

SENSE – Shared European and National State of the Environment Environmental indicators

Conference “INSPIRUJME SE”, 27.-28.11.2013

Darja Lihteneger, 28 November 2013

European Environment Agency



Overview

- State of the environment information
- SOER 2015 – The European Environment State and Outlook
- Environmental indicators in the EEA
- National environmental indicators
- SENSE – Shared European and National State of Environment:
 - Focus and objectives
 - Infrastructure
 - Lessons from SENSE-2
- EEA Semantic data service

*Presentation is prepared with the contributions by Milan Chrenko, EEA
and Sven Schade, JRC*

Value chain of state of environment (SOE) information



The **monitoring/data/information/assessment/reporting (MDIAR)** chain is the flow of data and information from national monitoring to European reporting. [definition source: EEA.]

Terminology source: <http://glossary.eea.europa.eu>

M

**Monitoring
Results**

- Raw inputs



D

Data

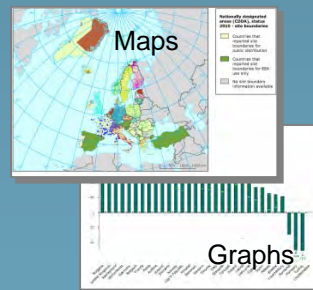
- Aggregated data
- Metadata



I

Information

- Interactive Maps
- Dynamic Graphs
- Indicator Specs



A

Assessments

- Interpretations
- Fiches



R

Reports

- Publications



SOER 2015 - The European Environment State and Outlook

Regulation EC (401/2009) on EEA and Eionet defines in Art.2 the tasks of the EEA, among them:

to publish a report on the state of, trends in and prospects for the environment every five years, supplemented by indicator reports focusing upon specific issues;



A deeper understanding of challenges

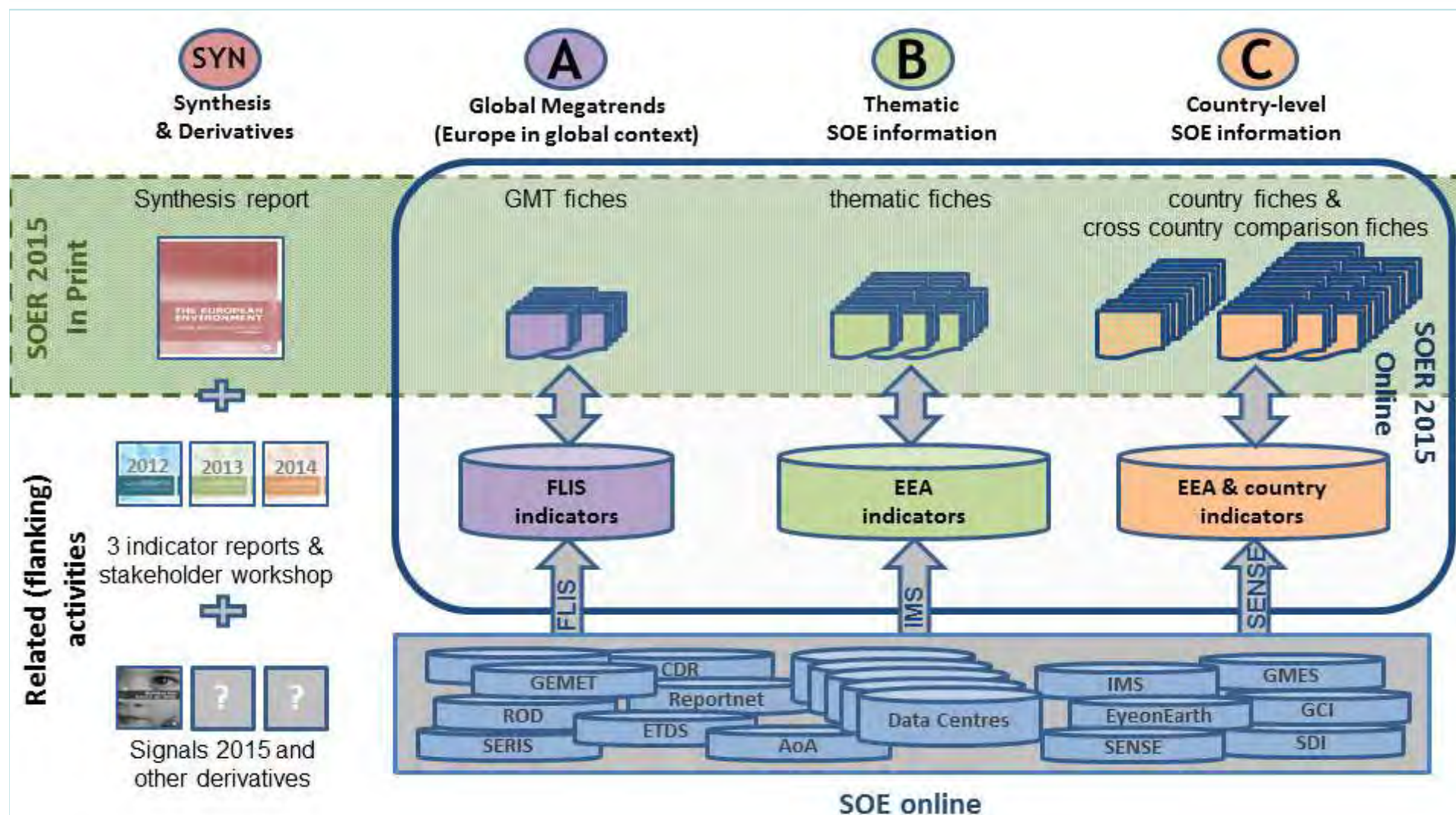
State and outlook of Europe's environment EEA flagship assessments since 1995



