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Knowledge FOr Resilient soCiEty

K - FORCE

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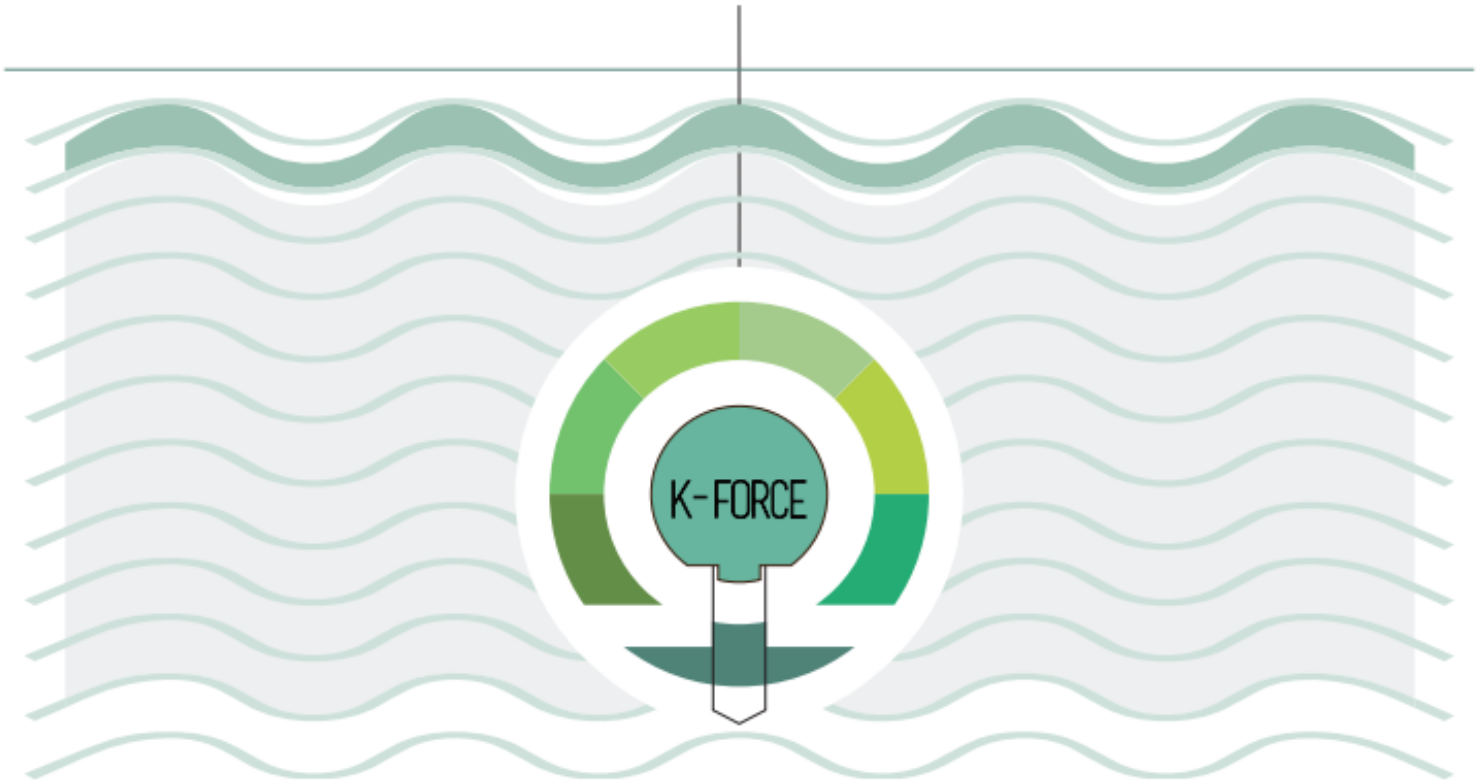

WP4

Implementation of Master Programmes

REPORT ON ICT LEARNING PLATFORM USERS

Deliverable 4.3

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INTRODUCTION

The main objective of this activity was to facilitate the modernization and improvement of teaching methods and pedagogical approach through the development of defined competencies and qualifications required to ICT-based technologies. The goal was to create a centralized control system, based on real processes, which was adapted to the needs of students and trainees.

