



HOTĂRÂRE

privind validarea rezultatelor procedurilor de evaluare externă a calității educației

Având în vedere prevederile generale și specifice aferente proceselor sau procedurilor privind:

- **evaluarea externă a calității și validarea rezultatelor cuprinse în Rapoartele de evaluare externă:** art. 223-226, art. 229-230 și art. 249 alin. (1) lit. f), g) și h) din Legea nr. 199/2023 a învățământului superior nr. 199/2023, cu modificările și completările ulterioare, denumită în continuare Legea, precum și în Metodologia de evaluare externă a calității educației în învățământul superior, aprobată prin Hotărârea Guvernului nr. 962/2024, cu modificările și completările ulterioare, denumită în continuare Metodologia;
- **autorizarea de funcționare provizorie pentru programele de studii universitare din ciclul I de licență:** art. 235 alin. (1) lit. a) și lit. b) pct. (ii), alin. (2)-(5) și art. 236 alin. (1)-(2) din Lege; art. 27, art. 29 și art. 32-33, coroborate cu art. 59, art. 62 și art. 63 din Metodologie;
- **autorizarea pentru domeniile de studii universitare din ciclul II de masterat:** art. 235 alin. (1) lit. a) și lit. b) pct. (iii), alin. (2)-(5) și art. 236 alin. (1)-(2) din Lege; art. 27-29 și art. 34-35, coroborate cu art. 59, art. 62 și art. 63 din Metodologie;
- **autorizarea pentru domeniile de studii universitare din ciclul III de doctorat:** art. 235 alin. (1) lit. b) pct. (iv), alin. (2)-(5) și art. 236 alin. (1) și (3) din Lege; art. 27-29 și art. 37-38, coroborate cu art. 59, art. 62 și art. 63 din Metodologie;
- **acreditarea pentru programele de studii universitare din ciclul I de licență:** art. 239 alin. (1) lit. b) și alin. (6)-(7), art. 240 alin. (1) din Lege; art. 39-40 și art. 42, coroborate cu art. 60, art. 62 și art. 63 din Metodologie;
- **acreditarea pentru domeniile de studii universitare din ciclul II de masterat:** art. 239 alin. (3) și alin. (6)-(7), art. 240 alin. (1) din Lege; art. 39-40 și art. 43-44, coroborate cu art. 60, art. 62 și art. 63 din Metodologie;
- **acreditarea pentru domeniile de studii universitare din ciclul III de doctorat:** art. 239 alin. (4) și alin. (6)-(7), art. 240 alin. (2) din Lege; art. 39-40 și art. 46-47, coroborate cu art. 60, art. 62 și art. 63 din Metodologie;
- **analiza și validarea în vederea verificării respectării Metodologiei, de către comisiile de experți evaluatori în cadrul rapoartelor de evaluare externă:** art. 235 alin. (4), pentru autorizare, respectiv art. 239 alin. (6) lit. d), pentru acreditare și menținerea acreditării, din Lege, precum și art. 62-63 din Metodologie.

Luând în considerare:

a. Ghidul aplicabil programelor de studii universitare de licență, aprobat prin Hotărârea Consiliului ARACIS nr. 42/06.02.2025, cu modificările și completările ulterioare;



b. Ghidul aplicabil domeniilor de studii universitare de masterat, aprobat prin Hotărârea Consiliului ARACIS nr. 83/03.04.2025;

c. Ghidul aplicabil domeniilor de studii universitare de doctorat, aprobat prin Hotărârea Consiliului ARACIS nr. 84/03.04.2025;

Întrucât Consiliul ARACIS validează, prin vot deschis și pe baza verificării respectării Metodologiei, propunerile formulate de către comisiile de experți evaluatori și poate solicita refacerea Rapoartelor de evaluare externă atunci când constată că Metodologia nu a fost respectată ori respectivele rapoarte nu cuprind suficiente date și dovezi pentru adoptarea deciziei,

Ținând seama de considerentele Consiliului aferente validării rezultatelor individualizate în procesele verbale de ședință, al căror format a fost aprobat prin Hotărârea Consiliului nr. 170/H/03.07.2025,

În temeiul art. 258 alin. (1) din Lege și al art. 62 alin. (1) și (2) din Metodologie, precum și al art. 7 alin. (1) și alin. (3) lit. b) și h), art. 11 alin. (1) și al art. 23 alin. (5) din Regulamentul de organizare și funcționare al ARACIS, aprobat prin Hotărârea Consiliului ARACIS nr. 188/H/27.06.2024 și completat prin Hotărârea nr. 116/H/02.04.2026,

Consiliul Agenției Române de Asigurare a Calității în Învățământul Superior HOTĂRĂȘTE:

Art. 1. (1) Se validează rezultatele procedurilor de evaluare externă a calității educației pentru programele de studii universitare de licență, domeniile de studii universitare de masterat și domeniile de studii universitare de doctorat, după caz, cuprinse în anexele 1-16, care fac parte integrantă din prezenta hotărâre.

(2) Pentru fiecare dintre programele sau domeniile de studii universitare, anexa corespunzătoare indică, conform art. 230 alin. (2) și alin. (3) lit. b), c) și d), art. 231 lit. a) și b), art. 232 lit. c), d) și e), art. 235 alin. (1) lit. b), punctele ii-iv, alin. (3)-(5), art. 239 alin. (1) lit. b), alin. (3), (4), (6) lit. a)-d) din Lege, procesul sau procedura de evaluare parcursă, rezultatele din Raportul de evaluare externă care se validează, precum și considerentele analizei de validitate și concluzia motivată a Consiliului.

(3) Rezultatele prevăzute la alin. (1) se comunică Ministerului Educației și Cercetării și instituțiilor solicitante și se publică pe site-ul ARACIS.

Art. 2. Analiza de validitate se exercită în limitele art. 235 alin. (4), respectiv ale art. 239 alin. (6) lit. d) din Lege și ale art. 62 raportat la art. 63 din Metodologie.

Art. 3. Rapoartele de evaluare externă, inclusiv numele experților, se publică integral pe site-ul ARACIS, în condițiile art. 229 alin. (2) din Lege și ale art. 62 alin. (3) din Metodologie.



Art. 4. Prezenta hotărâre intră în vigoare la data de 27.08.2026.

Art. 5. Prezenta hotărâre va fi dusă la îndeplinire de Direcția Asigurarea Calității și de Compartimentul Tehnologia Informației.

Prof. univ. dr. ing. Cristian-Vasile DOICIN
Președinte

Daniela Cristina GHIȚULICĂ
Director general

Carmen MIRIAN
Director Direcția Asigurarea Calității

Cristina-Vasilica ICOCIU
Director Direcția Juridică, Cooperare, Comunicare și Formare
Consilier juridic

NR. 260/H/27.08.2026

**AGENȚIA ROMÂNĂ DE ASIGURARE A CALITĂȚII ÎN ÎNVĂȚĂMÂNTUL SUPERIOR**Membră în Asociația Europeană pentru Asigurarea Calității în Învățământul Superior - **ENQA**Înscrișă în Registrul European pentru Asigurarea Calității în Învățământul Superior - **EQAR****ANEXA NR. 1**

la Hotărârea Consiliului ARACIS nr. 260/H/27.08.2026

Anexa 1.1

DATE DE IDENTIFICARE		
Instituția de învățământ superior/organizația furnizoare de educație	Universitatea Națională de Știință și Tehnologie Politehnica București	
Școala(ile) doctorală(e)	Inginerie Industrială și Robotică; Antreprenariat, Ingineria și Managementul Afacerilor; Inginerie Industrială (Pitești)	
Domeniul de studii universitare de doctorat (DSUD)	Inginerie industrială	
Procedura/procesul de evaluare externă a calității educației	Menținerea acreditării	
DECIZIA		
Descrierea pe scurt a procesului de luare a deciziei		
Raportul de evaluare externă (REE) a fost analizat în ședința Comisiei permanente de specialitate Științe Inginerești 1 (CPS_C10) din 14.08.2026, propunerea de decizie fiind consemnată în PV nr. 4352/14.08.2026. Propunerea de decizie a fost analizată de către Departamentul de evaluare Studii Universitare (DESU), opinia DESU fiind consemnată în PV nr.4487/27.08.2026.		
Gradul de îndeplinire a standardelor și indicatorilor de performanță și motivarea deciziei (se indică cifrele care stau la baza luării deciziei Consiliului ARACIS)		
Domeniul	Standarde Î / N	Indicatori de performanță Î / PÎ / N
A	Î: S.A.1.1, S.A.1.2., S.A.2.1., S.A.2.2., S.A.3.1., S.A.3.2., S.A.4.1. N: -	Î: I.P.A.1.1.1, I.P.A.1.2.1, I.P.A.2.1.1, I.P.A.2.2.1, I.P.A.3.1.1, I.P.A.3.1.2, I.P.A.3.2.1, I.P.A.4.1.1 PÎ: - N: -
B	Î: S.B.1.1., S.B.2.1., S.B.3.1., S.B.3.2., S.B.4.1., S.B.5.1., S.B.7.1., S.B.7.2., S.B.8.1., S.B.9.1., S.B.9.2. N: -	Î: I.P.B.1.1.1., I.P.B.2.1.2, I.P.B.3.1.1, I.P.B.3.1.2, I.P.B.3.2.1, I.P.B.4.1.1., I.P.B.5.1.1, I.P.B.5.1.2, I.P.B.7.1.1, I.P.B.7.1.2, I.P.B.7.2.1, I.P.B.8.1.1, I.P.B.9.1.1, I.P.B.9.2.1 PÎ: - N: -
C	Î: S.C.1.1, S.C.1.2, S.C.2.2., S.C.3.1, S.C.4.1., S.C.5.1., S.C.6.1., S.C.8.1 N: -	Î: I.P.C.1.1.1, I.P.C.1.2.1, I.P.C.2.2.2, I.P.C.3.1.1, I.P.C.3.1.2, I.P.C.4.1.1., I.P.C.5.1.1, I.P.C.6.1.1, I.P.C.6.1.2, I.P.C.8.1.1 PÎ: - N: -



Motivarea deciziei

Consiliul ARACIS în ședința din 27.08.2026 analizează și validează propunerea comisiei de experți în evaluarea externă a calității, constatând că din:

- 32 indicatori: 32 sunt îndepliniți, 0 parțial îndepliniți și 0 neîndepliniți
- 26 standarde: 26 sunt îndeplinite, 0 neîndeplinite

*și, astfel, prin aplicarea art. 63 din Metodologie decide că **standardele sunt ÎNDEPLINITE**.*

Decizia

Mentținerea acreditării



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

Higher Education Institution/Education Provider Organization:	National University of Science and Technology POLITEHNICA Bucharest
Doctoral School:	Industrial Engineering and Robotics; Entrepreneurship, Engineering and Business Management; Industrial Engineering (Pitești)
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.	RACZ Sever-Gabriel	Expert evaluator	
2.	GRIGORE Marian	International Expert	
3.	LUPU Ana-Maria	PhD Student Evaluator	

I. Introduction

The commission made up of Prof.univ.dr.ing. RACZ Sever-Gabriel ("LUCIAN BLAGA" UNIVERSITY OF SIBIU), GRIGORE Marian (TECHNICAL UNIVERSITY OF MOLDOVA), Ana-Maria LUPU ("GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI) approved by the ARACIS Council by Decision no. HC no. 210/H/02.07.2026, travelled, between 23.07 – 24.07.2026, to the National University of Science and Technology POLITEHNICA Bucharest (POLITEHNICA Bucharest), for the external quality assessment in order to maintain the accreditation **of the field of doctoral studies in Industrial Engineering (DSUD-II)**.

POLITEHNICA Bucharest is a public institution of higher education, with legal personality, part of the national higher education system in Romania. It was established following the merger process between the POLITEHNICA University of Bucharest and the University of Pitesti, according to the provisions of Law no. 186/2023 on the establishment of the National University of Science and Technology POLITEHNICA Bucharest. Currently, POLITEHNICA Bucharest has 21 faculties and 19 doctoral schools, providing approximately 40,000 students with a high-performance education, supported by a complex research activity, according to European requirements and with the means offered by the modern information society in all three university cycles. Within POLITEHNICA Bucharest operates the Organizing Institution of Doctoral University Studies (IOSUD – POLITEHNICA Bucharest), an academic and administrative structure responsible for organizing, coordinating and developing doctoral study programs. Within the cycle of doctoral studies, the teaching and research activity is organized through the doctoral schools coordinated by IOSUD – POLITEHNICA Bucharest, in accordance with the institutional regulations and legislation specific to doctoral studies. Doctoral programs include both training activities based on advanced university studies and individual scientific research activities carried out under the coordination of doctoral supervisors and guidance and academic integrity committees. The activity of doctoral schools is supported by institutional mechanisms for monitoring the academic and scientific progress of doctoral students, by organizing periodic evaluations and by implementing procedures for admission and completion of doctoral studies. The field of doctoral studies in Industrial Engineering is managed in IOSUD POLITEHNICA by three doctoral schools, the Doctoral School of Industrial Engineering and Robotics and, respectively, the Doctoral School of Entrepreneurship, Engineering and Business Management in the University Center of Bucharest and by the Doctoral School of Industrial Engineering in the University Center Pitesti. The mission of the field of doctoral studies Industrial Engineering (II), at IOSUD POLITEHNICA, through the corroboration of the missions SD-IIR, SD AIMA and SD-II, is, essentially, to contribute to the solution of theoretical and/or applicative problems generated by processes/products/integrated systems/technologies, current and prospective, specific to the field of doctoral II, with the expression of the results as new knowledge, inventions, publications, methodologies, physical components, equipment, educational/industrial software applications, etc. The previous evaluation of the PhD field Industrial Engineering took place in 2021, ending with the qualification *Maintaining accreditation* by Council Decision 63/31.08.2021. The Industrial Engineering Field at the former University of Pitesti was also evaluated separately in 2021 (with the interim evaluation in 2024).