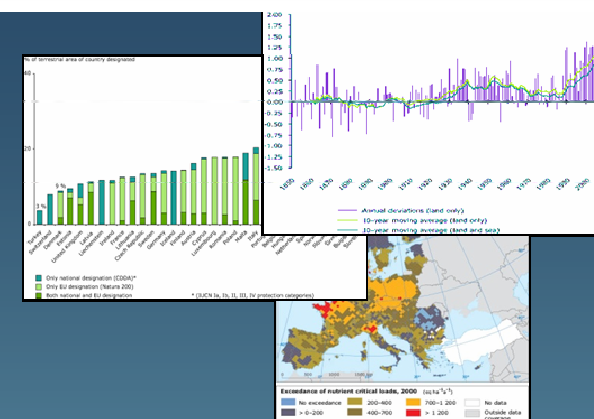
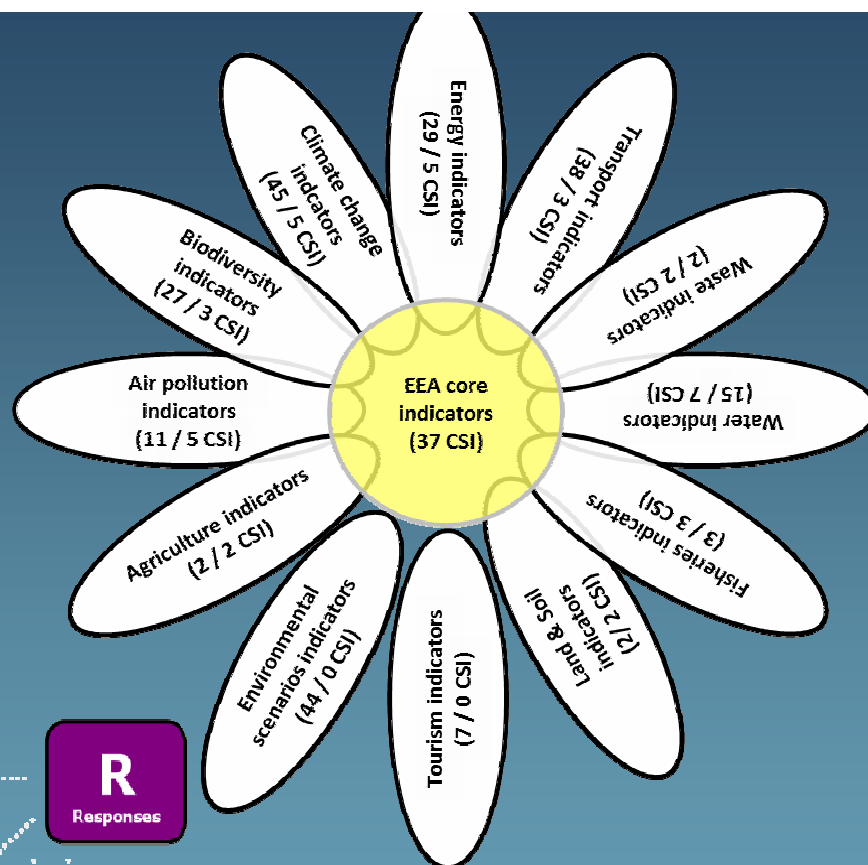
increased complexity
of problem definition, analysis, and response.

SOER process

A suite of product(s): short briefs + up-to-date indicators

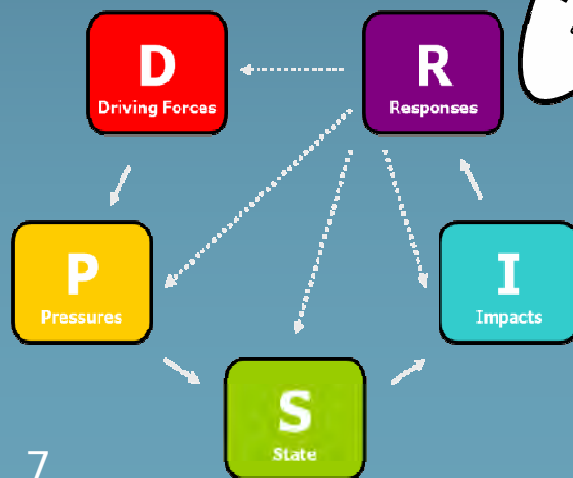


Overview of the EEA indicators



Different types of indicators:

