

Dear colleagues,

We are running high on Business-Academia Cooperation workshops. After Pristina in March, we had on May 25th second workshop in Podgorica and on **June 3rd workshop in Chisinau will take place**. For this occasion, new issue of the GEOBIZ newsletter has been prepared announcing the workshop itself and presenting GEOBIZ partners Faculty of Construction, Geodesy and Cadastre at the Technical University of Moldova and Faculty of Geography of Tiraspol State University.

GEOBIZ project has Business-Academia cooperation in focus being aware that modern university education of geoinformatics and related disciplines, especially in technology advanced courses, only is successful if business and academic sector are working together. Therefore, we are inviting representatives of geoinformatics sector in Moldova and other partner countries to register for the workshop in Chisinau and contribute our efforts to establish new forms of business-academia cooperation aiming to develop modern problem-based geoinformatics courses.

Vesna Poslončec-Petrić

BUSINESS-ACADEMIA PARTNERSHIP WORKSHOP Chisinau, June 3rd, 2021



Livia Nistor-Lopatenco,
Technical University of
Moldova



Dilan Vitalie
Tiraspol
State University

It is a great honour to invite you to participate in the Business-Academia Partnership Workshop, an event organized within the Erasmus+ Ka2 CBHE "Business driven problem-based learning for academic excellence in geoinformatics - GEOBIZ" project (No. 610225-EPP-1-2019-1-HR-EPPKA2-CBHE-JP), which will take place on Thursday, June 3rd, 2021.

Business-Academia Partnership Workshop will be organized in the hybrid format:

- at the Faculty of Constructions, Geodesy and Cadastre, Technical University of Moldova, Chisinau (mun. 41, Dacia bd., Block of study nr. 10, hall 10-302) and
- on-line via Google Meet platform:
<https://meet.google.com/zrx-ryen-qox>.

Representatives of business, public institutions and academia in the field of GIS and geoinformatics are kindly invited to the Workshop. Topics cover wide scope of geoinformatics, focusing on GIS, Remote Sensing, National Spatial Data Infrastructure, Modern methods and techniques for spatial data acquisition, as well as Business-Academia cooperation challenges in these areas.

The workshop is organized by the Technical University of Moldova - Faculty of Constructions, Geodesy and Cadastre in partnership with the Tiraspol State University - Faculty of Geography, partner institutions in the [GEOBIZ project](#).

On the [GEOBIZ project](#) web-site you can find [Workshop agenda](#) and the invitation letter in [English](#) and [Romanian](#).

We would be honoured to have you participate in this event and we are convinced of your valuable contribution to it.

FACULTY OF CONSTRUCTION, GEODESY AND CADASTRE OF THE TECHNICAL UNIVERSITY OF MOLDOVA



*Livia Nistor-Lopatenco,
Technical University of Moldova*

At the Faculty of Construction, Geodesy and Cadastre of the Technical University of Moldova, through the GEOBIZ project, Leica instruments have been bought through SC TOP GEOCART SRL, Bucharest, Romania, which represents, for more than eighteen years, the Swiss “Leica Geosystems AG”, a traditional producer of equipment and systems designed for topographic measurements, geodesy, construction, industry, etc.

The software package “ArcGIS Desktop Basic” has been bought from IM TRIMETRICA, SRL, Chisinau, Republic of Moldova, official representative of ESRI, USA in Republic of Moldova.

The total value of the acquisition of geodesic instruments and software was 32400 EURO, with a financial aid from GEOBIZ for the Faculty of Construction, Geodesy and Cadastre, Technical University of Moldova.

The ArcGIS products offer flexible licenses for applied analysis based on geolocation. Obtaining

of precise data is a priority, given the help of the contextual instruments for visualising and analysing special data, collaborate editing and sharing of maps, apps, board panels, reports and statistics, including the necessary software: ArcMap, ArcCatalog and ArcToolbox. On both national and international levels, this software is the most used in geoinformational systems.

During 3 days, starting May 17th, 2021, students of years II and III, from the bachelor’s degree program “Geodetic engineering and cadastre” from the Faculty of Construction, Geodesy and Cadastre, and lecturers (Iacovlev Andrei, Pantaz Alexandru, Botnaru Dumitru and Tiganu Eugeniu) of such faculty disciplines as – Terrestrial laser scanning and geodesy, participated in an internship organized by Mr. AVADANEI Mihai, sales manager and specialist on Leica geodetic instruments from SC TOP GEOCART SRL, Bucharest, Romania.