This activity involved activating of flexible ICT learning platform that represents an integrated set of interactive online services that provide teachers, learners and others involved in education with information, tools and resources to support and enhance educational delivery and management.

This report aims to give an overview of the number of ICT learning platform users (teaching staff and students, as well as LLL lecturers and trainees) at WBC HEIs (P1-P6).

The ICT platform that was choosen for b-learning is CANVAS. CANVAS is a platform of the most modern 'interface‘, it is extremely easy to use and has all the digital tools and satisfies all the needs of online learning and courses. Each WBC HEI has an individual Canvas platform.

The total number of CANVAS users is given in Table 1.

Table 1. The total number of CANVAS ICT learning platform users at WBC HEIs during project duration

		UNS	VTSNS	UNTZ	UBL	UT	EPOKA	TOTAL
UNDERGRADUATE, MASTER AND PHD PROGRAMMES' COURSES								
No	**USER CATEGORY**							
1	**Teaching staff - Professors**	17	10	7	3	4	6	**47**
2	**Teaching staff – Assistants**	6	1	2	10	1	3	**23**
3	**Students**	67	64	27	18	51	20	**247**
TOTAL								**317**
LLL COURSES								
	USER CATEGORY							
4	**LLL Courses Lecturers**	3	7	6	11	3	6	36
5	**Professionals**	12	75	4	134	108	70	403
TOTAL								**439**

In total there was 247 students that used ICT platform on the undergraduate, master and PhD programs, while 403 professionals accessed the platform during the project duration.

UNIVERSITY OF NOVI SAD

DISASTER RISK MANAGEMENT AND FIRE SAFETY – UNDERGRADUATE, MASTER AND PHD ACADEMIC STUDIES		
No	**USER CATEGORY**	**NUMBER OF USERS**
1	**Teaching staff - Professors**	17
2	**Teaching staff - Assistants**	6
3	**Students**	67
LLL COURSES		
	USER CATEGORY	**NUMBER OF USERS**
4	**LLL Courses Lecturers**	3
5	**Professionals**	12

No	COURSE TITLE	LEARNING MATERIAL
1	**Fire and Explosion Investigation**	**Sources of ignition and causes of fire - script** **Lectures (presentations, scripts and webinars):** 1. Introduction 2. Fire origin 3. Fire investigation **4.** Fire signatures and nuisance sources
2	**Risk Analysis in Decision Making Process**	**Lectures (presentations, scripts and webinars):** 1. Qualitative and Quantitative Statistical Methods in Risk Management 2. Multi-hazard risk assessment and decision making 3. Risk communication. Risk perception 4. Risk assessment and treatment in accidents prevention 5. Earthquake geotechnical risks. What we know, what we should know, lessons learned 6. Disasters, Poverty and Development: A comprehensive view from individual level to society 7. Landslide Hazard and Risk Assessment 8. Spatial planning in function of flood protection – methodological approaches for Balkan countries 9. Vulnerability assessment of phyiscal protection systems 10. Framework for Risk Assessment using Scenarios **11.** Community based climate change adaptation and disaster risk reduction
3	**Financial Resilience to Hazards**	**Script – part I and part II** **Lectures (presentations, scripts and webinars):** 1. Financial resilience to hazards and climate finance: a comprehensive approach of tools and methods for disaster risk finance

