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BESTSDI – Western Balkans Academic Education
Evolution and Professional's Sustainable
Training for Spatial Data Infrastructures

*With the support of the Erasmus+ program:
Higher Education – International Capacity Building
N° 574150-EPP-1-2016-1-HR-EPPKA2-CBHE-JP*

BESTSDI Final Report

Task 4.2: Life-long learning (LLL) courses for professionals

Version 1.0

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V0.3	27/08/2019	Hrvoje Meaški	Draft final document	Full Report based on received partners reply's before Q12 workshop in Sarajevo Novi Sad
V1.0	29/08/2019	Hrvoje Meaški	Final report	Adopted



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TABLE OF CONTENTS

1	Introduction.....	4
2	Task 4.2 Life-long learning (LLL) courses for professionals	6
3	Deliverables	8
3.1	Planning of LLL courses for professionals.....	9
3.2	Implementation of LLL courses for professionals	12
3.3	Evaluation of LLL courses for professionals.....	13
4	Implemented LLL courses for professionals.....	14
4.1	Program countries – status of LLL courses*	14
4.2	Partner countries – status of LLL courses*	16
5	Conclusion and recommendations.....	39
5.1	Short analysis of collected answers.....	39
5.2	Task Repository	41
5.3	Recommendations.....	41

1 Introduction

The goal of **Work Package 4 (WP4): Dissemination & Exploitation** is the efficient dissemination of project results and information about BESTSDI activities in partner countries but also in the whole region and beyond. This dissemination should raise the general knowledge about BESTSDI and SDI education and its application in the target sectors (data management and SDI users), to increase awareness of the project and its results within its main target groups (students, institutions professionals and external universities) and to assure that the project results will be maintained and further developed after the completion of the project. It has also the goal to define a future exploitation model between partners and prepare the consortium partners for future projects.

WP4 covers the entire project period, but intensive activities will be conducted in year 2 and 3 of the project lifetime, namely when products and results will be available for dissemination and exploitation. This gives time to develop dissemination and exploitation activities focused on target groups in relation to the types of products and materials the project will produce.

WP4 includes activities aiming at the development of a Communication Plan (Task 4.1) and Dissemination & Exploitation Plan (Task 4.4).

The dissemination & exploitation is carried out by WP4 that is split into five tasks:

Task 4.1 – Development of a Communication Plan

Task 4.2 – Life-long learning (LLL) courses for professionals

Task 4.3 – Production of dissemination material

Task 4.4. – Development Plan for Dissemination and Exploitation of Results (DER)

Task 4.5. – Dissemination and exploitation execution

WP4 expected results are:

- Internal and external communication is highly recognizable by all target groups;
- **sufficient number of professionals attended the LLL courses developed by the project and are able to act as multipliers for promoting SDI and development of an a sustainable LLL model;**
- Products and materials for dissemination and exploitation has been developed, produced and distributed;
- Execute the development and exploitation plan ensuring expected effects on target groups as planned;
- A model for future usage of products and material, as well as future cooperation has been developed.

Milestones for WP4 will be:

- PMB meetings held, foreseen documents approved (M12)
- **LLL courses held (M24 - M30 – M36)**



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- Documents and material disseminated at foreseen events (years 2 and 3 of project, M36)
- Consortium agreements signed (M30)
- Final conference held (M36)

2 Task 4.2 Life-long learning (LLL) courses for professionals

In accordance to the structure proposed in Project description, consultations conducted at the Kick-off meeting of the Project on November 14-16, 2016 in Zagreb and proposals of the Project partners the Task Group 4.2 – Life-long learning (LLL) courses for professionals of WP4 – Dissemination & Exploitation is established as follows:

Table 1 - Task Group 4.2 of WP4

Role	Name	Organization	e-mail
Task leader	Hrvoje Meaški	UNIZG FGE (P01.2)	hrvoje.measki@gfv.hr
Task deputy leader	Gojko Nikolić	UCG FF (P13.1)	gojkorn@ac.me
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The persons dealing with the execution of this task are the task leader, the task deputy leader and representatives of partners contributing to the task.

Each partner is involved in all dissemination activities. Methods of promotion among attendees of teaching courses organized at partner universities, and among professionals attending LLL courses will be worked out. Partners have to identify the main stakeholder groups in their countries, which are interested in dissemination activities.

Dissemination materials were regularly updated to provide target groups with the latest project status and achievements. All produced materials were used the BESTSDI logo and Erasmus+ Programme logo, and will contain the official disclaimers required by the EU, namely:

- "With the support of the Erasmus+ programme of the European Union"
- Disclaimer (article I.10.4) "The European Commission support for the production of this publication does not constitute endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein". The disclaimer is available in the different European languages at the following link:

http://ec.europa.eu/dgs/education_culture/publ/graphics/beneficiaries_all.pdf

Although the official language of the project is English, the project aims at providing dissemination materials in the different languages of the partner countries where this is possible.

