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Final Evaluation Report

PROJECT REGISTRATION CODE
ANC-EPOC-2025-0074

RESEARCH ORGANIZATION NAME
INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU MECATRONICA SI TEHNICA MASURARII

RESEARCH ORGANIZATION TYPE
B. Research Organizations - applied research/technological development/innovation (except HE)

PERIOD UNDER EVALUATION
2020-2024

DATE OF VISIT

November 28th, 2025

Criterion I. DEVELOPMENT AND INNOVATION ACTIVITY
[max. score: 50]

Indicator I.1 The capacity to attract and manage research funding
[max. score: 17]

Score obtained: 10.33

- Analyse the extent to which the research organization demonstrates its capacity to attract funds from competitively won grants/contracts obtained from national or international organizations/institutions and also to manage the available financial resources.
- The performance indicators associated with indicator I.1 are:
  – Contracts obtained/grants won by the research organization from European/international funds (number);
  – Value of contracts obtained/grants won by the research organization from international organizations/institutions (amounts);
  – Contracts obtained/grants won by the research organization from national organizations/institutions (number);
  – Value of contracts obtained/grants won by the research organization from national organizations/institutions (amounts);
  – The structure of the budget according to the specificity of the research organization over the last 5 years.
- Evaluate mainly the organization's ability to win competitively grants/contracts from national and international organizations/institutions.

COMMENT - STRENGTHS

• The research organization demonstrates the capacity to attract and manage research funding through a consistent number of nationally funded projects over the evaluated period (6 projects in 2020, 3 in 2021, 3 in 2022, 4 in 2023 and 2 in 2024), ensuring continuity of research and development activities. • National competitive funding represents a relatively stable component of the organization's revenues, with annual values ranging between approximately 5.5 and 9 million lei, confirming the institutional capacity to access and manage public research funding. • Projects funded from European and international sources are documented for the period 2020–2023 (4 projects per year in 2020–2021 and 2 projects per year in 2022–2023), indicating institutional experience in implementing externally funded projects. • Revenues from international funding range between 759,317 lei and 1,479,269 lei per year during 2020–2023, demonstrating the organization's ability to manage projects with specific administrative and financial requirements. • A detailed five-year budget overview is provided, covering institutional funding, national and international competitive funding, as well as own revenues, reflecting coherent financial planning of research activities.

COMMENT - WEAKNESSES

• The share of European and international funding within the organization's total budget remains limited, and no active international projects are reported in 2024, which restricts the organization's exposure to international research competition. • The reported European and international projects are predominantly focused on institutional development, infrastructure or professional training, rather than competitively awarded international research grants, which limits their associated scientific impact. • Based on the analysed documentation, the organization's role (leader or partner) in international projects is not clearly specified, making it difficult to assess its leadership capacity in attracting and coordinating external research funding. • The number of nationally funded projects shows a downward trend towards the end of the evaluated period (from 6 projects in 2020 to 2 projects in 2024), which may affect the medium-term sustainability of research activities. • Although nominal budget values remain relatively stable, real-term analysis indicates a decrease in effective funding capacity in the context of high inflation during the evaluated period, which may limit the organization's ability to sustain competitive research activities.

Indicator I.2 Organized scientific events

[max. score: 3]

Score obtained: 2.33

- Analyse the extent to which the research organization, in order to disseminate the results of scientific research, has organized, both as coordinator and in partnership with other research organizations, international and/or national scientific events (congresses, conferences, symposia, workshops) or summer schools.
- The performance indicators associated with indicator I.2 are:
  – Organized international scientific events (congresses, conferences, symposia, workshops) or summer schools;
  – Organized national scientific events (congresses, conferences, symposia, workshops) or summer schools.
- Evaluate mainly the organization of international scientific events.
- Note: In the case of international scientific events, a minimum of 20% of participants from abroad is taken into consideration.

COMMENT - STRENGTHS

• The research organization regularly organizes international scientific conferences, International Conference of Mechatronics and Cyber-MixMechatronics (ICOMECYME 2020) and the International Conference on Reliable Systems Engineering (ICoRSE), held annually during 2021–2024; the 2025 edition is planned, according to strategic planning documents. • Participation data confirm the consistent fulfillment of the minimum 20% international participants requirement, demonstrating international visibility and compliance with the indicator. • The research organization has acted as a co-organizer for other international scientific events (ICIE 2024, ICIE 2022, ICIENG 2020), extending collaboration and dissemination capacity. • Conference papers are published in proceedings volumes, including Lecture Notes in Networks and Systems, a series indexed in Scopus, supporting the dissemination of scientific results. • The research organization is involved, in partnership with European institutions (e.g. from Portugal), in organizing international conferences held in multiple locations across Europe, with one planned in Bucharest in 2026. • The institute organizes national workshops and scientific meetings, contributing to research dissemination within the Romanian research and industrial environment.

