

Working Package 1

Mapping 3M activities in partner universities

Deliverable 1.2

Mapping 3M activities and needs in Polytechnic University of Tirana

Final report

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**U3M-AL PROJECT - DEVELOPING THIRD MISSION ACTIVITIES IN
ALBANIAN UNIVERSITIES**

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1 INTRODUCTION

1.1 Short profile university (type of university, size, special features)

Polytechnic University of Tirana, referred to as UPT, is a unique Higher Education Institution providing under-graduate, graduate and doctoral education as well as scientific research, training and extension services in all of engineering fields as: mechanical, civil construction, architecture and urban design, environment, hydro-techniques, geodesy, electric, mechatronics, electronics, telecommunications, information technology, textile and fashion, materials, geology, natural resources, geophysics, geo-informatics, etc. UPT has its origin on 1951 with the establishment of the Higher Polytechnic Institute, which was merged into the State University of Tirana on 1957 in two main units: Engineering Faculty and Geology and Mine Faculty. During forty years, engineering studies were so extended and so deepened as the needs of new reorganisation was become priority. So, on 1991 engineering faculties were divided from University of Tirana and was established Polytechnic University of Tirana. Now, Polytechnic University of Tirana has six Faculties and one scientific research Institute, as follow: Civil Engineering Faculty, Mechanical Engineering Faculty, Electric Engineering Faculty, Faculty of Information Technology, Faculty of Geology and Mine, Faculty of Mathematics Engineering and Physics Engineering and Institute of Geosciences, Energy, Water and Environment.

Numbers of study programs and students enrolled is constantly increasing. So, now UPT has about 12952 students enrolled at about 78 study programs of three study cycles: Bachelor level (20 study programs), Master of Science (33 study programs) & Professional Master level (18 study programs), 7 Doctoral school.

1.2 Regional context

Polytechnic University of Tirana is unique in its own kind. There are prepared specialists in the engineering and technical fields that cover all the branches of industrial development of our country: extraction and processing industries, energy, transport, telecommunication, information technology, building and civil construction industries, hydro power industry, material and mechanical industries, etc. In this aspect, Polytechnic University play an important role in the economic life of the country. There are constantly improved existing curricula and created new curricula in order to have better response to rising needs of economy. All of them are oriented towards labour market. So, the curricula of mechatronics, economic engineering, geo-informatics, geo-environment, telecommunication, computer science, mathematic engineering, physics engineering, etc., are new study programs developed during last ten years.

Polytechnic University of Tirana has signed a number of bilateral agreements with universities of regional countries as Kosovo, Macedonia and European countries as Italy, France, Belgium, etc. UPT is also part of some interuniversity network as UNICA, BSUN, AUF, SEFI, CUM.

The contribution of Polytechnic University it is also very important in regional studies, designing, professional consulting, training and continual education, technology and knowledge transfer, etc. All our main units are involved as partner or consultant in different projects, collaborating with state and local governance, or different private enterprises.

1.3 Changes in the role of universities in the context of regional economy and change of the U3M role

During last ten years, university is involved in a deep academic structure and institutional reform. The “Bologna Process” begun experimentally on the 2001 year where were restructured three study programs of the Information Technology area, supported by a TEMPUS pilot project. On 2005 year all of the study programs were restructured according to Bologna Process. This reforming process is extending to scientific research, institutional restructuring and to infrastructure renewal: building, laboratories, classrooms, library, creative facilities, etc., in order to become a Polytechnic University very similar to its European homologues. By implementing the new study system, UPT aims to become an integral part of European university movement and the students can profit more qualitative professional formation through mobility.

Growth of national economy and change in the economic structures has its impact at changing the University role, not only as an academic and research Institution, but also as a supported center of national economy. Today the GDP structure of our country is roughly: 9.9 % in industry, 9.4% in civil engineering and 5.2% in transport. These economic branches have an increasing trend. So, it is increasing ever more our role in supporting the needs of national economy. The collaboration with central and local governments, business, and non-profit organization is on its way. Our staff is involved in carrying some activities as: technical consultancies, designing, professional training, developing new techniques and technologies on small and medium enterprises, transferring new knowledge, testing at accreditation laboratory, etc.

2 INSTITUTIONAL PERSPECTIVE TO U3M

2.1 What are the main types of U3M activities developed in this university (technology transfer & innovation, continuing education and social engagement?)

The main type of U3M activities developed and provided by the academic staff of Polytechnic University are:

- Short courses in frame of Continuing education.
- Involvement in research project and consultancy activities in the industrial, energy, construction, transport and environment sector at individually basis or as institutional representatives.
- Involvement in technical boards of independent organizations (as accreditation, standardization and metrology) carrying out activities in the national quality infrastructures.
- Institute of Geosciences, Energy, Water and Environment, as structural part of Polytechnic University of Tirana is performing a lot of studies and monitoring activities in the fields of seismic and geology engineering, meteorological data, water impact at land erosion, etc. All this are supported activities of different branches of economy.
- Performing different testing at accreditation laboratory.
- Participating as main speakers or lectors in seminars, trainings, workshops in order to raise awareness and knowledge of society in different fields.