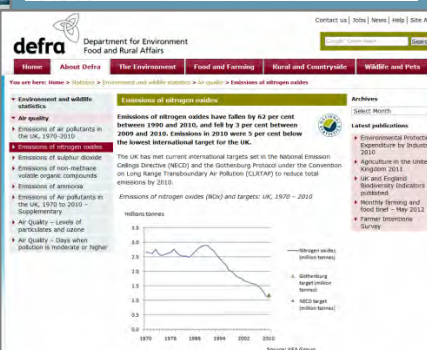
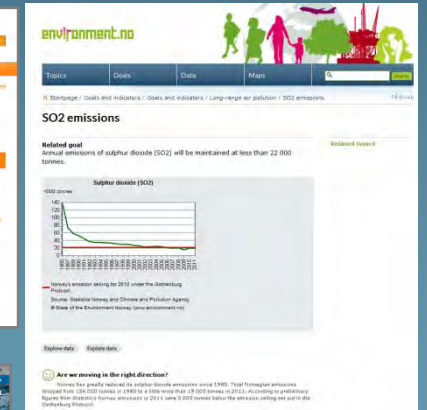
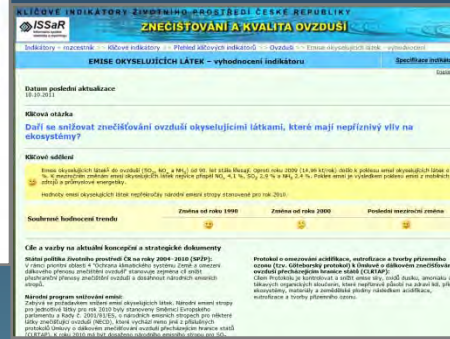
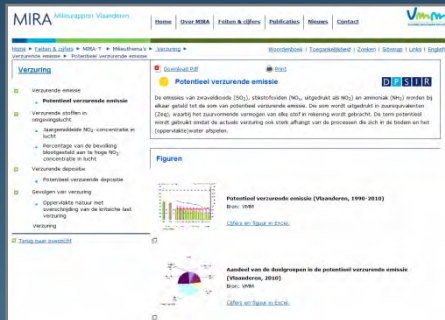
- (Type A) Descriptive indicators
- (Type B) Performance indicators
- (Type C) Efficiency indicators
- (Type D) Policy effectiveness indicators
- (Type E) Total welfare indicators



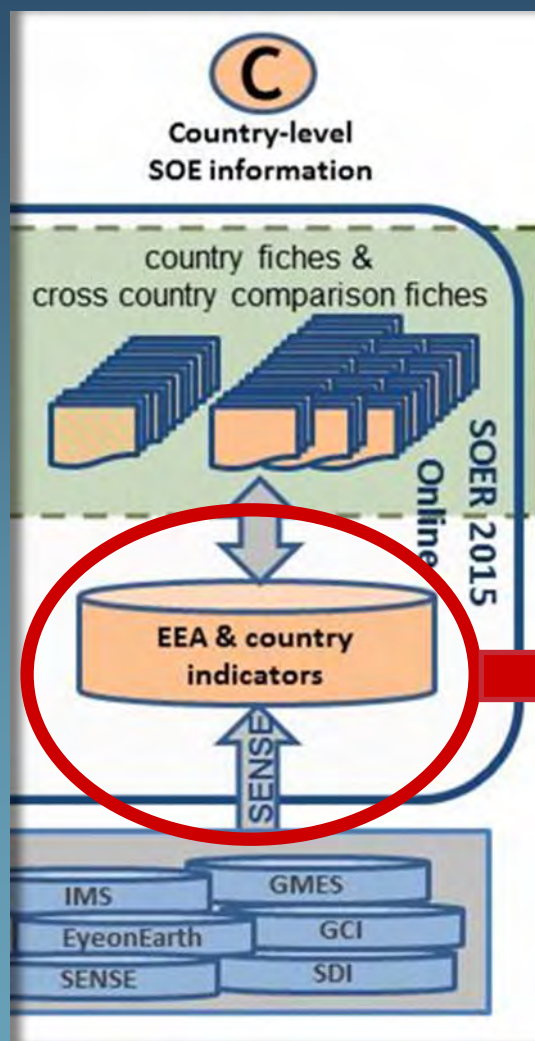
DPSIR assessment framework:

- D: social and economic developments
- P: pressure on the environment
- S: state of the environment
- I: impacts (i.e. human health, ecosystem functioning, economy)
- R: responses (societal and political responses)

National-level indicators



SENSE - Shared European and National State of Environment: Environmental indicators



