

Reformation of the Curricula on Built Environment in the Eastern Neighbouring Area (CENEAST)

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> Programme Start date Duration

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- : 15-10-2012
- : 36 months

Project partners

Partner no.	Institution	Acronym	Country
PI	Vilnius Gediminas Technical University	VGTU	Lithuania
P2	Alma Mater Studiorum – Università di Bologna	UNIBO	Italy
P3	University of Salford	USAL	United Kingdom
P4	Tallinn University of Technology	TUT	Estonia
P5	Belarusian State Technological University	BSTU	Belarus
P6	Yanka Kupala State University of Grodno	YKSUG	Belarus
P7	Moscow State University of Civil Engineering	MSUCE	Russian Federation
P8	Saint-Petersburg State Polytechnical University	SPSPU	Russian Federation
P9	Kaliningrad State Technical University	KSTU	Russian Federation
P10	Moscow State Industrial University	MSIU	Russian Federation
PII	National Technical University of Ukraine	NTUU "KPI"	Ukraine
P12	National Technical University "Kharkiv Polytechnic Institute"	NTU "KhPI"	Ukraine
PI3	SVIMAP NETWORK	SVIMAP	Italy
P14	Association "INFOBALT"	INFOBALT	Lithuania

Work packages – VGTU Project Leader

WP No.	Туре	Title	Start – End (Month)	Leader
WP I	Management	Management	I-36	Leader: VGTU
WP 2	Development	Upgrading of BSc, MSc, PhD degree programmes	2-21	Leader: USAL Co-leaders: MSUCE, NTUU "KPI"
WP 3	Exploitation	Development and Exploitation of the Virtual Interuniversity Networked Educational Centre	4-36	Leader: VGTU Co-leader: USAL
WP 4	Quality Plan	Monitoring and Reporting of Results	3-36	Leader: VGTU Co-leader: KSTU
WP 5	Dissemination	Dissemination	28-36	Leader: TUT Co-leader: BSTU



USAL role

- WP I: Participation in three annual coordination meetings and other WPI activities. Organisation of the End review meeting and event.
- WP2: Lead partner. Coordination in upgrading of the study programmes in PC. Will be responsible for reports, coordination of module specifications, teaching materials development, quality control, preparation of strategy for delivery and dissemination of the modules through the virtual educational system, development of feedback system for continuous module content update.
- WP3: Co-leader. Coordination of virtual Inter-university networked educational centre development and its exploitation. USAL will be responsible for development of the virtual research environment. Both VGTU and USAL will coordinate training of staff and students.
- WP4: Monitoring and reporting of results indicators of progress by evaluation and reviews, quality of the upgrading of BSc, MSc, PhD and specialists' degree programmes and the Virtual Interuniversity Networked Educational Centre.
- **WP5:** Participation in the dissemination activities

WORK PACKAGE 2

WP 2 - Introduction

The objective of the WP2 is to create a suitable basis for education in the field of built environment by introducing integrated, multidisciplinary BSc, MSc and PhD modules to existing PC programmes. WP2 will be completed as follows:

- State-of-the-art reports on market needs
- Workshop for upgrading of BSc/specialists, MSc and PhD programmes
- Development of a common framework for curricular based on a common philosophical and pedagogical understanding between the partner institutions
- Development of a common approach to teaching and learning activities between PC to ensure maximum module compatibility, while maintaining institutional and financial autonomy and accountability.
- Cross partner good practice sharing and rigorous module verification to ensure that each partner is introduced with enhanced quality assurance and better management of teaching and student services.
- Development of the module content and teaching/learning material, suitable for innovative delivery mechanisms as proposed within the WP3.
- Development of intended learning / training outcomes, assessment criteria and subject content of each module, identification and development of learning resources (handbooks, lecture plan), prepare a strategy for delivery and dissemination of the modules through the virtual interuniversity networked educational system, develop a feedback system for continuous module content update with the engagement of the industry, students and academia to maintain the concept of lifelong learning and post project sustainability.

