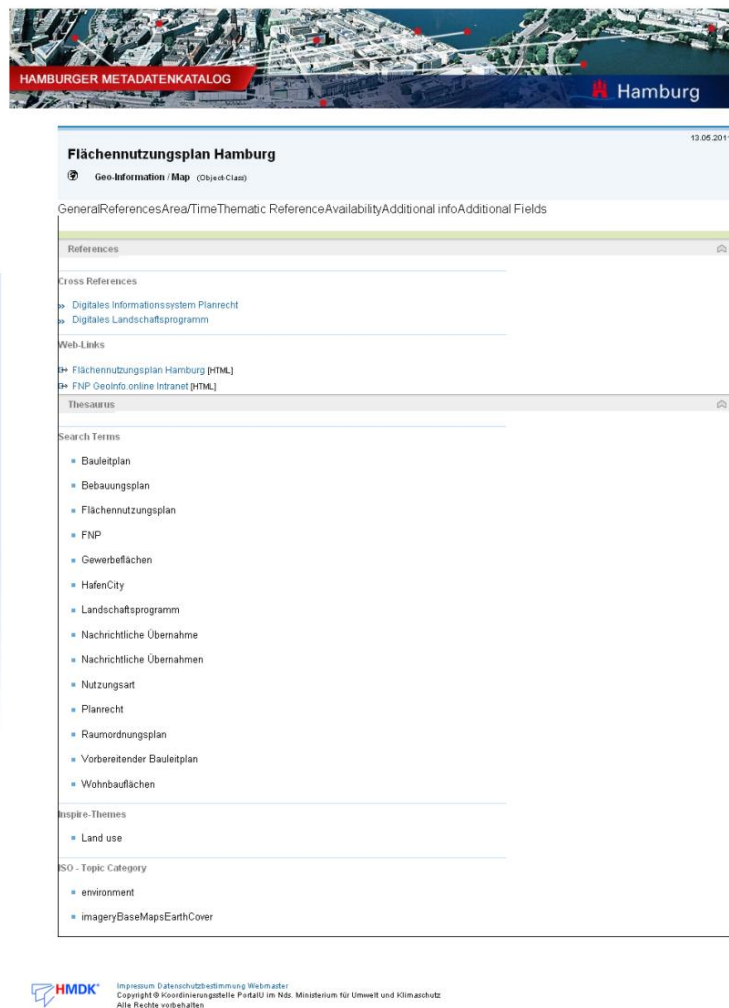
The search results are summarized as follows:

- 3 ranked hits (page 1) | 1
- 0 additional data sources (page 1) | 1
- No search results.
- 0 additional data sources (page 1) | 1

The first search result is titled 'WMS - Flächennutzungsplan von Hamburg (FNP)'. The description reads: 'Flächennutzungsplan (FNP) für das gesamte Stadtgebiet von Hamburg. Information: Provider: Landesbetrieb Geoinformation und Vermessung Hamburg. Source: HMDK. >> Show Map'. Below this, there is a detailed entry for 'Flächennutzungsplan Hamburg' with a description: 'Im Flächennutzungsplan wird die sich aus der beabsichtigten städtebaulichen Entwicklung ergebende Art der Bodennutzung nach den voraussehbaren Bedürfnissen der Stadt Hamburg dargestellt (Baugesetzbuch § 5). Er ist verbindlich für Behörden und Träger öffentlicher Belange, begründet aber noch keine Bauansprüche. Als vorbereitender Bauleitplan mit dem Maßstab 1:20.000 stellt er die Planung in... Information Provider: Landesbetrieb Geoinformation und Vermessung Hamburg. Source: HMDK. >> Show all results for HMDK'.

At the bottom of the search results, there is another summary: '3 ranked hits (page 1) | 1'.

Figure: HMDK search result for “preparatory land-use of Hamburg” (“FNP”)



The screenshot displays the HMDK search result for 'Flächennutzungsplan Hamburg'. The interface includes a header with the title and date (13.05.2011), a navigation bar with tabs like 'General', 'References', 'Area/Time', etc., and a main content area with sections for 'References', 'Cross References', 'Web-Links', 'Thesaurus', 'Search Terms', 'Inspire-Themes', and 'ISO - Topic Category'. The 'Search Terms' section lists various planning terms, and the 'Inspire-Themes' section shows 'Land use' as the relevant theme.

HMDK Impressum: Datenschutzerklärung Wikimaster
Copyright © Koordinierungsstelle PORTAL im Nds. Ministerium für Umwelt und Klimaschutz
Alle Rechte vorbehalten

Figure: detailed HMDK search result for “preparatory land-use of Hamburg” (“FNP”) including INSPIRE theme classification

3.3.2.2. Web Services

The InGridCatalog and the InGridEditor are compatible to the OGC CSW 2.0.2 standard and the ISO application profile 1.0 (AP-ISO 1.0). Furthermore, they are conform to the INSPIRE implementing rules for metadata and support all additionally defined elements.

The HMDK CSW service is available:

http://gateway.hamburg.de/OGCFassade/HH_CSW.aspx?REQUEST=GetCapabilities&version=2.0.2&service=CSW

3.3.3. Metadata Preparation according to Plan4all profile

Since making available InGrid Version 3.0 (May 2011) it is possible to extend existing the InGrid metadata profile. LGV started to implement some elements of the Plan4all metadata profile in the InGrid Editor.

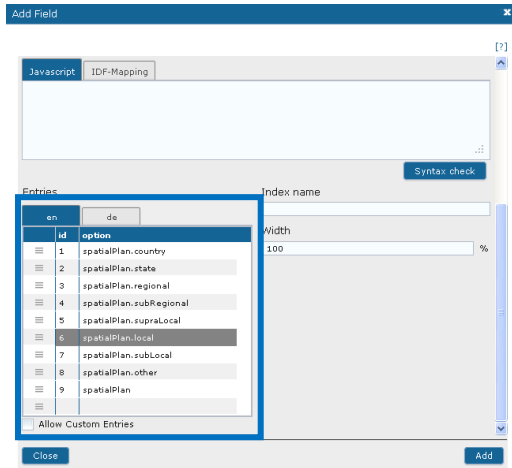


Figure: Implementation of „spatial plan type“ enumeration list

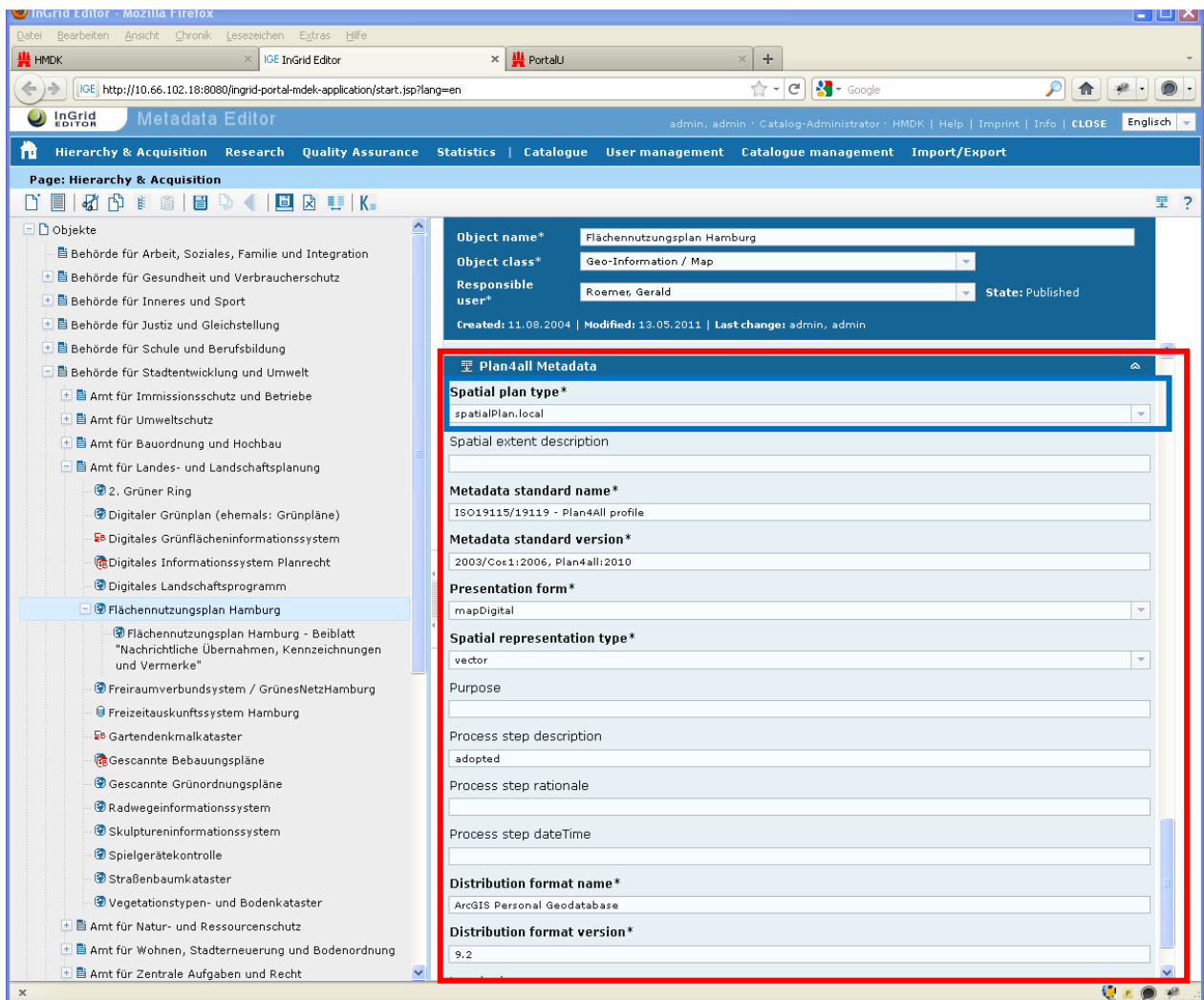


Figure: Ingrid Editor with some of the Plan4all metadata

3.3.4. Thesaurus

There is currently no thesaurus supporting multilingual discovery of data.

3.3.5. Results

3.3.5.1. Comments on Plan4all metadata profile

3.3.5.2. Recommended changes on the Plan4all metadata profile

3.4. ZPR (*content provider*)

Zemgale Planning Region (ZPR) is one of the five regions, which consists of 22 local governments. According to the Development Planning law the planning regions' competence is:

- *to provide* regional and local planning documents of mutual *consistency and coherence* with hierarchically higher development planning documents and planning documents regulating system of laws and regulations;
- to administer and supervise* the planning of regional development planning documents and the elaboration and their implementation.

3.4.1. General description of existing metadata

Do you have any metadata related to spatial planning and INSPIRE Plan4all themes??

Metadata is published for the local authorities' spatial plans in Zemgale geo-portal. The initial work of uploading tekstual part of the spatial plans and building regulations was stated to develop within the frame of the the Norway Grant Project "*Capacity Building of Zemgale Region for Strengthening the economical Activities and Cooperation with Norwegian institutions*". Based on ESRI technologies the *Zemgale Geoportal* [<http://gisdb.zpr.gov.lv/gis>] has been developed with a unified central database for industrial territories enabling and providing decentralized data input (spatial plans) at local level.

If yes, for which Plan4all themes?

Annex III theme 4: Land Use are the only spatial planning and INSPIRE Plan4all themes taken into consideration. There were made 387 data records (textual part, building regulations, services).

3.4.2. Metadata Publication

In order to fulfil the Plan4all project aims, has introduced the Geoportal system solution for spatial data infrastructures developed by the *Czech Centre for Science and Society (CCSS)* [<http://giz.zpr.gov.lv/>]. The ZPR Geoportal is enabling *interoperability* of the two CCSS & ZPR servers. For metadata publication was used *Czech Centre for Science and Society (CCSS)* product –MicKa.

3.4.2.1. Metadata Portal Solutions

MicKa is a complex system for metadata management used for building Spatial Data Infrastructure (SDI) and geoportal solutions. It contains tools for editing and management of metadata for spatial information, web services and other sources (documents, web sites, etc.). It includes online metadata search engine, portrayal of spatial information and download of spatial data to local computer.

MicKa is compatible with obligatory standards for European SDI building (INSPIRE). Therefore it is ready to be connected with other nodes of prepared network of metadata catalogues (its compatibility with pilot European geoportal is continuously tested).

Functions:

- Spatial data metadata (ISO 19115)

- Spatial services metadata (ISO 19119)
- Dublin Core metadata (ISO 15836)
- Feature catalogue support (ISO 19110)
- OGC CSW 2.0.2 support (catalogue service)
- User defined metadata profiles
- INSPIRE metadata profile
- Web interface for metadata editing
- Multilingual (both user interface and metadata records). Currently 16 languages supported. It is possible to dynamically extend the system for other languages.
- Context help (multilingual)
- Import from the following metadata formats are supported:
 - ESRI ArcCatalog,
 - ISO 19139,
 - OGC services (WMS, WFS, WCS, CSW)
 - Feature catalogue XML
- Export – ISO 19139, GeoRSS
- Support of thesauri and gazetteers.
- Display of changes with GeoRSS
- Template base interface with possibilities to change according to user requirements
- Possibility of deep cooperation with any of map clients for display of on-line map services.

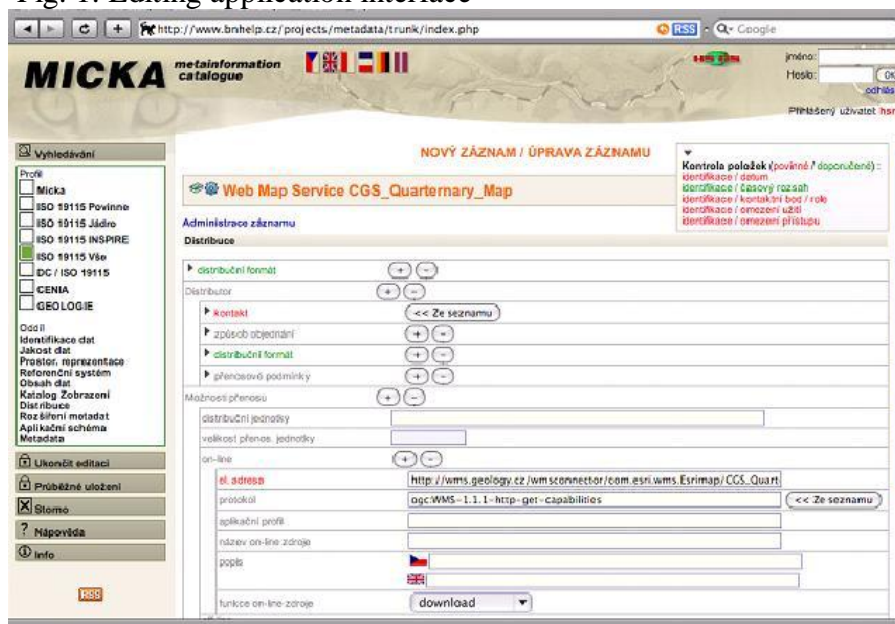
System requirements

- Relational database (ORACLE \geq 9, PostgreSQL \geq 8.0, MS-SQL \geq 2005, or other SQL databases)
- PHP \geq 5.2 with XSLT support
- Independent on Operating system

Method for metadata editing

Metadata are stored in relational database and edited by dynamically generated forms. Therefore it is possible to amend other standards or profiles. It is possible to switch between profiles while editing. Individual profiles can be distributed into sections. With help of control elements it is possible to duplicate individual items, select from code lists or connect to supporting applications. Checking of mandatory items is enabled while editing.

Fig. 1: Editing application interface

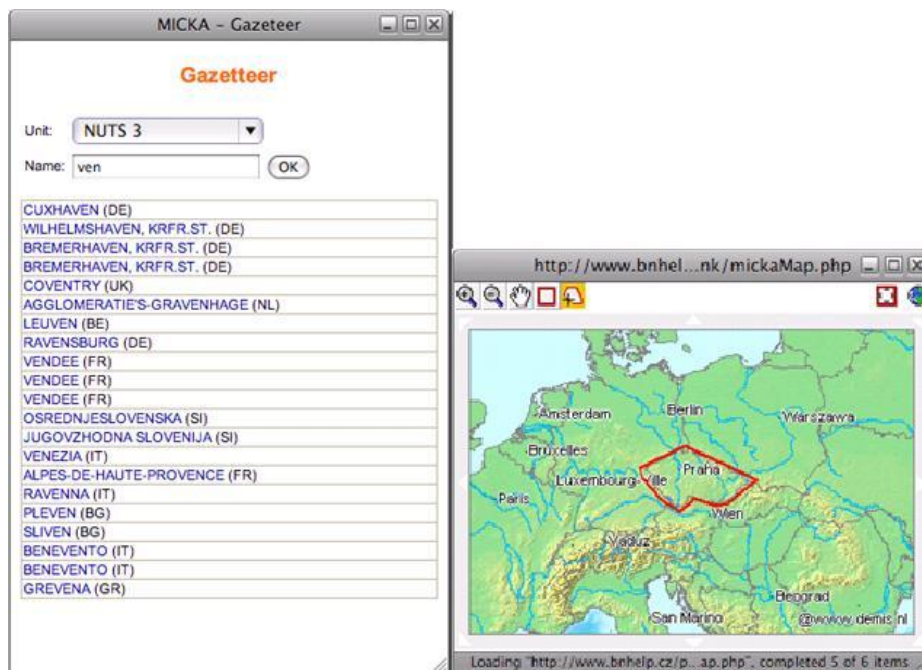


Concept of work with spatial data:

MiCKA enables to enter spatial extent of metadata:

- By choosing bounding box directly in map. All maps (for coordinates input or metadata extent display) are realised through connected WMS. Any WMS server can be connected (set in configuration file).
- By gazetteer search. Access to gazetteers is realised through connection to WFS server. By default WFS from HSRS server is connected. It serves administrative division of the Czech Republic and Europe (up to NUTS3 level). The software is possible to connect to any WFS server or may be configured according to user requirement to other gazetteer services.

Fig. 2: Entering of spatial extent using gazetteer and bounding box:



Concept of work with keywords:

The system enables several ways of classification:

- Thematic ISO categories (mandatory for datasets)
- Key words
 - entered by user (arbitrary)
 - chosen from thesauri (GEMET or another thesauri may be connected as web service to system. It is also possible to build our classification/ thesaurus on uniform server software compatible with GEMET)

In compliance with INSPIRE requirements parts of the system are:

- GEMET thesaurus service client - data classification
- service code list – for services classification

Key words are inserted in order to enable multilingual search.

Fig. 3: Support of GEMET thesaurus and service classification according to INSPIRE

Support of the INSPIRE:

- INSPIRE metadata profile is included
- selecting keywords from GEMET thesaurus
- selecting keywords from code list of INSPIRE services
- Continuous checking of metadata completeness according to the INSPIRE profile

- Batch checking of completeness of INSPIRE profile
- Implementation of catalogue service according to OGC CSW 2.0.2 / AP ISO 1.0

3.4.2.2. Web Services

Catalogue service:

1. Catalogue service is an integral part of the system.
2. It is based on OpenGIS® Catalogue Services Specification – profile Catalogue Service for Web (CSW) and OpenGIS® Catalogue Services Specification 2.0.2 - ISO Metadata Application Profile standards.
3. Supported operations:
4. Basic: GetCapabilities, DescribeRecord, GetRecords, GetRecordById
5. Editing: (CSW-T): Transaction, Harvest
6. Queryable elements: according to used standards (OGC, INSPIRE). May be extended according to user needs
7. Extensions:
 - OpenSearch standard is implemented. These formats are supported:
 - GeoRSS, RDF, HTML, KML
 - Web browsers integration is enabled
 - OAI-PMH harvesting support

Extensions:

To basic MiCKA application the following modules can be connected:

- **CatClient** – catalogue service client. It enables to search data in configuration-enabled list of connected catalogues or user entered catalogues. Accessible web services (WMS, WFS) can be displayed directly in the connected map viewer. CatClient can be installed also separately without basic system MiCKA. It is elementary and the most important component of metaportal / geoportal. There are two versions available. Both can be modified according to the user needs.
- **WMS Viewer** – display of map compositions from available services. It is based on HSLayers open source and provides full modern viewer functionality (OWS support, tiling, querying, editing, multiple projections support, microformats support, large sheets printing etc.)
- **Micka - Lite** – is an application with simple user interface that contains configuration-enabled form for metadata acquisition in INSPIRE profile and ISO 19139 format. Metadata is possible to store on local disk or send through CSW into MiCKA catalogue.
- **Metadata Extractor** – enables automatic mining of metadata from various sources (texts, images, voice files, web pages, etc.) and their insert into metadata storage using CSW-T.
- **Download Manager** – batch download of data from data storage for defined territory on the basis of information contained in metadata.

