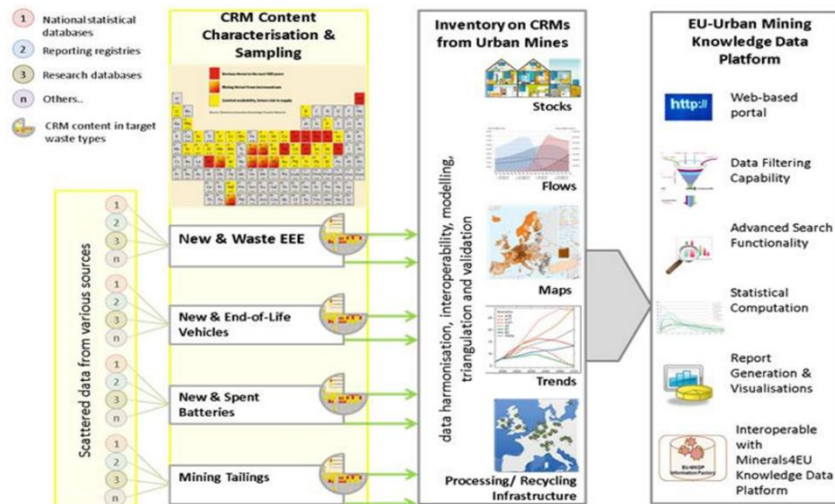


Creation of the Metadata System

Deliverable 5.6



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PURPOSE

The purpose of this report is to describe the architecture, development and the main function of the Prospecting Secondary raw materials in the Urban mine and Mining wastes (ProSUM) Metadata Catalogue (<http://prosum.geology.cz/>) that was created in the framework of the ProSUM EU-UMKDP (Urban Mine Knowledge Data Platform).

The ProSUM Metadata Catalogue is the central access point to metadata concerning data on secondary sources of raw materials from “urban mines” - data on Waste Electrical and Electronic Equipment (WEEE), End-of-Life Vehicles (ELV), Batteries and Mining Waste. Only digital and structured information (e.g. non-geographic and spatial datasets or dataset series and spatial data services – Web Map Services WMS), Web Feature Services (WFS)) are described by metadata in this catalogue. The ProSUM Metadata Catalogue is integrated into the ProSUM Portal (<http://prosum.brgm-rec.fr/>) to display the metadata records in an on-line map service,

This document also acts as a ‘user guide’ for partners within the project, the ‘cookbook’

EXECUTIVE SUMMARY

The Deliverable report describes the application of the ProSUM Metadata Catalogue (MlcKA) in detail designed to provide the structure for managing metadata. This document demonstrates the steps that the data provider must undertake to ensure that the data are clearly displayed in the MlcKA catalogue and usable for users. The ProSUM Metadata Catalogue is available on <http://prosum.geology.cz/> and on the project portal <http://prosum.brgm-rec.fr/>.

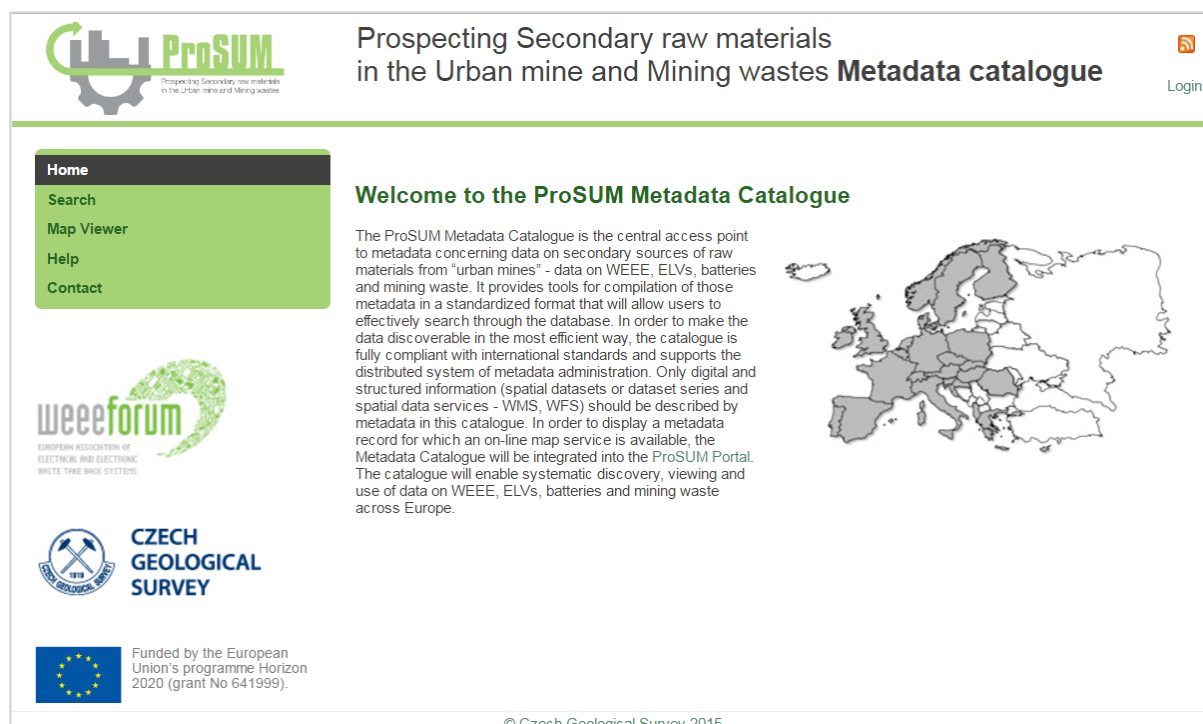


Figure 1: The home page of the ProSUM Metadata Catalogue

The catalogue enables systematic discovery, viewing and use of the data on WEEE, ELV, batteries and mining waste across Europe. It provides tools for compilation of those metadata in a standardized format that allows users to effectively search through the database.

1. Introduction

In order to make the data discoverable in the most efficient way, the catalogue is fully compliant with international standards and supports the distributed system of metadata administration as following: (ISO 19115 Geographic Information: Metadata, ISO 19119 Geographic Information: Services, ISO 19110 Geographic Information: Methodology for feature cataloguing, ISO 15836:2009 - Information and documentation - The Dublin Core metadata element set) and supports the distributed system of metadata administration. The profile is compliant with the INSPIRE Metadata Implementing rules: Technical Guidelines from 2013-10-29.

The advantage of the distributed system is the possibility to reuse already existing metadata from the European, national or related projects catalogues (Minerals4EU, One Geology, etc.). This implies less additional work for the data providers as they should already have provided INSPIRE compliant metadata for their data. They would only have to add English translations (if not in existence) and project-specific keywords. The architecture of the ProSUM Metadata Catalogue is presented in Figure 2.

