



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
Doctoral School:	Doctoral School of the UTCN
Doctoral Domain:	Electronic Engineering, Telecommunications and Information Technologies
The objective of the external evaluation:	Maintaining accreditation (MAC)

Members of the ARACIS Evaluation Panel

No.	Last Name and First Name	Team role	Signature
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I. Introduction

This external evaluation report has been realized for the periodic evaluation in order to maintain the accreditation of the doctoral studies domain of Electronics Engineering, Telecommunications and Information Technologies (ETTI) from the Doctoral School of the Technical University of Cluj-Napoca (UTCN), in the period of June 11 – 12, 2026 by an evaluation team composed by coordinator Prof. Constantin VERTAN, international expert Prof. Gabor KISS, expert student Karla-Elisabeth LOVASZ.

The doctoral studies domain of Electronics Engineering, Telecommunications and Information Technologies (ETTI) from the Doctoral School of the Technical University of Cluj-Napoca (UTCN) under external evaluation for maintaining the accreditation is part of the fundamental domain ENGINEERING SCIENCES and has been previously evaluated by ARACIS in 2021, maintaining its accreditation under ARACIS Council Decision 75/ 30.09.2021 and under the Minister of Education Order no. 5500/2021 published in the Official Gazette No. 1067/08.11.2021. The progress report of the domain of doctoral studies was evaluated by the ARACIS Council on 15.07.2025, finding that some recommendations have not been fully implemented at the time of analysis; the recommendations are: Establishing clear criteria at the university level for measuring the efficiency of the functioning of doctoral student management systems; and Defining a threshold for the international visibility indicator (using component A3 of the CNATDCU minimum standards) that is more stimulating for performance (current reference value of 37.5 is minimal). The current evaluation is performed under the contract 358/02.04.2026.

The Technical University of Cluj-Napoca is a higher education state-institution, accredited, with legal personality, of public interest and with a non-profit character, being an integral part of the national higher education system. The Technical University of Cluj-Napoca operates in compliance with the Constitution and legislation of Romania and in accordance with the norms provided by the Magna Carta of Bologna Universities (1999), being a signatory of it (2004). The institution was founded in 1948 under the name of the Institute of Mechanics (Official Gazette no. 249/26.10.1948), in 1953 it was transformed into the Polytechnic Institute of Cluj (HCM 2688 of 1953), and since 1992 it has been operating under its current name of the Technical University of Cluj-Napoca (Official Gazette no. 337/29.12.1992).

The mission of the doctoral university study domain "Electronic Engineering, Telecommunications and Information Technologies" is to ensure and stimulate a climate of high quality and competitiveness through a wide range of educational and research activities, designed to help doctoral students develop their creative potential and ensure the permanent improvement of the competence of the teaching staff. The specific mission of the doctoral studies domain is part of the general mission of the Faculty of Electronics, Telecommunications and Information Technology, to contribute through advanced research to the development of knowledge in the domain of electronics, telecommunications and information technology and at the same time to train specialists capable of developing, designing, implementing and operating electronic and communications systems, with applications in the most diverse fields of industry and everyday life.

The priority research topics, although not restrictive, are aligned with those defined at the department level within the Faculty of Electronics, Telecommunications and Information Technology. These are: (link): Microelectronics – analog and digital VLSI circuits, analysis and synthesis of complex electronic circuits, modern signal processing techniques (signal processors, parallel processing, audio signal processing, image processing), computational intelligence techniques (fuzzy logic, genetic algorithms, neural networks), optoelectronics and optical communications (Bases of Electronics Department); renewable energies, data acquisition and processing systems, power supplies with network conditioning, intelligent sensors, electromagnetic compatibility in electronic systems, reliability of electronic systems (Applied Electronics Department); analysis and synthesis of the vocal signal, cryptography, multimedia applications, protocols for integrated networks and the Internet, biometric verifiers, telecommunications network

management, 4G/5G mobile communications, wireless systems, digital image processing, multimedia databases and distributed applications (Communications Department)

Currently, the number of PhD supervisors coordinating doctoral activity in this field of study is 25 (compared to 22 at the 2021 evaluation). Compared to the external evaluation in 2021, there is a significant increase in the number of PhD supervisors in the doctoral study domain who meet the CNATDCU minimum standards (72% of the current supervisors, compared to 59.1% in 2021). When considering only tenured staff, the percentages are 93.3% compared to 58.8% (2021). The number of doctoral students admitted between the academic years 2020–2021 and 2024–2025 was 72, a slight decrease compared to the previous five-year period (89). During the same period, 30 doctoral theses were defended (compared to 27 at the 2021 evaluation). The number of publications authored by PhD supervisors in WoS-indexed journals increased from 51 (previous reporting period) to 85 (2021–2025).

II. Methods used

Methods and instruments used in the process of external evaluation, before and during the evaluation visit:

- Analysis of the Internal (Self-) Evaluation Report (IER) of the doctoral studies domain and its annexes;
- Analysis of the documents provided by the Doctoral School of UTCN in the domain of Electronics Engineering, Telecommunications and Information Technologies, in physical form, during the evaluation visit;
- Analysis of the documents, data and information available on the site of the Technical University of Cluj-Napoca/ Doctoral School of UTCN in the domain of Electronics Engineering, Telecommunications and Information Technologies, in electronic form;
- Visit to the buildings belonging to the institution (UTCN), including rooms for courses, laboratories, research centers;
- Visit to the secretariat that manages the paper records of the doctoral students;
- Meeting/ discussions with the employers of the graduates of the evaluated doctoral domain of Electronics Engineering, Telecommunications and Information Technologies;
- Meeting/ discussions with the students of the evaluated doctoral domain of Electronics Engineering, Telecommunications and Information Technologies;
- Meeting/ discussions with the graduates of the evaluated doctoral domain of Electronics Engineering, Telecommunications and Information Technologies;
- Meeting/ discussions with the management of the Technical University of Cluj-Napoca and of the doctoral domain of Electronics Engineering, Telecommunications and Information Technologies;
- Meeting/ discussions with the PhD supervisors of the evaluated doctoral domain of Electronics Engineering, Telecommunications and Information Technologies;
- Meeting/ discussions with the members of the quality board and ethics board of the Technical University of Cluj-Napoca and of the doctoral domain of Electronics Engineering, Telecommunications and Information Technologies.