2.2 How have the number and intensity of the different types of U3M activities evolved at the institutional level? (e.g. which types of U3M activities have increased more? Which are the most important ones for the university?)

At the Faculty of Civil Engineering the most important U3M activities are:

- Continuing education in form of training programs in “Real Estate Evaluation”, which is very require by market labour.
- Architectural, construction and civil designing in collaboration with public institutions and private enterprises. These activities are developed and provided by the academic staff mainly at individual basis.
- Consultancies and participation in developing of master planning of different cities and developing of governmental strategic planning.
- Researches and studies in the field of hydro-technique, environmental engineering, energetic efficiency, geodesy, construction materials, civil engineering, green buildings, etc.

At the Faculty of Electric Engineering the most important U3M activities are:

- Continuing education in form of training programs for different stakeholder in energetic sector.
- Participation in professional and technical boards.
- Researches and studies in the field of energetic and automated industry.
- Electric designing and installation for buildings mainly at individual basis.
- Consultancy about the atmospheric discharge to pupils of High school and monitoring systems for giving data about the atmospheric discharge at Albanian territory.

At the Faculty of Mechanical Engineering the most important U3M activities are:

- Continuing education in form of training programs in “Transport Management and road safety” for different stakeholders in transport sector.
- Participation in professional and technical boards,
- Researches and studies in the field of energetic efficiency, transport, materials, textile and quality management.
- Consultancies and training in the fields of accreditation and quality infrastructures, textiles.
- Laboratory testing in the fields of textiles, non-destructive testing from our laboratories.

At the Faculty of Geology and Mine the most important U3M activities are:

- Researches and studies in the field of geology, detection of natural recourses, geophysics studies, environmental impact of mining works, etc.
- Studies about the detection of potable water recourses in different regions; participation in designing of small HEC.
- Consultancies and training for the habitants at different regions about the risk management of gas and oil lining.

At the Faculty of Technology information the most important U3M activities are:

- Studies and participating in European Projects in the development of electronic Infrastructure in the region,

- Studies and application of satellite imaging technologies in integrated evaluation and forecast of Geodynamic phenomena in order to mitigate the consequences, in urban and coastal tourist region.
- Explanatory Dictionary of Informatics.

The mission of the Institute of Geosciences and Energy, Water and Environment, (IGEWE) is directly related to main U3M activities as:

- Basic, Applied and Scientific Research
- Services to third parties in the field of Seismology, and Transfer of Knowledge and Technologies, in the areas of Seismology, Natural Resources, Geo-risks, Geo-engineering and Geo-information, seismic risks, etc.
- Services to third parties and transfer of knowledge and technology in the field of energy, water, environment and climate
- Estimation of energy transforming capacities, environmental impact and drafting of national programs for gas release (Kyoto Protocol).
- Examination of the water assets for the hydro energetic, hydro-techniques and waterfront works of high risks and environmental impact.

As it is shown clear the most important activities of Polytechnic University of Tirana are studies and researches related to needs of industrial sectors, consulting and designing activities mainly in the construction sector, continuing education, consultancies and training at small enterprises in technical and managing issues and activity of accreditation laboratory. Part of these activities is performed inside of institutional frame of Polytechnic University, but there are the other activities that are performed by our staff at individual basis.

Activities related to social engagement of our academic staff and students are at the beginning. There are several sport activities at university, regional or national level and a few activities related to awareness of people for different issues.

2.3 University policy and strategy towards U3M activities

2.3.1 Are there any institutional policies to foster U3M activities? Who is in charge of developing them? Which are the main types of U3M activities encouraged? To what extent are U3M policies contextualized in institutional strategies?

The Polytechnic University has its development strategy. In strategic plan the main attention is focused on education, following by the second most important

mission – scientific research. For the first time there are documented objectives and policies of U3M activities in this strategy in following main directions:

- Better recognition of needs and requirements of third interested parties related to U3M activities and better orientation of researches in order to meet these requirements.
- Better and more complete updating of potential opportunities of Institution related U3M activities and improving publicity for these activities.
- Improving of material and technical base and extending of accreditation and licensing for U3M activities.

The persons in charge of developing and applying of policies related to U3M activities are: Vice Rector, dean of Faculties, chief of departments.

Main types of U3M activities most encouraged are those related to technology transfer and innovation (mainly transferring skills and knowledge) and activities related to continuing education.

In our strategy, social engagement is relatively limited. There are some activities in this direction as:

- Contribution in strengthening of engineers associations in Albania and collaborating in different events.
- Encouraging and supporting sports and cultural activities of students associations; financial supporting of the low-income students and excellent students.
- Collaborating with organizations engaged in life, health and environment protection.

2.3.2 Are there policies to encourage U3M activities via human resources management incentives?

There are no written policies to encourage U3M activities via human resources management incentives, but Polytechnic University has supported its staff to perform individually such activities by recognising their role and not impeding in realizing this kind of activities.