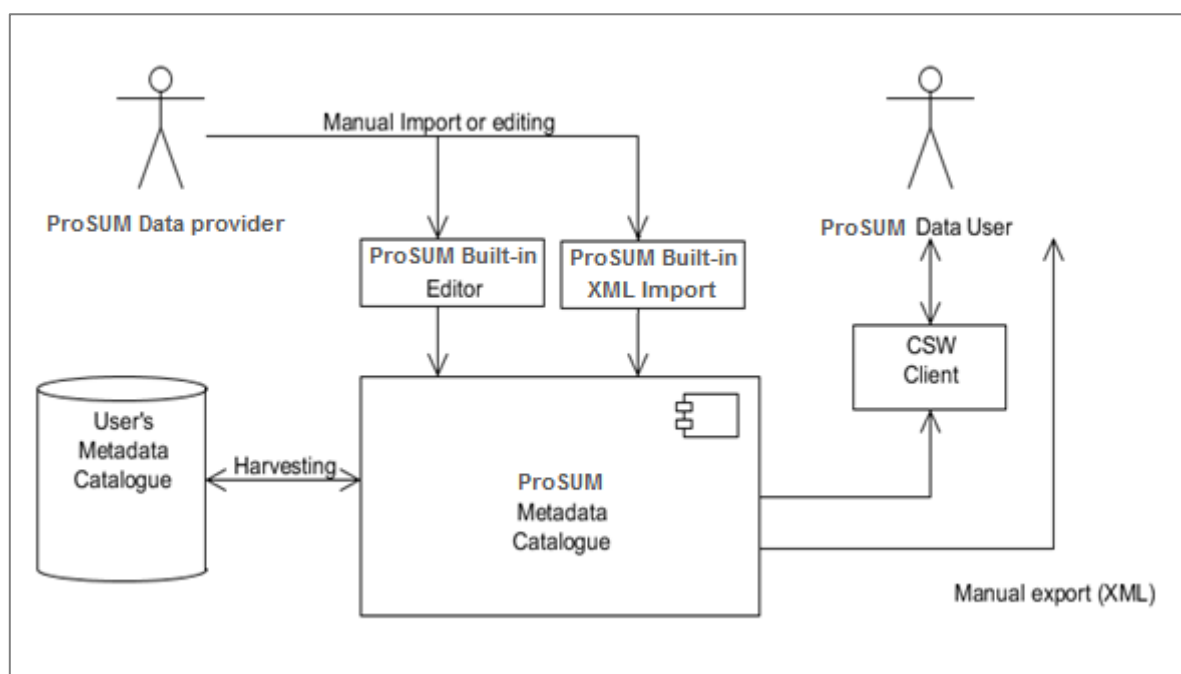


Figure 2: The ProSUM Metadata Catalogue architecture

Metadata are freely accessible to the public for viewing and searching, but inserting and editing is for authorized users only. The login information being obtained by email on request from the administrator (prosum.metadata@geology.cz).

2. Creating metadata in ProSUM Metadata Catalogue

How to create metadata? A logged-in user with editing rights may **create a new record** in several ways: by harvesting, by manual inputting of existing records, or by creating a new record directly in the catalogue.

2.1 Harvesting

Metadata can be inserted into the database **by harvesting** of existing records from other (national, project) metadata catalogue.

Harvesting from remote catalogues and other sources can be set only by the ProSUM Metadata Catalogue **administrator**.

It is possible to harvest just once (and update manually) or to set regular harvesting.

The unique ID, resource URL, resource type, harvesting interval, notification e-mail and status should be set for each resource. In the list of harvested resources (see Figure 3) the last update is shown for each resource. The last harvesting report is available through RSS (Rich Site Summary) channel.








Harvested resources						
Source	ID	Type	Interval	Filter	Updated	
CGS	http://micka.geology.cz/csw/index.php	CSW-2.0.2	1 days	AnyText like 'ProSUM'	2016-06-15 02:02:01	
EGDI	http://egdi.geology.cz/csw/	CSW-2.0.2	1 days	(AnyText like 'http://egdi.geus.dk' and AnyText like '**mine**')	2016-10-06 16:01:57	
M4EU	http://m4eu.geology.cz/metadata/csw/index.php	CSW-2.0.2	1 days	(AnyText like '*waste*' or AnyText like '**harmonized**')	2016-10-04 16:43:55	
 Harvest now  Harvest with delete  Harvest report  Services heartbeat						

Figure 3: Overview of harvesting resources

The **Metadata contact person** from an organization that wants to harvest the metadata must send to the administrator (prosum.metadata@geology.cz) the following information: URL of CS-W metadata service, resource type, filter options to harvest only particular subset and harvesting interval (recommended 1 day).

Any metadata record that should be harvested to the ProSUM Metadata Catalogue must be denominated by the **keyword "ProSUM"** by the **metadata editor** in the national catalogue of the country concerned or filter options should be defined.

Note: Every record is **public** by default after harvesting into the ProSUM Metadata Catalogue.

2.2 Manual input

2.2.1 Import from service URL or from the file

If an XML file (ISO 19139) with metadata is available, choose the “**Import from file/URL**” option on the “**New record**” page and then either select the file from disc, or enter the URL of the service. The GetCapabilities document will be imported from it.

Note: “Select file for import” has a priority if both fields are filled in.

The screenshot shows a web form titled "New record". It has several sections: "Standard" with radio buttons for "Spatial Data Metadata (ISO 19115)", "Service Metadata (ISO 19119)", and "Import from file / URL" (which is selected and circled in red). The "Import" section contains a "Select file for import" button (circled in red), a dropdown menu showing "ISO 19139", a "Vybrat soubor" button, a "Soubor nevybrán" label, a "Select record for update" button, and an "X" button. Below this is a "Service URL" section (circled in red) with a dropdown menu showing "WMS" and a text input field containing a long URL. The "Existing record" section has radio buttons for "Overwrite" and "Leave existing" (which is selected). The "Access rights" section has dropdown menus for "Group for editing:" and "Group for viewing:", both set to "CGS". The "Language" section has radio buttons for "Primary" (Bulgarian, Czech) and "Other" (Bulgarian, Czech, Danish). At the bottom, there is a copyright notice: "© Czech Geological Survey 2015".

Figure 4: Import from file or URL

If you want to update the existing record with another identifier (UUID), set the existing record UUID by clicking “**Select record for update**” button and by clicking ‘find record’ in search window results. When you import ESRI ISO metadata from a file, the button “**Select Feature Catalogue**” appears for importing the dataset attribute table from the metadata. Erase the selection with the “**X**” button.

By switching option “**Existing record: Overwrite/Leave existing**” you set the rules for importing where the record already exists.

Depending on the amount of information you are providing in your service, of the metadata elements will be automatically completed. This should be checked after creating the record and the missing ones edited manually according to the rules described in this cookbook.

2.2.2 Copy of your existing record using the editing tools

The copy icon enables the user to copy an existing record and use it as a template for creating a new record.



Figure 5: Copy record option

2.2.3 Creation of a new record

The following steps describe how to **create** metadata records for national datasets, dataset series and services according to the developed ProSUM metadata profile.

Step 1:

Create a new record by clicking “New record” in the left menu. New record creation dialogue is displayed in Figure 6.