WP 2 - Methodology

- The upgrade of BSc/specialists, MSc and PhD modules and programmes:
 - Will require existing curricula and module examination
 - Two meetings will be organized, two representatives of each university (one educator will be in charge of the program for BSc/specialists, the other one for MSc and PhD programmes) and one representative of each association.
 - These meetings will target the programmes and modules taught in PC universities. It will influence their modernization and strengthening the multidisciplinary modules.
 - The specific modules that shall be amended/changed will be identified.
 - Besides, the partnership external experts from External Advisory Board will contribute. These include experts – internationally known specialists, managers and administrators with working experience in Ministries of education, Ministries of environment and senior industrial partners and consultants.
- Implementation modules for 9 BSc/specialists, 5 MSc and 2 PhD (in total 16 modules) will be developed, including frameworks and teaching materials.

WP 2 – Methodology (Contd.)

- Upgrade of BSc, MSc, PhD programmes will include the development of modules (with the help of consultation visits of EU experts) according to Bologna practices, courses for university educators in the specified field, teaching methodologies and curricula projects (including the quality assurance).
- BSc and MSc programmes will be primary focused on expert training for PC context and on their competence maintenance on the international market. The target employers government, advisory institutions, large companies and SME, however the graduates will have the competence needed to pursue research carrier or to continue studying for PhD degree.
- The lectures taught will include mandatory and selective courses, in some cases, preliminary testing will be applied in order to identify particular courses that shall be mandatory for specific students. The materials developed will include the detailed programme description and course schedules and textbooks on relevant topics in the Russian language. Produced materials will be stored on-line and applied for education process.

WP 2 - Deliverables

No.	Title	Type or nature of deliverable	Language	Delivery date
D2.1	The framework report for the common curricular	Report	EN, RU	2013-05-08
D2.2	Report on common grounds for teaching and learning	Report	EN, RU	2013-07-08
D2.3	Module specifications and teaching materials	Teaching material	EN, RU	2014-06-22

D2.I-The framework report for the common curricular

- Report will describe the common philosophical and pedagogical understanding and capabilities of the partner institutions which forms the basis for module development and delivery.
- Main Report will be produced basing on:
 - State-of-the-art reports on market needs
 - literature review to identify the appropriate issues for cross institutional module sharing,
 - cross institutional consultations (online questionnaires),
 - visits to partner institutions to discuss and identify any outstanding incompatibility issues.

Deliverable 2.1 - Points for discussion

- Labour market survey to be conducted by all partners associated with WP2
- literature review to identify the appropriate issues for cross institutional module sharing also including any incompatibility issues – all WP2 partners
- online questionnaires for cross institutional consultations 2 sets (English and Russian led by 2 co-leaders)
- Visits to partner institutions to discuss and identify any outstanding incompatibility issues (3 visits) -
 - By whom?
 - When would these visits be scheduled?
 - To which countries?
 - Who are the partners involved for these visits?
- Use "Analysis of framework of the BSc/specialists, MSc and PhD modules based on market needs" workshop (finalise plans and arrive at common grounds) – orgnaised by NTUU "KPI" (Co-L)
 - When would this workshop be held?
 - Who would be participating at the workshop?
- Who would be responsible for compilation of the framework report? (2 components in English and Russian)
- Joint effort rather than efforts of few partners

D2.2- Report on common grounds for teaching and learning

- Report will describe commonly usable teaching and learning mechanisms.
- It will form the basis for finalising module details with relation to delivery mode, credit basis, etc.
- Modules will be based on common resource and infrastructure capabilities but build upon the expertise of various partner institutions to ensure good practice sharing at national and regional levels.
- Report will be based on cross institutional consultations through online questionnaires, direct visits and virtual meetings.

Deliverable 2.2. - Points for discussion

- questionnaire for cross institutional consultations in both English and Russian
- Who would be conducting the questionnaire surveys all partners
- Direct visits -
 - When would these visits be scheduled?
 - To which countries?
 - Who are the partners involved for these visits?
 - How many visits?
- Who would be responsible for organising Virtual meetings for discussions?
- Use of the workshop "Report on common grounds for teaching and learning" to establish common grounds (organised by KSTU
 - When would this workshop be held?
 - Who would be participating at the workshop?
- Who would be responsible for compilation of the report on common grounds for teaching and learning? – 2 components in both English and Russian
- All the WP2 partners to contribute a common effort rather and efforts of few partners

D2.3- Module specifications and teaching materials

- This output will form the common module pool of the virtual interuniversity networked educational system.
- The system will be developed with the capability of hosting the developed modules and will then form the basis for cross partner collaboration in triangulated knowledge sharing.
- Detail specifications of each module will be developed
 - learning outcomes,
 - assessment criteria,
 - subject content,
 - literature resources, etc. and
 - teaching materials (handbooks, lecture plans)

