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Enhancing innovation competences and entrepreneurial skills in engineering education
(INNOCENS)

Sustainability Plan for Innovation Centres

September 2019

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1. Introduction

INNOCENS is a Capacity Building in Higher Education project, funded by the [Erasmus+ Programme](#) of the European Union. The project aims to enhance engineering students' innovation competences and entrepreneurial skills in order to support socio-economic development in Armenia, Belarus, Georgia and Kazakhstan. The specific objective is to develop and deliver innovation and entrepreneurship courses for engineering students, introduce innovation pedagogy and competence assessment in teaching and learning, establish 8 innovation centres to support engineering students and staff members in commercialisation of innovation ideas.

The project consortium consists of 19 partners, with Royal Institute of Technology (KTH) in Sweden as the coordinating institution (grant holder). The consortium includes 8 partner universities from Armenia, Georgia, Belarus and Kazakhstan.

<i>Partner university</i>	<i>Abbreviation</i>	<i>City</i>	<i>Country</i>
1. National Polytechnic University of Armenia	NPUA	Yerevan	Armenia
2. National University of Architecture And Construction of Armenia	NUACA	Yerevan	Armenia
3. Georgian Technical University	GTU	Tbilisi	Georgia
4. Batumi State University	BSU_GE	Batumi	Georgia
5. Belarusian State University	BSU_BY	Minsk	Belarus
6. Brest State Technical University	BrSTU	Brest	Belarus
7. Almaty University of Power Engineering and Telecommunications	AUPET	Almaty	Kazakhstan
8. Taraz State University	TarSU	Taraz	Kazakhstan

During the three-year project period, the project has implemented a series of activities including:

- Questionnaire survey among enterprises, universities and students
- Staff retraining on innovation and entrepreneurship as well as innovation pedagogy through study visits, workshops and training courses
- Introduction of 2 general courses on innovation and entrepreneurship to partner university students independent of study programmes
- Establishment of 8 innovation centers at partner universities
- Organizing national dissemination seminars and Entrepreneurship Day events
- Organizing innovation business idea competitions, at each partner university (local competition) and final joint competition (global competition)

The most important achievement of the INNOCENS project is the 8 innovation centers at partner universities. It is planned that these 8 centers will continue to operate after the end of the INNOCENS project.

To ensure the sustainability of the innovation centers and facilitate their future development, some relevant aspects will be analysed in this sustainability plan.

1.1 Key factors for sustainability

There are many factors which may affect the sustainability. Some of them are outlined below.

1) Permanent organization supported by the university administration

Each innovation center should have a permanent organization within the university structure, with one or several dedicated staff employed/funded by the university. These staff members can be full-time or part time employees. In the future, if the center has been running successfully, the center may expand to have specialized business mentors (coaches), dedicated intellectual property lawyers, patent engineers and other types of staff.

2) Cooperate with stakeholders for support

At the initial stage and also in the future, the center must cooperate with stakeholders in government agencies, private enterprises, non-governmental organizations working on innovation and entrepreneurship. These stakeholders can support the innovation center informally, or formally through, for example, a business advisory board. Some stakeholders can function as business coaches at the innovation centers.

3) Build local/regional innovation ecosystems through networking

Best innovation environment cannot be created alone in a classroom or within a university. The innovation center should actively work to build collaboration networks to create local/regional or national innovation ecosystems. Networking partners can be enterprises, business organization, other universities, government agencies, NGO, in particular existing science/technology parks, business incubators, accelerators, etc.

4) Reach out to students and teachers through regular events and activities

The fundamental tasks of the innovation center is to reach out to students and teachers, in order to increase the awareness of innovation, educate students on entrepreneurship, and market the center so that all students and teachers know the existence of the center and what kind support the center is providing.

For long term sustainability, the center must plan and organize regular events or other activities (such as seminars, training courses, study visits, workshops, presentation of successful startups, innovation competitions, etc etc) once a week or a month or a semester.

Social media and other channels can be used as a tool to reach out.

5) Search for external funding sources to support students and teacher

To effectively support students and teachers in their innovation activities, the innovation center should actively look for external funding from public, private and international partners.

2 Sustainability plan for innovation centers

2.1 National Polytechnical University of Armenia (NPUA)

NPUA Innovation Incubator operational management

NPUA Innovation Incubator structurally is a part of Armenian National Engineering Laboratories (Innovation Center) of National Polytechnic University of Armenia.

NPUA Innovation Incubator staff members are:

Head of Innovation Incubator- Amalya Mkhitarian (full time)

Employee 1- Serob Muradyan (full time)

Employee 2- Azatuhi Ulikyan (full time)

Employee 3 – Zaven Khanamiryan (part time)

The NPUA Innovation Incubator key team includes management staff and coaching staff ensure the realization of “NPUA Incubation” programme as well as marketing and promotion, including communication with potential partners and/or customers. The NPUA Innovation Incubator (NPUA II) management will oversee the day-to-day operations of the ANEL.

The NPUA II management will ensure the effective and efficient functioning in various spheres. Furthermore, The NPUA II management will work closely with industry liaison officer in establishing, maintaining and upgrading working relationship with industry representatives under various projects. Overall, the NPUA II management will have its important share in NPUA II’s external relations and long-term strategy development and implementation.

To become an entrepreneurial hub

The NPUA Innovation Incubator will continue to encourage its students/graduates to establish technology teams and startups through provision of coaching and mentoring, business development support, match-making services and provision of access to knowledge base and equipment as an **entrepreneurial hub** and continue to create an inclusive sharable environment at NPUA.

Incubation considered as a pre-request for cooperation between private sector and University.

