



Establishing a Business –Academia cooperation platform

Deliverable D3.1

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Project description (Annex I to the Grant Agreement)

Short Description:

The deliverable provides the findings and conclusions from Task D2.1, D2.3 as well as from the joint workshops WP2, WP3 and WP5, based in monitoring, interviews, questioners and suggestion.

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Business- academia cooperation model, workshops, cooperation platform.

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1 Introduction

Establishment of new and innovative business-academia cooperation platform in Geoinformatics, the task 3.1 of WP3, in the terms of project is seen and designed as an effective tool in managing and sustainability of GEOBIZ Project products in the post-project phase.

On the other side GEOBIZ project aims to establish a cooperation platform in geoinformatics in order to join and put in real interaction and cooperation two groups interested in development of geoinformatics such as Business and Academia by joining them through a Cooperation agreement, in Consortium.

Establishment of such process seems to be very important due to the needs and demands that Business and Academia have in partner countries in Balkan.

These demands are related with new knowledges and modern progress of geoinformatics technology, improving and modernizing the curricula in geoinformatics with new knowledge on modern and global technologies and algorithms developed under the digital revolution, improving the quality of laboratories, improving and increasing the scientific research in cooperation with geoinformatics companies, in order to achieve to prepare high skill staff in the field of geoinformatics, etc.

Due to these reasons the realization of the T3.1 in WP3 is foreseen to be the in the context of project.

Considering that the Geoinformatics ecosystems now a reality as the part of digital industrial revolution characterized with fast technology has given and driven changes and development of new knowledge and skills for an efficient use of Geoinformatics technology have created an identified situation where academic and even business sector are facing problems in two specific directions:

- Academic sector is facing challenge in coping with fast technological development and its introduction in study programs in manner which will ensure future professionals coming from universities to be well educated and skilled to contribute to real, business sector. This means that academic institutions must find right measure of introduction of new technologically driven contents and modernize study programs, not only regarding new knowledge and skills but also new approaches and forms of education in the field of Geoinformatics and related disciplines.
- Business sector is facing challenge how to solve the problem of deficite of well educated and skilled new specialists in the field of technology driven disciplines, such as Geoinformatics, in order to keep the stage of this development stabilized and in sustainable manner ensuring further growth for businesses and whole society.



At the same time, both, business and academia sector become aware of comparative advantages which another sector has:

- Business sector is more flexible in absorbing novelties and changes which are occurring in technology world, and able much faster to adopt and implement new technologies.
- On another side, academic sector is the one qualified and able to deliver well skilled new professionals which will even during the study time be educated and trained to respond on specifically needs of business sector.

Present situation clearly shows that business sector can and should be involved in the educational processes promoting modernization of technology driven study program content which will be problem based and relying on business cases from the real environment. Such scenario shows evidently that business sector can drive the educational process and through the cooperation with academic sector to solve its own problems through established cooperation process.

In order to establish and supports the cooperation process as a matter of experience, an Cooperation platform should be established in order to support the creation of institutional and legal road and elements, to foresee and support designing of steps and mechanisms for a successful cooperation between Business and Academia.

Modernizing the academia curricula and use of the cooperation process through a driven – education process by Business is seen as the optimal road in order to improve education and bring academia at the actual stage of Geoinformatics and its technology developments which in middle terms and maybe shorter will impact the business sector to solve its problems related with the further developments in Geoinformatics.



2 Objective

Task 3.1 “Establishment of business-Academia Cooperation Platform in Geoinformatics”, tend to establish a cooperation platform in order to support a real and effective cooperation in Geoinformatics between the academic institutions (Universities/Faculties), business (Companies) and public (local, regional and national institutions and agencies) sector in field of Geoinformatics and related disciplines by considering:

- The institutional and legal state of stakeholders which support the cooperation process considering the situation in partner countries.
- Evaluating the level of mutual interest in cooperation.
- Find the optimal steps expressed in platform to enable a realistic cooperation in Geoinformatics.

For this purpose, Task group has been established consisting of following members:

- Gezim Gjata, Task group leader, Polytechnic University of Tirana,
- Andrea Wytzisk-Arens, Bochum University of Applied Sciences,
- Hamza Reçi, Land & Co. Tirana,
- Aleksandra Radulović, University of Novi Sad and
- Vasile Grama, Technical University of Moldova

Important input for this task is the Task 2.1 Business-Academia cooperation model design and its Report D2.1 Nevertheless Task 3.1 activities have been launched even before final delivery of D2.1 this deliverable with the intention to finalize this report in accordance with the planned timeframe of project.

Regarding Task 2.1 objectives additional aspects must be taken in consideration:

- In order to support the realization of an executive Cooperation process of cooperation through agreements, B-A Cooperation platform should be known by the interested actors before this process.
- Nevertheless, from the Repository of GEOBIZ, it should be underlined that the platform should be distributed in this mentioned time, even by the other forms addressing relevant stakeholder groups which are not project members but are evident partners for cooperation with academic sector.



