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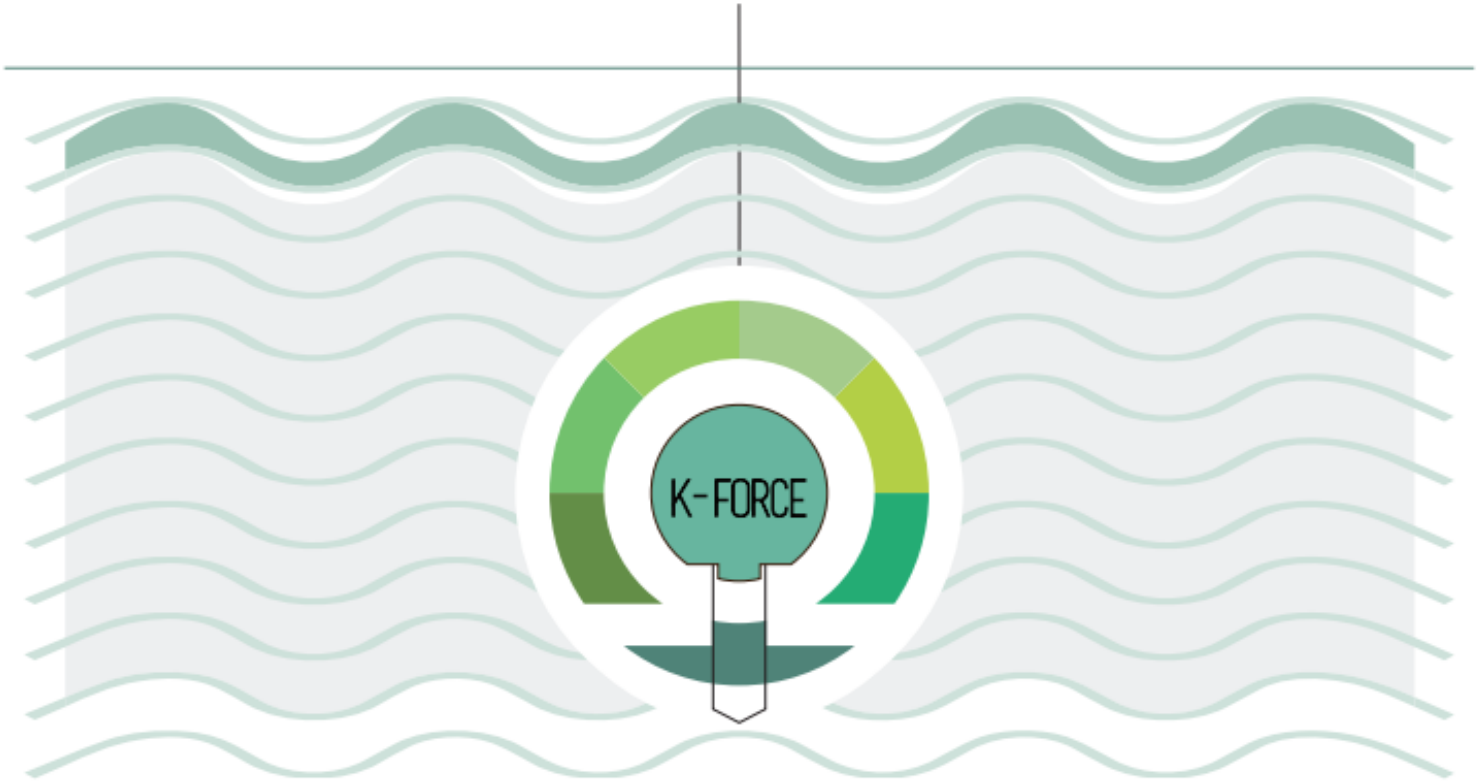
Knowledge FOr Resilient soCiEty

K - FORCE

573942-EPP-1-2016-1-RS-EPPKA2-CBHE-JP



WP6

IMPLEMENTATION OF LLL COURSES

Report on Delivery of LLL Courses in Blended Way to Professionals

Deliverable 6.5

Prepared by:

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PROJECT INFO

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DOCUMENT CONTROL SHEET

Ref. No and Title of Activity	**6.5 Report on Delivery of LLL Courses in Blended Way to Professionals**
Title of Deliverable:	**Report onDelivery of LLL Courses in Blended Way to Professionals**
Institution:	Higher Education Technical School of Professional Studies in Novi Sad

Continuing education is open to everyone who fulfils the admission requirements – two year work experience in the DRM&FSE area.