Bringing creative, engineering and entrepreneurship skills together, the hub will:

- 6) continue to an enterprise mindset to universities, staff and students
- 7) Continue to Integrate innovative models for entrepreneurship and enterprise in the curriculum
- 8) establishment of a pool of mentors
- 9) structured cooperation with industry
- 10) build an enterprise ecosystem involving business, government and finance, both national and international
- 11) building the Enterprise and Entrepreneurial capabilities of university staff
- 12) building a national and international stakeholder network to expand, systematize and balance mentoring support and seed a finance community
- 13) establishment of new culture through capacity building
- 14) to create sustainable ecosystem over 3 years

New opportunity

NPUA Innovation Incubator are realizing Creative Spark: Higher Education Enterprise Programme within partnership City University and ChangeSchool supported by British Council based on InnoCENS project's outcomes.

Creative Spark is a five years initiative to support international university and institutional partnerships to develop enterprise skills and creative economy across seven countries in Central Asia (**Kazakhstan, Uzbekistan, Kyrgyzstan**), South Caucasus (**Azerbaijan, Armenia, Georgia**) and **Ukraine** through UK support.

The first year (2019) of the CS programme has already passed during which the current activities have been realized:

In year 1, 30 staff and more than 600 students were trained through a 2.5-day bootcamp. 10 entries to the Big Idea Challenge competition were made, and held a celebration event, with multiple businesses and agencies contacted, many met and invited.

The focus of year 2 will be to give students who want to develop their ideas somewhere to go and support system around them, and to build a model that is sustainable.

Activity plan for year 2

Activity period	Definition of activity	Beneficiary profile of the activity
Sept 2019	Visit to BC Oxford conference	KE centre staff (F)
Sept 2019 – May 2020	Marketing events and direct engagement with the University ecosystem to build network, find projects and thereby build sustainability	University leadership group
Oct 2019	University leadership workshop to understand and structure the Knowledge Exchange office within the university and help it engage with the outside ecosystem	University leadership group
Oct-Dec 2019	Knowledge exchange mentoring to support the policy and process development of the Knowledge Exchange Office	Knowledge Exchange Office staff (M:F 50:50)
Sept 2019 – May 2020	Marketing campaign to ANEL, Polytech and other students to join the pre-accelerator programme, to be mentored	Students (M:F 50:50)
Sept – Oct 2019	Mentoring programme for those students who have graduated from the bootcamp in year 1 but are still students to develop and test their ideas.	Academic staff (M:F 50:50) Students (M:F 50:50)
Sept 2019 – May 2020	Marketing campaign to ANEL, Polytech and other students to join the bootcamp	Students (M:F 50:50)
Sept 2019 – May 2020	Ideation Bootcamps for 250 students	Students (M:F 50:50)
May 2020	Pitch competition to provide entries to British Council Big Idea competition	Students (M:F 50:50)

At the same time, visits enabling knowledge transfer and exchange, for both students and staff, in Armenia and the UK, will begin to create the longer term relationships, social networks and environment that can sustain longer term collaborations. For example, we are exploring annual visits of Cass Masters students, with accompanying faculty, to the growing hub in Yerevan, as part of a term 3 elective, running between May and June each year from 2021 onwards.

In addition, currently ongoing discussions, towards work in the Armenian ecosystem, and sustainability of the Incubator include those with:

- GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH or German Corporation for International Cooperation GmbH) on working together on enterprise pedagogy
- The Armenian Red Cross on helping them deliver their EU funded project on Entrepreneurship in the regions

Further exploratory discussions, also with a view to sustainability beyond year 2, have been held with:

- World Bank
- EU Delegation

It is predicted that through the learning curve and created synergies, the research opportunities of NPUA will grow over time, and that this will motivate broader and more sustainable involvement of NPUA, and further joint project applications, that will in turn deliver ongoing financial resources.

Further local funding is also available in terms of grants and competitions, e.g. Armenian Science Council grants of research. Start-up grants and grants for development of innovation e.g. European Commission, Match Funding, STEP idea support grant, and several Ministries offer further relevant funding.

The new “**NPUA Incubation**” program will be launched from **January 10, 2020**. The participants of the program will receive access to all available technical capabilities of ANEL, space to locate their team, mentorship from NPUA Innovation Incubator mentors and consulting for attracting investments. Total number of startups that will pass through the Incubator will reach 7 to the end of the 2020. The program will become annually for NPUA.

Expected Impact

Short and medium-term impact

The following indicators are set as specific anticipated results of the programme implementation:

- at least one “NPUA Incubation” programme will be launched per year
- at least 7 startup teams will be involved in the programme implementation
- Up to 7 companies/teams assisted
- Up to 2 startups/teams incubated.

Long-term impact

In long-term perspective, the establishment of the NPUA Innovation Incubator will have both economic and social effect, including enhancement of technology and innovation in the country, creation of a substantial number of high-quality engineering startups.

It is expected that after three years of successful implemented InnoCENS project and establishment of NPUA Innovation Incubator will achieve certain level of self-sustainability.

The potential revenue sources will be:

- revenue from delivering entrepreneurial knowledge and skills
- revenue from delivering consultancy/mentoring/coaching
- revenue from joint startup projects with private sector/ other universities/research institutions

It is predicted that through the learning curve and created synergies, the business may be acquired from the wide range of sources and financing channels.

After the completion of InnoCENS project NPUA/ANEL/Innovation Incubator will develop business plan outlining in details business strategy and cashflow for long term sustainability.

2.2 National University of Architecture and Construction of Armenia (NUACA)

2.2.1 Permanent organization supported by the NUACA administration

The Innovation and entrepreneurship support center (InnESC) of the National University of Architecture and Construction of Armenia is an open space for all young people, students and professors contributing to the creation and development of innovative ideas. The InnESC (hereinafter center) have been opened, within the frame of InnoCENS Erasmus+ project in 2018, will continue its work on the basis of an Annual Action Plan adopted by the administration of NUACA. The center is a structure unit of the NUACA organizational scheme. The university administration has assigned the permanent vacancy for the center that is occupied currently by one part-time employee. Besides, it provides working space: computers, WiFi connection, access to printer, copier, and scanner, and also readiness to support in any initiatives.