3 Scope

The overall scope of task 3.1 “Establishment of Business-Academia cooperation platform in Geoinformatics” is to analyze and find realistic but at the same time new and innovative ideas and points from existing program countries experience. Process of defining cases and designing project curriculum, as well as from joint workshops, in order to define the principles to derive and establish a Business–Academia cooperation platform in narrative forms with main executive elements should be applied in cooperation agreements in order to drive the cooperation process in the partner countries.



4 Analyzing of B-A cooperation Model - findings

During the process of platform, choosing of Cooperation model as well as some data and information are the prerequisite for an oriented and specified platform aimed to support the Cooperation process in functional and applicable manner.

In the context of GEOBIZ, it is foreseen that establishing the Business-Academia Cooperation platform will be based by considering the designation of the Business–Academia Cooperation model as well findings and evolution of specific matters through the process of workshops foreseen to invite the stakeholders from academia, business companies and public institutions.

Developing the model includes multiple aspects which are in the GEOBIZ project organized in multiple tasks. Basic input is given in WP1 Preparation and WP2 Development reports, regarding Business-Academia cooperation:

- D1.2 Survey on Business-Academia Cooperation Practices Report and
- D2.1 Business-Academia Cooperation Model Design Report

And regarding business-driven problem-based curriculum:

- D1.1 Business and User Needs Survey report,
- D1.3 Geoinformatics / Geodesy curriculum analysis and comparison with EU models report and
- D2.2 Innovate business problem-based cases.

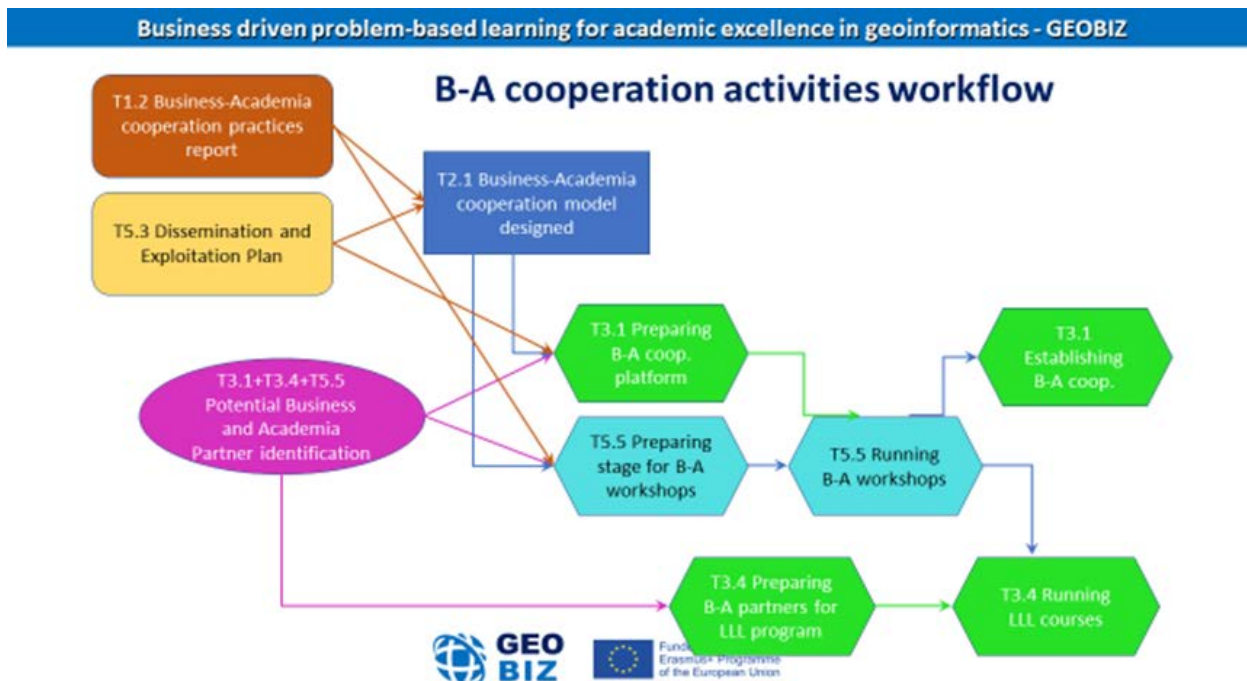
Additional to listed reports, as additional inputs are used:

- D5.1 Communication Plan,
- D5.3 Dissemination & Exploitation Plan and
- First phase of Task 5.5 Business-Academia Cooperation Workshops focused on identifying partners from business sector potential for establishment of Business-Academia cooperation.

As a tool for development of Business-Academia cooperation, Business-Academia Cooperation Workshops which are/will be organized in each of partner countries (phase two of Task 5.5 Business-Academia Cooperation Workshops). Explicit results of development of Business-Academia cooperation are at the end of project activities materialized in three tasks:

- T5.5 Business-Academia Cooperation Workshops third phase – establishment of cooperation agreements,
- T3.3 Piloting developed courses at partner universities and
- T3.4 Piloting developed LLL courses.

