

External Evaluation Report of INNOCENS ERASMUS+ project Enhancing innovation competences and entrepreneurial skills in engineering education

573965-EPP-1-2016-1-SE-EPPKA2-CBHE-JP

Yerevan, 15 February 2019

## Introduction

INNOCENS is an EU-funded 3-years project, within ERASMUS+ KA2 Capacity Building in Higher Education, aiming to introduce innovation and entrepreneurship in engineering education at partner universities to support socio-economic development. The project starting from 15 October 2016 and ending on 14 October 2019.

The project is aimed to foster innovation culture in partner countries (WP2), introduce innovation pedagogy (WP3), define and assess innovation competences (WP4), promote entrepreneurship and university-business cooperation (WP5), quality control of the project results (WP6), and the way how the project results should be disseminated (WP7).

The project involves three universities from European Union and eight middle Asian partners from Armenia, Georgia, Belarus and Kazakhstan (see more details at <https://gidec.abe.kth.se/InnoCENS/>). The project consortium committed for quality evaluation of project outcomes. Therefore, the project in addition to the internal Quality Assurance activities intended to involve external experts and formed an External Evaluation Committee.

The members of the Committee are as follows

Dr Leendert de Bell, University of Applied Sciences Utrecht, The Netherlands  
Dr Anna Dokukina, Plekhanov Russian University of Economics, Russia  
Professor Branko Bozic, University of Belgrade, Serbia

The Committee provides this quality evaluation report, which is based on information provided by the project coordinator, visits at two locations (namely National University of Architecture and Construction of Armenia and National Polytechnical University of Armenia) and project presentations provided by the other project partners (Taraz State University and Almaty University of Power Engineering and Telecommunication in Kazakhstan, Belarusian State University in Belarus, Polytechnical University of Valencia in Spain, and Turku University of Applied Sciences in Finland). The Committee had no information from the project partners Georgian Technical University and Batumi University in Georgia.

The visit took place in the period of 13-16 February 2019 at the end of the third project year, meetings were organized with university leaders, local coordinators and students. During the visit Innovation Centers were inspected and meetings with students were arranged.

The Committee have met university leaders, rector, vice rector and dean level and some representatives of the state. The university administration highly appreciated the financial funding of European Commission and professional support by the project coordinator and EU consortium members.

The local project coordinators presented the project progress and demonstrated their results focusing on curricula development, the establishment of innovation centers and implementation of student business idea competitions. The first session was held at National University of Architecture and Construction of Armenia (NUACA), where NUACA and National Polytechnical University of Armenia (NPUA) contributed. The second session was dedicated to Belarusian and Kazah partners with their project reports presented. The interactive sessions initiated intensive discussions and generated recommendations for future work.

#### Evaluation of project outputs

The External Evaluation Committee found that the project activities have been completed time proportionately. The project objectives have all been implemented consistently at all partner universities. On the basis of the information provided to the Committee, however, it is difficult to assess the degree to which all of these project objectives have been achieved.

#### The outputs:

- Study visit of Swedish national and regional state and private relevant agencies, universities, institutes and companies enabled representatives of the Project partners to see how Swedish innovation systems is organized.
- Two master courses: 1) Innovation systems and 2) Entrepreneurship for Engineers were developed and introduced in all partner's universities, successfully.
- Centers for Innovation and Entrepreneurship were established at each of eight partner country universities. They started to promote innovation and entrepreneurship and provide education and business development services.
- All partner country representatives took part in two workshops related to innovative pedagogy, promoted active learning and innovation competences in Finland (TUAS) and Taraz, Kazakhstan, successfully.
- Relating to innovation competences and assessment such as critical thinking, communication skills, team work skills, etc., special workshop was organized in Minsk, Belarus.
- Entrepreneurship and university-business cooperation was promoted in a good manner during the training course organized by UPV in Spain. The trainees were provided with basic knowledge and skills in entrepreneurship that were of the most importance for the master course
- Except the course, Entrepreneurship Days were organized in each partner country where universities and business community exchanged ideas and information in order to find the best form for university-business cooperation.

#### By the Committee the following strengths are highlighted:

- Staff development workshops were arranged on innovation and entrepreneurship philosophy that put to the technical education new dimension that will motivate the students, university and all potential consumers to participate in education process more actively and efficiently.
- Innovation was recognized by different state government offices as a big challenge for economy development and their support is a very important prerequisite for the sustainability of innovative centers established.
- The project succeeded to facilitate the competition of the ideas that will ended with the best projects in which the students exercises the skills gated in a group work with communication between themselves and with a mentor being capable for LLL in their future carriers.

- Entrepreneurs skills that the students will obtain during the education will help them to promote their competences and start with their own multidisciplinary business companies oriented toward knowledge based economy.

#### Challenges and recommendations

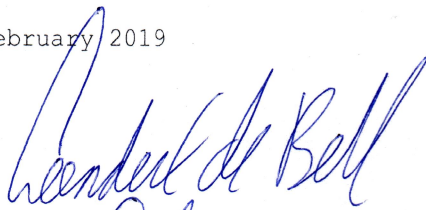
- Become more customer oriented
- Build on local problems or needs
- Include feedback from students and staff
- Create more involvement of the university (administration and lecturers)
- Guarantee the sustainability of the project output
- Scale beyond the national or regional context
- Provide final output with similar metrics

#### Conclusions

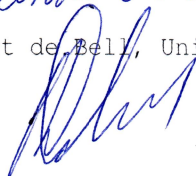
The Committee notes the high quality of organization of the INNOCENS project and the good atmosphere between all partners.

It can be stated that all the key project objectives have been reached. The external experts cannot see major obstacles that the project will be finalized successfully.

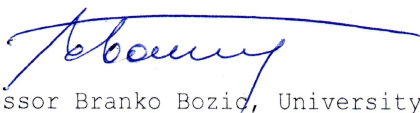
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