Most of the performance indicators are quantifiable and Dissemination impact will be measured partly by directly measurable indicators (number of attendees) and partly by indirectly measurable indicators (web site visitors, etc.).

3 Deliverables

Based on prepared content and training material for different target profiles LLL courses will be executed. The training courses will also be open to teachers at external universities and their efficiency evaluated. Evaluation of executed LLL courses will be conducted by internal evaluators and participants of the courses for final release of the courses and course materials.

Exploitation will start together with dissemination activities and will be carried out throughout the project's lifespan. The Exploitation Plan will define methods and strategies for effectively leveraging project's results and outcomes during the project's lifetime and beyond. It will also give advice on how to share outcomes with stakeholders and relevant institutions and organisations defined in CT (communication tool), and how it will contribute to the overall exploitation strategy of the project.

Execution and exploitation of Life-long learning (LLL) courses for professionals is possible when the following prerequisites are met:

Table 2 - Prerequisites for execution and exploitation of Life-long learning (LLL) courses for professionals

Task	Input(s)	Output(s)	Remarks regarding partners
T2.2 Life-long learning (LLL) courses	User survey (20 q); Curricula specification	D22.1 Survey analysis; D22.2 Project LLL courses	P01.1: Contribute in LLL courses definition; ICT support P01.2: Prepare survey & organize development of LLL courses P02 GI-N2K CDTool support; Contribution P03, P04, P05: Specification contribution
T4.2. LLL courses execution	Tailored LLL courses	Execution LLL courses	P01.1: Provides administrative & ICT support P01.2, P03, P04: Execute LLL courses

Accordingly, all activities have been coordinated with activities of group T2.2, which task is development of Life-long learning (LLL) courses for professionals. LLL courses were developed for professionals in all target sectors and work have been organized in two sub-groups in accordance to their study program:

- Sub-group A – geodesy and geoinformatics
- Sub-group B – all other study programs

Each sub-group had the objective to develop several LLL courses for the respective groups of professionals including theoretical and practical learning material as well as methodology for courses execution.

Partners had the additional task to identify the main stakeholder groups in their countries, which are interested in Life-long learning (LLL) activities.

The WP4 expected result directly related to LLL is a sufficient number of professionals attending the LLL courses developed by the project and are able to act as multipliers to promote SDI and the development of an a sustainable LLL model. To achieve the expected project result, each partner is required to conduct a minimum of three (3) LLL courses for professionals during the 3rd year of the project lifetime.



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Accordingly, the task group 4.2 produced the following deliverables:

Table 3 - Task Group 4.2 Deliverables

Number	Title	Date
D1	Execution of minimum three (3) LLL courses for professionals per partner	During the 3rd year of the project lifetime
D3	Final report	September 2019

Learning materials are prepared in joint task with task group 2.1. Task group 2.2 was also combined with task group 4.2 (life-long learning courses for professionals). These task groups are connected, and they were simultaneously discussed in following workshops:

- Q4 workshop in Nikšić – Introduction to task group 2.2
- Q5 workshop in Mostar – Development of LLL courses
- Q6 workshop in Banja Luka – LLL training program and LLL implementation example
- 2nd Summer School Split – LLL program & courses – structure, content, lectures, exercise, materials. LLL program & courses – adaptation to partner study program & profile of professionals. LLL program & courses – organisation, management, execution

Especially regarding to TG 4.2 at:

- Q8 workshop in Tirana – description of LLL course program. Presenting results of collection of initial information from partners.
- Q9 workshop in Pristina – Presenting and analysing results of collection of initial information from partners
- Q10 workshop in Novi Sad – Presenting and analysing results of collection of initial regarding implementation of LLL courses for professionals
- Q11 workshop in Podgorica – Presenting and analysing results of collection of initial regarding implementation of LLL courses for professionals

Three main parts during this process (planning, implementation and evaluation) are briefly summarized below.

3.1 Planning of LLL courses for professionals

Within the LLL planning process, an online questionnaire related to gathering initial information about the planned LLL courses was sent to all partners during July 2018. The collected responses served as a source of ideas for the implementation of the courses among other partners.

The main questions were:

- how the LLL courses would be prepared and executed
- what the main thematic area would be
- whether the assistance of other partners will be needed
- a brief description of how the course would be conducted.