COMMENT - WEAKNESSES

• Although recurring international conferences are reported, the documentation does not provide sufficient evidence of scientific prestige (systematic indexing in major databases, inclusion in established international series or independent indicators); some aspects were clarified only during the on-site visit. • Low participation at some conferences is evidenced (e.g., 28 abstracts in the Abstract Book for the Fourth International Conference on Reliable Systems Engineering - 2024). • The reported national scientific events are mainly project-related workshops, not large-scale national scientific conferences, which limits their weight. • No evidence of long-term scientific impact is provided, such as strategic partnerships, durable collaborations or internationally recognized keynote speakers resulting from these conferences. • Periodic participation in events, including summer schools, is mentioned without concrete data (date, location, topic), and the research organization's involvement in organizing summer schools is not documented.

Indicator I.3 The capacity to develop services, technologies, products

[max. score: 25]

Score obtained: 21.33

- Analyse, relative to the available funding and number of researchers, the extent to which the research organization has societal, economic and social impact demonstrated by the capacity to develop services, technologies, products, reflected, according to the research organization's mission, in products/technologies/ developed/posted methodologies /reports/publications/public interest studies/research services/consultancy/impact studies.
- The performance indicators associated with indicator I.3 are:
  – Products/technologies/processes/methodologies developed through research activities resulting from economic or scientific research contracts;
  – Technologies and services made available to other research centers on a contract/collaboration project basis (including posted in EERTIS - https://eertis.eu/) or Open access;
  – Reports/studies of public interest or with private beneficiaries.
- Evaluate mainly, relative to the scientific research organization's mission, the extent to which the scientific research organization demonstrates the capacity to develop services, technologies, products for public or private beneficiaries through: reports/studies/research services/consulting/software systems for editing, publishing and online consultation of scientific information/theoretical studies with social impact or in other sciences, obtained through competition, commissioned or carried out at the request of beneficiaries, or with social impact or in other sciences proven by official documents/contractual relations/requests/orders.

COMMENT - STRENGTHS

• The research organization reports a high and stable number of products, technologies, processes and methodologies developed annually, ranging between 23 and 36 outputs per year during 2020–2024, consistent with its applied research profile. • A significant proportion of the results is developed for private industrial beneficiaries, particularly in the automotive sector. • The research organization maintains long-term contractual relationships with economic agents, with approximately 20% of its annual contracts awarded to private beneficiaries, demonstrating sustained capacity to deliver research-based technologies and services. • The research organization demonstrates the capacity to cover the entire development chain, from concept and prototyping to testing, delivery, commissioning and maintenance, with specialized equipment integrated into the production chains of automotive manufacturers. • The research organization provides services and technologies to other research centers, with reported outputs ranging between 9 and 21 per year during 2020–2024, including metrological verification, testing, calibration and technical assistance. • In 2020, the research organization delivered public interest studies (7 POCA studies), demonstrating its capacity to produce analytical outputs for public-sector beneficiaries. • Overall evidence confirms a strong applied orientation and a consistent ability to generate contract-based technological outcomes aligned with the research organization's mission in mechatronics and measurement technologies.

COMMENT - WEAKNESSES

• A large proportion of outputs developed for economic agents is subject to confidentiality clauses, preventing publication, patenting or public dissemination and limiting visibility, prestige and measurable socio-economic impact. • The documentation does not include quantified impact indicators, such as economic savings for beneficiaries, productivity improvements or national/international adoption rates. • From the reported data, it is not clear how many outcomes are new and how many represent updates or TRL level increases, making it difficult to assess novelty and technological progress. • Social impact is less emphasized, as most outcomes are integrated into industrial production chains, with limited public visibility. • Public interest reports and studies are concentrated in 2020, with limited evidence of similar outputs during 2021-2024, suggesting a recent reduction in engagement with evidence-based policymaking. • Although the research organization provides services to other research centers, the downward trend in outputs (from 21 in 2020 to 9 in 2023-2024) may reflect reduced external demand or visibility of these services.

Indicator I.4 Editing and publishing the research organization's own journals or with the involvement of the organization's researchers

[max. score: 1]

