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METHODOLOGICAL JOURNAL<http://mentaljournal-jspu.uz/index.php/mesmj/index>INFLUENCE OF ERASMUS+ PROJECTS ON THE
DEVELOPMENT AND MODERNIZATION OF HIGHER PROFESSIONAL
EDUCATION IN THE REPUBLIC OF UZBEKISTAN**Azzam Eshpulatovich Begbutaev***Head of the Department of Information Technologies and Systems, Ph.D**Associate Professor**Jizzakh State Pedagogical University named after A. Qodiriy**Jizzakh, Uzbekistan***Nigora Daniyarovna Khasanova***Trainee Teacher of the Department of Information Technologies and Systems**Jizzakh State Pedagogical University named after A. Qodiriy**Jizzakh, Uzbekistan*

ABOUT ARTICLE

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Abstract: This article analyzes the impact of the Erasmus+ capacity-building projects on the development and modernization of the higher professional education system in the Republic of Uzbekistan. It summarizes the results of collaboration between the country's universities and European HEIs, as well as HEIs in Central Asia, to establish a position that underscores the importance of integrating the activities of educational organizations. This integration is a prerequisite for enhancing human potential, which is a fundamental component of the socio-economic development of society. Recommendations are provided to optimize the implementation of future initiatives in the field of higher professional education within the framework of the Erasmus+ program.

Introduction. The modernization of higher professional education in Uzbekistan has become one of the central priorities of the country's socio-economic development strategy. In recent years, a series of state programs and presidential decrees, including PF-73 (2025) "On measures to further improve the system of teacher training", have emphasized the importance of preparing highly qualified specialists capable of meeting the demands of a rapidly changing labor market. Within this framework, international cooperation has emerged as a critical mechanism for advancing educational quality, fostering innovation, and aligning national higher education institutions (HEIs) with global standards.

Among the most influential instruments of international cooperation is the Erasmus+ programme of the European Union, which has provided significant opportunities for Uzbekistan's universities to expand partnerships, modernize curricula, and adopt competence-based approaches to teaching and learning. Since its inception, Erasmus+ has supported academic mobility, staff training, and capacity-building projects that directly contribute to the systemic transformation of higher education. The active involvement of Uzbekistan's HEIs in Erasmus+ projects demonstrates both the demand for innovative educational practices and the country's aspiration to integrate into the European Higher Education Area.

Erasmus+ capacity-building projects have played a particularly important role in fostering structural reforms in higher education. Initiatives such as HiEdTec (Modernization of Higher Education in Central Asia through New Technologies), ELBA (Establishing Modern Master-Level Studies in Environmental and Resource Management), and INGENIUM (European University Network) illustrate how collaborative efforts between European and Central Asian universities can support digital transformation, sustainability, and international networking. For Uzbekistan, participation in these projects has contributed to the development of new study programs, the improvement of digital competence among both students and faculty, and the modernization of teaching methods in line with international standards.

Another significant dimension of Erasmus+ cooperation is its role in enhancing human potential, which is widely recognized as a fundamental driver of socio-economic development. By providing opportunities for students and teachers to engage in academic mobility, joint research, and professional development, Erasmus+ projects contribute to the creation of a skilled workforce that is capable of responding to the challenges of globalization and technological change. At the same time, the integration of Uzbek universities into European and regional networks facilitates knowledge sharing, mutual learning, and the establishment of sustainable partnerships.

However, the impact of Erasmus+ on Uzbekistan's higher professional education system is not limited to technical modernization or curriculum reform. The programme also promotes values of inclusivity, intercultural understanding, and internationalization, which are essential for strengthening the resilience and adaptability of educational institutions. By aligning national practices with European experiences, Erasmus+ projects help create a more competitive, flexible, and innovative higher education system that supports the broader goals of Uzbekistan's development strategy.

The purpose of this article is to analyze the influence of Erasmus+ capacity-building projects on the development and modernization of higher professional education in Uzbekistan. The study aims to identify the key outcomes of collaboration between Uzbekistan's HEIs, European partners, and regional institutions; to assess the contribution of these projects to the enhancement of human capital; and to formulate recommendations for optimizing the implementation of future Erasmus+ initiatives in the field of higher professional education.

Materials and methods. Erasmus+ projects have implemented many reforms in higher education institutions in Uzbekistan, as described below. This section examines the methods used by higher education institutions in Uzbekistan and Erasmus+ to achieve effective results. In general, universities have introduced the European Credit Transfer and Accumulation System (ECTS); developed new curricula aligned with international standards. The introduction of learning platforms, blended learning practices and curricula aimed at increasing the digital competence of faculty and students has played a key role. Human resources have been strengthened through academic mobility, joint seminars and staff development programs in cooperation with European partner institutions. These reforms have also been supported by Presidential Decrees and coordinated by the Ministry of Higher Education. These methods have created a basis for sustainable innovation and international cooperation in the field of education in Uzbekistan.