Focus: catalogue of national indicators connected/mapped with EEA indicators

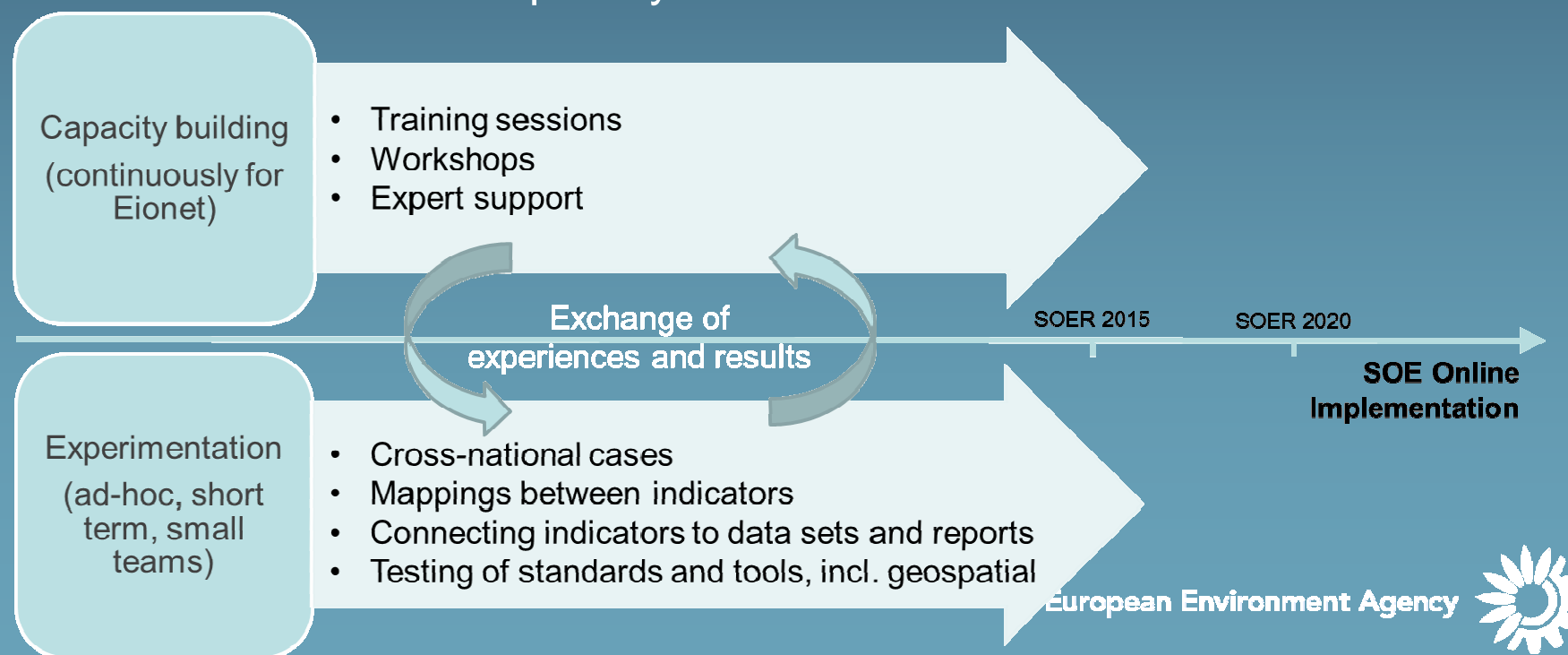
Objectives:

- connecting existing **indicator specifications and assessment** at European, national and sub-national level
- advancing the technological infrastructure (continue to rely on **Semantic Web/Linked Data technology**)
- Facilitate the **collaboration between the thematic and ICT communities**