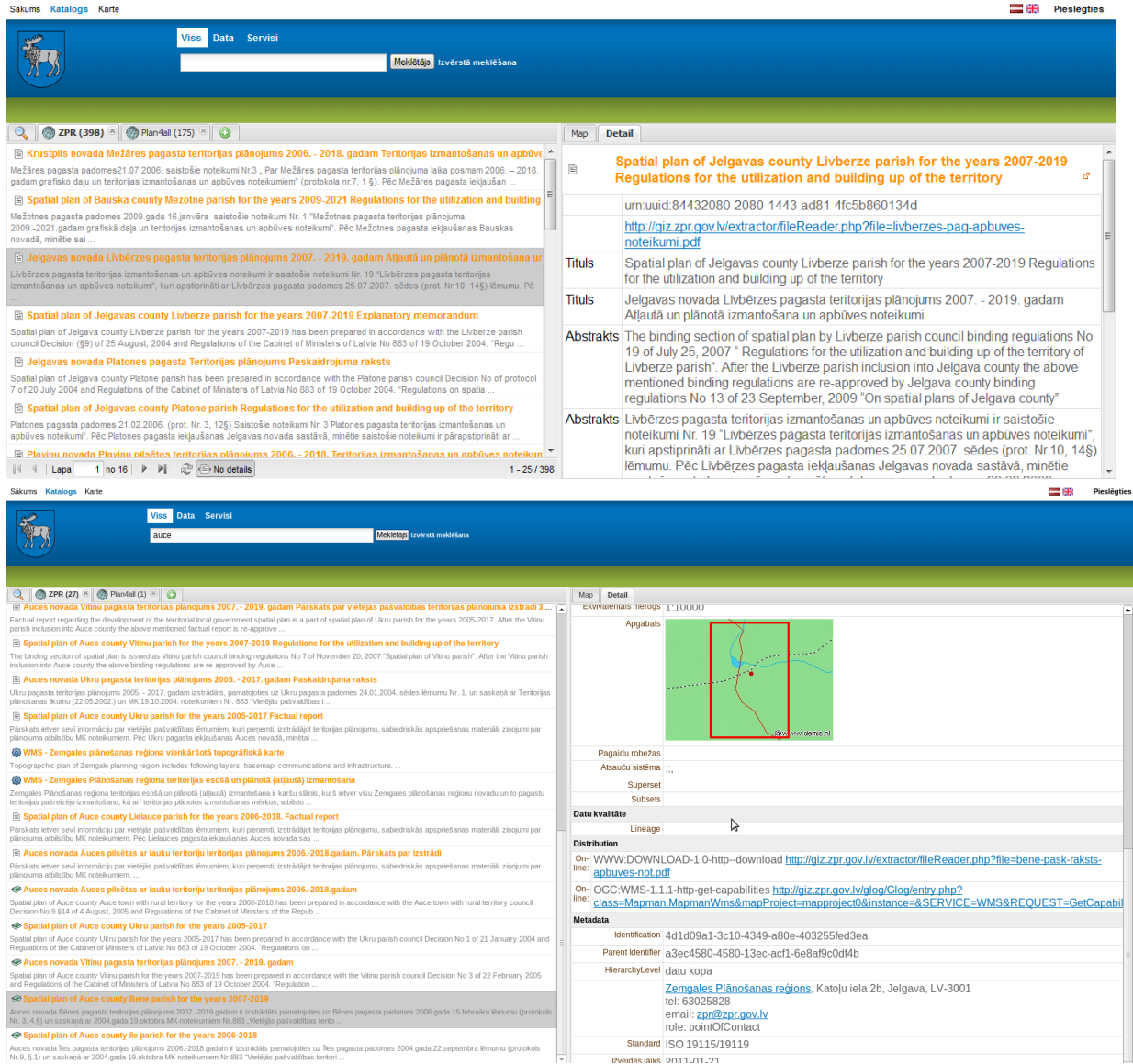
The system MiCKA can be further integrated with other applications. The system is suitable not only for metadata for spatial data management but basically as a tool for central management and evidence of various types of information (documents, data, applications, services, etc.)

More info:

<http://www.plan4all.eu/simplecms/?menuID=2&articleID=28&action=article&presenter=ArticleDetail>

3.4.3. Metadata Preparation according to Plan4all profile

With the support of the project Plan4All the Zemgale Planning region extended the metadata specifications of spatial planning to be compliant with the Plan4All profile and ISO 19115.



The screenshot displays the GIS application interface with the following details:

- Navigation:** Sākums, Katalogs, Karte, Viss, Data, Servisi, Meklētājā, Izvērstā meklēšana.
- Search:** ZPR (398), Plan4all (175).
- Map Detail:**
 - Title:** Spatial plan of Jelgavas county Livberze parish for the years 2007-2019 Regulations for the utilization and building up of the territory
 - URI:** urn:uuid:84432080-2080-1443-ad81-4fc5b860134d
 - URL:** <http://giz.zpr.gov.lv/extractor/fileReader.php?file=livberzes-pag-apbuves-noteikumi.pdf>
 - Titulis:** Spatial plan of Jelgavas county Livberze parish for the years 2007-2019 Regulations for the utilization and building up of the territory
 - Abstrakts:** The binding section of spatial plan by Livberze parish council binding regulations No 19 of July 25, 2007 "Regulations for the utilization and building up of the territory of Livberze parish". After the Livberze parish inclusion into Jelgava county the above mentioned binding regulations are re-approved by Jelgava county binding regulations No 13 of 23 September, 2009 "On spatial plans of Jelgava county"
 - Abstrakts:** Livberzes pagasta teritorijas izmantošanas un apbūves noteikumi ir saistošie noteikumi Nr. 19 "Livberzes pagasta teritorijas izmantošanas un apbūves noteikumi", kuri apstiprināti ar Livberzes pagasta padomes 25.07.2007. sēdes (prot. Nr.10, 14§) lēmumu. Pēc Livberzes pagasta iekļaušanas Jelgavas novada sastāvā, minētie

- Navigation (bottom):** Sākums, Katalogs, Karte, Viss, Data, Servisi, Meklētājā, Izvērstā meklēšana.
- Search:** ZPR (27), Plan4all (1).
- Map Detail:**
- Title:** Auce novada Vitru pagasta teritorijas plānojums 2007. - 2019. gadam Pārskats par vietas pasvaldības teritorijas plānojuma izstrādi 3...
- Scale:** 1:10000
- Map:** Aggabals
- Data Quality:** Lineage
- Distribution:**
 - On-line: [WWW.DOWNLOAD-1.0-http-download](http://www.download-1.0-http-download) <http://giz.zpr.gov.lv/extractor/fileReader.php?file=bene-pask-raksts-apbuves-not.pdf>
 - On-line: [OGC:WMS-1.1.1-http-get-capabilities](http://ogc.wms-1.1.1-http-get-capabilities) http://giz.zpr.gov.lv/plog/Glog/entry.php?class=Mapman_MapmanWms&mapProject=mapproject&instance=&SERVICE=WMS&REQUEST=GetCapabilities
- Metadata:**
 - Identification:** 4d1d09a1-3c10-4349-a80e-40325fed3ea
 - Parent Identifier:** a3ec4580-4580-13ec-acf1-6e8af9cd4fb
 - Hierarchy/Level:** datu kopa
 - Location:** Zemgales Plānošanas reģions, Katoļu iela 2b, Jelgava, LV-3001
 - Contact:** tel: 63025828, email: zpr@zpr.gov.lv, role: pointOfContact
 - Standard:** ISO 19115/19119
 - Created:** 2011.11.11

<http://giz.zpr.gov.lv/catalogue/?anytext=&type=&menuId=menu0>


```

AVG | Search | PageStatus | News | E-mail | 4°C |
Zemgales Plānošanas reģions Geop... | http://giz.zpr.gov.lv/a2a-375f55fed3ea
Izskatās, ka šim XML failam nav piesaistīta stila informācija. Zemāk ir attēlots dokumenta koks.

-<csw:GetRecordByIdResponse version="2.0.2">
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    <gco:CharacterString>4d1fa314-d808-4165-8a2a-375f55fed3ea</gco:CharacterString>
  </fileIdentifier>
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    codeListValue="lav">lav</LanguageCode>
  </language>
  -<characterSet>
    <MD_CharacterSetCode codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/CodeList/ML_gmxCodeLists.xml#MD_CharacterSetCode"
    codeListValue="utf8">utf-8</MD_CharacterSetCode>
  </characterSet>
  -<parentIdentifier>
    <gco:CharacterString>7122a580-a580-1122-91f0-6e8af9c0df4b</gco:CharacterString>
  </parentIdentifier>
  -<hierarchyLevel>
    <MD_ScopeCode codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/CodeList/ML_gmxCodeLists.xml#MD_ScopeCode"
    codeListValue="dataset">dataset</MD_ScopeCode>
  </hierarchyLevel>
  -<hierarchyLevelName>
    <gco:CharacterString>spatialPlan.local</gco:CharacterString>
  </hierarchyLevelName>
</MD_Metadata>
</csw:GetRecordByIdResponse>

```

<http://giz.zpr.gov.lv/catalogue/libs/cswclient/cswClientRun.php?serviceName=ZPR&format=application/xml&id=4d1fa314-d808-4165-8a2a-375f55fed3ea>

```

http://giz.zpr.gov.lv/ities&SERVICE=CSW
-<ows:ServiceIdentification>
  <ows:Title>Zemgale catalogue</ows:Title>
  <ows:Abstract>Catalogue service CSW-2.0.2</ows:Abstract>
  -<ows:Keywords>
    <ows:Keyword>CSW</ows:Keyword>
    <ows:Keyword>MlcKA</ows:Keyword>
    <ows:Keyword>geospatial</ows:Keyword>
    <ows:Keyword>zemgale planosanas regions</ows:Keyword>
    <ows:Keyword>catalogue</ows:Keyword>
  </ows:Keywords>
  <ows:ServiceType>CSW</ows:ServiceType>
  <ows:ServiceTypeVersion>2.0.2</ows:ServiceTypeVersion>
  <ows:Fees>NONE</ows:Fees>
  <ows:AccessConstraints>Transactions for authorised user only</ows:AccessConstraints>
</ows:ServiceIdentification>
-<ows:ServiceProvider>
  <ows:ProviderName>Zemgale planosanas regions</ows:ProviderName>
  <ows:ProviderSite xlink:href="http://zemgale.lv"/>
  -<ows:ServiceContact>
    <ows:IndividualName>Inga Berzina</ows:IndividualName>
    <ows:PositionName>INSPIRE implementation coordinator</ows:PositionName>
  </ows:ServiceContact>
  -<ows:ContactInfo>
    -<ows:Address>
      <ows:DeliveryPoint>Katoli iela 2b</ows:DeliveryPoint>
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      <ows:Country>lv</ows:Country>
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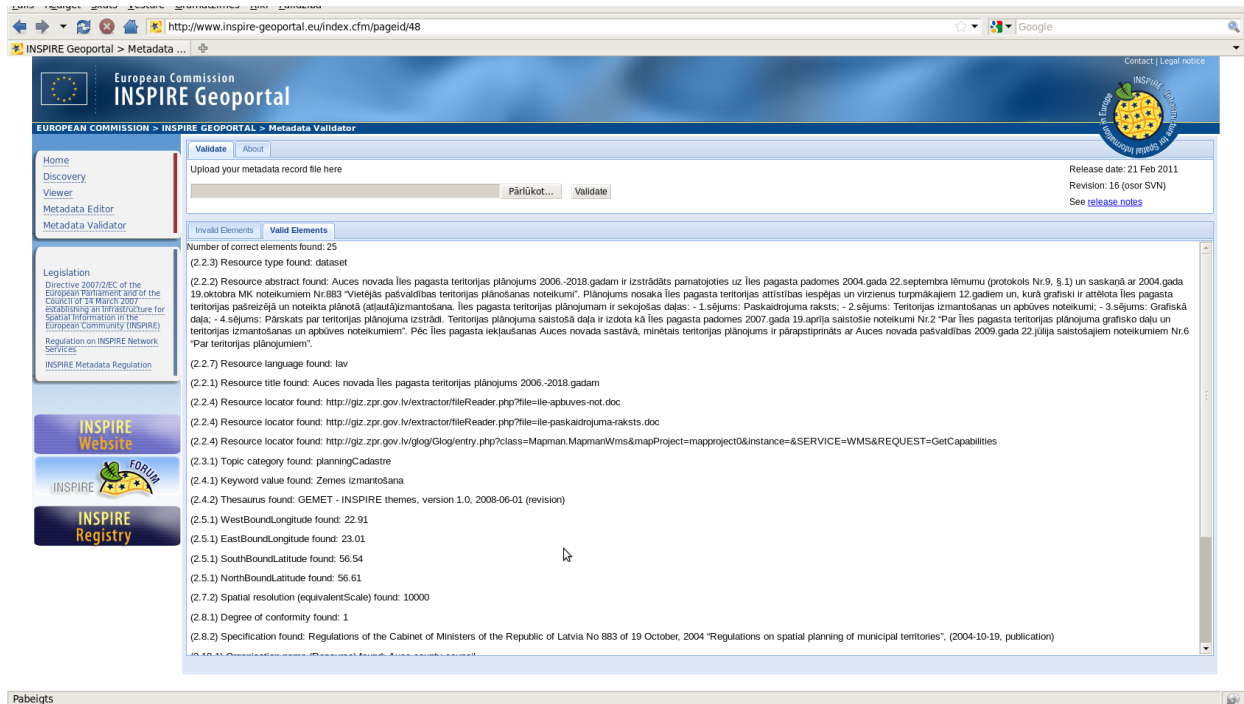
```

3.4.4. Thesaurus

GEMET - INSPIRE themes, version 1.0, 2008-06-01 (Land use), un GEMET - Concepts, version 2.4, 2010-01-13 (development planning, land use plan) were used for Thesaurus.

3.4.5. Results

The EC INSPIRE Metadata Validator has been used in order to check the compliance. Plan4all metadata profile should align with INSPIRE metadata implementation rules.



European Commission
INSPIRE Geoportal

EUROPEAN COMMISSION > INSPIRE GEOPORTAL > Metadata Validator

Home
Discovery
Viewer
Metadata Editor
Metadata Validator

Upload your metadata record file here
Pārūkot... Validate

Release date: 21 Feb 2011
Revision: 16 (osor SVN)
See [release notes](#)

Invalid Elements Valid Elements

Number of correct elements found: 25
Number of incorrect elements found: 0

(2.2.2) Resource abstract found: Auces novada līes pagasta teritorijas plānojums 2006.-2018.gadam ir izstrādāts pamatojoties uz līes pagasta padomes 2004.gada 22.septembra lēmumu (protokols Nr.9, 5.1) un saskaņā ar 2004.gada 19.oktobra MK noteikumiem Nr.883 "Vietējās pašvaldības teritorijas plānošanas noteikumi". Plānojums nosaka līes pagasta teritorijas attīstības iespējas un virzienus turpmākajiem 12.gadiem un, kurā grafiski ir atēlota līes pagasta teritorijas pašreizējā un noteikta plānotā (atjaunājums) teritorijas plānojumi un sekojošas daļas: - 1.sējums: Paskaidrojuma raksts; - 2.sējums: Teritorijas izmantošanas un apbūves noteikumi; - 3.sējums: Grafiskā daļa; - 4.sējums: Pārskats par teritorijas plānojuma izstrādi. Teritorijas plānojuma saistošā daļa ir izdota kā līes pagasta padomes 2007.gada 19.apriļa saistošie noteikumi Nr.2 "Par līes pagasta teritorijas plānojuma grafisko daļu un teritorijas izmantošanas un apbūves noteikumiem". Pēc līes pagasta iekļaušanas Auces novada sastāvā, minētais teritorijas plānojums ir pārapspīrēts ar Auces novada pašvaldības 2009.gada 22.jūlija saistošajiem noteikumiem Nr.6 "Par teritorijas plānojumam".

(2.2.7) Resource language found: lav

(2.2.1) Resource title found: Auces novada līes pagasta teritorijas plānojums 2006.-2018.gadam

(2.2.4) Resource locator found: http://gz.zpr.gov.lv/extractor/fileReader.php?file=ile-apbaves-not.doc

(2.2.4) Resource locator found: http://gz.zpr.gov.lv/extractor/fileReader.php?file=ile-paskaidrojuma-raksts.doc

(2.2.4) Resource locator found: http://gz.zpr.gov.lv/glog/GlogEntry.php?class=Mapman.MapmanWms&mapProject=mapproject0&instance=&SERVICE=WMS&REQUEST=GetCapabilities

(2.3.1) Topic category found: planningCadastre

(2.4.1) Keyword value found: Zemes izmantošana

(2.4.2) Thesaurus found: GEMET - INSPIRE themes, version 1.0, 2008-06-01 (revision)

(2.5.1) WestBoundLongitude found: 22.91

(2.5.1) EastBoundLongitude found: 23.01

(2.5.1) SouthBoundLatitude found: 56.54

(2.5.1) NorthBoundLatitude found: 56.61

(2.7.2) Spatial resolution (equivalentScale) found: 10000

(2.8.1) Degree of conformity found: 1

(2.8.2) Specification found: Regulations of the Cabinet of Ministers of the Republic of Latvia No 893 of 19 October, 2004 "Regulations on spatial planning of municipal territories", (2004-10-19, publication)

3.4.5.1. Comments on Plan4all metadata profile

Some key words could be more specific and detailed according to the each country specifics.

3.4.5.2. Recommended changes on the Plan4all metadata profile

3.5. PROVROMA (content provider)

3.5.1. General description of existing metadata

Do you have any metadata related to spatial planning and INSPIRE Plan4all themes??

The Department VI “Governo del territorio”. of Province of Rome manage the publication of geographic informations. The spatial planning metadata published are mainly the Provincial Territorial General Plan (PTPG-*Piano Territoriale Provinciale Generale*) and the General Municipal Plan (PRG- *Piano Regolatore Generale*) of the municipalities within the Provincia Of Rome. The plans are availables at the url <http://websit.provincia.roma.it>.

If yes, for which Plan4all themes?

Annex III theme 3: Land Cover and Annex III theme 4: Land Use are the only spatial planning and INSPIRE Plan4all themes taken into consideration

3.5.2. Metadata Publication

3.5.2.1. Metadata Portal Solutions

Do you have a local or regional Metadata Portal implementation or do you use the Plan4all metadata catalogue?

A.: local implementation. Province of Rome exploits the Hyperborea technology infrastructure which is a fully OGC compliant SDI infrastructure based entirely on open source software.

What software metadata portal solution do you use?

A.: Geonetwork. A description of Hyperborea solution is given in the following.

The metadata management and publication is performed through Geonetwork, which provides OGC services accessible from browser and any compatible client application. The main functionalities/services are:

- Search: find metadata
- OGC services: CSW.
- Downloads: metadata file, via HTTP.

