

The Romanian Agency for Quality Assurance in Higher Education



External Evaluation Report (REE) for the procedure for obtaining a maintaining accreditation (MAC) of Doctoral Study Domain

Higher Education Institution/Education Provider Organization:	TECHNICAL UNIVERSITY OF CLUJ NAPOCA (UTCN)
Doctoral School:	UTCN Doctoral School
Doctoral Domain:	Industrial Engineering
The objective of the external evaluation:	Maintaining accreditation (MAC)



Members of the ARACIS Evaluation Panel

No.	Last Name and First Name	Team role	Signature
1.	NAGÎȚ GHEORGHE	Expert evaluator	
2.	TOPALĂ PAVEL ALEXEI	International Expert	
3.	NICA IONUȚ - COSMIN	PhD Student Evaluator	

I. Introduction

The report refers to the **external evaluation of the field of doctoral studies Industrial Engineering** within IOSUD – TECHNICAL UNIVERSITY OF CLUJ NAPOCA (UTCN)

Type of evaluation:

Evaluation for Maintaining accreditation (MAC) in of the field of doctoral studies Industrial Engineering, within IOSUD of the IOSUD – TECHNICAL UNIVERSITY OF CLUJ NAPOCA (UTCN), carried out by ARACIS.

Evaluation period: JUNE 30 - JULY 01 2026

Evaluation team:

Coordinator: **Prof. univ. dr. eng. Gheorghe NAGÎȚ**, "Gheorghe Asachi" Technical University of Iași, E-mail: gheorghe.nagit@academic.tuiasi.ro

International expert: **Prof. univ. dr. Pavel – Alexei TOPALĂ**, „Alecu Russo“ State University of Balti, Republic of Moldova, E-mail: pavel.topala@gmail.com

PhD student: **drd. eng. Ionut – Cosmin NICA**, National University of Science and Technology Politehnica Bucharest, E-mail: Nica.cosminionut999@yahoo.com

The Technical University of Cluj-Napoca is a state, accredited higher education institution, the institution was founded in 1948 under the name of the Institute of Mechanics, in 1953 it was transformed into the Polytechnic Institute of Cluj, and since 1992 it has operated under the current name of the Technical University of Cluj-Napoca. In 2012, the merger by absorption with the North University of Baia Mare. The teaching activity of the Technical University of Cluj-Napoca also takes place within the university extensions in Zalău, Satu Mare, Bistrița and Alba Iulia, which do not have their own legal personality

In the 2025–2026 academic year, in the UTCN, a number of 91 bachelor's degree programs are accredited or provisionally authorized, operating in 12 faculties [Bachelor's degree studies](#) are organized over a period of 4 years in the case of engineering sciences (240 credits). The master's education cycle, which operates [100 study programs](#), has a normal duration of two years, corresponds to a number of 120 transferable study. UTCN is an Organizing Institution for Doctoral Studies in [17 Domain](#) studies.

UTCN defines its mission in the [University Charter](#), and in the [Strategic Plan 2024-2029](#) and refers to the development of value in people, processes and products: *"Our mission is to develop value in people, processes and products. In this regard, we will pursue the achievement at a high level of quality of advanced scientific education and research, in specific fields, in a national and international context, responding to the needs of the intellectual, professional and social development of the individual and the progress of the Romanian society."*

In 2023, at the last [institutional evaluation by ARACIS](#), the Technical University of Cluj-Napoca obtained the qualification "high degree of trust"

In its current form, the UTCN Doctoral School was established on 05.12.2017 based on the decision of the [Board of Directors regarding the reorganization of the 10 doctoral schools](#) existing at that time, subsequently approved by the [Decision of the UTCN Senate no. 856 of 15.12.2021](#). By [Order 5500/27.10.2021](#), published in Part I of the Official Gazette no. 1067/8.11.2021, it was approved to maintain the accreditation for the organization of doctoral study programs for UTCN as an Organizing Institution for Doctoral Studies (IOSUD-UTCN) and for the 14 fields of doctoral studies in the Doctoral School within UTCN. The 14 Doctoral Fields at that time were joined by 3 others (Food Engineering - 2023, Chemistry -2024, and Computer Science - 2024). Within IOSUD-UTCN, the 17 fields of doctoral studies 17 doctoral fields, each part of a Doctoral School, are focused on learning through research, the purpose of which is to develop competent human resources in carrying out scientific research.

IOSUD-UTCN is organized according to the organizational chart, displayed on the iosud.utcluj.ro website in accordance with the Higher Education Law no. 199/2023, [Order no. 3020/2024 for the approval of the Framework Regulation on doctoral studies](#) and the [Institutional Regulation on the organization and conduct of doctoral studies and advanced research postdoctoral programs in the Technical University of Cluj-Napoca \(RI\)](#)

The work within the university's doctoral studies is administered by the Council for Doctoral Studies (CSUD). Currently the CSUD consists of 16 members: the director of CSUD, appointed after a competition, the Director of the UTCN Doctoral School (elected by universal, direct and secret vote of the doctoral supervisors), the 5 doctoral students representing different scientific profiles, elected by universal, direct, secret and equal vote of the doctoral students of IOSUD-UTCN, and 10 CSUD members are elected by universal, direct, secret and equal vote of the doctoral supervisors from the UTCN Doctoral School.

In UTCN, doctoral studies are carried out in the Doctoral School of the Technical University of Cluj-Napoca. The director of the doctoral school and the Council of the doctoral school head the doctoral school. The director of the doctoral school is elected on the [basis of the Methodology for organizing elections and designating the management of the doctoral school](#) and approved by the University Senate. [The structure and number of members of the Council of the Doctoral School of IOSUD-UTCN](#) are established by the CSUD in accordance with the legal regulations in force. The director of the doctoral school is a member of the Council of the doctoral school.

At the level of doctoral fields, doctoral studies are organized in Coordination Councils of doctoral programs, which are subordinated to the UTCN Doctoral School. The coordination councils of doctoral programs are organized by doctoral fields, at the level of the faculty/faculties, which supervise the respective doctoral fields. The Doctoral Programs Coordination Board is headed by a coordinator and board members. The structure and number of members of the Coordination Council is determined by the CSUD. There are 10 doctoral program coordination councils under the UTCN Doctoral School. The **Industrial Engineering** field is coordinated by the Council of the Doctoral Programs Industrial Engineering and Management. The Doctoral Programs Coordination Board is headed by a coordinator and board members. The structure and number of members of the Coordination Council is determined by the CSUD. The Industrial Engineering and Management Doctoral Program Coordination Council is [composed of 5 members, two of whom are doctoral students](#).

The duration of the doctoral program is 4 years. The doctoral degree cycle has two compulsory components: Advanced University Studies Training Program (PPUA), within the doctoral school and Individual Scientific Research Program (PCS). During the period 2021–2025, a total of 330 doctoral theses were defended, of which [24 in Industrial Engineering Domaine](#).

The Industrial Engineering Doctoral Field has a long tradition in UTCN and began in 1963 with the first head in the field, namely Professor Ioan D. Lazarescu. At present, the number of [doctoral supervisors active in this field is 19](#). In the field of Industrial Engineering, in the 2025-2026 academic year, 75 doctoral students are enrolled.

For the Industrial Engineering field, the 2021 external evaluation concluded with the decision to maintain accreditation. Following the interim visit of the external evaluation team to analyze the progress report prepared in 2025, it was found that all recommendations were implemented.

The mission of the doctoral university study field of Industrial Engineering is aligned with the mission of IOSUD-UTCN, with a series of specific features. Its mission is to contribute to the development of knowledge in manufacturing technologies specific to the new industrial revolution, Industry 4.0, and to the transfer of this knowledge to the socio-economic environment, with the aim of generating added value that leads to economic growth and improved well-being for individuals and society. The specific objectives of the Industrial Engineering field through which this mission is achieved are: development of advanced manufacturing technologies, development of modern techniques used to increase the efficiency and optimization of these technologies, development of training programs that include multidisciplinary courses, design and implementation of research programs in inter- and multidisciplinary fields, organization of seminars, symposia, and round tables aimed at mutual information exchange among members of centers/laboratories within the field and within IOSUD-UTCN, organization of seminars, symposia, and

round tables aimed at informing the social and economic environment, promotion of the Industrial Engineering field among students from other faculties of UTCN or from other universities, with the aim of increasing the attractiveness of this field, conclusion of agreements with Romanian or foreign partners for the joint development of scientific, technical, and development activities, as well as support for their implementation, participation in scientific research programs initiated nationally, by the European Union, or by other countries worldwide, continuous updating of the field's web page with current information.

The field of doctoral studies in Industrial Engineering is managed by the Doctoral School of Technical University Cluj - Napoca and is usually conducted over a period of 4 years, with a total of 240 ECTS credits, leading to a level 8 university qualification in the EQF/CEC and CNC, through the award of a doctoral degree.

II. Methods used

The methods and tools used in the external evaluation process, before, and during the evaluation visit were the following:

- Analysis of the Internal Evaluation Report of the Industrial Engineering field and its annexes;
- Analysis of the documents in electronic format made available by IOSUD at the request of the evaluation commission;
- Analysis of documents, data and information available on the IOSUD website and the Doctoral School, in electronic format;

During the evaluation activity, a list of the main research equipment available within the Industrial Engineering Domain, as well as their main characteristics, was requested to complete the file. The document was posted on the ARACIS portal.

On-site visit:

- classrooms;
- research laboratories in the field of Industrial Engineering;
- research centers;
- analysis of the documents made available by IOSUD in physical format during the assessment visit;
- Meeting/discussions with the management of the Doctoral School/Schools in which the evaluated field of doctoral studies operates;
- Meeting/discussions with the doctoral supervisors in the field of doctoral program evaluated;
- Meeting/discussions with representatives of various structures of IOSUD/School/
- Doctoral programs in which the field of doctoral studies evaluated operates:
- The Doctoral School Council, the Quality Assurance Department, the Ethics Committee;

The entire team of experts participated in the writing of this Report.

The PhD student evaluator, Ionut – Cosmin NICA completed with hers opinions on several indicators and drafted the Synthesis of the discussions with doctoral students from the doctoral school, which she inserted in the Commission's Report.

III. Judgement on the extent to which the standards and performance indicators are fulfilled

DOMAIN A. Institutional capacity

Criterion A.1. Managerial and administrative structures and processes involving students and other stakeholders

Standard S.A.1.1. Organisational components and institutional processes

The HEI has organisational components in its structure, which function based on adequate competences, responsibilities, processes, and implementation procedures, and ensure an effective management system.