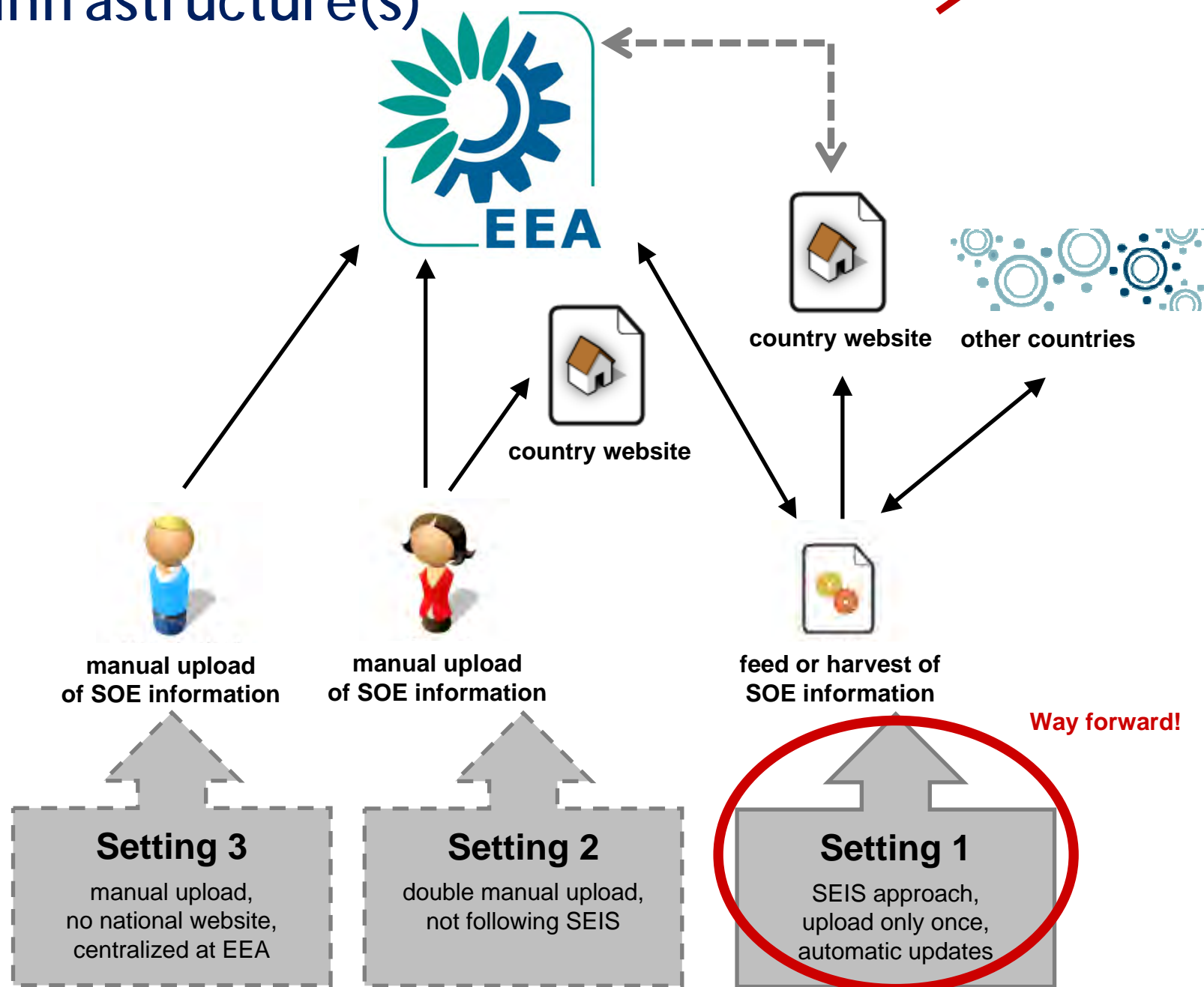


SENSE approach

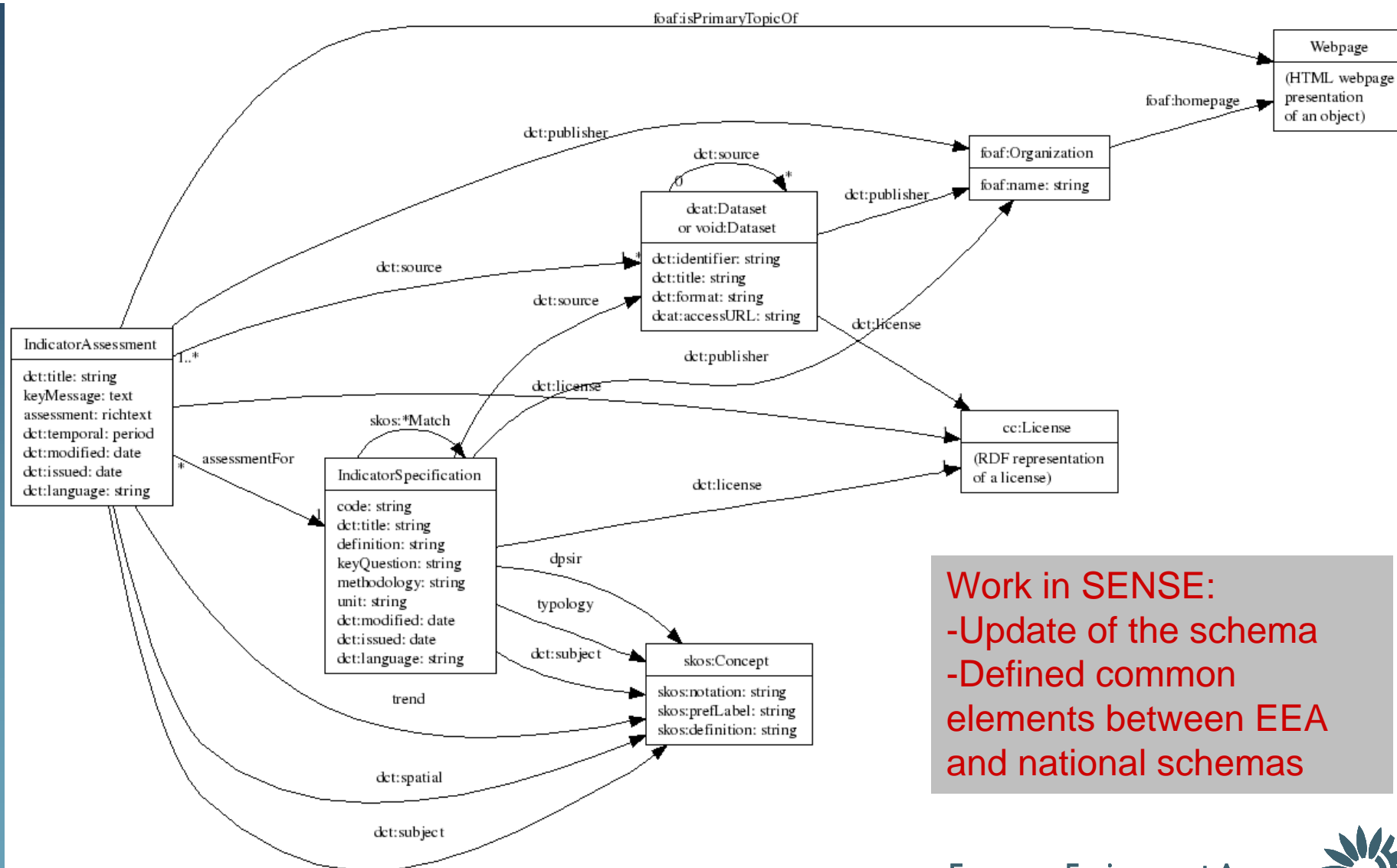
- Build on the experiences from SENSE-2 pilot project
- Involve EIONET in capacity building and experiments on specific topics (cross-national cases, mapping between indicators, connecting indicators and data sets, etc.)
- Will become part of SOE Online (dynamic, timely, on line)
- Linked to SOER 2015: priority on selected set of indicators in Part C !