The mutual interaction of tasks directly involved in Business-Academia cooperation activities is presented in Picture 1.



Picture 1: GEOBIZ tasks interaction in establishment of Business-Academia cooperation

As the B-A Cooperation model is almost designed from the analyze of it should be underlined that:

- Cooperation model is designed in a general form and specific form, with all components which can be used by any partner country and adopted based in their institutional, legal and funding situation and applied in realization of platforms, strategies and action for developing the Geoinformatics issues in the context of GEOBIZ project.
- Cooperation model offers in principle the possibilities for partners to derive its own model, mechanisms, principle for deriving their own platform and actions to be undertake.

In the context of establishing the B-A Platform we derived the most important principles and support tools for designing of Cooperation platform.

4.1 Basic principles of foundation of Cooperation model

Basic principles of foundation of Cooperation model consist of key drivers essential for Cooperation model development, where all or part of them are used in the process of establishing the cooperation.

- **Instruments to increase the strategic commitment** in dual format between Academia – Business (maybe even the public institution can be included) are the strong points to support designing and application of Cooperation platform,

- **“Establishing an executive-level position positioning responsible for business - academia cooperation and a person for its execution”** seems to be a very notable finding which can be efficient in applying of Cooperation Platform for each partner.
- **Identification of Target Groups and Fields of Cooperation** in four levels which also are seen to be judge by any partner in the context of applied cooperation level dependent on the progress of education system, institutional and legal situation, should and are foreseen as the important meters in the Cooperation platform.
- **Supporting mechanisms** to reduce or eliminate barriers, offer facilitators and provide incentives are seen as the key to enable the functionality of the Model and to design a successful Cooperation platform. It is clear that tools (in this context) like stakeholder workshops, round tables, joint seminars, e-newsletter and other means of digital communication, renew the mutual relations with Business people, try to increase the awareness on the necessity of geoinformatics and geospatial technology in the context of modernization of Geoinformatics education based in driving role of Business as well as the benefits of Business and Academia now and in the future.
- **Repository of good practices** – is another contribution in the cooperation model designed, since it enables the stakeholders obeyed in Cooperation process that this process is real and useful. The things work. Repository in the context of sustainability can be the important tool to manage all the contributions and products, exchange the info and data, communication, etc.

4.2 Components of B-A Cooperation model to be used in Cooperation platform establishment

Components of Business-Academia Cooperation model which will be used in establishment of Cooperation platform are consisting out of following instruments and tools:

1. **Cooperation Coordinator/Executive Officer** heading the executive level or unit from each B&A stakeholder to lead and responsible for cooperation process.
2. **Repository**, combine with other electronic and communication software as a communication base in any time to communicate Academia, Business and public institution and authorities. (any repository and other proper form of communication should be proposed during the project lifetime).
3. **Modernization:** Topics/Courses to be selected in the context of applying Cooperation Platform cover:
 - GIS Vector/ raster data analyses
 - Navigation and Positioning using GNSS
 - Remote Sensing, EO and Copernicus
 - Advanced GIS Applications
 - Web Mapping portals and Applications
 - Sensor Integration, UAV
 - Artificial Intelligence
 - Geostatistics
 - Terrestrial Laser scanning



- 4. Workshops:** Designed Business-Academia Cooperation workshops are seen as key practical instrument in establishment of cooperation between business and academic sector. This due to the fact that direct contacts are necessary to present the intention and explain to the private and public stakeholders the need and necessity of a sustainability cooperation in the geoinformatics field in order to modernize and update the Academia teaching curricula, and realizing that fast modernization of the curricula in geoinformatics field is in the interest of all stakeholder groups, academic institutions, geoinformatics and geospatial companies and governmental and public institution now and in the future. Therefore, it would be very wise by university to explain the stakeholders the actual reality and tendency related with creation of Ecosystem in geoinformatics field. Workshops as a tool would serve mentioned purpose best if they were conducted in physical form and repeated periodically. Unfortunately, present Covid-19 situation is limiting the possibility workshops to be organized in physical form and therefore attention has to be turned on repetition of such events.

By analyzing the BA Cooperation model, cases realized, as well the situation of in Geoinformatics education in Partner countries, in the context of establishing the Cooperation model.



5 Platform design and establishment principles

In the context of achieving the objective to realize a sustainable process of Business-Academia cooperation, the Cooperation platform is needed as the base and policy to support the steps and the actions to join university to update and modernize the teaching process in the interest of education of the students with high understanding and experience at the actual geoinformatics technology as an the by considering this as a common interest for both now and in the future of public and private and university sector. In this context the academic institutions will become able to speed up modernization of curricula and faster deliver specialists with contemporaneous and modern knowledge and skill which can be the source for employees of geoinformatics sector and influence its further development.