Indicator I.P.A.1.1.1	For delivering the study programme/domain, the HEI has adequate organisational components and an adequate management system, which operate based on methodologies, regulations and procedures that are periodically reviewed as required by law.
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Presentation of the state of facts

The activity of IOSUD-UTCN, including the conduct of doctoral studies in **the field of Industrial Engineering**, is supported by a well-defined management system, regulated by methodologies, regulations, and procedures that are periodically updated. The consistency and efficiency of academic and administrative processes are based on the following documents:

- [UTCN Organization Chart, UTCN Organization and Functioning Regulations](#)
- [The IOSUD-UTCN Organizational Chart,](#)
- [The Regulation of the Doctoral School](#)
- [Doctoral Studies Regulation](#)
- [The Methodology for organizing elections and designating the management of the doctoral school](#)
- [The UTCN Regulation on obtaining the certificate of habilitation and affiliation to a Doctoral School in IOSUD-UTCN](#)
- [The Doctoral Admission Regulations](#)
- [The Methodology for Defense of the doctoral thesis'](#)

Analysis of the state of facts

An analysis of these documents shows that they contribute to the creation of a stable and coherent organizational framework that supports the efficient running of doctoral studies. By applying internal methodologies, regulations, and procedures, IOSUD-UTCN can ensure the continuity of academic activities while maintaining the flexibility necessary to adapt them to developments in the educational environment, quality requirements, and changes in the labor market.

Recommendations

Increasing the transparency and accessibility of information by restructuring the IOSUD-UTCN website, the section of the Industrial Engineering field, so that all documents, procedures and forms are available in a unitary, updated and bilingual form.

The indicator is: fulfilled

Standard S.A.1.2. Stakeholder engagement The HEI proves that it engages the relevant stakeholders in developing methodologies and regulations, as well as implementation procedures.	
Indicator I.P.A.1.2.1	The opinions of the faculty and department members, of the subsidiary or extension* and of other stakeholders are considered in the process of adopting and revising methodologies, regulations and implementation procedures.

Presentation of the state of facts

IOSUD-UTCN attaches particular importance to the opinions expressed by doctoral students, doctoral supervisors, academic guidance and integrity committees, committees for the public defense of doctoral theses, doctors, and other interested parties. These are integrated through formal and informal consultation mechanisms, thus ensuring transparency and the active involvement of all relevant parties. The supporting documents are:

- [UTCN Organization Chart, UTCN Organization and Functioning Regulations](#)

* The faculty, department, subsidiary, extension - hereinafter "organisational components"

- [CRMSE Procedure \(PO CRMSE 01\)](#)
- [Council Decisions, IIRMP Commission Decisions](#)
- [University's 2024-2029 strategic plan](#)
- [The rector's reports](#);
- Mission and objectives of the field of doctoral studies in Industrial Engineering (REI-p,17)

Analysis of the state of facts

At the level of IOSUD-UTCN, the opinions of doctoral students, doctoral supervisors, academic guidance and integrity committees, as well as other stakeholders (employers, socio-economic partners) are integrated into the process of developing and reviewing institutional methodologies, regulations, and procedures to the extent that current regulations allow for their involvement.

Recommendations : There are no recommendations for this indicator

The indicator is: fulfilled

Criterion A.2. The material resources and optimisation of the use of the material resources

Standard S.A.2.1. Material resources

The HEI owns adequate movable and immovable assets to enable it to carry out the study programme/domain.

Indicator I.P.A.2.1.1	The HEI legally owns venues for the related education, research and administrative processes, as well as for services for students, doctoral students and trainees, thus providing an enabling environment for living and studying, including for disabled persons. Optimal venues are also provided for activities of the staff. Such venues are adequately equipped.
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Presentation of the state of facts

IOSUD-UTCN has the necessary infrastructure for teaching, research, and administrative processes, as well as spaces for services for students, doctoral students, and trainees, ensuring an adequate framework for study, academic life, and social integration. The spaces are adequately equipped, including with access facilities for people with disabilities, and offer optimal conditions for the work of teaching, research, and administrative staff. IOSUD-UTCN's compliance with the indicator requirements is supported by [Laboratories and research structures related to the field of Industrial Engineering](#);

During the on-site visit, nearly all the previously mentioned spaces were visited, with focus on the research facilities and spaces allocated to the doctoral students. The evaluated institution has made consistent efforts to enhance the material conditions necessary for PhD student academic success. These efforts are evidenced by the rehabilitation and modernization of key educational spaces, including laboratories, lecture halls, and seminar rooms. These upgrades contribute directly to the quality of the academic environment and support effective teaching and learning processes. However, one of the aspects that were observed during the on-site visit was the limited access to most of the buildings and facilities for individuals with disabilities and/or functional diversity, an aspect that the evaluated institution has to address in the future.

Analysis of the state of facts

IOSUD-UTCN has adequate facilities for teaching, research, administrative, and student services, including for people with disabilities. These are well equipped (modern classrooms, laboratories, libraries, educational software), contributing to an environment conducive to study and social integration. Supporting documents include asset records, technical reports, equipment records, and internal regulations. Activities within the field of doctoral studies in Industrial Engineering are carried out in the premises of the Faculty IIRMP and in the five research centers mentioned above. They have modern research infrastructure, ensuring unlimited access to the most well-known databases, as well as state-of-the-art research equipment.

Recommendations:

Annual update of databases regarding the material base and research structures to which doctoral students have access.

The indicator is: fulfilled

Standard S.A.2.2. Management of material resources

The organisational components manage the movable and immovable assets used for the evaluated study programme/domain in an optimal, sustainable manner.

Indicator I.P.A.2.2.1	The movable and immovable assets are properly maintained to ensure optimal conditions for studying, living and research, as well as for work.
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Presentation of the state of facts

The IIRMP Faculty which also runs activities in the field of doctoral studies in Industrial Engineering, manages the immovable and movable assets used in the implementation of the advanced university studies program and the individual research program in an appropriate manner. These are constantly maintained to ensure optimal conditions for study, research, work, and university life, thus contributing to the smooth functioning of academic processes and the creation of a safe and attractive educational environment. Investment planning, financial resource allocation, and infrastructure use regulation are supported by relevant institutional documents:

- [UTCN financial statements \(balance sheet, annual income and expenditure budget\);](#)
- [Annual Report of IOSUD](#)
- [Strategic Plan of Faculty IIRMP;](#)

Analysis of the state of facts

The Council of the Doctoral Programs Industrial Engineering and Management, through the Faculty of IIRMP within UTCN, ensures the efficient and consistent management of the immovable and movable assets necessary for teaching, research, and administrative activities. The premises and equipment are properly maintained through dedicated budget allocations and regular repairs, cleaning, and modernization. The infrastructure is safe, functional, and adapted to current research requirements, contributing to an attractive and secure academic environment

Recommendations There are no recommendations for this indicator.

The indicator is: fulfilled

Criterion A.3. Adequate human resources and transparent staff recruiting procedures developed according to the law

Standard S.A.3.1. Human resources

The HEI has the required human resources to organise and deliver the evaluated study programme/domain.

Indicator I.P.A.3.1.1	The human resources of the organisational component are suitable to perform the activities pertaining to the evaluated study programme/domain. The teaching staff has the required qualifications and professional competences to teach the subject matters assigned to them in the job list.
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Presentation of the state of facts

All staff involved in teaching and research activities within the doctoral study program (Industrial Engineering) are employed in accordance with recruitment criteria established at the institutional level, in compliance with legal provisions. The status of doctoral supervisor within IOSUD UTCN can be obtained after completing the habilitation procedures and obtaining the habilitation certificate. IOSUD-UTCN affiliation, as provided for in the [Regulations for the organization and conduct of doctoral studies](#) and in the [Operational procedure regarding habilitation](#). The habilitation process for obtaining the right to supervise doctoral students is carried out in accordance with the regulations in force and based on the [IOSUD-UTCN Methodology for granting the habilitation certificate](#). The teaching process carried out within the program based on advanced university studies is ensured by doctoral supervisors affiliated with IOSUD-UTCN who meet the minimum and mandatory standards for granting the habilitation certificate. The [19 doctoral supervisors](#) in the field of Industrial Engineering meets the CNADTCU criteria for habilitation. The files demonstrating compliance with the minimum standards required and mandatory for the award of the

accreditation certificate in the field of doctoral studies in Industrial Engineering are presented [in the Faculty webpage](#).

Analysis of the state of facts

IOSUD-UTCN provides the human resources necessary to carry out activities within the the field of doctoral studies in Industrial Engineering and continuously supports the university's holders in order to obtain the habilitation certificate and affiliation to the Doctoral School of UTCN in the field of doctoral studies in Industrial Engineering.

Recommendations There are no recommendations for this indicator.

The indicator is: fulfilled

Indicator I.P.A.3.1.2	The HEI ensures professional and personal development for its staff.
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Presentation of the state of facts

UTCN actively promotes the professional and personal development of doctoral supervisors by integrating specific strategic objectives into the [UTCN Multiannual Strategic Plans for Institutional Development](#), which include clear guidelines on continuous improvement, digitalization, equal opportunities and internationalization of academic activities..

Analysis of the state of facts

UTCN supports the professional development of its staff through strategic objectives included in the Institutional Development Plan, aiming at continuous improvement digitalization, equal opportunities and internationalization

Recommendations: There are no recommendations for this indicator.

The indicator is: fulfilled

Standard S.A.3.2. Recruitment procedures	
Teaching staff recruitment procedures compliant with the provisions of the law.	
Indicator I.P.A.3.2.1	Recruitment procedures comply with the provisions of the law, and are established and carried out transparently.

Presentation of the state of facts

The recruitment procedures for co-opting new doctoral supervisors fully comply with the applicable legal framework and are designed and implemented in a clear, transparent, and fair manner. These procedures are regulated by:

- [OM 3998/2024 on the Methodology for granting the habilitation certificate](#);
- [Operational procedure regarding habilitation](#)
- [IOSUD-UTCN Methodology for granting the habilitation certificate](#)
- [Self-evaluation methodology of the fields within the UTCN Doctoral School](#)
- [Methodology regarding the automatic recognition by the Technical University of Cluj-Napoca of the quality of doctoral supervisor obtained in accredited higher education institutions abroad](#)
- [Decision on the commission for verifying the degree of fulfillment of habilitation standards](#)
- [Decision on the termination of the affiliation of a doctoral supervisor to the UTCN Doctoral School](#)

Analysis of the state of facts

Recruitment is carried out publicly, in accordance with the criteria of legality, fairness, and professional competence. Applications are evaluated in accordance with CNATDCU and institutional standards.