ProSUM
Prospecting Secondary raw materials
in the Urban mine and Mining wastes

Prospecting Secondary raw materials
in the Urban mine and Mining wastes **Metadata catalogue**

Logged user: CGS logout

Home
Search
New record
Admin
Map Viewer
Help
Cookbook
Contact

New record

Standard

☒ Spatial Data Metadata (ISO 19115)
☐ Service Metadata (ISO 19119)
☐ Import from file / URL

Access rights

Group for editing: CGS
Group for viewing: reader

Language

Primary	Other
<input type="radio"/> Bulgarian	<input type="checkbox"/> Bulgarian
<input type="radio"/> Czech	<input type="checkbox"/> Czech
<input type="radio"/> Danish	<input type="checkbox"/> Danish
<input checked="" type="radio"/> English	<input checked="" type="checkbox"/> English
<input type="radio"/> Estonian	<input type="checkbox"/> Estonian
<input type="radio"/> Finnish	<input type="checkbox"/> Finnish
<input type="radio"/> French	<input type="checkbox"/> French
<input type="radio"/> German	<input type="checkbox"/> German
<input type="radio"/> Hungarian	<input type="checkbox"/> Hungarian
<input type="radio"/> Italian	<input type="checkbox"/> Italian
<input type="radio"/> Latvian	<input type="checkbox"/> Latvian
<input type="radio"/> Lithuanian	<input type="checkbox"/> Lithuanian
<input type="radio"/> Maltese	<input type="checkbox"/> Maltese
<input type="radio"/> Norwegian	<input type="checkbox"/> Norwegian
<input type="radio"/> Polish	<input type="checkbox"/> Polish
<input type="radio"/> Portuguese	<input type="checkbox"/> Portuguese
<input type="radio"/> Romanian	<input type="checkbox"/> Romanian
<input type="radio"/> Slovak	<input type="checkbox"/> Slovak
<input type="radio"/> Slovenian	<input type="checkbox"/> Slovenian
<input type="radio"/> Spanish	<input type="checkbox"/> Spanish
<input type="radio"/> Swedish	<input type="checkbox"/> Swedish

Create

weeeforum
EUROPEAN ASSOCIATION OF
ELECTRONIC AND ELECTRONIC
WASTE TREATMENT SYSTEMS

**CZECH
GEOLOGICAL
SURVEY**

Funded by the European
Union's programme Horizon
2020 (grant No 641999).

© Czech Geological Survey 2015

Figure 6: New record dialogue

From here set the following:

- **Standard:** it is possible to choose the option ISO 19115 standard (default) for spatial datasets, ISO 19119 for spatial data services.

- **Access rights:** the group for editing and the group for viewing. The group for editing should be the same as your username and it should be predefined in the combo-box (more information in chapter “Step 2, Record administration”).
- **Metadata languages:** Left column is for selection of the primary language - English language is chosen by default. Right column is for setting all other languages that will be represented in the multilingual elements. The set of languages can be also edited during the editing process in the header of record.

Then click **Create**.

Step 2:

A new blank record is created.

Record administration

The editor can do this setting for metadata record at the page sub-heading:

- **Language** - what metadata languages are used.
- **Group for editing** - The ***group of your organization*** should be chosen from the list.
- **Group for viewing** - After editing this group should be set as ***readers*** so that all users can view the record in the catalogue.
- **Public/Private** - If the record is **Public**, every user can see it without any authorization. If it is **Private**, only editor and administrator can see it.

Validation Displayed (10.3) **Language** is the one you selected as your primary language **for your metadata**.

For the (1.3) **Resource type**, valid values for the ProSUM project are **dataset**, **series**, **non-geographicDataset** and **service**.

Prospecting Secondary raw materials in the Urban mine and Mining wastes Metadata catalogue

Logged user: CGS logout

Search > Found (4) > Basic metadata > Edit

New record / update record

Example - Mineral resources in the Czech Republic - INSPIRE download service for the theme Mineral Resources

Language: Czech

Record: Public | Group for editing: editor | Group for viewing: reader

(CZ-1) File Identifier: 591e8f3c-eda0-4e1a-9e88-406a0a010854

(10.3) language: Czech

Parent Identifier: [Folder icon]

(1.3) Resource type: service

Hierarchy Level Name: <http://prosum.brgm-rec.fr>

(10.1) Metadata Contact: Individual Name: Mgr. Pavla Kramolišová, Organisation Name: Česká geologická služba, Czech Geological Survey, Contact Info: phone: +420257089452, Address: Klárov 131/3, Praha 1

Browser Window: MICKA - Google Chrome

prosum.geology.cz/?ak=md_lists&ttype=hlname&lang=eng

Hierarchy level names

- Czech national profile: Designation the metadata record for harvesting to European INSPIRE geoportal
- ProSUM**: Designation of the ProSUM predefined portal maps.

Figure 7: Signification of ProSUM harmonised dataset and services

To distinguish the harmonised ProSUM dataset and service, the **Hierarchy Level Name** (hierarchyLevelName) was added to the ProSUM metadata profile. The URL for the ProSUM portal should be completed from here <http://prosum.brgm-rec.fr>. You can choose “From list”, “Designation of the ProSUM predefined portal maps” and value is filled automatically (Figure7).

This is very important step, which allows user to search directly the harmonised records (Figure 8).

Figure 8: Check box of ProSUM harmonised dataset and services

Figure 9 shows the **general features of the Metadata Catalogue application**. Some features which are useful during the whole process of record editing are described below.


Figure 9: General features of the Metadata Catalogue

Metadata profile and main option

The left hand menu of Figure 9 shows which metadata profile (which metadata elements) is displayed in the main window – for filling in metadata use the profile **ProSUM**.

In the left hand menu, there is an option to **Save** the record with the possibility to continue editing, or **Stop editing** (= Save + stop editing) and **Canceledit** to abort last editing.

Validation

A small panel showing the validation result is displayed during editing in the right upper corner (Figure 9). To refresh validation, “**Save**” the record or press refresh button(). The validation is made against the INSPIRE metadata profile.

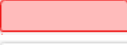
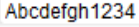

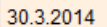
Note: The validation of Non-geographic datasets is not so strict. Some items, not necessary for the metadata schema were removed (INSPIRE Keywords, Spatial resolution, Specification etc.).

There are three types of elements in the metadata profile:

- **Mandatory elements** (mandatory in its context, e.g. if optional element A contains mandatory element B, then when any sub-element in A is used, also element B must be filled. Example: If any element in Contact Info / on-line is filled in, then the URL must be filled in). There are only a few mandatory elements in the standard represented as mandatory core. During metadata editing the validation is performed.
- **Conditional mandatory elements** (These elements are conditional on certain conditions given by the standard or INSPIRE regulation e.g. bounding box is mandatory if data/services have a spatial extent)
- **Optional elements**

Form field types

Different data type fields are coloured differently according to their type:

-  **Mandatory fields** - must be completed
-  **Text fields** - any text value should be set there
-  **Numeric fields** - only digits allowed
-  **Date fields** - ISO format (YYYY-MM-DD) or Czech date format (DD.MM.YYYY) is accepted

“+” or “-” sign gives you the option to multiply (or delete) the related elements.