SENSE infrastructure(s)



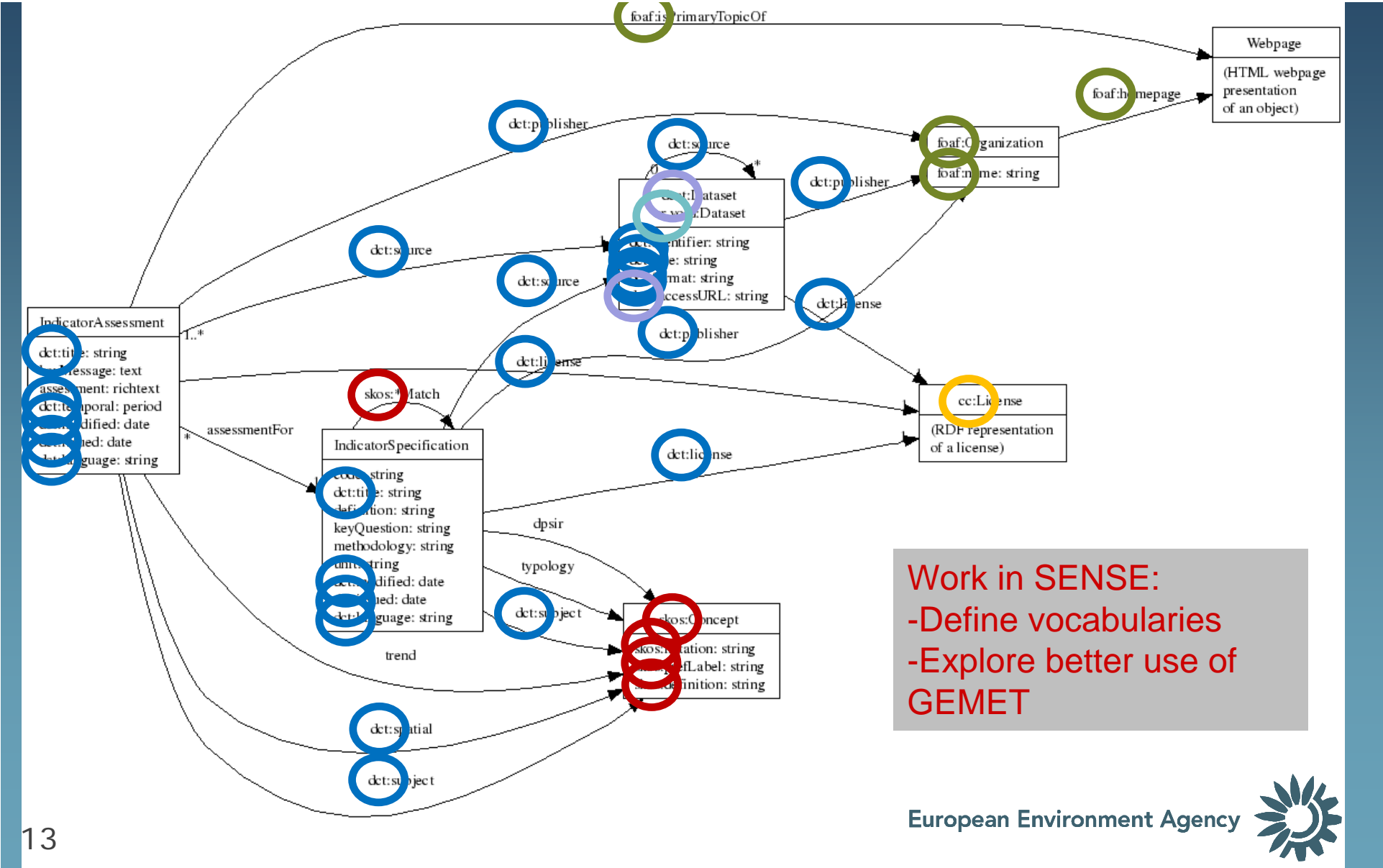
Experiences from SENSE-2 - a pilot project for SENSE: (RDF) Indicator Schema