As of today, the limited number (10 people) of specialized business mentors (coaches) is involved in the network to provide the consultancy for the visitors of the center. Specialized business mentors (coaches) are dedicated to the following fields:

- intellectual property lawyer (1 specialists)
- engineering business specialist (1 specialists)
- business plan development specialist (2 specialists)
- scientist in the field of construction materials (3 specialists)
- designers (2 specialists)
- architect (1 specialists)

The number of specialized business mentors (coaches) engaged in the network has to be increased step by step to provide center sustainability.

With the participation of the mentioned business mentors the advisory board is created, that is closely working with the center.

The number of specialized business mentors (coaches) engaged in the network has to be increased step by step to provide the center sustainability. It is expected that by the end of 2020 the number of specialized business mentors (coaches) will make up to 30.

2.2.2 Cooperate with stakeholders for support

The center will continue its effort to provide the working environment accessibility not only for engineering students but also for professors and supporting staff for sustainable knowledge, based on soft skills, which will help them enhance their skills and fast-track careers. The cooperation with

students and academic staff will aim to establish new businesses and engage innovative thinking, concurrently with commercializing research at all levels of students. Sustainability will be ensured by strong cooperation not only in the business and academic spheres and its networks but foremost with policy makers at the local, regional and national level. It must also fundamentally be linked to the development of solid partnerships and relations between the center and all the relevant stakeholders or networks.

With the following stakeholders that are cooperating as of today, the relationship will be strengthened by the center.

- RA Ministry of Education and Science
- Higher Education Institutions
- RA Ministry of Economy
- Entrepreneurs
- Private enterprises
- Community representatives
- Non-government organization working in innovation field
- Non-government organization working in entrepreneurship etc.

The center will continue its activity in the direction of stakeholders' network extension with the purpose to strengthen the possibilities for the visitors of the center to be involved in:

- a) joint innovative research projects,
- b) joint international research forums and organisations dedicated to the innovations,
- c) scientific publications on innovation,
- d) participation in the international research seminars,
- e) visiting researchers and professors,
- f) partnership cooperation etc.

Current cooperation with different stakeholders is very progressive and enthusiastic, that needs to be institutionalized. In this regards one of the main activities of the center for current educational year is to establish agreement based collaborations.

2.2.3 Build local/regional innovation ecosystems through networking

The center will continue to provide appropriate conditions for the people who are interested to spend a lot of time in the innovation center to learn the innovation environment to be able to design and accomplish some innovative ideas. Research and analysis of Armenian startup ecosystems will be done with finding the key contacts.

The numerous seminars dedicated to the local business interest will be conducted through the local and regional innovation network where the enterprises, business organization, other universities, government agencies, NGO, in particular existing science/technology parks, business incubators, accelerators, etc. are involved.

The further activity of the center is planned to be implemented in two aspects of development of local/regional innovation ecosystems. First, it is creation of a specialized place of knowledge and business produce value for local networks. Second, it is implementation of planned actions aimed to getting some possible responses to regional problems solutions.

The unique environment that combines multidisciplinary teaching and learning resources from a series of introductory courses about product development and design, design thinking, SMM, UX/UI, marketing will be developed and freely available to students, professors and support staff.

The "think -discuss -discover" system will be created and developed.

Center will collaborate with SMEs and other partners to seek ways to expand access to innovative solutions for SDG implementation in Armenia.

The innovative learning environment will be developed by using capstone projects as a tool to engage in research projects at the cutting-edge of global challenges.

The center will continue to offer a comfortable environment for innovative startups and groups to develop their ideas thus contributing to the creation, realization and marketing of innovative ideas. It will continue to keep its status as an open space for all young people, students and professors contributing to the creation and development of innovative ideas.

2.2.4 Reach out to students and teachers through regular events and activities

The numerous seminars focusing on innovation pedagogy and communication will be organized regularly through the local and regional innovation network where the students and teachers, as well as representatives of enterprises, business organization, other universities, government agencies, NGO, in particular existing science/technology parks, business incubators, accelerators, etc. will take part. The meetings with the representatives of the broader communities (partners, stakeholders) will be conducted regularly based on detailed working plan.

The dissemination and advertising events will be organized to promote the activity of the center among students, teachers and other stakeholders' community.

Center will integrate its activities into the structure of NUACA. The link between center and the capstone projects will be developed.

At least once per week a seminar, workshop or some other event will be organized by the center for the university students, teachers and other interested people.

Once a month (date will be determined) interactive round tables discussions with academic staff for founding new ways for successfully implementing innovation pedagogy methods in educational life will be organized.

Once a year the internal competition "Big Idea Competition (BIC)" will be designed.

2.2.5 Search for external funding sources to support students and teacher

Internal and external resources: Grants.com and flippa.com are the great search tools for research funding that allows startupper at InnESC to identify and connect with research funding opportunities.

The key contacts in the relevant fields will be found.

The fundraising plan to support students and teachers will be prepared.

2.3 Georgian Technical University (GTU)

2.3.1. - Permanent organization supported by the university administration

- "Innovations Center" of LEPL Georgian Technical University (hereinafter GTU) is established within the scope of the liabilities covered under the EU Erasmus+ grant project "InnoCENS -Enhancing

Innovation Competences and Entrepreneurial Skills in Engineering Education“ (573965-EEP-1-2016-1-SE-EPPKA2-CBHE-JP). GTU Innovations Center operates by the self-funding principle (GTU Academic Council Order to establish Innovations Center - #01-05-04/188, issued on 25 July, 2018);

- The Center operates its activities in line with the Constitution of Georgia; “Law of Georgia on Higher Education”; Charter of Legal Entity of Public Law – GTU; This provision and the legislation that is effective in Georgia;
- For now GTU has provided GTU Innovations Center with an office - Address: Kostava st. 77, room №203, 0160 Tbilisi, Georgia; E-mail: Innovations@gtu.ge
- By the support of the InnoCENS Project, GTU Innovations Center is fully equipped and has all premises for performing appropriate activities;
- Special discussion can be held to discuss the reports of the Center, if required by the Rector and the Academic Council.

