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**BOOSTING THE ROLE OF HEIs IN THE INDUSTRIAL TRANSFORMATION
TOWARDS THE INDUSTRY
4.0 PARADIGM IN GEORGIA AND UKRAINE
609939-EPP-1-2019-1-BE-EPPKA2-CBHE-JP**

03.10.2023

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HEIn4 - 2019

Project Number: 609939-EPP-1-2019-1-BEEPPKA2-CBHE- JP

Project Title: Boosting the role of HEIs in the industrial transformation towards the Industry 4.0 paradigm in Georgia and Ukraine - HEIn4.0

Coordinator: KATHOLIEKE UNIVERSITEIT LEUVEN – BELGIUM

Contact Person at BSU: Lela Turmanidze

The project end on the 14th of January 2024



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How the project contributed to enhancement of awareness and implementation of various activities

Online as well as offline seminars and workshops conducted by the EU universities:

- provided a solid basis for sharing good experience of the European partner universities in implementation of industry development targeted study courses;
- provided a deep inside into the experience in the establishment of innovative approaches in the educational programmes;
- enhanced the understanding of the role of innovative labs functioning on the university basis in the development of the industry in accordance with the contemporary requirements;



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Activities in the frame of the HEIn4 project

The project implementation period coincided with the accreditation of the Computer Science Bachelor and Master's educational programmes. We have considered the relevant courses in the programmes; the names of the courses were revised while working on the educational programmes which was accredited on 25 May 2021 for 7 year period.



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**Study courses implemented in the frame of the BA and MA educational programmes of
Computer Science include:**

- **Data Safety and Security (mandatory) (MA) (15 students)**
 - **Intellectual Systems (mandatory) (MA) (15 students)**
- **Computer Graphic and Visualization (elective) (BA) (40 students)**



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Opening of the Innovative Lab at BSU





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On July 25 2022 an innovation laboratory was opened in BSU in the frame of the EU-funded project Hein4; the ceremony that was opened by the BSU Rector, Professor Merab Khalvashi, was attended by the University as well as industry representatives;

For more details, visit the BSU website, Georgia and English pages

<https://www.bsu.edu.ge/main/page/2653/index.html>



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The project website clearly states the mission, function and the goals of the innovative Lab established within the HEIn4.0 project:

Mission of the BSU Innovative Lab:

To strengthen the cooperation between the Faculty of Exact Sciences and Education and the Industry Sector



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Functions of the Innovation Lab

- *To promote the dissemination of the knowledge on the Industry 4.0 Concept*
- *To implement study and research projects, elaborate teaching/learning materials, methodological course books, guidebooks with the purpose establish industry 4.0 concept*
- *To prepare training programmes for various target groups, implement them and issue relevant certificates with the purpose to establish innovative approaches in business and economic sector as well as employment and increase the competitiveness of graduates*



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Functions of the Innovation Lab

- *To establish mutually beneficial relationships with local and international companies, explore their interests, develop relevant innovative projects, and involve students in project implementation;*
- *Perform other functions for laboratory purposes*



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Goals of the Innovation Lab at BSU:

- *To facilitate digital transformation by offering special courses, training and consulting services tailored to the needs of the Fourth Industrial Revolution for Small and Medium Business*
- *To create and implement innovative learning modules and training courses to support the Industry 4.0 concept in line with local and international market requirements*



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More of the Contribution of the Innovative Lab:

The Lab is headed by the Chief Expert, IT Manager Giorgi Imnaishvili;

The Lab, as the Innovative Centre, entered the Faculty Resolution;

The Lab serves as the basis for the students' training to develop innovative skills, work on innovative projects, learn from the industry representatives;



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Training Courses offered on the basis of the lab:

3 D modelling and Animation

- The aim of the course "3D modelling and Animation" is to teach the main topics related to processing of graphic data and visual effects to interested people. It will introduce the trainees to the principles of 3D modelling, technologies for processing and creating various types of graphic information, the possibilities of their use in video and animation graphics. It will develop skills to work with relevant software tools.



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Training Courses offered on the basis of the lab: Graphic Design and Visualization

- The basic course of Graphic Design and Visualization in the digital industry laboratory teaches Adobe Photoshop and Adobe Illustrator at professional level. The aim of the course is to master the skills of using software packages at a professional level.
- Graphic design is called "visual communication". This term refers to the power of design, which can transform information into an appropriate form: complex ideas can be expressed in a single image, which directly responds to the purpose of graphic design.



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**Training Courses offered on the basis of the lab:
Video Editing Installation - Adobe Premier Pro**

- In the frame of the course, trainees will acquire directory of editing and work with Adobe Premiere Pro, one of the world's leading installation programs. The aim of the course is to teach the rules to be followed during video editing, to fully master the technical side of the editing program, based on practice-based teaching methodology. Moreover, gain the theoretical and technical knowledge and experience required for the installation of video files.