Technology details

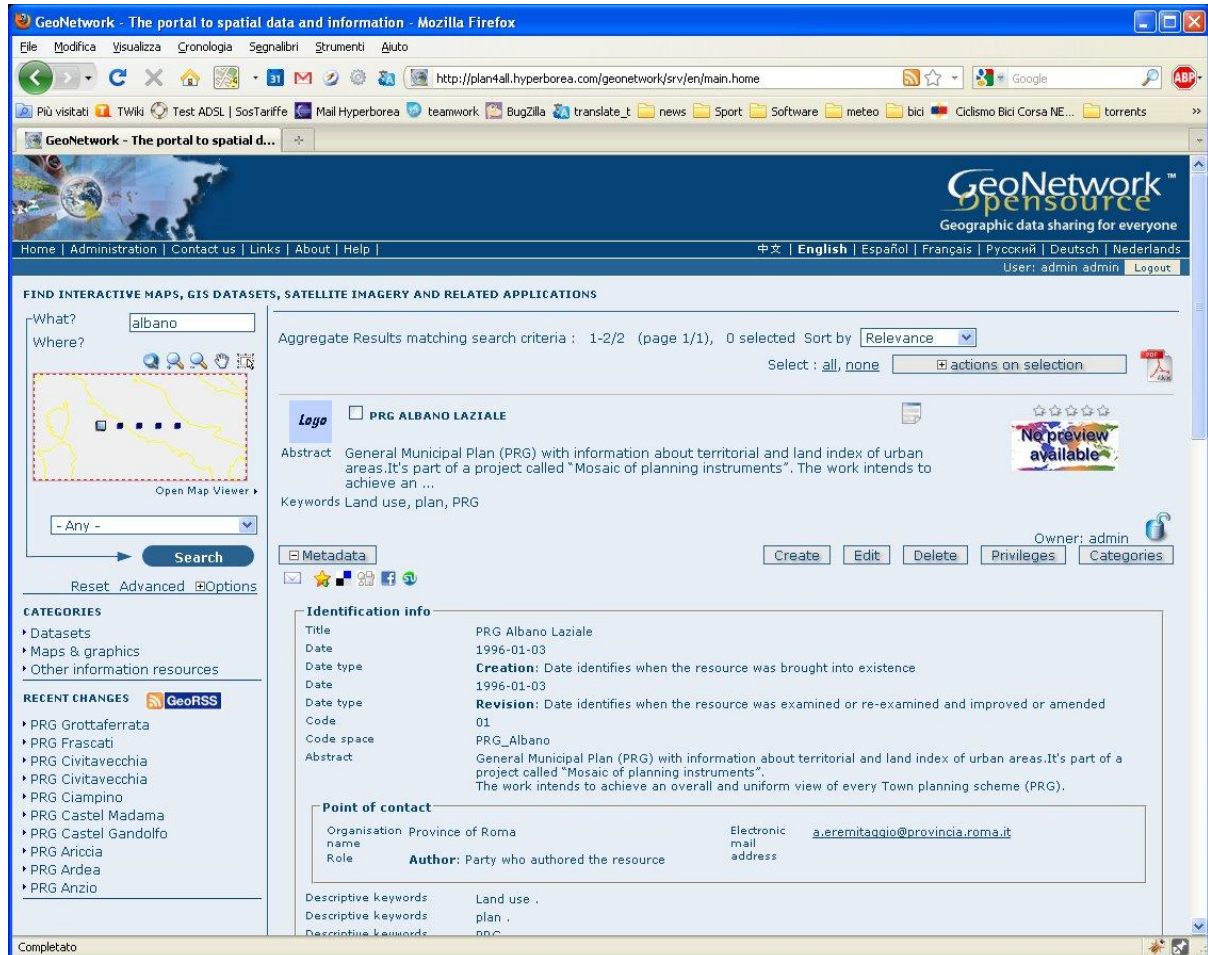
Basically, the technological stack for services is java-based according to the following:

- DBMS with spatial extension, accessed through JDBC
- Java JVM 1.6 as runtime
- Tomcat 6 as application server

All services are working in a virtual machine with one processor 2.5 GHz, 2 GB of RAM memory and a Windows Server 2008 32bit operating system, but notice that the component is fully cross-platform.

Catalogue services (Geonetwork)

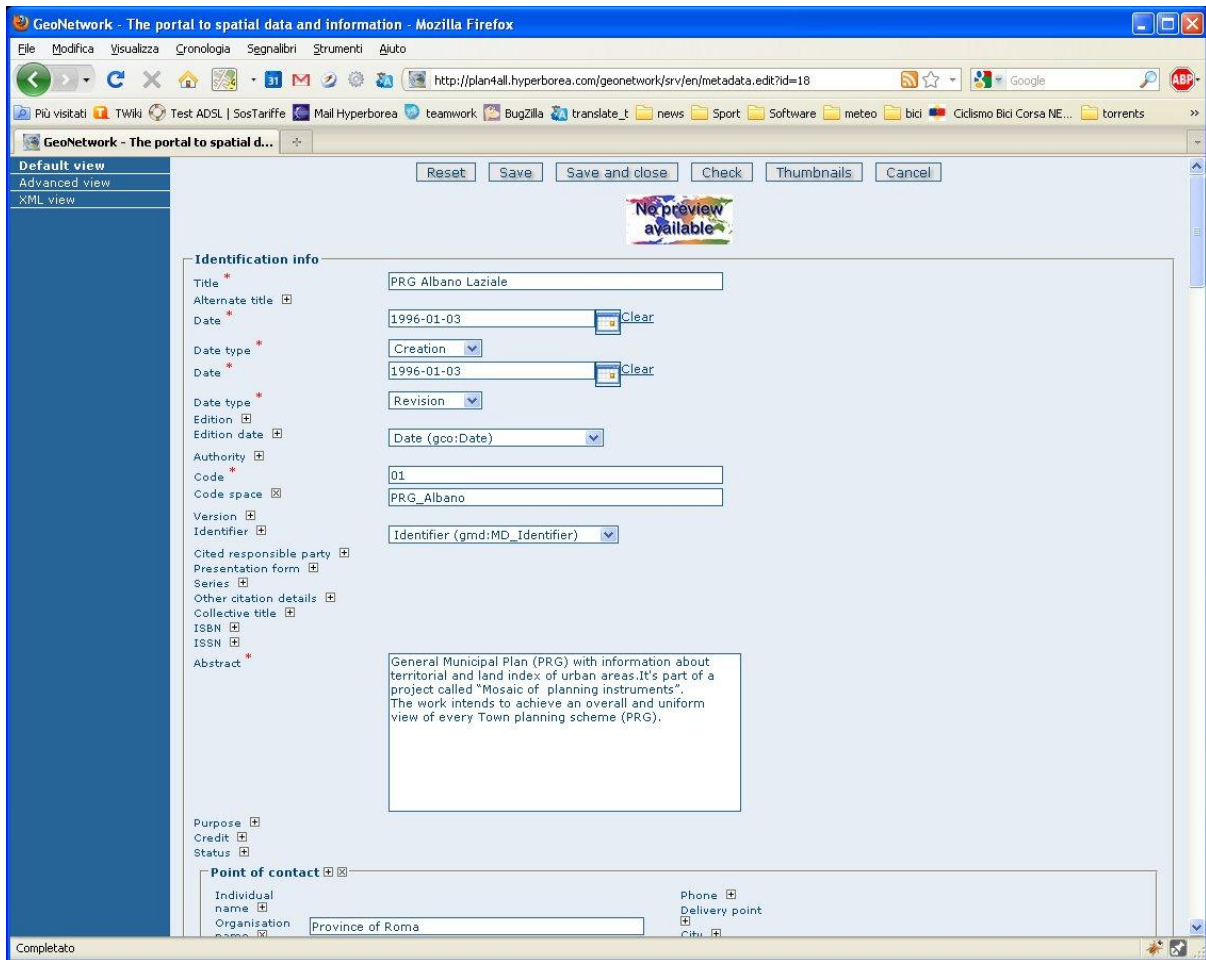
A catalogue management tool – i.e. *Geonetwork* - has been provided in order to publish standard OGC catalogue services and to allow creation, editing and search of metadata. In the following pictures are displayed interfaces of GeoNetwork on sample metadata of a map service.



The screenshot shows the GeoNetwork web interface in Mozilla Firefox. The search results page displays the following information:

- Search Criteria:** "What? albano", "Where?"
- Results:** 1-2/2 (page 1/1), 0 selected. Sort by: Relevance.
- Item:** PRG ALBANO LAZIALE
- Abstract:** General Municipal Plan (PRG) with information about territorial and land index of urban areas. It's part of a project called "Mosaic of planning instruments". The work intends to achieve an ...
- Keywords:** Land use, plan, PRG
- Owner:** admin
- Actions:** Create, Edit, Delete, Privileges, Categories
- Identification info:**
 - Title: PRG Albano Laziale
 - Date: 1996-01-03
 - Date type: Creation: Date identifies when the resource was brought into existence
 - Date: 1996-01-03
 - Date type: Revision: Date identifies when the resource was examined or re-examined and improved or amended
 - Code: 01
 - Code space: PRG_Albano
 - Abstract: General Municipal Plan (PRG) with information about territorial and land index of urban areas. It's part of a project called "Mosaic of planning instruments". The work intends to achieve an overall and uniform view of every Town planning scheme (PRG).
- Point of contact:**
 - Organisation name: Province of Roma
 - Electronic mail address: a.ereMITAGGIO@provincia.roma.it
 - Role: Author: Party who authored the resource
- Descriptive keywords:** Land use, plan, prg

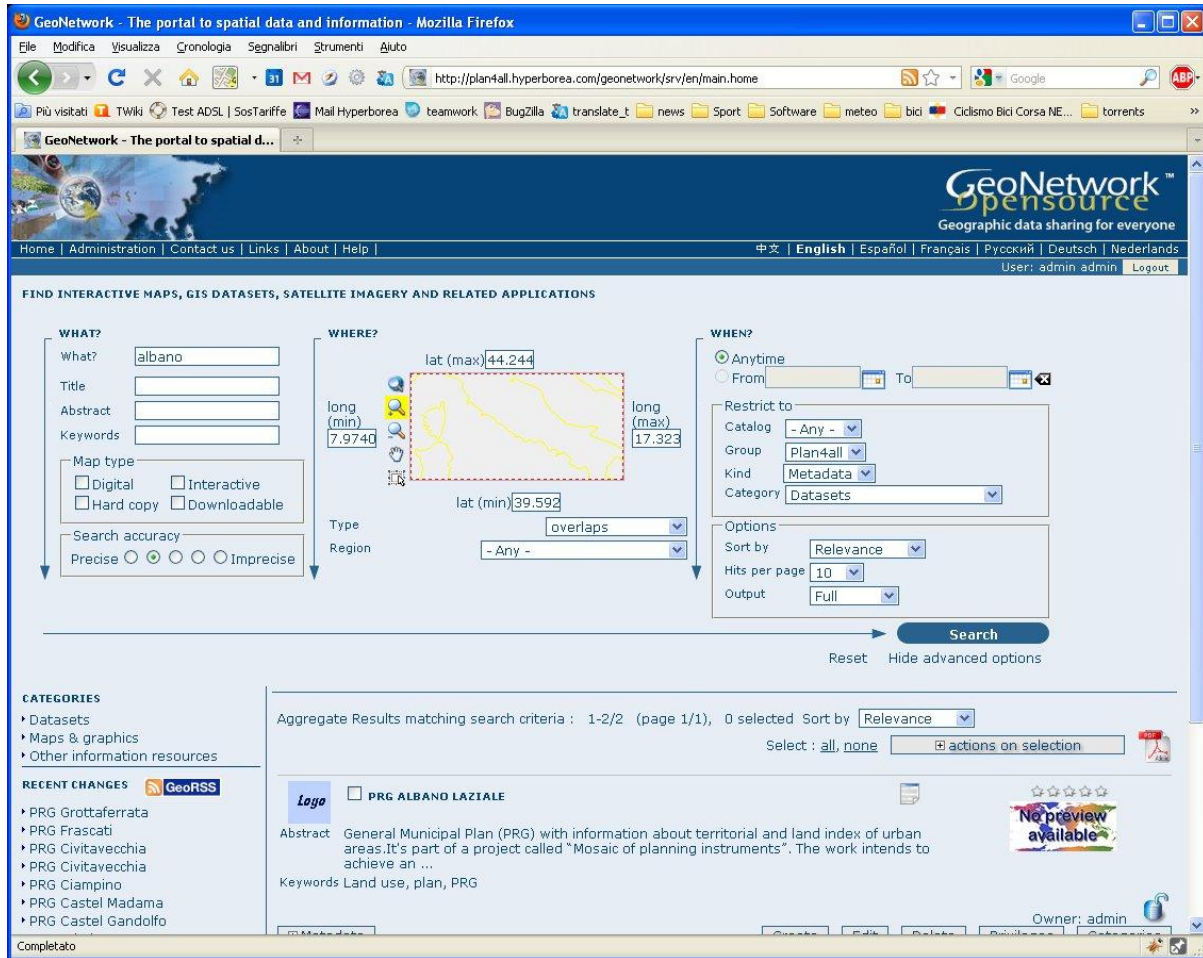
Metadata in GeoNetwork



Metadata editing in GeoNetwork

Metadata storage is automatically kept by Geonetwork in the PostgreSQL/PostGIS instance.

Interactive search/download: besides the consultation via CSW protocol, it is possible to do an interactive direct search through the GeoNetwork web interface, which allows also metadata download as PDF or XML.



The screenshot shows the GeoNetwork web application interface. The search criteria are:

- WHAT?** What? albalano
- WHERE?** lat (max) 44.244, long (min) 7.9740, lat (min) 39.592, long (max) 17.323
- WHEN?** Anytime
- Restrict to:** Catalog: - Any -, Group: Plan4all, Kind: Metadata, Category: Datasets
- Options:** Sort by: Relevance, Hits per page: 10, Output: Full

 The search results show a single entry for 'PRG ALBANO LAZIALE' with a logo and abstract text.

GeoNetwork metadata search/access/download

3.5.2.2. Web Services

Do you provide metadata related to spatial planning and Plan4all themes as a CSW Web Service service?

A.: Yes. The catalogue services allow:

- Search/discover,
- Bind

What software metadata solution do you use for providing CSW services?

A.: Geonetwork. The CSW service is available at the following URL

CSW service	http://plan4all.hyperborea.com/geonetwork/srv/en/csw?REQUEST=GetCapabilities&SERVICE=CSW&ACCEPTVERSION=2.0.0,0.7.2&outputFormat=application/xml
Metadata Search	http://plan4all.hyperborea.com/geonetwork

3.5.3. Metadata Preparation according to Plan4all profile

Do you extend your existing metadata related to spatial planning into the plan4all profile?

Metadata section of Provincia of Rome, is born from experimentation of a subset of "DUBLIN CORE" and evolved to the ISO 19115.

With the support of the project Plan4All the Province of Rome extended the metadata specifications of spatial planning to be compliant with the Plan4All profile (the metadata are published by Hyperborea) and started the experimentation of the open source technologies to create an SDI infrastructure completely OGC compliant.

If yes, for which plan4all themes?

Annex III theme 3: Land Cover and Annex III theme 4: Land Use are the only spatial planning and INSPIRE Plan4all themes taken into consideration

3.5.4. Thesaurus

Do you integrate a thesaurus supporting multilingual discovery of data?

No

3.5.5. Results

3.5.5.1. Comments on Plan4all metadata profile

A great effort has been done to define an European metadata profile for territorial planning that be compliant with the national law and with the INSPIRE directive. The resulting metadata profile is a good compromise between the need of extend the INSPIRE model and the need to avoid the complexity of the ISO standard.

3.5.5.2. Recommended changes on the Plan4all metadata profile

Try to further align the Plan4All profile with the INSPIRE profile for the overlapping elements.

3.6. FTZ (*content provider*)

3.6.1. General description of existing metadata

The situation of metadata production in Malta has taken both a proactive role and a reactive one that has seen a slow uptake of the eventual metadata creation process. Since Malta, through various SDICs, was involved at the early stages of INSPIRE activities it was well geared to create its metadata services and employed a policy of creating its metadata through the use of the INSPIRE Metadata Editor¹. In fact, this was carried out at such an early stage that the availability of an xml tool that read the outputs was created through a project entitled "Institution Building in the Environment Sector", which was financed from the Transition Facility Programme for Malta (2006)². The metadata search facility was made available through <http://www.ambjent.org.mt/>.

The next step was aimed at bringing together all GI-related agencies in order to help each agency create its metadata, which process is ongoing and has yet to mature due to various reasons, mainly the transfer of responsibilities from MEPA to MITA and an as yet unclear strategy on how this will be achieved.

The existing metadata is thus sparse and exists in the form original created for the same dataset-creation process such as that resultant from the CLC1990, 2000 and 2006 runs.

3.6.2. Metadata Publication

3.6.2.1. Metadata Portal Solutions

FTZ, for the purpose of this exercise employed the Plan4All Portal solution, with direct links from the FTZ Geoserver³ to the respective metadata.

3.6.2.2. Web Services

FTZ, as detailed in 3.7.2.1 serves its metadata through the Plan4All geoportal and as such uses the web service offered through that site.

3.6.3. Metadata Preparation according to Plan4all profile

The metadata profile was that based on the Plan4All metadataprofiles guidance document⁴. Each metadata was created both within an xls and an xml version employing the JRC INSPIRE metadata editor. Both were uploaded to the Plan4All service.

The xls version: CLC2006 example

Component	Description	Input cells
-----------	-------------	-------------

¹ <http://www.inspire-geoportal.eu/index.cfm/pageid/342>

² http://www.mepa.org.mt/tf06_aarhus

³ <http://ftzgeo.org:8080/geoserver/web>

⁴ D3.2.2_Plan4all_Metadata_Profile_-_Final_version_revised.doc

Resource title	Name by which the cited resource is known.	CLC2006_MALTA
Resource abstract	Brief narrative summary of the content of the resource(s).	The land cover project 2006 is part of the CORINE programme and is intended to provide consistent localized geographical information on the land cover of the 12 Member States of the European Community. The land cover for the whole of the islands was included with the data layer covering all the European member states.
Resource type	“dataset” or “series” should be used	Dataset
Resource locator	Mandatory if a URL is available to obtain more information on the resource, and/or access related services.	http://www.mepa.org.mt/IR/dataset.html
Unique Resource Identifier	Value uniquely identifying an object within a namespace.	n/a
Resource language	Mandatory if the resource includes textual information.	eng
Topic category	Main theme(s) of the dataset.	planningCadastre
Keyword	Commonly used word(s) or formalised word(s) or phrase(s) used to describe the subject.	land cover, CLC,
Geographic bounding box	Geographic position of the dataset expressed by the smallest bounding rectangle.	14.410231 - 35.8399576, 14.5751157 - 36.0841138
Date	Reference date for the resource	01/01/2003
Temporal extent	Spatial plan effecting and expiration date.	31/12/2020
Lineage	General explanation of the data producer’s knowledge about the lineage of a dataset.	onversion of projection for LANDsat image provided by Corine. Plotting of different uses (All assumptions and digitizing methods used for this project are covered in detail in the CORINE land cover technical guide – Addendum 2000). Then the checking of data from any unwanted sliver polygons. And the change of polygon colors so that they would match the ones from the original scanned legend.
Spatial resolution	Mandatory for data sets and data set series if an equivalent scale or a resolution distance can be specified.	2,500
Conformity	Conformity of spatial data sets with the implementing rules provided for in Article 7(1) and any additional document	Conformant
Conditions for access and use	Conditions for access and use of spatial data sets and services, and where applicable	No conditions apply
Limitations on public access	Access or other constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource.	No limitations
Responsible organisation	Identification of, and means of communication with, person(s) and organization(s) associated with the resource(s)	MEPA, information.resources@mepa.org.mt

Metadata point of contact	Party responsible for the metadata information.	information.resources@mepa.org.mt
Metadata date	Date that the metadata was created.	10/07/2008
Metadata language	Language used for documenting metadata.	eng
File identifier	Metadata file identifier.	mt_p4a_002
Parent Identifier	File identifier of the metadata to which a metadata is a child. It is used for identification of Spatial Plan which the dataset is part of.	Metadata_SPATIAL_PLAN_p4a
Metadata standard name	Name of the metadata standard.	ISO19115/19119 - Plan4All profile
Metadata standard version	Name of the metadata standard version.	2003/Cor.1:2006, Plan4all:2010
Spatial representation type	Method used to spatially represent geographic information (e.g. vector)	vector
Geometry type	Represents the geometrical type of a spatial dataset whose spatial representation type is 'Vector', and it may assume 3 possible values: Point, Polyline or Polygon.	polygon
Image	An image to illustrate the data that has been returned.	MT_NUTS5.jpg
Character set	Character coding used for the dataset.	n/a
Application schema	Provides information about the conceptual schema of a dataset	Land Cover
Data quality scope	Level to which data quality information apply.	dataset
Reference system information	Information on reference system.	Universal Transverse Mercator Zone 33, Northern Hemisphere (WGS84) (EPSG: 3263)
Distribution format	Information on distribution format.	Shapefile
Transfer options	Number of volumes, data carriers etc...	Medium: cdRom, online requests
Maintenance and update frequency	Information on updates frequency.	1990, 2000, 2006
Source	Represents the description of the dataset from which the present dataset is derived through the production process described within the metadata element 'Lineage'.	Census Data used for Spatial Planning, Sources include Census2005, Structure Plan Documents and planning boundaries
Process step	Description of process step of data acquisition or processing.	Georeferencing of data based on basemap and spatial maps created by the National Mapping Agency

3.6.4. Thesaurus

The Thesaurus employed was based on the GEMET Thesaurus. Other keywords as identified by the data originators was also employed where deemed necessary.