The courses are targeted towards adults who have already completed an education and wish to follow an education at a higher level or in another field, or wish to update acquired qualification within the field of their initial degree.

Author/s of the deliverable	VTSNS
Status of the document:	Final version
Dissemination Level	External

VERSIONING AND CONTRIBUTION HISTORY

Version	Date	Revision Description	Partner responsible
v.01	20/06/2019	First draft version	VTSNS
v.02	24/01/2020	Second draft version	VTSNS
v.03	13/04/2020	Final version	VTSNS

TABLE OF CONTENTS

INTRODUCTION

One of the four specific objectives of the K-FORCE project is continuous professional development of employees in the sector of Disaster Risk Management and Fire Safety Engineering (DRM&FSE) in the Western Balkan Countries (WBC) through the creation and implementation of certified lifelong learning (LLL) courses for practitioners. This is Specific Objective 3 (SO3). The Report presents Activity 6.5within Work Package (WP) 6 – *Implementation of LLL courses*, leading to the realisation of SO3, and deals with the quantitative and qualitative indicators of progress showing whether and to what extent this specific objective has been achieved.

There are two indicators of progress for Deliverable 6.5:

- Developed and certified set of 18 LLL courses for practitioners; and
- At least 400 trained professionals in the 2nd and 3rd project years.

Partner higher education institutions from WBC involved in WP6, and specifically in Activity6.5, are the following:

- University of Novi Sad (P1)
- Higher Education Technical School of Professional Studies in Novi Sad(P2)
- University of Tuzla (P3)
- University of Banja Luka (P4)
- University of Tirana (P5)
- Epoka University (P6).

The results of Activity 6.5 are compiled for all Partners 1-6 in the Report, which indicates: A) what was planned according to WP 6.2 Report on defined LLL outcomes from September 27, 2018; and B) what was realised.

SERBIA

UNIVERSITY OF NOVI SAD

Faculty of Technical Sciences

Novi Sad

A) LLL Courses Planned

Title of LLL course	Natural disasters and other accidents risk assessment	Evacuation calculation and modelling	Financial resilience to hazards
Linked master course title	Protection and Rescue Plans	Evacuation calculation and modelling	Financial resilience to hazards
Master course ECTS awarded	4 ECTS	3 ECTS	4 ECTS
Master course content adopted	50%	50%	50%
LLL course teaching hours	28	28	28
LLL course schedule required	Medium blocks (2 to 4 days)	Medium blocks (2 to 4 days)	Medium blocks (2 to 4 days)
Theoretical vs. practical LLL course content*	5	5	5
LLL course attendance format**	5	5	5
LLL course main outcomes	Increased theoretical knowledge in disaster risk management Capable to identify and classify and assess risks according to Serbian Law Capable to assess vulnerability of people and environment Capable to design preventive and mitigation measuresengineering as a professional.	Increased theoretical knowledge in evacuation decision making and human behaviour in fire Gained understanding of evacuation strategies Capable to calculate and use simulation software for evacuation plans	Increased theoretical knowledge in risk economics and financing Gained understanding in financial preparedness Capable of calculation of potential financial losses
LLL course formal outcome	Certificate of attendance, Count of hours attended	Certificate of attendance, Count of hours attended	Certificate of attendance, Count of hours attended