Score obtained: 1.00

- Analyse the extent to which the research organization demonstrates the capacity to contribute to the process of disseminating the results of quality scientific research by editing and publishing its own journals indexed in Web of Science or other recognized international databases, and the extent to which researchers in the organization are involved in editing and publishing journals indexed in recognized international databases (Web of Science, etc.).
- The performance indicators associated with indicator I.4 are:
  – The research organization is editing and publishing its own journal indexed in Web of Science (Journal Citation Reports Q1/Q2/Q3/Q4, Emerging Sources Citation Index or, in addition, Arts & Humanities Citation Index, for humanities), SCOPUS;
  – The research organization is editing and publishing its own journal indexed in CNCS (A or B) or in another recognized IDB;
  – Persons affiliated with the evaluated research organization fulfilling the role of editor-in-chief of a journal indexed in Web of Science (Journal Citation Reports Q1/Q2/Q3/Q4, Emerging Sources Citation Index or, in addition, Arts & Humanities Citation Index, for humanities), SCOPUS;
  – Persons affiliated with the evaluated research organization fulfilling the role of editor-in-chief of a CNCS (A or B) indexed journal, for humanities.
- Evaluate mainly, relative to the available resources, the extent to which the research organization demonstrates the capacity to edit and publish its own journal indexed in recognized international databases, and also a high degree of involvement from the researchers in the organization in editing and publishing journals indexed in recognized international databases.
- Note: In the case of journals indexed by Journal Citation Reports, will be taken into consideration the impact factors (IF) or the influence scores (AIS) calculated by Web of Science. The best Q1, Q2, Q3 or Q4 ranking (between IF and AIS) of the last 5 editions published by Journal Citation Reports relative to the year of evaluation will be considered.

COMMENT - STRENGTHS

• The research organization edits and publishes the scientific journal International Journal of Mechatronics and Applied Mechanics (IJOMAM) through the CEFIN Publishing House, established within INCDMTM since 1991, demonstrating long-term institutional continuity in editorial activity. • The IJOMAM journal is indexed in SCOPUS, fulfilling the requirement for indexing in an internationally recognized database. • The journal is also indexed in EI Compendex, EBSCO and ProQuest, supporting international visibility and dissemination of published scientific results. • IJOMAM is published quarterly, in open access format, ensuring continuous dissemination of scientific output in line with the research organization's mission. • Researchers affiliated with the research organization hold editorial leadership positions, namely: 2021 - present: Dr. Eng. Doina-Daniela Cioboată; 2017 - 2021: Prof. Dr. Eng. Gheorghe. This demonstrates scientific capacity and active involvement of researchers in managing an internationally indexed publication. • There is demonstrated interest and effort to improve the journal's quartile ranking, an aspect appreciated.

COMMENT - WEAKNESSES

• The IJOMAM journal is not indexed in Web of Science (JCR or ESCI), meaning that no impact factor, AIS score or JCR quartile ranking is available. • According to SCImago Journal Rank, the journal is classified as Q4 in all three covered research fields. • The documentation does not provide data on citation performance, international impact indicators or other external prestige indicators to quantify the journal's visibility.

Indicator I.5 The capacity to train young researchers (PhD, postdoc)

[max. score: 4]

Score obtained: 2.00

- Analyse the extent to which the research organization contributes to the training of young researchers (doctoral and postdoctoral studies) in relation to preparing doctoral theses and postdoctoral fellowships in sectors/departments of the research organization, participations of researchers from the research organization as members of doctoral thesis public defence committees or doctoral thesis guidance committees, researchers working in the research organization with the quality of doctoral supervisor or POSDRU/POCU/MSCA/PNCDI/PNRR projects of postdoctoral and doctoral research won/implemented by the research organization.
- The performance indicators associated with indicator I.5 are:
  – Doctoral theses prepared or postdoctoral fellowships carried out in sectors/departments of the research organization;
  – Researchers affiliated with the research organization, who have participated as members in a doctoral thesis public defence committee or a doctoral thesis guidance committee;
  – Doctoral supervisors working in the research organization;
  – POSDRU/POCU/MSCA/ PNCDI/PNRR postdoctoral and doctoral research projects won/implemented by the research organization;
  – PhD students/postdoctoral researchers within the research organization.
- Evaluate mainly whether the research organization demonstrates that it has contributed to the training of young researchers (doctoral and postdoctoral studies) by having researchers from the evaluated research organization fulfilling the role of doctoral supervisors, the capacity to attract doctoral/postdoctoral researchers in the research organization, the capacity to prepare doctoral theses in sectors/departments of the evaluated research organization, participations of researchers from the research organization as members in doctoral thesis public defence committees and doctoral thesis guidance committees or through POSDRU/POCU/MSCA/PNCDI/PNRR postdoctoral and doctoral research projects won/implemented by the research organization.

COMMENT - STRENGTHS

• The research organization provides an adequate environment for doctoral training, as demonstrated by the preparation of doctoral theses within its laboratories in almost all years of the reference period (3 theses in 2020, 2 in 2021, 1 in 2022, 1 in 2023). • Researchers from the research organization participated throughout the evaluation period as members of public doctoral thesis defense committees, demonstrating continuous involvement in national doctoral training structures. • Until 2021, the research organization employed two doctoral supervisors (Prof. Gheorghe I. Gheorghe and Dr. Eng. Doru-Dumitru Palade), confirming its institutional capacity to supervise doctoral candidates internally. • The research organization hosted PhD students throughout the evaluation period, with numbers decreasing from 7 PhD students in 2020 to 1 in 2024, indicating a continued, though diminishing, doctoral presence. • Several doctoral theses prepared within the research organization were successfully defended, confirming the capacity to support the full doctoral research cycle. • The research organization hosted PhD students enrolled at the National University of Science and Technology POLITEHNICA Bucharest, demonstrating institutional cooperation in doctoral training.