Structure and management of the Center

GTU Innovations Center is managed by the Head of the Center, who is appointed and dismissed by the Rector of GTU.

- Special board, that coordinates the activities of the Center at the Faculties is presented by the University and/or Faculties and must be approved by the Rector of GTU;
- The staff of the Center consists of scientific, educational and supporting staff;
- The staff of the Center is appointed and dismissed by the Rector, upon the submission of the Head of the Center;
- Contracts with legal entities and individuals is concluded in accordance with the rules and forms adopted by the University.

Role Descriptions - Head of the Center is entitled to:

- Provide various activities necessary for effective management and functioning of the Center;
- Considering competences, prepare proposals and submit to the relevant bodies of GTU, with the agreement of the Rector;
- Head of the Center, within the scope of his/her competence, is responsible for the terms of performance of the Center, its content and the nature, as well as to use, maintain, and provide proper operation of the property owned by the University, delivered with the right of usage;
- Carry out other essential activities related to effective management and functioning of the Center.

2.3.2. Cooperate with stakeholders for support

Within the competence of the Center, it is focused build relations and develop cooperation with international and local governmental and non-governmental organizations. Specifically:

- Active support to research and creative activities of academic and scientific personnel, in the context of internationalization and regular assessment and analysis of effectiveness of implemented activities;
- Implement new partnership relations and develop implemented relations with advanced educational and scientific and research institutes and networks of international cooperation;
- Quantitative and qualitative development of participation and involvement in international projects;
- Permanent provision of consequence implementation of the above stated measures and provision of effective application mechanisms of internationalization outcomes in the activities.
- Communication tools used at GTU Innovations Center: Website – www.innovations.gtu.ge, STUNET - GTU video portal, Social Networks, Students Organizations, Professors Community, etc.

2.3.3. Build local/regional innovation ecosystems through networking

Functions of the GTU Innovations Center are defined in line with the duties and tasks of EU Erasmus+ grant project “InnoCENS - Enhancing Innovation Competences and Entrepreneurial Skills in Engineering Education” (573965-EFP-1-2016-1-SE-EPPKA2-CBHE-JP):

- Adoption of innovative teaching methods and preparation of applicable project to provide further inclusion into teaching process;
- Study and organize system characteristics of successful career;
- Adoption of innovative methods for grading study outcomes and preparation of applicable projects;
- Building relations and develop cooperation with international and local governmental and non-governmental organizations within the competence of the center;
- Support development of innovative ideas of students and professor-teachers;
- Support the process of learning programs (syllabuses) and teaching plans (curriculums) adoption related to innovations and entrepreneurship;
- Arrange trainings, seminars and conferences to report outcomes of innovative teaching methods and professional development of academic staff;
- Promote the creation of an innovative ecosystem in the university environment for the development of entrepreneurial spirit and business consciousness;
- Participation in grant programs with the purpose of achieving goals.

2.3.4 - Reach out to students and teachers through regular events and activities

Main Activities - GTU Innovations Center:

- The Center provides workshops, seminars and trainings on a variety of teaching and learning issues;
- The Centre works in partnership with academic units, faculty members, and students to enhance the practice, learning and teaching at University;
- The Centre takes an evidence-based approach to curriculum planning and services to support the application of technology in education, as well as institutional policies and infrastructure to enhance the learning environment;
- The Center offers teaching-orientated training for the faculties as well as lectures and workshops.
- The Center also develops mentoring programs.

Seminars, Workshops, Conferences and Teacher Training Programmes

Teaching Staff Development Centers (TSDC) of GTU Innovations Center offers the following particular programmes/courses

- Active Learning, with Special Focus on Technology Enhanced Collaborative Learning;
 - Active Learning & ICT-enhanced Teaching: M-learning & Gamification;
 - Video as a Learning Tool for Teachers & Students: Video Lecturing & Promoting Interaction in the Classroom;
 - Active Learning in the Flipped Classroom;
 - Hybrid/Blended Teaching & Learning;
- Arrange trainings, seminars and conferences to report outcomes of innovative teaching methods and professional development of academic staff;
 - Support the process of adoption of learning programs (syllabuses) and teaching plans (curriculums) related to innovations and entrepreneurship.

Dissemination and Networking

- The Centre works in partnership with academic units, faculty members and students to enhance the practice, learning and teaching at University;

- Special board, that coordinates the activities of the Center at Faculties is presented by the University and/or Faculties and must be approved by the Rector of GTU.

Business Incubator

- Business incubation services are offered by GTU Innovations Center;
- The aim of the incubation services is to encourage innovations and creating new technologies, to promote interest in research commercialization at the university environment and to help individuals who have innovative project ideas but do not have sufficient know-how and financial means;
- Support development of innovative ideas of students and professor-teachers;

Projects Development

- Planned development projects where the GTU Innovations Center is involved;
- Promote the creation of an innovative ecosystem in the university environment for the development of entrepreneurial spirit and business consciousness;
- Adoption of innovative methods for grading study outcomes and preparation of applicable projects;
- Participation in grant programs with the purpose of achieving goals.

2.3.5 Search for external funding sources to support students and teacher

To promote the creation of an innovative ecosystem in the university environment for the development of entrepreneurial spirit and business consciousness, GTU Innovations Center will participate in grant programs with the purpose of achieving goals.