* 0 – entirely practical, 10 – entirely theoretical

** 0 – electronic only, 10 – classroom only

B) Realisation

Title of LLL course	Natural disasters and other accidents risk assessment	Evacuation calculation and modelling	Financial resilience to hazards
Call for LLL courses	On-line LLL kursevinaFakultetutehničkihnauka, UNS, mart 2020 On – line LLL courses at Faculty of Technical Sciences, UNS, in March 2020	http://www.ingkomora.rs/programi/kursevi/?gr=80&sifra=7913&prijava=1&post=0#prijava	On-line LLL kursevinaFakultetutehničkihnauka, UNS, mart 2020 On – line LLL courses at Faculty of Technical Sciences, UNS, in March 2020
Venue and date	The course was offered as on-line LLL course, 23-24 March 2020	Regional Chamber of Commerce in Kraljevo 29/11/2019	The course was offered as on-line LLL course, 25-26 March 2020
Number of participants	12	52	15
Number of certificates issued	12	52	15
Type of certificates	HEI certificate of attendance	HEI certificate of attendance in cooperation with Serbian Chamber of Engineers	HEI certificate of attendance

- Total number of LLL courses organised: 3
- Total number of participants: 79
- Total number of certificates issued: 79

Partner 1 started the realisation of its LLL courses at the end of 2019. The courses were planned to be organised in collaboration with the Serbian Chamber of Engineers, however, the administrative procedure was prolonged due to management change in the Chamber. The first course delivered was Evacuation calculation and modelling. The remaining two courses were held online due to the situation with the Covid-19 disease. The prepared learning material consisting of scripts, presentations, regulations, videos, tutorials and simulations is displayed on the institutional ICT platform Canvas and K-FORCE website.

HIGHER EDUCATION TECHNICAL SCHOOL OF PROFESSIONAL STUDIES IN NOVI SAD

A) LLL Courses Planned

Title of LLL course	Risk resilience	Evacuation modelling	Fire and rescue PPE
Linked master course title	1. Risk management in protection, 2. Applied methods of modelling the risk, 3. Monitoring and control in protection	Calculation and model of evacuation	Personal protective equipment
Master course ECTS awarded	10+10+10=30 ECTS	10 ECTS	8 ECTS
Master course content adopted	100%	20%	20%
LLL course teaching hours	4+3 weekly per course/subject	16	16
LLL course schedule required	Longer blocks (2 months)	Medium blocks (4 days)	Medium blocks (4 days)
Theoretical vs. practical LLL course content*	8	5	8
LLL course attendance format**	5	5	5
LLL course main outcomes	Increased theoretical knowledge in risk resilience, gained understanding of risk and protection in disasters, and capable of working with companies in the field of protection engineering as a professional.	Increased both theoretical and practical knowledge in software application, capability of designing evacuation plans	Increased theoretical knowledge in PPE
LLL course formal outcome	Certificate of attendance, Certification of passed exam, Count of hours attended	Certificate of attendance, Certification of passed exam, Count of hours attended	Certificate of attendance, Certification of passed exam, Count of hours attended

* 0 – entirely practical, 10 – entirely theoretical
**0 – electronic only, 10 – classroom only

B) Realisation

Title of LLL course	Risk resilience	Evacuation modelling	Fire and rescue PPE
Call for LLL courses	Group 1 http://vtsns.edu.rs/wp-content/uploads/2019/05/Prijava-na-kurs-Otpornost-na-rizik-LLL-kurs-05.04.20181.pdf Group 2 http://vtsns.edu.rs/kurs-otpornost-na-rizik-lll-kurs-2/	http://vtsns.edu.rs/visoka-tehnicka-skola-strukovnih-studija-u-novom-sadu-pokrece-dva-nova-lll-kursa/	http://vtsns.edu.rs/wp-content/uploads/2019/03/Prijava-na-LLL-kurs-Licna-zastitna-oprema-vatrogasaca-spasilaca.pdf
Venue and date	VTSNS K-FORCE lab Group 1 23/04 – 29/06 2018 (Mon/Wed/Fri, 15.00 – 18.00) Group 2 17/09 – 19/11 2018 (Mon/Tue/Fri, 15.00 –18.00)	17.00 – 21.00 VTSNS K-FORCE lab 28/02/2019 01/03/2019 07/03/2019 14/03/2019	17.00 – 21.00 VTSNS K-FORCE lab 20/03/2019 Firefighting Association of Novi Sad 21/03/2019 27/03/2019 VTSNS K-FORCE lab 28/03/2019
Number of participants	62	10	25
Number of certificates issued	50	9	25
Type of certificates	HEI certificate	HEI certificate	HEI certificate

