



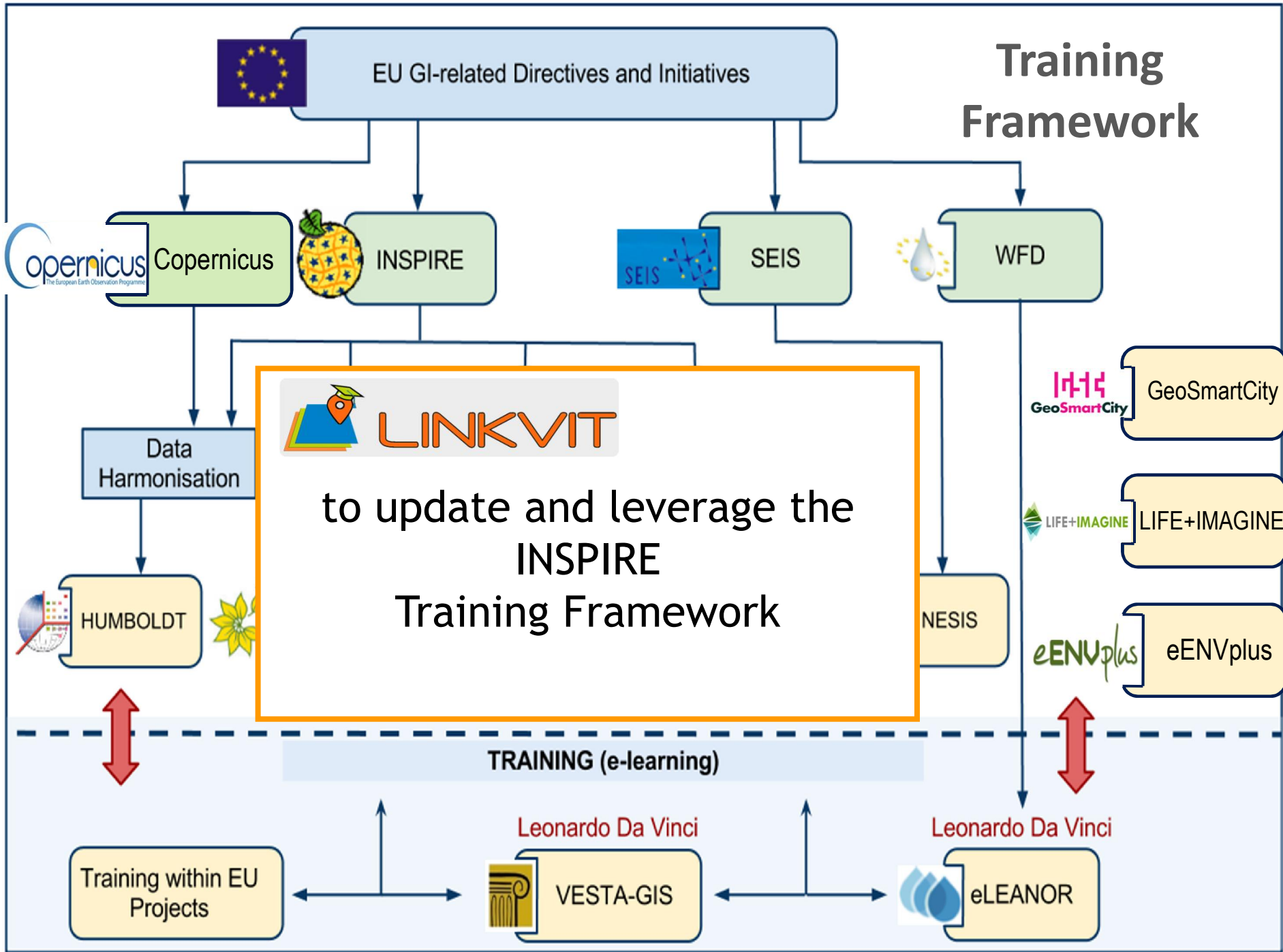
Training Framework LINKVIT

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Project aims

2

- **LINKVIT deals with “Digital Competence”** as defined in the Key competences for Lifelong Learning- A European Framework.
- **Competences in geo-information** are crucial in the new European context to be operational in the assignments of the INSPIRE Directive.
- LINKVIT will aim at creating such competences through a **set of training modules developed in different European initiatives.**