Specific questions were related to the details of the planned LLL course:

- proposed name of LLL course
- relation to the BEST SDI curriculum building block
- timeframe for the implementation and planned duration of the LLL course
- method of financing rate
- short description of the main form of the LLL course
- expected number of participants and testing of participants' knowledge

The screenshot shows a web-based questionnaire titled "TG 4.2: LLL QUESTIONNAIRE". The text on the page includes: "The dissemination & exploitation is carried out by WP4 that is split into five tasks. One of them is related to LLL. Task 4.2 – Lifelong learning (LLL) courses for professionals. One of the WP4 expected result related to LLL is: sufficient number of professionals attended the LLL courses developed by the project and are able to act as multipliers for promoting SDI and development of an a sustainable LLL model. To reach expected project result, each partner is obliged to conduct minimum three (3) LLL courses for professionals during the 3rd year of the project lifetime. Milestones for WP4 regarding LLL courses is to be held during M24 – M30 – M36. This questionnaire should provide information about planned LLL courses serving as source for creation of LLL data base. Please fill out the form no later than 1st September 2018. Thank You!". There is a text input field for "E-adresa*" and a "Partner (University)*" field. Logos for BEST SDI and the Erasmus+ Programme of the European Union are visible at the bottom.

Picture 1: Print screen of initial LLL questionnaire

In accordance with the proposals collected from this questionnaire, there were 45 potential topics:

Advanced course of SDI Data Modelling and Data Harmonization

Advanced data modelling and databases

Application and practical use of SDI in Civil Engineering

Application and practical use of SDI in Urban Planning

Basics of SDI

Beyond SDI: exchanging metadata between portals using DCAT



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Beyond SDI: GDPR and secure access to geospatial data and services

Beyond SDI: time components and the use of data cubes

Data Mining

Establishment of web-services for spatial data (WMS, WFS, CSW)

Fundamentals of IPP for providers of spatial services

Fundamentals of SDI and its engineering applications

Harmonization of geospatial data in Kosovo

Harmonization of spatial data

Inspire and NSDI, Architecture and Legislation

Main themes in SDI (Ortho-photo and Spatial Databases and WEB GIS)

Meta data

Mine Surveying and Working with Portal

MSDI

Open SDI

Principles of geographic information systems

Remote Sensing; OrthoPhotos; Databases and WEB-GIS

SDI Access Mechanism

SDI and Soil Sampling

SDI and Soil Analysis

SDI and using data of National Forest Inventory

SDI at Work

SDI Concepts and Principles

SDI Data Modelling

SDI for Thematic Applications

SDI in agriculture

SDI in Civil Engineering

SDI in geology

SDI in mining

SDI in urban planning

Smart Cities - future of geodetic profession?



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Spatial Databases and Spatial Data Infrastructure

State spatial databases

Technological trends

The role and importance of SDI

Using SDI in Forestry

Using SDI in Landscape Architecture

Using SDI in Ecological Engineering

Use of programs and technologies in SDI

Working with Portals and Data sets

Each partner proposed several life-long learning modules. Planned execution of life-long learning was from the end of 2018 to beginning of 2020. Each of the partners expects between 5 and 40 participants, which would in total be over 800 participants. Large number of participants will have direct impact in education and resulting in dissemination activities on larger population.

In order to provide ideas for new LLL courses, all answers from this survey are available to everyone (LLL questionnaire – Answers):

<https://docs.google.com/spreadsheets/d/1ILB7SI17koiE9PeoA5nhEKbLLKs7oAu9uE42BqeQNWU/edit?usp=sharing>

These answers provide general information about proposals of LLL courses.

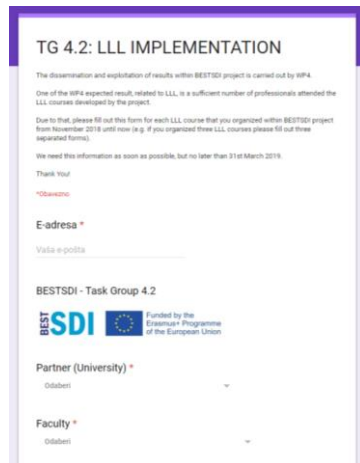
3.2 Implementation of LLL courses for professionals

During the LLL implementation process, a questionnaire designed to collect information about the completed LLL courses was sent to all partners during March 2019. The questions were consistent with the initial course planning questionnaire.

Main questions from LLL implementation form

- Name of the LLL course
- Relation of the LLL course with the SDI curriculum building block:
- When did you executed this LLL course?
- How did you (your institution) prepare and implement this LLL course?
- Write the name of the partner with whom you prepared and implemented the LLL course
- How did you fund the preparation and implementation of the LLL course?
- What was the main form of this LLL course?
- How many participants were at the LLL course?
- Have you tested participants knowledge before launching the LLL course?