		2. Enterprise risk management for business resilience 3. Risk management of investment projects 4. Insurance and reinsurance in disaster risk management 5. Resilience in the context of insurance 6. Contribution of insurance and cat bonds to disaster risk management
4	**Evacuation Calculation and Modeling**	**Lectures (presentations, scripts and webinars):** 1. Methods supporting fire risk assessment and management 2. Fire signatures and their use to detect fires 3. An introduction to human behaviour in fire and evacuation 4. Performance-based fire safety engineering 5. Fire safety engineering from theory to practice 6. Fire safety in buildings – part 1 7. Fire investigation 8. Preventive measures in function of fire insurance cost 9. Panic and mass behaviour under fire cases 10. Fire safety in buildings – part 2 and Evacuation Calculation and Modeling **Practical classes (tutorials):** 1. Teaching unit 1 – evacuation calculation 2. Teaching unit 2 – evacuation modeling
5	**LLL course Evacuation calculation and modeling**	• Presentation Fire safety in buildings – Evacuation Calculation and Modeling • Regulation • Videos **Practical classes (tutorials):** • Teaching unit 1 – evacuation calculation • Teaching unit 2 – evacuation modeling
6	**LLL course Financial resilience to hazards**	• **Scripts** • **Presentation** • **Additional lectures (presentations, scripts and webinars):** 1. Resilience in the context of insurance 2. Contribution of insurance and cat bonds to disaster risk management
7	**LLL course Natural disasters and other accidents risk assessment**	**Presentations:** 1. A disaster records 2. Risk assessment methodology **Regulation**

HIGHER EDUCATION TECHNICAL SCHOOL OF PROFESSIONAL STUDIES IN NOVI SAD

PROTECTION ENGINEERING - MASTER PROFESSIONAL STUDIES		
No	**USER CATEGORY**	**NUMBER OF USERS**
1	**Teaching staff – Professors**	10
2	**Teaching staff – Assistants**	1
3	**Students**	32 (2018 cohort) + 32 (2019 cohort)
LLL COURSES		
	USER CATEGORY	**NUMBER OF USERS**
4	**LLL Courses Lecturers**	7
5	**Professionals**	75 (out of which 35 later enrolled master programme and are counted in the student category above)

No	**COURSE TITLE**	**LEARNING MATERIAL**
1	**Risk analysis in decision making for disaster protection (M05)**	1. Risk analysis, textbook
2	**Investigation of causes, phases and consequences of fire (M07)**	1. Criminology service in Serbia; 2. Flashover analysis; 3. Fire case studies; 4. Self-heating; 5. Laboratory methods; 6. Fire expertise, lecture notes; 7. PPT presentation, Investigation of fire causes; 8. PPT presentation, Forensic investigation of fires, arsons and explosions; 9. Expertise of accidents 1; 10. Expertise of accidents 2; 11. Expertise of accidents 3; 12. Sampling traces of fire causes; 13. Forensic investigation of causes; 14. Investigation methodology; 15. Vehicle fires; 16. Textbook, Pavelic, Behaviuor of building materials in fire; 17. Conference paper, Spaic, Milanko, Varadi, Chimney fires; 18. PPT presentation, Chimney fires; 19. Criminal Law; 20. Journal paper, Laban et al, Properties of building products and basic façade fire protection requirements in residential building energetic renewal; 21. Fire expertise, exercises; 22. Conference paper, Spaic, BTEX combustion and pyrolysis in poplar trees; 23. Conference paper, Marinkovic, Spaic, Milanko, BTEX in products of thermal treatments of apricot stones; 24. Conference paper, Milanko, Marinkovic, Determination of thermal degradation of oils; 25. Conference paper, Milanko, Marinkovic, Determination of indicators of thermal degradation of commercially available edible oils; 26. Pyrosim; 27. Electricity as cause of fire 1; 28. Electricity as cause of fire 2.
3	**Personal protective equimpent**	1. PPE for head; 2. PPE for eyes and face; 3. PPE for ears; 4. PPE for feet; 5. PPE for body; 6. Fire and rescue PPE.