The methods used by higher education institutions in Uzbekistan Erasmus+ Projects

1. Curriculum Reform and Alignment with European Standards
 - Universities adopted the European Credit Transfer and Accumulation System (ECTS).
 - New bachelor's and master's programs were designed in engineering, IT, education, and agriculture fields.
 - Study programs were modernized with competency-based approaches, focusing on skills for the labor market.
2. Digitalization and Innovative Pedagogy

- Introduction of Learning Management Systems (LMS) and e-learning platforms (Moodle, Google Classroom, locally adapted LMS).
- Use of blended learning methods (online) during and after COVID-19.
- Training professors in digital competence through workshops, Erasmus+ summer schools, and TOT (Training of Trainers).

3. Strengthening Human Capacity

- Faculty and young researchers sent abroad for short-term mobility programs (1–6 months).
- International summer schools, joint seminars, and staff training with European partners.
- Establishing incubation and innovation centers (e.g., at TATU, based on Erasmus project experience).
- The methods used by National Erasmus+ Office to ensure the implementation of the Erasmus+ objectives
- Announcing national calls for proposals aligned with Uzbekistan's higher education strategy.
- Organizing Erasmus+ Information Days for new universities to join.
- Ensuring reforms are legally backed: adoption of Presidential Decrees (e.g., PF-73, 2025) supporting modernization, accreditation, and quality assurance systems.
- Coordination with EU Delegation to synchronize national priorities (digitalization, inclusiveness, innovation, employability) with Erasmus+ priorities.

The methodological framework is based on a comparative-analytical approach and systems analysis, which make it possible to compare the experience of Uzbek universities with that of European higher education institutions participating in Erasmus+ projects. The empirical basis of the study includes official Erasmus+ reports, regulatory documents of the Republic of Uzbekistan in the field of education, and the results of interviews with teachers and students who participated in these projects. Special attention is given to the HiEdTec, ELBA, and INGENIUM projects, as they most clearly reflect current trends in digitalization and internationalization of education.

The analysis of Uzbekistan's participation in Erasmus+ projects demonstrates their significant contribution to the modernization of higher professional education. The impact of these initiatives is multidimensional, covering curriculum reform, digitalization, academic mobility, labor market integration, and institutional transformation.

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multidimensional, encompassing curriculum reform, digitalization, academic mobility, labor market integration, and institutional innovation.

Curriculum Reform and Modernization

One of the most significant achievements of Erasmus+ in Uzbekistan is the modernization of curricula and the creation of new academic programmes aligned with European standards. Joint curriculum design with European universities has facilitated the introduction of competence-based learning, ensuring that graduates are better prepared for the needs of the modern labor market.

Projects such as ELBA and EXTEND have contributed to the establishment of master's programmes in environmental management and engineering education, respectively [1]. These programmes have not only enriched the academic offerings of universities but have also introduced innovative pedagogical methods, including project-based learning and interdisciplinary approaches. Many of these curricula have been approved by the Ministry of Higher Education, Science and Innovation of Uzbekistan, securing their sustainability.

Digitalization of Higher Education

Digital transformation has been a central focus of Uzbekistan's education reforms, reflected in the National Strategy for the Development of Education until 2030 [2]. Erasmus+ projects have played an important role in this process, introducing learning management systems, blended learning models, and specialized platforms such as ArcGIS Online.

The HiEdTec project was particularly influential, producing guidelines for adapting universities to the "digital generation" [3]. Many institutions upgraded 30–40% of their computer infrastructure through Erasmus+ support, which continues to benefit teaching and learning. Survey data confirm that these digital innovations improved feedback mechanisms, assessment practices, and the overall shift toward student-centered education.

The COVID-19 pandemic underscored the importance of these reforms. While many universities faced challenges with limited digital content, institutions involved in Erasmus+ were better prepared, having already developed online courses and distance learning expertise [4].

Academic Mobility and International Cooperation

Erasmus+ has also expanded academic mobility, providing Uzbek students with opportunities to study at European universities and enabling faculty to participate in teaching exchanges, training programmes, and international conferences [5].

The PAWER project facilitated the introduction of automated systems for managing mobility, ensuring transparency and efficiency in exchange programmes [6]. These initiatives

strengthened Uzbekistan's integration into the European Higher Education Area and enhanced international networking among universities.

Integration with the Labor Market

Erasmus+ projects have strengthened collaboration between universities and employers, particularly in curriculum design and programme evaluation. Representatives of the business sector actively participated in:

- the development of study programmes;
- defining general and subject-specific competencies;
- reviewing curricula through consultations, round tables, and surveys [7].

