



**EUROPEAN INTEGRATION OF TECHNICAL UNIVERSITY OF MOLDOVA  
THROUGH THE STRAIGHTENING OF EDUCATION,  
RESEARCH AND INNOVATIONS**

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**ABSTRACT.** The mission of the European integration of TUM is clear: internationalization must become an integral part of the activities of the academic community and the university must create optimal conditions to allow all university members to have opportunities for international collaboration. In order to emphasize the current state of art of TUM's Internationalization, a SWOT analysis was realized. The tendency to increase the overall mobility of students and teachers involves a number of challenges and risks, but also opportunities for TUM. Internationalization within TUM allows students and staff to gain international experience. Mobility projects support educational and research projects with international partners, contribute to the promotion of best practices and the provision of global quality teaching and learning, develop and incorporate a consistent understanding and approach to new methods of learning and teaching. The fundamental objective of the Technical University of Moldova (TUM) is to maintain the high quality of education as well as research, where internationalization is a stepping-stone to achieve this end. This paper is elaborated within the project CONNECT "Connecting universities-industry through smart entrepreneurial cooperation and competitive intelligence of students in Moldova, Georgia and Armenia" (reference number: 617393-EPP-1-2020-1-MD-EPPKA2-CBHE-JP) financed by the Erasmus+ Programme.

**Key words:** *Erasmus, higher education, internationalization, mobility, swot analysis*

### **Introduction**

The vision of the Technical University of Moldova is to be a national leader in technical higher education, fundamental and applied scientific research and to be among the best universities not only at national level but also at international level.

The University assumes its own catalyst mission in developing the society of the Republic of Moldova by creating an innovative and participative scientific research, learning and creative environment transferring competences and knowledge to the community through the educational, research and consulting services offered to partners in the economic and social environment.

In the context of the integration into the European area of higher education and scientific research, the Technical University of Moldova (TUM) promotes international collaboration relations. The profile of the future engineer is determined by international competitiveness, the globalization process and the real needs of the permanent dynamic society.

The intensification of the internationalization process of TUM is an important objective, aimed at increasing the quality of technical higher education and national scientific research in the field of engineering sciences, as well as the external visibility of TUM. The achievement of this objective necessarily implies the correlation of the activity at the level of all departments involved.

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Internationalization is a mandatory part of TUM's Strategic Development Plan, which assists in the realization of the university mission in a developing world society and the consolidation of TUM as a higher education and research institution. The strategy lays great emphasis on the international dimension of research and education, acknowledging that internationalization is no longer an option but a must for higher education institutions wishing to thrive and develop.

### 1. Current State of Internationalization at TUM

TUM's internationalization strategy focuses on internationalization of academic programs and curricula; internationalization of scientific research and high-quality development collaboration; developing academic collaboration with foreign partners; international mobility; international recruitment as laid down by the university's Internationalization Strategy.

To present the current state of art of TUM's Internationalization, a SWOT analysis was realized (Table 1).

Table 1.

### SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- promoting internationalization in the University Charter, the strategic plan and the annual operational plans of TUM;</li> <li>- the recognition of the graduation diploma of TUM in foreign countries;</li> <li>- carrying out various cooperation and partnership activities with EU;</li> <li>- increases the interest of students and teaching staff in external mobility;</li> <li>- increasing the number of external mobility for students and teaching staff;</li> <li>- implementation of a first cycle study program taught in English (1) and in French (2);</li> <li>- creating a team responsible for internationalization at each faculty;</li> <li>- increasing the number of students with good knowledge of English and French;</li> <li>- offering joint degree studies with partner universities from Romania;</li> <li>- conducting optional English, German and Italian courses for students and teaching staff;</li> <li>- placement of international firms at the Tekwill Centre of Excellence.</li> </ul>	<ul style="list-style-type: none"> <li>- weak experience/tradition for applying to international research and education projects;</li> <li>- insufficient financial and human resources in promoting international relations and recruiting foreign students;</li> <li>- absence of the university in recognized international rankings of universities;</li> <li>- poor knowledge of international languages;</li> <li>- insufficient number of study programs with teaching in international languages;</li> <li>- study and accommodation infrastructure less developed compared to the conditions in the foreign universities;</li> <li>- passivity of a large number of students and teaching staff on internationalization.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>- enhancement of topicality of national policies and procedures to promote innovation in the creation and delivery of international education;</li> <li>- national and institutional policies to encourage academic staff to incorporate the international dimensions into their study programs and course contents;</li> <li>- financial and technical support from international donors (Erasmus+, USAID, AUF, AIDS, etc.);</li> <li>- providing joint degree study programs in partnership with EU universities;</li> <li>- increasing interest in engineering studies internationally.</li> </ul>	<ul style="list-style-type: none"> <li>- lack motivation of students and academic staff to use / study in foreign languages;</li> <li>- frequent bureaucratic procedures for residence permits and visas for foreign students;</li> <li>- national legislation does not allow part-time work for international students;</li> <li>- low internationalization of public services;</li> <li>- low spirit regarding internationalization and poor attitude regarding intercultural experiences.</li> </ul>



## 2. Erasmus+ Projects at TUM

Having around 9 000 students, TUM has been involved as a coordinator or partner in more than 38 international projects within the TEMPUS and Erasmus programmes. Among these, can be mentioned projects related to restructuring and modernization of the educational system: implementation of the Bologna system in Moldova; enhancing university autonomy in Moldova, implementing active methods of teaching and learning and other modern issues related to the modernization of the institutional management system.

Actually, TUM is partner in more than 44 Erasmus+ Projects for Key action 1, Credit Mobility Projects. The total number of students and academic staff that were in mobility in the last 5 years is near 300.

