LMPI – KAZAKHSTAN_P23_Kokshetau State University

INTERIM TECHNICAL REPORT

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QUALITY OF THE PROJECT IMPLEMENTATION

1. Description of the implemented activities

The following activities were implemented within the project:

- Bilateral agreement with P1 with all the partners
- GPI n°1 in Lyon (ex Rome) under the chairmanship of P1*UNI, including GIP and by one representative from each university-partner P4,P5,P6,P7,P9,P10,P11,P12,P22,P23,P24,P25,P19,P20,P21
- Compiling a list of 20 renovators in P22 KZ
- GPR n°1 in P22 KZ with P23, P24, P25, P26, P27, P28, P29, P30, P31 and P5
- Study visit in P5 BG: 2P22, 1P23, 1P24, 1P25, 1P26, 1P27, 1P28, 1P29, 1P30, 1P31
- Advanced training (study visit)of the lecturers in EU in P5 BG : 2P22, 2P23, 2P24, 2P25, 2P29
- Fixing of the external evaluator of quality in KZ by partner P22
- Regional strategic plan by P22 KZ
- Survey on the enterprises of KZ, carrying out by EPG with support of P5 and GIP
- 2 passports of the specialty in KZ, carrying out by EPG with the support of P5 and GIP
- Selecting procedure of bachelor and master in KZ carrying out by EPG with the support of P5 and GIP
- Classification of needs in KZ, carrying out by EPG
- Passport of the specialty in KZ carrying out by EPG with the support of GIP
- Curriculums in KZ with the support of P5
- Preparation of the bachelor and master programs in KZ with the support of GIP
- GPR n°3 to P22 KZ with P23, P24, P25, P26, P27, P28, P29, P30, P31 и P5
- GPR n°2 to P22 KZ with c P23, P24, P25, P26, P27, P28, P29, P30, P31 и P5
- Bilateral agreement was signed between UNIBIT and P23-KokSU

2. Visibility

Here is the list of activities to promote the project and advertise new educational programs:

№	Reference/name of the activity
1	Official web-site of the project: //www.lmpi-erasmus.net/en/default.aspx
2	Information about the project on the university`s web-site: http://www.kgu.kz/en/node/542

CURRICULUM DEVELOPMENT

1. New/updated courses

(P23-KokSU) Kokshetau State University named after Sh. Ualikhanov , is developing following new courses for Bachelor and Master degrees:

Bachelor degree

№	New courses	Load		total	University
		KZ	ECTS		
1.	Authentication, certification and PKI	3	5	135	P22, P23, P24 P25, P29
2.	Developing secure software	3	5	135	P22 P23 P24 P25 P29
3.	Intelligent Data Analysis	4	6	180	P22 P23 P24 P25 P29
4.	Fundamentals of cryptology	4	7	180	P22 P24 P25 P29
5.	Development of secure software	3	5	135	P23
6.	Operating system security	3	5	135	P23
7.	Database Security	3	5	135	P23
8.	Network Security	3	5	135	P23

9.	Cryptography	4	7	180	P23
10.	Fundamentals of cryptanalysis	4	7	180	P23
11.	Software and methods of information protection	3	5	135	P23
12.	Technologies of protection of computer information	2	3	90	P23
13.	Technical means and methods of information protection	3	5	135	P23
14.	Methods for assessing information security	3	5	135	P23
15.	Information Security Standards	2	3	90	P23
16.	Управление проектом	3	5	135	KokSU

Master degree

№	New courses	Load		total	University
		KZ	ECTS		
1.	Practical virology	4	7	180	P22, P23, P24 P25, P29
2.	Protection of cloud computing	4	7	180	P22, P23, P24 P25, P29
3.	Cryptographic analysis using software	4	7	180	P24 P25, P29
4.	Architecture of cybersecurity systems	2	3	90	P22, P23, P24 P25, P29
5.	Basics of Cybersecurity	3	6	180	P22, P23, P24

					P25, P29
6.	Computer Forensics	3	6	180	P22, P23, P24 P29
7.	Reliability and efficiency of information security systems	3	5	135	P22, P23, P24 P25, P29
8.	Assessment of the security of communication and information systems	3	5	135	P22, P23, P24 P25, P29
9.	Information Security Audit	3		135	P22, P24 P25, P29
10.	Intelligent information security platforms	4	7	180	P22, P23, P24 P25, P29
11.	Application cryptography protection	4	7	180	P23
12.	Intelligent security systems	4	7	180	P23
13.	Organization of information security systems	2	3	90	P23
14.	Analysis, modeling and design of information systems	2	3	90	P23
15.	Risk management in information technology systems	3	6	180	P23
16.	Strategic analysis of business and administrative technologies and communications	3	5	135	P23
17.	Knowledge Management	4	7	180	P23
18.	Multi-agent systems	4	7	180	P23
19.	Network Cybersecurity and Protection	3	5	135	P23
20.	Java for security purposes	3	5	135	P23

21.	Designing Cybersecurity of Databases	3	5	135	P23
22.	Industrial Cybersecurity	3	5	135	P23

The following universities will issue the degree/diploma of the courses to be developed:

Bachelor degree

Name of the diploma	**University**
Bachelor of Engineering and Technology on specialty 5B070400 - "Computer equipment and software"	P22-UEEK, P23-KokSU, P24-KazNU, P23-UEKO, P29-TarSU
Bachelor of Engineering and Technology on specialty 5B070300 - "Information systems"	P25-UPK

Master degree

Name of the diploma	**University**
Master of Engineering Science: on specialty 6M070400 - "Computer Engineering and Software";	P22-UEEK, P23-KokSU, P24-KazNU, P23-UEKO, P29-TarSU
Master of Engineering Science: on specialty 6M070300 - "Information Systems"	P25-UPK