- These Regulations are valid from the moment of approval by the GTU Council of Representatives;
- The policy of regulating financial relations of GTU Innovations Center with Georgian Technical University is determined by the rules that apply to the Georgian Technical University;
- Financial and accounting reporting forms, contracts, receipt acts and other written acknowledgments are regulated by GTU internal administrative acts;
- Any changes or additions to this provision must be carried out by the Head of the Center, discussed by Academic Council and approved by the Council of Representatives;
- This resolution becomes ineffective in case of approval of the new resolution or liquidation of the Center;
- Reorganization or liquidation of the Center should be carried out in accordance with the rules established by the administrative acts of GTU.

Activity plans for GTU INNOVATIONS CENTER

#	Planned Activities
1.	Updated INNOCENS Entrepreneurship Course for Trainers (Train for Trainers);
2.	Permanent Implementation of “Entrepreneurship for Engineers” short training course (based on project INNOCENS experience);
3.	Selection of students academic group to develop and implement syllabus “Entrepreneurship for Engineers” and “Innovation Systems” every year;
4.	Signing Partnership Agreement Between “GTU Innovations Center” and “Georgia's Innovation and Technology Agency - GITA” (Managing partnership and joint programmes);

5.	Managing annual internal Innovation competition and awards at GTU;
6.	Providing business incubation services (Developing Startups) ;
7.	Organizing Annual Entrepreneurship Day at GTU;
8.	Annual Training course of Innovation Pedagogy at GTU TEACHING STAFF DEVELOPMENT CENTRE (based on project PRINTeL experience);
9.	Based on international project experience, selection of students academic group from 12 Faculties and continuous work for permanent implementation and adaptation of Innovation Pedagogy methods in the other studying programs;
10.	Implementation of another ongoing two international projects: Erasmus+ project PRINTeL - Change in Classroom: Promoting Innovative Teaching & Learning to Enhance Student Learning Experience in Eastern Partnership Countries” (Erasmus+ CBHE Project #585760-EPP-1-2017-1-AM-EPPKA2-CBHE-JP); 2. British Council (UK) - CREATIVE SPARK: Higher Education Enterprise Programme - № EV16048P8P - 1744 (25.03.19).
11.	Piloting of “Innovation Competence Assessment Tool” created at GTU based on Project InnoCENS best practice and experience;
12.	Working to apply for new international Projects;

2.4 Batumi State University (BSU_GE)

2.4.1. - Permanent organization supported by the university administration

General Description of BSU Innovation Center

- “Innovation Center” of LEPL Batumi Shota Rustaveli State University (hereinafter BSU) is established within the scope of the liabilities covered under the EU Erasmus+ grant project “InnoCENS -Enhancing Innovation Competences and Entrepreneurial Skills in Engineering Education” (573965-EFP-1-2016-1-SE-EPPKA2-CBHE-JP).
- The Center operates its activities in line with the Constitution of Georgia; “Law of Georgia on Higher Education”; Charter of Legal Entity of Public Law – BSU; This provision and the legislation that is effective in Georgia;
- For now BSU provided Innovation Center with an office - Address: Pirosmani st. 12, room №207, 6010 Batumi, Georgia; E-mail: Innocenterbsu@gmail.com; Facebook page <https://www.facebook.com/innovationcenterbsu/>
- By the support of the InnoCENS Project, BSU Innovation Center is fully equipped and has all premises for performing appropriate activities.
- Special discussion can be held to expand the Center, if required by the Rector and the Academic Council, for instance to invite part time or freelance mentors/coaches to train the Center staff on such topics as: intellectual property issues; patent issues; legal consultations and many more.

Structure and management of the BSU Innovation Center

- BSU Innovation Center is managed by the Head of the Center, who is appointed and dismissed by the Rector of BSU;
- Special board, that coordinates the activities of the Center at the Faculties is presented by the University and/or Faculties and must be approved by the Rector of BSU;
- The staff of the Center may consist of scientific, educational and supporting staff;
- The staff of the Center is appointed and dismissed by the Rector, upon the submission of the Head of the Center;
- Contracts with legal entities and individuals is concluded in accordance with the rules and forms adopted by the University.

The role of the Head of the Center:

Head of the BSU Innovation Centre is entitled to:

- Provide various activities necessary for effective management and functioning of the Center;
- Considering competences, prepare proposals and submit to the relevant bodies of BSU, with the agreement of the Rector;
- Head of the Center, within the scope of his/her competence, is responsible for the terms of performance of the Center, its content and the nature, as well as to use, maintain, and provide proper operation of the property owned by the University, delivered with the right of usage;
- Carry out other essential activities related to effective management and functioning of the Center.

2.4.2. Cooperate with stakeholders for support

From the very beginning of its establishment, considering the prospective continuation in future, the center is bound to cooperate with stakeholders in government agencies, private enterprises, non-governmental organizations working on innovation and entrepreneurship for the purpose of its sustainable functioning. Those stakeholders can support the innovation center informally, or formally through some approved tools and/or activities such as

- Meeting with business advisory board with staff/trainers for consultations regarding drafting/developing training/coaching activities due to the modern demands and standards of entrepreneurship;
- Providing coaching/training activities by stakeholders from government agencies, private enterprises, non-governmental organizations and many more on the topics such as: launching startups, developing business ideas, entrepreneurial provisions and legal consultations etc. (It is advisable to have invited stakeholders as business coaches at the innovation centers;
- Establishing memorandum of understanding between BSU/ BSU Innovation Centre and private or state enterprises for the purpose of giving BSU students opportunities for internship at their sites;
- Seeking for financial support from private or state enterprises to promote BSU Innovation Center activities, for example to support some competitions within the center motivating students to participate.