Deliverable 2.3. - Points for discussion

- Workshop on "Module specifications and teaching material" to finalise the plans
- When would this workshop be held?
- Who would be participating at the workshop?
- Identify partners who will be developing the finalised modules, specifications and all associated teaching material
- What will be the distribution in terms of languages to be used in module development? – common set in both Languages or different sets of modules?
- All partners to contribute

WP 2 – Partners involved

Partn er no.	Institution	Role
P3	USAL (L)	Will be responsible for coordination in upgrading of the study
Ρ7	MSUCE (Co-L)	programmes; reports; coordination of module specifications; teaching materials development; quality control; preparation of strategy for delivery and dissemination of the modules through the virtual educational system; development of feedback system for continuous module content update.
PII	NTUU "KPI" (Co-L)	Organisation of the workshop "Analysis of framework of the BSc/specialists, MSc and PhD modules based on market needs".
P9	KSTU	Organisation of the workshop "Report on common grounds for teaching and learning".
PI, P2, P4, P5, P6, P8, PI0, PI2, PI3, PI4	VGTU, UNIBO, TUT, BSTU, YKSUG, SPSPU, MSIU, NTU "KhPI", SVIMAP, INFOBALT	Participation in the WP2 activities

WP 2- Staff days

Partner no.	Institution	Acronym	Total no of staff days
PI	Vilnius Gediminas Technical University	VGTU	300
P2	Alma Mater Studiorum – Università di Bologna	UNIBO	36
P3	University of Salford	USAL	73
P4	Tallinn University of Technology	TUT	120
P5	Belarusian State Technological University	BSTU	350
P6	Yanka Kupala State University of Grodno	YKSUG	156
P7	Moscow State University of Civil Engineering	MSUCE	396
P8	Saint-Petersburg State Polytechnical University	SPSPU	143
P9	Kaliningrad State Technical University	KSTU	194
P10	Moscow State Industrial University	MSIU	109
PII	National Technical University of Ukraine	NTUU "KPI"	364
P12	National Technical University "Kharkiv Polytechnic Institute"	NTU "KhPI"	109
P13	SVIMAP NETWORK	SVIMAP	4
P14	Association "INFOBALT"	INFOBALT	20

רי	Deliverable	Delivery	Product	Methodology	Associated Events
	The framework report for the common curricular	date May 2013	Report: Describe the common philosophical and pedagogical understanding and capabilities of the partner institutions which forms the basis for module development and delivery.	 Literature review to identify the appropriate issues for cross institutional module sharing Cross institutional consultations (online questionnaires) Visits to partner institutions to discuss and identify any outstanding 	Workshop on "Analysis of framework of the BSc/specialists, MSc and PhD modules based on market needs".
				incompatibility issues (3 visits).	Organised by NTUU "KPI" (Co-L)
	Report on common grounds for teaching and learning	July 2013	Report: Describe commonly usable teaching and learning mechanisms. It will form the basis for finer module details with relation to delivery mode, credit basis, etc.	 Cross institutional consultations through online questionnaires Direct visits Virtual meetings. 	Workshop on "Report on common grounds for teaching and learning".
					Organised by KSTU

Module	June 2014	Teaching materials: This output will form the	Workshop on "Module
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specifications and		common module pool of the virtual	specifications and
teaching materials		interuniversity networked educational system.	teaching material".
		Detail specifications of each module will be	
		developed	
		 learning outcomes, assessment criteria, subject content, literature resources, etc. and teaching materials (handbooks, lecture plans) 	Organised by TUT



WP 3 - Introduction

- WP3 aims at developing the innovative virtual interuniversity networked educational centre to enable the delivery of modules proposed within the WP2.
- In addition this centre will enable and promote lifelong learning at large within the society by making study material accessible outside traditional classroom environment to various parties within the society from students, teachers to practitioners and policy makers.
- Center will ensure not only the feed-forward (information/knowledge from centre to the beneficiaries) but also feedback (from beneficiaries to the centre).
- Four major elements of the centre:

- Development of intelligent library.
- Development of the intelligent tutoring system.
- Development of the student knowledge assessment system.
- Development of the virtual research environment.
- After development of the center, training courses of the personnel will be implemented. 240 students will be trained during the pilot project for one year.