- Total number of LLL courses organised: 4
- Total number of participants: 97
- Total number of certificates issued: 84

In all LLL courses the title, content and duration are in line with K-FORCE: Report on LLL Courses and outcomes, and the compiled learning material is available on the institutional ICT platform Canvas and K-FORCE website. The attendance lists, photos and templates of certificates are provided. One of the courses was held twice, so the total number of delivered

BOSNIA AND HERZEGOVINA

UNIVERSITY OF TUZLA

A) LLL Courses Planned

Title of LLL course	Computer Explosion Modeling for Improvement preventive protection	Floods and Soil Contamination	Assessment of damaged civil engineering structures
Linked master course title	Fire Safety Engineering	Geotechnical hazards, Community resilience to hazards	Assessment of damaged civil engineering structures
Master course ECTS awarded	7 ECTS	8+5=13 ECTS	8 ECTS
Master course content adopted	30%	30%	40%
LLL course teaching hours	6	6	6
LLL course schedule required	Short blocks (1 or 2 days)	Short blocks (1 or 2 days)	Short blocks (1 or 2 days)
Theoretical vs. practical LLL course content*	6	4	5
LLL course attendance format**	8	9	8
LLL course main outcomes	Gained understanding of basics of finite volume modelling, Introduce in CFD tools, increase of theoretical knowledge with possible application in modelling	Increased theoretical knowledge in floods risk, risk of soil contaminations from heavy metals after the flood	Increased theoretical knowledge in assessment of damages on civil engineering structures, Capable of measuring of damages in construction elements
LLL course formal outcome	Certificate of attendance	Certificate of attendance	Certificate of attendance

* 0 – entirely practical, 10 – entirely theoretical

** 0 – electronic only, 10 – classroom only

B) Realisation

Title of LLL course	Dangerous substances	Floods and Soil Contamination	Explosions modelling for Improvement preventive protection
Call for LLL courses	http://rggf.untz.ba/?p=1608	http://rggf.untz.ba/?p=1780	http://rggf.untz.ba/?p=2160
Venue and date	RGGF Tuzla 26/04/2018	RGGF Tuzla 02-03/11/2018	RGGF Tuzla 14/06/2019
Number of participants	77	30	38
Number of certificates issued	16	24	4
Type of certificates	HEI certificate	HEI certificate	HEI certificate

- Total number of LLL courses organised: 3
- Total number of participants: 145
- Total number of certificates issued: 44

One of the three planned LLL courses (Assessment of damaged civil engineering structures) stated in K-FORCE: Report on LLL Courses and outcomes, was replaced by a new one titled Dangerous substances as it was found more appealing for the wider audience. The compiled learning material is available on the institutional ICT platform Canvas and K-FORCE website. The attendance lists, photos and templates of certificates are provided.

UNIVERSITY OF BANJA LUKA

A) LLL Courses Planned

Title of LLL course	Constructive rules for fire safety of building	Earthquake resistant design	–
Linked master course title	Constructive Rules for Fire safety of Building	Aseismic Design and Construction	
Master course ECTS awarded	4 ECTS	4 ECTS	
Master course content adopted	50%	50%	
LLL course teaching hours	10	10	
LLL course schedule required	Medium blocks (2 to 4 days)	Medium blocks (2 to 4 days)	
Theoretical vs. practical LLL course content*	5	5	
LLL course attendance format**	10	10	
LLL course main outcomes	Candidates master the basic concepts of fire, its origin and consequences. In particular, the candidates master the necessary knowledge of construction measures of fire protection and their application.	Identification and analysis of problems in seismic structural analysis. Problem solving in seismic structural analysis.	
LLL course formal outcome	Certificate of attendance, Certification of passed exam	Certificate of attendance, Certification of passed exam	

* 0 – entirely practical, 10 – entirely theoretical

** 0 – electronic only, 10 – classroom only

Since in the project material it is not specified that there should be three different courses delivered by each WB HEI, the University of Banja Luka planned two LLL courses, but with one of them repeated to satisfy the number of courses required.