5.1 Preparatory phase

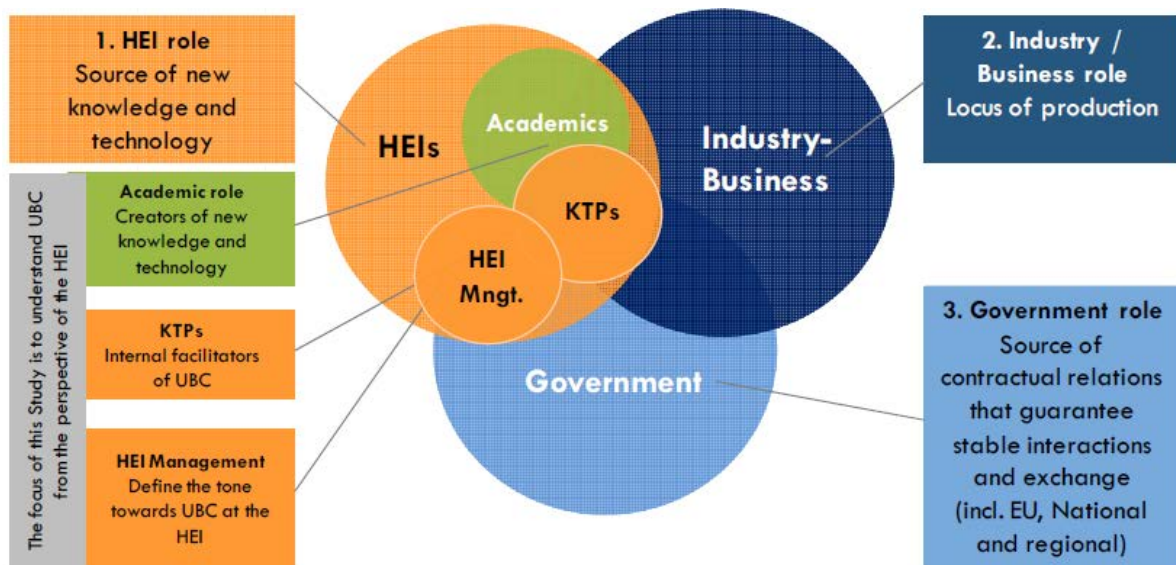
Including (1) introduction of the GEOBIZ objectives and problem solving, needs, interests and benefits of academia and businesses and (2) considering and selecting principles and products derived from B-A Cooperation model developed under the GEOBIZ project, where are derived main principles for establishing the Cooperation platform, to be implemented in next phases.

5.2 Development phase

Activities before the Agreement phase with objective to raise the awareness, conscience and interest of business and public stakeholders in principal matters of the need that university teaching programs in Geoinformatics ask for modernization and to raise provided education on the technological level to which businesses have arrived and future professionals should achieve (gain knowledge and skills).

Below is suggested the Institutional model to be used for realization of the Cooperation model. It can be dual or triplex (helix) model [3], see Picture 2.

From the point of view of Academia except the dual model, seems useful applying even a triplex (helix) [3] in order to be included the public or government agencies at the national level which dealt with geoinformatics and geospatial data and information. E.g. agencies which are responsible and manage the NSDI in partner country. This has to do with positioning, official and legal responsibility, budget, the need and its necessary demand to put communication and relation with all kinds of stakeholders due to establishing and functionality of NSDI. **In this case the NSDI should be seen as a geoinformatics Ecosystem, also.**



Picture 2: Institutional model for realization of the Cooperation Model

5.3 Financial aspects

Developing cooperation should also deal with describing the aspects of budget, financing on institutional level. The funding of the support of the Cooperation process is also very important factor which can affect the level or form of agreement between academia and businesses. Financing results from the model how cooperation partners agree on funds for research, technology, etc. In this context the Platform should consider treating of this factor carefully, in order to realize a successful platform and an optimal agreement as a base to support whole Cooperation process.



6 Establishing the B-A Cooperation platform

6.1 Introduction

“Establishment of business-academia Cooperation platform in Geoinformatics”, the Task 3.1 of WP3, in the terms of project objectives is seen to be designed as an effective tool in managing and sustainability of GEOBIZ project products in the post-project phase.

The Platform aims to initiate, support and foster Cooperation process in the field of Geoinformatics in project Partner countries in the field of Geoinformatics.

The objective of Platform is to give and support the steps, phases and procedures of building a sustainable institutional process of cooperation between Geoinformatics subjects or stakeholders from business and academia, by bringing them together, organize and put in real beneficial cooperation process. The analyzes and experiences of the good practices give the obedience that from this cooperation, HEI's partner subjects will improve quality of education in Geoinformatics and related courses using business-driven problem based on technological and research cases which will prepared and designed by Geoinformatics companies and institutions for use in educational process, which will give impact in modernizing in Geoinformatics courses in their teaching program. This is the main benefit of HEI's. But the modernization is expected to raise attention and attraction of students on Geoinformatics studies, deliver well educated and prepared professional, meet needs of business sector for qualitative expert work force which can be offer to geoinformatics companies, with qualitative competencies and skill capable to answer demands and needs in those in efficient, timely and cost benefit manner. Those are the benefits for geoinformatics sectors.