2.4.3. Build local/regional innovation ecosystems through networking

For the successful and fruitful functioning, BSU Innovation Center needs to have network beyond the higher educational institutions. It should have collaborative links with local/regional or national innovation ecosystems. BSU has already established partnership with the GITA – Georgia’s Innovation & Technology Agency the mission of which is a formation of an ecosystem which improves all kinds of innovations and technologies in our country, to promote a commercialization of knowledge and innovations, to stimulate using them in all fields of economy, to create an environment for the growth of innovations and high-tech products and developing high-speed internet nationwide. On the basis of the agreement The FAB LAB BSU has been established at BSU. GITA also provides support in all endeavors of HEIs of Georgia regarding Innovation and Technology development. Upon the facilitation from GITA, through some successful projects such as - “Startup Georgia”, the innovation center can actively work to build collaboration. Networking partners can be enterprises, business organization, other universities, government agencies, NGO, in particular existing science/technology parks, business incubators, accelerators, etc. The BSU will also seek for international support to promote awareness and successful implementation of the activities at BSU Innovation Center.

2.4.4. Reach out to students and teachers through regular events and activities

In order to raise awareness of BSU Innovation Center among students and staff within the region as well as Georgia itself, BSU bounds itself to hold event such as:

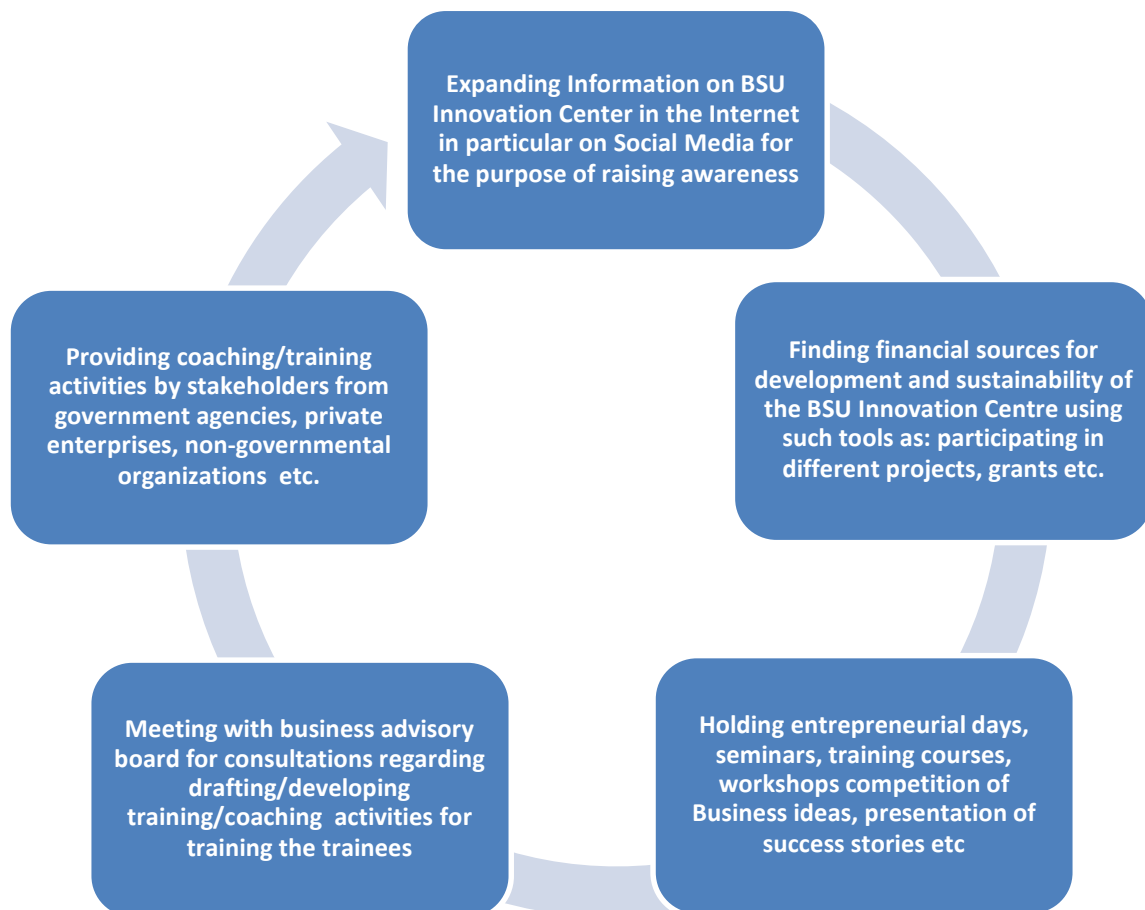
- Entrepreneurial day per academic term, that has already beheld and approved with really positive feedbacks within the Project InnoCENS;
- Monthly meetings with representatives of market and enterprises with the students;
- Annual Seminars, training courses, workshops etc. ;
- Annual Competition of Business ideas with financial support from various stakeholders;

- Presentation of success stories for instance successful startups by the representatives of GITA and/or private enterprises;
- Weekly coaching/trainings by various stockholders, private entrepreneurs, invited board representative from private/state enterprises, BSU local trainers/staff etc.

2.4.5. Reach out to students and teachers through regular events and activities

For successful and sustainable functioning of BSU Innovation Center, the university will seek for financial support from private enterprises as well as national agencies such as GITA (for instance BSU will take part in funding projects initiated by GITA and other state agencies or authorities). The university will also attract private enterprises for funding students' competition of Business ideas, which will be mutually beneficial for BSU Innovation center in regard of having out-source funds and raising awareness among entrepreneurs, as well as for enterprises/business sector representatives who seek for new ideas and/or new perspective employees among students/graduates. The university will also take part in similar international projects for expanding its awareness beyond the country, via taking part in other EACEA funded projects and many more.