The 3-day internship focused on the study and execution of practical works using geodetic tools purchased through the GEOBIZ project as follows:

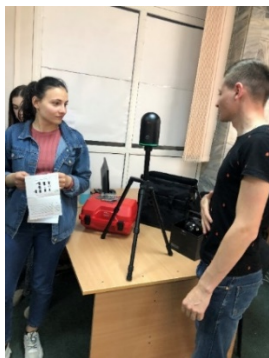
- Leica BLK360 terrestrial scanner;
- Leica Cyclone Register 360 BLK Edition software with control tablet;
- receptor GNSS Leica GS07 RTK (Rover).

What can the Leica BLK360 Leica scanner do? The BLK360 captures the world around us with

full-colour panoramic images superimposed on a cloud of high-precision dots. Easy to use, just by pressing a button, the Leica BLK360 is the smallest and easiest device of its kind.



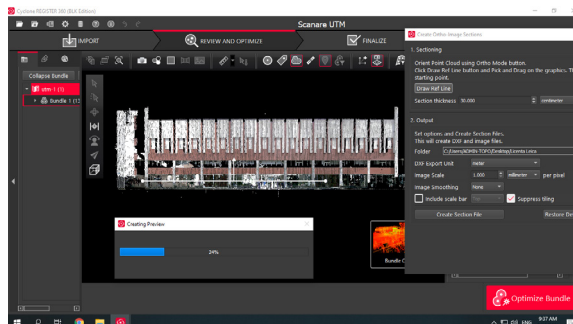
Students of the Geodetic Engineering and Cadastre program (selective from year II and II), together with AVADANEI Mihai (TOPGEOCART, Romania) and the project coordinator from TUM Livia Nistor-Lopatenco, young teachers Botnaru Dumitru, Pantaz Alexandru and Tiganu Eugeniu



Leica BLK 360 scanner and control tablet – TUM, Faculty of Construction, Geodesy and Cadastre students

Practical example made by students of the Faculty of Construction, Geodesy and Cadastre, guided by teachers with the BLK360 terrestrial scanner and Leica Cyclone Register 360 BLK Edition software. Leica Cyclone REGISTER 360 is the latest update to Point Cloud software, the world's number one Leica Cyclone REGISTER.

This completely new product brings with it new capabilities, from simple guided workflows to automatic registration and obtaining deliverables in the formats requested by the customer, at the touch of a button.

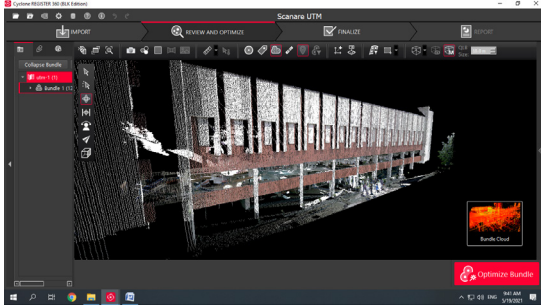


Extraction of an ORTHO image (facade of Study Block no. 10 from the TUM)

The steps performed by students to scan the hall and the front facade of the Study Block no. 10 from the Technical University of Moldova, as follows:

- making the connection between the tablet (Software) and the LEICA BLK 360 scanner;
- creating a Job in the Cyclone Field 360 field software;
- making settings related to resolution and images;
- start scanning: Imaging -> Actual scan 360000 dots per second;
- recording (aligning) scans from different stations directly in the field, using Visual Alignment mode;
- import data retrieved in the field via the Cyclone Register 360 office software (using the wireless connection);
- data viewing and registration verification;
- ortho image extraction (longitudinal and cross sections);
- point cloud cleaning;
- publishing a detailed log report on the accuracy of the point cloud;

- export of data in different formats (E57, RCP, PTS, PTX) for later use in specialized software;



Point cloud view, using the ORBIT function



Ortho image of the front facade of the Study Block nr. 10

Leica GS07 RTK Rover GNSS equipment

Leica GS07 is a mid-range GNSS smart antenna from Leica Geosystems. It is the lightweight but robust equipment that comes with functionality focused exactly on what is needed, with the highest levels of quality that specialists in the field have expected from a Premium Leica Geosystems GNSS product.

