



# Re3gistry version 2

## Manage and share reference codes in a simple way

Daniele Francioli, Emanuela Epure,  
Lorena Hernandez Quiros, Michael Lutz

Austrian INSPIRE Days  
4 December 2019



Joint  
Research  
Centre

The European Commission's  
science and knowledge service  
Joint Research Centre



European  
Commission

## Why do we need reference codes?

### Text fields:

Same concepts

Different  
representations



Country: **Italia**  
Theme: **Suolo**



Country: **Deutschland**  
Theme: **Boden**



Country: **Ελλάδα**  
Theme: **έδαφος**



Country: **DE**  
Theme: **Boden**

Joint  
Research  
Centre





European  
Commission

## Why do we need reference codes?

### Reference codes:



Country: **countryCode/it**  
Theme: **theme/so**

Same concepts



Country: **countryCode/de**  
Theme: **theme/so**

Same representations



Country: **countryCode/el**  
Theme: **theme/so**



Country: **countryCode/de**  
Theme: **theme/so**



<http://inspire.ec.europa.eu/theme/so>

Joint  
Research  
Centre



## Managing reference codes

- **Registry:** information system on which reference codes are maintained
- **Register:** set of files containing identifiers assigned to items with descriptions of the associated items
- Main operations
  - Create
  - Store/serve
  - Update
    - Clarification
    - Supersession
    - Invalidation
    - Retirement



European  
Commission

## Why do we need registries in INSPIRE?

### Key infrastructure components to

- allow unambiguous references to items
- provide unique and persistent identifiers for resources
- allow their consistent management and versioning

### Central INSPIRE registry contains registers for

- Themes
- Code lists and values
- Enumerations and values
- Feature concepts
- Metadata code lists and values
- Application schemas
- Glossary
- Reference documents
- Layers
- Media types

Joint  
Research  
Centre

The screenshot shows the INSPIRE website interface. At the top, there is a navigation bar with the INSPIRE logo and the text 'Commission Europea > INSPIRE > Archivio INSPIRE > INSPIRE enumeration register > Categorie dello scartamento > broad'. Below the navigation bar, there is a search bar with the text 'broad' and a search icon. The main content area displays the details for the 'broad' category, including the ID, version, and definition. The definition states: 'Lo scartamento nominale dei binari è più ampio rispetto a quello standard.' Below the definition, there are icons for various data formats: XML, XML Schema, RDF/XML, JSON, and Atom. At the bottom of the page, there is a footer with the text 'Archivio INSPIRE' and 'Powered by: Registry 1.3'. The footer also contains a navigation menu with links to 'INSPIRE', 'NEWS & EVENTI', 'TOOLS INSPIRE', and 'INSPIRE registry'. The 'INSPIRE' menu includes links to 'Site Map di INSPIRE', 'Licenze di INSPIRE', 'INSPIRE Themes', and 'Cluster Tematici INSPIRE'. The 'NEWS & EVENTI' menu includes links to 'News', 'Eventi', 'Conferenze', and 'Work News'. The 'TOOLS INSPIRE' menu includes links to 'Geoportal', 'Validator', 'Metadata Editor', 'Registry', and 'Data Specification Toolkit'. The 'INSPIRE registry' menu includes links to 'Ricerca', 'Ajuda', 'Feedback', 'Registry Status', and 'Incontri alle News del Registry'. At the bottom right of the footer, there are social media icons for Twitter, LinkedIn, and Facebook.



European  
Commission

## Central register federation

- Distributed federation of registers related to the INSPIRE Directive
- Central access point: Register of Registers

<http://inspire-regadmin.jrc.ec.europa.eu/ror/>

INSPIRE  
Register Federation

European Commission > INSPIRE > Register Federation > Registries

Registries Registers Relations Federated search Help Login

### Registries

Filter Label	Filter Publisher	Filter URI
<b>Label</b>	<b>Publisher</b>	<b>URI</b>
INSPIRE registry	European Commission, Joint Research Centre	<a href="https://inspire.ec.europa.eu/registry">https://inspire.ec.europa.eu/registry</a>
Spanish Registry - Test version	Instituto Geográfico Nacional	<a href="http://www.idee.es/register-inspire">http://www.idee.es/register-inspire</a>
EEA Data Dictionary vocabularies	European Environment Agency	<a href="http://dd.eionet.europa.eu/vocabularies">http://dd.eionet.europa.eu/vocabularies</a>
Lithological Classification Austria - extended values	Geological Survey of Austria	<a href="http://resource.geolba.ac.at/lithology/0">http://resource.geolba.ac.at/lithology/0</a>
Austrian INSPIRE registry	CCCA Data Centre	<a href="http://registry.inspire.gv.at">http://registry.inspire.gv.at</a>
IUGS CGI Geoscience Vocabularies for Linked Data	Geoscience Terminology Working Group (GTWG)	<a href="http://resource.geosciml.org/">http://resource.geosciml.org/</a>

Items per page: 10 Showing 1 to 6 of 6 entries

REST URL: <http://inspire-regadmin.jrc.ec.europa.eu/ror/rest/registries> Web Service details



## **ISO 19135 workflow**

Submitting organizations

<https://ies-svn.jrc.ec.europa.eu/issues/2911>

Control Body

<https://ies-svn.jrc.ec.europa.eu/issues/2910>



European  
Commission

## Re3gistry Software

An open source solution for managing and sharing reference codes

# ARe<sup>3</sup>NA

ISA Action 1.17



European Location  
Interoperability  
Solutions for  
eGovernment  
**ISA<sup>2</sup> Action 10**