- What was the level of knowledge of participants that attended LLL course?
- Describe briefly how the LLL course looked like
- Additional remarks regarding the LLL course



The image shows a print screen of a questionnaire titled "TG 4.2: LLL IMPLEMENTATION". The text on the screen includes: "The dissemination and exploitation of results within BESTSDI project is carried out by WP4. One of the WP4 expected result, related to LLL, is a sufficient number of professionals attended the LLL courses developed by the project. Due to that, please fill out this form for each LLL course that you organized within BESTSDI project from November 2018 until now (e.g. if you organized three LLL courses please fill out three separated forms). We need this information as soon as possible, but no later than 31st March 2019. Thank You!" Below this text are several form fields: "E-adresa *", "Vida e-pošta", "BESTSDI - Task Group 4.2" (with logos for BESTSDI and Erasmus+), "Partner (University) *", and "Faculty *". Each field has a small "Obaveštaj" icon next to it.

Picture 2: Print screen of LLL implementation questionnaire

This questionnaire will be open permanently throughout the project and will eventually be based for all conducted LLL courses.

In order to provide data available to everyone, a link to these answers could be found at the project web site:

<https://docs.google.com/spreadsheets/d/1ko6vbG9IBWk4ScebC8KRtdDbeZRINFONjGIdqH2TY/edit?usp=sharing>

These answers provide general information about executed courses

3.3 Evaluation of LLL courses for professionals

Additionally, evaluation forms for professionals attending LLL courses were prepared within the Task 2.7 (in English and Croatian) and delivered to all partners during January 2019, with the note that evaluation forms must be used each time the course is completed.

4 Implemented LLL courses for professionals

4.1 Program countries – status of LLL courses*

*For program countries is not obligatory to organize LLL courses within this project

Table 4 – Status of LLL courses within program countries

Partner (University)	Faculty	Status of LLL course for professionals
010 University of Zagreb	Faculty of Geodesy	Organised
	Faculty of Geotechnical Engineering	
020 Catholic University of Leuven	SADL	will not organize
	Public Governance Institute	
030 University of Split	Faculty of Civil Engineering, Architecture and Geodesy	will not organize
040 University of Ss. Cyril and Methodius Skopje	Faculty of Civil Engineering	Organised
050 University of Applied Sciences Bochum	HBO Bochum	will not organize

Table 5 - 010 University of Zagreb

Name of the LLL course:	Establishment of web-services for spatial data (WMS, WFS, CSW)
Relation of the LLL course with the SDI curriculum building block:	BB2: SDI at Work
When did you executed this LLL course?	03/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with professional association
Write the name of the partner with whom you prepared and implemented the LLL course	Croatian Chamber of Chartered Geodetic Engineers
How did you fund the preparation and implementation of the LLL course?	Charging fees to participants
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	12
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Advanced
Describe briefly how the LLL course looked like	12 hours workshop
Additional remarks regarding the LLL course	

Table 6 – 040 University of Ss. Cyril and Methodius Skopje

Name of the LLL course:	Distributed GIS web services
Relation of the LLL course with the SDI curriculum building block:	SDI at work
When did you executed this LLL course?	16-17/05/2019
How did you (your institution) prepare and implement this LLL course?	It was developed a program, specially tailored for the level of knowledge of the participants and their practical needs.
Write the name of the partner with whom you prepared and implemented the LLL course	Agency for Real Estate Cadaster of R. Macedonia
How did you fund the preparation and implementation of the LLL course?	The course was prepared by consulting developed course materials from BSTSDI project which were very helpful since already prepared parts could be easily transferred to lectures, implementation of the course was without any difficulties.
What was the main form of this LLL course?	A short term training.
How many participants were at the LLL course?	Around 250
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Experienced surveyors with low level of knowledge related with SDI
Describe briefly how the LLL course looked like	The course consisted of two parts, the first part referred to theoretical knowledge in SDI in particular web services and the second part was focused on practical exploitation of WMS and WFS services.
Additional remarks regarding the LLL course	

4.2 Partner countries – status of LLL courses*

*For partner countries is obligatory to organize **min 3 LLL courses** within this project

Table 7 – Status of LLL courses within partner countries

Partner (University)	Faculty	Status of LLL course for professionals	Number of LLL courses
061 Polytechnic University Tirana	Faculty of Civil Engineering	Organized	4
	Faculty of Geology and Mine	Organized	4
070 Agricultural University Tirana	Faculty of Forestry	Organized	2
080 University of Banja Luka	Architecture, Civil Engineering and Geodesy Faculty	Not yet	0
090 University of Mostar	Faculty of Science and Education	Organized	3
101 University of Sarajevo	Faculty of Civil Engineering	Organized	1
	Faculty of Agriculture and Food Science	Not yet	0
110 University of Tuzla	Faculty of Mining, Geology and Civil Engineering	Organized	2
120 University for Business and Technology Pristine	UBT Pristine	Not yet	0
130 University of Montenegro	Faculty of Philosophy Nikšić	Not yet	0
	Biotechnical Faculty Podgorica	Not yet	0
140 University of Beograd	Faculty of Forestry	Not yet	0
150 University of Novi Sad	Faculty of Technical Sciences Novi Sad	Organized	3
	Faculty of Civil Engineering Subotica	Organized	3
160 University "Ukshin Hoti" Prizren	160 Faculty of Computer Sciences	Need data	2