2.3.3 To what extent the U3M activities described above are a consequence of institutional policies? Describe the main problems and needs at institutional level to promote U3M considering the three types of activities

2.3.3.1 Technology transfer & innovation

2.3.3.1.1 Main problems

The main problem is the lack of R&D infrastructure (laboratories and related infrastructure). Without a strong and functional R&D infrastructure there is no chance for the university to get strongly involved in technology transfer & innovation activities. The part of budget for R&D is too low.

The most part of engineering designing are performed at individually basis. The main problem is the financial scheme of University and poor infrastructure, which don't stir up the staff to perform this activity inside university.

2.3.3.1.2 Needs

- Investments in R&D infrastructure, scientific libraries and access to international scientific publications.
- Improving financial scheme, improving financial autonomy extending it to base units.
- Relationships and sustainable collaboration with central and local government.
- Increasing the funds for R&D.
- Involving of Polytechnic University in major studies and developing plans as collaborator, consultant or opponent.

2.3.3.2 Continuing education

2.3.3.2.1 Main problems

The process of designing, reviewing and approving of new program is too long. There is lack of necessary infrastructure to support this activity. The scheme of funding management is not appropriated.

2.3.3.2.2 Needs

Establishing the necessary institutional framework (legal and administrative) to develop and provide continuing education activities at the institutional level. Improving the funding management scheme and extending the necessary infrastructure.

2.3.3.3 Social engagement

2.3.3.3.1 Main problems

Students and academic staff have a very low perception about the social engagement role of university. This is a reminiscence of the past where the "voluntary work" was enforced. Lack of policies and the forms to encourage

these activities are the main problems. Lack of sport fields, gymnasiums and other creative centres impede developing the cultural and sports activities

2.3.3.3.2 Needs

University have to increase investments in infrastructure for cultural and sport activities. Awareness of staff and students about the benefits of social engagement and developing the policies and forms to encourage these activities.

2.3.4 To what extent the U3M activities described above are a consequence of local or regional policies? Describe the main problems, legal limitations and needs at local or regional level to promote U3M considering the three types of activities

2.3.4.1 Technology transfer & innovation

2.3.4.1.1 Main problems

The technology transfer and innovation is consequence of the local or regional policies because this transferring occurs as demand of the end user by application of the local or regional policy.

2.3.4.1.2 Legal limitations

The end users should be obliged to use the best practises and technologies at technical fields, especially at those with higher risk levels or environmental protection practices or energy saving practice, etc.

2.3.4.1.3 Needs

A complete legal framework for the technology transfer and innovation.

2.3.4.2 Continuing education

2.3.4.2.1 Main problems

In some extent the continuing education is consequence of local or regional policy. There isn't a strong coordination between basic units of Local Government and those of University. The public administration in the local government should also have their own continuing education in order to meet nowadays requirements and best serve to the people of the region.

2.3.4.2.2 Legal limitations

There are not legal limitations on this issue.

2.3.4.2.3 Needs

More collaboration between faculties/universities and local or regional institutions.

2.3.4.3 Social engagement

2.3.4.3.1 Main problems

The university should promote this activity with collaboration with local or regional institutions.

2.3.4.3.2 Legal limitations

There are not legal limitations on this issue.

2.3.4.3.3 Needs

Representative from local or regional institution at administration board of the university and visa versa.

2.3.5 To what extent the U3M activities described above are a consequence of national policies? Describe the main problems, legal limitations and needs at national level to promote U3M considering the three types of activities

2.3.5.1 Technology transfer & innovation

2.3.5.1.1 Main problems

The technology transfer and innovation activity is directly related to the national policy for promoting this activity on university. The national education policy should determine the U3M activities as part of obligation of the universities, as well indicator for university evaluation or ranking. Universities have to ensure a real financial autonomy and financial scheme have to promote these activities. The part of GDP allocated to Universities for applied researches have to be significantly increased. Investments towards extending and improving the university infrastructure need to be main objectives of national policies.

2.3.5.1.2 Legal limitations

There are no clear determination at national policy in the context of technology transfer and innovation.

2.3.5.1.3 Needs

Government and private Investments in R&D infrastructure to make possible university to be involved in technology transfer & innovation activities. Including the indicators of technology transfer and innovation at university evaluation.

2.3.5.2 Continuing education

2.3.5.2.1 Main problems

The national policy should encourage more the continuing education and the continuing education to be part of performance evaluation of the workers at all public and private institutions.

2.3.5.2.2 Legal limitations

Stronger legal recognition of such activities for career development.

2.3.5.2.3 Needs

Increase the financial support, especially public one for continuing education activities.

The capacity building and facilities support to carry out this activity.

2.3.5.3 Social engagement

2.3.5.3.1 Main problems

Low awareness of the government on social engagement role of the faculty/university.

2.3.5.3.2 Legal limitations

This kind of activities is not evaluating as bonus for career developing.

2.3.5.3.3 Needs

Raise the awareness of the public (government included) on the role of the universities as social engagement centre. Increase the investments in University infrastructure for culture and sport activities. Evaluate the social engagement as a bonus for career developing.