COMMENT - WEAKNESSES

• After 2021, the research organization no longer has employees with doctoral supervisor status, significantly limiting its current capacity to independently supervise new PhD candidates. • The annual number of doctoral theses prepared within the research organization shows a constant decline and reaches zero in 2024, suggesting reduced attractiveness of doctoral research. • The number of PhD students and young researchers (PhD/postdoc) within the research organization is decreasing (7-4-3-2-1), indicating a reduction in the young human resources base. • The research organization did not obtain or implement doctoral or postdoctoral grants (POSDRU, POCU, MSCA, PNCDI, PNRR) during the evaluated period, limiting structured training opportunities and competitive exposure for young researchers. • Although continuous, the participation of research organization researchers in doctoral thesis defense committees is numerically limited and variable, indicating limited integration into national doctoral training networks. • No evidence is provided regarding postdoctoral programmes, fellowships or structured mentoring schemes, which restricts the research organization's role in supporting early-career researchers beyond the doctoral level.

Criterion II. RESULTS OF RESEARCH ACTIVITY AND IMPACT AT INTERNATIONAL AND NATIONAL LEVEL

[max. score: 50]

Indicator II.1 Works of wide scope and fundamental importance; books, treatises, encyclopaedias, monographs, coordinated/published/edited studies and chapters; published articles; patents applied/exploited/obtained

[max. score: 35]

Score obtained: 19.83

- Analyse the productivity of the research organization, relative to the available resources (including human resources expressed as number of researchers - full-time equivalent), respectively to the funding received by the research organization, from the perspective of the scientific output materialized, according to the specific mission of the research organization in: articles published in indexed journals (Journal Citation Reports Q1, Q2, Q3, Q4, Emerging Sources Citation Index or, in addition, Arts & Humanities Citation Index, for humanities), SCOPUS, IEEE or CNCS (A or B) indexed, for humanities, treatises/books/monographs published by researchers in the research organization as authors or editors with established international and national publishing houses, chapters in these categories of publications, patents applied/exploited/obtained.
- The performance indicators associated with indicator II.1 are:
  – Articles published in a Web of Science indexed journal (Journal Citation Reports Q1, Q2, Q3, Q4, Emerging Sources Citation Index or, in addition, Arts & Humanities Citation Index, for humanities), SCOPUS, IEEE;
  – Articles published in a journal indexed in CNSC (A or B), for humanities;
  – Treatises/books/monographs or chapters published by an established publishing house from abroad, as an author;
  – Treatises/books/monographs published by an established publishing house from abroad, as an editor/coordinator;
  – Treatises/books/monographs or chapters published by a CNCS A or B ranked publishing house or by an established publishing house in the country, as an author;
  – Treatises/books/monographs published by a CNCS A or B rated publishing house or by an established publishing house in the country, as an editor/co-coordinator;
  – Registered and published patent applications;
  – Patents applied/exploited at national or international level or exploited at international level (with EU/OECD priority);
  – Variety/breed certificates applied/exploited at national or international level or exploited at international level (with EU/OECD priority);
  – Patents obtained at international (with EU/OECD priority) or national level;
  – Intellectual property, ORDA certificates.
- Evaluate mainly a high level of productivity of the research organization in terms of scientific output, materialized, according to the specific mission of the research organization, in articles published in Web of Science indexed journals (Journal Citation Reports Q1, Q2, Q3, Q4, Emerging Sources Citation Index or, in addition, for humanities, Arts & Humanities Citation Index), SCOPUS, IEEE or, in addition, for the humanities, articles published in a CNSC (A or B) indexed journal, treatises/books/monographs published by researchers in the research organization as authors or editors in established international and national publishing houses, chapters in these categories of publications.
- Evaluate mainly patents applied/exploited in the "National Register of Invention Patents", within OSIM, Romania, international patents registered with the European Patent Office (EPO) or the World Intellectual Property Organization (WIPO) or other international patent databases.
- Note: In the case of journals indexed by Journal Citation Reports, impact factors (IF) or influence scores (AIS) calculated by Web of Science will be taken into account. The best ranking Q1, Q2, Q3 or Q4 (between IF and AIS) of the last 5 editions published by Journal Citation Reports relative to the year of the evaluation will be considered.
- In the case of articles, only those for which the author has indicated the affiliation to the evaluated research organization will be considered.