Komentirano [HM1]: Hoćemo li brojati 3 LLL tečaja po partner ili svaki fakultet mora organizirati 3 LLL tečaja

Table 8.1 – 061 Polytechnic University Tirana, Faculty of Civil Engineering

Name of the LLL course:	Inspire and NSDI, Architecture and Legislation
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with governmental authority

Write the name of the partner with whom you prepared and implemented the LLL course	State Authority for Geospatial Information (ASIG)
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	24
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	1 hour theory, 1 hour examples/ lecture
Additional remarks regarding the LLL course	Albanian language

Table 8.2 – 061 Polytechnic University Tirana, Faculty of Civil Engineering

Name of the LLL course:	Main themes in SDI (Ortho-photo and Spatial Databases and WEB GIS)
Relation of the LLL course with the SDI curriculum building block:	BB3: SDI Data Modelling and Data Harmonization
When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with governmental authority
Write the name of the partner with whom you prepared and implemented the LLL course	State Authority for Geospatial Information (ASIG)
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	24
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	1 hour theory, 1 hour examples
Additional remarks regarding the LLL course	Albanian Language

Table 8.3 – 061 Polytechnic University Tirana, Faculty of Civil Engineering

Name of the LLL course:	Beyond SDI: exchanging metadata between portals using DCAT
Relation of the LLL course with the SDI curriculum building block:	BB8: SDI for Thematic Applications

When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with governmental authority
Write the name of the partner with whom you prepared and implemented the LLL course	State Authority for Geospatial Information (ASIG)
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	24
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	1 hour theory, 1 hour examples
Additional remarks regarding the LLL course	Albanian language

Table 8.4 – 061 Polytechnic University Tirana, Faculty of Civil Engineering

Name of the LLL course:	SDI for Thematic Applications
Relation of the LLL course with the SDI curriculum building block:	BB8: SDI for Thematic Applications
When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with governmental authority
Write the name of the partner with whom you prepared and implemented the LLL course	State Authority for Geospatial Information (ASIG)
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	24
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	1 hour theory, 1 hour examples
Additional remarks regarding the LLL course	Albanian language

Table 9.1 - 062 Polytechnic University Tirana, Faculty of Geology and Mine

Name of the LLL course:	GIS, SDI, GEOMATICS
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	27/04/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with governmental authority
Write the name of the partner with whom you prepared and implemented the LLL course	State Authority for Geo information - ASIG
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	17
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	4 Hours Theory; 2 Hours practice;
Additional remarks regarding the LLL course	NA

Table 9.2 - 062 Polytechnic University Tirana, Faculty of Geology and Mine

Name of the LLL course:	Mining Modelling, Micromine, Orthophotos, etc.
Relation of the LLL course with the SDI curriculum building block:	Mine Modelling; Source reserve estimation; Photography
When did you executed this LLL course?	04/05/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	NA
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	34
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	1 Hour Theory; 2 hours practice; 2 hours theory; 1 hour practice

Additional remarks regarding the LLL course	Course was held in Albanian language
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Table 9.3 - 062 Polytechnic University Tirana, Faculty of Geology and Mine

Name of the LLL course:	Mine Surveying; Rock mechanic; Remote sensing
Relation of the LLL course with the SDI curriculum building block:	BB7: Technological Trends
When did you executed this LLL course?	11/05/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	NA
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	31
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	2 hours theory; 1 hour theory; 1 hour practice; 1 hour theory; 1 hour practice
Additional remarks regarding the LLL course	Albanian Language

Table 10.1 - 070 Agricultural University Tirana, Faculty of Forestry

Name of the LLL course:	SDI and using data of National Forest Inventory
Relation of the LLL course with the SDI curriculum building block:	BB8: SDI for Thematic Applications
When did you executed this LLL course?	11/2017; 05/2018
How did you (your institution) prepare and implement this LLL course?	In partnership with another type of association, In partnership with governmental authority
Write the name of the partner with whom you prepared and implemented the LLL course	National Environment Agency, Agricultural University of Sweden and Sweden Forest Agency
How did you fund the preparation and implementation of the LLL course?	Partner (co)financing
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	24
Have you tested participants knowledge before launching the LLL course?	No

What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	2 hour theory, 2 hours examples and 2 hours practical work
Additional remarks regarding the LLL course	LLL was held in English with translation in Albanian language