B) Realisation

Title of LLL course	Constructive rules for fire safety of building	Earthquake resistant design	Constructive rules for fire safety of building
Call for LLL courses	Part 1: http://aggf.unibl.org/sr/vesti/2019/03/poziv-za-ucesce-na-kurs-cjelozivotnog-ucenja-k-force Part 2: http://aggf.unibl.org/sr/vesti/2019/05/drugi-dio-kursa-cjelozivotnog-ucenja-constructive-rules-for-fire-safety-of-building Part 3: http://aggf.unibl.org/sr/vesti/2019/06/treci-dio-kursa-cjelozivotnog-ucenja-constructive-rules-for-fire-safety-of-building	Part 1: http://aggf.unibl.org/sr/vesti/2019/05/kurs-cjelozivotnog-ucenja-eartquake-resistant-design Part 2: http://aggf.unibl.org/sr/vesti/2019/05/kurs-cjelozivotnog-ucenja-eartquake-resistant-design Part 3: http://aggf.unibl.org/sr/vesti/2019/05/treci-dio-kursa-cjelozivotnog-ucenja-eartquake-resistant-design Part 4: http://aggf.unibl.org/sr/vesti/2019/06/cetvrti-dio-kursa-cjelozivotnog-ucenja-eartquake-resistant-design	http://aggf.unibl.org/sr/vesti/2020/02/poziv-za-ucesce-na-kursu-cjelozivotnog-ucenja-k-force
Venue and date	Faculty of Architecture, Civil Engineering and Geodesy Part 1: 20/03/2019 Part 2: 17/05/2019 Part 3: 13/06/2019	Faculty of Architecture, Civil Engineering and Geodesy Part 1: 16/05/2019 Part 2: 18/05/2019 Part 3: 06/06/2019 Part 4: 12/06/2019	Faculty of Architecture, Civil Engineering and Geodesy Part 1: 25/02/2020 Part 2: 03/03/2020 Part 3: 10/03/2020
Number of participants	150 Part 1: 120 Part 2: 76 Part 3: 67	111 Part 1: 72 Part 2: 63 Part 3: 68 Part 4: 71	33 Part 1: 15 Part 2: 12 Part 3: 13
Number of certificates issued	HEI certificate of attendance 27 HEI certificate of completion 19	HEI certificate of attendance 38 HEI certificate of completion 10	HEI certificate of attendance 0 HEI certificate of completion 0
Type of certificates	HEI certificate of attendance HEI certificate of completion	HEI certificate of attendance HEI certificate of completion	HEI certificate of attendance HEI certificate of completion

- Total number of LLL courses organised: 3
- Total number of participants: 294 (some participants attended only one course part, others attended more parts)
- Total number of certificates issued: 94

The title, content and duration of the courses are in line with K-FORCE: Report on LLL Courses and outcomes, and the compiled learning material is available on the institutional ICT platform Canvas and K-FORCE website. The required attendance lists, photos and templates of certificates are also provided. For the third course, certificates were not issued because of the UBL closure due to the Covid19 pandemic.