The modules are classified into:

- a) Context Knowledge for INSPIRE
- b) Advanced technical Modules
- c) Modules addressed to the stakeholders of Nature Conservation
- d) Modules addressed to the stakeholders of Geology and Civil Protection
- e) Technological trends and innovative solutions



Partnership to guarantee high level competence for the creation and validation of the training modules

- K.U Leuven (BE)
- EPSILON Italia (IT)
- ISPRA (IT)
- NOVOGIT (SE)
- PLUS (Salzburg University) (AT)
- IUAV (IT)
- GISIG (project Coordinator)



A. Context knowledge for INSPIRE
1. Introduction to INSPIRE
2. European Geospatial Portals as SDI User Interfaces
3. Basics of INSPIRE Data and service sharing
4. Basic concepts of XML and GML
5. Basics of INSPIRE Data Specifications
6. Data Quality
7. Basics of INSPIRE Network Services
8. Data Harmonisation
B. Advanced technical Modules
9. INSPIRE advanced
10. Metadata and Catalogue Services
11. INSPIRE Network Services advanced
12. Procedures for Data and Metadata Harmonization
13. Examples of Data Transformation
14. Metadata and Data validation for INSPIRE



C. Modules addressed to the stakeholders of Nature Conservation
15. Nature Conservation & Natura 2000 Network
16. Nature Conservation & INSPIRE
D. Module addressed to the stakeholders of Geology and Civil Protection
17. Risk Management
18. Geological data harmonization
E. Technological trends and innovative solutions
19. Introduction to Linked data
20. Linked Data Advanced
21. Introduction to Sensor Web enablement



Link with JRC and the INSPIRE Geoportal

The package is offered to the INSPIRE community!

Learn

[About INSPIRE](#)
[INSPIRE Policy Background](#)
[INSPIRE Principles](#)
[INSPIRE Legislation](#)
[Implementing Rules](#)
[INSPIRE Technical Guidance](#)
[Who's who?](#)
[Training](#)

Quick search

[Community](#)
[Data and Service Sharing](#)
[Data Specifications](#)
[Implement](#)
[INSPIRE](#)
[INSPIRE in your Country](#)
[Learn](#)
[Maintenance and Implementation](#)
[Metadata](#)
[MIG Workprogramme](#)
[Monitoring and Reporting](#)
[Network Services](#)
[Spatial Data Services](#)
[Use](#)

Training library

Training Material

A number of training resources are available, both from the Commission and EEA and from research projects and other stakeholders.

This section will provide a gateway to such training resources in the future.



Title

[Introduction to INSPIRE](#)

Category:

[INSPIRE](#)

[Learn](#)

Quick search

[Community](#)
[Data and Service Sharing](#)
[Data Specifications](#)
[Implement](#)
[INSPIRE](#)
[INSPIRE in your Country](#)
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[MIG Workprogramme](#)
[Monitoring and Reporting](#)
[Network Services](#)
[Spatial Data Services](#)
[Use](#)

Introduction to INSPIRE

Go to training module: [Introduction to INSPIRE](#)**Abstract:**

The INSPIRE initiative was initiated by the European Commission in 2001 to enhance the sharing of harmonized spatial data and services between public authorities in order to assist environmental policy-making and activities that may have a direct or indirect impact on the environment. The INSPIRE Directive entered into force in May 2007. Member States transposed the Directive into national legislation and started to implement INSPIRE components: setting-up a coordinating structure, harmonizing spatial data, developing network services to access the data, maintaining metadata for spatial data & services, and putting in place measures to improve data & service sharing.

This module deals with the main elements of the INSPIRE Directive: its context and background, the scope and major chapters of the Directive, an overview of the related implementing rules, the conformity of spatial data and services, and the potential for new innovative solutions based on INSPIRE. The module also pays attention to the relationship between INSPIRE and other Directives such as the Directive 2003/98/EC on the re-use of public sector information (PSI) and Directive 2003/4/EC on public access to environmental information. The training material consist of presentations, supporting documents and a weblecture. The module is a self-learning module.