A successful B-A cooperation gives produce in time many other benefits for both in coming time. For Academia: realize the modernization of courses and teaching program. Increase the skill and competencies of academic staff, improve the research and qualification process, increase in high level the teaching and learning process.

For Business: increase orientation under the concept to drive the modern education in academia, possibilities of individual to covers their skillful level with academic grades, increase the scientific credibility of business companies, realize and employ database for future.

The GEOBIZ Platform intend to set up, lead and manage a sustainable cooperation process in order to modernize the education process in its all components, to raise the level of the education in order to prepare the educated and skillful professionals, to realize a real research process in order to enable the increasing the level of MSc Diploma student and PhD thesis.

Establishing of GEOBIZ B-A Platform is based in the B-A Cooperation Model, a product also of GEOBIZ project. From the analyzing the Model as well as the products of GEOBIZ and other source, establishing of Platform is realize based in those components which pretend to give the approach for useful cooperation.

The designed and established **Business-Academia Cooperation platform** under the GEOBIZ to be applied by Partner Country is given as follows:

- During the designing of GEOBIZ Project, based in evaluation of Geoinformatics developments under the fourth Digital revolution have realized the gap of the

geoinformatics technology between level of development in Academia which contrast with the high level in Geoinformatics and application in Business sector. This is seen even in the European space and more. Applications and geoinformatics ecosystem supported by a high geoinformatics technology are now a modern reality.

- Academia in mean time have concluded that it needs to come in this level first by modernizing the education programs and curricula by entering and realizing the new modern subjects and courses in this process.
- Due to this reality and situation Academia also have concluded that the modernization of the education program and process in informatics ask for the support from Business, because business have created skill, knowledge and good practices in geoinformatics as well as is using the most modern geoinformatics technology.
- Referee this demand of Academia, it is become clear that Academia must cooperate with Business under a sustainable Cooperation process, where the role of business is to drive this process in all its dimensions by considering that Academia and Business will have each its benefits.
- In order to come in the realization of to process in the terms of a institutional process or action it is needed to realize a Cooperation platform, where an Agreement between Academia and Business will be the main tool to format organization, initiate, support and maintain the cooperation process.
- The platform aims to support the solution of the problem identified: “Improve and raise the education by modernization of geoinformatics education programs – realization of this process through the cooperation between Business and Academia – Business will drive the Cooperation process and education in the modern and advanced geoinformatics topics /courses”.

6.2 Realization

Considering the Cooperation model as well as the other results and products under the GEOIBIZ project, Cooperation platform is designed as a road map which have included all the steps and components to make possible realization of sustainable Cooperation model. Platform content to be applied:

1. **Realization of the preparatory phase** before starting the real cooperation within the lifetime of GEOBIZ project. In this phase should be realized:
 - Identification of the Geoinformatics subjects, private and public as the proper stakeholders in Geoinformatics. By GEOBIZ project this is done questioner process. In this case the institutional and legal level of public subjects it is very important to be known.
 - Start a conversation process with the B&A and public Geoinformatics stakeholders, by using mutual relation, meetings, and visits in their locations, workshops, round table, exhibition, etc. In order to acquire them, to know their will and policy, staff capacity and skill, level of technology, and if possible financial aspects in the function of cooperation.
 - Try to investigate the barriers and facilities in ratio to cooperation. In this context try to avoid the barriers and supports the facilitators. In such cases a clear knowledge, project,



model and data on benefits, advantages, positive changes, good practices, are a good way to avoid the barriers and to open the chance for action of facilitators in order to support a real cooperation.

- Determine the fields of cooperation by expressing the priority fields as education and research, but even considering the valorization and management which can be the interest of business stakeholders.
- One of the main results of this phase is to conclude for an optimal form of organization, where maybe Consortia; dual or triplet on and ad-hoc principle. In this case in the consortia should be included the National Agencies with the responsibility in the geoinformatics developments in the partner Country.

1.1 Establish a coordinating/executive – level position, responsible for B-A Cooperation and a person in charge responsible for executions in the cooperation process. Especially this can be very useful in the case of private companies.

- In this case the designing a digital platform for communication, an action plan and keeping the cooperation in dynamic mode – etc. seems to be a very effective tool to realize the sustainability of cooperation in long terms.

1.2 Preparing institutional aspects to enable the start of the cooperation process.

- Based in the number of agreed stakeholder's assignee the dimensions of consortium and designee the model of its leadership.
- Consider and agree for a Institutional model to be as the core of the agreement. It can be: Dual or Triple (helix) Consortia led by a board.
- Prepare or designed a plan with activities which any partner can collaborate, may be agreed in the first phase (based in the Theory of Promises). Combine and unify the plan with the other stakeholder plans.
- Prepare the Cooperation agreement, signed and, if possible, legalize. In the content of Agreements, it should contain: Name of stake holders, fields of cooperation, outcomes or products, as well as the financial aspects in principle.