Context help

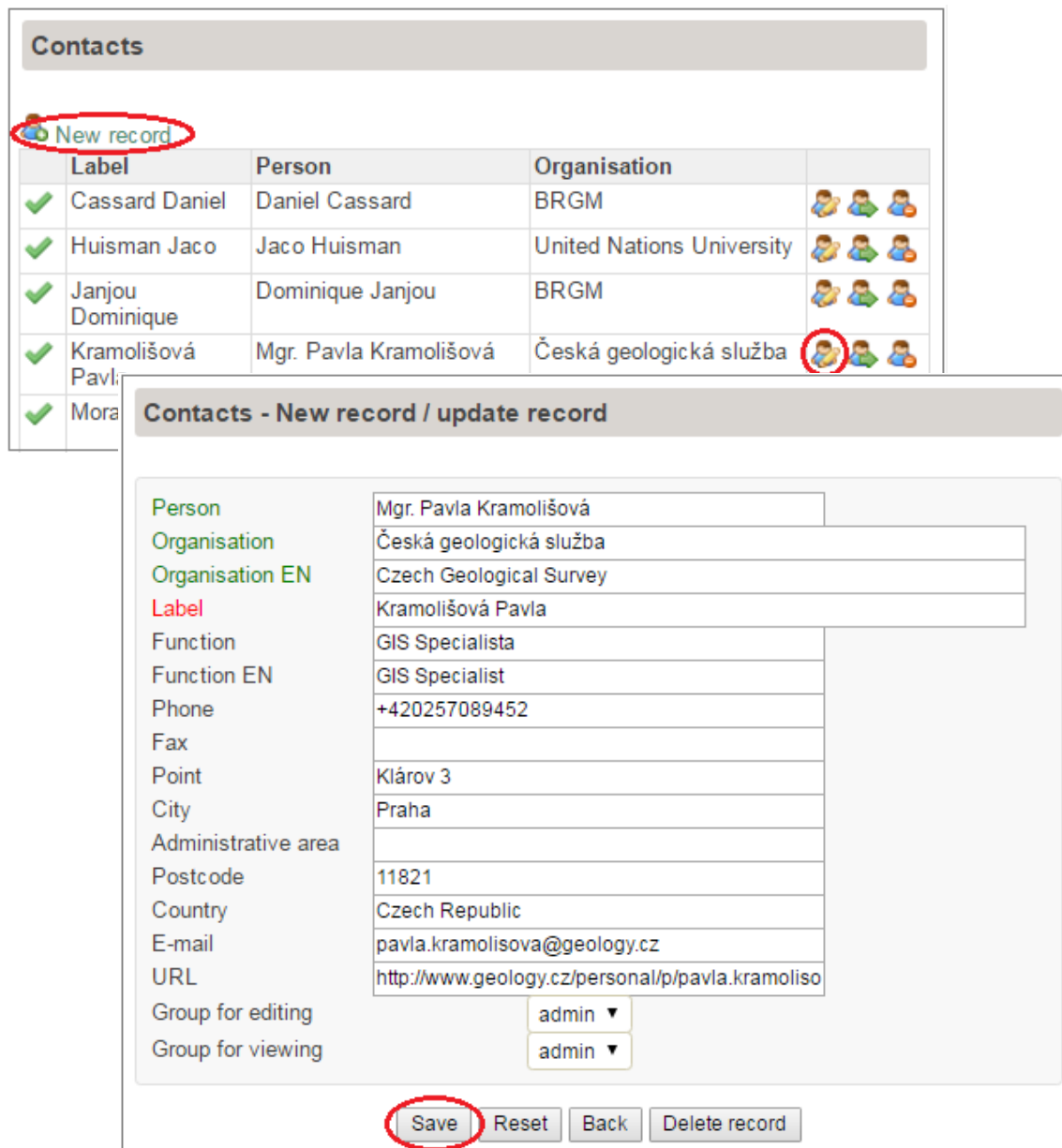
Context help is taken from the ISO 19115 standard and is available when placing the cursor on a field label.

Selection from the lists


The software can complete the metadata elements from controlled lists or thesauri of two types:













- **Fixed controlled list** is realized by combo-box, where the user selects the value. These values are taken from the standard.
- **Other lists** are "supplementary" and allow for fields which are free text format by definition in the standard. In some cases INSPIRE sets some rules for filling those fields and these code lists help the user to fill them. By clicking on this field a small window is opened to enable user to take some values from the list etc.

The icon  **From list** marks that there is a predefined list of values to use - in the case of the contact list (for example for filling the (10.1.) **Metadata Contact**), you can edit the list once and then use the values in more metadata records, see Figure 10. Name of organization and function of contact person should be entered in national language and in English in the metadata record.



Contacts

 **New record**

	Label	Person	Organisation	
✓	Cassard Daniel	Daniel Cassard	BRGM	  
✓	Huisman Jaco	Jaco Huisman	United Nations University	  
✓	Janjou Dominique	Dominique Janjou	BRGM	  
✓	Kramolišová Pavla	Mgr. Pavla Kramolišová	Česká geologická služba	  
✓	Mora			


Contacts - New record / update record

Person: Mgr. Pavla Kramolišová
 Organisation: Česká geologická služba
 Organisation EN: Czech Geological Survey
 Label: Kramolišová Pavla
 Function: GIS Specialista
 Function EN: GIS Specialist
 Phone: +420257089452
 Fax:
 Point: Klárov 3
 City: Praha
 Administrative area:
 Postcode: 11821
 Country: Czech Republic
 E-mail: pavla.kramolisova@geology.cz
 URL: http://www.geology.cz/personal/p/pavla.kramoliso
 Group for editing: admin ▼
 Group for viewing: admin ▼

Save **Reset** **Back** **Delete record**

Figure 10: Predefined list of values

Step 3:

For the (IO-1) **Reference system**, you can either choose  “From list”, or enter the code manually:



Prospecting Secondary raw materials in the Urban mine and Mining wastes Metadata catalogue

Logged user: CGS [logout](#)

[Home](#)
[Search](#)
[New record](#)
[Edit](#)
Profile:

M4EU

[Save](#)
[Stop editing](#)
[Cancel edit](#)
[Admin](#)
[Map Viewer](#)
[Help](#)
[Cookbook](#)
[Contact](#)




Search > Found (5) > Edit

Validate

New record / update record

EXAMPLE - Mining in the Czech Republic - INSPIRE harmonized for Minerals4EU project (theme Mineral Resources)

Language

Record: Public Group for editing: test Group for viewing: test

(CZ-1) File Identifier

57f78a1b-2ad4-4d92-ad55-377c0a010854

(10.3) language

Czech

Parent Identifier

6d186600-6600-1d18-85b8-be28e7d5d03d

(1.3) Resource type

dataset

(10.1) Metadata Contact

Dataset URI

Reference System

Reference System

(10-1) referenceSystemIdentifier

authority

code

http://www.opengis.net/def/crs/EPSG/0/4258

Code Space

version

Identification

Content

Distribution

Data Quality

Metadata Constraints

© Czech Geological Survey 2015

Figure 11: Reference system

Step 4:

The main part, **Identification** of the data, has several fields. The first part is citation (Figure12.).

The screenshot shows a web-based form for data identification. The 'Identification' section is expanded, revealing a 'citation' subsection. This subsection contains several fields for entering metadata in multiple languages, indicated by flags (Czech and English). The fields include: (1.1) Title, Alternate Title, (5a) Date (with a dropdown for 'Date Type' set to 'creation' and a date field set to '2015'), (1.5) Identifier (with a 'code' field and a 'Code Space' field), and (1.2) Abstract. The abstract field is shown in both Czech and English. The Czech abstract text is 'Databáze obsahuje základní identifikační údaje o dobývacích prostorech v České republice.' and the English abstract text is 'This database contains basic information about current mines and mining activity in the Czech Republic.' The form also includes expand/collapse icons for each field.