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Criterion A.4. Digitalisation of institutional processes

Standard S.A.4.1. Digital transformation	
The digital transformation process in the organisational component seeks to achieve administrative simplification and improve the quality of the services provided to the members of its own community, as well as to third parties.	

Indicator I.P.A.4.1.1	The organisational component uses IT tools in its own procedures, to improve access and provide good quality services for the members of its own community and the indirect beneficiaries of education.
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Presentation of the state of facts

The UTCN digital ecosystem was partially internally developed (i.e. by the university alone and/or using open-source software) or procured. Part of the digital ecosystem is located and run privately (e.g. private cloud infrastructure situated on campus servers) or using public cloud infrastructure. (e.g. Microsoft Azure) Digital services target research, teaching, knowledge exchange or administration. [UTCN develops a strategic plan regarding digitalization](#) with access in the [multiple fields](#).

Analysis of the state of facts

IOSUD-UTCN and the Doctoral School use modern IT tools to streamline administrative and academic processes, thus contributing to improving the quality of services provided to members of the university community and indirect beneficiaries.

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

DOMAIN B. Educational efficacy

Criterion B.1. Content and relevance of study programmes

Standard S.B.1.1. Content of study programme/s*

The study programme is based on a curriculum designed so that students can acquire the expected learning outcomes.

Indicator I.P.B.1.1.1	The study programme is developed and structured according to the expected learning outcomes, and organised based on transferable study credits. It includes all learning, teaching, practical training, research and evaluation experiences, which, together, lead to a higher education qualification.
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Presentation of the state of facts

The doctoral study programs carried out within IOSUD – Technical University of Cluj-Napoca (UTCN) are developed and structured in accordance with the Higher Education Law no. 199/2023, MEC Order no. 3020/2024 on doctoral studies, Order no. 3018/2025 on the minimum standards for conferring the doctoral degree, the UTCN Charter, the Institutional Regulation on the organization and conduct of doctoral studies and the Regulations of the Doctoral Schools. The programmes comply with the standards of the European Higher Education Area and the principles of the National Qualifications Framework (CNF) and the European Qualifications Framework (EQF), aiming at the formation of advanced competences corresponding to level 8 of qualification (advanced knowledge, research skills, responsibility and autonomy) integrating teaching, learning, practical training, research, and assessment activities. The learning process is structured in two mandatory components, in accordance with the institutional framework: the Advanced University Training Program (PPUA) and the Scientific Research Path (PCS), under the guidance of the doctoral supervisor and the Academic Guidance and Integrity Commission (with external member IOSUD-UTCN). The supporting documents (Regulations, [Discipline Contract](#), discipline sheets, procedures and annexes) are available at the level of [IOSUD/Doctoral Schools](#).

The doctoral programs combine PPUA and PCS, totaling 240 ECTS credits:

- PPUA – **30 ECTS**. Upon enrollment, each doctoral student signs the Discipline Contract together with the doctoral supervisor. The portfolio includes disciplines common to all areas (Ethics and Academic Integrity; Statistical data processing; Research activity) and 3 specialized disciplines, selected in relation to the thesis theme and research directions. Learning outcomes are defined in the subject sheets by professional and transversal competences, with qualitative and quantitative performance indicators. The

* The term “programmes” concerns the external quality evaluation for the study programmes contained in a master/doctoral domain. The term “programme” shall be used hereinafter.

completion of the PPUA leads to 30 ECTS and materialized by the Scientific Research Project (framed at 30 ECTS in the contract of the disciplines), presented in the first six months.

- **PCS – 180 ECTS.** It ensures a coherent and personalized scientific path, with four progress reports (half-yearly, max. 6 months – 120 ECTS), validated by the supervisor and the committee and Defending the doctoral thesis in front of the advisory committee (60 ECTS). PCS includes applied/experimental research, scientific dissemination, participation in projects and mobilities, according to the strategy of the program and the Doctoral School.

Analysis of the state of facts

The field of doctoral studies in Industrial Engineering is based on a coherent curriculum, focused on developing field-specific skills and achieving the expected learning outcomes, in accordance with national and European standards. The Industrial Engineering doctoral program is structured around a coherent curriculum based on expected learning outcomes and the ECTS system, integrating teaching, practical training, research, and assessment activities in accordance with national and European standards

Recommendations: Adapting a new form of writing to the Curriculum and Subject Sheets

The indicator is: fulfilled

Criterion B.2. Alignment of the curriculum with the qualification

Standard S.B.2.1. Alignment with the qualification level and the intended competences

In the curriculum design and development process, the organisational component seeks to ensure the qualification level, as well as correlation with the envisaged occupations.

Indicator
I.P.B.2.1.2

The expected learning outcomes are correlated with the competences required by those occupations, according to the occupational standards and/or the European Skills, Competences and Occupations (ESCO).

Presentation of the state of facts

Doctoral studies in Industrial Engineering, by their very nature, place a strong emphasis on original scientific research and on the development of transversal competencies (critical analysis, synthesis, scientific communication, ethics). The doctoral study program in Industrial Engineering is designed to ensure the comprehensive training of future graduates of bachelor's and master's programs. The program is planned and organized in relation to the expected learning outcomes. The academic progress and success of the PhD student are measured by the extent to which these learning outcomes are achieved, evaluated through formative and summative methods such as progress reports, applied activities, and other assessment forms suited to each subject. The curriculum is structured to ensure alignment with Level 8 of the National Qualifications Framework (CNC) and the European Qualifications Framework (EQF), developing advanced research skills, critical analysis, and the generation of scientific knowledge in Industrial Engineering. The purpose of doctoral studies is to develop human resources competent in scientific research, capable of entering the highly skilled labor market. They consist of training, through research, for research and development and innovation and constitute professional research experience, completed, after defending the doctoral thesis, by awarding the title of doctor. This focus on developing the ability to conduct research and to independently and responsibly manage a scientific research process, to produce original knowledge, and to publish results at international standards (exceeding the minimum requirements imposed by national standards, e.g., WoS/Scopus articles). [The learning outcomes achieved by doctoral students](#) in the field of Industrial Engineering are presented alongside the theoretical knowledge, practical skills, and competencies required of future PhD graduates in Industrial Engineering.

Targeted competencies:

-Professional competencies: Design, implementation, and validation of complex solutions and systems based on advanced methods and algorithms; technological innovation; in-depth expertise in a subfield of Industrial Engineering.

-Transversal competencies: Advanced critical thinking, research project management, communication of scientific results to the academic community and society, and adherence to ethics and academic integrity

Possible occupations according to the ESCO Code 2 classification and more restricted ISCO groups are: Senior Scientific Researcher (in research institutes, R&D centers), University Professor / Associate Professor (academic career), Innovation and Technology Manager (Chief Innovation Officer, R&D Director, Industrial Technology Consultant (focused on modern industrial technologies: automation, Industry 4.0, cyber-physical systems, etc.).

Analysis of the state of facts

The Industrial Engineering doctoral field is designed in accordance with the National Qualifications Framework (CNC), the National Register of Qualifications in Higher Education (RNCIS), the European Qualifications Framework (EQF), and the descriptors provided by the ESCO portal, as well as with the specific standards applicable to the doctoral field.

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

Criterion B.3. Student-centred learning, teaching and evaluation

Standard S.B.3.1 Principles

The organisational component implements the principles of student-centred learning.

Indicator I.P.B.3.1.1	The organisational component ensures implementation of the student-centred learning in the curriculum and through the teaching strategies used in the learning and teaching activities and experiences.
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Presentation of the state of facts

The curricula, course descriptions, and individual research programs within the doctoral program in Industrial Engineering reflect active teaching, learning, and assessment methods tailored to the needs and individual pace of development of doctoral students. On the other hand, it includes, in particular, a series of activities aimed at developing research skills and capitalizing on the results obtained. The Steering Committee monitors research activities, analyzes the results of theoretical and experimental research, for a student-centered evaluation, which favors the development of research skills and improvement of the results obtained. There is a wide range of disciplines, from which you can choose the disciplines included in the contract of the disciplines of doctoral students in the field of Industrial Engineering. The doctoral school will annually update the list of disciplines, from which doctoral supervisors together with doctoral students can choose the appropriate disciplines for the training program of each doctoral student, depending on the profile and objectives of the respective research. The implementation of these principles is supported by:

- [University Charter](#),
- [Strategic Plan 2024-2029](#)
- [Regulations of the doctoral school](#)
- [Student Rights and Obligations Regulations](#);
- [Website of the Industrial Engineering domain](#)

Student-centered learning is reflected from the moment of admission to doctoral studies, which is carried out on research topics. During the period under evaluation, a number of **7 doctoral students**, from the field of doctoral studies in Industrial Engineering, **benefited from scholarships and research internships within a research project** (Horizon 2020-DiCoMI) and other Ceepus projects. There were 9 PhD students mobilities funded from the DiCoMI-H2020 research project and 12 scholarships (mobilities) paid from the Ceepus projects.

Analysis of the state of facts

The principles of student-centered learning are applied through an integrated curricular approach that emphasizes autonomy in learning, as well as the personal and professional development of PhD students. The educational process is tailored to individual student needs. In relation to the requirements of the I.P.B.3.1.1 indicator and based on the analyzed documents, it is found that the student-centered approach is implemented systematically and efficiently at the level of doctoral studies in Industrial Engineering. From the discussions with the doctoral students and doctoral supervisors, the evaluation

committee found that the doctoral path is individualized according to the research topic and the profile of the doctoral student, maintaining his active role in the research activities and in the learning process (PCS being personalized according to the research theme of each doctoral student); The training process is supported by teaching and evaluation methods oriented towards autonomy and critical thinking, as well as by a doctoral student-mentoring relationship, which is a key element of doctoral training.