Furthermore, in 2023–2025, several universities began piloting dual education, combining classroom learning with practical training in enterprises. This approach, adapted from European experience, was supported by regulations of the Ministry of Higher Education, Science and Innovation [8]. It illustrates how Erasmus+ has influenced the integration of academic and professional training in Uzbekistan.

Results and discussion. Institutional Transformation and Innovation Centers

At the institutional level, Erasmus+ contributed to the creation of new structures designed to promote innovation and sustainability. Examples include:

- Youth Innovation Centers (MIND project);
- Resource Centers for European Studies (TACES project);
- Centers of Excellence in Engineering (EXTEND project);
- Environmental Hygiene Research and Education Centers (TUTORIAL project);
- Circular Economy Centers (CIRCULEC project) [9].

These centers continue to operate, supporting students and faculty through training, workshops, and resource development, thus ensuring long-term sustainability of Erasmus+ results.

Quantitative Evidence of Impact

According to the National Erasmus+ Office, more than 50 CBHE projects have been implemented in Uzbekistan between 2014 and 2024 [10]. Their distribution is shown below.

Distribution of Erasmus+ CBHE Projects in Uzbekistan (2014–2024)

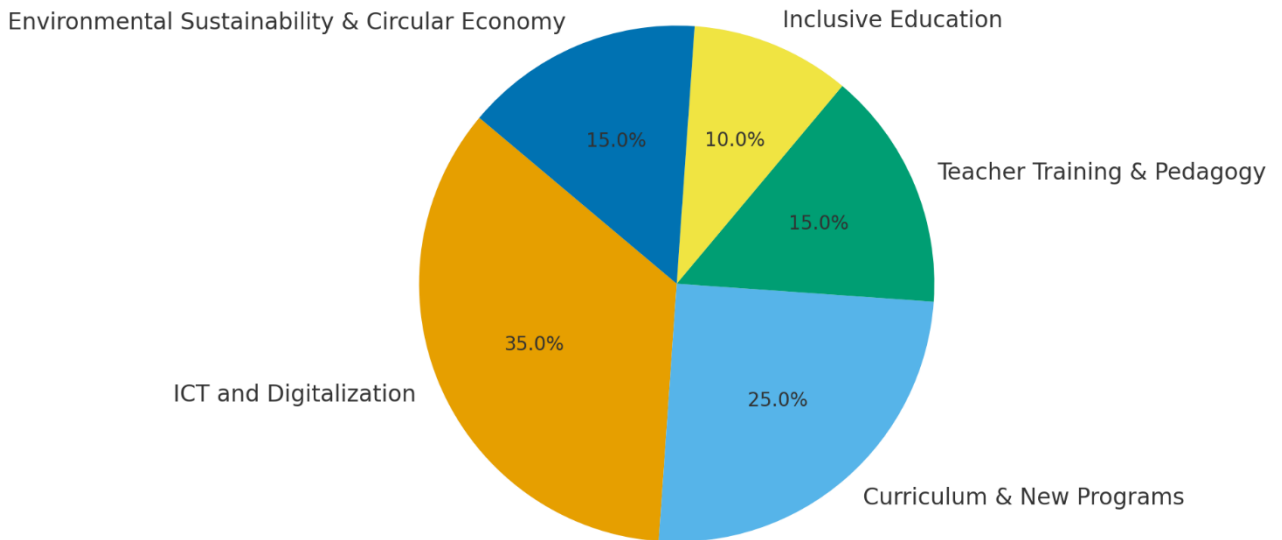


Figure 1. Distribution of Erasmus+ CBHE Projects in Uzbekistan (2014–2024)

As illustrated in Figure 1, the largest share of Erasmus+ projects in Uzbekistan has focused on ICT and digitalization. Table 1 provides a more detailed breakdown of project categories and specific examples that highlight the scope of activities.

Table 1. Categories of Erasmus+ CBHE Projects in Uzbekistan (2014–2024)

Category	% of projects	Example Projects
ICT and Digitalization	35%	<i>HiEdTec</i> – Modernization of Higher Education in Central Asia through New Technologies
Curriculum & New Programs	25%	<i>ELBA</i> – Establishing Master-Level Studies in Environmental and Resource Management
Teacher Training & Pedagogy	15%	<i>EXTEND</i> – Engineering Education Modernization; <i>TUTORIAL</i> – Teacher Training
Inclusive Education	10%	<i>MIND</i> – Inclusive Education and Youth Empowerment
Environmental Sustainability & Circular Economy	15%	<i>CIRCULEC</i> – Circular Economy Modules; Environmental Sustainability Initiatives

The largest share of projects (35%) focused on ICT and digitalization, demonstrating Uzbekistan’s commitment to modernizing its education system. Around 25% of projects

targeted curriculum reform and new programme creation, while 15% were aimed at teacher training and pedagogy. Inclusive education accounted for 10%, and 15% addressed environmental sustainability and circular economy priorities.