	(M04)	
4	**Monitoring and control in protection (M03)**	1. Monitoring and control in protection, Textbook; 2. Monitoring and control in protection, Introduction; 3. Measuring and measuring devices; 4. Monitoring of EM radiation 1; 5. Monitoring of EM radiation 2; 6. Radiation doses and consequences, Textbook; 7. Nuclear chemistry, Textbook link; 8. Floods 1; 9. Floods 2; 10. Flood protection; 11. Earthquakes.
5	**Applied risk modelling methods (M02)**	1. Applied methods of modelling experiments Part I; 2. Applied methods of modelling experiments Part II.
6	**Recycling technologies and renewable energy sources (M06)**	1. Accumulators and batteries; 2. Composting; 3. Medical waste; 4. Recycling Introduction; 5. Household recycling; 6. Recycling of electronic and electrical waste; 7. Recycling of electronic waste; 8. Recycling of metals; 9. Recycling of paper; 10. Recycling of plastics; 11. Glass recycling; 12. Specialist theses.
7	**Risk management in protection (M01)**	1. Comments on Risk Management Rulebook; 2. Risk assessment; 3. Risk assessment legal framework; 4. Occupational safety Rulebook; 5. Risk management, OHSAS; 6. Risk assessment methods; 7. Curriculum with web links.
8	**Waste flow management (M08)**	1. Circular economy; 2. Medical waste; 3. Waste management; 4. Waste flow management, exercises; 5. Material for test I; 6. Material for test II.
9	**Elective – Facilities and systems under pressure (M11)**	**Course not implemented.**
10	**Elective – Prevention and control of water pollution (M10)**	1. General on water supply; 2. Underground waters; 3. Water treatment; 4. Water quality control; 5. Waste water cataster of Serbia; 6. Wastewater treatment; 7. Dr E. Karlović, Sludges from communal wastewater treatment, 2010. 8. Waste waters of Vojvodina.
11	**Elective – Design of stationary systems (M09)**	**Course not implemented.**
12	**Elective – Calculation and model of evacuation (M12)**	1. Evacuation modelling, Introduction (LLL course material); 2. Evacuation modelling, Pathfinder software (LLL course material); 3. Rulebook on technical norms for fire protection of residential and business buildings and public buildings; 4. Rulebook on technical norms for fire protection of catering facilities; 5. Conference paper, S. Milanko, V. Milanko, S. Djordjevic, S. Spaic, Comparative analysis of the time required for evacuation from the building of the Technical College of Vocational Studies using the calculation method and the simulation method; 6. Journal paper, M. Laban et al, Performance of evacuation routes and fire safety of buildings; 7. Evacuation simulation 1; 8. Evacuation simulation 2; 9. Evacuation simulation 3
13	**Elective – Master thesis (M16)**	Textbooks in the chosen field, papers from professional journals, selected K-FORCE guest lectures and other e-library material, corresponding Rules and Standards, internal procedures in the company, etc. The master thesis is a research, methodological and practical work of the student dealing with the solving of complex practical problems in one of the areas of the master study programme, and includes knowledge and