3.6.5. Results

3.6.5.1. Comments on Plan4all metadata profile

The main comments refer to the fact that the Plan4All metadata profile is much more comprehensive than the individual INSPIRE or the ISO 19115 metadata versions. This, said, however, one needs to bring up the fact that due to the fact that metadata creators are still struggling with the fact that they have to create a metadata for all their current datasets and may already find the process too time consuming, only to be confronted with another metadata profile.

The main issues with metadata creation lie in a reality that requires an easy-to-read metadata creator that removes the tedious and time-consuming exercise. It is imperative that the Plan4All profile is not seen as just another version of the INSPIRE one which most entities are abiding by and which is seen as detailed enough.

3.6.5.2. Recommended changes on the Plan4all metadata profile

The recommended changes would be for Plan4All to provide its own metadata editor similar to the INSPIRE metadata editor which creates its own xml.

3.7. GEORAMA (content provider)

3.7.1. General description of existing metadata

Existing metadata are copy of original data provider data descriptions without changes. The data belongs to Georama.

3.7.2. Metadata Publication

3.7.2.1. Metadata Portal Solutions

Metadata published using Geonetwork, which provides OGC services accessible from browser and any compatible client application. The main functionalities/services are:

- Search: find metadata
- OGC services: CSW.
- Downloads: metadata file, via HTTP.

<http://plan4all.georama.org.gr/geonetwork/srv/en/main.home>

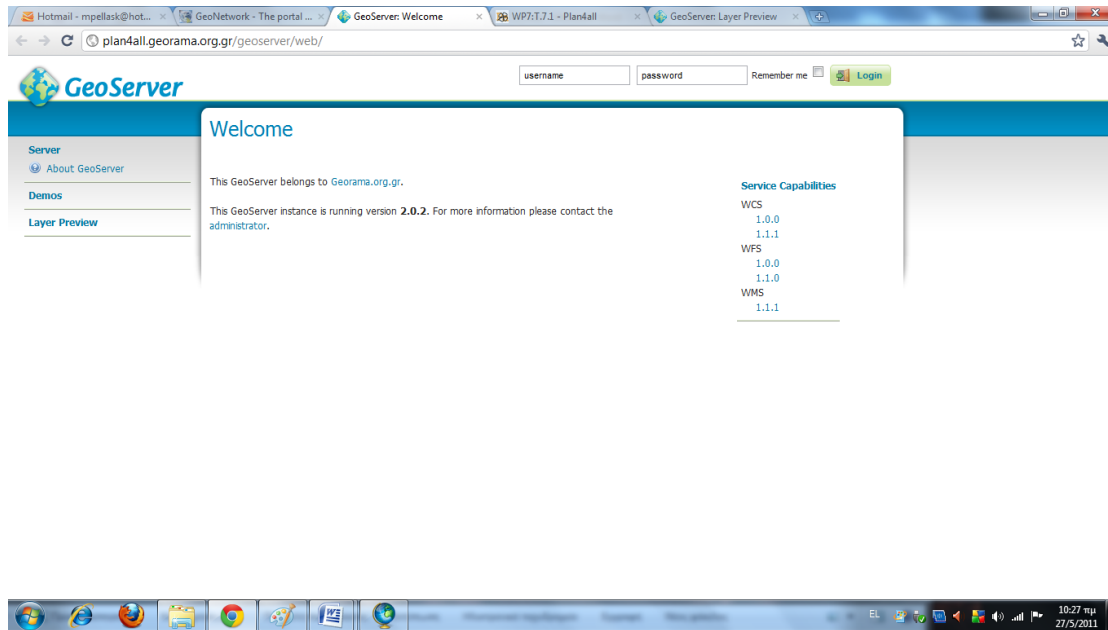


3.7.2.2. Web Services

System is providing basic demonstration services:

- WMS
- WFS
- WCS

<http://plan4all.georama.org.gr/geoserver/web/>



3.7.3. Metadata Preparation according to Plan4all profile

The related metadata have been updated according to Plan4all profile.

3.7.4. Thesaurus

INSPIRE was used to document metadata for the datasets. It is multilingual thesaurus and it was recommended by Plan4all.

3.7.5. Results

3.7.5.1. Comments on Plan4all metadata profile

3.7.5.2. Recommended changes on the Plan4all metadata profile

3.8. NASURSA (content provider)

3.8.1. General description of existing metadata

3.8.2. Metadata Publication

3.8.2.1. Metadata Portal Solutions

For Plan4all purposes, only CSW service will be provided to access metadata of selected datasets.

3.8.2.2. Web Services

At this stage all metadata (20 metadata sets, 1 per POT and theme) have been adapted to Plan4all profile and are deployed as a CSW service using Geonetwork 2.6.3 software. This CSW service has the following capabilities:

- GetCapabilities:
<http://gisportal.tracasa.es/plan4all/csw?request=GetCapabilities&service=CSW&QueryLanguage=en>
- DescribeRecord:
<http://gisportal.tracasa.es/plan4all/csw/?request=DescribeRecord&service=CSW&version=2.0.2>
- GetrecordbyId: the following example includes just an UUID. To check all UUID a GetRecords request must be carried out.
<http://gisportal.tracasa.es/plan4all/csw/?request=GetRecordById&service=CSW&version=2.0.2&elementSetName=full&id=f21757a2-f1c6-4bc6-8aa3-6e2136903bd7>

[POT 1 7c9b44e0-96ec-4196-8a5a-900a2a8ac36a \(falta\)](#)

[POT 2 007f5fde-4cb2-4839-9938-296ff8539a40](#)

[POT 3 b1efcc0d-873c-4212-9200-b3426d643c4c](#)

[POT 4 12bf63b4-14a0-4ba0-81c6-66c22b45b432](#)

[POT 5 4ec3b445-b521-4161-bd1d-2f84d5ab3c97](#)

[POT Area 1 0ce24c35-3c50-4d6b-a583-5d7a145dac4e](#)

[POT Area 2 0a6b95bd-5ceb-4176-bd76-48967bfc34a](#)

[POT Area 3 4f363e08-4b75-498b-86b6-269eea313179](#)

[POT Area 4 de83358a-5035-4659-afb8-ca5e1e552f36](#)

[POT Area 5 e6725a8d-9058-42ce-8d22-6c4db558c1ec](#)

[Environmental Units \(cliffs\) 1 08f66a64-eb56-431f-acd1-b33099817a6d](#)

[Environmental Units \(cliffs\) 2 a6fc1ca2-b8ec-4db0-848f-78e19f2c58ae](#)

[Environmental Units \(cliffs\) 3 f010659c-0be2-4109-a02e-314c4b065f7f](#)

[Environmental Units \(cliffs\) 4 fd292074-79d4-40ba-baaa-10e5fe8cb3a9](#)

[Environmental Units \(cliffs\) 5 6a975fe4-3d09-4216-8deb-4c39b7e15a7a](#)

[Environmental Units \(except cliffs\) 1 689317fe-5540-4c29-9d5d-440d4c7ec66a](#)

[Environmental Units \(except cliffs\) 2 f21757a2-f1c6-4bc6-8aa3-6e2136903bd7](#)

[Environmental Units \(except cliffs\) 3 5029a2b9-5cd6-445d-b702-86db04498829](#)

[Environmental Units \(except cliffs\) 4 458d7fcf-4a0b-4edc-bbe1-15b0ff366abc](#)

[Environmental Units \(except cliffs\) 5 99cbdc1a-4cf8-4155-aa4c-15fed14572a7](#)

[Land with special protection from urban development due to environmental qualities 1 d419f430-b2ad-405a-81dd-7381b989c884](#)

[Land with special protection from urban development due to environmental qualities 2 a6fc1ca2-b8ec-4db0-848f-78e19f2c58ae](#)

[Land with special protection from urban development due to environmental qualities 3 633520a2-54ff-4fa8-af7c-82b22d9e0a12](#)

[Land with special protection from urban development due to environmental qualities 4 ebf9d27a-2d42-420c-8304-d610c3c32844](#)

[Land with special protection from urban development due to environmental qualities 5 157bc021-778e-44a2-aa6a-23cc5a81bc89](#)

- GetRecords:
[http://gisportal.tracasa.es/plan4all/csw/?request=GetRecords&service=CSW&version=2.0.2&namespace=xmlns%28csw%3Dhttp%3A%2F%2Fwww.opengis.net%2Fcat%](http://gisportal.tracasa.es/plan4all/csw/?request=GetRecords&service=CSW&version=2.0.2&namespace=xmlns%28csw%3Dhttp%3A%2F%2Fwww.opengis.net%2Fcat%2F)

2Fcsw%2F2.0.2%29%2Cxmlns%28gmd%3Dhttp%3A%2F%2Fwww.isotc211.org%2F2005%2Fgmd%29&constraint=AnyText+like+%27%25%%25%27&constraintLanguage=CQL_TEXT&constraint_language_version=1.1.0&typeName=csw%3ARecord&elementSetName=full&resultType=results&maxRecords=28

3.8.3. Metadata Preparation according to Plan4all profile

All metadata (20 metadata sets, 1 per POT and theme) have been adapted to Plan4all profile. These datasets are related to Land Use and Land Cover.

3.8.4. Thesaurus

GEMET is the multilingual thesaurus recommended by Plan4all, so it was used to document metadata for selected datasets.

3.8.5. Results

3.8.5.1. Comments on Plan4all metadata profile

3.8.5.2. Recommended changes on the Plan4all metadata profile

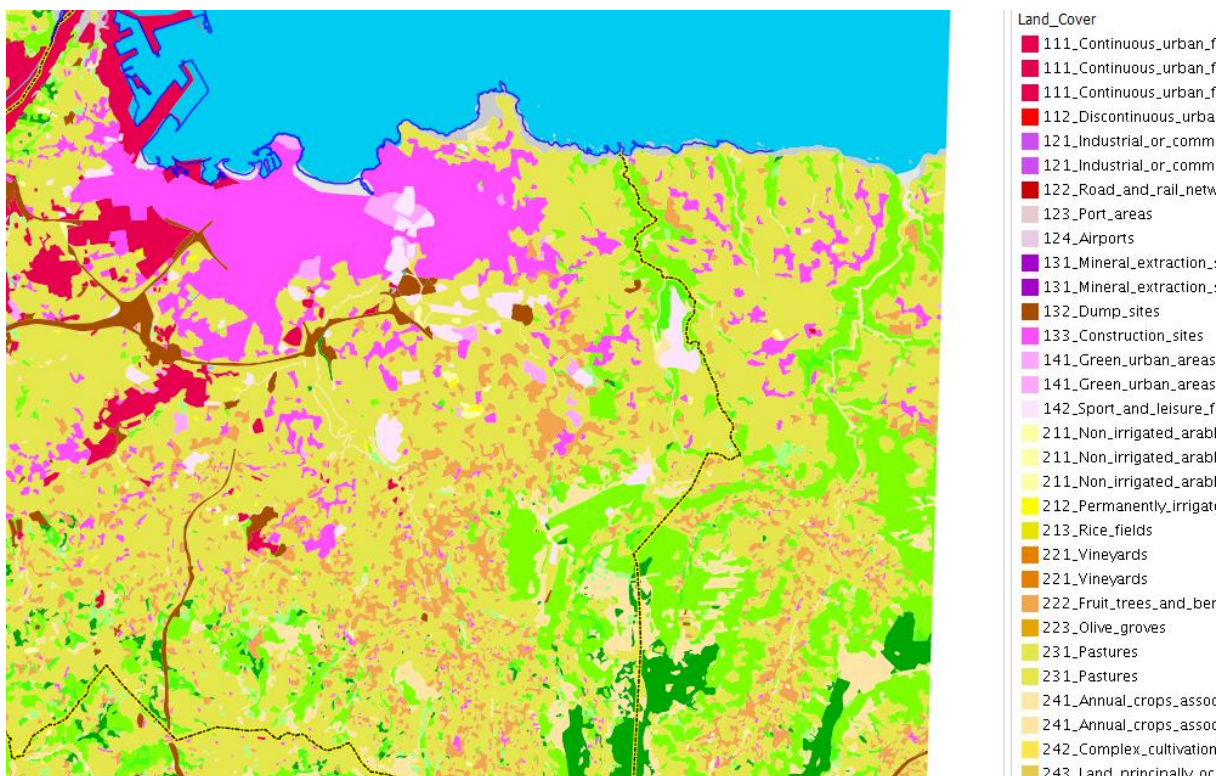
3.9. GIJON (content provider)

3.9.1. General description of existing metadata

The City Council of Gijón, a local authority in the north of Spain, deals with the creation and publication of geographics information in the municipality of Gijón. Regarding the spatial planning Metadata published from the City Council, in the framework of the project, six datasets were selected to be deployed in the Plan4all project. The goal is testing harmonization and interoperability of these six metadata.

The metadata are the following ones:

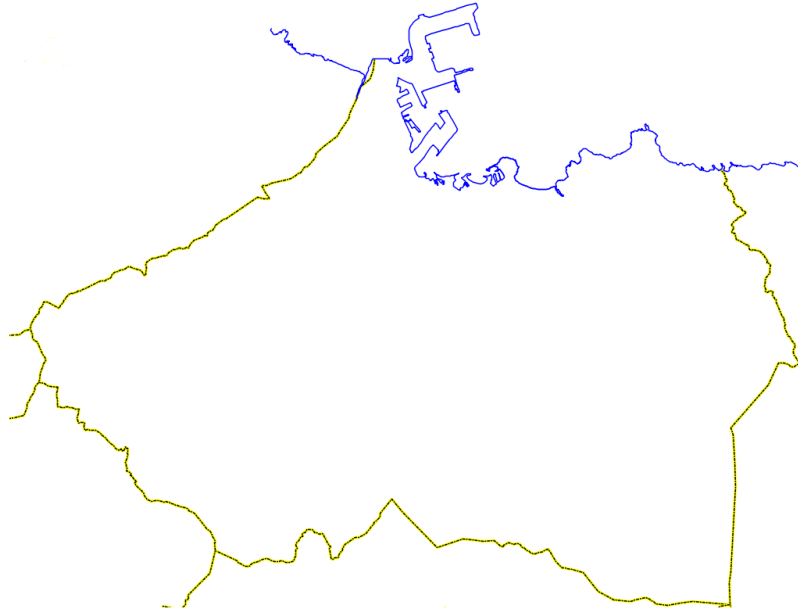
1. Land Cover (Cubierta Terrestre) from Annex II of Inspire.



2. Land Use (Uso del Suelo) from Annex III of Inspire

3. Natural Risk Zones (Zonas de Riesgos Naturales) from Annex III of INSPIRE

4. Limite Municipio (Administrative Units) from Annex I of INSPIRE



5. Divisiones Administrativas (Administrative Units) from Annex I of INSPIRE

6. Parroquias Rurales (Administrative Units) from Annex I of INSPIRE



3.9.2. Metadata Publication

3.9.2.1. Metadata Portal Solutions

Gijón use a open source solution called **GeoNetwork** <http://geonetwork-opensource.org/> based on JAVA. It was deployed in an Ubuntu 10.4 LTS and hosted in the network of the City Council.

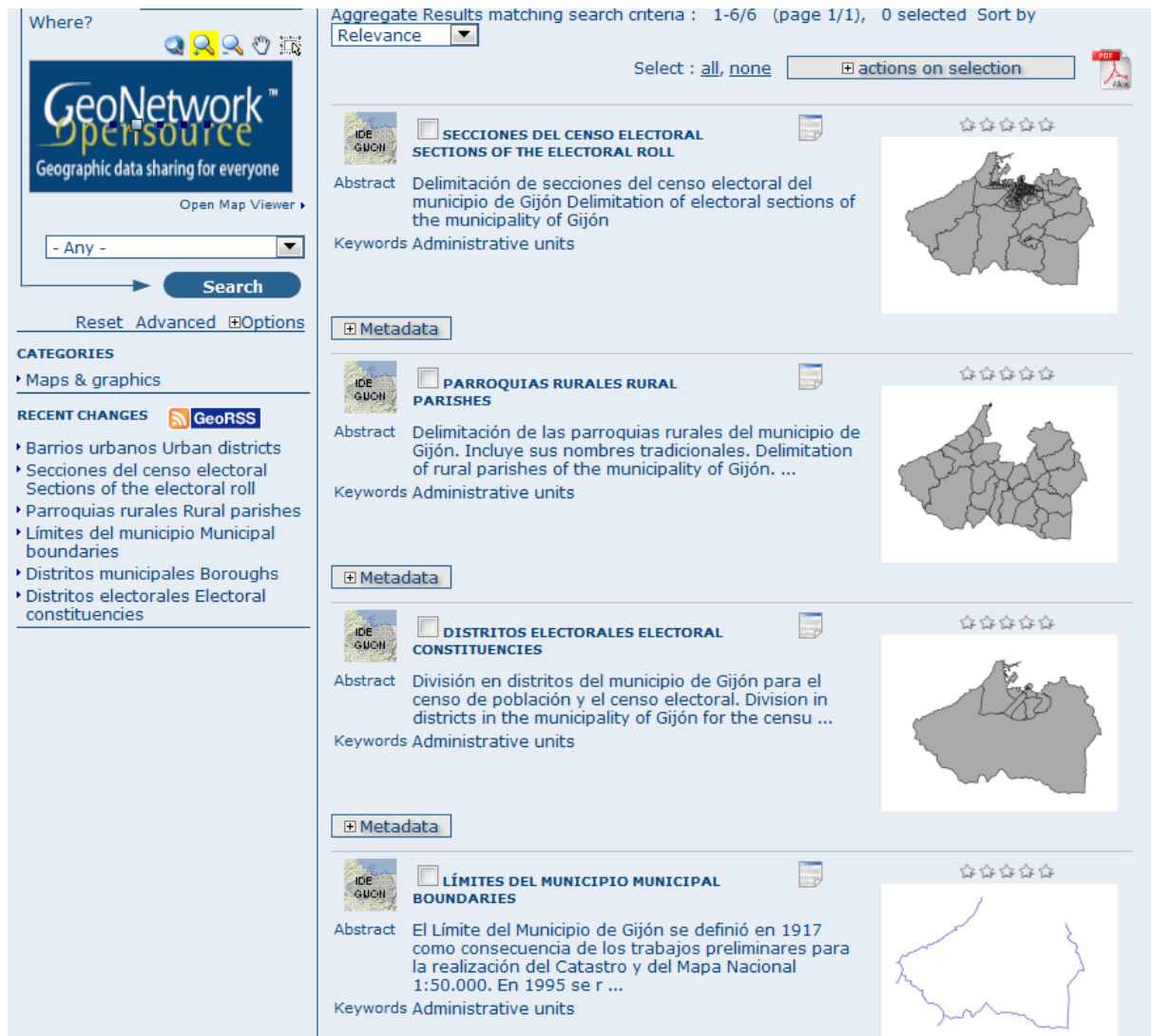
Geonetwork provides OGC services accessible from browser and any compatible client application. The main functionalities/services are:

- Search: find metadata
- OGC services: CSW.
- Downloads: metadata file, via HTTP.

Technology details

Basically, the technological stack for services is java-based according to the following:

- DBMS with spatial extension, accessed through JDBC
- Java JVM 1.6 as runtime
- Tomcat 6 as application server



The screenshot displays the GeoNetwork metadata portal interface. On the left, there is a search sidebar with the GeoNetwork logo, a search bar containing '- Any -', and a 'Search' button. Below the search bar are links for 'Reset', 'Advanced', and 'Options'. The sidebar also lists 'CATEGORIES' (Maps & graphics) and 'RECENT CHANGES' (GeoRSS) with several items like 'Barrios urbanos Urban districts' and 'Secciones del censo electoral Sections of the electoral roll'.