Table 10.2 - 070 Agricultural University Tirana, Faculty of Forestry

Name of the LLL course:	SDI and using data of National Forest Inventory
Relation of the LLL course with the SDI curriculum building block:	BB8: SDI for Thematic Applications
When did you executed this LLL course?	11/2018
How did you (your institution) prepare and implement this LLL course?	In partnership with another type of association, In partnership with governmental authority
Write the name of the partner with whom you prepared and implemented the LLL course	National Environment Agency, Agricultural University of Sweden and Sweden Forest Agency
How did you fund the preparation and implementation of the LLL course?	Partner (co)financing
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	24
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	2 hours theory, 2 hours examples and 2 hours practical work
Additional remarks regarding the LLL course	Course was held in English with translation in Albanian language

Table 10.3 - 070 Agricultural University Tirana, Faculty of Forestry

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	



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How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 11.1 - 080 University of Banja Luka; Architecture, Civil Engineering and Geodesy Faculty

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 11.2 - 080 University of Banja Luka; Architecture, Civil Engineering and Geodesy Faculty

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	



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How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 11.3 - 080 University of Banja Luka; Architecture, Civil Engineering and Geodesy Faculty

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 12.1 - 090 University of Mostar, Faculty of Science and Education

Name of the LLL course:	Basics of SDI
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	6
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	Theoretical part - 4 hours; practical work - 6 hours
Additional remarks regarding the LLL course	

Table 12.2 - 090 University of Mostar, Faculty of Science and Education

Name of the LLL course:	Principles of geographic information systems
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	8
Have you tested participants knowledge before launching the LLL course?	Yes
What was the level of knowledge of participants that attended LLL course?	Basic

Describe briefly how the LLL course looked like	Theoretical part - 3 hours, examples - 1 hour, practical work - 6 hours
Additional remarks regarding the LLL course	

Table 12.3 - 090 University of Mostar, Faculty of Science and Education

Name of the LLL course:	Using SDI in Ecological Engineering
Relation of the LLL course with the SDI curriculum building block:	BB8: SDI for Thematic Applications
When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	9
Have you tested participants knowledge before launching the LLL course?	Yes
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	7 hours theory, 5 hours practical work
Additional remarks regarding the LLL course	

Table 13.1 - 101 University of Sarajevo, Faculty of Civil Engineering

Name of the LLL course:	Importance of Spatial Data Infrastructure (IPP) for the development of society and economy
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	01/2019
How did you (your institution) prepare and implement this LLL course?	Center for Interdisciplinary Studies of the University of Sarajevo
Write the name of the partner with whom you prepared and implemented the LLL course	Center for Interdisciplinary Studies of the University of Sarajevo
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Short course
How many participants were at the LLL course?	20



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Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	5 hours theory
Additional remarks regarding the LLL course	in Bosnian

Table 13.2 - 101 University of Sarajevo, Faculty of Civil Engineering

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 13.3 - 101 University of Sarajevo, Faculty of Civil Engineering

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	



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What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 14.1 - 110 University of Tuzla, Faculty of Mining, Geology and Civil Engineering

Name of the LLL course:	The application and significance of the spatial data infrastructure in higher education in the area of Tuzla Canton
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	17/06/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with another type of association
Write the name of the partner with whom you prepared and implemented the LLL course	Institute of Pedagogy of the Tuzla Canton
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Short course
How many participants were at the LLL course?	20
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	2 hours theory and 1 hour examples
Additional remarks regarding the LLL course	The aim of the course is to educate teachers of secondary schools and other faculties about the importance of SDI and the needs for attending the SDI basis through regular teaching.



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Table 14.2 - 110 University of Tuzla, Faculty of Mining, Geology and Civil Engineering

Name of the LLL course:	Application and Significance of Spatial Data Infrastructure (SDI) Content in High and Secondary Education in the Tuzla Canton
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	07/2019
How did you (your institution) prepare and implement this LLL course?	In partnership with governmental authority, Secondary School and Pedagogical Institute
Write the name of the partner with whom you prepared and implemented the LLL course	Secondary School for Geodesy and Civil Engineering
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	15
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	2 hours theory, 1 hour examples and discussion
Additional remarks regarding the LLL course	Course was held in Bosnian language.

Table 14.3 - 110 University of Tuzla, Faculty of Mining, Geology and Civil Engineering

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	



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What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 15.1 - 120 University for Business and Technology Pristine; UBT Pristine

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 15.2 - 120 University for Business and Technology Pristine; UBT Pristine

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	



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Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 15.3 - 120 University for Business and Technology Pristine; UBT Pristine

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 16.1 - 130 University of Montenegro; Faculty of Philosophy Nikšić and Biotechnical Faculty Podgorica

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	

What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 16.2 - 130 University of Montenegro; Faculty of Philosophy Nikšić and Biotechnical Faculty Podgorica

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 16.3 - 130 University of Montenegro; Faculty of Philosophy Nikšić and Biotechnical Faculty Podgorica

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	

How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 17.1 - 140 University of Beograd; Faculty of Forestry

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 17.2- 140 University of Beograd; Faculty of Forestry

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	



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Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 17.3 - 140 University of Beograd, Faculty of Forestry