In this case maybe consider the type of agreement to be use. It can be MoU or more specific and obligatory dependent from the understanding of budget, financial aspects, benefits, etc. which can raise the level of agreement form.

2. Priority Cooperation fields and activities: Referee the B-A Cooperation model [1] as well as other GEOBIZ activities and product achieved, it clear that Academia in order to come at the nowadays Geoinformatics level have to achieve by modernization of their education program by using as the tool the close cooperation with business and industry and to give them the function of education process driving. It is identified that Business and Academia can cooperate in the fields or topics as follows:

- **Education and research** and after gradually based in experience and cooperation products in valorization and management.

In the context of education where the modernization of curricula is seen as key to improve and achieve the actual level in geoinformatics, the GEOBIZ project [2] in order to achieve the high-tech education of professionals, Business can cooperate, take part in



curriculum co-designed with the intent of driving courses or part of education program and be interactive in topics and courses foreseen by GEOBIZ for modernization as:

- GIS Vector/ raster data analyses
- Navigation and Positioning using GNSS
- Remote Sensing, EO and Copernicus
- Advanced GIS Applications
- Web Mapping portals and Applications
- Sensor Integration, UAV
- Artificial Intelligence
- Geostatistics
- Terrestrial Laser scanning
- Modern methods and techniques for spatial data acquisition
- Open Spatial Data Infrastructures

From the analyzing the level of Cooperation and state and interest of education to support education, it is clear that this level of cooperation is the most important level to be agreed.

This due to the fact, it should be underlined that University even can budget the process more effectively and can cover it successfully. E.g. In Albania over 30% of teaching staff from out (invited staff, guest, etc.) are supported financially.

- Cooperation in the fields of **research** is also very important. And benefit able. This due to this fact academia and business can undertake join R&D activities and even find forms and fund research. E.g. Based on Bologna system the doctoral studies [PhD] included all its activities, are seen to be financially support by academia. The PhD thesis should be related with a project which can come from the departments, institutions or the private companies. This fact can be seen during the agreement designing by each partner. Also, under the research cooperation can go in such activities as consulting to business, promoting the in various activities national and international, realize research contract, wide the specter of staff mobility and relation.
- **Valorization** is another field of cooperation. It should be underlined that cooperation in this field ask for an experience and good practices on the first two one fields: Education and research. The process of cooperation asks for improving and enforcing the institutional level of academia as well as a gained experience is necessary to undertake and put in process the Entrepreneurship of academics (spin-offs) and students (startups).

Valorization as well as management can be considered and plan in the medium and long terms of cooperation between Business and Academia. Those two fields seem to be very beneficial for Business interests and Academia.

Arriving to a level of management is a prove that the cooperation process has been successful, sustainable and trusting cooperation process. In such circumstances the Academia and interested Geoinformatics business stakeholders are ready to improve and raise the level of agreement till at level of contracts.

GEOBIZ Project and its academic partners, by underling the importance of the Cooperation process, must understand that for academic sector modernization of curriculum is the priority



of this cooperation process where the business sector companies are the most important and key partner in this process due to their driving role in the modernization of education process.

Realization of the cooperation process really in all on understanding that cooperation should be benefitable for both stakeholders, academic institution and business company.

Academia will improve and modernize the education process to up-to date level and establish strong relations with business in order to continue modernization at the same step as business sector does.

Business in this case will gain a new perspective to cover the employee issues, updating and covering the skilled professionals with academic qualities (clothes), gain a new vision and performance in coming, increasing their qualities and efficiency. All this in medium or long terms can be converted in increase of income.

Seen in this context through this platform and other GEOBIZ documents (e.g. B-A Cooperation model), we look to find “interest information” [4] for cooperation for both of those sectors without any dependence in order to be fit and to realize the cooperation process as equal partners.

3. Communications, exchanging data and information

The communication electronic platform is a very important tool, a real focusing point, which must secure all the cooperation activities, keep the cooperation in sustainable level, store and save all the activities and product in usage format to be used by any individuals, to be used in the process of education, for research, and more.

Actually, there are many electronic platforms in circulations, basically to support the cooperation, business, research, etc.

In the case of Business–Academia cooperation a Cooperation platform should be selected or adopt in the function of the characteristics of the Cooperation process. GEOBIZ and before BESTSDI project have adopted a set of tools for communication and represented activities and products. In this context it should be underline that using of Webpage-respiratory, online platforms, e-mail communication, Moodle, Doodle, electronic newsletter, etc.