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

Indicator I.P. B.3.1.2	The organisational component ensures opportunities for students to participate in academic mobility programmes organised in person and/or virtually.
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Presentation of the state of facts

IOSUD-UTCN, through Doctoral School, actively supports, including financially, the participation of doctoral students in international academic mobility programs, in accordance with the principles of student-centered learning, namely: international conferences, research internships, summer schools, training courses. These activities, which are also credited in the curriculum, are carried out in accordance with internal regulations, methodologies, and clear procedures for the organization and implementation of mobility. IOSUD-UTCN offer doctoral students physical and/or virtual academic mobility, which facilitates access to international academic environments, diverse scientific resources and interdisciplinary collaborations, supporting student-centered learning, academic autonomy and integration into international research networks

Analysis of the state of facts

IOSUD-UTCN, actively supports, including financially, the participation of doctoral students in international academic mobility programs, in accordance with the principles of student-centered learning. IOSUD-UTCN provides financial support to doctoral students, including for the publication of articles in WOS-listed journals, on the one hand, and awards/rewards for achieving these results, on the other. IOSUD and the Doctoral School, for the field of Industrial Engineering, have concluded ERASMUS and CEEPUS mobility agreements with foreign universities, aimed at the mobility of doctoral students and academic staff. [The list of doctoral students'](#) participation in training and study mobility stages abroad is published on the website. Some doctoral students have participated in international research contracts ([Horizon 2020](#)), while others have taken part in training stages abroad within CEEPUS or Erasmus projects. The list includes 28 international mobilities undertaken by doctoral students, some of whom participated in multiple training mobilities at foreign universities. The current situation highlights the possibility of carrying out mobility in physical and virtual format, with the support of doctoral supervisors for the recommendation and recognition of the activities carried out,

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Standard S.B.3.2. Fairness	
The organisational component provides fair opportunities for students.	
Indicator I.P.B.3.2.1	The organisational component provides fair opportunities for students, in line with their potential and aspirations, taking into account the diversity of learning styles and abilities

Presentation of the state of facts

Institutional equity and inclusion policies are implemented through:

- [University Charter](#),
- [Strategic Plan 2024-2029](#)
- [Regulations of the doctoral school](#)
- [The Code of Student Rights and Obligations of the Technical University of Cluj-Napoca](#)
- [The Capable Different project at UTCN](#)

The Code of Student Rights and Obligations of the Technical University of Cluj-Napoca, although it is a general one, also applies to doctoral students and includes: principles of equity, non-discrimination and equal access to resources, the right to academic and professional counseling, appeal and feedback

mechanisms. According to it, the legally constituted student associations prepare annual reports on compliance with its provisions and any deficiencies reported are corrected through action plans, with monitoring of implementation through meetings between management and student representatives, this process being integrated into the quality strategy. Reports and action plans exist online ([CDOS Report](#), [ARACIS Report](#)). PhD students benefit from equal access to academic and research resources, infrastructure, mobility and scientific activities, as well as the possibility of adapting the doctoral path by choosing complementary disciplines and activities according to the theme and research interests, but the analysis of the available documents does not systematically highlight the existence of formal mechanisms dedicated to identifying and supporting the diversity of learning styles and individual needs (e.g. explicit procedures for adapting teaching activities or assessment according to different skills).

Analysis of the state of facts

From the analysis of the documents and during the meetings held the on-site visit, the ARACIS evaluation panel found that the principles of equity and equal treatment are assumed at the institutional level and are generally applied in the organization of IOSUD-UTCN. This provides doctoral students with equal access to research resources and infrastructure, flexibility in adapting the theme and activities to individual interests, personalized support through the mentoring-doctoral student relationship and compliance with the principles of non-discrimination and equal opportunities at institutional level IOSUD-UTCN ensures equal opportunities for all students, including doctoral students, in line with their potential and aspirations, taking into account the diversity of learning styles and abilities. The University also provides funding to support research activities and professional development expenses for doctoral students in training (national and international mobility, participation in conferences, summer schools, courses, training stages abroad, membership fees in scientific associations, publication of scientific articles, or other specific forms of dissemination). Through the coordination council, these funds are distributed proportionally, transparently, and equitably to all doctoral students in training via their doctoral supervisors. UTCN is currently implementing the following measures to support candidates with disabilities: there are access ramps in buildings with signposted routes, there are tactile markings in some buildings, there are dedicated toilets.

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Criterion B.4. Accessibility and efficiency of the resources and support services, adequate for learning

Standard S.B.4.1. Access to resources and services

The organisational component provides access to adequate resources and support services, according to the needs of the students.

Indicator I.P.B.4.1.1	The organisational component provides students, including those with special educational needs/disabilities, with access to resources and services designed to support the learning process, adequate for the individual learning needs, the study domain, the study cycle, and the form of organisation of the study programme.
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Presentation of the state of facts

IOSUD-UTCN, organized within Doctoral Schol, benefits from academic and research infrastructure appropriate to the doctoral level and the specificity of the field. PhD students have access to research laboratories, university libraries, scientific databases, electronic learning platforms and other educational resources made available by the university, according to [public institutional policies](#). The University also provides support services for students, including academic advisory services, administrative support and access to digital infrastructure, necessary to carry out learning and research activities. For students with special educational needs or disabilities, the institutional framework provides for support and adaptation measures, in accordance with national legislation and the university's inclusion and accessibility policies. These measures promote inclusion, respect for diversity and student-centered learning. PhD students also benefit from scholarships and other forms of financial support in UTCN. The Technical University of Cluj-

Napoca (UTCN) has a solid teaching and research infrastructure: lecture and seminar rooms, specialized laboratories and workshops, individual and team study spaces, as well as recreational spaces on campus. [The University Library](#) operates centrally and through branches, offering reading rooms with free shelf access and home loan services. Physical and digital accessibility is ensured through institutional facilities and platforms, so that the resources are usable by students from all study cycles. In addition, the [Center for Career Counseling and Guidance \(CCOC\)](#) offers educational, professional and psychological counseling (individual and group), soft skills workshops, company presentations and events such as "Career Days in UTCN", facilitating the transition to the labor market. CCOC is present in Cluj-Napoca and Baia Mare and is accredited by AJOFM (County Employment Agency) for counseling and mediation. IOSUD-UTCN provides PhD students with access to specialized research laboratories (AI/Machine Learning, HPC, advanced materials, sustainability, renewable energy, etc.), high-performance computing equipment, such as [CloudUT infrastructure](#) and GPU servers, used in doctoral projects and research centers. Dedicated spaces (offices, laboratories, work rooms) provide adequate conditions for individual and team scientific activity.

Analysis of the state of facts

The analysis of the available documents and information highlights the fact that the material, digital and human resources, as well as the support services offered by the organizational component are adequate and accessible for PhD students in the field of Industrial Engineering. IOSUD-UTCN ensures access for all students, including those with special educational needs or disabilities, to resources and support services tailored to individual learning needs, specific to the field, cycle, and form of organization of the study program. The existence of academic and administrative support services contributes to the efficiency of the study path, and accessibility measures for students with special needs demonstrate compliance with the principles of inclusion and equity. The available resources are correlated with the field of study, the doctoral cycle and the form of organization of DSUD-II, ensuring adequate conditions for achieving learning outcomes. PhD students are provided with access to research infrastructure and laboratories appropriate to the field of Industrial Engineering, relevant digital resources and scientific databases, academic, administrative and advisory support services, as well as institutional inclusion and accessibility measures for students with special educational needs or disabilities

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Criterion B.5. Learning outcomes

Standard S.B.5.1. Definition and evaluation

Learning outcomes are adequately defined and evaluated.

Indicator I.P.B.5.1.1	Learning outcomes are adequately described, and they support understanding of the students' and teachers' expectations regarding the content of the subject matters in the curriculum.
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Presentation of the state of facts

The learning outcomes are presented clearly and coherently, emphasizing the knowledge, skills and abilities that the doctoral student must acquire at the end of each discipline or training activity. The learning outcomes are consistent with level 8 of the CNC and are explicitly described in the following documents:

- [Regulations of the doctoral school](#)
- [Website of the Industrial Engineering domain](#)
- [The learning outcomes achieved by doctoral students](#)
- [Discipline Contract](#)

The process of defining and updating learning outcomes is regulated at ULBS level through internal documents and mechanisms that ensure permanent alignment with developments in the academic and professional fields.

Analysis of the state of facts

Within the Industrial Engineering doctoral program, learning outcomes are clearly and coherently formulated in accordance with national and European standards for higher-level qualifications, structured around specific and transversal competencies and expected learning outcomes. The content of the disciplines in PPUA is designed to improve the research skills of doctoral students and includes at least 3 disciplines relevant to the research direction of each doctoral student. The archive of the representative disciplines is [presented on the domain website](#). The disciplines included in the study contract of each doctoral student in the field of Industrial Engineering are chosen in such a way as to deepen the research methodology in that specific direction of the thesis, to acquire the healthy principles of ethics in scientific research and the learning outcomes at the end of the PPUA to provide the doctoral student with the knowledge, skills, responsibility and autonomy necessary to efficiently carry out future research activities. The learning outcomes, acquired competences, knowledge and skills, are presented on the [website of the Industrial Engineering field](#) for the representative disciplines and relevant research [directions in the field of Industrial Engineering](#). The research competency training programs in the field of Industrial Engineering include both fundamental research knowledge and applied research directions, sometimes interdisciplinary or multidisciplinary. The course syllabi specify the objectives and thematic content, structured into lectures and practical applications, from which the knowledge, skills, responsibility, and autonomy to be acquired are derived, as well as the methods of examination and evaluation.

Recommendations:

Adapting a curriculum proposal with a definition of learning objectives at the doctoral level, correlating them with the content of the disciplines, ensuring the transparency of curricular documents (posting on the IOSUD website). Unitary formulation of learning objectives, in accordance with specific ARACIS standards.

The indicator is: fulfilled

Indicator I.P.B.5.1.2	Achievement of the learning outcomes is checked in ongoing examinations and study completion exams.
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Presentation of the state of facts

In the Industrial Engineering doctoral program, the assessment of learning outcome achievement is regulated and carried out in accordance with the systematically and rigorously, both during the semesters and at the end of the studies. The evaluation is carried out both through continuous evaluation (research projects, reports, presentations, applied activities) and through periodic and final evaluations, including the exams related to the disciplines and the stages of completion of doctoral studies (scientific reports, monthly progress reports, defense of the doctoral thesis). The verification of the achievement of the learning results is carried out through evaluation exams for [the disciplines](#) included in the PPUA and by the evaluation of the research reports submitted to the [secretariat of the Doctoral School](#), by the steering committees.

Analysis of the state of facts

Within the Industrial Engineering doctoral field, a systematic and coherent evaluation approach is employed, with the aim of effectively verifying the extent to which doctoral students achieve the intended learning outcomes. The evaluations allow the continuous monitoring of the doctoral student's progress, and the final evaluations certify the achievement of the level of competence necessary to obtain the academic qualification. The active role of the doctoral supervisor and the academic integrity and guidance committee in evaluating individual progress is noteworthy.