The main content area shows 'Aggregate Results matching search criteria : 1-6/6 (page 1/1), 0 selected Sort by Relevance'. It features a 'Select : all, none' dropdown and an 'actions on selection' button. The results are displayed in a list format, each entry including a thumbnail map, a title, an abstract, and keywords. The entries are:

- SECCIONES DEL CENSO ELECTORAL / SECTIONS OF THE ELECTORAL ROLL**: Delimitación de secciones del censo electoral del municipio de Gijón. Delimitation of electoral sections of the municipality of Gijón. Keywords: Administrative units.
- PARROQUIAS RURALES RURAL / PARISHES**: Delimitación de las parroquias rurales del municipio de Gijón. Incluye sus nombres tradicionales. Delimitation of rural parishes of the municipality of Gijón. ... Keywords: Administrative units.
- DISTRITOS ELECTORALES ELECTORAL / CONSTITUENCIES**: División en distritos del municipio de Gijón para el censo de población y el censo electoral. Division in districts in the municipality of Gijón for the censu ... Keywords: Administrative units.
- LÍMITES DEL MUNICIPIO MUNICIPAL / BOUNDARIES**: El Límite del Municipio de Gijón se definió en 1917 como consecuencia de los trabajos preliminares para la realización del Catastro y del Mapa Nacional 1:50.000. En 1995 se r ... Keywords: Administrative units.

3.9.2.2. Web Services

All metadata are published by three ways:

- Interface of the Geonetwork in this url <http://ide.gijon.es:8080/geonetwork> in different languages, with a search, export PDF, export XML, etc...
- Using CSW service to access metadata.
- Using the interface of Plan4all portal, thanks to the harvest service.

Using CSW request of the geocatalogue, Plan4All geo-portal access the relevant metadata regarding spatial planning documents. This way we are totally synchronization between geographic metadata catalogues and plan4all thanks to the harvesting service provides by the Plan4all portal.

The Supported Operations provide by the CSW services are: GetCapabilities, DescribeRecord, GetRecords, GetRecordById.

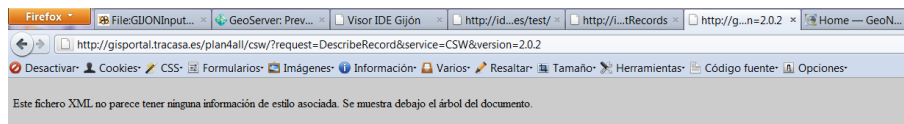
The URLs of the service and operations are the following ones:

GETCABILITIES

<http://ide.gijon.es:8080/geonetwork/srv/en/csw?REQUEST=GetCapabilities&SERVICE=CSW&ACCEPTVERSION=2.0.0,0.7.2&outputFormat=application/xml>

DESCRIBERECORDS

<http://ide.gijon.es:8080/geonetwork/srv/es/csw?service=CSW&version=2.0.2&request=DescribeRecord>



```

- <csw:DescribeRecordResponse xsi:schemaLocation="http://www.opengis.net/cat/csw/2.0.2 http://schemas.opengis.net/csw/2.0.2/CSW-discovery.xsd">
- <csw:SchemaComponent targetNamespace="http://www.opengis.net/cat/csw/2.0.2" schemaLanguage="http://www.w3.org/XML/Schema">
- <xsd:schema id="csw-record" targetNamespace="http://www.opengis.net/cat/csw/2.0.2" elementFormDefault="qualified" version="2.0.2">
- <xsd:annotation>
- <xsd:appinfo>
- <dc:identifier>http://schemas.opengis.net/csw/2.0.2/record.xsd</dc:identifier>
- </xsd:appinfo>
- <xsd:documentation xml:lang="en">
- This schema defines the basic record types that must be supported by all CSW implementations. These correspond to full, summary, and brief views based on DCMI metadata terms.
- </xsd:documentation>
- <xsd:annotation>
- <xsd:import namespace="http://parl.org/dc/terms" schemaLocation="rec-dterms.xsd"/>
- <xsd:import namespace="http://parl.org/dc/elements/1.1/" schemaLocation="rec-dcmes.xsd"/>
- <xsd:import namespace="http://www.opengis.net/ows" schemaLocation="http://www.w3.org/1.0.0/owsAll.xsd"/>
- <xsd:element name="AbstractRecord" id="AbstractRecord" type="csw:AbstractRecordType" abstract="true"/>
- <xsd:complexType name="AbstractRecordType" id="AbstractRecordType" abstract="true"/>
- <xsd:element name="DCMIRecord" type="csw:DCMIRecordType" substitutionGroup="csw:AbstractRecord"/>
- <xsd:complexType name="DCMIRecordType" substitutionGroup="csw:AbstractRecordType">
- <xsd:annotation>
- <xsd:documentation xml:lang="en">
- This type encapsulates all of the standard DCMI metadata terms, including the Dublin Core refinements; these terms may be mapped to the profile-specific information model.
- </xsd:documentation>
- </xsd:complexType>
- <xsd:complexType name="BriefRecord" type="csw:BriefRecordType" substitutionGroup="csw:AbstractRecord"/>
- <xsd:complexType name="BriefRecordType" final="#all">
- <xsd:annotation>
- <xsd:documentation xml:lang="en">
- This type defines a brief representation of the common record format. It extends AbstractRecordType to include only the dc:identifier and dc:type properties.
- </xsd:documentation>
- </xsd:complexType>
- <xsd:complexType name="AbstractRecordType">
- <xsd:sequence>
- <xsd:element ref="dc:identifier" minOccurs="1" maxOccurs="unbounded"/>
- <xsd:element ref="dc:title" minOccurs="1" maxOccurs="unbounded"/>

```

GETRECORDBYID

<http://ide.gijon.es:8080/geonetwork/srv/es/csw?service=CSW&version=2.0.2&request=GetRecordById>

GETRECORDS

<http://ide.gijon.es:8080/geonetwork/srv/es/csw?service=CSW&version=2.0.2&request=GetRecords>

3.9.3. Metadata Preparation according to Plan4all profile

The metadata related with Land Use, Land Cover and Natural Risk Zones have been updated according to Plan4all profile. The others three metadata about Administration Units will be in the following days.

3.9.4. Thesaurus

GEMET – Inspire Themes – was used to document metadata for the six datasets. It is multilingual thesaurus and it was recommender by Plan4all.

3.9.5. Results

3.9.5.1. Comments on Plan4all metadata profile

3.9.5.2. Recommended changes on the Plan4all metadata profile

3.10. DIPSU (content provider)

3.10.1. General description of existing metadata

The pilot chosen by DipSU regards the Plan4all themes “Land use” and “Land cover”. The related data and metadata have been elaborated in support of the process of Strategic Environmental Assessment of a municipal spatial plan for the town of Montalto Uffugo in Southern Italy. The process of elaborating a spatial plan and the related Strategic Environmental Assessment needs, as a first step, a collection of all information needed for the planning task: on the one hand, the basic cartography such as administrative boundaries, topography, cadastre, land cover and existing constraints, on the other the actual planning information, i.e. the municipal general plan and the sub-municipal executive plans in force at the moment of the elaboration of the new general plan.

The following metadata are available as far as the Plan4all themes are concerned:

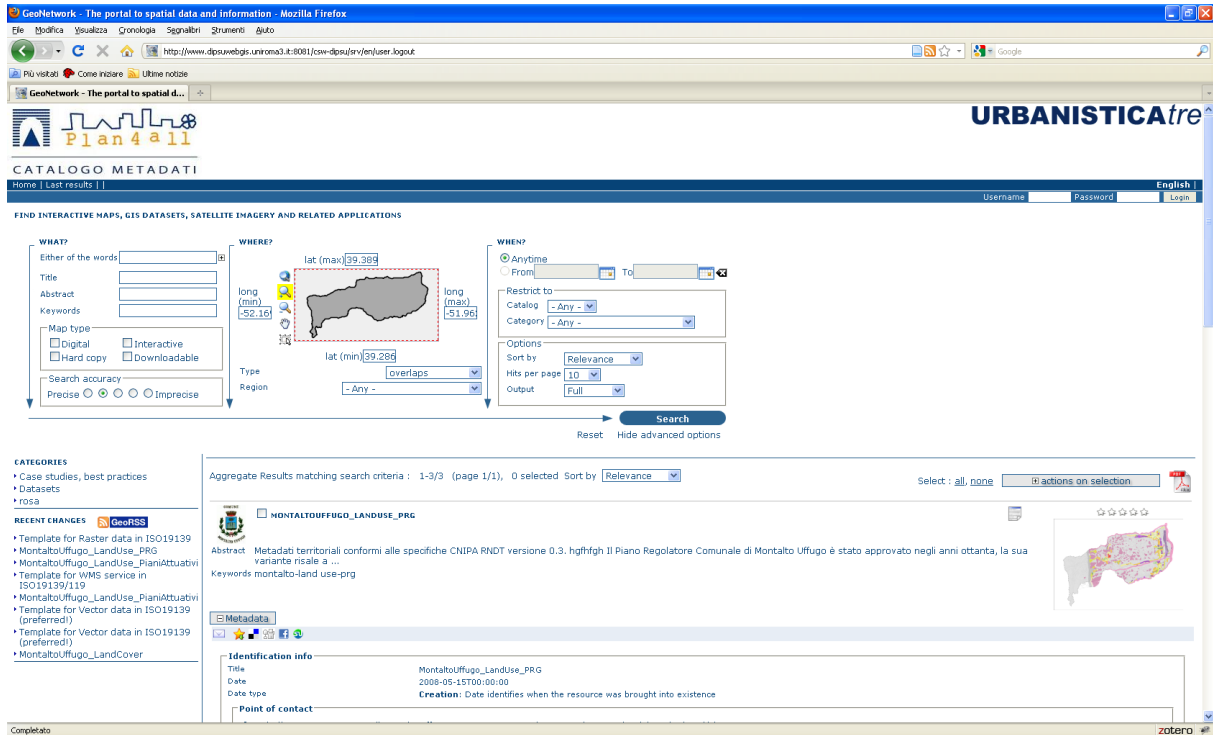
- Land Cover;
- Land Use (i.e. the spatial plans at municipal and sub-municipal level).

3.10.2. Metadata Publication

3.10.2.1. Metadata Portal Solutions

DipSU has implemented a spatial data infrastructure based exclusively on Open Source solutions and products. In particular, for cataloguing and publishing metadata, DipSU has used Geonetwork

(<http://www.dipsuwebgis.uniroma3.it:8081/csw-dipsu>), which also provides the necessary support for using CS-W services. The following pictures show the Geonetwork interface for searching, displaying and editing metadata.



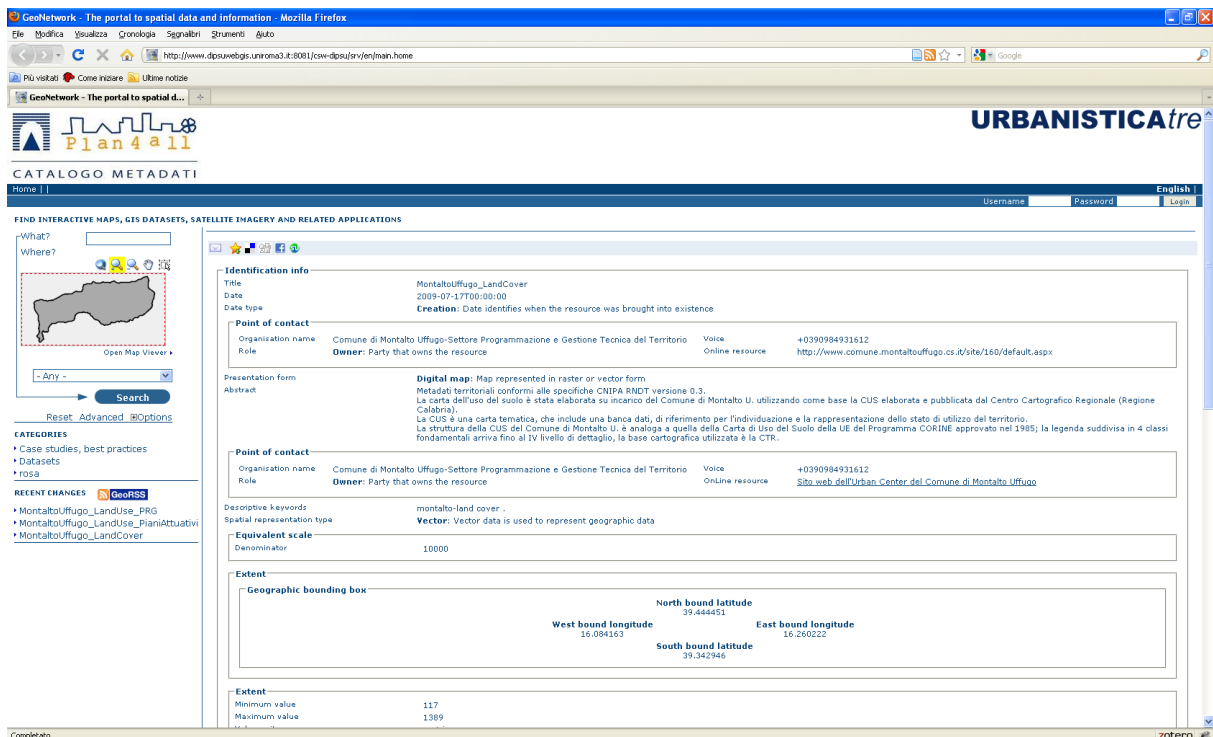
The screenshot shows the Geonetwork search interface. The search criteria are:

- WHAT?** Title, Abstract, Keywords
- WHERE?** lat (max) 39.389, long (min) 15.126, lat (min) 39.286, long (max) 15.196
- WHEN?** Anytime, Restrict to Catalog, Category

 The search results show one item: **MONTALTOUFFUGO_LANDUSE_PRG**. The abstract describes territorial metadata conforming to CNIPA RNDT version 0.3. The metadata details include:

- Title:** MontaltoUffugo_LandUse_PRG
- Date:** 2008-05-15T00:00:00
- Creation:** Date identifies when the resource was brought into existence
- Point of contact:** Comune di Montalto Uffugo - Settore Programmazione e Gestione Tecnica del Territorio. Voice: +0390984931612. Online resource: http://www.comune.montaltouffugo.cs.it/site/160/default.aspx
- Digital map:** Map represented in raster or vector form. Metadata territorial conforming to specific CNIPA RNDT version 0.3. The map of land use is elaborated on the basis of the CUS of Montalto U. using as a base the CUS elaborated and published by the Regional Cartographic Center (Region Calabria). The CUS is a thematic map, which includes a bank data, of reference for the identification and the representation of the state of use of the territory. The structure of the CUS of the Comune di Montalto U. is analogous to that of the Carta di Uso del Suolo della UE del Programma CORINE approvato nel 1985; la legenda suddivisa in 4 classi fondamentali arriva fino al IV livello di dettaglio, la base cartografica utilizzata è la CTR.
- Equivalent scale:** Denominator: 10000
- Extent:** Geographic bounding box: West bound longitude 16.084153, North bound latitude 39.444451, East bound longitude 16.260222, South bound latitude 39.342946
- Extent:** Minimum value: 117, Maximum value: 1369

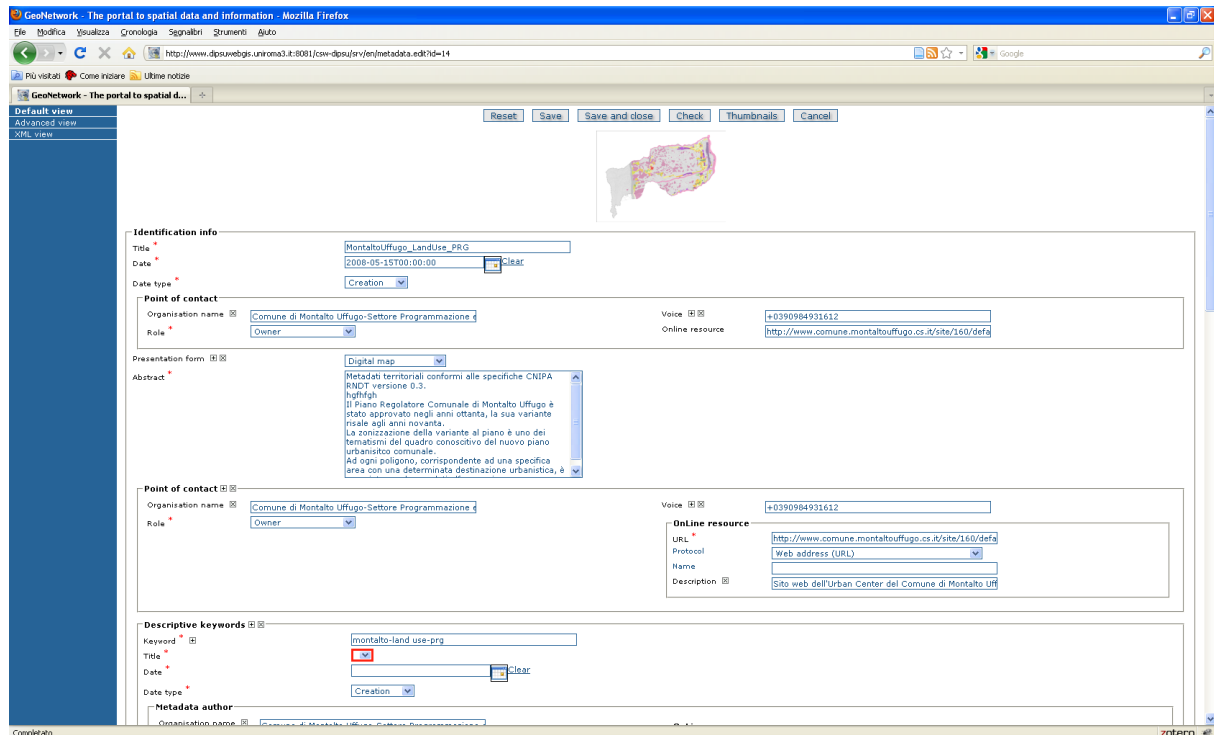
Searching metadata in Geonetwork



The screenshot shows the detailed metadata for the resource **MONTALTOUFFUGO_LANDCOVER**. The metadata details include:

- Title:** MontaltoUffugo_LandCover
- Date:** 2009-07-17T00:00:00
- Creation:** Date identifies when the resource was brought into existence
- Point of contact:** Comune di Montalto Uffugo - Settore Programmazione e Gestione Tecnica del Territorio. Voice: +0390984931612. Online resource: http://www.comune.montaltouffugo.cs.it/site/160/default.aspx
- Digital map:** Map represented in raster or vector form. Metadata territorial conforming to specific CNIPA RNDT version 0.3. The map of land use is elaborated on the basis of the CUS of Montalto U. using as a base the CUS elaborated and published by the Regional Cartographic Center (Region Calabria). The CUS is a thematic map, which includes a bank data, of reference for the identification and the representation of the state of use of the territory. The structure of the CUS of the Comune di Montalto U. is analogous to that of the Carta di Uso del Suolo della UE del Programma CORINE approvato nel 1985; la legenda suddivisa in 4 classi fondamentali arriva fino al IV livello di dettaglio, la base cartografica utilizzata è la CTR.
- Equivalent scale:** Denominator: 10000
- Extent:** Geographic bounding box: West bound longitude 16.084153, North bound latitude 39.444451, East bound longitude 16.260222, South bound latitude 39.342946
- Extent:** Minimum value: 117, Maximum value: 1369

Displaying metadata in Geonetwork



Editing metadata in Geonetwork

Besides the consultation via CS-W protocol, it is possible to make a direct interactive search through the Geonetwork web interface. It is possible to search, visualise and download metadata in XML format directly from the result list proposed by Geonetwork.

3.10.2.2. Web Services

The catalogue exposes a CS-W 2 service for the search and bind of metadata. The CS-W service is available at the following URL:

<http://www.dipsuwebgis.uniroma3.it:8081/csw-dipsu/srv/en/csw?request=GetCapabilities&service=CSW>

3.10.3. Metadata Preparation according to Plan4all profile

DipSU has already published its metadata through the above mentioned services. The next activity will consist of extending the same metadata into the Plan4all metadata profile. As already mentioned above, the themes covered will be Land Use and Land Cover.