D	Deliverable	Delivery date	Product	Lead Partner	Associated Events
	Development of e- interuniversity networked system	June 2014	IT based: Virtual interuniversity networked educational system (intelligent library, intelligent tutoring system, and intelligent knowledge assessment system) will be developed.	VGTU	Workshop on "Development of virtual interuniversity networked educational system".
			All the materials developed in WP2 will be integrated into this system.		Organised by SPSPU
	Development of the virtual research environment	Jan 2014	IT based: This will create a virtual space for lecturers and researchers from all the partner institutions to share their study and research knowledge promoting major elements of the knowledge triangle (research).	USAL	Workshop on "Development of the virtual research environment".
					Organised by NTU "KhPI"
	Training, lecturing and guest visits	Nov 2014	After development of Virtual Interuniversity Networked Educational Centre, training courses for the personnel of PC Universities and associations will be held, courses will last for one week.	VGTU/USAL	Workshop on "Training, lecturing and guest visits".
			36 educators and 32 employees from the administrative sector will be trained during the project implementation (16 of them will take part in the traineeship, 16 will be trained distantly).		Organised by MSIU
			This activity will enable the building of appropriate e-educational infrastructure in partner countries.		

WP 3 - Methodology

- The main task of this activity is developing the innovative virtual interuniversity networked educational centre to enable the delivery of modules proposed within the WP2.
- After development of Virtual Interuniversity Networked Educational Centre, training courses for the personnel of PC Universities and associations will be held, courses will last for one week.
- 36 educators and 32 employees from the administrative sector will be trained during the project implementation (16 of them will take part in the traineeship, 16 will be trained distantly).
- 240 students will be trained during the pilot project for one year. (76 ECTS for BSc/specialists, MSC and PhD modules).
- One of the most substantial part of the project development/implementation is the enchasing of competence level of PhD students and level of the researches performed by the academic exchange and participation in trainings and management process. In order to complete three cycle system the PhD modules will be integrated in the all above system (40 PhD students will participate for 12 months).

WP 3 - Deliverables

No.	Title	Type or nature of deliverable	Language	Delivery date
D3.1	Development of e- interuniversity networked system	IT based	EN, RU	2014-06-22
D3.2	Development of the virtual research environment	IT based	EN, RU	2014-01-22
D3.3	Training, lecturing and guest visits	Training	EN, RU	2014-11-22
D3.4	Training of students	Training	EN, RU	2015-10-01

D3.I- Development of einteruniversity networked system

- Virtual interuniversity networked educational system (intelligent library, intelligent tutoring system, and intelligent knowledge assessment system) will be developed.
- It will include the Modules Database, Student Model, Tutor and Student Knowledge Assessment Model, Subsystem of Multivariant Module Design and Multiple Criteria Analysis, e-Portfolio and Graphic Interface.
- All the materials developed in WP2 will be integrated into this system.

Points for discussion

- the workshop on "Development of virtual interuniversity networked educational system"?
- When would this workshop be held?
- Who would be participating at the workshop?
- What would be the contributions of other partners?

D3.2- Development of the virtual research environment

• This will create a virtual space for lecturers and researchers from all the partner institutions to share their study and research knowledge promoting major elements of the knowledge triangle (research).



Virtual Environments

CENEAST Meeting, Bologna

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EURASIA Partners



EURASIA was a partnership between 3 European and 2 Sri Lankan Higher Education Institutes Funding: EC (Framework), €456,495 Completion Date: 30/04/2009 Web: <u>www.eurasia.buhu.salford.ac.uk</u>





Virtual Environment for Built Environment Researchers (VEBER)

- Communicate efficiently and effectively with each other in a large group of researchers, within and across teams
- Minimise or overcome barriers for collaboration among researchers (e.g. physical, time, and cultural distances)
- Produce, store, manage and prudently exploit data and information
- Manage research projects in a more transparent manner
- Leverage resources and competencies of individual(s) and/or group(s) of researchers
- Develop required relevant skills and competencies

Virtual Environment for Built Environment Researchers (VEBER)

 Collaboration and communication support

University of

Salford

- Information handling and exchange support
- Project management support
- Data collection and dissemination support
- Research training support

http://veber.buhu.salford.ac.uk



Virtual Environment for Built Environment Researchers (VEBER)

- Open source distributed toolset called Moodle, which was originally developed as an open source Virtual Learning Environment (VLE).
- Moodle is technically a dynamic data driven web application written in PHP and supports number of different Database Management Systems (DBMSs) as the backend.
- VEBER was developed by using this toolset as a basis and by adding and adapting the functionalities required for a Virtual Research Environment.