Work in SENSE:

- Update of the schema
- Defined common elements between EEA and national schemas

Experiences from SENSE-2 - a pilot project for SENSE: Vocabulary creation and re-use (1/2)



Experiences from SENSE-2 - a pilot project for SENSE: Vocabulary creation and re-use (2/2)

Title	Prefix	URI	
Dublin Core vocabulary	dct	http://purl.org/dc/terms	
Friend of a Friend vocabulary	foaf	http://xmlns.com/foaf/0.1	
SKOS Simple Knowledge Organization System	skos	http://www.w3.org/2004/02/skos/core	
Creative Commons ontology	cc	http://creativecommons.org/ns	
Data Catalog vocabulary	dcat	http://www.w3.org/ns/dcat	
Vocabulary of Interlinked Datasets	void	http://rdfs.org/ns/void	
SENSE's additional properties	<empty> or sense	http://rdfdata.eionet.europa.eu/sense/ontology	

[source] <https://svn.eionet.europa.eu/projects/LinkedData/wiki/SENSE2/ClassDiagram#ClassDiagramandproperties>



EEA Semantic Data Service

Browse VoiD datasets (15,240 datasets)

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Semantic Data Service

Browse VoiD datasets

Title contains: Filter

Filters

Creator

- European Environment Agency
- Eurostat
- Integrated Taxonomic Information System (ITIS)
- Peter J. DeVries
- World Bank

Subject

- 2000. Transition from school to working life
- 2002. Employment of disabled persons
- 2004. Work organisation and working time arrangements
- 2005. Reconciliation between work and family life
- 2006. Transition from work into retirement

15,240 datasets found, displaying 1 to 20. [First/Prev] 1, 2, 3, 4, 5, 6, 7, 8 [Next/Last]

Title	Creator	Subject
DHS: Proportion of out-of-school, primary, Quintile 2	World Bank	Education
Currency composition of PPG debt, all other currencies (%)	World Bank	Economic Policy & External Debt
Enterprises managed by the founder - by sex of the entrepreneur	Eurostat	Factors of Business Success statistics - all activities
Area - NUTS 3 regions	Eurostat	Population and area
Share of renewable energy in gross final energy consumption	Eurostat	Energy statistics - main indicators
Burden of customs procedure, WEF (1=extremely inefficient to 7=extremely efficient)	World Bank	Private Sector
Interests payable and similar charges by product	Eurostat	Annual enterprise statistics by product
Incidence rate of accidents at work by material agent of specific physical activity, economic activity, sex, age and severity	Eurostat	Causes and circumstances of accidents at work (ESAW Phase III)
Enterprises which assess the future skills needs of the enterprise as a % of training enterprises by size class	Eurostat	Training/non training enterprises by size class
Enterprises by type of innovation	Eurostat	Results of the community innovation survey 2010 (CIS2010)

<http://semantic.eea.europa.eu/>

SPARQL endpoint (queries)

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Semantic Data Service

SPARQL endpoint

Query:

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX ex: <http://ex.eionet.europa.eu/ontologies/contreg.rdf#>