Internationalization within TUM allows students and staff to gain international experience. Mobility projects support educational and research projects with international partners, contribute to the promotion of best practices and the provision of global quality teaching and learning, develop and incorporate a consistent understanding and approach to new methods of learning and teaching.

By participating in mobility programs, students have definitely improved their employability, as shown by recent EU Commission surveys. At the same time, the presence of international students, researchers and lecturers in TUM's activity, gives a chance to the thousands of students who do not participate in outgoing mobility, to benefit from internationalization.

International mobility also enhances research activity by helping to establish and strengthen new scientific networks and collaborations, which directly contribute to the international visibility of the university.

Among the 11 Erasmus+ projects we would mention the latest Erasmus projects + Key Action 2, Capacity Building in Higher Education, TUM is the coordinator or partner <https://proiecte.utm.md/>:

1. **CONNECT** (15.01.2021– 14.01.2024) Connecting universities - industry through smart entrepreneurial cooperation and competitive intelligence of students in Moldova, Georgia and Armenia.

*Main objective:* Reinforcement of university-industry relationship based on smart (multidimensional) entrepreneurial approach in higher education institutions from Eastern Partnership countries and enhancement of students' and graduates' competitive intelligence (behaviours, skills, mindsets) and their ability to create jobs.

2. **COOPERA** (15.01.2021– 14.01.2024) Integrating Dual Higher Education in Moldova and Ukraine.

*Main objective:* Integrate dual higher education into partner countries and improve employability and individual development, increase compatibility and continuity between the needs of the professional environment and initial training of students, achieve greater economic efficiency and social integration.

3. **GEOBIZ** (15.10.2019 – 14.10.2022) Business driven problem-based learning for academic excellence in geoinformatics.

*Main objective:* 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.

4. **SPRING** (15.11.2019 – 14.11.2022) Setting peer review instruments and goals for medical (health) education.

*Main objective:* Increase the quality of medical education in partner countries in accordance with the main provisions of the Bologna Process and international requirements on the criteria for recognition and accreditation of medical schools established by the World Federation of Medical Education (WFME).

5. **MHELM** (15.11.2019 – 14.11.2022) Moldova Higher Education Leadership and Management.

*Main objective:* Strengthen the governance, strategic planning and management in Moldovan universities in order to support the sector reform through increases in leadership and management capacity and capability.

6. **PBLMD** (15.10.2015 – 14.10.2019) – Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability.

*Main objective:* Introducing problem-based learning in Moldova in order to increase the competitiveness of students and their employment opportunities.

7. **MINERVA** (15.10.2018-15.10.2021) – Strengthening the Research Management and Open Science Capacities of HEIs in Moldova and Armenia.

*Main objective:* To develop conditions for the implementation of the core principles of Open Science at universities in Moldova and Armenia.

8. **ELEVATE** (15.10.2015 – 14.10.2019)- Elevating the Internationalization of Higher Education in Moldova.

*Main objective:* Develop and implement meaningful, transparent and comprehensive national and institutional strategies, policies and measures to ensure a systematic and strategic long-term approach to the internationalization of higher education and research, to facilitate international relations between Moldovan universities and to raise the quality and purpose of the international partnerships established under the EHEA and the ERA.

9. **LMPI** (16.10.2016 – 15.10.2019) – Licence, Master professionnels pour le développement, l'administration, la gestion, la protection des systèmes et réseaux informatiques dans les entreprises en Moldavie, au Kazakhstan, au Vietnam.

*Main objective:* Improvement of computer system and network security of companies in Kazakhstan, Moldova and Vietnam by offering academic and vocational programmes that develop the professional competencies and competencies needed by professionals in the field.

10. **TEACHME** (15.10.2015 – 14.10.2018) – Enhance digital and teaching abilities of university professors.

*Main objective:* Improvement of pedagogical and digital skills of teachers in Moldova.

11. **HEIFYE** (09.11.2017 – 10.04.2019) – Higher Education Institution for Youth Entrepreneurship.

*Main objective:* Intensification of youth entrepreneurship in the context of European integration, among and between the Eastern Partnership countries and the European Union, using the experience of creating successful business models in the Eastern Partnership countries.

### **Conclusions**

The ambition of Technical University of Moldova as an international university is to nurture global citizenship, engage with the international research community, and attract talented students and staff around the world.

In the view of above, the international cooperation at TUM must become a catalyst for international review and planning activities that will contribute to institutional capacity building by strengthening human, technical and infrastructure components. The tendency to increase the overall mobility of students and teachers involves a number of challenges and risks, but also opportunities for TUM. At the same time, academic mobility under European mobility programs is an excellent opportunity for both students and teachers to improve, exchange experience and expand collaboration with colleagues in European countries.

The mission of the European integration of TUM is clear: internationalization must become an integral part of the activities of the academic community and the university must create optimal conditions to allow all university members to have opportunities for international collaboration.



Among the most important achievements as a result of international assistance, we could mention the following:

- Modernization of higher education in accordance with fundamental principles of the Bologna Process;
- Initiation of long-term collaborations with EU universities;
- Facilitation of inter-university cooperation at national and international levels;
- Development and implementation of internationalization strategies;
- Improvement of the management system within universities;
- Improvement of the autonomy regarding the main institutional dimensions: Administrative, Academic & Research, Human resources, Financial and Student's activities;
- Creation and implementation of the quality assurance system at the university and national system;
- Creation of the interuniversity network and dissemination of the best educational and research activities;
- Creation of new study programs for all cycles of studies;
- Improvement and harmonization of study curricula;
- Implementation of the MOODLE study digitization platform;
- Implementing active student-oriented teaching and learning methods;
- Development of programs to increase entrepreneurial skills among teachers and students.