II. Methods used

For the external quality assessment in order to maintain the DSUD-II accreditation, the ARACIS evaluation commission analyzed the Internal Evaluation Report (REI) and the annexes to the REI, uploaded on the ARACIS platform, visited the material base and met with the management of the organizational component, the team that drew up the REI, employers, graduates, doctoral students, doctoral supervisors in the field, heads of research centers, members of the quality assurance structures, the staff who provide secretarial services at IOSUD level, according to the agreed visit schedule. The documents analyzed before the on-site visit and during the visit, uploaded on the ARACIS platform, are the following: Internal Evaluation Report (REI); Annex A1. List of partnerships, collaborations, elbows; Annex A2. Centralization of the material base; Annex A3. Status of functions/ extract from the status of functions; Annex A4. The events and projects in which the teachers participated; Annex A5. Steering committees; Annex A6. Statistical data on SD evolution; Annex A7. Projects, scientific events in which the doctoral student participated; Annex A8. Training activities attended by doctoral supervisors; Annex A9. Research results for doctoral students; Annex A10. Implementation of recommendations 2021. During the evaluation visit, the commission inspected, according to the established program, the following spaces intended for the research activity: Industry 4.0 Laboratory – room CK104; Additive Manufacturing Laboratory – room CK009b.

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**

[POLITEHNICA Bucharest](#) has a transparent university management system, adapted to the mission and objectives assumed. The choice of the governing bodies is made according to clear regulations, [displayed on the university's website](#). All regulations/methodologies are posted on the institution's website, in the [Regulations and Reports](#) section. POLITEHNICA Bucharest organizes [doctoral studies](#) within IOSUD – POLITEHNICA Bucharest. The SD-IIR, SD-AIMA and SD-II doctoral schools that manage the field of doctoral studies in Industrial Engineering operate according to their own Organization and Functioning Regulations ([ROF SD-IIR](#), [Regulations](#), [ROF SD-AIMA](#) and [SD-II](#)), drawn up according to the provisions [of the Charter of the POLITEHNICA Bucharest](#). The governing structure of the doctoral school is the Council of the doctoral school ([SD-IIR](#), [SD AIMA](#) and [SD-II](#)). IOSUD-POLITEHNICA is led by the [Council for Doctoral University Studies \(CSUD\)](#); the director of CSUD is appointed according [to the Methodology for conducting the public competition for the position of director of the Council for Doctoral University Studies \(CSUD\)](#); the directors of the doctoral schools and of the CSUD are elected according [to the Regulation on the organization of the elections of the Doctoral Schools and the Council of Doctoral Studies in the National University of Science and Technology Polytechnic of Bucharest](#); [The REGULATION on doctoral studies within the National University of Science and Technology POLITEHNICA Bucharest](#) details the structure and functioning of the administrative structures at the level of IOSUD-POLITEHNICA.

✓ **Analysis of the state of facts**

The governance structure presented reflects a coherent regulatory framework, in which each doctoral school (SD-IIR, SD-AIMA, SD-II) carries out its activity based on its own Organization and Functioning Regulation, developed in accordance with the provisions of the Charter of the POLITEHNICA Bucharest and subject to periodic review according to the legislation in force. The Council of the Doctoral School is identified, for all three entities, as a deliberative and administrative body, with clear attributions to monitor the activity of the field of study and to substantiate decisions on quality assurance. The participation of doctoral students in the decision-making process is documented in two ways: on the one hand, direct and voting representation in the management structures, regulated by the University Charter; on the other hand, complementary consultation mechanisms (regular meetings, questionnaires, feedback sessions) covering aspects related to the quality of training, research resources and academic development opportunities. The documentary submissions are supported by verifiable sources (links to the regulations, the institutional charter and the structure pages of each doctoral school), which gives the analysis a high degree of traceability. The ensemble thus describes a functional participatory governance system, aligned with the requirements of the quality assurance standards for the field of Industrial Engineering. The analysis confirms that the described state of affairs corresponds to the requirements of the ARACIS external evaluation standard on the functioning and governance of doctoral schools.

✓ **Aspects that constitute best practice examples: -**

✓ **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.
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✓ **Presentation of the state of facts**

The adoption and revision of methodologies, regulations and procedures within the [SD-IIR](#), [SD-AIMA](#) and [SD-II doctoral schools](#) is carried out through a participatory process, with the involvement of the academic community through several complementary channels. Thus, at the level of IOSUD: the consultaridoctorat@upb.ro address, through which the written proposals are collected and subsequently debated in [the CSUD](#) and CSD, at the level of each doctoral school: own institutional addresses (sdiir@upb.ro, sd_aima@upb.ro, doctorate_cup@upb.ro) for the direct collection of comments and proposals; at the faculty level: discussions in the Faculty Council and in the monthly meetings organized by the Dean with the academic community; at the individual level: proposals submitted by the members of the doctoral school directly to the director or CSD. The revised documents are presented and approved in the Council of each doctoral school, then debated in the Senate Committee on Doctoral Studies and finally approved in the Senate, the entire process being documented through minutes and decisions. The final versions are publicly communicated by publication on the websites of the doctoral schools (SD-IIR, SD-AIMA, SD-II) and by direct electronic communication to those interested. From the discussions held with the representatives of the management and the doctoral supervisors, it emerged that the interested parties can send proposals to modify the regulations/methodologies through direct discussions with the representatives in the Senate or C-SDI. On the occasion of the meeting with the PhD students, they confirmed that they are involved in the decision-making processes through their representatives in the CSD ([SD-IIR](#), [SD AIMA](#) and [SD-II](#)) and in the [CSD](#).

✓ **Analysis of the state of facts**

The situation described reveals a well-structured process of adoption and revision of internal documents, with multiple channels of consultation of the academic community, both at the institutional level (IOSUD) and at the level of each doctoral school and faculties. The existence of dedicated e-mail addresses, both centralized and specific to each doctoral school, ensures accessibility and the real possibility of expressing proposals by all interested actors. The approval circuit - CSD, Senate Commission for Doctoral Studies, Senate - respects the hierarchical and collegial decision-making principle, and documentation through minutes and decisions gives the process traceability and verifiability. The publication of the final versions on the websites of each doctoral school, correlated with direct electronic communication, ensures transparency and community access to updated information. Overall, the mechanisms identified demonstrate a functional practice of participatory governance, in line with the requirements of the ARACIS standard on the involvement of the academic community in the revision of the internal regulations of doctoral schools.

✓ **Aspects that constitute best practice examples: -**

✓ **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.

✓ **Presentation of the state of facts**

According to REI, page 18, the material base of the Bucharest Polytechnic provides adequate conditions for the teaching, applied and research activities provided for in the curricula of the field of Industrial Engineering ([SD-IIR](#), [SD-AIMA](#) and [SD-II](#)). The University has spaces for the teaching process, research, administrative activities and services for students, the teaching activities being carried out in properly equipped classrooms and laboratories in the buildings of the organizing faculties. The laboratories benefit from high-performance research equipment (detailed in Annex A2), most of the infrastructure being registered on the EERTIS platform - a mandatory requirement for participation in calls for projects. The material base is constantly updated through new acquisitions; in 2025, for example, a KNUTH EDM processing machine, a universal grinding machine and metal powder additive manufacturing equipment, which is being installed, were purchased. For research, PhD supervisors and doctoral students have access to research centers with activity in the field of industrial engineering: [Center for Research](#).

[Consultancy and Training on Management and Engineering of Virtual Industrial Enterprises](#) (PREMINV), [Center for Research Consulting and Technical Assistance in Materials Engineering and Welding](#), [National Research Center for Technological Systems Performance](#), [Center for Advanced Technologies – CTANM](#), where various research, development and innovation activities are carried out. Students, doctoral students and trainees have access to support services through student dormitories, canteens, recreation spaces, university library, career counseling and guidance centers, as well as medical facilities.

✓ **Analysis of the state of facts**

The description presented highlights a solid and diversified material infrastructure, capable of properly supporting the teaching, application and research activities specific to the field of Industrial Engineering, at the level of the three doctoral schools. The existence of distinct spaces for the teaching process, research, administrative activities and student services reflects a functional organization of institutional resources. A relevant positive aspect is the registration of most laboratories on the European EERTIS platform, an element that not only attests to the visibility and transparency of the research infrastructure, but also represents a necessary condition for accessing competitive funding through European projects - an indicator of alignment with international research standards. The process of continuous renewal and expansion of the material base, illustrated by recent acquisitions (EDM equipment, grinding machine, additive manufacturing equipment), demonstrates a constant concern for maintaining the competitiveness of the technical infrastructure and adapting to the current requirements of industrial research. Overall, the analyzed elements confirm the existence of an adequate material base in continuous development, which adequately supports the objectives of the doctoral study program and meets the requirements of the ARACIS external evaluation standard regarding the material resources allocated to the field of Industrial Engineering.

- ✓ **Aspects that constitute best practice examples:** development and endowment of research centers/laboratories with modern equipment, suitable for carrying out advanced research activities and training of experts in the field of Industrial Engineering

- ✓ **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.

- ✓ **Presentation of the state of facts**

According to REI, page 19, the maintenance of teaching and research spaces is ensured through periodic interventions (repairs, sanitation, rearrangements) managed by the Heritage Department, and movable assets (IT equipment, furniture, specific equipment) are inventoried and maintained according [to internal regulations](#). The university also has [strategic investment plans in the development of the material base](#), periodically updated, for the modernization of the infrastructure. During the evaluation visit, the ARACIS commission inspected the spaces allocated to teaching and research activities within DSUD-II, finding that the equipment and spaces are in an adequate state of maintenance, providing the necessary conditions for the development of the doctoral degree program in good conditions.

- ✓ **Analysis of the state of facts**

The analysis of the state of affairs regarding the maintenance of teaching and research spaces, as well as of the material base related to the doctoral degree program, highlights the fact that the University has a clear and documented institutional framework for heritage management. Thus, the Heritage Directorate ensures, through periodic interventions (repairs, sanitation, rearrangements), the maintenance in proper condition of the spaces allocated to teaching and research activity, and the movable assets (IT equipment, furniture, specific equipment) are managed according to internal operational procedures, which regulate the record and liability in relation to the university heritage. Also, the existence of strategic investment plans in the development of the material base, periodically updated, demonstrates the institution's concern for the continuous modernization of the teaching and research infrastructure. The findings of the ARACIS evaluation committee, formulated following the on-site visit within DSUD-II, confirm the functional and adequate nature of these spaces and equipment, concluding that they provide the necessary conditions for the smooth running of the doctoral degree program.

- ✓ **Aspects that constitute best practice examples:** -

- ✓ Recommendations: -
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

Within DSUD-II, teaching and research activities are carried out by teaching and research staff employed in accordance with the recruitment criteria established at institutional level and with the applicable legal provisions. The human resource is classified according to the list of functions (Annex A3. State of functions), developed in accordance with the curriculum of the field and with the discipline sheets ([SD-IIR](#), [SD - AIMA](#) and [SD-II](#)), approved at the level of the POLITEHNICA Bucharest. The list of functions reflects the structure of the teaching and research activities specific to the field, as well as the research topics coordinated by the doctoral supervisors. PhD supervisors in the field of Industrial Engineering have acquired this quality following [the affiliation procedure to the doctoral school](#) and [the Regulation on the organization and functioning of the SD](#). Their skills and professional experience are evidenced by the curriculum vitae and the list of representative works ([SD-IIR](#), [SD-AIMA](#) and [SD-II](#)). Teaching and research staff are constantly involved in scientific research activities, participating in research projects and grants (camis.pub.ro, www.preminv.org), as well as in specialized scientific events (Annex A4. Events attended by teachers). At the time of the visit, there were 52 PhD supervisors: 40 at SD-IIR (29 tenured professors, 11 associates - 9 retirees + 2 externals), 4 at SD-II (3 tenured professors, 1 retired associate professor) and 8 at SD-AIMA (5 tenured professors, 3 associates - 2 retirees + 1 external).