In the context of cooperation at national level in partner country it is necessary for the participants in cooperation to take a decision for designing and applying the communication and exchanging information, according to the nature of activities as well as

4. Budget, funds and institutional depend of academia: Funds, budget and institutional position of the academic partners are so much determinant in finding the level of cooperation and Agreement to be signed. This ask to know really those factors because it is related with the institutional and legislative level of the Agreement in in the end of projects. The funds for research in Academia in partner country are supposed to be limited. (e.g In Albania the research funds support the doctoral studies, the participation of PhD candidate in International Conferences, the process of data collection in field or as information, supports the visiting in international or foreign public and private institutions related to PhD Thesis, 2 papers to initiate the process of dissertation process). Also, even a part of MSc thesis can be supported.

Business driven problem-based learning for academic excellence in geoinformatics / GEOBIZ

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7. Agreements

Business-Academia cooperation agreement should formalize cooperation which has been agreed between academic institution and business company. The final form of the Cooperation agreement will depend on the scope of the agreement, covered content, and practical arrangements. However, before reaching situation of signing the agreement which will institutionalize Business-Academia cooperation partners should consider following main steps:

- Realize a preparatory phase, each GEOBIZ partner should identify the local and related international Geoinformatics business companies, which meet the conditions for cooperation, where they should be aware for their driving function in cooperation process.
- Workshops are very important, (in the workshops if possible that the half or one day within the workshop day to be developed a kind of exhibitions, where business and academia can present their performance and interest by bring such poster, Geoinformatics products developed. In this case the projects partner and business people can discuss, dialog, present their self their situation, evaluate each other, become mutual, and find the readiness for cooperation).
- Developing workshop 1 and intensifying contacts, discussion and exchange information between partners and Geoinformatics companies till to workshop 2, seems to be very important phase to come in important conclusions and decision for a real cooperation.
- In this duration time of running B-A workshops planned in T5.5 in each GEOBIZ partners country, it is very important to have a dense discussion between GEOBIZ Partners and Geoinformatics companies about the future, based on the Cooperation model, by considering the financial aspects, benefits and institutional understanding and level.
- Both the Academics and Geoinformatics companies should be consider that the process of cooperation maybe for a time by 5 years can be support financially by EC, through its cooperation organizations which are present in Balkan. In this case the Partners in collaboration with the GEOBIZ Coordinators can identified and see any application for financial support from those EU organization, nevertheless what they offer by own self for agreement.

Based on given guidelines, an example of Cooperation agreement is given in Annex of this document as specimen what are the components agreement should contain. Each partner is free to adapt the given example according to its situation and content of cooperation, or write agreement in other form, including bolded provisions.



8. Conclusions

1. The realization of main GEOBIZ project objective between advanced technology development and the HEI education in Geoinformatics should be achieved by modern and advanced courses based on digital technology development in Business sector under the fourth digital Revolution. In this context the cooperation of HEI's with notable business and public companies and institution, through the cooperation process, is needed.
2. In this cooperation process, the role of geoinformatics business companies and their skilled specialists is very important and prioritized because they are seen and proven to have the role of drivers in teaching and cooperation process in the case of launching new and modern courses, research. etc. To explain and understand this role and the intention of cooperation, HEI's should install an dialog process with those companies and institutions, foreseen in the platform in the preparatory phase.
3. The cooperation process is seen to be as the main tools to achieve the objectives of modernization of Curricula, and due to that realization of cooperation process ask for a preparatory phase where the Business and HEI have to understand the importance of such relation, to relay the questions for collaboration, to understand the benefits and the perspectives and in this process to solve the legal, institutional and financial support
4. This process is foreseen to be arranged through an official institutional level where the role of executive officer is seen as a real institutional product of GEOBIZ project for all project partners, where his/her duties and responsibility to be determined and ruled by the signed Agreement.
5. Form or level bilateral or multilateral model approach can be used. Before the agreement signing moment the participated subjects of agreements should discuss and solve the legal as well as the financial aspects based in the possibilities of the agreement subjects. HEI's can offer their contribution and support at the level of doctoral studies, in realization of international workshops, as well as through the MSc student practices, etc.
6. Based on the drafted report the Cooperation platform results that subjects first can cooperate in the education and research level. In next phase or after a period based on the good experiences, extend the cooperation in the level of valorization and management.
8. LLL courses, teaching of new and modern courses, the doctoral studies as well as the MSc professional and teaching practice, diploma thesis , invitation for developing and modernization of teaching curricula, organization of regular (two or three times per year), participation in international scientific events, technology events can be a common base for collaboration between them.
9. Communications: The institutional part and the arrangement of activities between agreements participants can be done through the electronic way, based in preliminary annual program, where the activities should be realized in physical mode. In this way the Agreements can be functional and efficient.
10. The HEI partners of GEOBIZ or as the participants in the Agreements with Business should take care about their institutional level, E.g. Departments are at third level of university hierarchy. This means that before the achieving the agreement signing, those partners in this

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institutional level should closely discuss with the Deans and Rector of universities to become them aware about the cooperation process and its intention.