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Criterion B.7. Procedures and practices regarding the admission competition, the journey, recognition and equivalence of studies, and result certification

Standard S.B.7.1. Admission	
The admission procedures and principles ensure access to higher education.	
Indicator I.P.B.7.1.1	The organisational component applies the admission procedures.

Presentation of the state of facts

All information regarding the admission process is communicated to the public in a transparent manner, by posting it on the [website](#) and through other information channels (mass media), ensuring that candidates have full and clear access to all relevant details. Internal validation of the regulations and admission calendar is carried out annually, in accordance with legal requirements and good institutional practices:

- [Regulations for admission to doctoral studies](#);
- [list of supervisors eligible doctoral students and proposed research topics](#).

Analysis of the state of facts

IOSUD-UTCN, through CSUD and doctoral schools has its own admission methodology for doctoral students, applied in a transparent and rigorous manner, based on the principle of equal opportunities for all candidates. Admission to the Doctoral School of Industrial Engineering is conducted on the basis of a methodology approved by the Council for University Doctoral Studies (CSUD) of UTCN and published on the university's website, in compliance with the principles of transparency, equity, and equal opportunities. Within IOSUD-UTCN, admission to doctoral university studies takes place within the UTCN Doctoral School, in accordance with the Regulations on Admission to Doctoral University Studies at the Technical University of Cluj-Napoca, approved by the UTCN Senate, and within the limits of the doctoral grants allocated by the Ministry of Education to the Technical University of Cluj-Napoca. The distribution of grants among doctoral fields takes into account the performance criteria of the doctoral supervisors within the doctoral school.

The doctoral admission competition consists of two examinations:

a) an interview, during which the candidate's level of training and scientific/professional interests, research aptitude, and the proposed topic for the doctoral thesis are assessed;

b) a language proficiency examination in an internationally used language, held within the Department of Modern Languages and Communication of UTCN

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Indicator I.P.B.7.1.2	Admission in higher education study programmes complies with the principles of fairness and equal opportunities, and with the establishing of support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.
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Presentation of the state of facts

Admission to the Industrial Engineering doctoral program is based on the principles of fairness, equal opportunity, and social inclusion, in accordance with national regulations and the institutional policy of IOSUD-UTCN. The Doctoral School promotes an accessible and equitable admission framework, adapted to the needs of candidates from vulnerable groups, who are at social or educational risk, as well as those with special educational needs and/or disabilities in accordance with the [Regulations for admission to doctoral studies](#). The admission procedure assesses candidates' research capacity, theoretical competencies, and motivation through a written examination and a scientific interview. The examination topics and bibliography are publicly communicated, and the selection criteria are clear and objective.

Analysis of the state of facts

The admission procedure for doctoral studies represents the process of selecting candidates for each available doctoral student position, as proposed by the doctoral supervisors within the doctoral school at a given time. The Doctoral School of UTCN ensures full transparency of the selection procedures for doctoral admission, the evaluation criteria, and the standards required of candidates, as well as guaranteed access to this information, including through online publication. All such information, along with the available doctoral student positions for each doctoral supervisor, is published on the [IOSUD-UTCN website](#) and displayed at the premises of each doctoral school. From the analysis of the documents and information presented in the REI pp 34, but also of the discussions during the meetings scheduled during the on-site visit, the evaluation committee confirms that the admission procedures are applied consistently and according to the regulatory framework in force.

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Standard S.B.7.2. Academic journey of students

The organisational component carries out actions supporting the students' academic journey.

Indicator I.P.B.7.2.1	The organisational component applies the regulations concerning the students' professional activity.
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Presentation of the state of facts

The organizational component carries out actions in support of the students' academic path. IOSUD-UTCN, applies the national and institutional regulations governing the professional activity of doctoral students. These regulations are based on: The Higher Education Law no. 199/2023, Order of the Ministry of Education no. 3020/2024, which approves the Framework Regulation on the organization and conduct of doctoral studies; [The UTCN Charter](#), [The Institutional Regulations of IOSUD-UTCN](#) and [the Regulations of the Doctoral School of IOSUD](#). These regulations establish the rights and obligations of doctoral students, the requirements regarding professional and research activity, the methods of evaluating doctoral progress, as well as the conditions for suspending, extending or completing studies. According to the REI, the application of these regulations is ensured through the responsible structures of the university, the Coordination Council of Industrial Engineering and Management Doctoral Programs oversees the Industrial Engineering doctoral field and ensures the implementation of the legal and institutional framework for the professional activity of doctoral students and doctoral supervisors within the field.

Analysis of the state of facts

The Doctoral School of IOSUD-UTCN and The Coordination Council of Industrial Engineering and Management Doctoral Programs provides constant support for the academic progress of doctoral students by implementing institutional regulations regarding their activities. The educational process is carried out in accordance with the legal regulations in force regarding doctoral studies and with the specific regulations/procedures approved at the IOSUD-UTCN level. In relation to the examined documents, the systematic and coherent application of the regulations on the professional activity of doctoral students is noted. Functional mechanisms for monitoring progress and evaluating academic and research activity are put in place, which support the doctoral path and ensure compliance with the requirements of the study programme

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

Criterion B.8. Internationalisation process

Standard S.B.8.1. Internationalisation

Improving the quality of education and research through internationalisation actions.

Indicator I.P.B.8.1.1	The organisational component carries out international cooperation actions supporting mobility of the members of its own community and collaboration in academic and research activities.
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Presentation of the state of facts

International activity at the IOSUD-UTCN level is strengthened through participation in educational, research, and social projects and partnerships, as well as through the conclusion of memoranda of understanding and collaboration agreements with universities and higher education institutions abroad: International projects and partnerships in education, research, and social issues. IOSUD – UTCN carries out international cooperation actions through which the mobility of the members of its own community and the collaboration in the academic and research activity are supported, aiming at the evaluation of the framework and the institutional activities meant to support from *Mobility* of PhD students, teaching and research staff and from *Effective collaboration* in academic and research projects at international level. International agreements and partnerships: There are numerous collaboration agreements, [Erasmus+ partnerships](#), and framework agreements with prestigious universities or foreign research institutes relevant to the field of Industrial Engineering. Completed mobilities: Statistical data regarding [the number of 22 doctoral students](#) who have carried out research or study stages abroad (Erasmus, short-term stages, co-tutelle). [A list of 13 research projects](#) (e.g., Horizon Europe, bilateral projects, etc.) in which members of

the Doctoral School are partners or coordinators, involving collaboration with foreign institutions is presented in REI.

Analysis of the state of facts

IOSUD-UTCN supports the increase of the quality of education and research through concrete internationalization actions, in accordance with the UTCN International Cooperation Strategy. The Doctoral School of IOSUD - UTCN supports and promotes the mobility of doctoral students, doctoral supervisors, academic and administrative staff, thus contributing to the development of the international dimension of doctoral studies. Since the last evaluation, [3 doctoral theses have been completed under international co-supervision](#) in the field of industrial engineering, there were 4 foreign doctoral students and 7 doctoral theses written in an internationally used language. The analysis of the documents and information submitted confirms that the I.P.B.8.1.1 indicator is adequately met. The existence of international mobilities (Erasmus+) facilitated through [the Erasmus+ Office](#), national mobilities documented through public reports and specific annexes, as well as cross-sectoral collaborations demonstrate the application of a coherent organisational framework for academic and research cooperation.

Recommendations

Expanding the network of international partnerships, diversifying mobility opportunities, and increasing participation in educational and research projects at the European and global levels

The indicator is: fulfilled

Criterion B.9. Scientific research results

Standard S.B.9.1 Scientific research in the education process

Scientific research activities support students in achieving the learning outcomes.

Indicator I.P.B.9.1.1	Learning based on scientific investigation and research results support and are capitalised upon in achieving the learning outcomes envisaged through the study programme.
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Presentation of the state of facts

UTCN strategic directions, through the content of the documents from UTCN [webpage](#) and [The Institutional Regulations of IOSUD-UTCN](#). The integration of research is reflected in the Subject Sheets including references to learning strategies based on scientific investigation, Curriculums and individual research programs, Research reports developed by doctoral students, Scientific papers/articles published by doctoral students, Doctoral theses developed by doctoral students. PhD students are involved in research projects, experimental and analytical activities, the elaboration of scientific articles, participation in conferences and dissemination of research results. The scientific results obtained are capitalized on during teaching activities, periodic evaluations and the completion of doctoral studies. Scientific research activities support doctoral students in acquiring learning outcomes which, in the field of Industrial Engineering, also include creativity in identifying effective solutions for improving the functionality of new industrial products, the ability to synthesize current methods, and the capacity to identify new opportunities for improving existing technologies in order to increase product functionality and/or reduce quality-related costs.

Analysis of the state of facts

Within the Industrial Engineering doctoral program, scientific research activities are systematically integrated into the doctoral curriculum, contributing significantly to the acquisition of professional and transversal skills and to the achievement of the learning outcomes set out in the curriculum. At the visit, the heads of the research centers and the doctoral supervisors stated that the capitalization of the research results in the learning outcomes is also done by including them in the disciplines of the PPUA; The doctoral students stated that they are involved in the research activities by participating in the research teams of the research projects carried out by the centers (through employment). In the last 5 years, doctoral students in the field of Industrial Engineering have published [195 ISI - WOS-rated papers](#), participated at [11 Conferences](#). A number of [25 PhD students](#) have obtained the doctorate title in the last 5 years, each having published at least 3 papers of which at least one article is ISI indexed and at least one participation at an International Conference.

Aspects that constitute best practice:

Guiding doctoral students towards publishing in ISI - WOS-indexed journals and providing financial support for the publication of their papers

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Standard S.B.9.2. Scientific research pertaining to the objectives of the study programme
The organisational component carries out scientific research activities aligned with the objectives of the evaluated study programme.