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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The activity within the doctoral studies at the university is administered by the Council for Doctoral Studies (CSUD), which is led by the director of CSUD. The position of director of CSUD is assimilated to that of vice-rector, in accordance with legal provisions, and the person who occupies it receives by right the responsibility and authority related to that position. The basic organizational unit in IOSUD UCN is the doctoral school. The structure is also detailed at <https://iosud.utcluj.ro/structura-139.html> on the components: CSUD Director, Doctoral School Director, CSUD members and members of the UTCN Doctoral School Council.

Currently, CSUD is composed of 16 members, including 4 students. The Director of CSUD is appointed following a public competition organized by UTCN, based on the decision of the competition committee, approved by the University Senate.

The doctoral school represents a structure within IOSUD-TUCN formed by doctoral supervisors (teaching staff/researchers) and doctoral students, which is focused on scientific research and learning through research and whose activity is completed through doctoral theses, scientific publications, innovations, patents and other results of scientific research. At the doctoral level, university studies are organized in Doctoral Program Coordination Councils. These are subordinated to the Doctoral School of UTCN, The Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology (Electronic Engineering, Telecommunications and Information Technologies domain).

One verifies that the arguments presented by the IER as conform to the actual situation.

There are no recommendations.

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.

The IER describes the inclusions of opinions from the stakeholders and the academic community into UTCN regulations, procedures and methodologies. UTCN has a Department for Relations with the Socio-Economic Environment (CRMSE), which facilitates the involvement of partners from the economic environment in institutional collaborations. In relation to employers, a dedicated procedure imposes standard steps (including the circuit through the UTCN electronic registry and successive approvals), ensuring uniformity and traceability of the consultations.

Consultations and information to doctoral supervisors in the field were performed regarding the allocation of funds, allocation of budgeted places, the establishment of research topics, internal regulations. The IER states (IER pp. 16) that: "The observations submitted by the doctoral supervisors were sent to IOSUD-UTCN, case dependent, the coordinator of the council expressed the opinions of the leaders in the field in CSUD meetings, positions submitted to the faculty management or in national consultations"

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

The IER does not provide information regarding the community consultation on procedures and methodologies; the existing approach is hierarchical, using the established management structures. Supplemental documents provided after the request for clarifications show that UTCN implemented (as of March 2026) a procedure for the consultation of stakeholders, which includes a minimal time duration for the consultation process.

There are no recommendations.

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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The IER describes the main assets that are used for the doctoral studies in evaluated doctoral studies domain: rehabilitated buildings housing research laboratories (Dorobanților 71–73, Barițiu 6–8, Observator 2), new buildings (the UTCN HUB, the UTCN AI Research Institute), the Library (providing access to licensed scientific bases, as the ANELIS Plus Portal <https://research.utcluj.ro/index.php/acces-portal-anelis-plus.htm>), the student dormitories (4935 accommodation places for the entire university in the Observator and Mărăști campuses, as well as in the Baia Mare extension). The external evaluation team visited several research facilities (laboratories), that exhibit new, dedicated equipment.

One verifies that the arguments presented by the IER as conform to the actual situation. The IER does not specifically mention any arrangements concerning the accommodation of PhD students with special needs (disabilities/ special educational requirements); the on-site visit showed that not all spaces are accessible for the mobility impaired, but there are plans for the inclusion of such installations on all sites.

There are no recommendations.

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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The IER describes the specific laboratories that are used in doctoral research and their equipment. The external evaluation team visited several such research laboratories that exhibit new, dedicated equipment that is well maintained. One verifies that the arguments presented by the IER as conform to the actual situation, but there is no mention of any planning of equipment preventive maintenance and periodic calibration.

One recommends to the Technical University of Cluj-Napoca the implementation of procedures for the periodic verification of the functionality status of immobile and mobile assets and the planning of preventive maintenance and periodic calibration of research equipment.

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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One verifies that the arguments presented by the IER as conform to the actual situation. In the doctoral field Electronic Engineering, Telecommunications and Information Technologies, there are currently 25 PhD supervisors, out of which 15 supervisors are tenured within UTCN, and 10 supervisors are associated (1 external tenured, 1 external researcher, 8 retirees). As of the November 2025 verification of the fulfillment of the minimal CNATDCU criteria for PhD supervision, 14 out of the 15 UTCN tenured supervisors fulfill the minimal criteria and 4 out of the 10 associated supervisors fulfill the minimal criteria (overall, 18 out of 25 supervisors fulfill the criteria).

The overall cohort of doctoral students varied between 70 (currently) and 111 (in 2021). On average, during the evaluation period, 15 PhD students have been enrolled every year. Currently there are on average $70/25 = 3$ doctoral students/ supervisor (strongly varying, with a maximal value of 11 doctoral students/ supervisor). For the academic years 2024/2025 and 2025/2026 the Senate of the UTCN has granted extensions of the maximal number of supervised students by a single supervisor (https://utcluj.ro/storage/senate_decisions/2026/03/01KKBVBYVN62XMTES2ADYHSB21.pdf, and https://utcluj.ro/storage/senate_decisions/2025/09/01K4PNMBAVZP7FNR6QPGF7A7J1.pdf).

The IOSUD UTCN decided to measure the international visibility and impact of the tenured teaching staff and doctoral supervisors by the h-index value. The EER states that "Average Hirsch WOS index: 7.47 on the set of active doctoral supervisors"; the Hirsch index strongly varies for the PhD supervisors between 2 and 17.

The IER does not specifically mentions any preventive verification of the fulfillment of the new CNATDCU minimal habilitation criteria (that will be into effect from October 1st, 2026), such that one can take corrective measures in guiding the PhD supervisors for their compliance with the new criteria.

One recommends to the Technical University of Cluj-Napoca the implementation of preventive verification of the fulfillment of the modifications in the CNATDCU minimal habilitation criteria and the implementation of a plan for compliance to the minimal criteria by all PhD supervisors.

One recommends to the Technical University of Cluj-Napoca the implementation of a mechanism ensuring that PhD students are evenly allocated to PhD supervisors and no supervisor exceeds 8 simultaneous enrolled students.

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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One verifies that the arguments presented by the IER as conform to the actual situation. The Technical University of Cluj-Napoca (UTCN) constantly supports the professional and personal development of the staff involved in teaching and research activities, including doctoral supervisors and other teaching staff, by several actions, such as continuous training programs organized at university level or in partnership with

other institutions, aimed at improving linguistic, didactic, digital, managerial and research skills, etc. (e.g. postgraduate courses (<https://www.utcluj.ro/universitatea/educatie/educatie-continua/>), courses for deepening language skills carried out through the Department of Modern Languages and Communication (<https://lmc.utcluj.ro/>); participation in Erasmus+ mobility programmes; specific actions within the EUT+ alliance.