		skills from several courses.
14	**Preliminary master thesis (M15)**	Textbooks in the chosen field, papers from professional journals, K-FORCE e-library material, corresponding Rules and Standards, previous final works, master thesis, etc. Through independent and mentor work (with the mentor from the School and the co-mentor from the company), the student defines the framework topic of the master thesis and then elaborates it in detail, all the way to the written proposal and oral defence of the comprehensive plan for the master thesis preparation.
15	**Professional master practise 1 (M13)**	Textbooks in the chosen field, papers from professional journals, corresponding Rules and Standards, internal procedures in the company, etc. The student performs general and specific tasks realized in a selected company dealing with production, services and/or other activities. General assignments include the history of the company, the organizational structure, the production programme, and the protection measures undertaken. Specific professional tasks are defined by the company co-mentor and the teacher-mentor.
16	**Professional master practise 2 (M14)**	Textbooks in the selected field, papers from professional journals, corresponding Rules and Standards, internal procedures in the company, etc. Professional master practice 2 is in the function of making the Preliminary master thesis, and the Master thesis. It includes planning and conducting a survey and/or preliminary experiments, discussing possible ways to solve a specific problem, selecting a methodology, and detailed planning of performing the main analyses, during the master thesis production. In the second phase of the practice, after submitting the written master thesis proposal, the student performs the planned activities – analyses of surveys, experiments, numerical simulations or statistical data processing.
17	**LLL Course – Fire and rescue PPE**	1. PPT presentation 20-03-2019 Fire and rescue PPE, D. Gavanski, General introduction; 2. PPT presentation 21-03-2019 Fire and rescue PPE, M. Ostojic, Flame and heat protection, protection against hazardous substances, and in technical interventions; 3. PPT presentation 27-03-2019 Fire and rescue PPE, Lj. Krnjaic, Fire protection gloves, boots; 4. PPT presentation 28-03-2019 Fire and rescue PPE, Lj. Krnjaic, International standards, national legislation dealing with PPE; 5. PPT presentation 28-03-2019 Fire and rescue PPE Lj. Krnjaic, Fire protection helmets, clothes; 6. PPT presentation 28-03-2019 Fire and rescue PPE, M. Ostojic, Protective clothing for water and underwater work
18	**LLL Course – Evacuation modeling**	1. PPT presentation, Evacuation modelling, Introduction; 2. PPT presentation, Evacution modelling, Pathfinder software.
19	**LLL Course – Risk resilience**	The same as in 4 (Monitoring and control in protection), 5 (Applied risk modelling methods) and 7 (Risk management in protection).

UNIVERSITY OF TUZLA

FACULTY OF MINIG, GEOLOGY AND CIVIL ENGINEERING DISASTER RISK MANAGEMENT AND FIRE SAFETY ENGINEERING – UNDERGRADUATE AND MASTER ACADEMIC STUDIES		
No	**USER CATEGORY**	**NUMBER OF USERS**
1	**Teaching staff - Professors**	7
2	**Teaching staff – Assistants**	2
3	**Students**	27
LLL COURSES		
	USER CATEGORY	**NUMBER OF USERS**
4	**LLL Courses Lecturers**	6
5	**Professionals**	4

No	**COURSE TITLE**	**LEARNING MATERIAL**
1	**Assessment of damaged civil engineering structures**	**Lectures (presentations, scripts):** 1. Risk assessment in civil engineering (basic approach) 2. Defects and damage in structures 3. The impact of earthquakes on buildings 4. The impact of flood on buildings 5. Assessment of damaged structures **6.** System identification of bridges using ambient vibration measurements and numerical simulations
2	**Fire safety engineering**	**Lectures (presentations, scripts):** 1. EUROALARM „The European Fire Alarm Manufactures Association” 2. Fire safety engineering concerning evacuation from buildings 3. Performance-Based Design 4. Fire and explosions in mining 5. Fire engineering - concept, approach, basic aspects 6. Toxicity assessment of combustion products 7. TRVB A 100 **8.** Visibility and human behavior in fire condition
3.	**Risk Analysis in Decision-making Process**	**Lectures (presentations, scripts):** 1. Terminology in the field of risk management

		2. Risk management and decision making 3. Systems thinking and integrated disaster management: system definition 4. Systemic approach to integrated disaster management 5. Risk communication and risk perception
4.	**LLL course "Dangerous Substances"**	**Presentations:** 1. Hazardous waste deposited in the city of Tuzla industrial zone 2. Hazardous substances **3.** Explosion protection in areas with dust, flammable liquids, vapors and gases
5.	**LLL course "Floods and soil contamination"**	**Presentations:** 1. Soil contamination with heavy metals 2. Use of geospatial technologies to mitigate flood impact on the environment
6.	**LLL course "Explosions modeling for improvement of preventive protection"**	**Presentations:** 1. Numerical modeling in mining, civil engineering, geology and well exploitation of mineral resources 2. Finite element method undergound and open pit excavations 3. Modeling of explosions with the aim of improving preventive protection 4. Crushing as a geostatistical procedure for coal quality analysis