GS07 guarantees fast and reliable participation and combined data capture in an easy-to-use

rover with 320 channels, multiple frequency and multiple constellations. It also supports the expansion of communication devices, such as UHF radios, which are fully integrated into the Leica CS20 field controller. Through its connectivity to Leica Captivate and CS20 software, GS07 offers true Leica Geosystems quality.



GS07 GNSS RTK receiver in storage box

The GS07 GNSS RTK sensor combines perfectly with the completely captivating Leica Captivate software for a highly captivating experience. With the simplicity of touch, the management of complex data is made extraordinarily pleasant. Get your whole office moving when you discover the power of overcoming any environment in the palm of your hand. The Leica CS20 controller offers control and convenience with complete mobility. Touch screen technology allows for fast and convenient data processing, while stunning 3D visualization turns your GNSS experience into an exceptional one.

PROJECTS IMPLEMENTED AT THE FACULTY OF CONSTRUCTION, GEODESY AND CADASTRE OF THE TECHNICAL UNIVERSITY OF MOLDOVA

INCREASING THE VALUE OF ARCHITECTURAL HERITAGE OF REPUBLIC OF MOLDOVA

State program (2020 - 2023) 20.80009.0807.34

Strategic priority: 4. Societal challenges

Strategic direction: Tangible and intangible heritage.

Project leader: Svetlana ALBU, doctor habilitate.

Faculty of Constructions, Geodesy and Cadastre
from Technical University of Moldova

Project budget for 4 years – 137.000 euro

Objectives:

- Harmonization of the national normative framework regarding real estate with historical and architectural value to the practices of the European Union.
- Preservation and increase of the value of the architectural heritage (of real estate with historical and architectural value) in the Republic of Moldova.
- Integration of real estate with historical and architectural value in the economic (tourist) circuit.

In order to achieve the mentioned objectives, all three will be examined in three stages: the study and analysis of international practice; identification and analysis of problems at national level; proposing solutions in order to increase the value of the national architectural heritage.

INTEGRATED NETWORKS FOR HAZARD RISK MANAGEMENT (HAZARM)

Joint Operational Programme Romania – Republic of Moldova

Priority 4.2–Support to joint activities for the prevention of natural and man-made disasters as well as joint action during emergency situations – 2014-2020.

Leader of the HAZARM project: Technical University of Iasi “Gheorghe Asachi”, Romania; project coordinator TUIASI: Alina Mihaela Nicuță Precu, PhDr.Eng.ec.

Partner 1: Technical University of Moldova, project coordinator: Livia Nistor-Lopatenco, Assoc. Prof., Dean of the FCGC;

Partner 2: Institute of Geology and Seismology from Moldova; project coordinator: Igor Nicoara, Assoc. Prof., General director of IGS.

General Objectives

The project aims to bridge up the gap between Romania and Republic of Moldova related to emergency action plans and strategic approaches of natural disasters, in an 18 months project (2020 - 2022), by creating a cross-border hazard management network at European Union Eastern Border. The network integrates professionals from two correspondent cities in East European Countries, an EU member (Iași, Romania) and a Non-EU member (Chisinau, Republic of Moldova). The topic addresses the disparities identified in the Programme Core Area from the point of view of prevention and monitoring procedures, management and emergency actions associated with natural hazards. The approach is based on a Micro to Macro evaluation process and is supported by a joint network of professionals in hazard risk management. It consists in performing a Micro Level hazard risk vulnerability analysis along the cross-border area, for Ungheni Target Zone, by framing local hazard maps, performing knowledge transfer, networking and training on behalf of population safety and security.

Specific objective 1

Coordinated Cross-border activities aiming a sustainable cooperation on the awareness of natural hazards risks among professionals, local authorities and citizens during 2018-2020, based on an integrated State-of-Art on natural hazards occurrence and recurrence according to specific local typologies and hazard severity degree.