SELECT *
WHERE {
  ?bookmark a ex:SPARQLBookmark ;
    rdfs:label ?label
}
LIMIT 50
```

Output format: HTML Hits per page: 20 Use owl:SameAs: ☐ Execute

On this page you can execute various SPARQL queries against the backend that CR is running on. For a more convenient use, you can insert common namespace prefixes into your query by selecting "Useful namespaces" in the Operations menu and clicking the namespaces in the opening pop-up window. The Operations menu also provides a list of shared bookmarked queries which you can select to pre-fill your query.

The output format of the query depends on the one you select from the above select box. In order to make the query use owl:SameAs rule, turn on the relevant checkbox. A link to common useful SPARQL functions is also available below the Operations menu.

Harvesting resources information

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Semantic Data Service

Harvesting sources

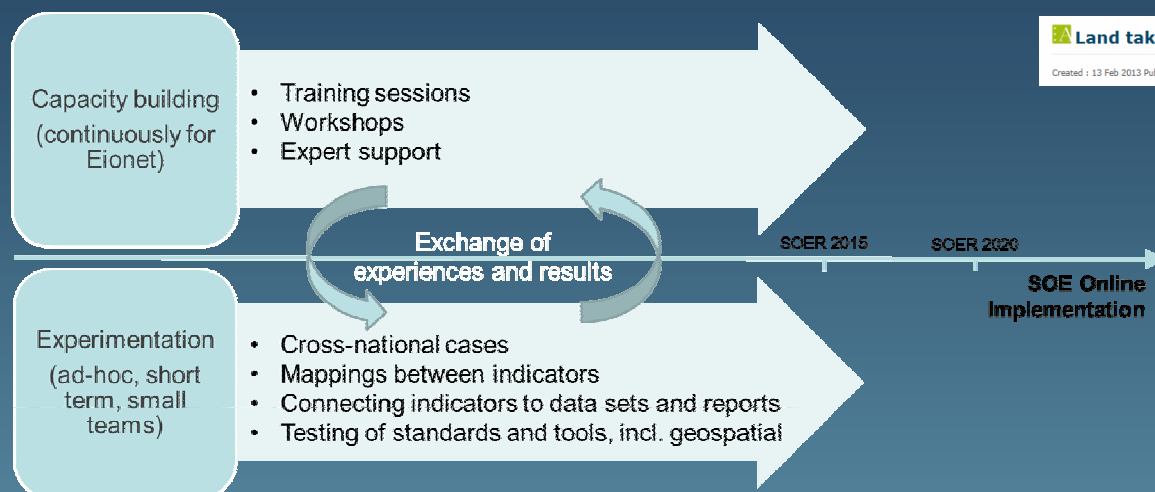
Filter expression: Filter

Tracked files | Priority | Schemas | Failed harvests | Permanent failures | Unauthorized | SPARQL endpoints

93075 matches found, displaying 1 to 15. [First/Prev] 1, 2, 3, 4, 5, 6, 7, 8, 9 [Next/Last]

URL	Last harvest
http://acm.eionet.europa.eu/announcements/index.rdf	26.11.13 02:17:50
http://alms.fao.org/aos/geopolitical.owl	31.10.13 05:55:38
http://annuario.isprambiente.it/sites/default/files/rdf/2360.rdf	06.11.13 07:49:36
http://aqa.eea.europa.eu/database/acronyms/skos	13.11.13 20:37:36
http://apps.who.int/gho/athena/data/OHQ/WHO59_86.xml	03.11.13 03:32:56
http://archives.eionet.europa.eu/chemicals/about	16.11.13 21:22:55
http://archives.eionet.europa.eu/chemicals/about/accessibility	09.11.13 06:58:35
http://archives.eionet.europa.eu/chemicals/about/contact	09.11.13 07:00:55
http://archives.eionet.europa.eu/chemicals/about/discclaimer_html	09.11.13 08:54:35
http://archives.eionet.europa.eu/chemicals/library	09.11.13 07:03:15
http://archives.eionet.europa.eu/chemicals/library/belgrade_subchapter	10.11.13 00:52:54
http://archives.eionet.europa.eu/chemicals/library/chemicals_24-25	09.11.13 20:24:35
http://archives.eionet.europa.eu/chemicals/library/chemicals_discussion	10.11.13 02:54:15
http://archives.eionet.europa.eu/chemicals/library/chemicals_kick-off	10.11.13 01:13:25

Contact: Darja.Lihteneger@eea.europa.eu



Land take (CSI 014/LSI 001) - Assessment published Jun 2013

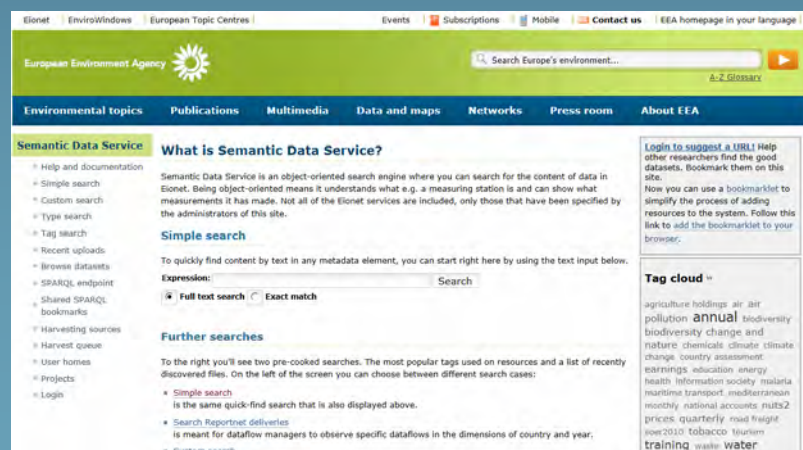
Created : 13 Feb 2013 Published : 24 Jun 2013 Last modified : 28 Oct 2013, 01:43 PM

Key policy question: How much and in what proportions is agricultural, forest and other semi-natural and natural land being taken for urban and other artificial land development?

New members

Land loss is the extension of residential areas and construction sites in the middle class of the increase in the coverage of urban land in the European land: agricultural zones and, to a lesser extent, forests and semi-natural and natural areas, are disappearing in favour of the development of artificial surfaces. This affects biodiversity since it decreases habitats, the living space of a number of species, and fragments the landscape (that support and connect them). The annual land loss in Europe in 2000-2009 averaged 20 000 Central Javanese (12 500 ha) except for the United Kingdom (21 000 ha) and Ireland (2000 ha). In 2009, the loss of agricultural land (1990-2000) was 10 000 ha, the natural land loss decreased by 5.6 in the later period. The number of land loss areas were changed. The Urban and land use and permanent forest and land patterns and natural forests were taken by artificial development. In 1990-2000, identified forests are expected to change (the urban land use) for 2000-2020 becomes available in 2010.

Fig. 1. Relative contributions of land-cover categories to uptake by urban and other artificial land developments (1980–2000).



SENSE infrastructure(s)