Indicator I.P.B.9.2.1	The results of scientific research are visible at national and international level in that scientific domain, and capitalised upon in an adequate manner.
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Presentation of the state of facts

IOSUD – UTCN carries out research activities aligned with the objectives of the program and the thematic areas assumed, within national and international projects that support academic mobility and scientific collaboration. These projects, including those carried out through programmes such as Erasmus+, offer PhD students opportunities for international collaboration, access to diverse expertise and the expansion of possibilities for publishing and disseminating research result. The research results are visible at national and international level, being reflected in:

- Scientific publications and articles in internationally indexed journals, produced by doctoral supervisors and doctoral students;
- International partnerships and collaborations in the field of scientific research;
- Research projects funded by national and international agencies;
- Participation in international conferences and symposiums, including the organization of scientific events;

Analysis of the state of facts

The scientific research activity carried out by doctoral students and doctoral supervisors is aligned with the objectives of the doctoral study program in Industrial Engineering and aims to strengthen the specific scientific field by generating relevant, innovative, and applicable knowledge. According to REI, page 37, in the period 2020-2024, were published:

PhD supervisors

Total number of articles published in WoS indexed journals: 211;

Average number of articles/publications per PhD supervisor: 12

Hirsch WOS Median Index: 8.7

Hirsch Scopus median Index: 8.7

Average Hirsch Google scholar index: 14.1

Number of coordinated research projects: 26

Number of papers published in volumes from ISI/WOS/ERIH indexed conferences: 23

Patented/Requested patents: 41

Scientific awards/distinctions: 64

PhD Students

Total number of articles published in WoS indexed journals: 195

Total number of published articles: 67

Articles published in collaboration with the doctoral supervisor: 40

Participation in scientific conferences: 12

Number of PhD students involved in research projects: 7

Number of theses defended with publications in indexed journals: 23

International mobilities (traineeships, conferences): 22 stages and 12 conferences

Recommendations

There are no recommendations for this indicator international collaborations.

The indicator is: fulfilled

DOMAIN C. Quality management

Criterion C.1. Quality assurance strategies and procedures, including in the field of academic ethics and conduct, which involve students, employers and other stakeholders and are applied in a consistent, transparent manner

Standard S.C.1.1. Application

Adequately implemented strategic directions, actions, and procedures

Indicator I.P.C.1.1.1	The organisational component consistently carries out actions and applies procedures, proving their impact on improving the quality of education at the level of the study programme
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Presentation of the state of facts

At The Technical University of Cluj-Napoca (UTCN) there is a set of strategic directions, actions and institutionalized procedures for quality assurance, including in the field of university ethics and deontology, in which students, employers and other stakeholders are involved, as assumed in the [Strategic Plan 2024-2029](#). In order to ensure quality, structures operate within the institution with attributes regarding quality, as follows: [The Commission for Quality Evaluation and Assurance \(CEAC\)](#) and [The Department for Quality Assurance \(DAC\)](#). Each of these roles operates in accordance with the approved regulations of organization and operation and bases its work on the [UTCN Quality Assurance Code](#) and [The METHODOLOGY for self-evaluation of the IOSUD-UTCN activity](#). The efficiency and applicability of the measures and procedures implemented to improve the quality of the doctoral program in the field of doctoral studies in Industrial Engineering is also supported by Evaluations and feedback from doctoral students (satisfaction questionnaires, need for mentoring Annex 3).;

Analysis of the state of facts

IOSUD-UTCN, through the Doctoral School, proves the existence and functioning of quality assurance structures and mechanisms. The majority of doctoral students declared themselves satisfied with the level of support provided by UTCN staff during the first year of studies for integration into doctoral-specific activities, as well as with the disciplines included in the advanced university training program. Doctoral students also consider that they benefited from good and very good involvement on the part of their scientific supervisor and the faculty in ensuring research conditions. Most respondents consider themselves very well-informed regarding research methodology and statistical data processing, as well as regarding compliance with scientific and academic ethics.

Recommendations

Regular updating of internal procedures, more active integration of student assessment data, and expansion of mechanisms for monitoring the real impact of measures taken on educational outcomes

The indicator is: fulfilled

Standard S.C.1.2. Stakeholder engagement

The HEI proves that it engages the stakeholders who have relevant activity in applying the procedures.

Indicator I.P.C.1.2.1	The opinions of the members of its own community and of other stakeholders are taken into account in the procedure implementation process.
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Presentation of the state of facts

At the Technical University of Cluj-Napoca (UTCN) there is a set of official documents and procedures approved and applied consistently. Among them: the [UTCN Quality Assurance Code](#), regulations and methodologies approved by the UTCN Senate (e.g. examination [methodology](#), [evaluation of teachers](#), [monitoring](#)), the code of ethics and university deontology – [the document regulating ethical behavior and referral/sanctioning procedures](#), [annual quality reports \(RAIQ\)](#) published by the Department of Quality Assurance (DAC), which include the actions implemented and the results. The involvement of UTCN academic community members in quality assurance, including the field of university ethics and deontology, can be structured as follows: [Involvement of students as the primary beneficiaries of doctoral research](#). (Annex 3_Doctoral Student Satisfaction Questionnaire), Involvement of teaching and administrative staff through individual activity reports and the discussion of these reports during periodic meetings, [applied ethics and deontology mechanisms](#), Procedures for preventing and managing plagiarism

(e.g., checking papers with anti-plagiarism software), and academic honesty [statements signed by students for exams and papers](#).

Analysis of the state of facts

IOSUD-UTCN demonstrates the active involvement of stakeholders - doctoral students, doctoral supervisors, employers, institutional partners, in the process of implementing procedures. In the field of Industrial Engineering, the involvement of actors in quality assurance and compliance with university ethics was achieved through the active application of procedures that include consulting students, the coordination board and doctoral supervisors in feedback processes, developing methodologies, verifying the similarity and compliance of disciplines with institutional regulations. From the discussions with the doctoral students and with the doctoral supervisors, it emerges that the feedback of the doctoral students is collected periodically in order to continuously improve the quality of the teaching activities and the research program/learning outcomes. The doctoral students stated that they are consulted in the elaboration of regulations, procedures and methodologies through their representatives in the Council of the Doctoral School, CSUD and in the University Senate.

Recommendations : [There are no recommendations for this indicator](#)

The indicator is: fulfilled

Criterion C.2. Functionality of education quality assurance structures, including in the field of academic ethics and conduct, according to the law

Standard S.C.2.2. Operation

Quality assurance and academic ethics and conduct organisational structures adequately perform their specific role and functions.

Indicator I.P.C.2.2.2.	The academic ethics commission operates based on the regulation approved by the University Senate, and performs actions that are compliant with the law, independently from any other structure or person in the higher education institution.
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Presentation of the state of facts

At the Technical University of Cluj-Napoca (UTCN), the fields of quality assurance and university ethics and deontology are regulated by a series of clearly defined organizational structures, at institutional level, according to national legislation and its own regulations: [University Ethics Commission](#), [University Senate – Ethics Commission](#).

Analysis of the state of facts

[The University Ethics Commission](#) operates on the basis of the Regulation on the Organization and Functioning of the University Ethics Commission, approved by the UTCN Senate. The main tasks of the University Ethics Commission are to implement research ethics policies, investigate and resolve complaints of deviations from ethical norms (plagiarism, inappropriate behavior, discrimination, etc.), propose disciplinary measures to the Senate or the Rector, as the case may be, prepare annual reports on the state of university ethics, provide preventive ethical advice, issue recommendations and proposals for improving the university ethics framework. Within IOSUD-UTCN, the [Regulation of the Doctoral School](#) established specific provisions regarding the organization and conduct of doctoral programs. Compliance with the norms of ethics and university deontology is among the attributions of the Council of the UTCN Doctoral School. According to the UTCN Charter, candidates for habilitation have the obligation to submit a declaration on their own responsibility confirming that they have not committed deviations from the rules of ethics and deontology in their entire teaching and research activity. The responsibility for verifying compliance with scientific, professional and academic ethics lies with doctoral supervisors. Also, the mediation of any conflicts between doctoral students and doctoral supervisors is within the competence of the coordination council of the field. The Commission's activity is documented through minutes of meetings and annual reports published within the university, accessible on the [dedicated page](#). During the reporting period in the field of Industrial Engineering, there were NO notifications regarding deviations from the norms of ethics and university deontology among doctoral students or doctoral supervisors. Also, according to the discussions with CEU representatives, there were and are no problems of university ethics regarding the activity of doctoral students

Recommendations : There are no recommendations for this indicator

The indicator is: fulfilled

Criterion C.3. Procedures for the initiation, monitoring and periodic review of the study programmes and domains and of the performed activities, involving students, employers and other stakeholders

Standard S.C.3.1. Procedures and implementation of procedures

The HEI has procedures for initiating, monitoring, and periodically reviewing the study programmes and domains and the performed activities, and applies them systematically.

Indicator I.P.C.3.1.1	The organisational component consistently applies the procedures, and proves their impact on quality assurance.
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Presentation of the state of facts

At the Technical University of Cluj-Napoca (UTCN), the fields of quality assurance and university ethics and deontology are regulated by a series of clearly defined organizational structures, at institutional level, according to national legislation and its own regulations: [Commission for Evaluation and Quality Assurance \(CEAC-UTCN\)](#), [Department of Quality Assurance \(DAC\)](#), [Quality Assurance and Evaluation Commissions \(CEAC\)](#) at faculty level, [University Senate – Quality Commission](#). IOSUD-UTCN has procedures approved in accordance with the legislation in force, which regulate the initiation, monitoring, and review of study programs and fields and related activities. These are systematically applied and periodically reviewed based on institutional regulations Regulations and procedures for initiating, monitoring, and [reviewing programs and fields of study studies](#). The consistent application of these procedures contributes to improving the quality of programs and activities carried out within the field of doctoral studies in Industrial Engineering.

Analysis of the state of facts

Based on the analysis of the data provided and the documents reviewed, it is evident that institutional procedures concerning quality assurance and the evaluation of the educational and scientific research process are applied consistently and rigorously, in accordance with the Higher Education Law no. 199/2023, the Code of Doctoral Studies, and ARACIS standards. IOSUD-UTCN periodically collects feedback from doctoral students regarding the evaluation of the activity of doctoral supervisors and the degree of satisfaction of doctoral students based on an internal evaluation questionnaire. The feedback is analyzed within SD-IOUSD-UTCN and corrective or improvement measures are proposed where appropriate (Minutes of doctoral student meetings, ANNEX 3).