Structure: This seminar contains the following parts:

1. The use of geographic information in work processes and policy making: key challenges
2. Spatial Data Infrastructures to facilitate access and sharing of data
3. Overview of the INSPIRE Directive
4. The Implementing Rules
5. The conformity of data and services
6. Trends, challenges and opportunities

Learning outcomes:

After the training offer, the participant will be able to summarize the major challenges for spatial data access and sharing; to understand and explain the concepts and main components of a Spatial Data Infrastructure; to define and summarise the main chapters of the INSPIRE Directive; to recognise and classify who is who in INSPIRE and its most important stakeholders; to define and discuss the different Implementing rules (metadata, data specifications, network services, data and service sharing, monitoring and reporting) and technical guidelines; to list and illustrate the most advanced SDIs in Europe and best practices; and to describe and

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Conferenza Finale LINKVIT

ISPRA, insieme ai partner del progetto, organizza il giorno 23 Ottobre a Roma la conferenza finale LINKVIT

[Maggiori informazioni](#)

The project

LINKVIT is based upon the results of several European initiatives in the field of Geographical Information and the implementation of the INSPIRE Directive...

[Read more »](#)

Training Modules

LINKVIT will offer a training about the Context Knowledge to operate in INSPIRE and the related technical procedures...

[Read more »](#)

Communication

All the events and dissemination material of the project is available here.

[Read more »](#)

[Home](#) » Training Modules

Training Modules

Access the Modules

Log in or create a new account in our e-Learning platform.

Some Training Modules are still under development

→ [SUBSCRIBE TO THE MODULES](#)

Modules	Module information	Training Module
A. Context knowledge for INSPIRE		
1. Introduction to INSPIRE	Access the Metadata	Access the Module
2. European Geospatial Portals as SDI User Interfaces	Access the Metadata	Access the Module
3. Basics of INSPIRE Data and service sharing	Access the Metadata	Access the Module
4. Basic concepts of XML and GML	Access the Metadata	Access the Module
5. Basics of INSPIRE Data Specifications	Access the Metadata	Access the Module
6. Data Quality	Access the Metadata	Access the Module
7. Basics of INSPIRE Network Services	Access the Metadata	Access the Module
8. Data Harmonisation	Access the Metadata	Access the Module

**B. Advanced technical Modules**

9. INSPIRE advanced

[Access the Metadata](#)[Access the Module](#)

10. Metadata and Catalogue Services

[Access the Metadata](#)[Access the Module](#)

11. INSPIRE Network Services advanced

[Access the Metadata](#)[Access the Module](#)

12. Procedures for Data and Metadata Harmonization

[Access the Metadata](#)[Access the Module](#)

13. Examples of Data Transformation

[Access the Metadata](#)[Access the Module](#)

14. Metadata and Data validation for INSPIRE

[Access the Metadata](#)[Access the Module](#)**C. Modules addressed to the stakeholders of Nature Conservation**

15. Nature Conservation & Natura 2000 Network

[Access the Metadata](#)[Access the Module](#)

16. Nature Conservation & INSPIRE

[Access the Metadata](#)[Access the Module](#)**D. Module addressed to the stakeholders of Geology and Civil Protection**

17. Risk Management

[Access the Metadata](#)[Access the Module](#)

18. Geological data harmonization

[Access the Metadata](#)[Access the Module](#)**E. Technological trends and innovative solutions**

19. Introduction to Linked data

[Access the Metadata](#)[Access the Module](#)

20. Linked Data Advanced

[Access the Metadata](#)[Access the Module](#)

21. Introduction to Sensor Web enablement

[Access the Metadata](#)[Access the Module](#)

[Home](#) » [Training Modules](#)


INSPIRE advanced

Source

This training module has been developed within the context of the smeSpire project in 2014 (<http://www.smespire.eu/>).

Ownership

Author: Glenn Vancauwenberghe – KU Leuven. The material is provided under Creative Commons Attribution Share-Alike License (<http://creativecommons.org/licenses/by-sa/3.0/>).

Abstract

Member States started the implementation of the INSPIRE Directive in 2007. Since then more than 250.000 spatial data and network services have been made available through the European, national and thematic geoportals. However, the integration of INSPIRE network services in day-to-day business processes remains a challenge. There are many good practices of the use of geographic information in the context of e-Governmental processes in which many Government to Citizens (G2C), Government to Business (G2B) and Government to Government (G2G) interactions take place. Moreover, the INSPIRE approach can certainly be applied in other policy domains and its added value will become most obvious in cross-border and cross-sector applications.