UNIVERSITY OF BANJA LUKA

MASTER ACADEMIC STUDIES		
No	**USER CATEGORY**	**NUMBER OF USERS**
1	**Teaching staff - Professors**	3
2	**Teaching staff – Assistants**	10
3	**Students**	18
LLL COURSES		
	USER CATEGORY	**NUMBER OF USERS**
4	**LLL Courses Lecturers**	11
5	**Professionals**	134

No	**COURSE TITLE**	**LEARNING MATERIAL**
1.	Modeling of Structures	Presentations
2.	Aseismic Design and Construction	Presentations, Manuals, Relevant papers
3.	Operational Research in Civil Engineering	Presentations
4.	Geohazards	Presentations, Relevant papers
5.	Experimental Analysis of Structures	Presentations, Standards
6.	GIS in Hydrotechnical Practice	Presentations, Relevant papers
7.	Bridges	Presentations, Relevant papers, Assignments
8.	Constructive Rules for Fire safety of Building	Presentations, Legislation, Standards, Manuals, Assignments, Relevant papers
9.	Financial Resilience to Hazards	Presentations, Relevant papers
10.	Repair of Timber, Steel and Masonry structures	Presentations, Relevant papers
11.	Assessment of Damaged Structures	Presentations, Rulebooks, Seismic maps, Relevant papers
12.	Risk Analysis in Decision-making Process	Presentations, Assignments, Relevant papers
13.	LLL Constructive rules for fire safety enginerrting	Presentations, Videos
14.	LLL Earthquake resistant design	Presentations

UNIVERSITY OF TIRANA

FACULTY OF ECONOMICS MASTER OF SCIENCE IN RISK MANAGEMENT		
No	**USER CATEGORY**	**NUMBER OF USERS**
1	**Teaching staff - Professors**	4
2	**Teaching staff – Assistants**	1
3	**Students**	51 (first and second generation of master students)
LLL COURSES		
	USER CATEGORY	**NUMBER OF USERS**
4	**LLL Courses Lecturers**	3
5	**Professionals**	108

No	**COURSE TITLE**	**LEARNING MATERIAL**
1.	**Foundation of Risk Assessment and Decision Making**	10 PPT presentations
2.	**Insurance and Risk Management**	10 PPT presentation, 1 script
3.	**Research Methods**	11 PPT presentations, 1 script, 1 course project guideline
4.	**Disaster Risk Management**	9 PPT presentations, 6 scripts, 4 guest presentations
5.	**Risk Assessment (LLL course)**	2 PPT presentations
6.	**Disaster Risk Modeling (LLL Course)**	4 PPT presentations

EPOKA UNIVERSITY

No	**USER CATEGORY**	**NUMBER OF USERS**
1	**Teaching staff - Professors**	6
2	**Teaching staff – Assistants**	3
3	**Students**	20
LLL COURSES		
	USER CATEGORY	**NUMBER OF USERS**
4	**LLL Courses Lecturers**	6
5	**Professionals**	70

No	**COURSE TITLE**	**LEARNING MATERIAL**
1	**Risk Analysis in Decision Making Process**	Presentations
2	**Landscape Perspectives in DRM & FS**	Presentations
3	**Reinforced Concrete Structure**	Presentations
4	**Evacuation Calculation Modelling**	Presentations
5	**Supervised Independent Study and Practice**	Presentations
6	**LLL course Disaster Risk Management**	Presentations
7	**LLL course Fire Engineering**	Presentations
8	**LLL course Fire Evacuation Modelling**	Presentations