The IER does not specifically mention specific training for any of the PhD supervisors (or other teaching staff involved in the doctoral studies courses). The clarification documents show that some PhD supervisors have attended various trainings that can be of benefit in their activity of supervision.

One recommends to the Technical University of Cluj-Napoca the implementation of a professional and personal development plan for each teaching staff (including the PhD supervisors), which includes various formative activities and is periodically verified and updated.

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.
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One verifies that the arguments presented by the IER as conform to the actual situation.

For the doctoral fields, staff recruitment means passing the habilitation to conduct research and affiliation to doctoral fields. The procedures for obtaining the habilitation are detailed on the dedicated page of IOSUD UTCN (<https://iosud.utcluj.ro/legislatie-si-formulare-abilitare.html>): standards for the elaboration of the habilitation thesis, necessary documents, regulations for obtaining the habilitation certificate and affiliation to a doctoral school in IOSUD-UTCN (https://www.utcluj.ro/media/page_document/289/REGULAMENT_privind_obtinerea_atestatului_de_abilitare.pdf), operational procedures (https://iosud.utcluj.ro/files/Anunturi/Procedura%20abilitare_Editia%20III_Revizia%202_02.12.2024.pdf).

There are no recommendations.

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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One verifies that the arguments presented by the IER as conform to the actual situation. The digitization of the processes related to the specific processes within the doctoral program in Electronic Engineering, Telecommunications and Information Technologies through dedicated institutional platforms (SIS, doctorat.utcluj.ro) and the integration of the eCampus ecosystem – MS M365 ensures transparency and efficiency.

IER does not describe any IT system dedicated to the quality assurance and monitoring of quality indicators.

One recommends to the Technical University of Cluj-Napoca the implementation of an IT system dedicated to the quality assurance and monitoring of quality indicators.

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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The IER contains a significant contradiction between the description of IPB1.1.1 (pp. 21) and the general description of the doctoral studies provided in section I.2.4 (pp. 11) regarding the duration of the studies. Section I.2.4 correctly states that the studies are 4 years long (according to Law 199/2023 art. 62(3)), but the description of IPB1.1.1. states that "The specific doctoral training process is structured on two components: the Advanced University Training Program (PPUA) and the Individual Scientific Research Program (PCS), under the guidance of the doctoral supervisor and the Academic Guidance and Integrity Committee. By completing the two programs, doctoral students acquire 180 ECTS credits distributed as follows: PPUA – 30 ECTS credits; PCS – 120 ECTS." The actual situation is legally-conform, the PPUA being 1 year (60 ECTS) and the PCS being 3 years (180 ECTS).

At enrolment, each doctoral student signs the Discipline Contract. It includes common disciplines, compulsory in all areas (Ethics and academic integrity; Statistical data processing; Research activity) and 3 optional specialized disciplines, selected in relation to the thesis theme and research directions; all these disciplines cover the PPUA program. The Individual Scientific Research Program requires the defense of 6 progress reports (held every six months, at a maximum of 6 months), validated by the supervisor and by the guidance and academic integrity committee.

The doctoral program is not described by a unitary clear curriculum (similar to the curriculum of the license and/ or master level programs), such that the interested parties must read through the entire regulation package of the doctoral cycle.

The eight expected learning outcomes are defined under the categories: knowledge (3 learning outcomes), skills (3 learning outcomes) and responsibility and autonomy (2 learning outcomes).

There are no recommendations.

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

* 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.

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).

ESCO does not include a single occupation for the employment of graduates (doctors) of the field of electronics, telecommunications and information technologies. The relevant occupations targeted by UTCN-IOUSD for the DSUD ETTI are electronic engineers (2152), telecommunications engineers (2153.1), research engineer (2149.2.8) and higher education faculty professors in engineering (2310.1.16). The proposed learning outcomes can be aligned with the targeted occupations with a medium or high degree of correlation. One verifies that the arguments presented by the IER as conform to the actual situation.

There are no recommendations.

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.

One verifies that the arguments presented by the IER as conform to the actual situation. Candidates admitted to the doctoral studies cycle must go through the two components, PPUA and PCS. Student-centered learning is applied within the study program on both components. The disciplines meant to enrich the knowledge of the doctoral student, as a basis for the successful completion of the PCS and for the elaboration and defense of the thesis are agreed and proposed by the doctoral supervisor together with the doctoral student. PhD students benefit from individual counselling from the members of the guidance and academic integrity committee. The composition of the Academic Guidance and Integrity Commission is established by the doctoral supervisor, following consultation with the doctoral student.

There are no recommendations.

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.

One verifies that the arguments presented by the IER as conform to the actual situation. The PhD supervisors involved in the doctoral program are contact people for multiple Erasmus+ agreements where mobility is the central element. Also, starting with the academic year 2022-2023, funds have been allocated to support the professional training expenses of doctoral students in internship (participation in conferences, summer schools, courses, internships abroad, membership fees for scientific associations, publication of specialized articles or other specific forms of dissemination, etc.)

There are 76 conference participations of the PhD students, from which 33 participations are international (outside Romania) (https://etti.utcluj.ro/files/Acasa/Site/scoala%20doctorala/mobilitati_conferinte_drd.pdf). There are 39 PhD students that participated in these mobilities. There are 9 mobility stages performed by 9 PhD students.

There are no recommendations.

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
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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, nondiscrimination and equal access to resources, the right to academic and professional advice, contestation and feedback mechanisms. One verifies that the arguments presented by the IER as conform to the actual situation.

The IER does not present specific provisions related to special categories of doctoral students (special educational needs/disabilities).

One recommends to the Technical University of Cluj-Napoca the inclusion within the admission regulations the support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.

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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One verifies that the arguments presented by the IER as conform to the actual situation. Most PhD students in the field carry out their activities in the buildings on George Barițiu Street, where all these measures have been implemented. In the other locations where PhD students are active (Str. Observatorului 2 and Bd. Dorobanților 71–73), there are marked access routes, an access ramp at one of the buildings, and an elevator. In addition to physical adaptations, individualized support measures (assistive equipment and software, access to digital platforms) are foreseen, as well as timetable adaptations and evaluation where appropriate. The Capable Differently project at UTCN promotes the inclusive approach, through guidelines, trainings and tools for personalizing support.

One recommends to the Technical University of Cluj-Napoca the inclusion within the admission regulations the support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.