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 18.1 - 150 University of Novi Sad, Faculty of Technical Sciences Novi Sad

Name of the LLL course:	SDI in agriculture
Relation of the LLL course with the SDI curriculum building block:	BB8: SDI for Thematic Applications

When did you executed this LLL course?	06/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Short course
How many participants were at the LLL course?	11
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Advanced
Describe briefly how the LLL course looked like	5 hours theory and examples, 5 hours practical work
Additional remarks regarding the LLL course	Serbian language

Table 18.2 - 150 University of Novi Sad, Faculty of Technical Sciences Novi Sad

Name of the LLL course:	SDI in Smart Cities
Relation of the LLL course with the SDI curriculum building block:	BB7: Technological Trends
When did you executed this LLL course?	06/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Short course
How many participants were at the LLL course?	11
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Advanced
Describe briefly how the LLL course looked like	5 hours practical work and examples and 5 hours of individual work
Additional remarks regarding the LLL course	Serbian language

Table 18.3 - 150 University of Novi Sad, Faculty of Technical Sciences Novi Sad

Name of the LLL course:	SDI in Smart Cities
Relation of the LLL course with the SDI curriculum building block:	BB9: SDI Application Development
When did you executed this LLL course?	17/06/2019 – 24/06/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Seminar/workshop
How many participants were at the LLL course?	22
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Advanced
Describe briefly how the LLL course looked like	4 hours theory, 2 hour examples, 3 hours practical work,
Additional remarks regarding the LLL course	

Table 19.1 - 150 University of Novi Sad, Faculty of Civil Engineering Subotica

Name of the LLL course:	Fundamentals of SDI and its engineering applications
Relation of the LLL course with the SDI curriculum building block:	BB1: SDI Concepts and Principles
When did you executed this LLL course?	06/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	---
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Short course
How many participants were at the LLL course?	11
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	3 hours theory, 3 hours examples



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*With the support of the Erasmus+ program:
Higher Education – International Capacity Building
N° 574150-EPP-1-2016-1-HR-EPPKA2-CBHE-JP*

Additional remarks regarding the LLL course	The course was in Serbian. It was supposed to be organized in association with Serbian Chamber of Engineers but, due to their internal administrative difficulties on a national level, we had to organize the LLL course ourselves
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Table 19.2 - 150 University of Novi Sad, Faculty of Civil Engineering Subotica

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 19.3 - 150 University of Novi Sad, Faculty of Civil Engineering Subotica

Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	

Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

Table 20.1 - 160 University "Ukshin Hoti" Prizren, Faculty of Computer Sciences*

Name of the LLL course:	Data Mining
Relation of the LLL course with the SDI curriculum building block:	BB3: SDI Data Modelling and Data Harmonization
When did you executed this LLL course?	02/2019; 05/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone
What was the main form of this LLL course?	Educational program (summer/winter school)
How many participants were at the LLL course?	40
Have you tested participants knowledge before launching the LLL course?	No
What was the level of knowledge of participants that attended LLL course?	Basic
Describe briefly how the LLL course looked like	2 hours theory, 1 hour students project presentation, 2 hours practical work
Additional remarks regarding the LLL course	In Albanian

Table 20.2 - 160 University "Ukshin Hoti" Prizren, Faculty of Computer Sciences*

Name of the LLL course:	Advanced data modelling and databases
Relation of the LLL course with the SDI curriculum building block:	BB3: SDI Data Modelling and Data Harmonization
When did you executed this LLL course?	10/2018, 01/2019
How did you (your institution) prepare and implement this LLL course?	Alone
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	Institution alone

What was the main form of this LLL course?	Educational program (summer/winter school)
How many participants were at the LLL course?	40
Have you tested participants knowledge before launching the LLL course?	Yes
What was the level of knowledge of participants that attended LLL course?	Advanced
Describe briefly how the LLL course looked like	2 hours theory, 1 presentation of projects by students, 2 hours practical work
Additional remarks regarding the LLL course	In Albanian

Table 20.3 - 160 University "Ukshin Hoti" Prizren, Faculty of Computer Sciences*

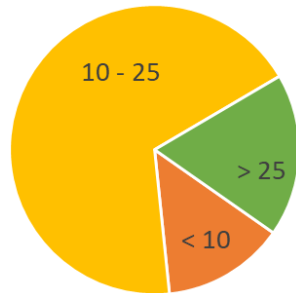
Name of the LLL course:	
Relation of the LLL course with the SDI curriculum building block:	
When did you executed this LLL course?	
How did you (your institution) prepare and implement this LLL course?	
Write the name of the partner with whom you prepared and implemented the LLL course	
How did you fund the preparation and implementation of the LLL course?	
What was the main form of this LLL course?	
How many participants were at the LLL course?	
Have you tested participants knowledge before launching the LLL course?	
What was the level of knowledge of participants that attended LLL course?	
Describe briefly how the LLL course looked like	
Additional remarks regarding the LLL course	