Percentage representation of bachelor's level of achievement

University	Development tasks/update in%	The objectives of recognition / accreditation in%	Percentage of already conducted courses in%
P22	8,2 (4 out of 49)	?	91,8
P23	30% (15 out of 50)	accredited by the NAAR until December 23, 2020.	70%
P24			
P25			
P29			

Percentage representation of the master's level of achievement

University	Development tasks/update in%	The objectives of recognition / accreditation in%	Percentage of already conducted courses in%
P22	68,2 (15 out of 22)		31,8

P23	80% (20 out of 25)	accredited by the NAAR until December 23, 2020.	20%
P24			
P25			
P29			

Sh. Ualikhanov Kokshetau State University has passed the specialized accreditation on the bachelor curriculum of «5B070400-Computer Engineering» (24.12.2015) and master curriculum of 6M070400 (20.06.2016) mast. On 20th of June, 2017 the National Agency of Accreditation and Rating (NAAR) by the decision of the Committee on Registration was included to the European Register of Agencies on education quality assurance (EQAR).

Candidates for training in the EU have been selected at a meeting of the working group of the project. Requirement: experience in creation of educational programs and good level of English. By results of selection to the University of Library Studies and information technologies, Sofia, Bulgaria, have been directed master in information systems Muradilova G. and local coordinator Nurmukhanbetova N.

ACTIVITIES RELATED TO TEACHING/TRAINING

Study visit to UNIBIT (Sofia, Bulgaria) 29.01.2018-09.02.2018

The goal of the study visit to EU was: Advanced training in the EU, studying of the international experience on development of educational programs and tools tuning of methodology, development of programs of a bachelor degree and professional master degree for development, administrations, managements, protection of computer systems and networks at the enterprises in Moldova, Kazakhstan and Vietnam:

- The training was informative and training. Participants got an idea of the concept of the diversity of training activities, including the concept of an educational project.
- The training was practical. Examples, trends and best practices in the field of cybersecurity were presented. Representatives of business structures, production and industry conducted these classes
- The training was a discussion platform, where complex aspects were worked out in the development of final documents for the accreditation of bachelor and master's educational programs in the field of administration, management, protection of computer systems and networks. Discussed what will be the training courses, their content, the main methods and technologies of teaching and teaching.
- The training was a platform for generalizing problematic moments

Following the results of a foreign training within the LMPI No. project 573901-EPP-1-2016-1-IT-EPPKAZ-CBHE-JP program "The program of a bachelor degree and professional master degree for development, administration, management and protection of computer systems and networks at the enterprises of Moldova, Kazakhstan, Vietnam" educational programs of a bachelor and master degrees are created. Development of syllabuses of subject matters, educational and methodical material on these disciplines is in the future planned.

Training on this educational path at Sh. Ualikhanov Kokshetau State University will be carried out from 01/09/2018.

AWARNESS RAISING, DISSEMINATION, SUSTAINABILITY AND EXPLOTATION OF THE PROJECT RESULTS

Several positive changes have taken place as a result of the project including:

- Impact on course content and teaching and learning processes and methodologies: The collaborative development and on-going delivery of cyber security and protection of computer systems a bachelor degree and professional master degree which meets both Kazakh national and Bologna requirements. Having achieved this in one subject area, staff are now well placed to support colleagues in undertaking similar activities in other fields.
- Individual behaviors – several members of staff at each Kazakh university now have new skills in of cyber security direct experience of a structured approach to working with industry and practitioner partners, with implementation of an independent QA process. Knowledge of the language and scientific level at which materials can be published has also been enhanced.
- Institutional management – the 5 Kazakh universities now have experience of a fully functioning and structured approach to working collaboratively with non-academic partners.

More generally, and as the project evolved, the communication and project solving skills of several Kazakh academic partners moved from being initially reactive to being much more pro-active. Whilst several partners made strong contributions to of cyber security activities over the course.

Opportunities above the specific objectives described above include:

- Graduate employability – knowledge of international best practice and research developments; knowledge of application of concepts in the real world, networking with employers and placement opportunities
- Increased cooperation between universities – development of trustful working relationships already generating research proposals.
- Increased cooperation between universities and non-academic sectors - development of trustful working relationships already generating research proposals and scientific papers.

With regard to the impact on the reform of higher education in Kazakhstan, LMPI has been a positive experience for partners in terms of achieving objectives, networking and developing long-standing working relationships. The work of LMPI has been recognized at a national level, for example.

With regard to the impact of the project on economic and/or social reforms in Kazakhstan, availability high level of cyber security, has been identified as a factor that can threaten its proposed shift to a sustainable economy. Within this context, LMPI contribution to ensuring graduates have the opportunity to develop expertise in the field of cyber security and protection of computer systems is identified as a contribution to the sustainable economic development of both Kazakhstan.

Proceeding from the foregoing, in order to understand and build a model of a methodical system for training information security tools, it is necessary:

- develop a work program and content of disciplines on information security disciplines, work programs and content of disciplines (sections of disciplines) of the information cycle for students of various training profiles;

- to improve traditional and innovative forms of education, methods and training programs on the basis of integrated information and the educational environment in accordance with the theoretical essences of the interrelationships of fundamental, professionally directed and informational education;
- to improve such types of training as a professionally directed lecture, practical lesson and laboratory work for the disciplines from the "Information Security" cycle, and also for the information cycle disciplines, including information security issues in the educational process and the field of scientific research;
- to develop distance learning courses for methodical maintenance and improvement of students' education in information security.

All these actions confirm the sustainability of the results of the project after the completion of the project.