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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The IER provides an internet address for the syllabi of the two compulsory disciplines of the PPUA component of the doctoral program (Statistical Data Processing, and Ethics and Academic Integrity). https://etti.utcluj.ro/files/Acasa/Site/scoala%20doctorala/fise_discipline_obligatorii.pdf

One can observe in the syllabi provided that the Statistical Data Processing discipline is not described by any learning outcomes, does not clearly describe a minimal performance standard and does not provide the description of the examination components.

One can observe in the syllabi provided that the Ethics and Academic Integrity discipline is a discipline at the master level, is not described by any learning outcomes, does not clearly describe a minimal performance standard and does not provide the description of the examination components.

The freely chosen disciplines of the PPUA are not described by public syllabi available on the web pages of the doctoral school.

The freely chosen disciplines of the PPUA are taken from the regular masteral studies (ensuring that the PhD students have not already taken the disciplines in their master program) and described by their masteral syllabi (including master-level learning outcomes and means of examination). The discussions showed that the evaluation for the doctoral students is performed differently.

One recommends to the Technical University of Cluj-Napoca to realize specific syllabi of all PPUA disciplines at doctoral level, to include the doctoral learning outcomes and examination methodology in the discipline syllabi and make all the syllabi public.

The indicator is: partially 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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The IER provides an internet address for the syllabi of the two compulsory disciplines of the PPUA component of the doctoral program (Statistical Data Processing, and Ethics and Academic Integrity). https://etti.utcluj.ro/files/Acasa/Site/scoala%20doctorala/fise_discipline_obligatorii.pdf

Most courses in the PPUA part of the doctoral program (including the *Ethics and Academic Integrity* course) are selected from the regular master's curriculum and are described using the corresponding master's-level syllabi, including master's-level learning outcomes. The syllabi do not include proper-defined minimum performance standards and include master-level assessment methods, which are not linked to the declared learning outcomes. The discussions with the teaching staff and doctoral students indicated, however, that the assessment of doctoral students is conducted according to different evaluation procedures than the procedures described in the syllabi.

The examination outcome of the disciplines of the PPUA (chosen and fixed) does not exist as a mark or qualitative included in a catalogue, but the PhD students are issued "attendance certificates" for the disciplines.

One recommends to the Technical University of Cluj-Napoca to realize specific syllabi of all PPUA disciplines at doctoral level, to include the doctoral learning outcomes and examination methodology in the discipline syllabi and make all the syllabi public.

One recommends to the Technical University of Cluj-Napoca to define the examination outcome of all the disciplines of the PPUA as a mark or qualificative and include that outcome in a catalogue.

The indicator is: partially 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.

One verifies that the arguments presented by the IER as conform to the actual situation. In IOSUD-UTCN, admission to doctoral studies takes place in the UTCN Doctoral School in accordance with the Regulations for admission to doctoral studies in the Technical University of Cluj-Napoca (https://www.utcluj.ro/media/decisions/2024/03/22/H.Senat_nr._1785_Regulamentul_de_admitere_la_doctorat.pdf).

At the level of the doctoral field Electronic Engineering, Telecommunications, and Information Technologies, the state-funded admission places (with or without scholarship) are not pre-allocated to PhD supervisors; instead, the focus is on selecting the best candidates based on the admission interview. In cases where candidates obtain equal interview scores, a tie-breaking criterion is applied, expressed quantitatively as an average $(ML+MM)/2$, ML= arithmetic average between the overall average of the studies and the average/grade obtained at the graduation exam – bachelor and MM=arithmetic average between the general average of passing the years of study and the grade obtained in the dissertation – master, that takes into account the proven level of preparation of the candidates.

There are no recommendations.

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.

One verifies that the arguments presented by the IER as conform to the actual situation. The admission to the doctorate was carried out in accordance with national legislation, without any violations of the principles of non-discrimination, equity and equal opportunities being reported. The procedures and criteria – including eligibility, tests and timetable – are public and applied uniformly to all candidates, regardless of socio-economic status, gender, ethnicity or other personal characteristics. Art. 31 from the admission regulation explicitly prohibits the use of any criteria that could generate discrimination, thus ensuring the inclusion of vulnerable groups at social and educational risk.

The IER does not mention within the admission regulations the support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.

One recommends to the Technical University of Cluj-Napoca the inclusion within the admission regulations the support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.

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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One verifies that the arguments presented by the IER as conform to the actual situation. The Coordination Council of the Doctoral Programs Electronics, Telecommunications and Information Technology supervises the doctoral field of Electronic Engineering, Telecommunications and Information Technologies and ensures the implementation of the legal and institutional framework for the professional activity of doctoral students and doctoral supervisors within the field. All the provisioned duties and activities were realized.

There are no recommendations.

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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One verifies that the arguments presented by the IER as conform to the actual situation. The current strategic plan of the Faculty of Electronics, Telecommunications and Information Technology, which oversees the field, also includes processes and measures aimed at internationalizing the doctoral study program: 13 Erasmus+ agreements are reported offering mobility opportunities for doctoral students; 10 international experts gave lectures for PhD students; 38 participations of doctoral students during the reporting period to international scientific events; 1 doctoral student in joint supervision.

There are no recommendations.

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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One verifies that the arguments presented by the IER as conform to the actual situation. All the eight learning outcomes that characterize the doctoral studies program are designed to be related to research, such that performing research and obtaining research results, validated in reports and published scientific papers, leads to the acquisition of the learning outcomes. Such a design implies that research (and obtaining recognized research results) is both a support and a must.

There are no recommendations.

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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One verifies that the arguments presented by the IER as conform to the actual situation. The quantitative indicators that demonstrate the visibility and valorisation of research outcomes within the doctoral program in Electronic Engineering, Telecommunications, and Information Technologies, for the reporting period, based on aggregated data from the self-evaluation process, are summarized in 73 articles published in WoS indexed journals; 226 number of published articles, 71 participations in scientific conferences, 11 coordinated research projects; average Hirsch WOS index: 7.47 on the set of active doctoral supervisors.

One recommends to the Technical University of Cluj-Napoca the reduction of the rate of papers published in marginal journal/ conferences (non-WOS, non-IEEE).