COMMENT - STRENGTHS

• The research organization demonstrates sustained scientific productivity throughout the evaluated period, maintaining a steady flow of articles indexed in international databases (Web of Science, SCOPUS, IEEE), with annual outputs ranging between 6 and 20 publications. • The publications/FTE ratio reaches high values in 2021–2022 (0.66–0.77 articles/FTE), indicating the research organization's ability to generate relevant scientific results despite fluctuations in human resources. • The research organization records a significant number of publications covered by SCOPUS, reaching up to 55 articles over the analysed period. • Researchers of the research organization are authors of monographs and book chapters published by recognized publishing houses, including a chapter published by a well-established international publisher (Nova Science Publishers, 2020) and several scientific volumes issued by the CEFIN Publishing House in 2020 and 2024. • Editorial activity is reflected through the involvement of research organization researchers as editors or editors-in-chief of the Springer Lecture Notes in Networks and Systems (LNNS) series throughout 2020–2024, contributing to international institutional visibility. • Patenting activity is consistent, with 15 patent applications reported (13 OSIM and 2 EPO), which is relevant for the applied profile of the research organization. • The research organization obtained 10 granted patents (9 OSIM and 1 EPO) during 2020–2024, with an increase in 2023–2024, confirming applied technological development capacity. • The portfolio of outputs is complemented by 14 ORDA registrations reported in 2020, demonstrating the research organization's ability to generate and protect intellectual property. • Overall outputs (articles, books, edited volumes, patents and protected works) show coherent alignment with the applied mission of the research organization in mechatronics, engineering systems and measurement technologies.

COMMENT - WEAKNESSES

• Although articles are indexed in Web of Science, no Q1 or Q2 journal publications are reported, limiting top-tier scientific excellence and visibility. • Productivity relative to FTE researchers is uneven, with significant variation in publication/FTE ratios and a visible decline in 2023. • International editorial output remains quantitatively limited, with only one chapter published by an international publisher and no monographs published abroad during 2020–2024. • Although a relevant number of patents has been granted, their impact and exploitation are not documented, with no evidence of technology transfer, commercialization or industrial uptake. • ORDA registrations lack temporal continuity, as all 14 protected works are reported only for 2020. • Bibliometric impact indicators (impact factor, AIS, h-index) are not provided, limiting the assessment of the scientific influence of the research organization's publications. • Editorial activity outside the LNNS series is limited, being mainly related to the publication of conference proceedings.

Indicator II.2 Papers and communications presented at scientific events [max. score: 5]	**Score obtained: 3.17**

- Analyse, relative to the specificity of the organization, the extent to which the research organization's scientists disseminate the results of their own research at prestigious scientific events.
- The performance indicators associated with indicator II.2 are:
  – Papers presented at an international scientific event, published in a volume indexed in Web of Science - Conference Proceedings Citation Index (CPCI-S), Conference Proceedings Citation Index - Social Science & Humanities (CPCI-SSH), classified IEEE proceedings;
  – Papers presented at an international scientific event, published in an edited volume with ISBN (non - WoS);
  – Invited/keynote papers presented at an international scientific event;
  – Invited /keynote papers presented at a national scientific event.
- Evaluate mainly, relative to the specificity of the field, the high degree of dissemination of the organization's scientific research results through the participation of researchers in prestigious international scientific events and the publication of their presentations in Web of Science (WOS) or ISBN (non-WOS) indexed conference proceedings, and invitations as keynote speakers at national and international scientific events.
- Note: In the case of papers presented at scientific events, will be taken into consideration only those for which the author has indicated the affiliation with the research organization.

COMMENT - STRENGTHS

• The research organization demonstrates continuous participation in international scientific events throughout the reference period, through papers published in Web of Science (CPCI-S) indexed proceedings and IEEE-classified volumes. • Dissemination activity reaches a productivity peak in 2022, with 9 papers published in Web of Science indexed conference proceedings, reflecting increased international visibility in that year. • The research organization records a substantial number of papers published in internationally edited ISBN (non-WoS) volumes, with consistent output: 8 papers in 2020, 9 in 2022, 6 in 2023 and 11 in 2024, aligned with its applied research profile in mechatronics, measurement technologies and engineering sciences. • Invited/keynote contributions at international conferences were reported in 2021 and 2022, indicating recognition of the research organization's researchers by the scientific community. • The overall participation pattern indicates regular dissemination activity, contributing to the research organization's visibility in international engineering and applied science networks. • The overall volume of communications is considered reasonable, with 16 WoS-indexed and 35 non-WoS covered conference presentations during the evaluated period.

COMMENT - WEAKNESSES

• Although dissemination is continuous, the number of invited/keynote presentations remains low (only two over the five-year period), limiting the research organization's visibility at the highest level of scientific events. • No other invited/keynote lectures at national scientific events are reported, reducing opportunities for leadership visibility within the national research ecosystem. • There is significant year-to-year variability, particularly in Web of Science indexed conference papers (from 1 paper to 9, then back to 1), indicating uneven strategic participation in high-visibility events. • Participation abroad is reported as limited for part of the conference contributions. • Participation is mainly concentrated in applied engineering conferences, which is consistent with the institution's mission but limits impact in more competitive, high-prestige forums (e.g., top-tier IEEE flagship conferences). • The participation strategy does not sufficiently highlight involvement in top-level WoS conferences or international consortia, restricting opportunities for strategic research partnerships. • Some papers involve a large number of authors, which may reduce the individual visibility of the research organization's researchers.