Common Metadata template

Structured in a clustering training perspective:

To allow interoperability of training modules within different project Training Frameworks.

- Module name
- Source
- Ownership
- Abstract
- Structure
- Learning outcomes
- Intended audience
- Pre-requisites
- Language
- Format
- Expected workload

**B. Advanced technical Modules**

9. INSPIRE advanced

[Access the Metadata](#)[Access the Module](#)

10. Metadata and Catalogue Services

[Access the Metadata](#)[Access the Module](#)

11. INSPIRE Network Services advanced

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12. Procedures for Data and Metadata Harmonization

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INSPIRE advanced

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There are many good practices of the use of geographic information in the context of e-Governmental processes in which many Government to Citizens (G2C), Government to [Business](#) (G2B) and Government to Government (G2G) interactions take place. Moreover, the INSPIRE approach can certainly be applied in other policy domains and its added value will become most obvious in cross-border and cross-sector applications.

This module deals with how INSPIRE can become a key enabler in e-Government business processes. It places the INSPIRE initiative in the context of other initiatives and broader technological developments.

The module explains INSPIRE potential future developments and its maintenance programme. Examples of the integration of location information in e-Governmental processes are given, with focus on cross-sector and cross-border applications. The training material consist of presentations, supporting documents and a weblecture.

The module is a self-learning module.

 [Full course description](#)

Access the training material:

The learning resources are sequenced into a learning path as follows.

Weblecture

 [INSPIRE advanced](#)

Author: Glenn Vancauwenberghe ([SADL KU Leuven](#))

Presentation: 92 slides

Self Test

 [Self test](#)

Glossary

 [Glossary](#)

The INSPIRE Glossary contains general terms and definitions that specify the common terminology used in the INSPIRE Directive.

Self-learning material in different formats:

- Presentations
- Text Lectures
- Audio presentations
- WebLectures
- VideoLectures
- Exercises

**eEnvironmental services for advanced
applications within INSPIRE**

**Training Framework
eENVplus**

Level 1: Background Knowledge (Knowledge on Directives/ Technologies)	
1.1	Introduction to INSPIRE
1.2	Basics of INSPIRE Data and service sharing
1.3	Basics of INSPIRE Data Specifications
1.4	Basics of INSPIRE Network Services
1.5	Data Harmonisation
1.6	Procedures for Data and Metadata Harmonisation
1.7	Towards the ICT implementation of SEIS
1.8	Good Practices for Environmental Management
1.9	Introduction to Linked Data



Modules from the LINKVIT Training Framework

Level 2: Thematic Knowledge (Knowledge on specific related knowledge areas)	
2.1	Water Directives
2.2	Nature Conservation and Natura 2000 Network
2.3	Nature Conservation and INSPIRE
2.4	Risk Management
2.5	Geological Data Harmonisation



Modules from the LINKVIT Training Framework

Level 3: The eENVplus Infrastructure (Knowledge on the technical outcomes of eENVplus)	
3.1	Examples of Data Transformation
3.2	Metadata and Data validation for INSPIRE
3.3	The eENVplus Architecture
3.4	The eENVplus Thesaurus Framework
3.5	The eENVplus services
	<i>Components of the eENVplus services Modules:</i> View service Download service for vector Ingestion service Web processing service Notification service
3.6	eENVplus catalogue and connection to operational infrastructures
3.7	Mobile Mapping and advanced visualisation



Modules from the LINKVIT Training Framework

Level 4 – eENVplus scenarios

Level 4 – eENVplus scenarios	
4.1	Implementation of a SEIS for air quality data
4.2	Providing INSPIRE-compliant access to utility services: the case of sewage networks in Flanders
4.3	CSspire
4.4	Natural Areas INSPIRE Compliance Toolbox
4.5	Forest Fire Management Scenario
4.6	Window on the Protected Areas – Mobile Conservation Map (WMA MCM)
4.7	NLSI - Mobile application for Nature Conservation (INSPIRE Geoportal)
4.8	Geological Map Harmonization
4.9	Urban Landuse Planning: INSPIRE'd land use planning Indicators to monitor good urban planning practices