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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One verifies that the arguments presented by the IER as conform to the actual situation. Within the Technical University of Cluj-Napoca (UTCN), the doctoral school and PhD supervisors undergo periodic internal evaluation processes at dates established by the Council for Doctoral Studies (CSUD). At UTCN, these evaluations take place every five years, in accordance with methodologies approved by the Administrative Council (CA). The self-evaluation methodologies for IOSUD-UTCN activities are defined in HSU 1354/27.05.2021, (https://www.utcluj.ro/media/decisions/2021/05/28/Metodologie_autoevaluare_a__IOSUD-UTCN.pdf) and of the doctoral fields are approved by the Administration Council and the University Senate, providing the general framework that establishes the criteria, indicators of self-assessment of the activity and the reporting method. The updated version of the Methodology for self-assessment of the fields within the UTCN Doctoral School – was approved by the Administration Council on 13.11.2025 and by the Decision of the University Senate no. 2123 of 27.11.2025 (https://www.utcluj.ro/media/decisions/2025/11/28/H.Senat_nr._2123_Metodologie_autoevaluare_a_domeniilor_din_cadrul_S_KinRxR.pdf).

The aggregated survey data for the field of Electronic Engineering, Telecommunications and Information Technologies, covering the PPUA course program, indicates a high degree of satisfaction with the issues checked.

There are no recommendations.

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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One verifies that the arguments presented by the IER as conform to the actual situation. The involvement of the actors in the doctoral program in the field of Electronic Engineering, Telecommunications and Information Technologies 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 the feedback processes, the development of methodologies, verification of the similarity and compliance of the disciplines with the institutional regulations.

One recommends to the Technical University of Cluj-Napoca to clearly document the involvement of stakeholders (especially graduates and industry partners) in the implementation process of procedures.

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.

One verifies that the arguments presented by the IER as conform to the actual situation. The University Ethics Commission (<https://www.utcluj.ro/comisia-de-etica/>) operates on the basis of the Regulation on the organization and functioning of the University Ethics Commission, approved by the UTCN Senate on 26.11.2024, according to an institutional regulation (https://www.utcluj.ro/media/page_document/258/Regulament_de_organizare_si_functionare_a_Comisiei_de_etica_universitara.pdf) 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 behaviour, 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. The activity of the commission is documented through minutes of meetings and annual reports published within the university, accessible on the dedicated page (<https://www.utcluj.ro/comisia-de-etica-rapoarte/>).

There are no recommendations.

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.

One verifies that the arguments presented by the IER as conform to the actual situation. UTCN has procedures for initiating, monitoring and periodically reviewing doctoral programs and fields of study and the activities carried out and apply them. The actual monitoring is provided by the coordination councils according to the self-assessment methodologies and thesis support procedures. The platform

<https://doctorat.utcluj.ro> allows doctoral supervisors to manage and monitor the activity of doctoral students, starting with the admission procedure and continuing with the PPUA and PCS documents, with the provision of monitoring facilities for the coordinator of the coordination council of the field.

The IER does not presents proofs of the impact of applying procedures on quality assurance (which will require the formal definition of measurable quality indicators).

One recommends to the Technical University of Cluj-Napoca the formal definition of measurable quality indicators.

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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One verifies that the arguments presented by the IER as conform to the actual situation. In the 2025 self-evaluation, all active doctoral supervisors in the field (17), along with 58 doctoral students and 27 PhD graduates, provided positive responses. The data they submitted formed the basis for assessing research activities carried out within the field and for generating reports, including: the verification of minimal requirements for PhD supervisors, doctoral research reports, publication lists, and conference participations.

One recommends to the Technical University of Cluj-Napoca to clearly document the involvement of stakeholders (especially graduates and industry partners) in the implementation process of procedures.

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.

One verifies that the arguments presented by the IER as conform to the actual situation. In the doctoral field of Electronic Engineering, Telecommunications, and Information Technologies, the evaluation of teaching staff activities is carried out separately for the advanced university training program (PPUA) and the scientific research program (PCS). PPUA course activities are mostly delegated in master-level courses (regularly dispensed within the master programs, https://etti.utcluj.ro/files/Acasa/Site/scoala%20doctorala/discipline_ofertate_PPUA.pdf) and the evaluation is included in the evaluation of the master-students, thus being of very low statistical relevance.

Evaluation through anonymous feedback questionnaires at doctoral level (PCS) can be problematic in the conditions of a small number of doctoral students (The participation rate in the feedback provided by applying questionnaires is low - 8 PhD students in the field in 2024, 11 in 2025), anonymity can no longer be ensured (e.g. 1 doctoral supervisor has only one doctoral student and is evaluated).

One recommends to the Technical University of Cluj-Napoca the implementation of a teaching staff/ PhD supervisor evaluation system that is adapted to the particularities of the doctoral studies program, mainly regarding the small number of involved students.

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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One verifies that the arguments presented by the IER as conform to the actual situation. Annually, IOSUD-UTCN prepares reports on doctoral activities using these databases: <https://iosud.utcluj.ro/scoli-doctorale-146.html>. Each year, reports are also submitted to ANS, INS, RMU, along with internal reports.

At the level of the doctoral field, the self-assessment sheets collected for doctoral students in the thesis completion and defence phase are monitored and archived. Most of this gathered information is legally binding and is not directly related to the internal quality assurance process.

There are no recommendations.

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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One verifies that the arguments presented by the IER as conform to the actual situation. At IOSUD-UTCN level the web page <http://iosud.utcluj.ro/> is addressed to all PhD students at the Technical University of Cluj-Napoca. There are information on: Institutional Regulation on the organization and conduct of doctoral studies, Regulations of the Doctoral School, The Regulation on the organization of admission to the doctoral cycle of studies, Regulations and procedures regarding habilitation, Procedures for the completion of doctoral studies, Announcements regarding the defense of doctoral theses and habilitation theses, Coordination councils webpages, PhD supervisor webpages.

The dedicated page for the field (<https://etti.utcluj.ro/scoala-doctorala.html>) provides additional information regarding the composition of the coordination council, the mission of the doctoral study program, doctoral supervisors assigned to the field, doctoral students, annual doctoral research topics, admission, and periodic evaluations of the doctoral field.

There are no recommendations.

The indicator is: fulfilled

Indicator I.P.C.6.1.2	The organisational component ensures transparent decision-making processes.
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One verifies that the arguments presented by the IER as conform to the actual situation. Decisions regarding the organization of doctoral programs, quality management, budgeting, thesis defences, habilitations, admission, and doctoral student monitoring are adopted within CSUD and the Doctoral School Council. The resulting regulations and methodologies are submitted for approval by the Board of Administration and the Senate, and subsequently published on the website <https://iosud.utcluj.ro/>

At the doctoral field level, the Coordination Council for the doctoral programs in Electronics, Telecommunications, and Information Technology exercises its responsibilities in managing processes within the field: admission, research topics, habilitations and allocations, doctoral theses, and monitoring, through consultations and internal communications with the doctoral supervisors in the field. In urgent situations, decisions are adopted by the members of the coordination council and promptly communicated to the supervisors and, through them, to the doctoral students.