Indicator II.3 Visibility and impact of the published work [max. score: 10]	**Score obtained: 6.67**

- Analyse the scientific visibility and impact of the research organization's publications through the number of citations in WOS, SCOPUS, IEEE indexed journals or, in addition, for the humanities, Arts & Humanities Citation Index, in CNCS (A or B) indexed journals and books (excluding self-citation).
- The performance indicators associated with indicator II.3 are:
  - Number of citations accumulated by the research organization during the evaluated period in the following databases:
    - Web of Science;
    - SCOPUS; IEEE;
    - in addition, for the humanities Arts & Humanities Citation Index, in CNCS (A or B) indexed journals and books.
- Evaluate mainly the identification of a significant number of citations, in the evaluated period, of papers published by the research organization in journals indexed in WOS, SCOPUS, IEEE or, in addition, for humanities, Arts & Humanities Citation Index, in journals indexed CNCS (A or B) and books, regardless of the year of publication of the cited work.
- Note: In the case of citations, only those for works published by the author affiliated with the evaluated research organization will be taken into consideration.

COMMENT - STRENGTHS

• The research organization demonstrates a consistent increase in scientific visibility, with growing numbers of citations in Web of Science and SCOPUS throughout the evaluated period. • The number of Web of Science citations increases from 13 in 2020 to 31 in 2023, remaining high in 2024 (27 citations). • SCOPUS citations show a steady growth, from 34 in 2020 to 68 in 2024, reflecting a doubling of the annual citation volume. •

Citations are reported excluding self-citations, ensuring an objective assessment of the research organization's external scientific impact. • When normalized to the number of researchers (FTE CS I–III), citation efficiency shows a clear upward trend, indicating increasing international recognition despite a reduction in research staff. • Publications of the research organization receive citations in IEEE sources, indicating relevance within specialized technical communities such as robotics, mechatronics and measurement systems, although at a modest numerical level. • Citations in scholarly books are reported (3 citations in 2021 and 1 in 2024), indicating that some works have long-term conceptual relevance beyond journal literature. • The diversity of citing sources (journals, conference proceedings and books) confirms a broad impact across multiple engineering subfields (mechanical engineering, materials, vibration analysis, mechatronics, biomedical engineering). • The increase in citations occurs despite a decrease in the number of researchers, indicating recognition of the scientific outputs produced by the research organization.

COMMENT - WEAKNESSES

• Although increasing, the total number of citations remains moderate relative to the volume of publications and the size of the research organization, not yet indicating strong international impact. • Impact is mainly driven by SCOPUS citations, while Web of Science indexed citations are fewer, limiting top-tier scientific visibility. • IEEE citations are limited and inconsistent, with no citations recorded in 2023 and low numbers in other years, suggesting that only a small subset of engineering outputs gains traction in IEEE-indexed literature. • Book citations are very scarce, indicating low penetration of the research organization's research into monographic or textbook literature. • Some of the reported citations refer to publications issued before the evaluation interval, which limits the interpretation of impact strictly attributable to the analysed period. • No consolidated bibliometric analysis (e.g. h-index, highly cited papers) is provided, limiting the assessment of deeper scientific influence beyond raw citation counts.

Criterion III. MANAGEMENT AND INSTITUTIONAL CAPACITY
[max. score: 40]

Indicator III.1 Quality management system (certified by authorised institutions)
[max. score: 3]

Score obtained: 3.00

- Analyse whether the organization has a developed, approved and implemented an internal quality management regulation or procedure, a quality manual and other specific procedures, as well as whether the research organization has been accredited by institutions authorised in the field of quality management.
- Evaluate mainly whether the organization has a quality management regulation or procedure in place, a quality manual, a procedure for managing risks and opportunities and, in general, the existence of quality procedures for the activities carried out.
- The maximum score is awarded when the research organization provides proof of ISO 9001 accreditation from an authorised institution.