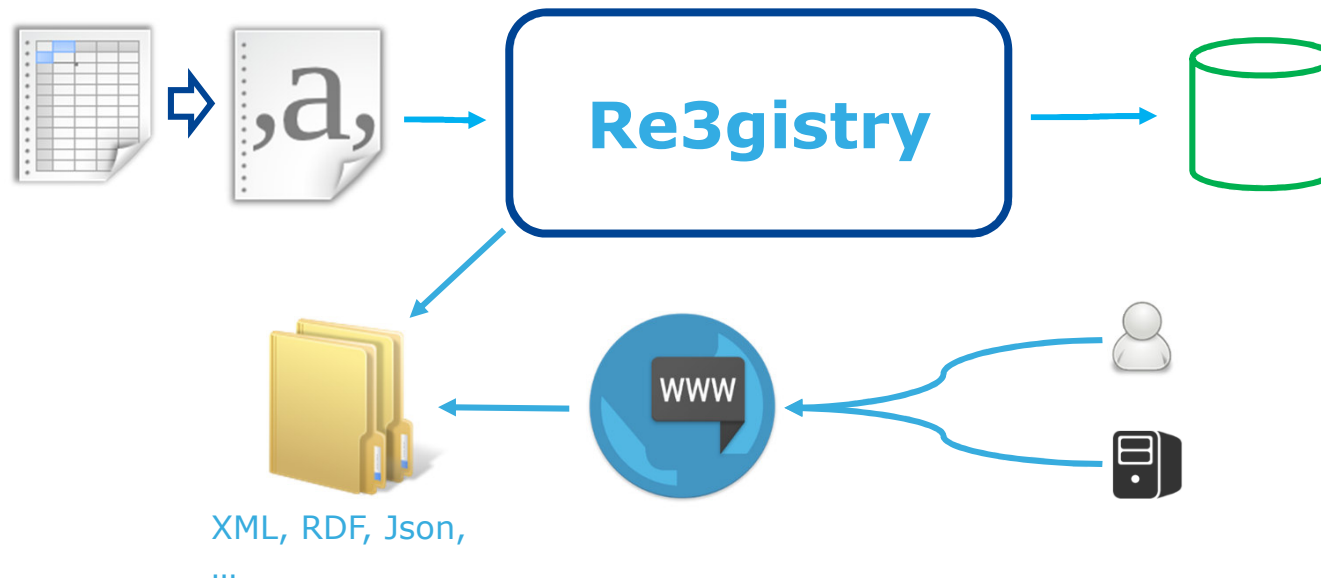
Joint  
Research  
Centre





European  
Commission

## Re3gistry Software v1.3.1



Joint  
Research  
Centre

## Re3gistry version 2

### User feedback



### Registry survey



- Backward compatibility with Re3gistry  $\geq$  v1
- User friendly editing interface
- ISO 19135 workflow
- Better handling of the service (Solr instead of static files)
- API (direct calls)
- Simple software installation (also via Docker)

## Backward compatibility with Re3gistry $\geq 1$

Database address:

Database port:

Database name:

Database username:

Database password:

Re3gistry  
V.1.x



Migration  
tool



Re3gistry  
V.2





## User friendly editing interface

- Create, edit, update registers, items, fields
- Handle localization of each field and the related field's label
- Manage the ISO 19135 workflow in a visual way
- Manage users, roles and groups

# Screenshot

European Commission

About | Contact | Privacy policy | Legal notice

English (en)

RE3GISTRY 2

Reference codes management tool

European Commission > Re3gistry 2

Home page | Content | Itemclasses & Fields | Workflow | Logout

Manage the content

en | it | cs | bg | da | de | el | es | et | fi | fr | hu | lt | lv | mt | pl | nl | pt | ro | sk | sl | sv | hr

**URI**

**Label**

**Content summary**  
The INSPIRE theme register contains all spatial data themes, as defined in the Annexes of the INSPIRE Directive ( Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)). The descriptions of the themes

**Registry** [INSPIRE registry](#)

**Register manager**

**Register owner**


**Control body**

**Submitting organizations**

Joint Research Centre



## User friendly installation

- Install wizard
- Automatic initialization
- Option to install the system using  **docker**



European  
Commission

## Extensibility

- Adapt your model with any custom fields you need

### Manage the fields

Showing fields for item class: metadata-codelist (register)

List order	Label	Type	Href	Hidden	Multivalued	Required	Table visible	Actions
40	Label	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Un-map field
41	Content summary	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Un-map field
42	Registry	registry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Un-map field
43	Register manager	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Un-map field
44	Register owner	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Un-map field
45	Control body	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Un-map field
46	Submitting organizations	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Un-map field
47	Contact point	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Un-map field
48	License	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Un-map field

- Easily adapt the service User interface to fit your branding
- Create your own persistence driver by just implementing the described interfaces



## Other important features

- New APIs based service handling (no more static files export)

- Apache Solr™ search 

- ISO 19135 Workflow



## Re3gistry version 2 – Development status

- ✓ New architecture
- ✓ Definition of roles and workflows
- ✓ Database
- ✓ Migration
- ✓ Editing interface
- ✓ APIs
- ✓ Service frontend
- Testing and fine tune
- Publication as open source project



Follow us:

<https://github.com/ec-jrc/re3gistry>



European  
Commission

# Thank you

---

## Questions?

Contact us at  
[jrc-inspire-support@ec.europa.eu](mailto:jrc-inspire-support@ec.europa.eu)

Joint  
Research  
Centre