5 Conclusion and recommendations

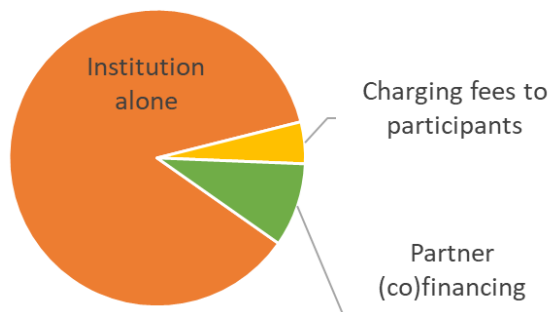
5.1 Short analysis of collected answers

Partners have conducted necessary means to implement life-long learning courses in academic year 2018/2019. Most of the partners in their LLL courses focus on basic and application SDI, which shows that partners have evaluated possible participants and will offer interesting courses for learning professionals. Most of the partners performed LLL courses in partnership with public administration/private sector, which assure high attendance and quality of performed courses. As part of the strengthening of cooperation with NMCA's, partners will continue to improve LLL courses and propose new LLL courses.

Komentirano [HM2]: Temeljem odgovora prikupljenih do 28.8.2019.



Picture 3: Average number of participants within LLL course



Picture 4: Fund and preparation of LLL courses

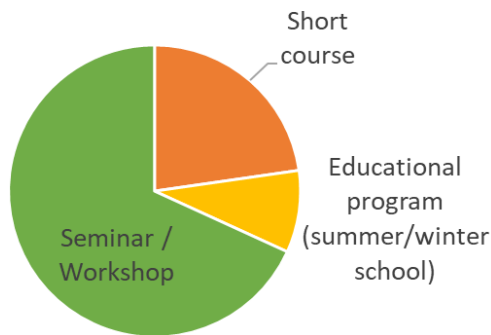


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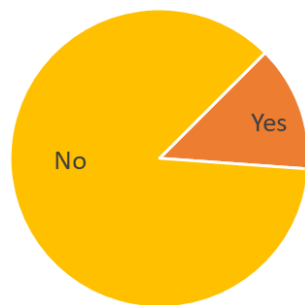


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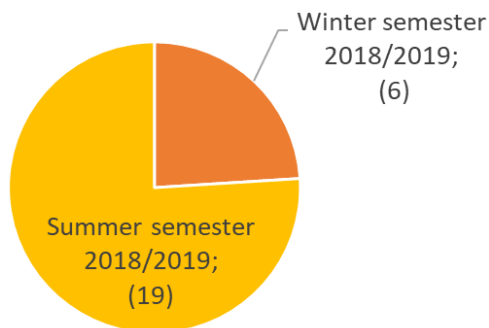
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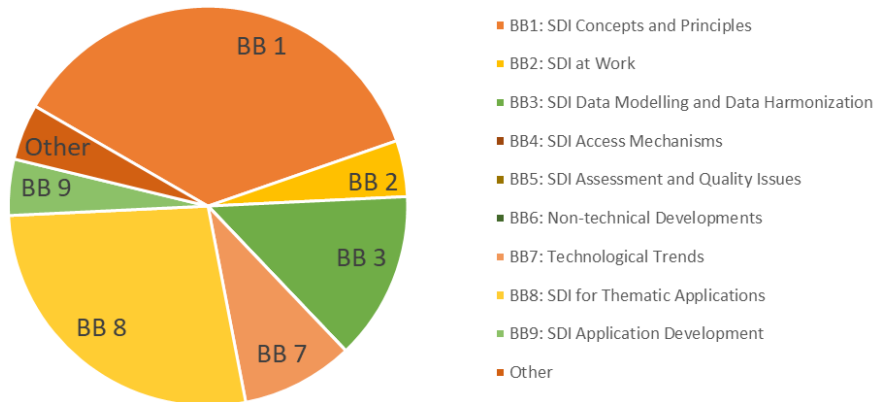
Picture 5: Main forms of LLL courses



Picture 6: Testing of prior knowledge of participants



Picture 7: Time of LLL courses implementation



Picture 8: Relation of the LLL courses with the BESTSDI curriculum building blocks

5.2 Task Repository

In order to assure quality and provide new ideas for the partners recommendation is to create a courses repositorium in task group 4.2. Each partner could use prepared courses and implement it on their University or use prepared courses in order to upgrade and develop new courses.

In the light of the full availability of all data within the project, all partners were asked to fill out the Implementation form (see Chapter 3.2) and additionally to upload on the project website:

- a brief report regarding the organized LLL course,
- the scanned attendance lists
- scanned evaluation forms for professionals attending LLL courses,
- materials that the partners used within the LLL course.

5.3 Recommendations

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