BSU Action Plan



2.5 Belarusian State University (BSU_BY)

The innovation center of BSU has a permanent organization in the structure of the university. Creation of the center is approved by order and internal regulation. The innovation center of BSU has the head of the center - Dzianis Marmysh. Part-time employees work in the structure of the center, currently Lyudmila Shemet and Anna Novikova. The center works in close cooperation with the BSU structures, such as legal and economic departments, etc. In the future, the center is planned to expand with an increase in the amount of services and projects rendered.

Now the center is establishing cooperation with state bodies, private enterprises for greater collaboration and improving the quality of their work. The center has collaborations with Brest State Technical University innovation center and private organizations «School of Business» and «Business Youth». Business supervisor of the center is Aliaxei Vakulchyk (entrepreneur and business coach). Now in plans collaborations with Minsk city technopark and some government and private organizations.

After opening BSU Innovation Center is actively working with students. Was organized local competition for students projects. The winner took part in the Global final in Valencia.

Current activities of the BSU InnoCenter are mainly in directions of helping students with their projects, implementing business services in university, forming business network and collaborations with universities, enterprises and business, implementation of own business plan, doings for sustainability of working.

Current planning activities in BSU Innovation Center.

1. Local competition for innovation projects from BSU students.

Time: December, 2019.

We plan to invite more than 20 student teams from Belarusian State University and select 5 teams in different innovation fields. After competition winner work with their projects accompanied by mentors.

2. Global competition for innovation projects form Belarusian universities

Time: April, 2020.

Competition for best technical innovation projects from different Belarusian universities. The competition goal is to find financial supporting for 'market exit'.

3. Workshop "Innovation ideas for real economy".

Time: June, 2020.

We plan to collect problems from business and suggest to scientists and researchers for solution. Workshop is an event that will allow to meet in one place representatives from real business and academic sphere.

And certainly, continuous work in attracting business partners and joint work with other Belarusian universities.

2.6 Brest State Technical University (BrSTU)

2.7 Almaty University of Power Engineering and Telecommunication (AUPET)

The AUPET Innovation was opened at the Almaty University of power engineering and telecommunications on June, 2018. The main goal of the AUPET Innovation Center is development of student entrepreneurship, supporting socio-economic development and job creation

Functions of the AUPET Innovation Center:

- Ensuring the development of the AUES regulatory framework governing the activities of student innovation units (startup projects);
- Holding exhibitions, seminars and other events to popularize their activities among students and teachers;
- Organization of work on teaching techniques and methods for effective commercialization of the results of innovation;
- Implementation of support at the initial stage of the work of small innovative enterprises of students (startup projects);
- Attracting students to solve current problems of the university;
- Implementation of administrative, consulting and methodological support for startups
- Organization of training seminars, trainings on various topics, meetings with successful entrepreneurs;
- Assisting in the formation of applications for financing, including through state support tools;
- Assisting in the formation of applications for participation in startup competitions, accelerators, business incubators.

Motivation:

- Entrepreneurship Training
- Providing a workplace with the Internet, Fablab
- Information support for startups (media)
- Access to business literature
- Assistance in attracting investments

2.7.1 Permanent organization supported by the university administration:

By the support of the INNOCENS project AUPET Innovation Center is fully equipped and managed by the Head of the center and leading specialist.

2.7.2 Cooperate with stakeholders for support

Strategic directions of the AUPET Innovation Center:

- Increase and improve research cooperation between employees, also between beginners in this field and students;
- Enable students to better understand and experience the culture of entrepreneurship;
- Give commercial value to academic and applied research in areas which AUPET is most powerful, in particular: energy, radio engineering and telecommunications;
- Contribute to the development of the educational process (teaching and learning) of such courses as business, taxes, project management, marketing at AUPET by creating new knowledge, data, analysis, etc;
- Attracting sponsors for AUPET research activities, work on applications for state and private grants through the development of a wider base of partners.

2.7.3 Build local/regional innovation ecosystems through networking

Mentoring for teachers and students	
Talgat Kamarov, Chairman of the Board of Centras Securities	Management and development
Askar Aituov – DAR lab	Central Asia Innovation Projects Competition
Khairova A. - Smart & KPI	“KPI: development technologies, implementation stages”
Saken Zhumashev managing partner KPMG	Techno Career Job Fair
A.Shorman - EY	Answers to current business issues

Key objectives of the AUPET Innovation Center:

- Formation and development of innovative infrastructure;
- Attracting faculty and students, undergraduates, employees of scientific organizations, individual scientists and specialists to active entrepreneurial activity, facilitating the implementation of their ideas and projects;
- Contributing to the development and implementation of innovative proposals, scientific and technical projects and programs aimed at creating high technology and competitive products, accelerating their development in production and bringing them to market;
- Assisting scientists, teachers, undergraduates and students in the creation and development of small innovative enterprises;
- Consulting support for small innovative enterprises, start-ups.

Partners of Innovation Center:

- University can contribute ideas, spearhead their own projects and provide the energy and optimism that leads to constructive progress within the community;
- Stakeholders can collaborate with innovation center in executing national initiatives by sharing their data, experience, or resources;
- Private sector can share their professional know-how when hosting a skills workshop in the Innovation center. This provides a mutual benefit as companies help build the skills of youth seeking experience through center activities, with the idea of finding motivated people for hire.