Recommendations: There are no recommendations for this indicator

The indicator is: fulfilled

Indicator I.P.C.3.1.2	Members of its own community and other stakeholders are involved in the procedure implementation process.
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Presentation of the state of facts

According to REI, page 43, members of the academic community and stakeholders actively participate in the implementation of the internal procedures of the UTCN. Students have representatives in the management structures (Faculty Councils, Senate, Boards of Directors, Quality Commissions) depending on the number of students; The commissions for evaluation and quality assurance (CEAC) at the faculty level envisage the involvement of teachers, students and all persons with responsibilities in the field of quality. In the process of implementing procedures for initiating, monitoring, and periodically reviewing programs and fields of study, members of the academic community from the Doctoral School of IOSUD-UTCN, the Faculty of IIRMP, and other interested parties are actively involved. A participatory approach is in place, ensuring the continuous alignment of the study programme with the needs and expectations of doctoral students, labour market requirements, developments in the scientific and professional fields, as well as quality and accreditation standards. Examples of stakeholder involvement include concrete proposals for curriculum updates from employers, the adaptation of certain disciplines to labour market demands, and the introduction of transversal themes or digital competencies following consultation with relevant stakeholders. Through this mechanism, the organisational component

demonstrates a genuine commitment to quality assurance and a sustained openness towards collaboration and continuous improvement

Analysis of the state of facts

The organisational component has procedures that are implemented consistently, supported by feedback instruments and annual review mechanisms, which ensure the adaptability and continuous updating of the programme. Members of the academic community—teaching staff, doctoral students, and administrative personnel—are actively involved, together with external stakeholders such as employers, alumni, and representatives of the socio-economic environment, in the process of implementing procedures related to the initiation, monitoring, and revision of study programmes. At the SD-IOSUD - UTCN level, there is the [Council of the Doctoral School](#), which informs the interested parties and ensures the implementation of all procedures developed at institutional level. The CEAC members stated, at the meeting with the members of the ARACIS evaluation commission, that the procedures and regulations are subject to public consultation, through the representatives of the Faculty Council, CSUD and the University Senate and, finally, approved by the University Senate. At the level of Coordination Council, consultations are periodically organized with representatives of the economic environment and research centers in the field in order to update the research topics.

Recommendations

Strengthening collaboration with employers by including them in the monitoring committees of doctoral programs

The indicator is: fulfilled

Criterion C.4. Procedures for the periodic evaluation of the quality of the activities of teaching staff, auxiliary teaching staff, and administrative staff

Standard S.C.4.1. Procedures

Applying the methodologies and procedures contributes to improving the quality of the staff's activities.

Indicator I.P.C.4.1.1	The organisational component analyses the results of the students' biannual evaluation of teachers.
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Presentation of the state of facts

In UTCN, the evaluation is carried out in two stages based on the [Methodology for evaluating teaching activity by students](#) in compliance with the [Code of Student Rights and Obligations](#). The evaluation is anonymous and can be accessed by logging in to <http://evaluare.utcluj.ro>. At the level of the Industrial Engineering Doctoral School, the organizational component, through the Doctoral School Council, manages the analysis of feedback provided by doctoral students regarding the performance of teaching staff within the PPUA ([Annex 1](#): Results of the doctoral students' evaluations)

Analysis of the state of facts

IOSUD-UTCN have mechanisms for analyse the results of the students' biannual evaluation of teachers. Doctoral students have at their disposal the [Platform for student evaluation of teaching staff activity](#). During the discussions, the members of the evaluation committee found that IOSUD - UTCN periodically collects feedback from doctoral students regarding the evaluation of the activity of doctoral supervisors and the degree of satisfaction of doctoral students based on internal evaluation questionnaires;

Aspects that constitute best practice

The existence of an IT platform where students can completely anonymously evaluate teaching staff.

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

Criterion C.5. Systematically updated databases on internal quality assurance

Standard S.C.5.1. Databases

The HEI uses databases to support internal quality assurance activities.

Indicator I.P.C.5.1.1	The organisational component systematically collects and analyses data required for the internal quality assurance process.
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Presentation of the state of facts

IOSUD-UTCN has implemented a rigorous data collection and analysis system, in accordance with [The Quality Assurance Regulation of CEAC](#). The process is supported by institutional procedures that use internal databases, which include relevant information on academic performance, professional integration, and student satisfaction. Clear institutional procedures using internal databases; - Internal database used to collect relevant information (data on academic performance, professional integration, student satisfaction), Sets of indicators defined by UTCN for quality assurance (correlated with the mission and strategic objectives) Annual operational plans. UTCN uses databases to support internal quality assurance activities, as follows: for the quality of the educational process: [SINU – Information System for the Management of Academic Records](#), [Platform for student evaluation of teaching staff activity](#), for the quality of scientific research: SIMAC / SIMAC+ – [Information System for Research Activity Management](#), for relations with the socio-economic environment: [ALUMNI Platform](#) – a database of university graduates, useful for tracking labor market insertio.

On an annual basis, IOSUD-UTCN [prepares reports on doctoral activity](#) using these databases.

Analysis of the state of facts

IOSUD-UTCN has implemented a rigorous data collection and analysis system, in accordance with CEAC methodology for data collection and analysis. At the level of doctoral studies, the activity of doctoral students is closely monitored, with an increased focus on the completion of doctoral studies. PhD students from UTCN – Industrial Engineering Domain prepare an annual self-assessment report and their activity is evaluated by their PhD supervisor (According to the TUCN Methodology, approved by the Senate decision Nr. 2123 / 27.11.2025) and by their monitoring commission, which provides recommendations for better scientific progress of each PhD student research.

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

Criterion C.6. Transparency of information of public interest, including those regarding the study programmes and domains offered, and transparency regarding the related certificates, diplomas and qualifications

Standard S.C.6.1. Transparency

The organisational component ensures transparency of information, as required by the law.

Indicator I.P.C.6.1.1	The organisational component ensures publication and access to information of public interest regarding the evaluated study programme.
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Presentation of the state of facts

Information of public interest regarding doctoral studies in general, and the field of doctoral studies in Industrial Engineering in particular, is available in a transparent manner on the official website of UTCN and on the web page dedicated [to doctoral studies](#), which hosts all documents related to the organization and conduct of doctoral studies, from regulations, methodologies, and procedures, to documents, fields and supervisors, preliminary and final defenses, to admission and completion of doctoral studies. It publishes information on: The [Regulations of the Doctoral School of the Technical University of Cluj-Napoca within IOSUD-UTCN](#), [The regulation on the organization of admission to the doctoral degree cycle](#), [The procedure for completing doctoral studies within IOSUD-UTC-N](#), The [Regulations for Doctoral thesis defense](#).

Analysis of the state of facts

IOSUD UTCN. ensures access to public interest information for the Industrial Engineering doctoral program. UTCN and IOSUD ensure public and transparent access to information on all aspects of the doctoral study activity (didactic, administrative, institutional, etc.) on the [IOSUD](#) and [SDFIIRMP websites](#);

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

Indicator I.P.C.6.1.2	The organisational component ensures transparent decision-making processes.
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Presentation of the state of facts

The [IOSUD UTCN](#) website provides transparent access to information about: IOSUD executive management, the Council for Doctoral Studies (CSUD), the election of the CSUD director, the election of CSUD members, elections at the level of doctoral schools, the admission process, etc.; UTCN ensures the transparency of decision-making processes in a normative and functional framework, regulated by the University Charter, the [Organization and Functioning Regulation and other regulations approved by the Senate](#), the [Coordinating Council of Doctoral Programs Industrial Engineering and Management](#)

Analysis of the state of facts : The transparency of decision-making processes regarding the field of doctoral studies in Industrial Engineering is ensured through the official website of IOSUD-UTCN and the [page dedicated from FIIRMP](#)

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

Criterion C.8. Participation in external evaluation processes, according to the law

Standard S.C.8.1. Compliance with the external evaluation obligation

The HEI undergoes external quality evaluation as required by the law.

Indicator I.P.C.8.1.1	The organisational component carries out the procedures pertaining to the external quality evaluation process, aiming to organise the evaluated study programme as provided by the law.
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Presentation of the state of facts

UTCN organizes the external evaluation of bachelor's, master's and doctoral study programs, periodically, every 5 years, [according to the regulations in force, with the approval of the University Senate](#). The process is carried out according to the planning of activities, a document approved by the Board of Directors. The external evaluation is carried out by the Romanian Agency for Quality Assurance in Higher Education (ARACIS). At IOSUD UTCN , all necessary procedures have been initiated to undergo external quality evaluation by formally requesting an external mission for the maintenance of accreditation of the doctoral study field in Industrial Engineering.

Analysis of the state of facts

IOSUD-UTCN, through the Coordinating Council of Doctoral Programs Industrial Engineering and Management, which coordinates the field of doctoral studies in Industrial Engineering, ensures that the procedures necessary for the external quality assessment process are carried out in accordance with the legislation in force. On the last evaluation request, [Decision No. 75 / 30.09.2021](#) of the ARACIS Council was issued, which granted the "**Maintenance of accreditation**" of the Industrial Engineering domain. Also, the Industrial Engineering doctoral field was subjected, in 2025, to interim analysis based on the [Progress Report](#).

Recommendations There are no recommendations for this indicator

The indicator is: fulfilled

IV. SWOT Analysis

Strengths: -The quality and research experience of the doctoral supervisors. The field has a long tradition, dating back to 1963, with doctoral supervisors who have established recognized research schools. The ability of some doctoral supervisors to coordinate theses in English; The large number of article-type works published in WoS – Clarivate Analytics indexed journals, including those in the Q1 and Q2 categories. -The quality of the research infrastructure (research centers, laboratories, etc.) complies with international standards; -Strong links with the industrial environment through multiple partnerships; The large number of domestic and international research projects won through competition, Allocation of significant amounts from the university's own revenues to support the activity of doctoral students -Solid selection basis by organizing university master's degree programs, including in English, in the field of Industrial Engineering; -The functioning of the Doctoral School in a city with developed industry and located in a favorable geographical area; -Organization of international conferences in the field	INTERNAL FACTORS	Weaknesses: -Few theses completed under co-supervision -Relatively low number of graduates in recent years compared to the number of enrolled PhD students -School dropout among PhD students -Small number of foreign PhD students -Reduction in the number of PhD supervisors
SWOT analysis		
Opportunities: -The existing experience in research centers allows the involvement of more doctoral students in new national/international projects, including those won through competition - Diversification of topics offered by supervisors in the field of Industrial Engineering. Existence of young doctoral supervisors, with the qualification sustained in the last 4 years -Possibility of participating in projects with international funding for PhD students -Favorable economic environment in the city of Cluj Napoca. Attractiveness of the city and UTCN for foreign students -Development of study programs in English/German	EXTERNAL FACTORS	Threats: -The existence of a trend of decreasing interest in doctoral studies -Suspension of funding for research stimulation programs at the national level (research awards, human resources programs, etc.) - Decreasing interest of young people in scientific and teaching careers at the university level. Decreasing number of graduates of master's studies - Difficulty in attracting valuable candidates (including foreigners) and competition with private industry.