National Participation and Expansion of Erasmus+

During the second programming period, Erasmus+ activities in Uzbekistan expanded significantly. Information campaigns were aimed not only at established universities but also at newcomer faculties and departments. As a result, 69 higher education institutions across the country have taken part in 58 CBHE projects, including 43 completed and 15 ongoing [13].

According to the 2024 Call, Uzbekistan secured participation in five new CBHE projects (two national and three regional) involving 12 universities. These projects focus on enhancing employability, developing sustainable agricultural systems, strengthening student mobility and ECTS, and advancing engineering, inclusive education, and environmental sustainability—all in line with the Sustainable Development Goals [14].

Mobility, Erasmus Mundus, and Jean Monnet

Between 2014 and 2020, Uzbekistan's universities participated in 649 International Credit Mobility (ICM) partnerships, enabling the exchange of over 3,000 students, faculty, and staff, which represents 31% of Central Asia's Erasmus+ budget [15]. In the most recent two Calls, 603 new ICM partnerships were established with 93 Uzbek universities and 28 partner countries, most actively Turkey (102), Poland (96), Romania (68), Spain (67), Italy (44), Germany (34), and Greece (33) [16].

Uzbek universities have also been involved in six Erasmus Mundus Joint Master Degrees (EMJMDs) as associated partners [17]. Meanwhile, the Jean Monnet actions are represented by two Centres of Excellence (at the University of World Economy and Diplomacy, and at Tashkent State University of Economics) and a total of 17 Jean Monnet projects implemented in Tashkent, Samarkand, and Bukhara [18].

A notable case is the establishment of the Incubation Center at TUIT (Tashkent University of Information Technologies) in May 2022. The center supports student startups, software projects, and robotics initiatives. Its creation was influenced by participation in the HiEdTec Erasmus+ project, which encouraged universities to establish Innovation and Educational Technology Centers, as well as cooperation with IT Park Uzbekistan, the national hub for technological entrepreneurship [19]. This hybrid model highlights how Erasmus+ experience can be integrated with national strategies to foster innovation ecosystems in higher education.

Human Capital Development

The cumulative effect of these initiatives is reflected in the development of human capital. Graduates of Erasmus+-linked programmes demonstrate adaptability, problem-solving skills, and readiness for the global labor market. Members benefit from enhanced pedagogical capacity, research expertise, and international collaboration. These outcomes directly contribute to Uzbekistan's socio-economic development and fulfill the specific clauses of Presidential Decree PF-73 (2025), in particular the modernization of curricula in line with international standards (clause 1.3), capacity building of teaching staff for international programmes (clause 1.4), introduction of LMS and digital learning methods (clauses 2.2, 2.3), implementation of dual education models (clause 3.1), and strengthening quality assurance through external diagnostics (clause 5.1)." [12].

Conclusion. In the Republic of Uzbekistan, the process of reforming higher education has been actively continuing for more than thirty years of state independence. Transformations in this sphere have largely relied on the experience of European universities with the financial and methodological support of the European Union, in particular through the Erasmus+ programme. The Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan has comprehensively supported this process, creating conditions for expanding access to educational materials and improving their quality. Key components of these reforms have included the introduction of a three-level education system (bachelor's, master's, PhD), the implementation of the European Credit Transfer and Accumulation System (ECTS), the internationalization of higher education and the development of academic mobility, the improvement of study programmes in line with ESG standards, the establishment of independent accreditation of educational programmes, as well as the launch of national mechanisms for monitoring and evaluating the quality of education.

Nevertheless, despite the significant achievements of national reforms and Erasmus+ projects, transformations in Uzbekistan's higher education system are still ongoing. Contemporary global challenges — the changing requirements of the state and the labour market, the rapid development of information and communication technologies and the digitalization of the economy, climate change, public health, and the need for more inclusive education — demand immediate responses. The combination of activities implemented within CBHE projects and the results achieved so far can serve as a model for the design of future initiatives. In this regard, such directions as digital transformation, ecology and climate change, inclusive education, and public health should become priorities for Uzbek universities in partnership with European and Central Asian higher education institutions when preparing new Erasmus+ project applications.

In addition, the digital transformation practices implemented within the framework of Erasmus+ projects are consistent with the objectives set out in the “Digital Uzbekistan – 2030” strategy. They contribute to the introduction of digital learning platforms in higher education institutions, the development of digital competences, the support of scientific and innovative activities, and the expansion of international cooperation. Therefore, further scaling up and adapting the experience gained from Erasmus+ projects to local conditions represents one of the key directions for ensuring the sustainable development of Uzbekistan’s higher education system.

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