COMMENT - STRENGTHS

• The research organization has a developed, approved and implemented internal quality management system, including an Internal Quality Management Procedure, a Quality Manual and a set of specific procedures covering all core activities. • A structured Risk Register and an annually updated risk treatment plan are in place, addressing relevant categories such as economic risks, human resources, integrated management, research-development-innovation, strategy, marketing and public relations. • The research organization holds ISO 9001:2015 certification, issued by the authorized body SRAC (Certificate No. 4183/2018), applicable across all departments and fulfilling the maximum requirement of the evaluation methodology. • The research organization is also certified according to ISO 14001:2015 (SRAC Certificate No. 2082/2018), demonstrating a consolidated integrated quality–environment management system. • Two laboratories of the research organization are accredited by RENAR according to ISO/IEC 17025:2018 (Mechanical-pressure calibration laboratory – LE009/02.02.2021; Length testing laboratory – LI1247/31.08.2021), confirming technical competence in testing and calibration. • External surveillance audits (2023) and the recertification audit (2024) identified no non-conformities, confirming the maturity, stability and effective implementation of the management system. • Internal user guides have been prepared, and laboratories are required to operate in accordance with the established quality procedures, supporting operational implementation.

COMMENT - WEAKNESSES

• The analysed documentation does not provide detailed evidence on internal performance indicators, monitoring metrics or internal audit outcomes, limiting the assessment of the continuous improvement cycle. • Strategic-level monitoring and review of objectives are not clearly described, making it difficult to assess the alignment between the quality management system and institutional objectives. • The application of quality procedures across all organizational activities is not documented in detail, limiting the assessment of operational integration. • Additional voluntary certifications (beyond ISO 9001, ISO 14001 and ISO/IEC 17025) are not specified, although they could have strengthened the existing quality framework, even if not required for maximum scoring.

Indicator III.2 Regulations, rules, procedures implemented by the research organization
[max. score: 2]

Score obtained: 2.00

- Analyse whether the research organization has updated organizational and operational regulations and an internal regulation according to the legal provisions in force, regulations/procedures developed, approved and implemented for research activity management, employee performance evaluation, integrity, equal opportunities, etc.
- Evaluate mainly the high degree of implementation of regulations, rules and procedures and the high degree of confidence in the Internal Managerial Control System (SCIM) of the research organization.

COMMENT - STRENGTHS

• The research organization benefits from a comprehensive and up-to-date internal regulatory framework, evidenced by the existence and implementation of the Organization and Operation Regulation (ROF) and the Internal Regulation, ensuring clear governance structures and internal operational norms. • The research organization has developed, approved and implemented core procedures for research activity management and institutional functioning, fully aligned with national legislation in force. • Implemented procedures include, among others: Research Activity Management Procedure (PG-MAG-01); Employee Performance Evaluation Procedure (PO-EPS-01); Recruitment Regulation; Procedure on the Protection of Whistleblowers in the Public Interest (PS-PAIP-01); Procedure for Ensuring Equal Opportunities within the research organization (PG-AES-01). • The Internal Managerial Control System (SCIM) is fully operational and aligned with national legal requirements, as demonstrated by the existence of a Monitoring Commission, an annual SCIM Development Program and a documented Risk Management process, implemented in accordance with OG 119/1999, OSGG 600/2018 and Law 206/2004. • The implementation of SCIM has generated clear institutional benefits, such as improved internal information flow, enhanced resource optimization, formalized performance monitoring mechanisms and institutionalized risk identification and mitigation processes, indicating a mature internal control environment. • The documentation shows a high degree of implementation and functionality of regulations and procedures across all key institutional domains, including research management, human resources, ethics, integrity, equal opportunities and risk management, meeting the criterion requirements.

COMMENT - WEAKNESSES

• The analysed documentation provides limited evidence of systematic revision cycles for the implemented procedures, as no explicit update timelines, monitoring indicators or formal revision mechanisms are described, preventing full verification of continuous procedural improvement; • No documented evidence is provided on how SCIM outputs are integrated into strategic or managerial decision-making, as the annex does not present concrete examples of corrective actions, institutional adjustments or planning decisions explicitly derived from SCIM evaluations; • Although comprehensive, the regulatory framework does not explicitly refer to alignment with broader European research integrity frameworks, beyond whistleblower protection and compliance with Law 206/2004, leaving alignment with instruments such as the European Code of Conduct for Research Integrity unaddressed; • Structured staff feedback regarding the application of internal rules and procedures is not presented, limiting the assessment of institutional ownership and perceived effectiveness.

Indicator III.3 Ethics and academic integrity in research

[max. score: 5]

Score obtained: 4.17

- Analyse the existence of a code of ethics, a research ethics committee, a specific procedure for the functioning of the committee and the extent to which the committee proves its functionality in case of complaints.
- Evaluate mainly whether the research organization has a code of ethics, an ethics committee operating procedures developed, approved and implemented, the existence of an ethics and academic integrity committee and documents attesting to the functioning of the ethics committee, in case of complaints.