Figure 12: Citation

(1.1) **Title** of the dataset and (1.2) **Abstract** should be filled in in English and each country should provide an abstract in their **national language**, too.

The number of displayed language versions depends on the number of languages selected during creation of the record but may be changed under the **head of record**.

However, it is strongly recommended to define national languages right at the beginning because only then will multilingual fields as keywords or code lists will be automatically filled with the multilingual content:

New record / update record

EXAMPLE - Mining in the Czech Republic harmonized for Minerals4EU project (the Resources)

Language

Record: Public Group for editing: test Group

(CZ-1) File Identifier 57f78a1b-2ad4-4d92-...

(10.3) language Czech

Parent Identifier 6d186600-6600-1d18-85b8-be28e7d5d03d

(1.3) Resource type dataset

▼ (10.1) Metadata Contact

Individual Name
Mgr. Pavla Kramolišová

Organisation Name
Česká geologická služba

Czech Geological Survey

Contact Info

phone

voice
+420257089452

facsimile
+420257531376

Address

Delivery Point
Klárov 131/3

city
Praha 1

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Meta...

prosum.geolc

Language

- ☐ Bulgarian
- ☐ Danish
- ☒ English
- ☐ Estonian
- ☐ Finnish
- ☐ French
- ☐ German
- ☐ Hungarian
- ☐ Italian
- ☐ Latvian
- ☐ Lithuanian
- ☐ Maltese
- ☐ Norwegian
- ☐ Polish
- ☐ Portuguese
- ☐ Romanian
- ☐ Slovak
- ☐ Slovenian
- ☐ Spanish
- ☐ Swedish

Save

Figure 13: Language

(5a) **Date** and its type have to be filled in.

For the unique identification of the resource (1.5.), **Identifier** code is required by INSPIRE. No unified template was defined in the project, however, the following two options are recommended for use:

- **[COUNTRY]-[ORGANIZATION_IDENTIFIER]-[DATASET_IDENTIFIER]** – this format is approved and used as the Czech National standard (example: CZ-00025798-CGS_G-SURIS-LOZ-SDE-TEST).
- **[COUNTRY].[ORGANIZATION].[DATASET_IDENTIFIER]** – this format was used in the OneGeology-Europe project (example: CZ.CGS.GEOCR500).

(9.1.) **Point of Contact** – contact to resource (not metadata). The list of contacts may be used again for filling these elements, or they can be edited manually.

Step 5:

(3) Descriptive keywords

Any metadata record that should be harvested to the ProSUM Catalogue must be denominated by the **keyword „ProSUM”** by the **metadata editor** in the national catalogue of the country concerned.

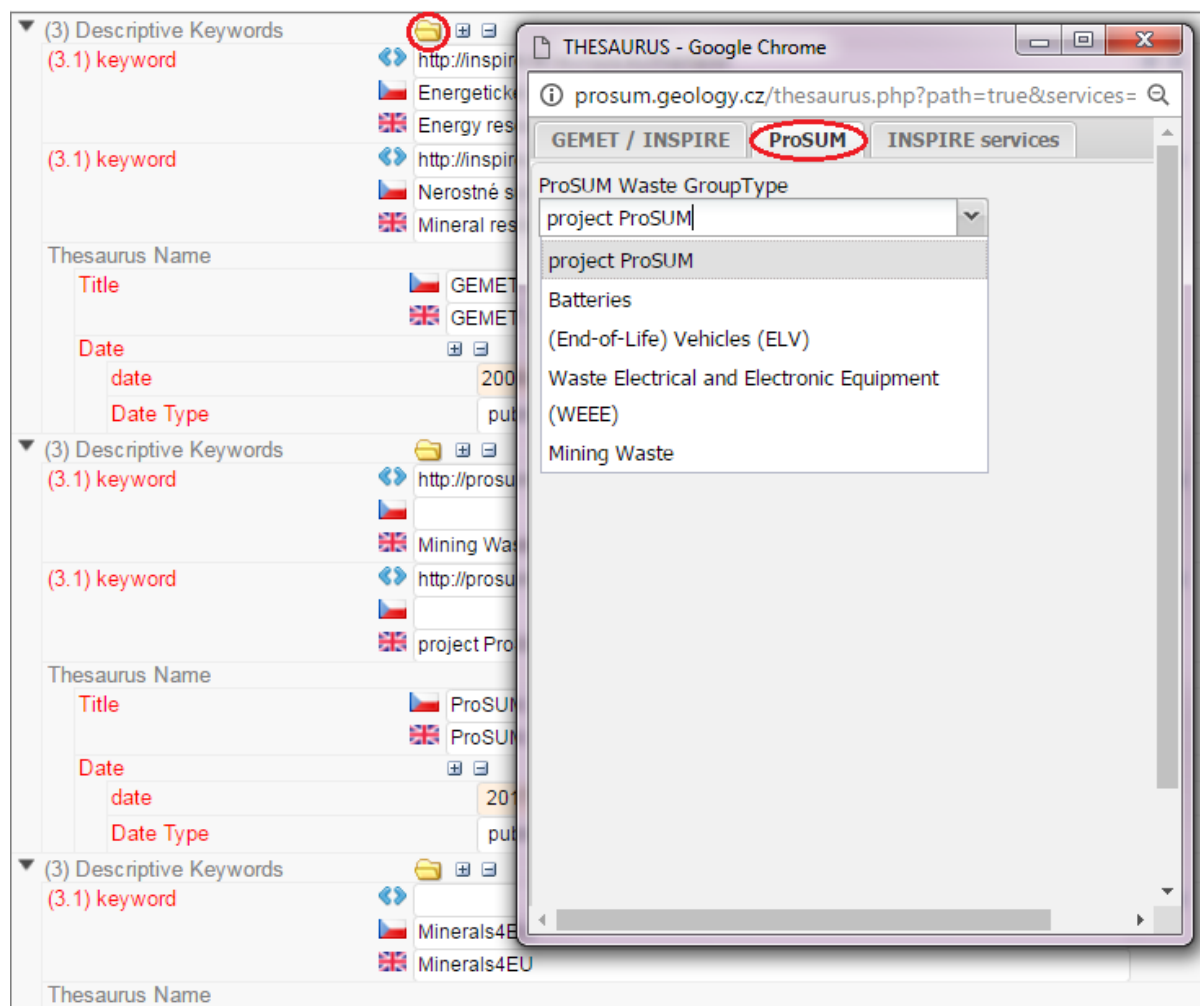


Figure 14: "ProSUM WasteGroup Type" codelist

In order to define the four groups of secondary sources of raw materials from the "urban mine", a new codelist was integrated into the application. This **"ProSUM WasteGroup Type" codelist** was included to the search form (Figure 8) and to the metadata editing profile (Figure 14).

At least one keyword from the **ProSUM Codelist** and one from the **INSPIRE Thesaurus** (select the thesaurus in the left drop-down menu in the pop-up window) must be selected), then search for keyword in the search window. Once the keyword has been found click on that keyword and it will be completed in the metadata record automatically.