There are no recommendations.

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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One verifies that the arguments presented by the IER as conform to the actual situation. The doctoral studies domain of Electronics Engineering, Telecommunications and Information Technologies (ETTI) from the Doctoral School of the Technical University of Cluj-Napoca (UTCN) under external evaluation for maintaining the accreditation is part of the fundamental domain ENGINEERING SCIENCES and has been previously evaluated by ARACIS in 2021, maintaining its accreditation under ARACIS Council Decision 75/30.09.2021 and under the Minister of Education Order no. 5500/2021 published in the Official Gazette No. 1067/08.11.2021. The progress report of the domain of doctoral studies was evaluated by the ARACIS Council on 15.07.2025, finding that some recommendations have not been fully implemented at the time of analysis; the recommendations are: Establishing clear criteria at the university level for measuring the efficiency of the functioning of doctoral student management systems; and Defining a threshold for the international visibility indicator (using component A3 of the CNATDCU minimum standards) that is more stimulating for performance (current reference value of 37.5 is minimal). These recommendations are not directly linked to the current performance indicators, but UTCN has defined the Hirsch index as international visibility index starting from 2025. The current evaluation is performed under the contract 358/02.04.2026.

There are no recommendations.

The indicator is: fulfilled

IV. SWOT Analysis

Strengths: ✓ Many doctoral supervisors with national and international visibility and recognition ✓ Regular flow of thesis successfully defended ✓ Excellent research facilities ✓ Good participation of PhD students at published research (journal publications)	INTERNAL FACTORS ↑	Weaknesses: ✓ Aging of the population of PhD advisors
SWOT analysis		

Opportunities: ✓ Participation of UTCN into a universities alliance (Eut+) ✓ European research funding opportunities	 EXTERNAL FACTORS	Threats: ✓ Uncertainty of the public funding available for doctoral studies ✓ Loss of attractivity of the engineering doctoral studies in society
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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	There are no recommendations
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.
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	There are no recommendations.
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	One recommends to the Technical University of Cluj-Napoca the implementation of procedures for the periodic verification of the functionality status of immobile and mobile assets and the planning of preventive maintenance and periodic calibration of research equipment.
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	Fulfilled	One recommends to the Technical University of Cluj-Napoca the implementation of preventive verification of the fulfillment of the modifications in the CNATDCU minimal habilitation criteria and the

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
	and professional competences to teach the subject matters assigned to them in the job list.		implementation of a plan for compliance to the minimal criteria by all PhD supervisors. One recommends to the Technical University of Cluj-Napoca the implementation of a mechanism ensuring that PhD students are evenly allocated to PhD supervisors and no supervisor exceeds 8 simultaneous enrolled students.
6.	I.P.A.3.1.2 The HEI ensures professional and personal development for its staff.	Fulfilled	One recommends to the Technical University of Cluj-Napoca the implementation of a professional and personal development plan for each teaching staff (including the PhD supervisors), which includes various formative activities and is periodically verified and updated.
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.
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	One recommends to the Technical University of Cluj-Napoca the implementation of an IT system dedicated to the quality assurance and monitoring of quality indicators.
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	There are no recommendations.
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.
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.
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.
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	One recommends to the Technical University of Cluj-Napoca the inclusion within the admission regulations the support measures to ensure access of vulnerable groups at social and

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
			educational risk, including candidates with special educational needs and/or disabilities.
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	One recommends to the Technical University of Cluj-Napoca the inclusion within the admission regulations the support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.
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.	Partially fulfilled	One recommends to the Technical University of Cluj-Napoca to realize specific syllabi of all PPUA disciplines at doctoral level, to include the doctoral learning outcomes and examination methodology in the discipline syllabi and make all the syllabi public.
16.	I.P.B.5.1.2 Achievement of the learning outcomes is checked in ongoing examinations and study completion exams.	Partially fulfilled	One recommends to the Technical University of Cluj-Napoca to realize specific syllabi of all PPUA disciplines at doctoral level, to include the doctoral learning outcomes and examination methodology in the discipline syllabi and make all the syllabi public. One recommends to the Technical University of Cluj-Napoca to define the examination outcome of all the disciplines of the PPUA as a mark or qualificative and include that outcome in a catalogue.
17.	I.P.B.7.1.1 The organisational component applies the admission procedures.	Fulfilled	There are no recommendations.
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	One recommends to the Technical University of Cluj-Napoca the inclusion within the admission regulations the support measures to ensure access of vulnerable groups at social and educational risk, including candidates with special educational needs and/or disabilities.
19.	I.P.B.7.2.1 The organisational component applies the regulations concerning the students' professional activity.	Fulfilled	There are no recommendations.
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	There are no recommendations.
21.	I.P.B.9.1.1 Learning based on scientific investigation and research results support and are capitalised upon in achieving the learning	Fulfilled	There are no recommendations.

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
	outcomes envisaged through the study programme.		
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	One recommends to the Technical University of Cluj-Napoca the reduction of the rate of papers published in marginal journal/ conferences (non-WOS, non-IEEE).
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	There are no recommendations.
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	One recommends to the Technical University of Cluj-Napoca to clearly document the involvement of stakeholders (especially graduates and industry partners) in the implementation process of procedures.
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.
26.	I.P.C.3.1.1 The organisational component consistently applies the procedures, and proves their impact on quality assurance.	Fulfilled	One recommends to the Technical University of Cluj-Napoca the formal definition of measurable quality indicators.
27.	I.P.C.3.1.2 Members of its own community and other stakeholders are involved in the procedure implementation process.	Fulfilled	One recommends to the Technical University of Cluj-Napoca to clearly document the involvement of stakeholders (especially graduates and industry partners) in the implementation process of procedures.
28.	I.P.C.4.1.1 The organisational component analyses the results of the students' biannual evaluation of teachers.	Fulfilled	One recommends to the Technical University of Cluj-Napoca the implementation of a teaching staff/ PhD supervisor evaluation system that is adapted to the particularities of the doctoral studies program, mainly regarding the small number of involved students.
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.
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.
31.	I.P.C.6.1.2 The organisational component ensures transparent decision-making processes.	Fulfilled	There are no recommendations.

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
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.