Specific objective 2

Evaluation and mapping of hazard risk for efficient disaster management based on a Micro

to Macro Level approach. This implies research on Hazard Vulnerability for a specific areal, subjected to multiple hazard risks, named Ungheni Target Zone; Coordinated actions on modelling joint cross-border maps for hazards risks, instrumentation of cross-border workshops and training procedures to support preventive and rescue procedures.

Specific objective 3.

Create, by the end of the project, of an integrated Hazard Risk Management Guide on

natural hazard risks - joint prevention measures, monitoring process, intervention strategies, with the purpose of reducing loses of any kind; informative materials dissemination to envisaged target groups and final beneficiaries from Ungheni Target Zone, as Micro Level Process, with expansion potential to Programme Core Areal, as Macro Level process.

FACULTY OF GEOGRAPHY OF TIRASPOL STATE UNIVERSITY



Lucia Capatina, Tiraspol State University

Faculty of Geography is one out of five faculties from the Tiraspol State University, located in Chisinau, Republic of Moldova. The Faculty of Geography was founded in 1938 (30/10/1938) and till now it remains the only Faculty of Geography in the country. The Faculty is organized in two departments: (1) General Geography and (2) Human and Regional Geography and Tourism.

In 2020, Tiraspol State University celebrated its 90th years being the oldest university at the national level. With a great history and major events happened during the time, almost each school from the country has at least one graduate from our university/ faculty. The priorities identified in the Faculty of Geography development strategy for 2021-2025 are: quality of education and research, competitiveness,

internal and international visibility, efficient management.



Faculty of Geography Staff, 2019



Geography Lab at the Faculty of Geography

The education system is organized according to Bologna Process. At the faculty, there are seven study programs at the Bachelor level and four study programs at Master level, Master programme in Geoinformatics being one of the results of GIDEC project (511322-TEMPUS-1-2010-SE-JPCR, 2010-2013), funded by TEMPUS programme. The field of studies varies from Earth Sciences, Education and Tourism at bachelor level to 0114. Teacher training, 0532. Earth sciences and 1013. Hotel, tourism and leisure at master level. Students are involved in teaching and research activities, as well as extra-curricular – thematic field trips, students scientific conferences, sport activities etc. Research part is organized in the existing

laboratories (GIS, Didactic, Biostratigraphy and palaeogeography) inside the Faculty, but for strengthening capacity-building in this area there is a strong cooperation with different other institutions as Institute of Ecology and Geography, Institute of Geology and Seismology, State Hydrometeorological Service, „Apele Moldovei” Agency etc. The staff members that coordinates the research and education activities consist of 18 persons, approx. 80% of them have scientific degree and title. The staff is involved in several national and international projects funded by different programmes: Erasmus Plus, Horizon 2020, UNDP, USAID, LED etc.

PROJECTS IMPLEMENTED AT THE FACULTY OF GEOGRAPHY OF TIRASPOL STATE UNIVERSITY



Vitalie DILAN, Tiraspol State University

Faculty of Geography from Tiraspol State University is an active body in terms of involvement in national and international projects. Currently, at the Faculty of Geography there are three projects in the implementation process, two of them being international projects: one of them funded by Erasmus Plus programme and another one by the Horizon 2020 programme.

Business driven problem-based learning for academic excellence in geoinformatics Project – GEOBIZ, funded by EU under the ERASMUS+ KA2

CBHE. Tiraspol State University (Faculty of Geography) is one of those 18 full partners involved in the project, beside five associated partners; Albania, Bosnia and Herzegovina, Kosovo, Moldova and Montenegro are partner countries, and Belgium, Croatia, Germany and Serbia – program countries. The project was launched on November 15th, 2019 and will be implemented over 36 months. The main aim of the GEOBIZ project is strengthening the capacity of academic institutions to better respond to the needs of the emerging geoinformatics industry in Albania, Bosnia and Herzegovina, Kosovo, Moldova and Montenegro with emphasis on new and innovative forms of business-academia cooperation to support interaction in teaching/learning processes in geoinformatics, developing innovative teacher training programs and practical teaching/learning methodologies and content in technology-based courses in

geoinformatics leaned on business-driven needs and experience etc.