9. References

- [1] Business-Academia cooperation Model, GEOBIZ / WP2/T2.1
- [2] Designed geoinformatics (practical part) courses, Wp2 / T2.3
- [3] Source: The State of University – Business Cooperation in EC / published in 2018:
Via also: <http://www.ub-cooperation.eu/pdf/austria.pdf>
- [4] David Ouens: A simple theory of Promising, Philosophical Review, No.1, 2006
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10. Annex: Cooperation agreement example

AGREEMENT OF COOPERATION

BETWEEN

UNIVERSITY (name of the academic partner)

AND

COMPANY (name of the business partner)

UNIVERSITY (abbreviation) represented by (legal representative) and **COMPANY** (abbreviation) represented by (legal representative) hereby enter into an agreement of cooperation, made as of the _____ (**month and day**), 2021, to establish a program of business-academia collaboration in areas of interest and benefit to both partners.

I.

The purposes of the business-academia cooperation between **UNIVERSITY** and **COMPANY** are as follows:

- **to promote interest in the teaching and research activities of the respective institutions,**
- **to contribute to modernization of study programs in field of technology driven courses in geoinformatics based on business-driven problem-based content,**
- to contribute to modernization of _____ **UNIVERSITY** study programs,
- to deliver training (LLL courses) to **COMPANY** related to _____ (**define topics**)
- jointly to conduct research in field of _____
- to deepen the understanding at each institution of the economic, cultural and social issues relating to its counterpart.
-

(**Bold should be included. Items of cooperation can/should be selected or extended by agreement partners depending on the scope of the cooperation**)

II.

To achieve these goals, **UNIVERSITY** and **COMPANY** may investigate opportunities in the following areas, insofar as the means of each allow:



- promote institutional exchanges by inviting UNIVERSITY and COMPANY staff to participate in a variety of teaching and/or research activities and professional development,
- receive UNIVERSITY students for practical exercise and/or professional practice in field of _____ (enter filed, like geoinformatics) during the periods of study and/or research. It is understood that acceptance of any students will be at the discretion of the COMPANY providing the learning experience, where modalities of exercise/practice execution (costs, insurance, policy, supervision, reporting, etc.) will be arranged separately,
- organize symposia, conferences, short courses and meetings on research issues,
- carry out joint research and continuing education programs and
- exchange information pertaining to developments in teaching, student development and research at each institution.
-

(opportunities can/should be selected or extended by agreement partners depending on the scope of the cooperation)

III.

Both partners are designating a coordinator to oversee and facilitate the implementation of this Agreement. The coordinators, working with other appropriate staff at UNIVERSITY and COMPANY, **shall have the following responsibilities:**

- to promote business-academia collaboration at UNIVERISTY and COMPANY,
- to act as principal contacts for individual and group activities and to plan and coordinate all activities for which cooperation with the partner institution is desired;
- to distribute to each institution information about the faculty/company, facilities, research, publications, finished bachelors and masters, employment opportunities and
- if deemed desirable, to meet periodically to review and evaluate past activities and to work out new ideas for future cooperative agreements.

IV.

This general Agreement of Cooperation shall be identified as the parent document of any program agreement executed between the parties. Further agreements concerning any study program/module/course/project shall provide details concerning the specific commitments made by each part and shall not become effective until they have been reduced to writing and executed by the duly authorized representatives of the respective partners. The scope of the activities under this agreement shall be determined by the funds regularly available at both institutions for the types of collaboration undertaken and by financial assistance as may be obtained by either institution from external sources.

V.

No specific financial commitment by either party is to be implied from this agreement. Except as may be stipulated in any specific program agreement, each institution shall be responsible for expenses incurred by its employees under this agreement.



Or

For the execution of (must be specified) COMPANY will ensure funding in amount of annually. The funding will (description how and when, for example: be used for compensating students during the practice in amount of per hour/day, or: for execution of x trainings in filed of Lasting y hours.)

This clause is the subject of discussion among the partners.

VI.

Upon approval by each institution, this agreement shall remain in effect until _____ (month and day) 200__ [the second year of effectiveness], unless terminated earlier by either partner. Such termination by one partner shall be affected by giving the other partner at least ninety (90) days advance written notice of its intention to terminate. Termination shall be without penalty. If this agreement is terminated, neither UNIVERSITY nor COMPANY shall be liable to the other for any monetary or other losses which may result.

VII.

This Agreement may be executed in multiple counterparts. This Agreement shall be governed by the laws of _____ (respective country), without regard to conflicts of law's provisions.

VIII.

Partners shall not use the counterparts name or the name of any department or unit thereof or use any logo or insignia of or otherwise identify partners thereof, in any form of publicity or disclosure without the prior written consent of counterpart, which consent may be withheld or granted by partner in its sole and complete discretion at any time or times.

EXECUTED as of the day and year first above written:

UNIVERSITY

COMPANY

By: _____

By: _____