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	12	2	0
Domain C. Quality management	10	0	0
Total	30	2	0

The evaluation of the performance indicators shows that 30 indicators are fulfilled, and 2 indicators are partially fulfilled (0 in category A, 2 in category B and 0 in category C, with no more than 2 indicators partially fulfilled in any category).

VI. Conclusions

As a consequence of the evaluation of the performance indicators, establishing that 30 indicators are fulfilled and 2 indicators are partially fulfilled (with no more than 2 indicators partially fulfilled in any category), the external evaluation commission proposes maintaining accreditation of the doctoral studies domain Electronic Engineering, Telecommunications and Information Technologies at the Technical University of Cluj-Napoca.

VII. Annexes

Enclose the schedule of the on-site visit, the list of the documents reviewed, as well as any other documents that are relevant for the evaluation procedure, which are referred to in the EER and cannot be accessed through links.



THE ROMANIAN AGENCY FOR QUALITY ASSURANCE IN HIGHER EDUCATION

Member of the European Association for Quality Assurance in Higher Education - ENQA

Listed in the European Quality Assurance Register for Higher Education - EQAR

Intervalul orar/ <i>Hour</i>	Activități de evaluare/ <i>Evaluation activities</i>	Participanți/ <i>Participants</i>	Locație/ <i>Location</i> /Listă participanți/ <i>List of Participants</i>
Joi/ <i>Thursday</i> , 11.06.2026			
09:00-09:30	Întâlnirea comisiei de experți în evaluarea externă a calității cu reprezentanții conducerii componentei organizatorice/ <i>Meeting of the external quality evaluation experts' panel with the representatives of the management of the organisational component</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Reprezentanți ai conducerii componentei organizatorice aferente domeniului de studii de doctorat evaluat/ <i>Representatives of the management of the organisational component</i> - Persoana de contact/ <i>Contact person</i>	Sala BT 2.04/ <i>Locația G. Barițiu nr.8 Room BT. 2.04 /Location 8 G. Barițiu street</i> <i>List of participants attending the meeting:</i> <i>director of the Council for Doctoral University Studies CSUD</i> <i>director of the TUCN's Doctoral School</i> <i>Vice-Rector for Resource Management and Financial Policies, Technical University of Cluj-Napoca (UTCN)</i> <i>dean of the Faculty of Electronics, Telecommunications and Information Technology.</i> <i>coordinator of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology, member of the Council for Doctoral University Studies CSUD</i> <i>member of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology.</i> <i>member of the Coordination Council of Doctoral Programs in Electronics,</i>



THE ROMANIAN AGENCY FOR QUALITY ASSURANCE IN HIGHER EDUCATION

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Intervalul orar/ <i>Hour</i>	Activități de evaluare/ <i>Evaluation activities</i>	Participanți/ <i>Participants</i>	Locație/ <i>Location</i> /Listă participanți/ <i>List of Participants</i>
			Telecommunications and Information Technology. PhD student member of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology
09:30-10:30	Întâlnirea comisiei de experți evaluatori în evaluarea externă a calității cu echipa care a realizat raportul de evaluare internă (REI)/ <i>Meeting of the external quality evaluation experts' panel with the team that has drafted the internal evaluation report</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Echipa care a realizat REI/ <i>Team that has drafted the IER</i>	Sala BT 2.04/Locația G. Barițiu nr.8 Room BT. 2.04 /Location 8 G. Barițiu street List of participants attending the meeting: coordinator of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology, member of the Council for Doctoral University Studies CSUD member of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology. faculty member (academic staff), Department of Applied Electronics.
10:30-12:00	Vizitarea bazei materiale/ <i>Visiting the material resources</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Reprezentanți ai instituției sau Academiei Române, după caz/ <i>Representatives of the HEI or the Romanian Academy, as applicable</i>	Sala Locația/ Room/Location Barițiu 8 - BT 2.04 G., BT 2.05 G, BT 2.06 G Barițiu 28 - room D20 room S2.3 room 303 room 328 Daicoviciu 15: room 433

Intervalul orar/ <i>Hour</i>	Activități de evaluare/ <i>Evaluation activities</i>	Participanți/ <i>Participants</i>	Locație/ <i>Location</i> /Listă participanți/ <i>List of Participants</i>
			Observatorului 2 : <i>rooms 409,411A</i> <i>room 506</i> <i>Artificial Intelligence Research Institute</i> <i>room 102</i>
12:00-12:30	Întâlnirea comisiei de experți în evaluarea externă a calității cu responsabilii centrelor/laboratoarelor de cercetare / <i>Meeting of the external quality evaluation experts' panel with the staff in charge with the research centres/laboratories</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Responsabilii centrelor/laboratoarelor de cercetare/ <i>Staff in charge with research centres/laboratories</i>	Sala Locația/ Room/Location: Sala BT 2.04/G. Barițiu nr.8/ <i>BT 2.04/8 G. Barițiu Street</i> List of participants attending the meeting:: - <i>Multimedia Technologies and Telecommunications Research Centre</i> - <i>Information Technology in Electronics Research and Development Center</i> - <i>Speech Processing Research Group</i> - <i>Signal Processing Group</i> - <i>Integrated Circuits and Systems Group</i> - <i>Digitally Enhanced Analog and RF Integrated Circuits</i> - <i>Renewable Energies Research Group</i> - <i>Cellular and Wireless Communications Research Laboratory</i> <i>Centre Of Competence for Wireless Intra-Satellite Technologies</i> - <i>Unified Communications in Cloud Laboratories</i> - <i>Data Processing and Security Research Centre</i>
12:30-13:00	Întâlnirea comisiei de experți în evaluarea externă a calității cu personalul didactic implicat în activitățile din cadrul DSUD/ <i>Meeting of the external quality evaluation experts' panel with the teaching staff involved in the activities within the DSUD</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Cadre didactice conducători de doctorat/ <i>Teaching staff who are PhD supervisors</i>	Sala/Locația/ Room/Location: BT 2.04, Str. G. Barițiu nr.8/BT 2.04, 8 G. Barițiu Street List of participants attending the meeting:: 10 PhD advisor
13:00-14:00	Pauză de prânz/ <i>Break (lunch)</i>		