ALBANIA

UNIVERSITY OF TIRANA

A) LLL Courses Planned

Title of LLL course	Disaster Risk Modeling	Risk Assessment	–
Linked master course title	Risk Modeling in Practice	1. Foundation of Risk Assessment & Decision Making, 2. Disaster Risk Management	
Master course ECTS awarded	5 ECTS	6 ECTS	
Master course content adopted	50%	50%	
LLL course teaching hours	5 days * 2 hours/day = 10 hours in total	5 days * 2 hours/day = 10 hours in total	
LLL course schedule required	5 days	5 days	
Theoretical vs. practical LLL course content*	4	4	
LLL course attendance format**	10	10	
LLL course main outcomes	Gained understanding of basics of finite volume modelling, Introduce in CFD tools, increase of theoretical knowledge with possible application in modelling	Computer modelling, Risk assessment, Data gathering and analysis, Natural disasters, Economic risk and vulerability	
LLL course formal outcome	Certificate of attendance, Count of hours attended	Certificate of attendance, Count of hours attended	

* 0 – entirely practical, 10 – entirely theoretical

** 0 – electronic only, 10 – classroom only

B) Realisation

Title of LLL course	Disaster Risk Modeling	Risk Assessment	–
Call for LLL courses	http://www.feut.edu.al/about/news/single-news.html?5ce1a05aab209308c9501052	http://www.feut.edu.al/about/news/single-news.html?5ce1a05aab209308c9501052	
Venue and date	**Date**:20-24/05/2019 **Time**: 18.30h **Premises**: Faculty of Economics, Room A301	**Date:**20-24/05/2019 **Time**: 18.30h **Premises:** Faculty of Economics, Room A301/1	
Number of participants	45	120	
Number of certificates issued	38	70	
Type of certificates	HEI certificate	HEI certificate	

- Total number of LLL courses organised: 2
- Total number of participants: 165
- Total number of certificates issued: 108

The project material does not specify that there should be three different courses delivered by each WB HEI, hence the University of Tirana planned two LLL courses, but did not repeat one of them to satisfy the number of courses required. In case of the delivered LLL courses, the title, content and duration are in line with K-FORCE: Report on LLL Courses and outcomes, and the compiled learning material is available on the institutional ICT platform Canvas and K-FORCE website. The attendance lists and photos regarding the courses are also provided, as well as the templates of certificates.

EPOKA UNIVERSITY

A) LLL Courses Planned

Title of LLL course	Disaster Risk Management	Fire Engineering	Fire Evacuation Modelling
Linked master course title	Risk management in Risk Analysis in Decision-Making Process	Structural Fire Engineering, Earthquake Disaster Mitigation	Fire Evaluation Modelling
Master course ECTS awarded	6 ECTS	6 ECTS	6 ECTS
Master course content adopted	50%	100%	50%
LLL course teaching hours	5 days * 2 hours/day = 10 hours in total	5 days * 2 hours/day = 10 hours in total	5 days * 2 hours/day = 10 hours in total
LLL course schedule required	5 days	5 days	5 days
Theoretical vs. practical LLL course content*	5	5	5
LLL course attendance format**	10	10	5
LLL course main outcomes	To be able to describe the scientific foundation for risk management; To be able to describe different perspectives of the concept of risk and be aware of the implications of adopting the different perspectives in a risk management context; To be able to describe methods for risk analysis, evaluation and management, their areas of applicability, especially in the area of safety, health, environment and society; To be able to describe different ways of presenting risk, their limitations and strengths and how they can be applied to evaluate risks; To be able to describe different types of uncertainty and how they can be addressed and	To adopt the principles of construction; To learn the principles of fire safety; To understand the behaviour of materials under the effect of fire; To develop studies, projects related to the improvement of fire safe structures.	Review trends in human behaviour and factors which affect the behaviour of people in fire situations; To create interest in fire safety risk management; To present the range of available preparedness and mitigation measures, consider their appropriateness, opportunities, limitations of implementation in the regional context.

	handled in a risk analysis and evaluation context.		
LLL course formal outcome	Certificate of attendance, Count of hours attended	Certificate of attendance, Count of hours attended	Certificate of attendance, Count of hours attended