- ✓ Analysis of the state of facts

The analysis of the documents made available highlights the fact that DSUD-II has a human resource organized and framed in accordance with the institutional regulations and the applicable regulatory framework. The structure of the teaching and research staff is correlated with the curriculum and the research offer of the field, ensuring the premises for carrying out the activities specific to doctoral studies. The analyzed documents confirm the existence of a body of doctoral supervisors that meets the conditions for affiliation and exercise of the quality of doctoral supervisor, their competences being supported by the scientific activity and research results presented in the related documentation. Based on the analyzed documents, it is found that DSUD-II meets the requirements regarding the provision of academic and administrative human resources necessary for the conduct of doctoral programs, with a correspondence between the staff structure, the activities carried out and the requirements of the applicable quality standards.

- ✓ Aspects that constitute best practice examples: -
- ✓ Recommendations: -
The indicator is: fulfilled

Indicator I.P.A.3.1.2 The HEI ensures professional and personal development for its staff.

- ✓ Presentation of the state of facts

POLITEHNICA Bucharest actively promotes the professional and personal development of the teaching, research and administrative staff, by supporting the participation in various forms of continuing education - postgraduate training and development programs, training programs and continuing education programs - as well as by encouraging the attendance of other short courses relevant to the activity carried out. Teachers are supported to participate in courses, workshops, conferences, summer schools (e.g. ESCAPE Summer School [organized by FIIR](#) - [ESCAPE](#), Prompt Engineering module) and national and international projects (Annex A7), in order to develop teaching, research, managerial and digital skills (Annex A8). At the same time, the university organizes training sessions dedicated to the digitization of education, research management and project development. The institution also promotes the well-being and development of staff through access to counselling and healthcare services, participation in cultural activities and support for lifelong learning initiatives, including access to publication resources,

exchanges of experience and international collaborations (events.pub.ro). At the level of POLITEHNICA Bucharest, an operational procedure is implemented that regulates the organization and conduct of international staff mobilities within the ERASMUS+ program, for teaching and training purposes. The staff of the doctoral school, as well as the doctoral students, benefit from access to these mobility opportunities through the [travel.upb.ro platform](http://travel.upb.ro).

✓ **Analysis of the state of facts**

It is noted that POLITEHNICA Bucharest has a well-structured institutional framework to support the professional and personal development of the teaching and auxiliary staff involved in the field of doctoral studies in Industrial Engineering. The participation of staff in training programs, projects, conferences and national and international mobility, as well as involvement in institutional initiatives dedicated to research and innovation, demonstrate the existence of functional mechanisms for academic career development and permanent updating of professional skills. At the same time, the periodic organization of training sessions and access to specific resources and programs contribute to strengthening the quality of teaching and research activities. Based on the analyzed documents, it is found that IOSUD ensures adequate conditions for the continuous development of human resources, through institutional mechanisms that support professional development, evolution in the academic career and increasing the degree of internationalization, in accordance with the requirements of the quality standards applicable to doctoral studies.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations: -**

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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✓ **Presentation of the state of facts**

The recruitment of research and auxiliary teaching staff related to DSUD-II is carried out in accordance with the legislation in force and the internal regulations of POLITEHNICA Bucharest. The competition procedures are transparent, and information on vacancies, job descriptions, employment conditions, calendar and selection stages are published on the dedicated institutional platform. At the level of IOSUD, the REGULATION ON THE QUALIFICATION AND GRANTING OF THE QUALITY OF DOCTORAL SUPERVISOR WITHIN IOSUD OF THE NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY POLITEHNICA BUCHAREST is applied, a regulation also posted on the SD websites (SD-IIR, SD-AIMA, SD-II), which establishes the procedure for obtaining the certificate of habilitation and affiliation to doctoral schools, as well as the mechanism for solving any appeals.

✓ **Analysis of the state of facts**

The analysis of the available documents highlights the existence of a clear institutional and procedural framework for the recruitment of research and auxiliary teaching staff, as well as for the affiliation of doctoral supervisors within IOSUD. The publication of information on competitions and related documentation ensures transparency of the selection process and equal access of candidates to relevant information. The Regulation on the empowerment and granting of the quality of doctoral supervisor establishes clear criteria and stages for obtaining the quality of doctoral supervisor, affiliation to doctoral schools and solving appeals, contributing to the conduct of the process in conditions of objectivity and compliance with the applicable regulations. During the period evaluated, the affiliation of 17 doctoral supervisors reflects the functionality of the institutional mechanism for attracting and integrating the academic human resource. Based on the analyzed documents, it is found that the recruitment and affiliation processes are regulated by transparent procedures and applied consistently, ensuring compliance with the regulatory framework and supporting the functioning of DSUD-II.

✓ **Aspects that constitute best practice examples: -**

✓ **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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✓ **Presentation of the state of facts**

Within DSUD-II, the SD-IIR, SD-AIMA and SD-II doctoral schools currently use institutional IT platforms and applications that support the conduct of teaching, research and administrative activities. These tools facilitate the management of academic processes, communication between students and faculty, and access to educational and research resources. The management of the academic activity is carried out through the studenti.pub.ro platform, and the teaching process is supported through the curs.upb.ro platform, integrated with Microsoft 365 and Microsoft Teams. Teachers and doctoral students also benefit from access to software applications and IT resources through the my.upb.ro platform. The research activity is supported through [the CRESCDI platform](#), used to record and capitalize on scientific results, and academic mobilities are managed through the travel.upb.ro platform. To verify the similarity of doctoral theses, the Turnitin platform is used, each doctoral school having designated persons responsible for this activity. The university provides platforms dedicated to managing internships and supporting international students, and each doctoral student receives, upon enrollment, an institutional account that gives them access to the university's digital services, including educational, [mobility](#), communication platforms and the [resources of the POLITEHNICA Bucharest Library](#). On the occasion of the meeting with the administrative staff responsible for the SD-IIR secretariat, the participants mentioned that in carrying out their current administrative activities they use the digital platforms of POLITEHNICA Bucharest, as well as the electronic means of communication in relation to doctoral students and doctoral supervisors.

✓ **Analysis of the state of facts**

The analysis of the documents highlights the fact that DSUD-II benefits from an integrated IT infrastructure, which supports the conduct of academic, administrative and research activities. The institutional platforms used cover the main processes specific to doctoral studies, from admission and management of the academic pathway, to the performance of teaching activities, research management and academic mobility. The existence of tools dedicated to recording research results, managing mobility and verifying the similarity of doctoral theses demonstrates the implementation of institutional mechanisms that support the quality of research activity, compliance with the norms of ethics and academic integrity and the development of national and international collaborations. At the same time, the access of all doctoral supervisors and doctoral students to institutional digital platforms, through institutional accounts, ensures the unitary use of IT services and facilitates the performance of activities specific to doctoral programs. Based on the analyzed documents, it is found that IOSUD provides DSUD-II with a complete and functional information system, which meets the requirements regarding the digitization of academic and administrative processes and contributes to increasing the efficiency and quality of services offered to the academic community.

- ✓ **Aspects that constitute best practice examples:** the existence, at the level of POLITEHNICA Bucharest, of digital platforms that support both doctoral students and doctoral supervisors within DSUD-II: studenti.pub.ro – for the management of students' academic path; travel.upb.ro for administering travel to scientific events of doctoral students and doctoral supervisors
- ✓ **Recommendations:** Completion by IOSUD and/or DEAC – Politehnica București of the integrated platform to manage, for all areas, the subject sheets, PPA, learning outcomes, etc., as an extension of the one made for bachelor's and master's studies.

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 DD-II of POLITEHNICA Bucharest is organized into three doctoral schools: [SD IIR](#), [SD AIMA](#) and [SD-II](#). The program is designed for the training of professional and transversal skills specific to EQF/CNC level 8, in accordance with the academic, scientific and professional requirements of the field. The program has a duration of 4 years and totals 240 ECTS, being structured in the Advanced Training Program (PPA), specialization disciplines, individual research activities, progress reports and the elaboration of the doctoral thesis. Of the total credits, 30 ECTS are associated with PPA activities and specialization disciplines, and the rest of the credits are allocated to doctoral research and evaluation of scientific progress. Within the field, there are two specialization disciplines, each credited with 8 ECTS, chosen for each doctoral student by the scientific supervisor, depending on the [research topic](#). The curriculum is proposed by the doctoral supervisor, approved by the Council of the Doctoral School (CSD) and updated periodically, with the consultation of stakeholders: doctoral supervisors, doctoral students, graduates and research centers. The research component is organized through seven progress reports, planned every semester starting with the second semester of the first year. Each report is allocated 30 ECTS, the first aiming at the critical-constructive analysis of the current state of research, and the last one defending the thesis in front of the guidance and academic integrity committee. The reports are evaluated by the ratings of Very Good, Good, Satisfactory or Unsatisfactory, with the obligation to redo the report within 30 days in the case of the Unsatisfactory rating.

✓ **Analysis of the state of facts**

The PhD field of Industrial Engineering is structured coherently in relation to the expected learning outcomes and the requirements of level 8 EQF/CNC qualification. The organization of the program for 4 years and the allocation of the 240 ECTS provide a clear framework for going through the stages of advanced training, scientific research, evaluation of progress and completion through the doctoral thesis. The structure of the programme reflects the necessary balance between theoretical training and individual doctoral research. The PPA and the specialization disciplines provide the conceptual, methodological and scientific basis necessary to address the research topics, and the progress reports allow continuous monitoring of the development of research skills, critical analysis, synthesis, scientific communication and academic autonomy. The individualized nature of the doctoral path is supported by the choice of specialization disciplines according to the research topic of each doctoral student and by the involvement of the doctoral supervisor in the proposal of the curriculum. The periodic consultation of doctoral supervisors, doctoral students, graduates and research centers in the curricular updating process contributes to maintaining the relevance of the program in relation to the scientific and professional developments of the field. By integrating the activities of learning, teaching, research, practical training, evaluation along the way and final defense of the thesis, the program ensures a complete doctoral path, oriented towards the acquisition of learning outcomes and the formation of the skills necessary to obtain the doctoral qualification in the field of Industrial Engineering.

✓ **Aspects that constitute best practice examples:** the existence of the 7 scientific progress reports and the discipline sheets for them

✓ **Recommendations:** periodically updating the package of documents – the curriculum and the subject sheets (paying attention to the PPA) – by taking into account the suggestions and observations made by the parties involved in the doctoral process: graduates, doctoral supervisors and doctoral students.

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**

Within the field of doctoral studies in Industrial Engineering at POLITEHNICA Bucharest, the expected learning outcomes are formulated in correlation with the professional and transversal competences provided by OM no. 3020/2024 on the Framework Regulation for Doctoral Studies, which establishes the reference competences for doctoral studies, respectively 10 professional competences and 10 transversal competences, relevant for level 8 EQF/CNC. The learning outcomes were structured on knowledge, skills, responsibility and autonomy, being associated with the learning outcomes for the fundamental field of Engineering Sciences, formulated at the level of

the Bucharest Polytechnic. These results are applicable to the doctoral field organized within [SD-IIR](#), [SD-AIMA](#) and [SD-II](#). Correlation of learning outcomes with the competences provided in OM no. 3020/2024 is highlighted in the curriculum, through a dedicated correlation table. Also, the learning outcomes were introduced in [the sheets of the specialization disciplines](#) and in those related [to the scientific reports](#), so that the advanced training, research and evaluation activities are related to the competences targeted by the program.

✓ **Analysis of the state of facts**

The Doctoral Field of Industrial Engineering ensures the correlation of the expected learning outcomes with the specific competencies of doctoral studies, as defined by OM no. 3020/2024. The structuring of learning outcomes on knowledge, skills, responsibility and autonomy is appropriate to level 8 of qualification and allows for a clear description of the academic and professional acquisitions pursued through the program. The integration of these correlations in the curriculum, in the sheets of the specialization disciplines and in the documents associated with scientific reports demonstrates that the learning outcomes are not formally formulated, but are used in the design and evaluation of the doctoral path. Thus, the advanced training and doctoral research activities are oriented towards the formation of professional and transversal skills relevant to the research, innovation, coordination and autonomous exercise of complex professional activities. By referring to the competences established at national level for doctoral studies and by integrating them into the curricular documents of the three doctoral schools, the programme ensures a coherent link between the learning outcomes, the targeted competences and the occupational requirements associated with the doctoral level.

✓ **Aspects that constitute best practice examples: -**

✓ **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.
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✓ **Presentation of the state of facts**

Within POLITEHNICA, DD-II, organized by [SD-IIR](#), [SD-AIMA](#) and [SD-II](#), applies the principles of student-centered learning through a flexible, individualized doctoral path oriented to the training and research needs of each doctoral student. The curriculum, the individual research plan, the specialization disciplines, the scientific reports and the research activities are adapted to the doctoral theme and the academic and professional objectives of the doctoral student. A central role is played by the doctoral supervisor and the academic guidance and integrity committee, constituted in relation to the specifics of the topic and the educational and research needs of the doctoral student. The commissions include teachers and specialists from the institution, other universities, research institutes and the economic/industrial environment, which allows for interdisciplinary and applied approaches. According to the data in Annex A5. From REI, there is a significant number of commissions in the field, with over 500 participations of teachers and specialists and about 300 distinguished members, most of whom have higher academic positions. The doctoral student periodically participates in progress monitoring meetings with the doctoral supervisor and the advisory committee, during which he receives personalized feedback on scientific content, research methodology, academic writing, ethics, critical thinking and research management. In the field of Industrial Engineering, student-centered learning is also supported by the possibility of defining the theme in partnership with the industrial environment, through interdisciplinary approaches, co-supervision or complementary guidance, including with industry specialists.