The following table shows the matching between the “spatial plan metadata” elements proposed by Plan4all and the metadata elements available to DipSU as regards the chosen pilot. The metadata examples concern the theme Land Use, in particular the municipal spatial plan of the Municipality of Montalto Uffugo; indeed, DipSU believes that the difference between “spatial plan metadata” and “dataset metadata” doesn’t make much sense as regards the theme Land Use. See following paragraphs for further comments regarding this issue.

INSPIRE	ISO 19115 (number)	ISO 19115 (name)	Plan4all element name	Metadata example (case study Montalto Uffugo)
1.1	360	title	Spatial plan title	<i>Piano Regolatore Generale vigente del Comune</i>

				<i>di Montalto Uffugo</i>
1.2	25	abstract	Spatial plan abstract	<i>Il Piano Regolatore Comunale di Montalto Uffugo è stato approvato negli anni ottanta, la sua variante risale agli anni novanta. La zonizzazione della variante al piano è uno dei tematismi del quadro conoscitivo del nuovo piano urbanistico comunale. Ad ogni poligono, corrispondente ad una specifica area con una determinata destinazione urbanistica, è associata una banca dati alfanumerica.</i>
1.3	6	HierarchyLevel	Resource type	<i>Dataset</i>
	7	HierarchyLevel Name	Spatial plan type	-
1.4	277	OnLine resource	Resource locator	http://www.dipsuwebgis.uniroma3.it:8081/csw-dipsu/srv/it/www.comune.montaltouffugo.cs.it
1.5	365	Identifier	Unique resource identifier	-
1.7	39	language	Spatial plan language	<i>ita</i>
2.1	41	topicCategory	Topic category	-
3	53	keyword	Keyword	<i>Montalto-land use-prg</i>
4.1	343	EX_Geographic BoundingBox	Geographic bounding box	<i>North bound latitude 47.0946 West bound longitude 6.62397 South bound latitude 36.6492 East bound longitude 18.5144</i>
	342	polygon	Geographic boundary polygon	-
	335	description	Spatial extent description	-
5	362	date	Reference date	<i>2008-05-15T00:00:00</i>
5	337	temporalElement	Temporal extent	-
6.1	83	statement	Lineage	<i>La tavola di zonizzazione del PRG vigente è stata realizzata attraverso la georeferenziazione e la successiva digitalizzazione della relativa cartografia in formato raster, fornita dall'Amministrazione Comunale</i>
	84	processStep	Process step	-
6.2	38	spatialResolution	Spatial Resolution	-
8.1	68	useLimitation	Conditions for access and use	-
8.2	70, 72, 74	accessConstraints, otherConstraints, classification	Limitations on public access	<i>Dato pubblico</i>
9	29	pointOfContact	Responsible organisation	<i>Comune di Montalto Uffugo-Settore Programmazione e Gestione Tecnica del Territorio</i>
10.1	8	contact	Metadata point of	<i>Comune di Montalto Uffugo-Settore</i>

			contact	<i>Programmazione e Gestione Tecnica del Territorio</i>
10.2	9	dateStamp	Metadata date	<i>2011-02-24T19:45:14</i>
10.3	3	language	Metadata Language	<i>ita</i>
	2	fileIdentifier	File identifier	<i>e1de2b86-8475-4e32-9435-841903e89d56</i>
	10	metadataStandardName	Metadata standard name	<i>ISO 19115:2003/19139</i>
	11	MetadataStandardVersion	Metadata standard version	<i>1.0</i>
	368	presentationForm	Presentation form	<i>Digital map</i>
	21	applicationSchemaInfo	Application schema	-
	79	scope	Data quality scope	-
	13	referenceSystemInfo	Reference system information	<i>WGS84/UTM 33N</i>
	143	maintenanceAndUpdateFrequency	Maintenance and update frequency	<i>Quando necessario</i>
	26	purpose	Purpose	-
	28	status	Status	-
	68	useLimitation	Legal relevance	-

3.10.4. Thesaurus

There is currently no thesaurus supporting multilingual discovery of data.

3.10.5. Results

3.10.5.1. Comments on Plan4all metadata profile

As regards Land Use, it is not clear whether to consider the related metadata as “spatial plan metadata” or “dataset metadata”. DipSU believes that, as far as geographic information is concerned, there is no difference between a spatial plan and the dataset describing it. Therefore, Land Use (i.e. spatial plan) metadata will be published as “spatial plan metadata” rather than “dataset metadata”.

On the other hand, there is no such doubt concerning Land Cover metadata, which will be published as “dataset metadata”.

3.10.5.2. Recommended changes on the Plan4all metadata profile

According to the comment above, maybe the difference between “spatial plan metadata” and “dataset metadata” in the Plan4all profile should be better explained. Since Land Use data necessarily refer to a spatial plan, DipSU proposes that any Land Use metadata should be considered as “spatial plan metadata”, and not “dataset metadata”.

3.11. EPF (content provider)

3.11.1. General description of existing metadata

Existing metadata are copy of original data provider data descriptions without changes since EPF is no data owner and provider. The data belongs to Yambol municipality, situated in Southeast part of Bulgaria.

3.11.2. Metadata Publication

3.11.2.1. Metadata Portal Solutions

Metadata published using Geonetwork, which provides OGC services accessible from browser and any compatible client application. The main functionalities/services are:

- Search: find metadata
- OGC services: CSW.
- Downloads: metadata file, via HTTP.

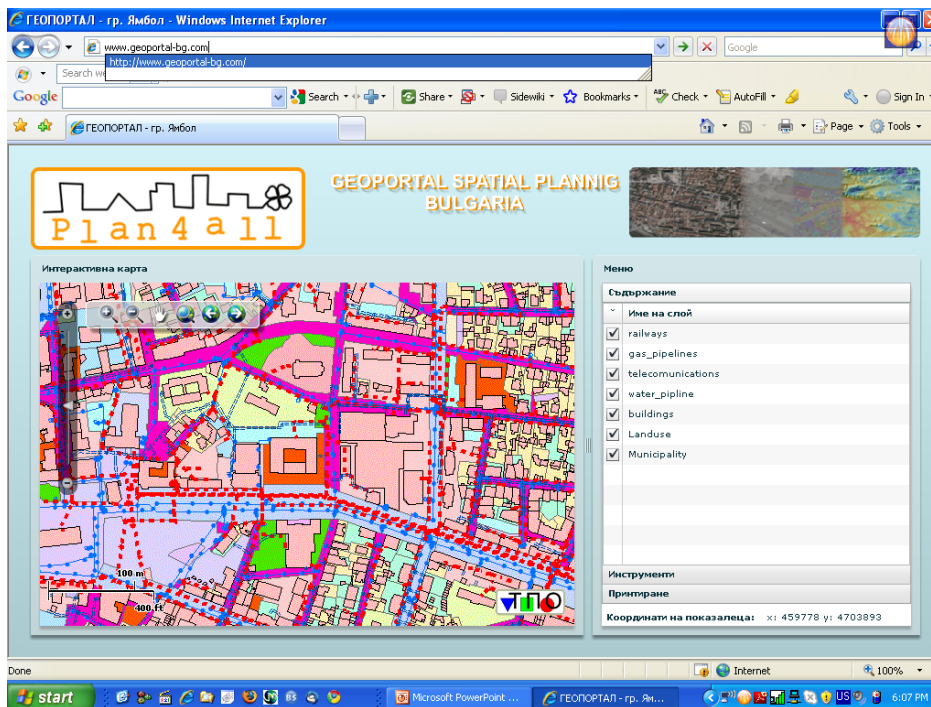
<http://213.91.166.6:8080/geonetwork/srv/en/main.home>



3.11.2.2. Web Services

System is providing basic demonstration services:

- WMS
- WFS
- CWS



You can access the WMS at:

<http://www.geoport.bg.com> or <http://213.91.166.6/Plan4all/>

3.11.3. Metadata Preparation according to Plan4all profile

The metadata related with Land Use have been updated according to Plan4all profile. The others about Landcover and Administration Units will be in the following days.

3.11.4. Thesaurus

GEMET – Inspire Themes – was used to document metadata for the six datasets. It is multilingual thesaurus and it was recommender by Plan4all.

3.11.5. Results

3.11.5.1. Comments on Plan4all metadata profile

3.11.5.2. Recommended changes on the Plan4all metadata profile

3.12. ADR Nord Vest (content provider)

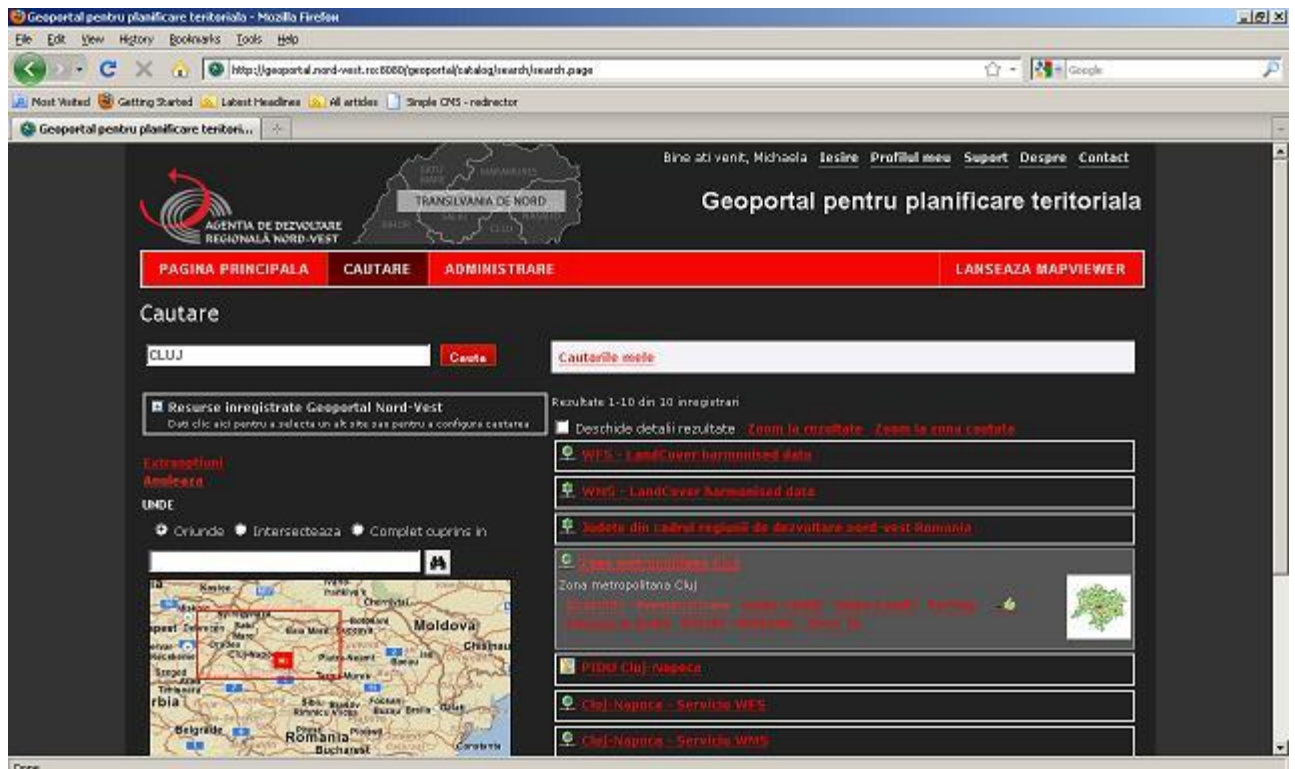
3.12.1. General description of existing metadata

ADR Nord-Vest (the North-West Regional Development Agency of Romania) has significant responsibilities in the regional development policy in Romania, one of them being the stimulation of interregional, internal and international, trans-border cooperation, including the cooperation within the Euro regions.

In this respect, ADR Nord-Vest supports the county and local administrations in the process of publishing their own digital spatial planning data. At the same time, ADR Nord-Vest provides regional maps for general purpose use.

Regarding the metadata, the county and local administrations have published no metadata of their own so far. Consequently, ADR Nord-Vest has developed a platform (hardware + software) to publish metadata, describing:

- data owned by the county and local administrations, but hosted on ADR Nord-Vest server
- links to data published by the county and local administrations on their own sites
- ADR Nord-Vest data and services
- metadata from other catalogues (ex: Plan4all, INIS Inspire Romania, etc.).



The published metadata are mostly related to Annex II theme Land Cover and Annex III theme Land Use. They refer to the North-West Development Region of Romania, also known as Northern Transylvania.

The published metadata describe spatial planning data from regional, county or local plans, such as: Planning Territorial Units (UTP), General Urban Plans (PUG), Zonal Urban Plans (PUZ), Integrated Plans for Urban Development (PIDU), Metropolitan Zone Plans, a.s.o.

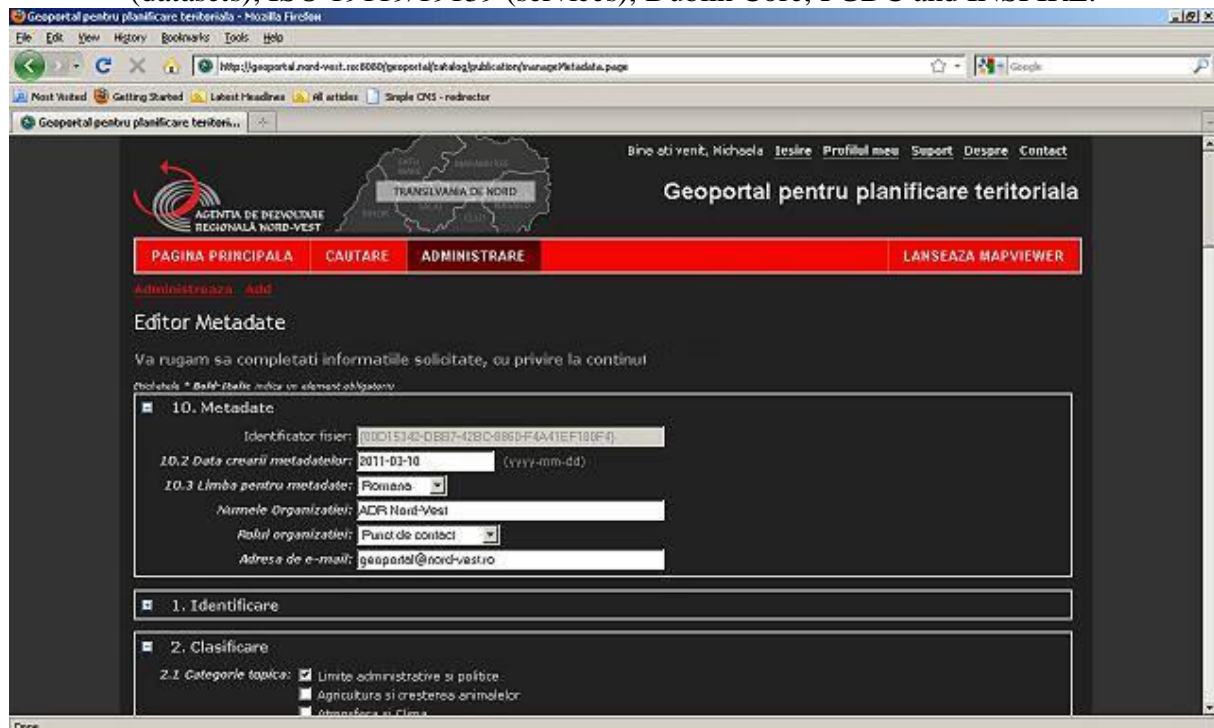
3.12.2. Metadata Publication

3.12.2.1. Metadata Portal Solutions

At regional level, a geoportal was implemented in the frame of Plan4all project. Following the national decision of the Romanian INSPIRE implementation team (National Agency for Cadastre and Real Estate) to use an Esri platform ArcGIS Server + ArcGIS Geoportal Extension for implementing the INSPIRE Romania geoportal (<http://geoportal.ancpi.ro>), ADR Nord-Vest selected the same solution (<http://geoportal.nord-vest.ro>). The regional geoportal includes a customised geoportal web application for publishing, administrating and searching resources, and a live data previewer interface describing metadata records in the geoportal. Besides the geoportal web application itself, it includes another simple application that allows users to search the geoportal from a customized Flex-based viewer (<http://geoportal.nord-vest.ro:8080/mapview/>).

The geoportal has both Romanian and English versions, according to the language option set for the web browser.

The regional ArcGIS geoportal solution allows for the publication of metadata documents, the discovery of these documents through a variety of search protocols, and enables the use of the underlying services and datasets by binding to external client applications through known protocols. The following standards are recognized and supported: ISO 19115/19139 (datasets), ISO 19119/19139 (services), Dublin Core, FGDC and INSPIRE.



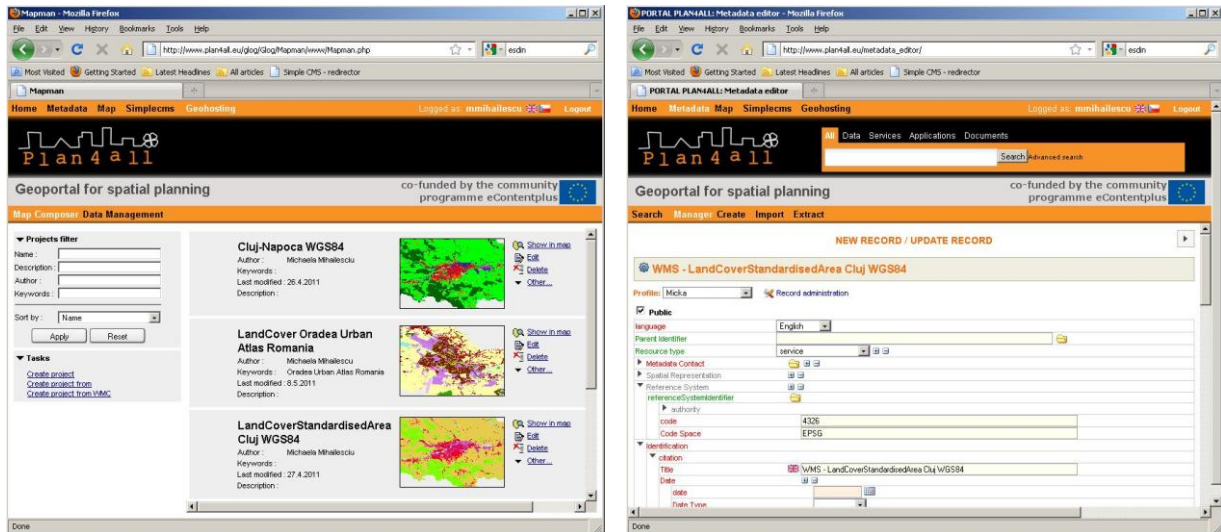
The screenshot shows a web browser window displaying the 'Geoportal pentru planificare teritoriala' metadata editor. The page title is 'Geoportal pentru planificare teritoriala' and the URL is 'http://geoportal.nord-vest.ro:8080/geoportal/publication/manageMetadata.page'. The interface includes a navigation menu with 'PAGINA PRINCIPALA', 'CAUTARE', 'ADMINISTRARE', and 'LANSEAZA MAPVIEWER'. The main content area is titled 'Editor Metadata' and contains a form for adding metadata. The form fields are as follows:

10. Metadata	
Identificator fisier:	<input type="text" value="00015342-DEB7-428C-886D-F4A41EF180F4"/>
10.2 Data crearii metadatelor:	<input type="text" value="2011-03-10"/> (yyyy-mm-dd)
10.3 Limba pentru metadate:	<input type="text" value="Romana"/>
Numele Organizatiei:	<input type="text" value="ADR Nord-Vest"/>
Rolei organizatiei:	<input type="text" value="Punct de contact"/>
Adresa de e-mail:	<input type="text" value="geoportal@nord-vest.ro"/>

Below the main form, there are sections for '1. Identificare' and '2. Clasificare'. Under '2.1 Categorie topica', there are checkboxes for 'Limite administrative si politice' (checked), 'Agricultura si cresterea animalelor', and 'Atmosfera si Clima'.

The detail description of the regional geoportal characteristics, assimilated with the general characteristics of the ArcGIS Geoportal extension vers.10, can be found on http://geoportal.nord-vest.ro:8080/geoportal/webhelp/en/geoportal_10/index.html.

For test purposes in the frame of Plan4all project, ADR Nord-Vest uploaded data and metadata on Plan4all server as well, using the metadata editor provided by MicKa product.