For a more detailed description of the tools for creating keywords, see the **Annex**.

Step 6:

Resource constraints (Figure 15) – It is mandatory to complete these two items:

- Descriptions of terms **Limitations on public access** of the dataset should be provided through the element MD_LegalConstraints/(8.2) **Access Constraints**. If the value “other restrictions” (under MD_LegalConstraints) is selected, then the element **Other Constraints** should be filled by choosing from the list or as a free text.
- Descriptions of terms **Conditions applying to access and use** of the dataset should be provided through the element **Constraints/(8.1) Use Limitation**. This is a place for describing what the dataset is or is not good for. If no conditions apply, or are unknown then you can select these values **from the list** (Figure 15).

The figure shows two parts: a form for 'Resource Constraints' and a browser window displaying a list of predefined conditions.

Resource Constraints Form:

- Constraints** (selected)
 - MD_LegalConstraints**
 - (8.1) Use Limitation: podmínky nejsou známy (with a red circle around the edit icon)
 - (8.2) Access Constraints: license (with a red circle around the dropdown)
 - (8.2) Access Constraints: other restrictions (with a red circle around the dropdown)
 - Other Constraints**:
 - http://www.geology.cz/poskytovani-dat
 - http://www.geology.cz/data-provision
- Resource Constraints** (repeated)
 - Constraints** (selected)
 - (8.1) Use Limitation: podmínky nejsou známy (with a red circle around the edit icon)
 - conditions unknown

Browser Window (MICKA - Google Chrome):

prosum.geology.cz/?ak=md_lists&type=

INSPIRE predefined

Conditions for acces and use

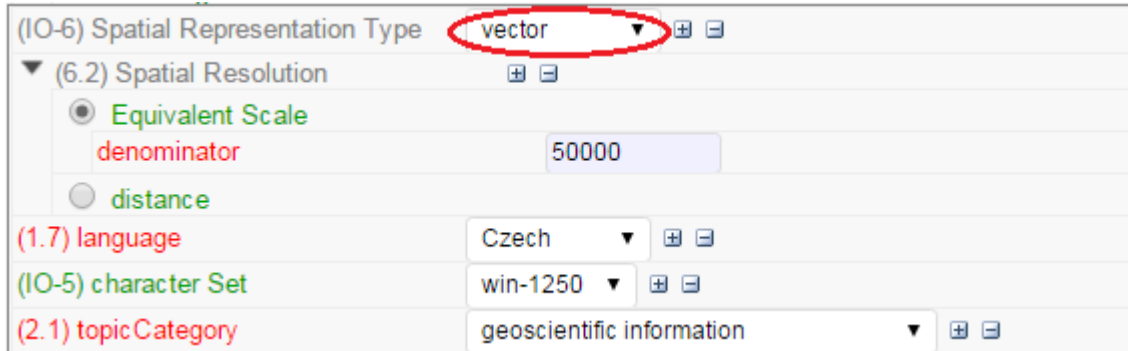
- no conditions apply
- conditions unknown (with a red circle around the text)

Figure 15: Resource constrains

Step 7:

(IO-6) Spatial Representation Type (Figure16)

The most used option will probably be the **vector** representation in the **Spatial Representation Type** menu.



(IO-6) Spatial Representation Type **vector** + -

▼ (6.2) Spatial Resolution + -

☒ Equivalent Scale

denominator 50000

☐ distance

(1.7) language Czech + -

(IO-5) character Set win-1250 + -

(2.1) topic Category geoscientific information + -


Figure 16: Spatial representation type

(6.2) **Spatial resolution** can be described by equivalent scale or a distance.

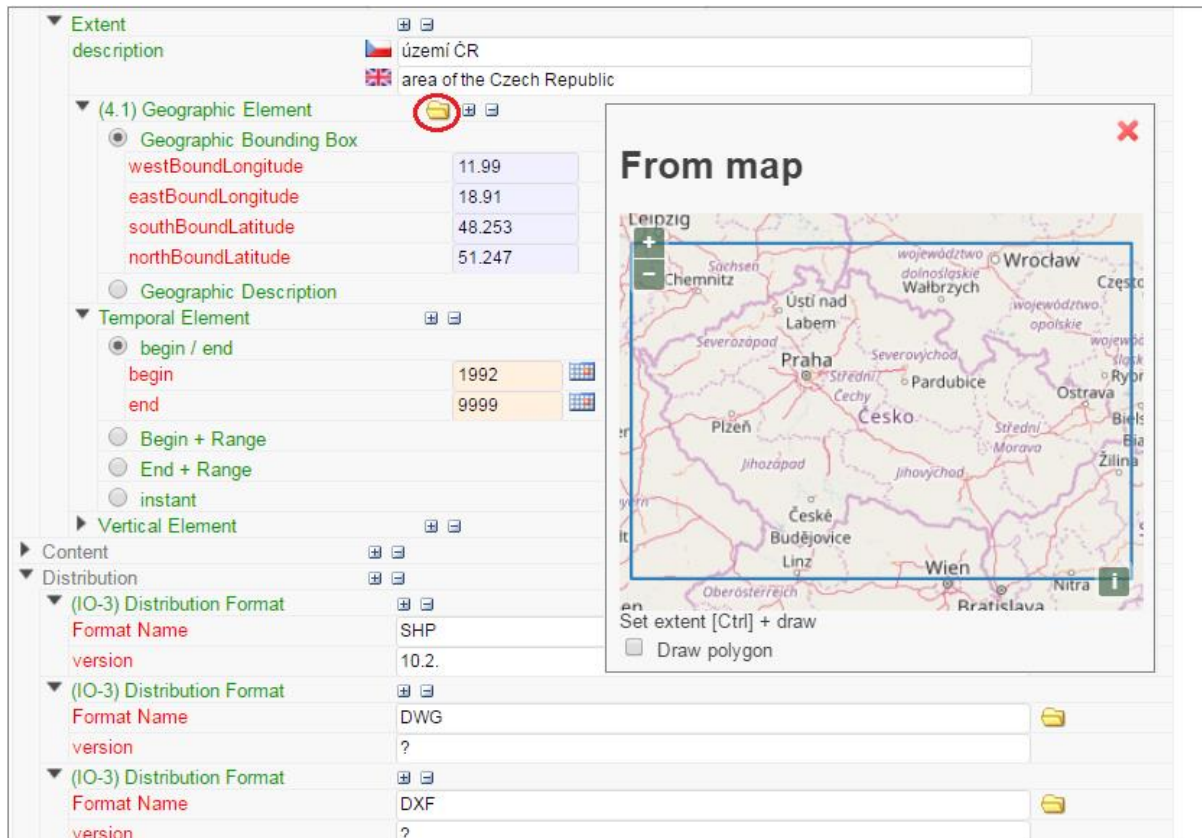
(1.7.) **Language** element – is used to describe the **language of the dataset**. Optionally, also the **(IO-5) Character Set** can be stated.

(2.1) **Topic category** for geological and applied geological data should be set to Geoscientific information. Environment, Health or Economy could be chosen for other urban mines metadata.