✓ **Analysis of the state of facts**

The information presented shows that the PhD field of Industrial Engineering implements the principles of student-centered learning by personalizing the doctoral path, adapting research activities to the theme of each PhD student and using guidance mechanisms close to individual training needs. The structure of the program allows the combination of advanced training with applied research, scientific autonomy and the development of academic responsibility. Steering and academic integrity committees are an essential tool of this approach, due to the diversity and high level of expertise of the members. The participation of internal and external specialists, including from the industrial environment and from academic institutions abroad, provides doctoral students with complementary scientific and professional perspectives and contributes to the correlation of doctoral research with the requirements of the academic and socio-economic environment. Regular feedback,

methodological support and counseling provided by the doctoral supervisor and the steering committee support the development of research skills, critical thinking, academic ethics and the ability to solve complex problems. Therefore, the organizational component ensures the implementation of student-centered learning both in the curriculum and through the didactic and research strategies used in doctoral activities.

✓ Aspects that constitute best practice examples: -

✓ 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.
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✓ Presentation of the state of facts

At the level of IOSUD POLITEHNICA there is an institutional framework for the participation of doctoral students in academic mobility, especially through [the ERASMUS+](#) program. Mobilities are regulated by its [own regulation](#), approved by the university's Senate, which establishes the eligibility conditions, the selection of candidates, the recognition of credits and the support provided to participants. PhD students in the field of Industrial Engineering, organized through SD-IIR, SD-AIMA and SD-II, can access study, research or internship mobility through the ERASMUS+ programs, through the international agreements of the faculties in which the doctoral schools operate - FIIR, FAIMA and FMT - as well as through institutional opportunities such as [EELISA](#), the [travel.upb.ro](#) platform, the [international.upb.ro](#) portal, the [EMERALD](#) project, the [AMAZE](#) project and other international initiatives. Operational support is provided by [the ERASMUS+ Office](#), and at the level of the faculties there are [mobility coordinators](#) who provide information, advice and support for the preparation of files. Opportunities are promoted through [the websites of faculties and doctoral schools](#), social media platforms, email and communication groups. The selection of students is carried out transparently, based on [the announcements](#) published on the faculties' website and by [registering on the university's platforms](#). Participation in mobilities is monitored annually and participants' [feedback](#) is leveraged to improve the process and promote [ERASMUS+ opportunities](#). At FIIR level, the evolution of ERASMUS mobilities in the last four years highlights the participation of students in study, placement and short-term mobilities, with a significant increase in short-term mobilities in the academic year '23-'24.

✓ Analysis of the state of facts

The information presented shows that IOSUD POLITEHNICA Bucharest provides doctoral students with real opportunities to participate in academic mobility, through a regulated, transparent and operationally supported institutional framework. The existence of the ERASMUS+ regulation, the ERASMUS+ Office, the mobility coordinators and the official information channels support the access of doctoral students to international study, research, internship or training mobility. For the field of Industrial Engineering, the opportunities are diversified through the involvement of the three doctoral schools and associated faculties, as well as through international projects and networks such as EELISA, EMERALD and AMAZE. The academic recognition of mobility based on ECTS provides guarantees regarding the integration of international experiences into the doctoral course. The monitoring of participation in mobilities and the use of testimonials demonstrate the concern for continuous improvement of the process and for stimulating students' interest. The increase in short-term mobilities at FIIR level indicates an adaptation of the mobility offer to the current needs of students and to more flexible forms of internationalisation. Therefore, the organizational component ensures adequate conditions for the participation of doctoral students in physical and/or virtual academic mobility.

✓ Aspects that constitute best practice examples: -

✓ Recommendations: Intensifying the process of promoting external mobility among doctoral students

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

At the level of POLITEHNICA Bucharest, equitable opportunities for students are supported by dedicated institutional structures, such as the Center for Career Counseling and Guidance ([CCOC](#)) and the Center for Equity, Diversity and Inclusion ([CEDI](#)). They provide counselling, guidance, educational support and inclusion services, tailored to the needs of different categories of students. CCOC provides psychological, educational and vocational counseling,

through individual sessions, thematic workshops, vocational assessments and guiding activities in academic and professional decision-making. Within the field of doctoral studies in Industrial Engineering, doctoral students can benefit from group activities oriented towards managing emotions, developing socio-emotional skills, increasing the quality of psychological life, achieving the employment portfolio and developing the skills required by employers, such as communication, time management and resistance to stress. CEDI contributes to ensuring equitable access to education for students from disadvantaged backgrounds, students with disabilities and other vulnerable categories. The Center collaborates with faculties and doctoral schools to adapt educational resources and develop specific interventions. Up-to-date information on these structures is also available on the SD-IIR, SD-AIMA and SD-II websites. For the integration of students with disabilities, the university has implemented physical and functional accessibility measures, such as access ramps, adapted elevators, accessible toilets and support facilities in the learning process. Relevant examples are the access ramp in FIIR and the sanitary group for people with disabilities in the area of the FIIR canteen. These measures are regulated by the [CEDI's Rules of Organization and Functioning](#).

✓ **Analysis of the state of facts**

The information presented and the information found during the visit show that POLITEHNICA Bucharest has relevant institutional mechanisms in place to ensure fair opportunities, adapted to the potential, aspirations and different needs of doctoral students. The activities carried out through the CCOC support both personal and emotional development, as well as professional orientation, contributing to the consolidation of the transversal skills necessary for the doctoral path and professional insertion. Through CEDI, the university supports access to education for students in vulnerable situations, including those with disabilities. The accessibility measures and the collaboration of the center with faculties and doctoral schools indicate the concern for adapting the educational environment to the diversity of learning styles and skills. At the level of the Industrial Engineering doctoral field, organized by SD-IIR, SD-AIMA and SD-II, these structures and measures provide complementary support to the doctoral training process, contributing to the creation of an inclusive, flexible and individual development-oriented academic environment of doctoral students. Overall, the organisational component ensures fair opportunities and appropriate support mechanisms, in line with the requirements of the indicator.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations: -**

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**

Within DD-II, organized in POLITEHNICA Bucharest through SD-IIR, SD-AIMA and SD-II, doctoral students benefit from access to resources and services designed to support the learning and research process, including in the case of students with special educational needs/disabilities. Equitable access is supported by institutional regulations such as the [Regulation on the Access of Motor Vehicles](#), the [Methodology on the organization and conduct of the admission competition for doctoral studies](#) and the [Code of Students' Rights and Obligations](#), which include provisions regarding the support of persons with disabilities. An important role lies with [CEDI](#), which provides support and advice for adapting educational resources and infrastructure to the individual needs of students. The accessibility measures include access ramps, special toilets and other adapted facilities, existing in the spaces of the faculties where the three doctoral schools operate. Access to digital resources is ensured through the [my.upb.ro platform](#), which allows the management of the institutional account, unitary authentication in the university's information systems, the use [of the Moodle platform](#), access to online courses and educational materials, the installation of software licenses, including Microsoft Windows, Office and VMware resources, as well as the use of institutional email. The platform also provides access to support services, documents, contracts, and user guides. The documentary resources are supported by the [Central Library of the Bucharest Polytechnic](#), which provides access to electronic catalogs, scientific

databases, reading rooms, loan of publications, bibliographic assistance and information services. The library supports educational and research work through digital resources and guidance services in the use of databases, promoting equal access to information and adapting services for people with special needs.

✓ **Analysis of the state of facts**

The information presented highlights that POLITEHNICA Bucharest ensures, at the level of the Industrial Engineering doctoral field, a functional framework for access to educational, digital, documentary and support resources, appropriate to the doctoral cycle and the specificity of the research activity. Digital platforms, software resources, library, educational materials and faculty infrastructure contribute to supporting the learning, documentation and research process of doctoral students. The existence of CEDI and the institutional provisions dedicated to people with disabilities demonstrate the university's concern for adapting the study conditions to the individual needs of students. Physical and digital accessibility measures, together with counselling and support services, support the equitable participation of students with special educational needs in academic activities. By integrating the resources offered by my.upb.ro, Moodle, the Central Library and the infrastructure of the faculties, the organizational component provides services appropriate to the form of organization of the program and the doctoral level. Overall, access to resources and services is organised in such a way as to support the individual learning and research needs of doctoral students, including those with disabilities or special educational needs.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations: -**

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 curricula for the field of doctoral studies in Industrial Engineering, organized within [SD-IIR](#), [SD-AIMA](#) and [SD-II](#), were developed through repeated consultations between the representatives of the doctoral schools, during meetings coordinated by DEAC from POLITEHNICA Bucharest. These include general data on the program, mission, objectives, professional and transversal competences provided by OM no. 3020/8 January 2024, the learning outcomes related to the field, the list of subjects and the correlation matrix between competences and learning outcomes. The learning outcomes were formulated in accordance with the requirements of level 8 EQF/CNC, starting from the fundamental field of Engineering Sciences and being later customized for the field of Industrial Engineering. They are structured on knowledge, skills, respectively responsibility and autonomy. At the level of knowledge, the PhD student is oriented towards the advanced and critical understanding of industrial systems, production processes, optimization, digitalization, emerging technologies, sustainability and the integration of one's own research in an international context. At the skill level, the design, simulation and optimization of complex industrial systems, the ethical use of advanced tools, including artificial intelligence, the development of original research and the exploitation of results are targeted. At the level of responsibility and autonomy, scientific autonomy, leadership, respect for ethics and intellectual property, as well as the ability to coordinate research and development projects with academic and industrial impact are taken into account. The fact sheets of the disciplines related to the field of Industrial Engineering, developed bilingually in Romanian-English for [SD-IIR](#), [SD-AIMA](#) and [SD-II](#), contain information on the study program, discipline, total time allocated, preconditions, conditions for carrying out the activities, general objective, learning outcomes, contents and evaluation methods.

✓ **Analysis of the state of facts**

It is found that the learning outcomes for the PhD field of Industrial Engineering are described in an adequate, structured and coherent way with level 8 EQF/CNC. Formulating them on knowledge, skills, responsibility and autonomy allows the clarification of the acquisitions expected from doctoral students and provides a common framework of understanding for students, doctoral supervisors and professors involved in the program. Integration of learning outcomes into the curricula of SD-IIR, SD-AIMA and SD-II, as well as their correlation with the competences provided by OM no. 3020/2024, support the coherence between the objectives of the program, the contents of the

disciplines, the research activities and the evaluation modalities. The correlation matrix between competencies and learning outcomes contributes to the transparency of the curricular design and to the understanding of the role of each training component in the doctoral path. The subject sheets, by including objectives, learning outcomes, contents and assessment methods, provide clear benchmarks on the expectations associated with each subject. Thus, doctoral students know the skills and results pursued, and teachers have an explicit framework for designing teaching, research and evaluation activities. Overall, the way in which learning outcomes are described supports understanding each other's expectations and supports the fulfillment of the indicator.

- ✓ **Aspects that constitute best practice examples:**
- ✓ **Recommendations:** publication on the website of the doctoral schools involved of the Curriculum and all the Discipline Sheets, both in Romanian and in an international language.

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**

Within the field of doctoral studies in Industrial Engineering, organized by SD-IIR, SD-AIMA and SD-II, the verification of the achievement of learning outcomes is carried out through evaluations along the way, the evaluation of scientific progress reports and the final evaluation by defending the doctoral thesis. The evaluation mode is highlighted in the discipline sheets ([SD-IIR](#), [SD-AIMA](#), [SD-II](#)), for general disciplines, specialization disciplines, scientific reports, thesis defense in the guidance and academic integrity committee and public defense of the thesis. The evaluation of the three compulsory subjects and the two specialization subjects is carried out by the course holder or by the examination committee, by consensus, with the grade Admitted or Rejected. The exam is passed if the doctoral student obtains the Admitted grade, and in the case of the Rejected grade, a period of 30 days is granted for preparation and reevaluation. The evaluation of the scientific progress reports is carried out by the Guidance and Academic Integrity Committee, through the qualifications of Unsatisfactory, Satisfactory, Good and Very Good. The report is considered passed if the doctoral student obtains at least the Satisfactory grade; in the case of an Unsatisfactory rating, the report must be redone and resubmitted within 30 days. The defense of the thesis in front of the steering committee includes the verification of scientific integrity through Turnitin 1, and the final defense involves the public evaluation of originality, scientific contribution, methodology and capacity for critical analysis, synthesis and scientific communication, including through Turnitin 2 verification. For the final defense of the doctoral thesis, the evaluation is carried out by the members of the committee through the grades Unsatisfactory, Satisfactory, Good, Very Good and Excellent. On the websites of SD-IIR, SD-AIMA, SD-II and on [the university's website](#), announcements regarding the defense of theses, the composition of the commissions, the CVs of the members of the commission and the summaries of the theses are published in Romanian and English. Starting with 2021, [the Procedure](#) for ensuring the fulfillment of level 8 qualification according to the CNC and EQF is also applied, which follows the entire doctoral path, from the communication of requirements to the periodic analysis carried out by the CSD.