Virtual Environment for Built Environment Researchers (VEBER)

- Collaboration and communication support: Traditional communication modes are less capable of meeting the demands of multiple partner institutions in a collaborative research environment. Therefore a set of communication tools embedded in VEBER is used for this purpose. These tools include communication channels such as announcements, discussions, group emails, forums and chat.
- Information handling and exchange support: A file hosting tool provides a robust platform for information and document handling and exchange. VEBER is equipped with file hosting and sharing mechanisms including a common document repository and a private workspace to keep and share private and confidential documents securely.
- **Project management support:** Administration across partners is supported with calendar, task and notification tools.
- Data collection and dissemination support: To overcome potential geographical barriers, VEBER provides a survey tool to aid data collection during a research project and a file hosting tool to facilitate joint paper preparations.
- **Research training support:** VEBER provides discussion forums, file hosting, chat, online workshops and related learning materials, and library services, to support research training.



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Points for discussion

- the workshop "Development of the virtual research environment"
- When would this workshop be held?
- Who would be participating at the workshop?
- What would be the contributions of other partners?

D3.3- Training, lecturing and guest visits

- After development of Virtual Interuniversity Networked Educational Centre, training courses for the personnel of PC Universities and associations will be held, courses will last for one week.
- 36 educators and 32 employees from the administrative sector will be trained during the project implementation (16 of them will take part in the traineeship, 16 will be trained distantly).
- This activity will enable the building of appropriate e-educational infrastructure in partner countries.



D3.4-Training of students

- 240 students will study newly developed modules for one year.
- One of the most substantial part of the project development/implementation is the enhancing of competence level of PhD students and level of the researches performed by the academic exchange and participation in trainings and management process.
- In order to complete three cycle system the PhD modules will be integrated in the all above system (40 PhD students will participate for 12 months).

Points for discussion

- the workshop "Training, lecturing and guest visits"
- When would this workshop be held?
- Who would be participating at the workshop?

WP 3 – Partners involved

Partner no.	Institution	Role
PI	VGTU (L)	Coordination of Virtual Interuniversity Networked Educational Centre development and its exploitation.VGTU will be responsible for Development of e-interuniversity networked system. Both VGTU and USAL will coordinate training of staff and students.
P3	USAL (Co-L)	Co-leader. Coordination of Virtual Interuniversity Networked Educational Centre development and its exploitation. USAL will be responsible for development of the virtual research environment. Both VGTU and USAL will coordinate training of staff and students.
P8	SPSPU	Staff and students will be trained in Virtual Interuniversity Networked Educational Centre. Organisation of the workshop "Development of virtual interuniversity networked educational system".
P12,	NTU "KhPI"	Staff and students will be trained in Virtual Interuniversity Networked Educational Centre. Organisation of the workshop "Development of the virtual research environment".
P10,	MSIU	Staff and students will be trained in Virtual Interuniversity Networked Educational Centre. Organisation of the workshop "Training, lecturing and guest visits".
P5, P6, P7, P9, P11	BSTU, YKSUG, MSUCE, KSTU, NTUU "KPI"	Staff and students will be trained in Virtual Interuniversity Networked Educational Centre.
P2, P4, P13, P14	UNIBO, TUT, SVIMAP, INFOBALT	Participation in the WP3 activities

WP3 - Staff days

Partner no.	Institution	Acronym	Total no of staff days
PI	Vilnius Gediminas Technical University	VGTU	66
P2	Alma Mater Studiorum – Università di Bologna	UNIBO	38
P3	University of Salford	USAL	42
P4	Tallinn University of Technology	TUT	7
P5	Belarusian State Technological University	BSTU	61
P6	Yanka Kupala State University of Grodno	YKSUG	7
P7	Moscow State University of Civil Engineering	MSUCE	61
P8	Saint-Petersburg State Polytechnical University	SPSPU	19
P9	Kaliningrad State Technical University	KSTU	61
P10	Moscow State Industrial University	MSIU	12
PII	National Technical University of Ukraine	NTUU "KPI"	61
P12	National Technical University "Kharkiv Polytechnic Institute"	NTU "KhPI"	43
P13	SVIMAP NETWORK	SVIMAP	0
P14	Association "INFOBALT"	INFOBALT	0