Extent information (Figure 17)

(4.1.) **Geographic element** – this information can be obtained from GIS software or you by using the icon  to define the area of the dataset and then add the coordinates to the corresponding fields or use Geographic Description.

For the **Temporal Element**, specify either a range of dates relevant for the dataset, or a single date. The highest number that can be input is 9999 (this value will be used, for example, when data has a start date but the end date is not set).



Extent

description

území ČR

area of the Czech Republic

(4.1) **Geographic Element**

☒ Geographic Bounding Box

westBoundLongitude	11.99
eastBoundLongitude	18.91
southBoundLatitude	48.253
northBoundLatitude	51.247

☐ Geographic Description

Temporal Element

☒ begin / end

begin	1992
end	9999

☐ Begin + Range

☐ End + Range

☐ instant

Vertical Element

Content

Distribution

(IO-3) Distribution Format

Format Name	SHP
version	10.2.

(IO-3) Distribution Format

Format Name	DWG
version	?

(IO-3) Distribution Format

Format Name	DXF
version	?

From map

Set extent [Ctrl] + draw

☐ Draw polygon

Figure 17: Geographic extent

Step 8:

Distribution (Figure18)

For (IO-3) **Distribution Format** name and its version should be specified under the Distribution element.

In (1.4.) **Linkage** field a link to the data should be provided (link to web pages with information about the distribution of data or link to ftp or http server that can be used for downloading the data).

The link (exact URL) to the ProSUM Portal (MapViewr) should be completed for a visualisation of relevant dataset and service described by the metadata.

The screenshot displays a metadata form with the following sections and fields:

- Distribution**
 - (IO-3) Distribution Format
 - Format Name: SHP
 - version: 10.2
 - (IO-3) Distribution Format
 - Format Name: DWG
 - version: ?
 - (IO-3) Distribution Format
 - Format Name: DXF
 - version: ?
- Distributor**
 - Distributor Contact
 - Individual Name: Ing. Jan Sedláček
 - Organisation Name: Česká geologická služba / Czech Geological Survey
 - Contact Info
 - phone
 - voice: +420257089483
 - facsimile: +420257531376
 - Address
 - Delivery Point: Klárov 131/3
 - city: Praha 1
 - administrative Area:
 - Postal Code: 118 21
 - country: Česká republika
 - e-mail: jan.sedlacek@geology.cz
 - role: point of contact
- Distribution Order Process**
 - fees
 - http://www.geology.cz/cenik
 - http://www.geology.cz/price-list
 - orderingInstructions
 - http://www.geology.cz/poskytovani-dat
 - http://www.geology.cz/data-provision
- Transfer Options**
 - onLine
 - (1.4) linkage: http://m4eu.geology.cz/m4eu/services/m4eu?service=WFS&request=GetCapabil
 - protocol: OGC:WFS-2.0.0-http-get-capabilities
 - name: WFS_eng
 - description: stahovací služba - WFS (EN) / download service - WMS (EN)
 - function: download

Figure 18: Distribution format, linkage

Step 9:

Data quality part (Figure 19):

Under the **Report** part, you have to check the Domain Consistency option to be able to provide information about the **conformity** of your data to (7.1) **Specification**. You should select from the predefined list appropriate specification of a document you are referring to.

The screenshot displays the 'Data Quality' report interface. The 'Report' section is expanded, showing the '(7) Domain Consistency' measure. The 'Measure Identification' code is 'Conformity_001'. The 'Result' section is expanded, showing the 'Conformance Result (7.1) specification'. The 'Title' field contains the text 'Nařízení Komise (EU) č. 1089/2010 ze dne 23. listopadu 2010, kterým se provádí' and 'Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing'. The 'Date' field is '2010-12-08' and the 'Date Type' is 'publication'. The 'explanation' field contains 'Viz odkazovanou specifikaci' and 'See referred specification'. The 'pass' field is 'yes'. A browser window titled 'MICKA - Google Chrome' is open, showing the 'INSPIRE specifications' page with the 'Regulation' section highlighted. The 'Regulation' section lists: Metadata, Metadata - corrigendum, Interoperability 1089/2010 (Mandatory for dataset/series), Download and transformation services 1088/2010, Network services 976/2009 (Mandatory for services), Access to spatial data sets and services, Monitoring and reporting, and INSPIRE Directive.

Figure 19: Report

Lineage (6.1) statement describes General explanation of the data producer's knowledge about the lineage of a dataset. **Lineage Source Description** can be specified as a free-text description. **Source citation Title** is name by which the cited resource is known and reference date for the cited resource could be specified there too.

Step 10:

After filling and saving the metadata record, check that it is made **public** for everyone to be able to search and view it by checking the appropriate checkbox (Figure 20) at the page sub-heading.

Prospecting Secondary raw materials
in the Urban mine and Mining wastes **Metadata catalogue** Logged user: CGS logout

Search > Found (10) > Edit Validate

New record / update record

Mining waste

Language

Record: Public **Group for editing:** CGS **Group for viewing:** reader

(CZ-1) File Identifier 8cac1c80-1c80-1cac-8ec9-c88088beb3f3

(10.3) language Czech

Parent Identifier 887ff10-ff10-187f-adf3-c88088beb3f3

(1.3) Resource type dataset

(10.1) Metadata Contact

Dataset URI

Reference System

Identification

Content

Distribution

Data Quality

Metadata Constraints

Application Schema

weeeforum
EUROPEAN ASSOCIATION OF
ELECTRONIC AND ELECTRONIC
WASTE TREATMENT SYSTEMS

© Czech Geological Survey 2015

Figure 20: Make the record public

Step 11:

After finishing your editing session, always create an XML file of the record as a backup copy (Figure 21), to ensure metadata is not lost inadvertently:

Prospecting Secondary raw materials
in the Urban mine and Mining wastes **Metadata catalogue** Logged user: CGS logout

Search > Found (5) Sort by: Title Ascending

Found: 5

Inventory of hazardous waste facilities

This database displays the abandoned mining waste sites with significant hazard for the environment and human health. Information about the type of hazard and the level of risk is included.

Public Metadata Contact: Czech Geological Survey, Česká republika, Date Stamp: 2016-11-01

© Czech Geological Survey 2015

Figure 21: Backup record

3. Conclusions

Deliverable 5.6 describes the application Prospecting Secondary raw materials in the Urban mine and Mining wastes Metadata Catalogue in detail: its architecture, development, and main function. The main part of the document is written as a cookbook to assist partners and users to manage their data resources. The cookbook will be updated and managed by CGS.

3.1. Background work

The release of the 1st version of ProSUM Metadata Catalogue was in November 2015 and was presented at the ProSUM Consortium Meeting in Uppsala in January 2016. The following year was busy with testing, harvesting and debugging the ProSUM profile and code lists according to the project needs. The result was the 2^{dn} version of ProSUM Metadata Catalogue (using concept of EGD - European Geological Data Infrastructure metadata catalogue) In June 2016 (<http://prosum.geology.cz>).