- ✓ **Analysis of the state of facts**

It can be noted that the Industrial Engineering doctoral field has a structured, progressive and appropriate evaluation system for level 8 EQF/CNC, through which the achievement of learning results throughout the doctoral course is verified. The evaluation of the general and specialization subjects, the scientific progress reports, the thesis in the steering committee and the public defense form a coherent set of verification of the acquired competences. The evaluation methods used are diversified and allow the appreciation of both theoretical knowledge and original research capacity, methodological argumentation, critical analysis, synthesis, scientific communication and compliance with the norms of academic ethics. The evaluation of progress reports by the guidance and academic integrity committee has an important formative role, as it allows monitoring the evolution of research and formulating recommendations for improving the doctoral student's activity. The final evaluation through the doctoral thesis represents the integrative mechanism for confirming the learning results, being carried out through the analysis of the original scientific contribution, verification of similarities, public support and evaluation by specialists in the field. The publication of information on doctoral admissions contributes to the transparency of the process, and the procedure dedicated to ensuring level 8 EQF/CNC supports the systematic monitoring of the fulfillment of the specific requirements of the doctoral qualification. Therefore, the verification of learning outcomes is carried out through continuous, summative and final mechanisms, appropriate to the specifics of doctoral studies.

- ✓ **Aspects that constitute best practice examples: -**
- ✓ **Recommendations: -**

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**

At the level of the Bucharest Polytechnic, admission to doctoral studies is carried out on the basis of the Methodology regarding the organization and conduct of the admission contest for doctoral degree programs, approved annually by the University Senate. The methodology regulates the stages of the admission process and is applied unitarily at the level of doctoral schools, including for the field of Industrial Engineering, organized by SD-IIR, SD-AIMA and SD-II. The information on admission is published on the university's website and on the pages of the doctoral schools (SD-IIR, SD-AIMA and SD-II), presenting the admission conditions, selection criteria, registration stages, fees, calendar, deadlines, necessary documents, intermediate and final results, as well as information on the enrollment of candidates declared admitted and the assignment of vacancies. The registration of candidates is done through the admitere.upb.ro platform, and the communications regarding the registration are usually sent by e-mail, in order to streamline the process. The University organizes and coordinates the admission process through the local admission commissions, which manage the planning, conduct of tests, processing of results, publication of lists, resolution of appeals and enrollment of admitted candidates. The numerical evolution of doctoral students in the period 2021-2025, presented in REI-Annex A6, indicates oscillating values, between 336 and 420 doctoral students at SD-IIR, 34-52 at SD-AIMA and 11-17 at SD-II.

✓ **Analysis of the state of facts**

The information presented highlights that POLITEHNICA Bucharest applies the procedures for admission to doctoral studies in a regulated, transparent and organized framework. The existence of a methodology approved annually by the Senate and applied unitarily at the level of doctoral schools ensures the coherence of the selection process and compliance with institutional and legal conditions. The publication of relevant information on the website of the university and doctoral schools, the use of the admitere.upb.ro platform and digital communication with candidates contribute to the accessibility and predictability of the admission process. Candidates shall have such clear information on the conditions, stages, required documents, results and enrolment procedure. The involvement of local admission commissions at all stages of the process – from planning and conducting tests to publishing results, resolving appeals and filling vacancies – demonstrates the effective application of procedures. The evolution of the number of doctoral students in the three doctoral schools confirms the functioning of the admission process and the institution's ability to manage the field of Industrial Engineering.

✓ **Aspects that constitute best practice examples:** the existence of clear, formalized and public admission procedures, correlated with national regulations, which ensure the transparency of information regarding the admission competition and their uniform application at the level of the Doctoral Schools that organize DSUD-II

✓ **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.
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✓ **Presentation of the state of facts**

At the level of the Bucharest Polytechnic, admission to doctoral studies in the field of Industrial Engineering, organized by SD-IIR, SD-AIMA and SD-II, is carried out according to the admission methodology approved annually by the University Senate. It sets out the conditions of participation, the selection criteria, the admission tests and the way in which the results are displayed, without introducing discriminatory or restrictive criteria for eligible candidates. The principles of equity and equal opportunities are also supported by the CEDI Organization and Functioning Regulation, which provides support measures for candidates with disabilities or special educational needs. They can benefit from adapted admission methods, established on the basis of a preliminary assessment of individual needs, as well as places reserved within the approved enrolment figure, subject to

enrolment capacity. For candidates with locomotor disabilities, additional measures are provided to facilitate access to the institution. Candidates from disadvantaged socio-economic backgrounds can benefit from the exemption of the admission registration fee, based on supporting documents. Also, candidates from high schools located in rural areas participate in the competition under the same conditions as the other candidates and can access places financed from the state budget, specially allocated by the Ministry of Education and Research. For the field of Industrial Engineering, the admission results are displayed anonymously on the [SD-IIR](#), [SD-AIMA](#) and [SD-II websites](#), together with information on the admission calendar, registration, evaluation of candidates, intermediate results, submission of appeals and signing of study contracts. Admission is based on the weighted average of the years of bachelor's and master's studies and the grade obtained at the interview.

✓ **Analysis of the state of facts**

The information presented shows that admission to doctoral studies in the field of Industrial Engineering is carried out in a regulated, transparent and non-discriminatory framework. The admission methodology approved annually by the University Senate, the publication of relevant information and the anonymized display of the results contribute to the observance of the principles of equity, equal opportunities and protection of personal data. The measures envisaged for candidates with disabilities or special educational needs, including the adaptation of admission methods, preliminary assessment of individual needs, reserved places and access facilities, demonstrate the existence of an appropriate institutional framework to support the participation of these categories of candidates. Also, the exemption from the registration fee for candidates from disadvantaged socio-economic backgrounds and the possibility of accessing special places for candidates from rural areas support the inclusive nature of the process. Although so far there have been no reported situations of doctoral students belonging to vulnerable groups, at social or educational risk, or with special educational needs/disabilities, the university has the necessary mechanisms in place to manage such cases. Therefore, the organizational component provides the procedural and institutional framework for conducting admission in compliance with equity, equal opportunities and non-discriminatory access to doctoral studies.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations: -**

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.

✓ **Presentation of the state of facts**

Within the field of doctoral studies in Industrial Engineering, organized in POLITEHNICA Bucharest through SD-IIR, SD-AIMA and SD-II, the professional activity of doctoral students is regulated by the internal documents of IOSUD, by [its own regulation on doctoral studies](#), the applicable operational procedures and the provisions of [the University Charter](#). Doctoral schools apply these regulations at all stages of the doctoral path: admission, enrollment, elaboration of the individual research plan, carrying out training and research activities, periodic evaluation, reporting of results, participation in mobility, respect for the rights and obligations of doctoral students, as well as the application of the norms of ethics and academic integrity. The professional activity of the doctoral students is coordinated by the doctoral supervisors and monitored by the CSD, under the coordination of the CSUD. The transparency of the process is supported by the publication of regulations, calendars, model documents and evaluation sheets on the IOSUD website and on the [SD-IIR](#), [SD-AIMA](#) and [SD-II](#) pages. PhD students also benefit from [guides](#) and [model documents necessary](#) to carry out specific activities, including for [accessing funds](#) from the doctoral grant, participating in conferences, reimbursement of expenses, mobilities or reporting of research activity.

✓ **Analysis of the state of facts**

The information presented highlights that the professional activity of doctoral students in the field of Industrial Engineering is regulated and applied in a coherent, transparent and predictable institutional framework. The regulations cover the main components of the doctoral pathway, from admission and enrollment to research, evaluation, mobility, ethics and completion of studies. The involvement of doctoral supervisors, the Councils of the Doctoral Schools and the CSUD ensures the monitoring of academic progress and the uniform application of procedures in the three doctoral schools. The publication of relevant documents and their regular updating contributes to the correct information of doctoral students and to equal access to rules, forms and working tools.

Through the existence of guidelines, model documents and operational procedures, the organizational component facilitates the professional activity of doctoral students in conditions of transparency, equity and compliance with internal regulations. Overall, the field has functional mechanisms for applying the regulations on the professional activity of doctoral students.

- ✓ **Aspects that constitute best practice examples:** The existence of a clear and coherent regulatory framework, which regulates the activity of doctoral students, as well as the periodic monitoring of their progress through seven six-month scientific evaluations and reports, with the active involvement of doctoral supervisors and academic guidance and integrity committees. At the same time, doctoral students are properly informed about their rights and obligations.

- ✓ **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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- ✓ **Presentation of the state of facts**

Within the field of doctoral studies in Industrial Engineering, organized in POLITEHNICA Bucharest through SD-IIR, SD-AIMA and SD-II, international cooperation is promoted as part of the doctoral training and research process. IOSUD's development strategy includes objectives to increase international visibility, intensify academic exchanges and strengthen collaborations with universities and research institutes abroad. At the institutional level, POLITEHNICA Bucharest has over [450 ERASMUS+ agreements](#), and at the level of Industrial Engineering, doctoral students can access research or practical mobility through the agreements of the university and doctoral schools: SD-IIR – 80 ERASMUS+ agreements, SD-AIMA – 60 ERASMUS+ agreements, respectively SD-II – 45 ERASMUS+ agreements. Mobilities are regulated by a [regulation](#) approved by the University Senate, which establishes eligibility, selection, recognition of credits and support provided to participants. Operational support is provided by [the ERASMUS+ Office](#), and faculties and doctoral schools provide information, individual counseling, support for preparing files and academic coordination. PhD students are informed through the websites of faculties and doctoral schools, social networks, e-mail and communication groups, and the selection of candidates is carried out transparently, at the level of the faculties. International cooperation is also supported through bilateral agreements, academic networks, consortia, research internships, institutional grants, international activities integrated into the curriculum and the invitation of teachers and researchers. The participants' experiences are capitalized through [testimonials](#) and [promotional materials](#), and their feedback is used to improve the process.

- ✓ **Analysis of the state of facts**

The information presented highlights the fact that IOSUD POLITEHNICA Bucharest has a consistent institutional and operational framework to support international cooperation and academic mobility. The large number of ERASMUS+ agreements, the existence of the Mobility Regulation, the role of the ERASMUS+ Office and the involvement of faculties and doctoral schools demonstrate the organised, transparent and functional nature of these activities. For the field of Industrial Engineering, mobility opportunities are supported by the existing agreements at the level of SD-IIR, SD-AIMA and SD-II, as well as through the university's international partnerships. The academic recognition through the ECTS system, the advice offered to doctoral students and the monitoring of the participants' feedback contribute to the integration of mobilities in the doctoral course and to the continuous improvement of the process. Mobilities, research internships, collaborations with partner universities, the presence of invited researchers and participation in international networks contribute to the development of the scientific, intercultural and digital skills of doctoral students. Overall, the organizational component carries out relevant international cooperation actions, which support the mobility of members of the academic community and collaboration in academic and research activity.

- ✓ **Aspects that constitute best practice examples: -**

- ✓ **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	Learning based on scientific investigation and research results support and are capitalised upon in achieving the learning outcomes envisaged through the study programme.
I.P.B.9.1.1	

✓ Presentation of the state of facts

Within the field of doctoral studies in Industrial Engineering, organized in POLITEHNICA Bucharest through SD-IIR, SD-AIMA and SD-II, learning based on scientific investigation is supported by integrating doctoral students in research activities, interdisciplinary projects, experimental activities, conferences, workshops and collaborations with the industrial environment. The doctoral activity is anchored in the research infrastructure of the faculties involved, contributing to the acquisition of advanced skills assumed through the doctoral program. PhD students have access to [research centers](#) relevant to the field of Industrial Engineering, such as UPB-CAMIS, oriented towards Industry 4.0 technologies, digital manufacturing and non-destructive control, PreminV Center, focused on CAD/CAM/CAE, virtual and augmented reality, Applied Mechanics Research Center, National Research Center for Technological Systems Performance – OPTIMUM and Center for Advanced Technologies (CTANM). In addition, there are the centers and laboratories of the Pitesti University Center, such as CRCD-Auto, [CCIA](#) and [NANOBIOMAT](#), which offer infrastructure, mentoring and application topics relevant to the automotive industry, advanced materials and innovative processes. By getting involved in these centers, doctoral students go through the specific stages of scientific research: defining problems, documenting, formulating methodologies, conducting experiments, analyzing data, interpreting results and disseminating them. The results of the research are capitalized by participating in scientific events, publishing in international conferences and journals, involvement in competitively funded projects and collaborations with industry, aspects reflected in REI - Annex A9 – Research results for doctoral students. The purpose of the research training is represented by the elaboration and defense of the doctoral thesis, carried out according to [the Guide on the Writing of Doctoral Theses in the field of Engineering Sciences](#). During the analyzed period, 124 doctoral theses were reported at SD-IIR, 17 theses at SD-AIMA and 3 theses at SD-II, according to Annex A6 - REI. The connection with the economic environment is also supported by the presence at FIIR of [ASPAPLAST](#) – the Employers' Association of Plastics Processors in Romania, led by prof. dr. eng. Constantin Opran, PhD supervisor in SD-IIR, which facilitates the approach of research topics with applicative and industrial relevance.