Integrated Coastal Area Management Application

**Training Framework
LIFE+IMAGINE**

Background Knowledge

- Introduction to INSPIRE
- Basics of INSPIRE Data Specification
- Basics of INSPIRE Network Services
- Data Harmonisation
- Procedures for Data and Metadata Harmonisation
- Examples of data transformation
- Metadata and data validation for INSPIRE
- Towards the ICT implementation of SEIS
- Copernicus

Thematic Knowledge

- Risk Management
- Geological Data Harmonization



Modules from the LINKVIT Training Framework

The LIFE+IMAGINE infrastructure

- The LIFE+IMAGINE Architecture
- The LIFE+IMAGINE web services

Scenarios Application and Use Cases

- Soil Consumption calculation and its application at national/municipal level
- Landslides impact assessment and specific applications
- Integrated Coastal Zone Management and the coastal sediment balance

*open geo-data for innovative services and
user applications towards Smart Cities*

Training Framework GeoSmartCity

The INSPIRE Directive and related technologies

- o Introduction to INSPIRE
- o Basic of INSPIRE Data Specification
- o Basics of INSPIRE Network Services
- o Data Harmonisation
- o Procedures for Data and Metadata Harmonization
- o Example of Data Transformation
- o Metadata and Data validation for INSPIRE
- o Introduction to Linked Data

GIS Technologies

- o GIS Introduction
- o Data Visualization & Cartography
- o Geo-Crowdsourcing: Open Street Map workflow

Thematic Knowledge: Underground Management

- o Urban drainage & Sewerage
- o Operation And Maintenance Of Underground Assets
- o Water Supply System
- o Water and wastewater pollution characterisation and sources
- o General Aspects Of Waste Water Treatment Plant

Thematic Knowledge: Green Energy

- o The European Energy Policy Strategy
- o Energy efficiency in buildings
- o The Covenant of Mayors

2. The GeoSmartCity Infrastructure

- o The GeoSmartCity Data Models
- o The GeoSmartCity Architecture
- o The GeoSmartCity Hub services
- o The GeoSmartCity Specialized services: Green Energy
- o The GeoSmartCity Specialized services: Underground
- o The GeoSmartCity Client functionalities
- o The GeoSmartCity Mobile Client and Crowdsourcing

3. The GeoSmartCity Pilots

- o The GeoSmartCity Pilot Applications



About giCASES

giCASES – Creating a University-Enterprise Alliance for a Spatially Enabled Society – is a Knowledge Alliance co-funded within the EC ERASMUS+ Programme.

The wider objectives of giCASES are:

- ✓ To enable and strengthen innovation in GI education and industry.
- ✓ To facilitate the collaborative creation, management and sharing of knowledge.

These objectives are addressed by developing new, innovative and multidisciplinary approaches to teaching and learning within the Geographic Information (GI) sector, and facilitating the exchange, flow and co-creation of knowledge.

In particular, giCASES aims to:

- ✓ Improve the quality and relevance of GI courses provided by the University members of the consortium.
- ✓ Facilitate the growth of new knowledge-sharing processes and tools between enterprises and universities.
- ✓ Improve the management of knowledge by the partners.

The overall approach to address these objectives is to develop new learning material and processes based on case based learning. In the approach taken in the project, enterprises and academia collaborates both when creating learning material based on real cases and also during and after the courses (through a collaborative platform).



www.gicases.eu

With the support of the Erasmus+ programme of the European Union
Knowledge Alliance HP 680627-EPN-A-2016-1-IT-EPNKA2-FA



Co-funded by the
Erasmus+ Programme
of the European Union

Project activities

- ✓ Creation of a repository of best practices on industry-academia cooperation to create and share knowledge in the GI domain
- ✓ Definition of the focus, scope and requirements of the case studies
- ✓ Specification of innovative collaboration methods, with best practices on different methods and validation of these methods in different settings
- ✓ Definition of process, tools and methodologies for co-creation of knowledge
- ✓ Definition of technical specifications for the set up of a collaboration tool (collaborative platform) and implementation of the technical infrastructure
- ✓ A set of case studies adopted for case based learning and related learning material

The collaborative platform will be also used to make the project results (learning material and processes) available to other stakeholders under open licences, as well as to attract more content providers / stakeholders to contribute to the growth of the content base.

The Consortium



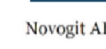
trilogis



GEOSPAC



Epsilon



Digpro



NOVA IMS



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