At the end of 2016 Help (<http://prosum.geology.cz/?ak=help>) and Cookbook for ProSUM Metadata Catalogue and examples of metadata records for structured non-graphic or spatial data were created. A request to nominate metadata experts from each organization was sent in January 2017. After user accounts for ProSUM Metadata Catalogue were provided, the request to test and fill application with metadata was exposed. In March 2017 the application was amended to be able to handle not only metadata on spatial datasets and services, but also non-geographic metadata. The main improvements were:

- **Validation of non-geographic datasets** is less strict. Some items, which are not necessary for the metadata schema were removed (INSPIRE Keywords, Spatial resolution, Specification etc.).
- **ProSUM editing profile was extended** with new items *Hierarchy Level name* and *Source Citation* to have more the possibility for a detailed description of related sources.
- **"ProSUM WasteGroup Type" codelist** was integrated to the search form and to the metadata editing profile to distinguish the main different categories of waste from the "urban mine" - metadata on Waste Electrical and Electronic Equipment (WEEE), End-of-Life Vehicles (ELVs), Batteries and Mining Waste.
- **Identification of ProSUM harmonised dataset and services** was added to the ProSUM metadata profile as Hierarchy Level name (<http://prosum.brgm-rec.fr>) and new **ProSUM check box** to the search form was created.
- **Example harmonised service metadata record** was prepared (<http://prosum.geology.cz/records/591e8f3c-eda0-4e1a-9e88-406a0a010854?language=eng>) to help user to describe new consolidated and harmonised data and services by the metadata.
- **The Cookbook** was modified in accordance with changes (<http://prosum.geology.cz/?ak=cookbook>)

3.2. Recommendations

The sustainability of the catalogue application after the end of the project is an important consideration. An option could be that at the project end, the content of the ProSUM Metadata Catalogue (MickA) is incorporated into the EGD (European Geological Data Infrastructure) metadata catalogue that will be maintained by CGS supported by the EGS (EuroGeoSurveys) in future. This option will be discussed further in developing the overall business plan for the EU-UMKDP (D6.3).

References

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Annex 1

Keywords in ProSUM metadata

ISO 19115/19139 metadata keywords

Keywords are stored as text in the metadata record together with the Thesaurus citation (at least Title and publication date). Also free keywords (without thesauri citation) may be entered, but problems arise with using simple textual representation. The machine to machine search is cumbersome. There are problems with:

- Multilinguality (only stored translations are enabled to search); and
- Wider narrower concept search.

Micka metadata system

The part of the software is a complex client that enables the user to enter keywords from different thesauri/codelists (Figure 22)

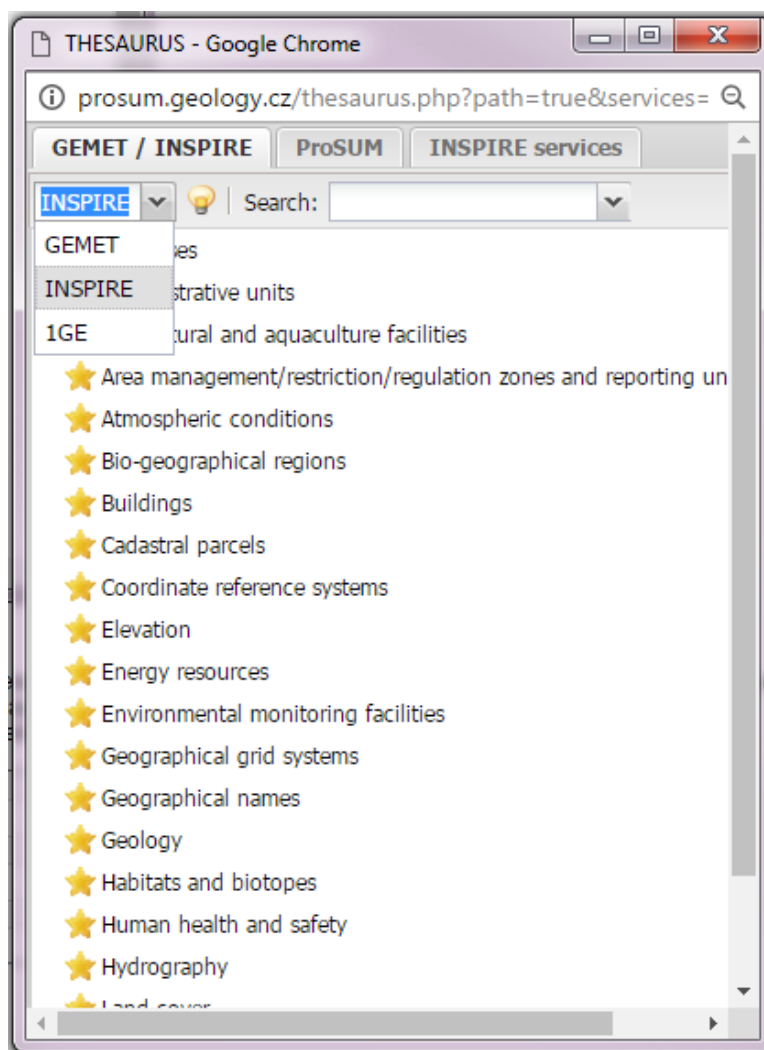
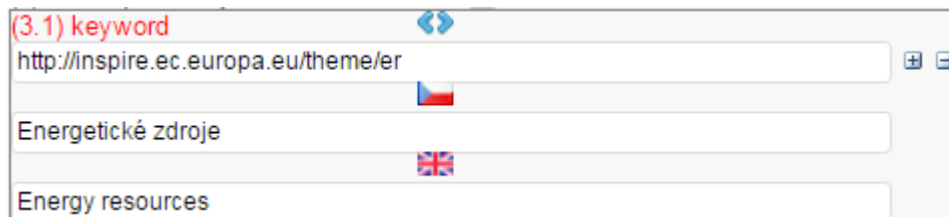


Figure 22: Codelists window with thesauri

- The client operates remotely (direct connection to corresponding web services) or locally (keywords are stored at the same server as an application).
- If the keywords are selected from a controlled multilingual thesaurus, their translations are filled automatically in all available languages during record editing
- If possible, the URI is filled according to last INSPIRE metadata technical guidelines [1] to prepare semantic web approach (Fig.23).



The screenshot shows a web form with the following elements:

- A label "(3.1) keyword" in red text at the top left.
- A blue double-headed arrow icon to the right of the label.
- A text input field containing the URL "http://inspire.ec.europa.eu/theme/er".
- A small flag icon (Czech Republic) to the right of the URL field.
- A text input field containing the Czech text "Energetické zdroje".
- A small flag icon (United Kingdom) to the right of the Czech text field.
- A text input field containing the English text "Energy resources".

Figure 23: Keywords input

Following thesauri / codelists are supported:

1. **INSPIRE** data themes (37 data themes definitions)
2. **GEMET** keywords (direct connection to EEA GEMET service enables browsing the thesaurus). Optionally the term is filled with all wider terms to enable more complex search.
3. **1G-E - OneGeology-Europe** thesaurus (based on GEMET API in the scope of the project)
4. **ProSUM** (ProSUM Waste GroupType Codelists created for this project) that distinguishes the main different categories of waste from "urban mines" - metadata on Waste Electrical and Electronic Equipment (WEEE), End-of-Life Vehicles (ELVs), Batteries and Mining Waste.
5. **INSPIRE services** codelist (intended only for classification of web services, local codelist)