✓ Analysis of the state of facts

Based on the REI and the visit, the commission found that inquiry-based learning is a central component of doctoral training in the field of Industrial Engineering. The integration of doctoral students in research centers, interdisciplinary projects, experimental activities and industrial collaborations provides an appropriate framework for the development of research skills specific to the doctoral level. It is noted that the research activities carried out in the mentioned centres and laboratories support the transition from theoretical training to the application of knowledge in real contexts, through the use of advanced methodologies, modern technologies and relevant experimental infrastructures. This framework fosters the development of critical thinking, scientific autonomy, the ability to analyze and interpret data, and the ability to disseminate results. The Commission also found that the results of the research are capitalized through publications, participation in conferences, projects, collaborations with the economic environment and, in an integrative way, by the elaboration and defense of the doctoral thesis. The number of theses completed at the level of the three doctoral schools confirms the existence of a functional doctoral path, in which the results of the research contribute directly to the acquisition of learning outcomes. Therefore, learning based on scientific investigation and capitalizing on research results consistently support the formation of the skills targeted through the study program, ensuring the correlation between doctoral training, advanced scientific research and the requirements of the academic and industrial environment.

✓ Aspects that constitute best practice examples

✓ 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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✓ **Presentation of the state of facts**

Within the field of doctoral studies in Industrial Engineering, organized in POLITEHNICA Bucharest through SD-IIR, SD-AIMA and SD-II, the results of scientific research have national and international visibility, being supported through projects, publications, scientific events, patents and contracts with the socio-economic environment. The activity is documented through REI-Annex A4. Teacher Events and Projects, Annex A7. Projects, scientific events in which the doctoral student participated and Annex A9. Research results for doctoral students. During the analyzed period, the members of the doctoral schools in the field of Industrial Engineering were involved in numerous competitive research projects, including over 15 international projects funded by programs such as Horizon Europe, Erasmus+, COST, Interreg, Danube Programme and COSME, as well as over 30 national projects funded through UEFISCDI, POCU, FDI, ARUST and AOSR competitions. The cumulative value of the projects coordinated or managed by the members of the doctoral schools amounts to several million euros. International visibility is supported by participation in over 40 international conferences between 2021 and 2025, organized in Romania and in at least 10 European states, such as Slovenia, Spain, Greece, Cyprus, Austria, Germany, Bulgaria, Serbia, Norway and Italy. The results of the research are published in Web of Science and Scopus indexed journals, including Q1 and Q2 journals, as well as in internationally indexed conference volumes. The valorization of research is also supported by at least 8 patents granted or in the process of being granted, some awarded at national level, and by over 10 direct contracts with the socio-economic environment, which aimed at the implementation of technological solutions in the manufacturing, energy, construction and urban mobility industries. Also, the three doctoral schools organize conferences, summer schools and workshops dedicated to doctoral students, facilitating their integration into applied research.

✓ **Analysis of the state of facts**

Based on the REI and the analyzed documents, the commission found that the field of Industrial Engineering has a visible and consistent research activity, supported by national and international projects, indexed publications, conferences, patents and contracts with the economic environment. The volume of competitive projects and the diversity of funding sources confirm the ability of the three doctoral schools to actively participate in the national and European research-innovation ecosystem. It is noted that international visibility is supported both by participating in international conferences and by the academic roles assumed by teachers in organizing and coordinating prestigious scientific events. The publication of the results in Web of Science and Scopus indexed journals, including in journals in higher rating areas, confirms the scientific relevance of the research carried out in the field. The Commission also found that the results of the research are capitalized not only academically, through publications and conferences, but also applicatively, through patents, direct contracts with the socio-economic environment and technological solutions implemented in relevant industrial sectors. The integration of PhD students in projects, conferences, workshops and summer schools contributes to the formation of advanced research skills and to increasing the visibility of their results. Overall, the results of scientific research in the field of Industrial Engineering are visible at national and international level and are adequately capitalized, confirming the existence of a critical mass of scientific activity and the positioning of the field as an active actor in applied engineering research.

- ✓ **Aspects that constitute best practice examples:** Dissemination of research results through a significant number of scientific articles published in recognized journals and specialized volumes, with the direct involvement of doctoral students, including through their participation in the POLCOM conference, indexed by ISI

- ✓ **Recommendations:** -
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 level of POLITEHNICA Bucharest, quality assurance is supported by [the Internal Quality Assurance System \(SIAC\)](#), developed in accordance with the Standards and guidelines for quality assurance in the European Higher Education Area (ESG) and with the applicable national legislation. SIAC aims to integrate quality into educational, research and administrative processes, through mechanisms oriented towards continuous improvement and responding to the needs of students, teachers, graduates, employers and other stakeholders. The quality assurance system is supported by institutional structures with specific attributions. [The Evaluation and Quality Assurance Directorate](#) operates as a technical-administrative structure subordinated to the rector and provides support to [the Commission for Evaluation and Quality Assurance \(CEAC\)](#) and to the university's management. CEAC operates on the basis of its own regulation, in accordance with the legal provisions, and [the Quality Council](#) brings together specialists in the field of quality from the university, from outside it, as well as students. At the level of the field of doctoral studies in Industrial Engineering, organized by SD-IIR, SD-AIMA and SD-II, the application of quality procedures is supported by the designation of quality assurance managers at the level of each doctoral school. They support the directors of doctoral schools in coordinating monitoring, evaluation and quality improvement activities.

✓ [Analysis of the state of facts](#)

Based on the analyzed information, it is found that POLITEHNICA Bucharest has a coherent institutional system for the application of quality assurance procedures, structured on levels of responsibility and correlated with ESG requirements and national legislation. The existence of SIAC, the Evaluation and Quality Assurance Department, the CEAC and the Quality Council demonstrate that quality processes are systematically organized and integrated into the university's management. At the level of the Industrial Engineering field, the designation of quality managers in each of the three doctoral schools supports the consistent application of procedures and the permanent monitoring of educational and research processes. This organization allows the identification of the aspects that need improvement, the correlation of the activities of the doctoral schools with the institutional requirements and the provision of a common framework for evaluation and development. The Commission found that the system described does not only have an administrative role, but contributes to strengthening a culture of quality, through the involvement of academic, administrative, specialist and student structures. Therefore, the organizational component applies procedures and carries out actions consistently, with an impact on improving the quality of education at the level of the doctoral field evaluated.

✓ [Aspects that constitute best practice examples:](#) -

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

✓ [Presentation of the state of facts](#)

At the level of POLITEHNICA Bucharest, the opinions of members of the academic community and other stakeholders are taken into account in the process of implementing the procedures through a transparent mechanism of consultation, analysis and validation of institutional documents. The strategic documents, regulations, procedures and methodologies developed at the university level are subject to consultation before formal adoption. The draft documents are drafted by the technical-administrative structures or by the responsible commissions, based on the needs identified in educational, research and administrative activities. Subsequently, they are sent to the management of faculties, doctoral schools and student representatives, who facilitate the collection of observations and proposals made by teachers, students, administrative staff and other stakeholders. After the consultation stage, the documents are reviewed according to the observations received and analyzed at the level of the competent structures, including in the Councils of the Doctoral Schools of [SD-IIR](#), [SD-AIMA](#) and [SD-II](#), in relation to the specifics of the field of Industrial Engineering. Subsequently, the documents are validated by the [Board of Directors](#) and submitted for approval [to the University Senate](#), the university's supreme decision-making body. After approval, the regulations, methodologies and procedures are published on the official website of the university and communicated through the institutional information channels, ensuring the access of the academic community to the applicable documents. The University also encourages regular feedback on the adopted documents, so that they can be updated according to the evolution of educational, administrative and professional requirements.

✓ [Analysis of the state of facts](#)

The Commission found that POLITEHNICA București applies a participatory process of elaboration and implementation of procedures, in which the opinions of members of the academic community and other stakeholders are collected, analyzed and integrated before the adoption of institutional documents. The consultation of teachers, students, administrative staff and, where appropriate, employers contributes to adapting the regulations to the real needs of the university community. It is found that the involvement of academic and decision-making structures - including the Councils of the Doctoral Schools, the Board of Directors and the University Senate - ensures a clear path of analysis, validation and approval of documents. This mechanism supports decision-making transparency, compliance with national and national regulations and the ownership of procedures by the structures responsible for their application. The publication of approved documents and the possibility of updating them based on periodic feedback demonstrates that the implementation of procedures is not a static process, but one open to continuous improvement. Overall, the views of members of their own community and other stakeholders are taken into account in the process of implementing the procedures, helping to increase their relevance and effectiveness.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations:** updating the mechanism for collecting the opinions of the parties involved (feedback) and encouraging the participation of doctoral students as possible in the evaluation process of the teaching staff involved in the teaching and research activities carried out during the doctoral internships.

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 level of the Bucharest Polytechnic, [the University Ethics Commission \(CEU\)](#) functions as a deliberative structure, consisting of tenured teaching and research staff, recognized for professional prestige. The constitution of the commission shall be carried out in accordance with the provisions of art. 162 para. (5) of Law no. 199/2023 on higher education, the members being appointed by the rector's decision, based on the proposals made by the Board of Directors and endorsed by the University Senate. The CEU operates independently of any other administrative or organizational structure within the university, having autonomy in decision-making and in carrying out specific activities, according to art. 5 of the [CEU Organization and Functioning Regulations](#). The Commission develops its own organization and functioning regulations and internal working procedures, which are approved by decision of the University Senate. In the exercise of its duties, the CEU ensures compliance [with the Code of Ethics and University Deontology](#), applies the legal provisions and norms issued by the Ministry of Education in the field of university ethics and resolves the deviations found, either on the basis of the notifications received or by self-notification. The committee also formulates proposals to update the Code of Ethics and University Deontology, in order to integrate it into the University Charter. The commission also has a preventive role, by organizing specific activities and by monitoring the conduct of ethics and academic integrity courses. Every year, the CEU prepares a [report](#) on the observance of ethics norms, a document presented to the rector and the University Senate and having a public character. The committee meetings are held whenever necessary, they are not public, and the discussions and decisions are recorded in internal minutes.

✓ **Analysis of the state of facts**

The evaluation commission found that POLITEHNICA Bucharest has an adequate institutional and regulatory framework for the functioning of the University Ethics Commission, in accordance with the provisions of Law no. 199/2023. The constitution of the commission through a regulated process, the endorsement by the Senate and the approval of its own regulations confer legitimacy and predictability to its activity. It is noted that the provisions regarding the independence of the CEU from any other administrative or organizational structure are explicitly regulated, which supports the autonomy of the commission in analyzing notifications, formulating decisions and applying the norms of ethics and university deontology. The non-public nature of the meetings and the recording of decisions in internal minutes are appropriate to the nature of the committee's work, in

particular in relation to the confidentiality of the cases analysed. Through the tasks regarding the prevention, analysis and resolution of misconduct, updating the Code of Ethics and preparing the annual public report, CEU contributes to strengthening academic integrity and monitoring compliance with ethical norms in the university. Overall, the commission operates on the basis of the regulation approved by the University Senate and acts independently, in compliance with the applicable legal framework.

✓ Aspects that constitute best practice examples: -

✓ 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.
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✓ Presentation of the state of facts

At the level of POLITEHNICA Bucharest, the quality assurance procedures are applied consistently, based on the internal framework established by the Regulation on the Internal Quality Assurance System ([SIAC](#)). Their implementation is coordinated by the Commission for Quality Assurance and Evaluation ([CEAC](#)), in collaboration with the Directorate for Evaluation and Quality Assurance ([DEAC](#)), with the Commissions for the Implementation of Quality Assurance Standards (CFISAC) at the level of the faculties and with the designated officials in departments and doctoral schools. For the field of doctoral studies in Industrial Engineering, organized by SD-IIR, SD-AIMA and SD-II, institutional regulations are applied regarding [admission](#), [conducting doctoral studies](#), [empowering and granting the quality of doctoral supervisor](#), [completion of doctoral studies](#), [internal evaluation and quality monitoring](#). These documents are periodically reviewed and updated according to legislative changes, institutional requirements and the needs of the academic community. The application of the procedures is supported by internal evaluation activities, collection of feedback from students and teachers, internal audits and monitoring of the results obtained as a result of the implemented measures. Their impact is reflected in the optimization of teaching and assessment processes, in increasing student satisfaction, in the modernization of academic infrastructure through strategic projects and in strengthening partnerships with the socio-economic environment. To ensure transparency, the relevant strategic documents, regulations, methodologies and procedures are published on the university's website, being accessible to members of the academic community and other interested parties.

✓ Analysis of the state of facts

It is noted that POLITEHNICA Bucharest has a structured and functional internal quality assurance system, in which the procedures are applied through responsibilities clearly distributed between CEAC, DEAC, CFISAC, faculties, departments and doctoral schools. This organization supports the uniform application of regulations and allows for consistent monitoring of academic and administrative processes. It is noted that the procedures applicable to doctoral studies cover the main stages of the academic path: admission, conduct of the doctoral program, empowerment of doctoral supervisors, completion of studies and quality assessment. The periodic review of these documents indicates the institution's concern for adapting to the legislative framework and the needs of the beneficiaries of education. The impact of the application of the procedures is evidenced by the use of feedback, internal evaluations and audits, as well as by improvement measures aimed at the teaching process, infrastructure and the relationship with the socio-economic environment. Overall, the organizational component consistently applies quality assurance procedures, and their effects are reflected in the strengthening of the quality of education and the management of doctoral programs.