THE ROMANIAN AGENCY FOR QUALITY ASSURANCE IN HIGHER EDUCATION

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14:00-14:30	Întâlnirea tehnică a comisiei de experți evaluatori (Activitate în colaborare pentru clarificarea aspectelor prezentate în REI)/ <i>Technical meeting of the expert evaluation panel (Collaborative activity for clarifying the aspects presented in the Internal Evaluation Report - IER)</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i>	Sala BT 2.06/Locația G. Barițiu nr.8 <i>Room BT. 2.06 /Location 8 G. Barițiu street</i>
14:30-15:00	Întâlnirea comisiei de experți în evaluarea externă a calității cu membri ai Comisiei de etică universitară/ <i>Meeting of the experts panel with members of the University Ethics Committee</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Membri ai Comisiei de etică universitară/ <i>Members of the University Ethics Committee</i>	Sala BT 2.04/Locația G. Barițiu nr.8 <i>Room BT. 2.04 /Location 8 G. Barițiu street</i> <i>member of the Ethics Committee of the Technical University of Cluj-Napoca (UTCN), representing the Faculty of Electronics, Telecommunications and Information Technology</i>
15:00-15.30	Întâlnirea comisiei de experți în evaluarea externă a calității cu reprezentanți ai structurilor organizatorice în domeniul asigurării calității/ <i>Meeting of the external quality evaluation experts' panel with representatives of the quality assurance organisational structures</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Reprezentanți ai structurilor organizatorice în domeniul asigurării calității/ <i>Representatives of quality assurance organisational structures</i>	Sala BT 2.04/Locația G. Barițiu nr.8 <i>Room BT. 2.04 /Location 8 G. Barițiu street</i> <i>vice rector for Relations with the socio-economic environment, Chair of the Quality Assurance and Evaluation Committee (CEAC)</i> <i>director of the Quality Insurance Department</i> <i>Vice Dean and Quality Assurance Responsible of the Faculty of Electronics, Telecommunications and Information Technology</i> <i>director of the TUCN's Doctoral School</i> <i>coordinator of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology, member of the Council for Doctoral University Studies CSUD</i>



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15:30-15:45	Pauză/ <i>Break</i>		
15:45-16:30	Întâlnirea comisiei de experți în evaluarea externă a calității cu studenți * doctoranzi din cadrul DSUD/ <i>Meeting of the external quality evaluation experts' panel with doctoral students of the DSUD</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Studenți doctoranzi/ <i>Doctoral students</i>	Sala BT 2.04/Locația G. Barițiu nr.8 Room <i>BT. 2.04 /Location 8 G. Barițiu street</i> <i>List of participants attending the meeting:</i> 12 PhD students
16:30-16:45	Pauză/ <i>Break</i>		
16:45-17:30	Întâlnirea comisiei de experți în evaluarea externă a calității cu absolvenți†,‡ ai DSUD/ <i>Meeting of the external quality evaluation experts' panel with alumni§ of the DSUD</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Absolvenți ai domeniului de studii evaluat/ <i>Graduates</i>	Sala BT 2.04/Locația G. Barițiu nr.8 Room <i>BT. 2.04 /Location 8 G. Barițiu street</i> <i>List of participants attending the meeting:</i> 12 alumni
17:30-17:45	Pauză/ <i>Break</i>		
17:45-18:30	Întâlnirea comisiei de experți în evaluarea externă a calității cu angajatori ai absolvenților DSUD/ <i>Meeting of the external quality evaluation experts' panel with employers** of the DSUD alumni</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Angajatori/ <i>Employers</i>	Sala BT 2.04/Locația G. Barițiu nr.8 Room <i>BT. 2.04 /Location 8 G. Barițiu street</i> <i>List of participants attending the meeting:</i>

* Nu este obligatorie în cazul autorizării domeniilor de studii universitare de doctorat/ It is not mandatory in the case of authorization of doctoral university study domain.

† Se va evita invitarea absolvenților care sunt angajați ai ÎIS sau ai OFE, după caz.

‡ Nu este obligatorie în cazul autorizării domeniilor de studii universitare de doctorat

§ Avoid inviting alumni who are also staff of the HEI or members of the Romanian Academy, as applicable.

** Avoid inviting employers who are also staff of the HEI or members of the Romanian Academy, as applicable.

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			senior Manager, Innovation & University Cooperation, Robert Bosch Engineering Center, Cluj <i>Director of the Experimental and Theoretical Neuroscience Lab at the Transylvanian Institute of Neuroscience, Cluj-Napoca (Romania).</i> <i>President of the board of directors at the Transylvanian Institute of Neuroscience Cluj-Napoca</i> - director R&D, INFINEON Technologies - <i>R&D Director and Site Leader at NI/EMERSON Romania</i> - <i>Design Center Manager / Engineering Manager – at Analog Devices (ADI), Romania</i> - <i>Deputy Head of the META Department, Member of the Scientific Council, National Institute for Research and Development of Isotopic and Molecular Technologies (ITIM), Cluj-Napoca</i> - <i>CEO at Control Data Systems</i>
Vineri/ <i>Friday</i>, 12.06.2026			
09:00-12:00-	Întâlnire tehnică a comisiei de experți evaluatori/ <i>Technical meeting of the expert evaluation panel</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i>	Sala BT 2.06/Locația G. Barițiu nr.8 Room BT. 2.06 /Location 8 G. Barițiu street
12:00-13:00-	Pauză (prânz)/ <i>Break (lunch)</i>		
13:00 - 14:00	Finalizarea activităților de evaluare/ <i>Completion of evaluation activities</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i>	Sala BT 2.06/Locația G. Barițiu nr.8 Room BT. 2.06 /Location 8 G. Barițiu street
14:00-15:00	Întâlnirea membrilor comisiei de experți evaluatori cu reprezentanții conducerii IÎS sau a OFE, după caz și ai conducerii componentei organizatorice pentru comunicarea concluziilor procesului de evaluare/ <i>Meeting of the members of the expert evaluators' panel</i>	- Comisia de experți evaluatori ai ARACIS/ <i>Panel members</i> - Reprezentanți ai conducerii și ai domeniului de studii evaluat/ <i>Representatives of the management</i>	Sala BT 2.04/Locația G. Barițiu nr.8 Room BT. 2.04 /Location 8 G. Barițiu street Lista persoanelor care vor participa la întâlnire/ <i>List of participants attending the meeting:</i>



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	<i>with representatives of the management of the HEI or the EP, as applicable, and management of the organisational component, to communicate the conclusions of the evaluation process</i>	- Persoana de contact/ <i>Contact person</i>	- director of the Council for Doctoral University Studies CSUD - coordinator of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology, member of the Council for Doctoral University Studies CSUD - member of the Coordination Council of Doctoral Programs in Electronics, Telecommunications and Information Technology.