3.12.2.2. Web Services

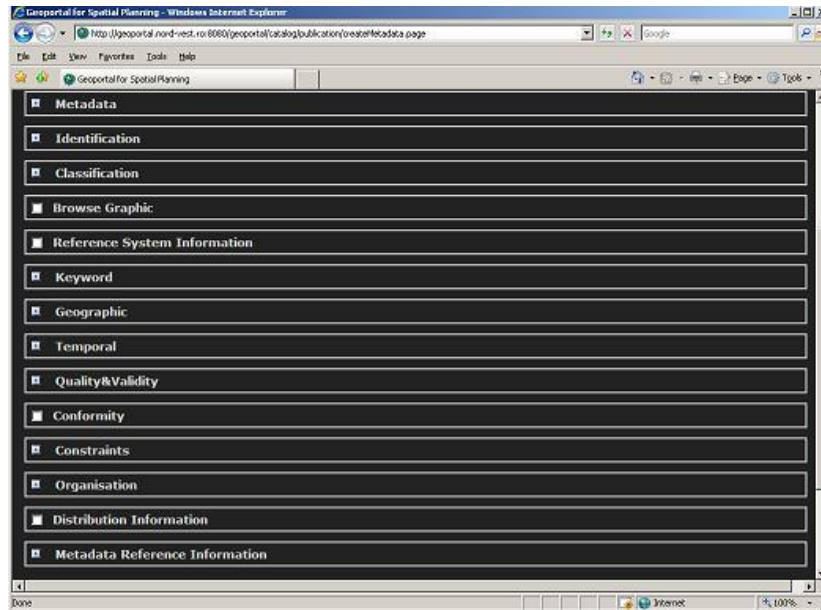
The metadata related to spatial data and services in the region are accessible using the CSW service

http://geoportal.nord-vest.ro:8080/geoportal/csw/discovery?Request=GetCapabilities&Service=CSW&Version=2.0_2

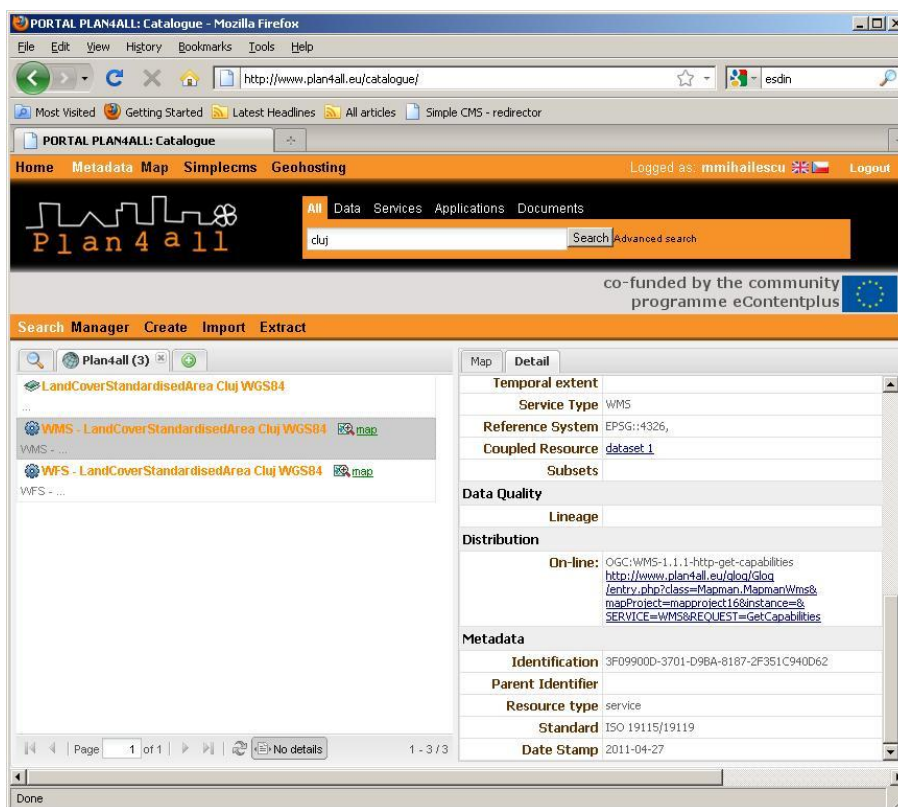
The geoportal extension CSW implementation supports the mandatory CSW requests: GetCapabilities, DescribeRecord, GetRecords, as well as some optional CSW requests, such as GetRecordsById and Transaction

3.12.3. Metadata Preparation according to Plan4all profile

Up to this moment, all the metadata edited on the regional geoportal are based on the INSPIRE profiles for datasets and for services, as provided by ArcGIS Geoportal extension vers.10. Metadata information is grouped as follows:



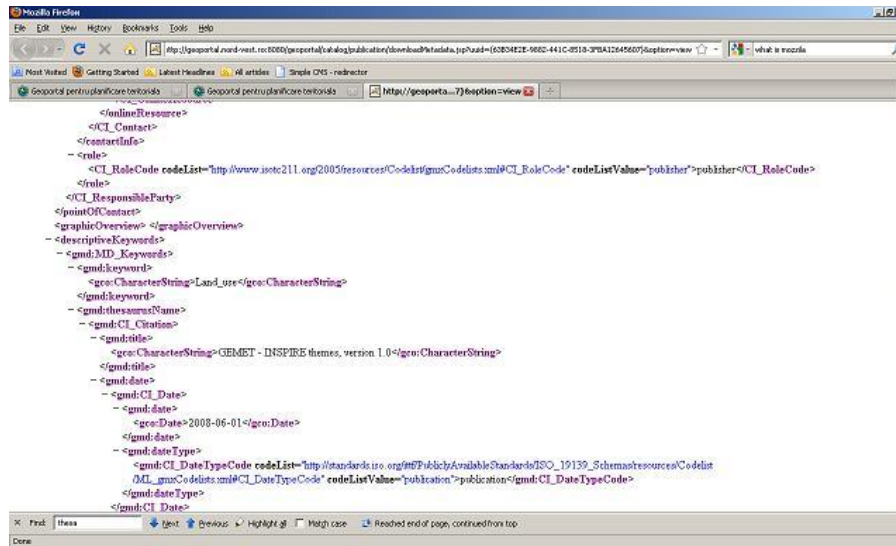
The Plan4all metadata profile needs to be further added to the regional geoport. For the present, the use of Plan4all metadata profile has been tested only on the European geoport.



3.12.4. Thesaurus

The GEMET is used for editing metadata of the data published by means of the regional geoport.

GEMET thesaurus keywords were used in some spatial datasets metadata and INSPIRE services classification for spatial services metadata (Ex: GEMET - INSPIRE themes, version 1.0, 2008-06-01 Land use)



```

<functionResource>
  <CI_Contact>
    <contactInfo>
      <rule>
        <CI_RoleCode codeList="http://www.iso211.org/2005/resources/CodeLists/gm:CodeLists.xml#CI_RoleCode" codeListValue="publisher">publisher</CI_RoleCode>
      </rule>
    </CI_Contact>
  </functionResource>
  <pointOfContact>
    <graphicOverview> </graphicOverview>
    <descriptiveKeywords>
      <gm:keyword>
        <gco:CharacterString>Land_use</gco:CharacterString>
      </gm:keyword>
    </descriptiveKeywords>
    <gm:title>
      <gco:CharacterString>GEMET - INSPIRE themes, version 1.0</gco:CharacterString>
    </gm:title>
    <gm:date>
      <gm:CI_Date>
        <gm:date>
          <gco:Date>2008-06-01</gco:Date>
        </gm:date>
        <gm:dateType>
          <gm:CI_Date_Type codeList="http://standards.iso.org/inf/2005/19139_Schemas/resources/CodeLists/OI_gm:CodeLists.xml#CI_Date_TypeCode" codeListValue="publication">publication</gm:CI_Date_TypeCode>
        </gm:dateType>
      </gm:CI_Date>
    </gm:date>
  </gm:date>

```

Being the multilingual thesaurus recommended by Plan4all, it was also used when creating metadata records on Plan4all European geoportal.

3.12.5. Results

3.12.5.1. Comments on Plan4all metadata profile

As previously stated, the county and local administrations have published no metadata of their own so far. The process is still considered an additional effort (usually not financed) for the data providers, no matter if they are public administrations or private companies. It is unlikely that this situation will change in the near future, even though requirements for the implementation of INSPIRE metadata have been included in the national legislation.

The Plan4all metadata profile is intended not only for discovery services, but also as documentation of spatial plans (evaluation, use), their components (datasets) and corresponding services. The metadata preparation according to Plan4all metadata profile will require even more time and more information than the INSPIRE profile.

3.12.5.2. Recommended changes on the Plan4all metadata profile

No recommendations so far.

3.13. Lazio (content provider)

3.13.1. General description of existing metadata

The pilot chosen by the Lazio Region regards the new Regional Landscape Plan (PTPR).

The PTPR applies the principles and the contents of the Italian “Cultural Heritage and Landscape Code”, transferring to the regional context the European principles relating to landscape, natural and cultural heritage, as defined by the European Spatial Development Perspective (ESDP, 1999) and the European Landscape Convention (2000), and contained in the Agreement between the Italian State and the Italian Regions (2001).

The PTPR is a sector spatial planning instrument that regulates the way how landscape is governed, specifying the actions needed for preserving, restoring or creating landscapes. In particular, for the constrained areas (landscape assets), the PTPR is directly effective, even where the local spatial plans are in contrast with its provisions; while on the rest of the regional territory, it acts as a policy document which the local planning bodies simply have to acknowledge.

The PTPR has been drafted on the base of the Regional Technical Cartography 1:10,000 (raster format), made of 537 sections; for the checks and updates, the 1996 b/w orthophotos and the 1998/1999 color orthophotos have been used (1:10,000, digital format). Also, the information of the Regional Environmental Information System (SIRA) has been used.

The PTPR consists of three parts:

- Table A (Landscape Systems), containing an identification of the different landscape types existing in the Region, recognisable thanks to their common features.
- Table B (Landscape Assets), identifying the constrained parts of the territory on which the plan is directly effective.
- Table C (Natural and Cultural Assets), identifying other assets which are not constrained, but that are to be considered as important territorial resources.

The PTPR refers to the Plan4all theme Land Use.

The Lazio Region also intends to publish metadata relating to the theme Land Cover. The Land Cover Map of Lazio Region has been developed within the EU CORINE Land Cover project. The entire territory of the Region (1,720,300 hectares) has been mapped down to the fourth level of detail, obtaining 72 land cover classes, with a minimum mapped area of one hectare. The current Land Cover Map of the Region is therefore an in-depth study which follows the original survey carried out by the EU, and has been implemented within the works regarding the drafting of the Regional Territorial Landscape Plan.

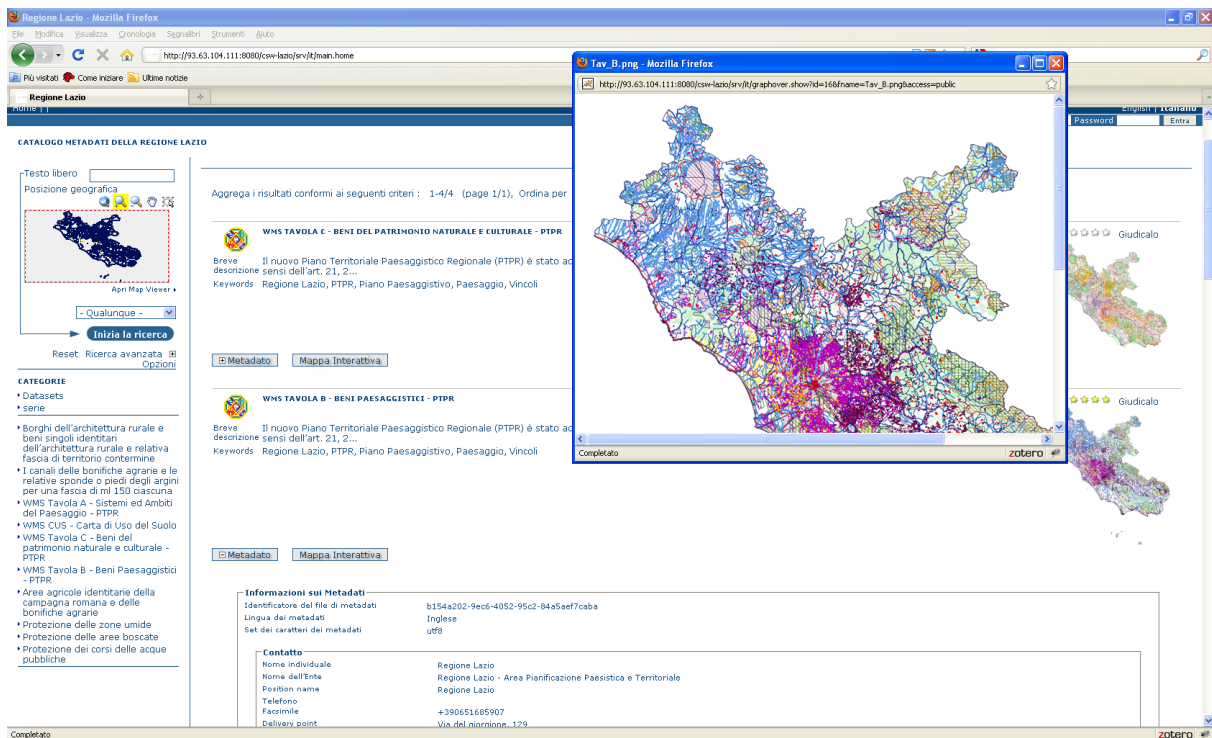
The map has been developed through visual interpretation of “Terraitaly” digital orthophotos, dating to the 1998-1999 flights, and of the 2001-2001 Landsat 7 ETM+ images.

3.13.2. Metadata Publication

3.13.2.1. Metadata Portal Solutions

The Lazio Region has its own spatial data infrastructure, which has been integrated, in order to carry out the Plan4all activities, with a metadata catalogue.

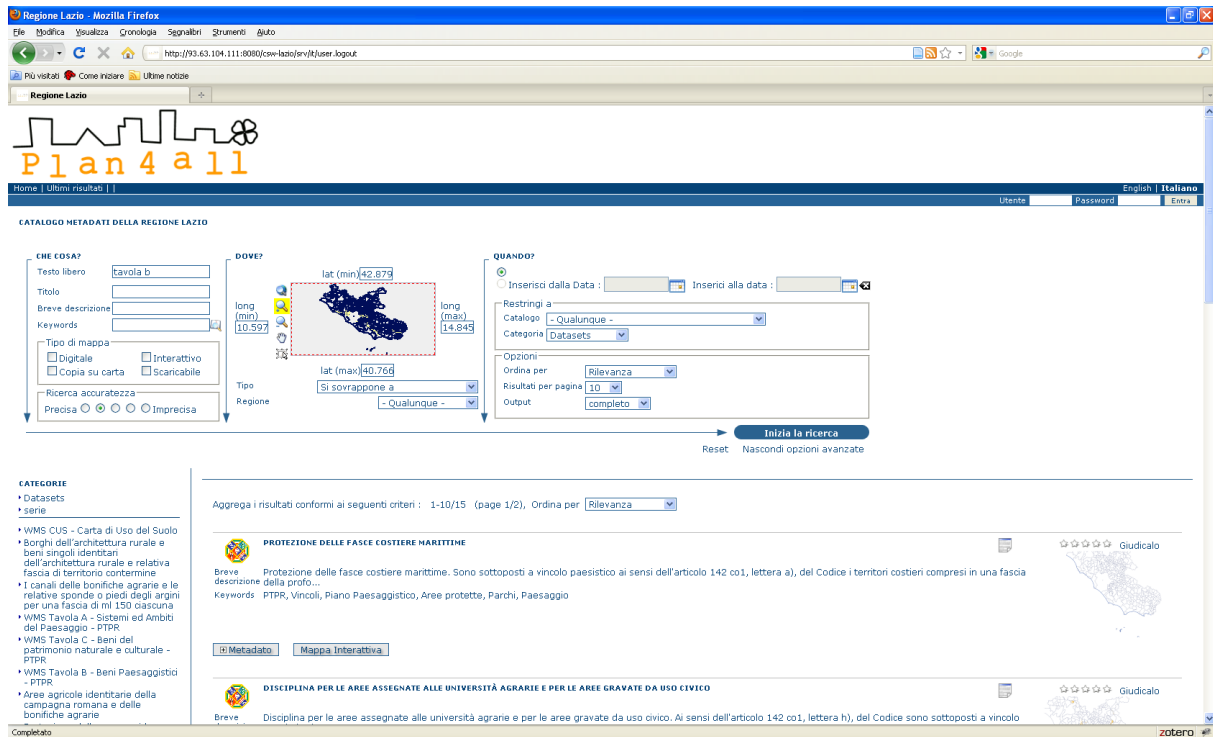
A Geonetwork server (<http://93.63.104.111:8080/csw-lazio>) has been already implemented in order to edit and publish the metadata provided by the Region. Geonetwork is an Open Source software developed by FAO (Food and Agriculture Organisation), WFP (World Food Programme) and UNEP (United Nations Environment Programme), and implements a standardised and decentralised environment for the management of spatial information, allowing the access to georeferenced databases, cartographic products and metadata related to different sources. The implementation of the spatial data catalogue is done according to the OGC Reference Architecture standard. Geonetwork also allows the distributed search for metadata implementing the CS-W protocol.



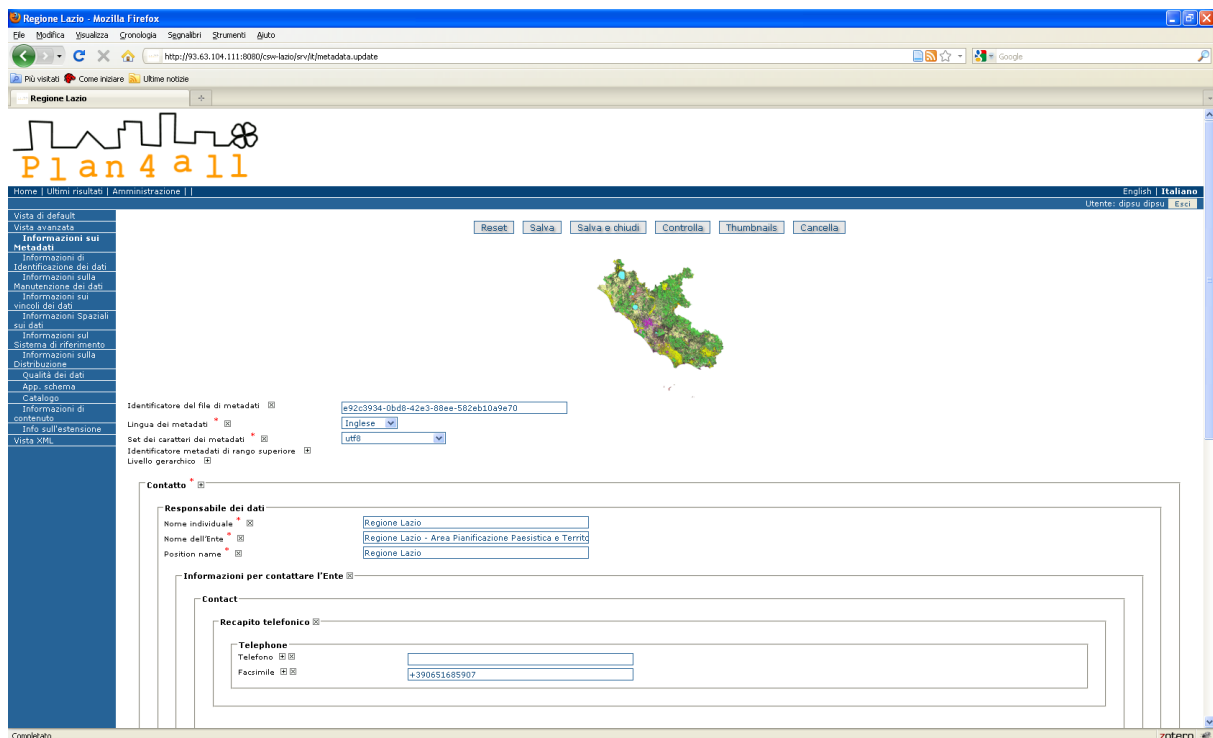
The screenshot shows the Geonetwork interface in a Mozilla Firefox browser. The main window displays search results for metadata in the Lazio Region. The search criteria are: 1-4/4 (page 1/1), Ordina per. The results list includes two records for 'WMS TAVOLA C - BENI DEL PATRIMONIO NATURALE E CULTURALE - PTPR'. The selected record details are as follows:

Informazioni sui Metadati	
Identificatore del file di metadati	b154a202-9ec6-4052-95c2-84a5ae7caba
Lingua dei metadati	Inglese
Set dei caratteri dei metadati	UTF8
Contatto	
Nome individuale	Regione Lazio
Nome dell'ente	Regione Lazio - Area Pianificazione Paesistica e Territoriale
Position name	Regione Lazio
Telefono	+390651665907
Facsimile	
Delivery point	Via del Risorgimento, 129

Geonetwork interface



Advanced metadata search with Geonetwork



Advanced metadata editing with Geonetwork

3.13.2.2. Web Services

The catalogue exposes the CS-W 2 service for the search and binding of metadata. The CS-W service is available at the following URL: <http://93.63.104.111:8080/csw-lazio/srv/en/csw?request=GetCapabilities&service=CSW>

3.13.3. Metadata Preparation according to Plan4all profile

The metadata, which has already been published according to the ISO standard, will be now extended to the Plan4all specifications and then published again.