✓ Aspects that constitute best practice examples: -

✓ Recommendations: -

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

Within the field of doctoral studies in Industrial Engineering, the organizational component ensures the involvement of members of the academic community and other interested parties in the process of implementing the procedures specific [to the Internal Quality Assurance System](#). Participation is carried out in a structured manner, in accordance with the internal regulations and methodologies approved at the level of POLITEHNICA Bucharest. Members of the academic community - teachers, doctoral students and administrative staff - are involved by representation in the relevant organizational structures, including in the Council of the Doctoral School, where they contribute to the decision-making process and to the formulation of proposals for the improvement of teaching, administrative and research activities. Also, periodic consultations are carried out with representatives of the socio-economic environment, including with representative organizations such as ASPAPLAST – the Employers' Association of Plastics Processors in Romania, which brings together a significant number of companies, as well as within [the Consortium of Faculties of Mechanical Engineering and Industrial Engineering](#). These consultations provide external perspectives on the relevance of the curriculum, the adequacy of learning outcomes and the current demands of the labour market.

✓ **Analysis of the state of facts**

It is noted that the implementation of the procedures at the level of the Industrial Engineering field is carried out with the involvement of the members of the academic community, through the organizational structures of the doctoral schools and through internal consultation and decision-making mechanisms. This involvement contributes to the more efficient application of the procedures and their adaptation to the real needs of the programme. Consultations with the socio-economic environment, including through partners such as ASPAPLAST, give the process an applicative dimension and contribute to the correlation of the doctoral program with the developments and requirements of the labor market. Therefore, the organisational component involves both its own community and external stakeholders in the application of the procedures, in a structured and relevant way for the development of the programme.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations: -**

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

✓ **Presentation of the state of facts**

Within the field of doctoral studies Industrial Engineering, the organizational component periodically analyzes the results of the semester evaluation of the performance of the teaching staff by the students, in accordance with the methodology approved at the level of the POLITEHNICA Bucharest. The evaluation is carried out online, through the dedicated platform, and is confidential. The results of the evaluations are centralized and transmitted to the IOSUD management and the directors of the doctoral schools, respectively SD-IIR, SD-AIMA and SD-II. They are used to analyze the quality of the teaching process and to identify possible aspects that need improvement. The relevant conclusions are discussed at the meetings of the competent structures, and, depending on the analyzed results, recommendations can be made to the teaching staff, as well as proposals on adapting the methods of teaching, communication and interaction with doctoral students.

✓ **Analysis of the state of facts**

The Commission found that the field of Industrial Engineering has a functional mechanism for collecting and analysing student feedback on teacher performance. The semi-annual, online and confidential nature of the assessment helps to obtain relevant opinions and to protect the impartiality of the process. It is noted that the results of the evaluations are capitalized at the level of the IOSUD management and the doctoral schools, being used to monitor the quality of teaching activities and to substantiate possible improvement measures. By formulating recommendations and by adapting teaching and interaction methods, the semester evaluation process contributes to increasing the quality of doctoral education.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations: -**

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

Within the field of doctoral studies Industrial Engineering, the organizational component periodically collects and analyzes data necessary for the internal quality assurance process, regarding the teaching activity, research activity, the satisfaction of doctoral students and the integration of graduates into the labor market. These activities are carried out in accordance with the policies and methodologies of POLITEHNICA Bucharest and are coordinated by the quality assurance officer at the level of the doctoral school. The data is obtained through standardized tools, such as self-assessment reports, feedback from employers, statistics on the career path of graduates, analysis of doctoral students' academic results and other relevant information for monitoring the quality of the program. They are centralised and interpreted at regular meetings of the quality assurance committees. Based on the analyses carried out, proposals for corrective and preventive measures are formulated, which can be integrated into the development plans of the programme. The data collected is also used to substantiate internal and external evaluation reports, contributing to transparency and institutional accountability.

✓ Analysis of the state of facts

It is noted that, at the level of the Industrial Engineering field, there are functional mechanisms for collecting and periodically analyzing the relevant data for internal quality assurance. The use of tools such as self-assessment reports, employer feedback, graduate pathway data and doctoral students' academic results allows the monitoring of the main components of the doctoral program. These data are capitalized on in the decision-making process, by discussing them in the structures responsible for quality and by formulating improvement measures. Thus, the data analysis is not only descriptive, but supports the adaptation of the program to the needs of doctoral students, academia and the labor market. Therefore, the organizational component systematically collects and analyzes relevant data for internal quality assurance, using them to substantiate the evaluation reports and for the continuous improvement of the doctoral study program.

✓ Aspects that constitute best practice examples: -

✓ 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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✓ Presentation of the state of facts

POLITEHNICA Bucharest ensures the publication and access to information of public interest through [the institutional website](#), which is the main information channel for students, candidates, university staff and the general public. The website includes general information on the university, the University Charter, the governing structures, faculties, departments, research centers, Senate decisions, regulations, methodologies, competitions for teaching positions, students' rights and obligations, scholarships, scientific research and admission. For doctoral studies, each doctoral school has its own web page, accessible from the university's main website. The [SD-IIR](#), [SD-AIMA](#) and [SD-II](#) websites, which implement the Industrial Engineering doctoral field, include information on the mission and history of the doctoral school, its structure, admission, applicable regulations, doctoral students, doctoral theses, postdoctoral studies, habilitation, choices, equity, diversity and inclusion, as well as contact details.

✓ Analysis of the state of facts

It is noted that POLITEHNICA Bucharest has functional channels for the publication of information of public interest, the institutional website and the pages of the doctoral schools ensuring access to relevant information for candidates, doctoral students, teachers and other interested parties. The existence of dedicated pages SD-IIR, SD-AIMA and SD-II supports public information on the organization and conduct of doctoral studies in the field of Industrial Engineering. It is noted that the published information covers the main aspects necessary for the transparency of the program: admission, regulations, doctoral supervisors, doctoral students, theses, habilitation, structure of the doctoral school and contact details. At the same time, the biannual verification and periodic updating of the published content is an appropriate measure to increase the quality of information and to avoid the appearance of outdated information. Therefore, the organizational component ensures the publication and access to information of public interest regarding the evaluated study program, and the announced update measures can contribute to strengthening institutional transparency and facilitating access to accurate and relevant information.

- ✓ Aspects that constitute best practice examples: -
- ✓ Recommendations: -
- 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

POLITEHNICA Bucharest ensures the transparency of decision-making processes by consulting stakeholders before adopting the regulations, methodologies and procedures applicable to doctoral studies. The documents are analyzed and debated in structures such as the Council of the Doctoral School, the Council of Doctoral Studies and the University Senate, and the final decisions are published on the university's website. Students, teachers and employers' representatives can contribute to the decision-making process by participating in committees, advisory structures and feedback mechanisms. In this way, the decisions regarding the organization and conduct of doctoral studies are based on consultation and on the involvement of the relevant actors of the academic community and the socio-economic environment. For the field of doctoral studies in Industrial Engineering, the three doctoral schools - [SD-IIR](#), [SD-AIMA](#) and [SD-II](#) - publish, through IOSUD and on [their own pages](#), information on the regulations of the doctoral schools, the admission regulations, the doctoral study contract, the regulations for the completion of studies, the content of the study programs, the scientific profile and the thematic areas of the supervisors doctoral thesis, thesis writing standards, as well as [information on the public defenses of doctoral theses](#). These include thesis abstracts, date, time and place of the defense, published at least 20 days before the defense, in compliance with data protection regulations.

- ✓ Analysis of the state of facts

From what was found during the visit and from the REI analysis, it results that POLITEHNICA Bucharest has functional mechanisms to ensure the transparency of decision-making processes, by consulting stakeholders, debating documents in the competent academic structures and publishing the decisions adopted. The involvement of students, teachers and representatives of the socio-economic environment contributes to substantiating decisions and increasing their ownership. It is noted that, at the level of Industrial Engineering, transparency is supported by the publication of relevant information on the SD-IIR, SD-AIMA and SD-II websites, including the documents regulating the admission, conduct and completion of doctoral studies. The publication of information on the public defense of doctoral theses contributes to the open and verifiable nature of the process of completing studies. Therefore, the organizational component ensures the transparency of decision-making processes through consultation and institutional debate.

- ✓ Aspects that constitute best practice examples: -
- ✓ 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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✓ **Presentation of the state of facts**

The field of doctoral studies in Industrial Engineering within IOSUD POLITEHNICA Bucharest went through the external quality assessment procedure in [2021](#), obtaining the maintenance of accreditation, according to [the ARACIS Council Decision no. 63/31.08.2021](#). During the external evaluation, recommendations were made on strengthening the quality of academic and research processes. The implementation of the recommendations was analyzed through the mid-term evaluation in 2024, which highlighted progress on the strategic directions envisaged. Under the same conditions, the field of Industrial Engineering organized at the former University of Pitesti was evaluated separately in 2021, with [interim evaluation in 2024](#). After the merger of the University of Pitesti with the POLITEHNICA University of Bucharest and the establishment of the National University of Science and Technology POLITEHNICA Bucharest, this report represents the first internal evaluation report that brings together the field of Industrial Engineering organized in the three doctoral schools: SD-IIR, SD-AIMA and SD-II.

✓ **Analysis of the state of facts**

The Commission found that the PhD field of Industrial Engineering went through the external quality assessment procedures within the legal term of 5 years, the previous evaluation being carried out in 2021, and the current internal evaluation process being carried out with a view to a new external evaluation within the interval corresponding to the maintenance of accreditation. It is also noted that the 2024 mid-term evaluation made it possible to monitor the implementation of the recommendations made in the previous external evaluation and to verify the progress made. This confirms that external evaluation is integrated into a continuous process of monitoring and quality improvement. By drafting this unitary report for the three doctoral schools - SD-IIR, SD-AIMA and SD-II - the organizational component demonstrates the ability to adapt the external evaluation procedures to the new institutional structure resulting from the merger. Overall, the procedures related to the external evaluation are carried out under the law, with the observance of the 5-year periodicity and with the capitalization of the intermediate evaluation in the quality assurance process.

✓ **Aspects that constitute best practice examples: -**

✓ **Recommendations: -**

The indicator is: fulfilled.

IV. SWOT Analysis

Strengths: ✓ The research offer is aligned with current development trends in the field of industrial engineering, addressing topics of strategic interest such as digital transformation, intelligent production systems, automation and sustainable development. ✓ The field benefits from a high-performance research infrastructure, equipped with specialized equipment and laboratories that allow the carrying out of experimental activities and the validation of innovative solutions. ✓ Belonging to POLITEHNICA Bucharest gives the field visibility, academic recognition and a high level of trust from the university and economic environment. ✓ The team of doctoral supervisors has relevant experience in attracting and implementing research and innovation projects, developed in collaboration with national and international partners. ✓ The doctoral program promotes a multidisciplinary approach, integrating skills from industrial engineering, automation, robotics, digitalization and information technologies to solve the challenges of the industrial environment. ✓ Experience in carrying out national and international projects and collaborations with the economic environment.	INTERNAL FACTORS ↑	Weaknesses: ✓ The connection of research topics to the current needs of the industry can be strengthened. ✓ Low level of internationalization and attraction of PhD students from foreign universities. ✓ Cumbersome administrative procedures and bureaucracy can affect the pace of academic and research activities. ✓ Institutionalized collaboration with the economic environment can be extended for research development
SWOT analysis		
Opportunities: ✓ The accelerated development of Industry 4.0 technologies creates new research directions in Industrial Engineering. ✓ Access to European and international funding dedicated to research and academic mobility.	EXTERNAL FACTORS ↓	Threats: ✓ Intensifying the international competition to attract valuable PhD students and researchers ✓ Migration of highly qualified human

✓ Extension of partnerships with the economic environment for research projects and applied doctorates. ✓ Development of international research networks and doctoral co-supervision programs. ✓ Increasing opportunities for mobility and collaboration with universities and international research centres. ✓ Developing interdisciplinary research through collaborations with emerging fields such as artificial intelligence, data analytics, and sustainability.		resources to universities and companies abroad. ✓ Decrease in the number of graduates interested in continuing their doctoral studies.
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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	
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	
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	
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	
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	
6.	I.P.A.3.1.2 The HEI ensures professional and personal development for its staff.	Fulfilled	
7.	I.P.A.3.2.1 Recruitment procedures comply with the provisions of the law, and are established and carried out transparently.	Fulfilled	
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	Completion by IOSUD and/or DEAC – Politehnica București of the integrated platform to manage, for all areas, the subject sheets, PPA, learning outcomes, etc., as an extension of the one made for bachelor's and master's studies.
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	Periodically updating the package of documents – the curriculum and the subject sheets (paying attention to the PPA) – by taking into account the suggestions and observations made by the parties involved in the doctoral process: graduates, doctoral supervisors and doctoral students.
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	