V. Extent to which the standards and performance indicators are fulfilled, and recommendations

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
DOMAIN A. Institutional capacity			
1.	I.P.A.1.1.1 For delivering the study programme/domain, the HEI has adequate organisational components and an adequate management system, which operate based on methodologies, regulations and procedures that are periodically reviewed as required by law.	Fulfilled	Increasing the transparency and accessibility of information by restructuring the IOSUD-UTCN website, the section of the Industrial Engineering field, so that all documents, procedures and forms are available in a unitary, updated and bilingual form
2.	I.P.A.1.2.1 The opinions of the faculty and department members, of the subsidiary or extension and of other stakeholders are considered in the process of adopting and revising methodologies, regulations and implementation procedures.	Fulfilled	There are no recommendations for this indicator
3.	I.P.A.2.1.1 The HEI legally owns venues for the related education, research and administrative processes, as well as for services for students, doctoral students and trainees, thus providing an enabling environment for living and studying, including for disabled persons. Optimal venues are also provided for activities of the staff. Such venues are adequately equipped.	Fulfilled	Annual update of databases regarding the material base and research structures to which doctoral students have access
4.	I.P.A.2.2.1 The movable and immovable assets are properly maintained to ensure optimal conditions for studying, living and research, as well as for work.	Fulfilled	There are no recommendations for this indicator
5.	I.P.A.3.1.1 The human resources of the organisational component are suitable to perform the activities pertaining to the evaluated study programme/domain. The teaching staff has the required qualifications and professional competences to teach the subject matters assigned to them in the job list.	Fulfilled	There are no recommendations for this indicator
6.	I.P.A.3.1.2 The HEI ensures professional and personal development for its staff.	Fulfilled	There are no recommendations for this indicator
7.	I.P.A.3.2.1 Recruitment procedures comply with the provisions of the law, and are established and carried out transparently.	Fulfilled	There are no recommendations for this indicator

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
8.	I.P.A.4.1.1 The organisational component uses IT tools in its own procedures, to improve access and provide good quality services for the members of its own community and the indirect beneficiaries of education.	Fulfilled	There are no recommendations for this indicator
DOMAIN B. Educational efficacy			
9.	I.P.B.1.1.1 The study programme is developed and structured according to the expected learning outcomes, and organised based on transferable study credits. It includes all learning, teaching, practical training, research and evaluation experiences, which, together, lead to a higher education qualification.	Fulfilled	Adapting a new form of writing to the Curriculum and Discipline Sheets
10.	I.P.B.2.1.2 The expected learning outcomes are correlated with the competences required by those occupations, according to the occupational standards and/or the European Skills, Competences and Occupations (ESCO).	Fulfilled	There are no recommendations for this indicator
11.	I.P.B.3.1.1 The organisational component ensures implementation of the student-centred learning in the curriculum and through the teaching strategies used in the learning and teaching activities and experiences.	Fulfilled	There are no recommendations for this indicator
12.	I.P.B.3.1.2 The organisational component ensures opportunities for students to participate in academic mobility programmes organised in person and/or virtually.	Fulfilled	There are no recommendations for this indicator
13.	I.P.B.3.2.1 The organisational component provides fair opportunities for students, in line with their potential and aspirations, taking into account the diversity of learning styles and abilities.	Fulfilled	There are no recommendations for this indicator
14.	I.P.B.4.1.1 The organisational component provides students, including those with special educational needs/disabilities, with access to resources and services designed to support the learning process, adequate for the individual learning needs, the study domain, the study cycle, and the form of organisation of the study programme.	Fulfilled	There are no recommendations for this indicator

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
15.	I.P.B.5.1.1 Learning outcomes are adequately described, and they support understanding of the students' and teachers' expectations regarding the content of the subject matters in the curriculum.	Fulfilled	Adapting a curriculum proposal with a definition of learning objectives at the doctoral level, correlating them with the content of the disciplines, ensuring the transparency of curricular documents (posting on the IOSUD website). Unitary formulation of learning objectives, in accordance with specific ARACIS standards
16.	I.P.B.5.1.2 Achievement of the learning outcomes is checked in ongoing examinations and study completion exams.	Fulfilled	There are no recommendations for this indicator
17.	I.P.B.7.1.1 The organisational component applies the admission procedures.	Fulfilled	There are no recommendations for this indicator
18.	I.P.B.7.1.2 Admission in higher education study programmes complies with the principles of fairness and equal opportunities, and with the establishing of support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.	Fulfilled	There are no recommendations for this indicator
19.	I.P.B.7.2.1 The organisational component applies the regulations concerning the students' professional activity.	Fulfilled	There are no recommendations for this indicator
20.	I.P.B.8.1.1 The organisational component carries out international cooperation actions supporting mobility of the members of its own community and collaboration in academic and research activities.	Fulfilled	Expanding the network of international partnerships, diversifying mobility opportunities, and increasing participation in educational and research projects at the European and global levels
21.	I.P.B.9.1.1 Learning based on scientific investigation and research results support and are capitalised upon in achieving the learning outcomes envisaged through the study programme.	Fulfilled	There are no recommendations for this indicator
22.	I.P.B.9.2.1 The results of scientific research are visible at national and international level in that scientific domain, and capitalised upon in an adequate manner.	Fulfilled	There are no recommendations for this indicator
DOMAIN C. Quality management			
23.	I.P.C.1.1.1 The organisational component consistently applies the procedures, and proves their impact on quality assurance.	Fulfilled	Regular updating of internal procedures, more active integration of student assessment data, and

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
			expansion of mechanisms for monitoring the real impact of measures taken on educational outcomes
24.	I.P.C.1.2.1 The opinions of the members of its own community and of other stakeholders are taken into account in the procedure implementation process.	Fulfilled	There are no recommendations for this indicator
25.	I.P.C.2.2.2. The academic ethics commission operates based on the regulation approved by the University Senate, and performs actions that are compliant with the law, independently from any other structure or person in the higher education institution.	Fulfilled	There are no recommendations for this indicator
26.	I.P.C.3.1.1 The organisational component consistently applies the procedures, and proves their impact on quality assurance.	Fulfilled	There are no recommendations for this indicator
27.	I.P.C.3.1.2 Members of its own community and other stakeholders are involved in the procedure implementation process.	Fulfilled	Strengthening collaboration with employers by including them in the monitoring committees of doctoral programs
28.	I.P.C.4.1.1 The organisational component analyses the results of the students' biannual evaluation of teachers.	Fulfilled	There are no recommendations for this indicator
29.	I.P.C.5.1.1 The organisational component systematically collects and analyses data required for the internal quality assurance process.	Fulfilled	There are no recommendations for this indicator
30.	I.P.C.6.1.1 The organisational component ensures publication and access to information of public interest regarding the evaluated study programme.	Fulfilled	There are no recommendations for this indicator
31.	I.P.C.6.1.2 The organisational component ensures transparent decision-making processes.	Fulfilled	There are no recommendations for this indicator
32.	I.P.C.8.1.1 The organisational component carries out the procedures pertaining to the external quality evaluation process, aiming to organise the evaluated study programme as provided by the law.	Fulfilled	There are no recommendations for this indicator

Summary Table of Performance Indicators – Degree of Fulfillment

Evaluation Domain	Number of Performance Indicators		
	Fulfilled	Partially fulfilled	Unfulfilled
Domain A. Institutional capacity	8	0	0
Domain B. Educational efficacy	14	0	0
Domain C. Quality management	10	0	0
Total	32	0	0

VI. Conclusions

This periodic external evaluation report was prepared for the evaluation of the Doctoral Field of Industrial Engineering at **TECHNICAL UNIVERSITY OF CLUJ NAPOCA**.

Evaluation type: **Evaluation for Maintaining accreditation (MAC) in of the field of doctoral studies Industrial Engineering**

Evaluation visit period: **June 30 – July 01, 2026**

Following the analysis of the Internal Evaluation Report and its annexes, as well as all the activities undertaken by the evaluation team, the following conclusions can be drawn:

1. The IOSUD activity and the organization of doctoral studies are carried out based on regulations, procedures and other specific documents, in accordance with legal provisions and are compliant with CNC/EQF level 8 requirements;
2. The evaluated doctoral field has a clear and well-defined mission, and the objectives respond to the demands of the labor market and the demands of society in general.
4. The scientific research carried out within the Doctoral School is based on topics relevant to the fields it manages and involves doctoral students; IOSUD-UTCN has a modern research infrastructure in the field of Industrial Engineering. The development and equipping of research centers/laboratories with modern equipment is adequate for the conduct of advanced research activities and for the training of experts in the field of Industrial Engineering;
5. Doctoral students benefit from financial support for professional development, travel, participation fees at scientific events, publication of scientific articles and research consumables. The results obtained during doctoral studies have been published in a large number of articles in ISI Web of Science (Clarivate Analytics) journals and in journals indexed in international databases.
6. Based on the analyzed information - Curriculum Vitae, ORCID, the ARACIS external evaluation committee found that the doctoral supervisors from UTCN-IOSUD in the field of Industrial Engineering meet the legal requirements. At the time of the on-site visit, the ARACIS committee noted the following information: a number of (19) doctoral supervisors carry out their activity in the field of Industrial Engineering; They meet 100% of [the minimum CNATDCU](#) standards in force, necessary and mandatory for obtaining the habilitation certificate;
7. At the time of the on-site visit, 75 doctoral students are active in the Industrial Engineering specialization (31 with scholarship, 30 without scholarship, 10 with fee and 4 foreign students);
8. The doctoral school ensures the transparency of the selection and admission procedures for doctoral studies and guarantees access to information through multiple accessible means, including through the existence of a dedicated section on the UTCN website and the IIRMP Faculty;
9. The evaluation carried out followed the periodic evaluation carried out in 2021, as a result of which the accreditation was maintained and the external progress evaluation in 2025, where it was found that all recommendations had been implemented. This state of affairs is maintained the committee finding that, further, all indicators are met. However, during the visit, the evaluation committee made some recommendations regarding the aptating the form of writin of the Curriculum.

Propose and substantiate a decision.



Following the completion of the accreditation/maintaining accreditation procedure, the decision of the evaluation panel shall be one of the following:*

- a) **maintaining accreditation** (MAC);

VII. Annexes

the schedule of the on-site visit

the minutes of the meetings

* When the external quality evaluation for accreditation is performed with undergoing the procedure for obtaining a provisional authorisation to operate.