2.7.4 Reach out to students and teachers through regular events and activities

Continuous work in business start up projects development:

- Open house, interactive, encouraging feedback
- Competition of business ideas
- Meeting with stakeholders
- Entrepreneurship

Erasmus Day 2019	<p>AUPET INNOVATION COMPETITION</p> <p>ALMATY UNIVERSITY OF POWER ENGINEERING AND TELECOMMUNICATIONS (AUPET)11 october 2019</p> <p>The main idea of this competition to promote entrepreneurship, select ideas, support start-up projects, spur creative thinking, and encourage students to start a business.This competition is about exposing youth to new ideas and innovation in the hopes that you will view entrepreneurship as an option for your future.</p>
Entrepreneurship day 2019	<p>AUPET INNOVATION Entrepreneurship day ALMATY UNIVERSITY OF POWER ENGINEERING AND TELECOMMUNICATIONS (AUPET) 19 November 2019</p> <p>World Entrepreneur Day is about people who have the courage to follow through on their ideas and dreams. It's about celebrating the road less travelled. It's about people who take charge of their own lives and decide to carve out their own destiny.</p>
G.Balbayev, A.Yelemanova	«Innovative pedagogy for teaching staff» 22 November 2019
M. Salykova	«The concept of innovation and innovation» 6 December 2019
B. Tuzelbayev	«Search and selection of business ideas» 20 December 2019
Video lesson	5 Short TED Business Lectures
Bill Gross	One of the main reasons for startup success
A.Yelemanova, G.Balbayev	Training course of Innovation Pedagogy

2.7.5 Search for external funding sources to support students and teacher

- Participation in state research grant projects funded by the Ministry of Education and Science;
- Attracting business investors for startup projects of students;
- Conducting trainings on innovative pedagogy at other universities;
- Website and social media.

2.8 Taraz State University (TarSU)

2.8.1 Permanent organization supported by the university administration

The Center of Innovation and Entrepreneurship (further – Center) was opened at the Taraz State University on March 2, 2018.

The main goal of the Center is to strengthen the innovative and entrepreneurial skills of students and teachers, spread the methods of innovative pedagogy in the educational environment of the university and the region, develop and strengthen partnerships with the business community.

The Mission of the Center is to promote and support entrepreneurship using modern methods and tools.

The Vision of the Center is to become a leader of the region in the field of training specialists with knowledge and entrepreneurial skills that contribute to economic development and welfare.

Values:

- university traditions based on the culture of the creation, preservation and dissemination of knowledge;
- professionalism;
- advanced teaching methods and tools.

2.8.2 Cooperate with stakeholders for support

Strategic directions of the InnoCenter:

- **Leadership in entrepreneurship education** – innovation and quality of training and consulting processes for the formation of entrepreneurial skills.
- **Leadership in the dissemination of innovation** - the breadth of activities of the highest quality in the field of entrepreneurship education, the accumulation and dissemination of innovation, including through the transfer of scientific and technological knowledge and the promotion of innovative ideas and products.

Key objectives of the Center of Innovation and Entrepreneurship:

- development of innovative and entrepreneurial skills,
- conducting business consultations, workshops and trainings,
- introduction of advanced courses in entrepreneurship and innovative systems into educational programs of technical specialties,
- development of partnership with the business community of the region,
- creation and development of the institution of mentoring,
- application and dissemination of innovative pedagogy methods,
- increase of innovative culture in the region and in the country.

Key performance indicators of the Center:

- the number of graduates with skills in entrepreneurship and the creation of new enterprises,
- increasing the degree of students' participation in competitions of innovative project of various levels,
- increasing in the number of startups, spin-offs and commercialized projects.

In order to ensure the sustainability of the Center, a **Development Program** has been created.

To achieve the goals, priorities were identified: infrastructure and environment, quality assurance, sustainable development, dissemination; human resources, corporate environment, partnership and society.

1) Build local/regional innovation ecosystems through networking

Partnership and networking	
Development and strengthening of interaction with partners, the formation and transfer of technology	<ul style="list-style-type: none"> - Creation of strategic partnerships and alliances at local and international levels to support the center's activities in the field of innovation and entrepreneurship - Networking in the industry supporting the development of business ideas

Development of entrepreneurship's culture	
Responding to labor market demands and market formation through the creation of innovations and their transfer	<ul style="list-style-type: none"> - Formation of a business culture among students of technical, technological and natural-scientific fields through the inclusion of a module focused on entrepreneurship in educational programs - Promoting and disseminating a culture of innovation and entrepreneurship through various functions and events, such as: organizing and conducting startup competitions for students, spin-offs for teachers, various programs for experts

2) Reach out to students and teachers through regular events and activities

Academic research	
Research, transfer and adaptation of new technologies	Encouraging research and participation in international conferences and seminars that will create knowledge capital in the field of innovation and entrepreneurship

Educational activities	
Transforming life through real success in the practice of teaching and learning, conducive to career development of graduates throughout life	<ul style="list-style-type: none"> - Organization of educational activities based on the use of advanced teaching methods, monitoring and evaluation of innovative competencies - Development and implementation of training programs that support the development of innovation and entrepreneurship. - Providing various alternatives for academic qualifications in the field of innovation and entrepreneurship - Development, assistance and conduct of special training courses for partners and third parties

3) Search for external funding sources to support students and teacher

To effectively support students and teachers in their innovation activities, the innovation center should actively look for external funding from public, private and international partners.

Target indicators:

Organization and conduct of training in innovative competencies and entrepreneurial skills
Introduction courses: “Innovative Systems” and “Entrepreneurship for Engineers” into educational programs
Training teachers the basics of innovative pedagogy at seminars and trainings
Conducting business consultations for students and teachers on the development of ideas and project promotion
Conducting special events on innovation and entrepreneurship in order to disseminate project ideas in coordination with partners (akimat, organizations and enterprises of the city and region)
Introduction and dissemination of innovative pedagogy tools at the university
Work with the website Heinnovate.eu
Organization and conduct of surveys on all subjects of the educational process - university, department, group of participants
FINCODA barometer tool promotion, its use for competency assessment in relevant courses
Creating a pool of mentors to promote entrepreneurship
Propaganda of project ideas and information support for all ongoing activities
Enhanced partnership with the business environment
By attracting partners to the mentor pool
Training for third-party representatives