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	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	
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	Intensifying the process of promoting external mobility among doctoral students
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	
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	
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	Publication on the website of the doctoral schools involved of the Curriculum and of all the Discipline Sheets, both in Romanian and in an international language.
16.	I.P.B.5.1.2 Achievement of the learning outcomes is checked in ongoing examinations and study completion exams.	Fulfilled	
17.	I.P.B.7.1.1 The organisational component applies the admission procedures.	Fulfilled	
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	
19.	I.P.B.7.2.1 The organisational component applies the regulations concerning the students' professional activity.	Fulfilled	
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	
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	
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	
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	
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	Updating the mechanism for collecting the opinions of the parties involved (feedback) and encouraging the participation of doctoral students as possible in the evaluation process of the teaching staff involved in the teaching and research activities carried out during the doctoral internships.
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	
26.	I.P.C.3.1.1 The organisational component consistently applies the procedures, and proves their impact on quality assurance.	Fulfilled	

No.	Performance Indicator	Extent to which it was fulfilled (F/PF/UF)	Recommendations
27.	I.P.C.3.1.2 Members of its own community and other stakeholders are involved in the procedure implementation process.	Fulfilled	
28.	I.P.C.4.1.1 The organisational component analyses the results of the students' biannual evaluation of teachers.	Fulfilled	
29.	I.P.C.5.1.1 The organisational component systematically collects and analyses data required for the internal quality assurance process.	Fulfilled	
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	
31.	I.P.C.6.1.2 The organisational component ensures transparent decision-making processes.	Fulfilled	
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	

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

1. At IOSUD – POLITEHNICA, DD-II operates in a clearly regulated, transparent and updated institutional framework, being supported by managerial, administrative and quality assurance structures appropriate to the organization of doctoral studies.
2. The human resource involved in the field is adequate in terms of academic and scientific qualification, the doctoral supervisors having recognized research activity, involvement in projects, publications and relevant experience for the training of doctoral students.
3. The material base and research infrastructure are adequate, being supported by high-performance resources.
4. All 32 evaluated performance indicators are met, which underpins the decision to maintain the accreditation for DD-II. Five recommendations were made.
5. DD-II also highlights a number of aspects of good practice, such as: the endowment of laboratories, the existence of advanced platforms, learning outcomes and discipline sheets for scientific reports, clear and transparent admission procedures, the existence of seven scientific reports, dissemination through a large number of articles, the WOS-rated POLCOM conference.

Following the completion of the maintaining accreditation procedure, the decision of the evaluation panel is the following:

Maintaining accreditation (MAC)

VII. Appendices

1. Program of the visit of the ARACIS evaluation team.

Calendarul vizitei de evaluare externă a calității domeniilor de studii universitare de doctorat

The timetable for the evaluation of the external quality evaluation visit for the doctoral university study domain

Instituția de învățământ superior/ Organizația furnizoare de educație/ Higher Education Institution/ Education Provider Organization: UNIVERSITATEA NAȚIONALĂ DE ȘTIINȚĂ ȘI TEHNOLOGIE POLITEHNICA BUCUREȘTI

Școli doctorale/ Doctoral Schools: Inginerie Industrială și Robotică/ Industrial Engineering and Robotics, Antreprenariat, Ingineria și Managementul Afacerilor/ Entrepreneurship, Engineering and Business Management, Inginerie industrială/ Industrial Engineering

Domeniul de doctorat/ Doctoral Domain: Inginerie industrială/ Industrial Engineering

Obiectivul evaluării externe/ The objective of the external evaluation: menținerea acreditării domeniului de doctorat / maintaining accreditation of Doctoral Study Domain

Perioada vizitei de evaluare/ The evaluation period: 23.07.2026 — 24.07.2026

Comisia de experți evaluatori ai ARACIS/ Evaluation panel:

Nr./No.	Numele și prenumele/ Last Name and First Name	Calitatea/ Team role
1.	Sever-Gabriel RACZ	Coordonator
2.	Marian GRIGORE	Membru evaluator internațional
3.	Ana-Maria LUPU	Membru - student doctorand

Reprezentanții POLITEHNICA București/ Representatives of POLITEHNICA Bucharest:

Nr./No.	Numele și prenumele/ Last Name and First Name	Calitatea/ Team role
1.		Persoană de contact/ Contact person
2.		Responsabil domeniu/ Person Responsible for DUSD

Intervalul orar/ Hour	Activități de evaluare/ Evaluation activities	Participanți/ Participants	Locație/ Location / Listă participanți/ List of Participants
Ziua/ Day 1, 23.07.2026 (Joi/ Thursday)			
08:10 - 09:00	Discuții tehnice în cadrul comisiei de experți în evaluarea externă a calității/ Technical discussions within the expert committee for external quality evaluation	- Comisia de experți evaluatori ai ARACIS / Panel members	Sala CE2040/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București)
09:00 - 09:50	Întâlnirea comisiei de experți în evaluarea externă a calității cu reprezentanții conducerii componentei organizatorice/ Meeting of the external quality evaluation experts' panel with the representatives of the management of the organisational component	- Comisia de experți evaluatori ai ARACIS / Panel members - Reprezentanți ai conducerii componentei organizatorice aferente domeniului de studii de doctorat evaluat / Representatives of the management of the organisational component - Persoana de contact / Contact person	Sala Decanat FIIR/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. Decan 2. Responsabil domeniu 3. Director SD-IIR 4. Director SD-AIMA 5. Director SD-II 6. Persoană de contact
09:50 - 10:00	Pauză/ Break		
10:00 - 10:50	Întâlnirea comisiei de experți evaluatori în evaluarea externă a calității cu echipa care a realizat raportul de evaluare internă (REI)/ Meeting of the external quality evaluation experts' panel with the team that has drafted the internal evaluation report	- Comisia de experți evaluatori ai ARACIS / Panel members - Echipa care a realizat REI / Team that has drafted the IER	Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire:
10:50 - 11:00	Pauză/ Break		

Intervalul orar/ Hour	Activități de evaluare/ Evaluation activities	Participanți/ Participants	Locație/ Location / Listă participanți/ List of Participants
11:00 - 13:00	Vizitarea bazei materiale/ Visiting the material resources	- Comisia de experți evaluatori ai ARACIS / Panel members - Reprezentanți ai instituției sau Academiei Române, după caz / Representatives of the HEI or the Romanian Academy, as applicable	Sala Corpurile CK, CO, CB, CD/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București)
13:00 - 14:00	Pauză/ Break		
14:00 - 14:50	Întâlnirea comisiei de experți în evaluarea externă a calității cu studenți doctoranzi din cadrul DSUD/ Meeting of the external quality evaluation experts' panel with doctoral students of the DSUD	- Comisia de experți evaluatori ai ARACIS / Panel members - Studenți doctoranzi / Doctoral students	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. student, Anul al IV-lea 2. student, Anul al II-lea 3. student, Anul I 4. student, Anul I 5. student, Anul I 6. student, Anul I 7. student, Anul al V-lea 8. student, Anul al V-lea 9. student, Anul al III-lea 10. student, Anul al III-lea 11. student, Anul I 12. student, Anul I
14:50 - 15:00	Pauză/ Break		
15:00 - 15:50	Întâlnirea comisiei de experți în evaluarea externă a calității cu responsabilii centrelor/laboratoarelor de cercetare/ Meeting of the external quality evaluation experts' panel with the staff in charge with the research centres/laboratories	- Comisia de experți evaluatori ai ARACIS / Panel members - Responsabilii centrelor/laboratoarelor de cercetare / Staff in charge with research centres/laboratories	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București)

Intervalul orar/ Hour	Activități de evaluare/ Evaluation activities	Participanți/ Participants	Locație/ Location / Listă participanți/ List of Participants
			Lista persoanelor care vor participa la întâlnire: 1. Director CCMA 2. Director CAMIS 3. Director OPTIMUM 4. Director PREMINV
15:50 - 16:00	Pauză/ Break		
16:00 - 16:50	Întâlnirea comisiei de experți în evaluarea externă a calității cu absolvenți ai DSUD/ Meeting of the external quality evaluation experts' panel with alumni of the DSUD	- Comisia de experți evaluatori ai ARACIS / Panel members - Absolvenți ai domeniului de studii evaluat / Graduates	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. Absolvent 2. absolvent 2024 3. Absolvent 2021 4. absolvent 2025 5. absolvent 2024 6. absolvent 2021 7. absolvent 2025 8. absolvent 2024 9. absolvent 2021 10. absolvent 2024
16:50 - 17:00	Pauză/ Break		
17:00 - 17:50	Întâlnirea comisiei de experți în evaluarea externă a calității cu angajatori ai absolvenților DSUD/ Meeting of the external quality evaluation experts' panel with employers of the DSUD alumni	- Comisia de experți evaluatori ai ARACIS / Panel members - Angajatori / Employers	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. INCAS 2. ASPAPLAST-ACAROM-ROMCHIMICA

Intervalul orar/ Hour	Activități de evaluare/ Evaluation activities	Participanți/ Participants	Locație/ Location / Listă participanți/ List of Participants
			3. Bursa de Valori București 4. Comoti 5. Dr. Kocher SRL 6. Camera Consultanților Fiscali
Ziua/ Day 2, 24.07.2026 (Vineri/ Friday)			
08:40 - 09:30	Întâlnirea tehnică a comisiei de experți evaluatori (Activitate în colaborare pentru clarificarea aspectelor prezentate în REI)/ Technical meeting of the expert evaluation panel (Collaborative activity for clarifying the aspects presented in the Internal Evaluation Report - IER)	- Comisia de experți evaluatori ai ARACIS / Panel members	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București)
09:30 - 10:20	Întâlnirea comisiei de experți în evaluarea externă a calității cu personalul didactic implicat în activitățile din cadrul DSUD/ Meeting of the external quality evaluation experts' panel with the teaching staff involved in the activities within the DSUD	- Comisia de experți evaluatori ai ARACIS / Panel members - Cadre didactice conducători de doctorat / Teaching staff who are PhD supervisors	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. Cadru didactic SD-IIR 2. Cadru didactic SD-IIR 3. Cadru didactic SD-IIR 4. Cadru didactic SD-IIR 5. Cadru didactic SD-IIR 6. Cadru didactic SD-IIR 7. Cadru didactic SD-IIR 8. Cadru didactic SD-IIR 9. Cadru didactic SD-IIR 10. Cadru didactic SD-IIR 11. Cadru didactic SD-AIMA 12. Cadru didactic SD-II
10:20 - 10:30	Pauză/ Break		

Intervalul orar/ Hour	Activități de evaluare/ Evaluation activities	Participanți/ Participants	Locație/ Location / Listă participanți/ List of Participants
10:30 - 11:20	Întâlnirea comisiei de experți în evaluarea externă a calității cu reprezentanți ai structurilor organizatorice în domeniul asigurării calității/ Meeting of the external quality evaluation experts' panel with representatives of the quality assurance organisational structures	- Comisia de experți evaluatori ai ARACIS / Panel members - Reprezentanți ai structurilor organizatorice în domeniul asigurării calității / Representatives of quality assurance organisational structures	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. Membru CFISAC 2. Membru CFISAC 3. Responsabil calitate SD-AIMA 4. DEAC
11:20 - 11:30	Pauză/ Break		
11:30 - 12:20	Întâlnirea comisiei de experți în evaluarea externă a calității cu personalul care asigură serviciul de secretariat la școala doctorală sau IOSUD/ Meeting of the external quality evaluation experts' panel with the staff providing the secretarial service at the doctoral school or IOSUD	- Comisia de experți evaluatori ai ARACIS / Panel members - Personalul care asigură serviciul de secretariat la școala doctorală sau IOSUD / Staff providing the secretarial service at the doctoral school or IOSUD	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. Secretar SD-IIR 2. Secretar SD-IIR
12:20 - 13:30	Pauză/ Break		
13:30 - 14:20	Întâlnire tehnică a comisiei de experți evaluatori/ Technical meeting of the expert evaluation panel	- Comisia de experți evaluatori ai ARACIS / Panel members	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București)
14:20 - 14:30	Pauză/ Break		

Intervalul orar/ Hour	Activități de evaluare/ Evaluation activities	Participanți/ Participants	Locație/ Location / Listă participanți/ List of Participants
14:30 - 15:20	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/ Meeting of the members of the expert evaluators' panel 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	- Reprezentanți ai conducerii și ai domeniului de studii evaluat / Representatives of the management - Persoana de contact / Contact person	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, (Splaiul Independenței, nr. 313, sector 6, București) Lista persoanelor care vor participa la întâlnire: 1. Decan FIIR 2. Responsabil domeniu 3. Director SD-IIR
15:20 - 15:30	Pauză/ Break		
15:30 - 17:00	Finalizarea activităților de evaluare/ Completion of evaluation activities	- Comisia de experți evaluatori ai ARACIS / Panel members	Sala Sala CE204/ Facultatea de Inginerie Industrială și Robotică, Campus NOUL LOCAL, (Splaiul Independenței, nr. 313, sector 6, București)