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Facts:

June 19, 2022

The first 24-hour training in **Adobe Premiere Pro** was conducted on the basis of the laboratory by Associate Professor Mikheil Donadze. It has to be notified that the training was attended by students of our university, as well as other faculties of other HEIs. Students presented very interesting, creative projects, expressed a desire to continue with similar trainings;

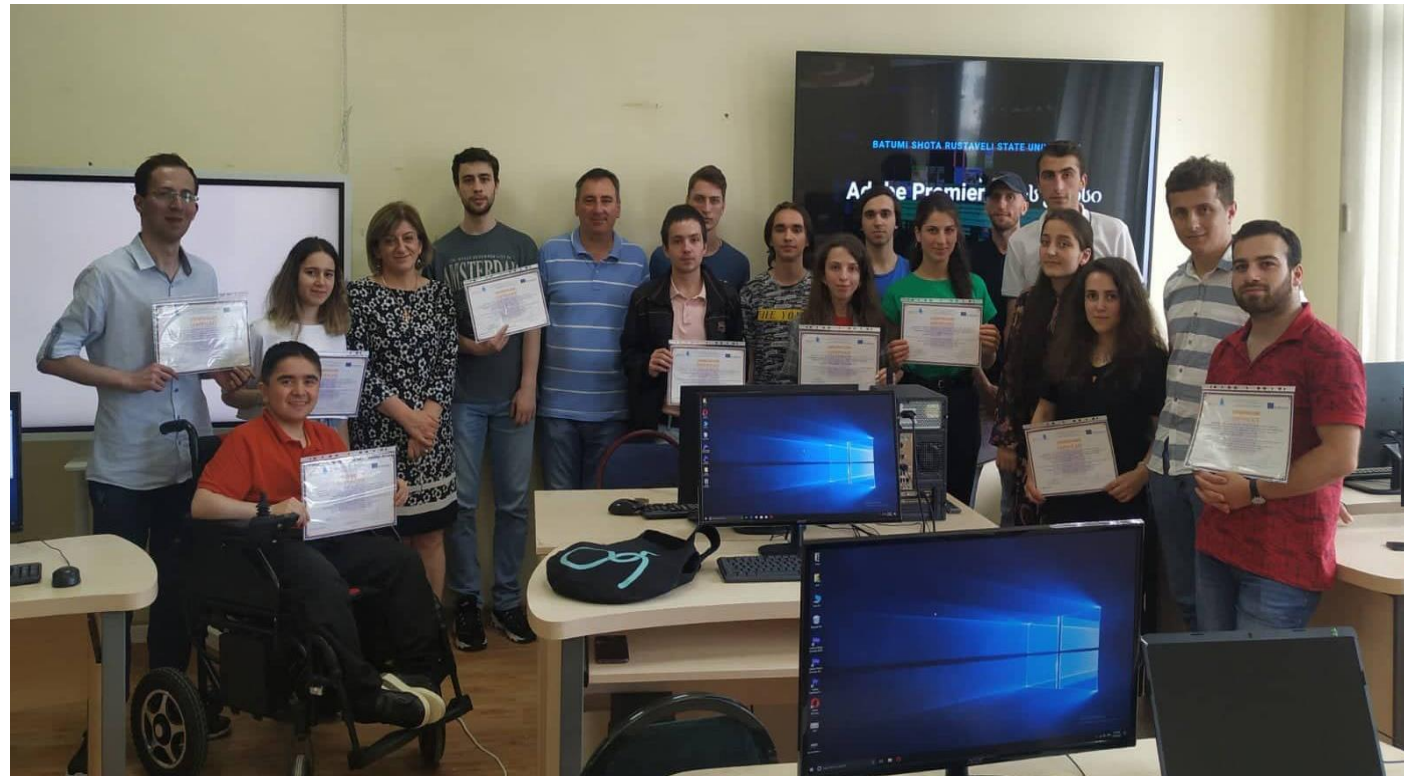
At the end of the training course **16 trainees** were awarded the certificates.



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Adobe Premiere Pro:





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- BSU held three round tables within the framework of the project: the first during the pandemic with the representatives of Axon and Coworking, and then face to face.
- Two main directions were identified:



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1. Secondary schools need university support to implement innovative approaches in schools

The representatives of the educational sector pointed out the need for trainings for teachers so that they could familiarize themselves with and use various innovative educational resources. Lela Turmanidze, professor of BSU, Dean of the Faculty of Exact Sciences and Education worked with approximately 15 schools and introduced the teachers and the students to the famous innovative educational resource CK 12. The given resources enable the students to do virtual experiments, get familiarized with the interdisciplinary approaches, work on the projects, etc.; The project team plans to further continue working with educational institutions, that will enhance the interest towards innovations and technologies.