During this period some of the activities, in which Faculty of Geography actively participated, are already done, like:

- identification of national stakeholders to participate in surveys of business and user needs in geoinformatics and on business-academia cooperation practices,
- contact and strengthening cooperation with the identified stakeholders,
- Geoinformatics curriculum analysis,
- participation in project organized trainings (Digital communication, PBL)
- participation in inter-project event “Week of Geospatial Information-Education for the Future”,
- Curriculum design of the new/updated courses based on PBL approach etc.



Kick-off meeting of the GEOBIZ project, 4-6 February 2020, Zagreb, Croatia

In this regard, the Master programme in Geoinformatics from the Faculty of Geography will be modernized through introducing one new course and update two others based on the innovative business problem-based cases that have been already identified for each course in part. With the support of the GEOBIZ project, the GIS Laboratory was modernized through the acquisition of equipment - Graphical stations, GNSS receiver and smartphone with controller and software, DJI PHANTOM 4 MULTISPECTRAL

with Pix4Dmapper EDU Professor, Interactive ultra-short throw laser display solution for classroom, Web-conferences cameras etc.

UST Project Leader: Vitalie DILAN, MSc, Lecturer

The Black Sea CONNECT Project:

H2020-BG-2018-2020 – is a Horizon 2020 Coordination and Support Action project that aims to support the Blue Growth Initiative for Research and Innovation in the Black Sea for the implementation of the Black Sea Strategic Research and Innovation Agenda (SRIA) and promotion of a shared vision for a productive, healthy, resilient and sustainable Black Sea by 2030.

The H2020 Black Sea CONNECT is a project that was launched in October 2019 and the implementation will last for three years.



Kick-off meeting of the Black Sea CONNECT, 10-11 December 2019, Brussels, Belgium

Tiraspol State University (Faculty of Geography)

is one of the fourteen organizations from nine countries that are involved in the project; the Black Sea coastal countries, namely the Republic of Bulgaria, Georgia, Romania, the Russian Federation, the Republic of Turkey, Ukraine as well as Republic of Moldova and European Union countries, Germany and France.

The overall objective of the Black Sea CONNECT is to coordinate the development of the Strategic

Research and Innovation Agenda (SRIA), based on the defined principles in the Burgas Vision Paper and support the development of the Blue Growth in the Black Sea. The SRIA and its Implementation Plan will guide stakeholders from academia, funding agencies, industry, policy and society to address together the fundamental Black Sea challenges, to promote blue growth and economic prosperity of the Black Sea region, to build critical support systems and innovative research infrastructure and to improve education and capacity building. Under the Black Sea CONNECT, the Young Ambassadors Initiative has been started and one of the Faculty of Geography students is part of the Young Ambassadors network.

National Project Leader: Tudor CASTRAVET, PhD, Assoc. Prof.

Spatio-temporal changes and trends in the environmental components of the Bac river basin under anthropogenic impact Project, nr. 20.80009.7007.24, period of implementation: 01/01/2020 - 31/12/2023. The project is a national one and is funded by the State Programme for 2020-2023 period, implemented by the Faculty of Geography, Tiraspol State University.

The project was developed under the Strategic priority 3. *Environment and climate change and the impact of biotic and abiotic factors on the environment and society* strategic direction. The project is an applied research based on the idea

that the components of the environment are the result of the dynamic interaction between the natural and the anthropic elements. The natural systemic components support increasingly dynamic transformations under the anthropic impact, generating marked imbalances in the affected territories. Based on the data collected and the research carried out, the causes of the dynamic changes of the environmental components will be established, the changes and their spatio-temporal trends will be identified. The results of the research from the project will serve to elaborate the recommendations for improving the state of the environmental components, resulting in a positive impact of the socio-economic development in the Bac river basin. The research will be based on the accumulation of classic and new statistical data, their analysis, field work, data validation through GIS licensed software, digital cartographic modelling of environmental components, and finally the results will be disseminated to potential users: local authorities, NGOs, as feasibility studies for other investment and infrastructure projects in the Bac river basin.

Project Leader: Anatolie PUTUNTICA, PhD, Assoc. Prof.

Beside these three projects, at the Faculty of Geography there is an active Academic Mobility project under the Erasmus+ KA107 programme in partnership with the Czech University of Life Sciences (Prague, Czech Republic).

Impressum

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