3.13.4. Thesaurus

There is currently no thesaurus supporting multilingual discovery of data.

3.13.5. Results

3.13.5.1. Comments on Plan4all metadata profile

3.13.5.2. Recommended changes on the Plan4all metadata profile

3.14. MEEDAT (content provider)

3.14.1. General description of existing metadata

The “ministry of ecology, sustainable development, transport and housing” involvement in the Plan4all project relates to current policies in the field of geographic information and spatial planning. These includes mainly

- the de-materialisation of planning documents that are the responsibility of local governments,
- the modernisation of the building permits procedures
- the implementation of the INSPIRE directive.

Regarding metadata, the ministry has a long tradition of publishing descriptions of geographic information held by the ministerial departments both at national and local level (<http://adelie.application.developpement-durable.gouv.fr/>). Due to the INSPIRE directive, the strategy was to minimise the duplication. Thus as the choice has been made to use the géocatalogue facilities (<http://www.geocatalogue.fr>) developed to catalogue all public authorities data holdings for meeting the INSPIRE implementation rules, MEDDTL profits the harvesting possibilities to meet the Plan4all requirements (see Figure 3.17-1).

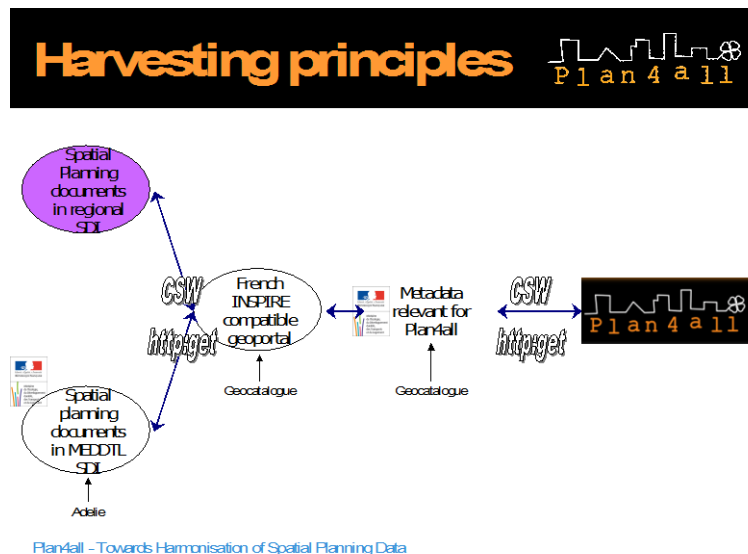


Figure 3.17-1 general principle of the experimentation in MEDDTL

Using CSW request of the géocatalogue, Plan4All geo-portal access the relevant metadata regarding spatial planning documents. This requires to use keywords such as “PLU, plan local d’urbanisme, POS, plan d’occupation des sols, SUP, servitudes d’utilité publique” in order to filter within the geo-catalog only those datasets that are relevant regarding spatial plans. In the future a request on the appropriate INSPIRE “theme” will ensure the selection of the only useful datasets.

Annex III theme 4: Land Use (LU) and Annex III theme 11: Area Management/Restriction/Regulation Zones and Reporting Units (AM) are the only spatial planning and INSPIRE Plan4all themes taken into consideration.

3.14.2. Metadata Publication

3.14.2.1. Metadata Portal Solutions

MEDDTL use a portal solution called ADELIE which is a centralized system for storing, cataloguing (metadata) and provisioning geographic datasets and maps in all formats: files and documents like GIS datasets, spreadsheets, interactive maps (especially from Cartelie), PDF maps , Images, research papers, etc.).

ADELIE is fed by local data administrators but also by their external partners. The result is a catalogue that provides access to data and maps, with documentation and conventions of use, according to selected distribution rights for intranet, extranet (partnership) and Internet uses.

Metadata that are declared public are automatically visible on the national géocatalogue. ADELIE is ISO19115/19139 1.0 compliant.

ADELIE V1.5 is INSPIRE compliant and has now been in use since January 2011 as the implementation of INSPIRE imposes more obligations than the original ISO (19115) such as more metadata (MD) must be entered than requested by ISO, some of them being already required in ADELIE (access condition, URL access to the data, language, ...), others were optional in ADELIE:

Finally, the implementation of the V1.5 requires only to capture a new metadata element to be INSPIRE compliant i.e. the INSPIRE “theme” that is relevant to the dataset.

ADELIE is an in house development based on PostgreSQL for storing metadata and open source software for accessing it on the Web by standard Internet navigators.

3.14.2.2. Web Services

ADELIE metadata are accessible via a CSW service.

Synchronization between geographic metadata catalogues is processed through the standard OGC "Catalogue Services for the Web version 2 (CSW-2). By mutual agreement with the géocatalogue team, it was agreed to allow the harvesting of ADELIE by géocatalogue through the implementation of a very small subset of the standard CSW-2 - ISO Profile. Of all the scenarios offered, only three are implemented:

- the possibility for the géocatalogue to request ADELIE for the list of metadata records published on the Internet (CSW primitive "GetRecords)
- the possibility for the géocatalogue to retrieve accurate metadata in XML format (CSW primitive "GetRecordById)
- the publication by ADELIE of its offered OGC CSW capacity (CSW primitive "GetCapabilities")

The goal is to automate the referencing in the géocatalogue of all records published on the Internet via ADELIE.

The software has been developed by Bull S.A.

3.14.3. Metadata Preparation according to Plan4all profile

The comparison between INSPIRE metadata, Plan4all metadata and ADELIE metadata has been performed prior to the preparation of metadata according to Plan4all profile. It provides the list of discrepancies for several metadata elements and the ones that are not implemented in ADELIE although requested by Plan4all. These metadata elements not present in ADELIE is given in the table below.

INS	ISO	Plan4all	Adélie
5	342	Geographic bounding polygon	
	337	Temporal extent	
	84	Process step	
	368	Presentation form	
	21	Application schema	
	79	Data quality scope	
	143	Maintenance and update frequency	
	26	Purpose	
	28	Status	
	68	Legal relevance	

These missing metadata are optional in INSPIRE and are not stored in ADELIE. They are optional in Plan4All with the following exception:

- Presentation Form: it has been decided to "hard code" the attribute with "Digital map" code because the experiment only takes into consideration the digital map data (raster or vector)
- Data quality scope: it has been decided to set the default value "data set level"

It has been noted that "step process" is available in other data bases thus describing the process and not the result, and that "application schema" is actually a pointer to the Conceptual schema of the dataset.

3.14.4. Thesaurus

The implementation of INSPIRE themes into ADELIE V1.5 introduces the requirement to use the keywords taken from the official list of 34 themes of INSPIRE. Thus three thesaurus needed to be made consistent: ISO: "Category", INSPIRE: "Theme" and ADELIE "Thème COVADIS". ADELIE approach is to derive the ISO "Category" from the INSPIRE "theme" or the "thème COVADIS", and to ask the metadata provider to document the metadata with the "thème COVADIS" which consequently provide the list of INSPIRE themes that are relevant to the dataset. There is the possibility for him to add a complementary INSPIRE "theme".

ADELIE supports multilingual discovery of data by using the INSPIRE "theme"

3.14.5.Results

3.14.5.1. Comments on Plan4all metadata profile

In order to take benefit of the INSPIRE implementation to which all public authorities will conform to by mid 2013 for annex II and III data, Plan4all metadata profil should align with INSPIRE metadata implementation rules. In the French context, the choice has been made to differentiate the process of establishing a spatial plan (spatial planing process) from the result of the process (a spatial plan). The Plan4all metadata profile should therefore concentrate on the results of the process, i.e. give access to the spatial plans that are opposable to third parties.

3.14.5.2. Recommended changes on the Plan4all metadata profile

It is recommended to set as voidable the metadata elements of the Plan4all metadata profile that are voidable in the INSPIRE metadata implementation rules, and to have Plan4all metadata profile aligned with INSPIRE.

3.14.5.3. Recommended changes

4. Results Summary

Plan4all metadata profile is a complex INSPIRE metadata profile extension for Spatial/urban planning purposes. It covers almost all necessary information about planning documentation (process) as well as information on digital datasets composing plans and their publication. It should be discussed if the Plan4all metadata profile should rather concentrate on the results of the process i.e. give access to the spatial plans that are opposable to third parties.

It should be considered if not some recommended Plan4all metadata elements are overlap already existing INSPIRE metadata or OGC services capabilities elements. The information about a “Geographic boundary polygon” could also be provided by a service capabilities document. The proposed differentiation between land use “spatial plan metadata” and “dataset metadata” is not clear for some partners. As far as geographic information is concerned, there seems no difference between a spatial plan and the dataset describing it. Therefore, Land Use (i.e. spatial plan) metadata will be published as “spatial plan metadata” rather than “dataset metadata”. The difference between “spatial plan metadata” and “dataset metadata” in the Plan4all profile should be better explained

The metadata preparation according to Plan4all metadata profile will require even more time and more information than the INSPIRE profile. This process is still considered an additional effort (usually not financed) for the data providers.

ECP-2008-GEO-318007

Plan4all

Deployment of Metadata - the First Stage

Annex I – Georama extension



eContentplus

This project is funded under the *eContentplus* programme¹,
a multiannual Community programme to make digital content in Europe more accessible, usable and exploitable.

¹ OJ L 79, 24.3.2005, p. 1.

1. Metadata Deployment in Regions

1.1. GEORAMA (content provider)

1.1.1. General description of existing metadata

Existing metadata are copy of original data provider data descriptions without changes since Georama is no data owner. Initial datasets have been retrieved from geodata.gov.gr. However, Georama supports and re-distributes the whole datasets through its own facilities and infrastructure acquired for the Plan4All project.

Annex III theme 4: Land Use are the only spatial planning and INSPIRE Plan4all themes taken into consideration.

1.1.2. Metadata Publication

1.1.2.1. Metadata Portal Solutions

Do you have a local or regional Metadata Portal implementation or do you use the Plan4all metadata catalogue?

A.: local implementation. Georama exploits its new technology infrastructure which is a fully OGC compliant SDI infrastructure based entirely on open source software.

What software metadata portal solution do you use?

A.: Geonetwork. A description of the solution is given in the following.

The metadata management and publication is performed through Geonetwork, which provides OGC services accessible from browser and any compatible client application. The main functionalities/services are:

- Search: find metadata
- OGC services: CSW.
- Downloads: metadata file, via HTTP.

Technology details

Basically, the technological stack for services is java-based according to the following:

- DBMS with spatial extension, accessed through JDBC
- Java JVM 1.6 as runtime
- Tomcat 6 as application server

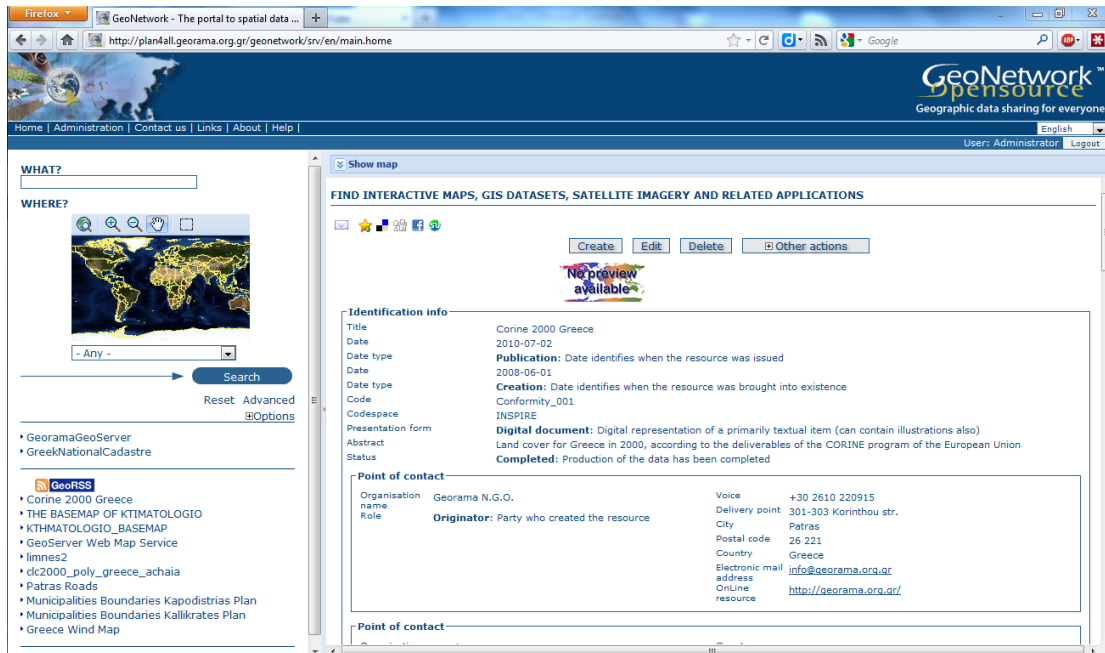
All services are working in a virtual machine with one processor 2 GHz, 6 GB of RAM memory and a Windows Server 2008 64bit operating system, but notice that the component is fully cross-platform.

Catalogue services (Geonetwork)

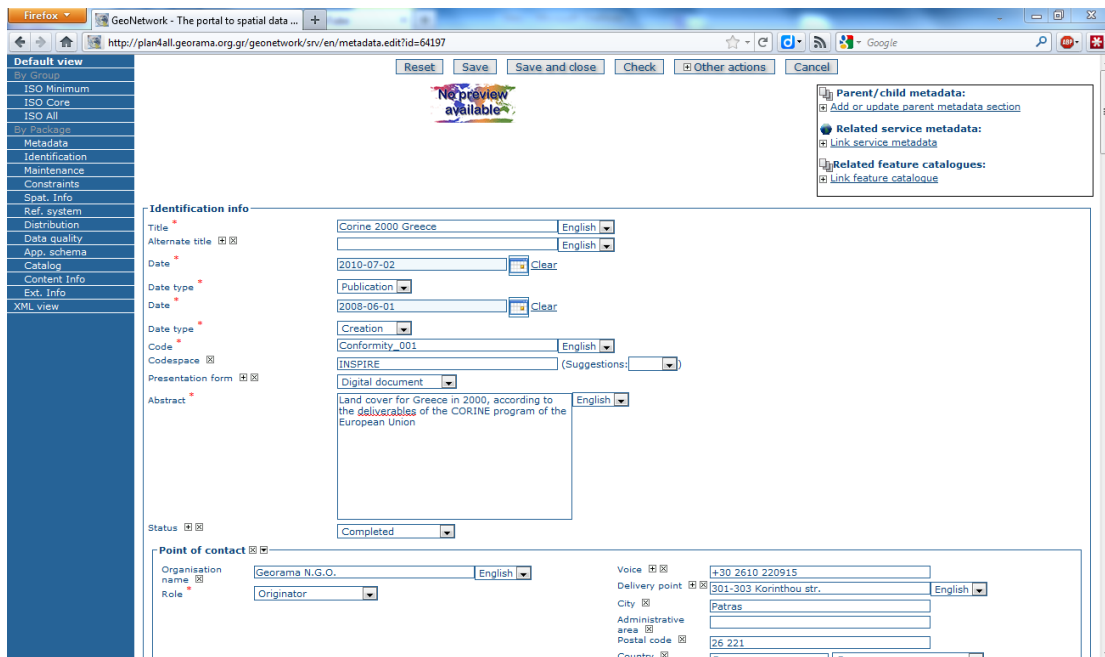
A catalogue management tool – i.e. *Geonetwork* - has been provided in order to publish standard OGC catalogue services and to allow creation, editing and search of metadata. In the

following pictures are displayed interfaces of GeoNetwork on sample metadata of a map service.

<http://plan4all.georama.org.gr/geonetwork/srv/en/main.home>



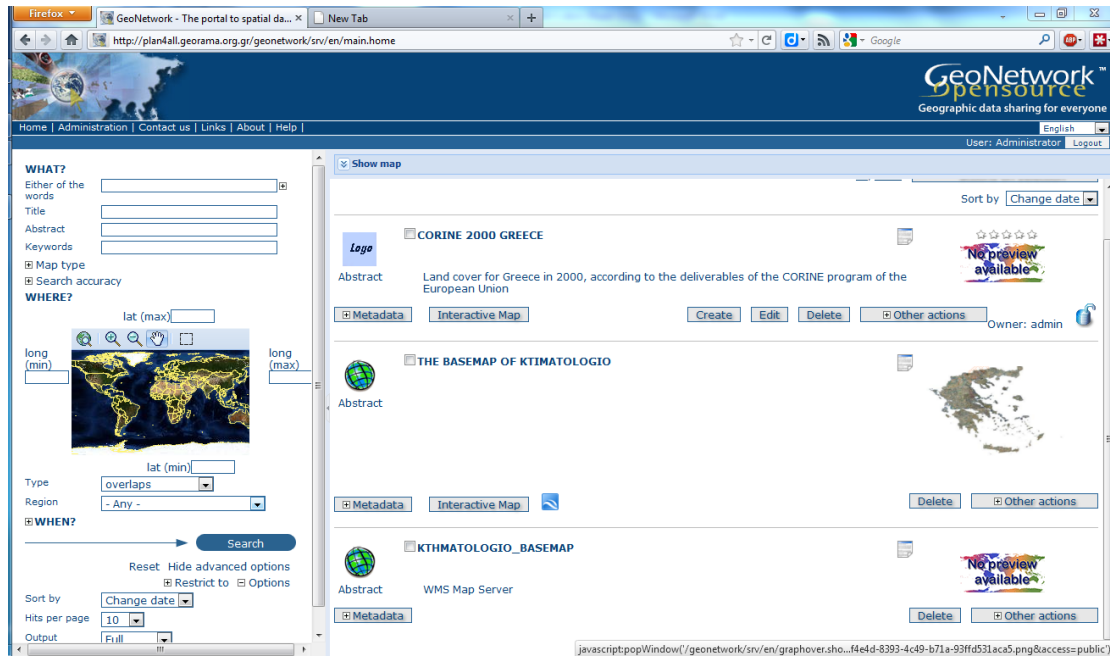
Metadata in GeoNetwork



Metadata editing in GeoNetwork

Metadata storage is automatically kept by Geonetwork in the PostgreSQL/PostGIS instance.

Interactive search/download: besides the consultation via CSW protocol, it is possible to do an interactive direct search through the GeoNetwork web interface, which allows also metadata download as PDF or XML.



GeoNetwork metadata search/access/download

Georama developed the metadata portal solution using the GeoNetwork:
<http://plan4all.georama.org.gr/>

1.1.2.2. Web Services

System is providing basic demonstration services:

- CWS

<http://plan4all.georama.org.gr/geonetwork/srv/en/csw>

1.1.3. Metadata Preparation according to Plan4all profile

1.1.4. Thesaurus

There is currently no thesaurus supporting multilingual discovery of data.

In meta-data system used GEMET thesaurus and to extend search and identify capabilities added keywords in local language.

1.1.5. Results

1.1.5.1. Comments on Plan4all metadata profile

1.1.5.2. Recommended changes on the Plan4all metadata profile