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2. Prospects of cooperation with the economy sector

- At the round table held with the economy sector, the need for new educational directions was highlighted, the module "Financial Technologies" will be built into the programme of Finance, Banking and Insurance.
- The program integrates courses in Computing including AI and data analytics for financial data, secure high-assurance financial systems design and financial cryptography with Economics, Finance and Management courses including mathematical finance, banking, payment systems, portfolio management and management information systems



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2. Prospects of cooperation with the economy sector

- The demand for students of the bachelor's programme in Computer Science was highlighted, internships were offered; also the need on cooperation with the innovative laboratory in the context of the BSU staff training was identified.
- Within the framework of the project, we were given the opportunity to use the experience of our partners. The procedure for approving, evaluating and developing educational programmes was updated, where the mechanisms of relations with employers and other target audiences (round table, trainings, internships) were described in detail.
- Recommendations for the further development of the computer science programme were specifically made.



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**Other Activities on the basis of the BSU Innovative Lab
27-29 July 2022**

THE WORKSHOP "ECOSYSTEMS AND TECHNOLOGICAL ENTREPRENEURSHIP UNDER THE
CONDITIONS OF THE 4TH INDUSTRIAL REVOLUTION" HELD IN BSU

Within the framework of the project "Erasmus+" HEIN 4 the workshop "Ecosystems and technological entrepreneurship under the conditions of the 4th industrial revolution" was held at Batumi Shota Rustaveli State University. The three-day workshop was led by Anna Vashakmadze, Head of the Department of Donor Relations and International Relations of the Agency for Innovation and Technology of Georgia, Maya Labadze, Assistant to the Chairperson of the Agency, and Sofo Pachulia, Manager of International Projects.



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Other Activities on the basis of the BSU Innovative Lab 27-29 July 2022

THE WORKSHOP "ECOSYSTEMS AND TECHNOLOGICAL ENTREPRENEURSHIP UNDER THE CONDITIONS OF THE 4TH INDUSTRIAL REVOLUTION" HELD IN BSU

- Within the framework of the workshop, academic and scientific staff of BSU, representatives of the business and industry sector and students got acquainted with the information about the ecosystem necessary for the development of innovations and technologies in Georgia, the possibility of commercialization of knowledge and innovation, the possibilities of financing other grant projects for the use of innovations and technologies in all sectors of the economy.
- After the workshop, the **36** participants were awarded the certificates.



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Other activities on the basis of the BSU Innovative Lab 27-29 July 2022

THE WORKSHOP "ECOSYSTEMS AND TECHNOLOGICAL ENTREPRENEURSHIP UNDER THE CONDITIONS OF THE 4TH INDUSTRIAL REVOLUTION" HELD IN BSU





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Other activities on the basis of the BSU Innovative Lab

March 3, 2022

- On January 20, 7:00 pm, Axon's team of engineering programmers conducted online seminars for the students of the BSU Faculty of Exact Sciences and Education on the topics: "Creating Software is More than Coding" and "What does a QA Engineer Do?" The event was held in the form of "Live Stream" on "YouTube" and "Telegram" on the Axon channel.



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Other activities on the basis of the BSU Innovative Lab

March 3, 2022

- One of the active partners of the faculty is the company Axon(<https://www.axon.dev>).of. The organization operates on the international market as the creator of the software packages interesting for business and economic fields. The company actively works on attracting the youth as well as offering them efficient training courses and employment.



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Other activities on the basis of the BSU Innovative Lab

- The company “Axon” operates in 17 countries and its team consists of more than 130 employees. The company is trying to turn good ideas into a selling product – developing software packages for startups and global companies. The international organization has already employed students of Batumi Shota Rustaveli State University.



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More on

Collaboration and Partners



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ELT Building

Residential areas and hotels

The company employs the BSU students



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Company “Coworking Batumi”

The company works with majors, higher school students and young professionals in the fields of programming, advertising, online marketing.

Involvement of the company representatives can provide support in setting priorities for topical MA thesis themes. It has to be mentioned that Coworking Batumi representatives are already conducting training for the university students.

“Coworking Batumi” – is the mediator between the academic and the economic sectors. It studies the needs in the economic sector, conducts the training courses, together with the university professors, for the students; helps the students participate in competitions to get jobs in international companies. From the students trained at the first stage, 2 have been already recruited with success.



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Information technology company “**Cyber Solutions**”

The company is staffed fully by the graduates of our university and the students. They offer projects and retraining courses to other companies.





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Information technology company “**Cyber Solutions**” works on the following products: Websites, Mobile Applications, IT projects, Software Development, 3D modelling, Social Media and Web management;





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Cooperation in the frame of the HEIn 4 project and best practices

Smart Home Development Company “Home Alone”





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Smart Home Development Company “Home Alone”

Products include:

- Smart audio products,**
- Smart interaction center,**
- Smart Lightning,**
- Smart Home Security,**



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**Smart Curtain,
Temperature Control,
Smart Home Entertainment...**



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- Cooperation with the industry representatives revealed the need of building capacities in skills on project management; therefore, we are working on the elaboration of the related study course to be included in the educational programme;



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Thank you

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