* 0 – entirely practical, 10 – entirely theoretical

** 0 – electronic only, 10 – classroom only

B) Realisation

Title of LLL course	Disaster Risk Management	Fire Engineering	Fire Evacuation Modelling
Call for LLL courses	https://events.epoka.edu.al/http://fae.epoka.edu.al/news-training-in-the-field-of-disaster-risk-management-and-fire-safety-engineering-4715.html	https://events.epoka.edu.al/http://fae.epoka.edu.al/news-training-in-the-field-of-disaster-risk-management-and-fire-safety-engineering-4715.html	https://events.epoka.edu.al/http://fae.epoka.edu.al/news-training-in-the-field-of-disaster-risk-management-and-fire-safety-engineering-4715.html
Venue and date	Conference Hall May 10-11, 2019	Conference Hall May 10-11, 2019	Conference Hall May 10-11, 2019
Number of participants	68	68	68
Number of certificates issued	68	68	68
Type of certificates	HEI certificate	HEI certificate	HEI certificate

- Total number of LLL courses organised: 3
- Total number of participants: 204
- Total number of certificates issued: 204

In all three UT LLL courses the title and content are in line with K-FORCE: Report on LLL Courses and outcomes, whereas the duration was altered from five to two days, in order to better respond to the needs and profile of participants, for whom the abridged weekend scheme with condensed content and blocks of traditional lectures was a more acceptable solution. However, to retain the planned number of hours per course, prolonged individual online consultations were offered on issues of interest related to the courses. The compiled learning material is available on the institutional ICT platform Canvas and K-FORCE website. The attendance lists and photos are provided, as well as templates of certificates.

CONCLUSION

The main objective of WP 6 is to provide continuous professional development of employees in DRM&FSE sector in WBC through creation and implementation of certified LLL courses for practitioners. This objective was achieved in the 2nd and 3rd project years and during the six-month extension, as seen from the results presented herein.

All WBC HEIs adapted learning material of their master courses for LLL purposes, as planned. In the next stage, 18 LLL courses were delivered to DRM&FSE professionals in the blended way, improving thus the current provision of education and training in the field. The courses were certified by the HEIs. The total number of those who attended them was 984, and 613 certificates were issued. The attendees acquired new knowledge in DRM&FSE, relevant for and applicable in their everyday work, which is a step further in building a resilient society.

The anticipated quantitative indicators for LLL courses were 18 delivered courses with 400 participants. Since the number of courses held corresponds to the anticipated, and the number of trained professionals during the project lifetime is more than doubled in comparison to the planned, it can be concluded that both quantitative indicators have been reached.

Finally, it should be pointed out that these LLL courses created within the K-FORCE project have the potential to be delivered repeatedly in the future, as part of the collaboration between HEIs and various stakeholders from the DRM&FSE field, or even independently on the market bases. In both ways, they will keep contributing to professional development of the DRM&FSE employees in the region.

ATTACHMENTS

University of Novi Sad

1 Pravilnik o kontinuiranom profesionalnom usavršavanju članova Inženjerske komore Srbije (Regulation on continuing professional development of the members of the Serbian Chamber of Engineers)
2 Odluka o izmenama i dopunama Pravilnika o kontinuiranom profesionalnom usavršavanju članova Inženjerske komore Srbije (Decision on Regulation on continuing professional development of the members of the Serbian Chamber of Engineers)
3 Professional development of members of the Serbian Chamber of Engineers
4 UNS prijava predavanja Inženjerskoj komori Srbije (UNS course offer to the Serbian Chamber of Engineers)
5 Learning material
6 Attendance lists
7 Photos
8 Templates of certificates

Higher Education Technical School of Professional Studies in Novi Sad

1 Learning material
2 Attendance lists
3 Photos
4 Templates of certificates

University of Tuzla

1 Learning material
2 Attendance lists
3 Photos
4 Templates of certificates

University of Banja Luka

1 Learning material
2 Attendance lists
3 Photos
4 Templates of certificates

University of Tirana

1 Learning material
2 Attendance lists

3 Photos
4 Templates of certificates

Epoka University

1 Learning material
2 Attendance lists
3 Photos
4 Templates of certificates