COMMENT - STRENGTHS

• The research organization has a formal, developed and operational institutional framework for ethics and academic integrity, evidenced by the existence of an officially approved and publicly accessible Code of Ethics, regulating ethical behaviour in research and institutional conduct. • Through Decision No. 65/05.12.2023, the Ethics and Professional Deontology Commission was established as a dedicated body responsible for ensuring compliance, addressing ethical concerns and supervising adherence to professional integrity norms. • The research organization has developed, approved and implemented an Integrity Plan, aligned with national legal requirements, and its public availability enhances transparency and institutional accountability in matters of ethics and academic integrity. • The functionality of the Ethics Commission is explicitly stated, with the organization indicating that it is fully operational in handling complaints, confirming the existence of a working institutional mechanism for addressing ethical issues. • Supporting documentation provides full traceability and transparency, confirming that ethics-and integrity-related rules, procedures and structures are properly documented, institutionalized and available for verification. • Ethics and integrity rules are effectively applied, with minor disputes reported as having been resolved collegially, in the absence of formally registered cases.

COMMENT - WEAKNESSES

• The analysed documentation does not provide concrete evidence of cases handled by the Ethics Commission, such as anonymized complaints, issued decisions or documented procedures followed, limiting the demonstration of practical functionality beyond formal establishment. • No training programmes, awareness-raising sessions or internal monitoring activities related to ethics and academic integrity are reported, which would typically indicate a mature and proactive institutional ethics culture. • It is unclear whether the ethics framework undergoes periodic review, beyond compliance with national legal obligations, limiting the assessment of continuous improvement capacity in ethics governance. • No information is provided on the use of dedicated software tools for similarity or plagiarism checks, which were mentioned as not being available, despite being essential for scientific dissemination activities. • Specific operational aspects are unclear, such as the definition of time allocated to research activities for PhD students within the organization, in accordance with applicable research and education legislation.

Indicator III.4 Research infrastructure related to the mission and objectives of the research organization (how the infrastructure sustains the mission of the research organization) [max. score: 10]

Score obtained: 7.33

- Analyse the extent to which the infrastructure sustains the research organization's mission and the degree of development of the research-development and innovation infrastructure relative to the activities carried out within the organization.
- Evaluate mainly whether the research infrastructure is appropriate to the research organization's mission, a high degree of its development, and the existence of an investment strategy and plan.

COMMENT - STRENGTHS

• The research organization has a diversified and advanced RDI infrastructure, structured into three major departments (MMI, MBR, MNTM), each operating specialized laboratories aligned with its mission in mechatronics, intelligent measurement systems, micro-/nanotechnologies and robotics. • Laboratories are equipped with modern, European-level equipment, enabling complex experimental activities in areas such as Industry 4.0, intelligent measurement, automation and control, biomechatronics, robotics, micro-/nanostructured materials, environmental monitoring and circular economy. • A significant part of the infrastructure was created or modernized using European structural funds (POSCCE, POC), demonstrating strategic investment in infrastructure development. • The infrastructure is actively used in national and international research–development–innovation projects, indicating functional alignment with the scientific mission of the research organization. • The research organization is integrated into the national and European research infrastructure ecosystem through the inclusion of ECOSIN-MECATRON in the National Roadmap of Research Infrastructures and the registration of the RDI infrastructure in EERTIS, increasing visibility and potential external access. • The strategic development plan which is in in place, is also targeting laboratory modernization, equipment repair, calibration and maintenance, creation of new laboratories, IT infrastructure modernization, and strengthening of technology transfer and innovation infrastructure. • Multiple funding channels for investments are identified (RDI project budgets, competitive equipment projects, own revenues and ministry-approved budget allocations), indicating capacity to sustain infrastructure development. • The research organization holds on-site research infrastructure (offices, laboratories, small-scale production workshop), and research outputs (circuits, measurement set-ups, smart hardware – robots, integrated sensors) are tested and validated with appropriate instrumentation, including state-of-the-art facilities (clean room, atomic force microscopy, metal 3D printer, CNC machines). • Two accredited laboratories are reported, confirming technical competence for testing and validation activities.

COMMENT - WEAKNESSES

• The analysed documentation does not quantify external accessibility or utilization rates of the infrastructure by national or international partners (beyond EERTIS registration), limiting the assessment of impact and interoperability. • Although an investment plan exists, no detailed multi-annual investment strategy is provided, including explicit budgets, prioritization criteria or risk-based investment models. • The contribution of the infrastructure to international competitiveness, compared to similar European institutions, is only partially demonstrated, as no benchmarking data are provided. • No consolidated infrastructure inventory or infrastructure performance indicators (renewal cycles, utilization rates, annual reviews) are presented, limiting assessment of infrastructure management maturity. • Interdisciplinary activities require a wide range of instruments, and not all are available; in some cases, equipment duplication is noted, where diversification could broaden research activities. • The strategic plan and investment documentation are formulated at a general level, with requests mainly targeting consumables and IT equipment, and few examples of medium- or long-term research investments. • Some newly acquired equipment appears underutilized or not fully operational, and the absence of laboratory activity log files limits utilization monitoring. • Auxiliary equipment and support infrastructure (e.g., heating system, internal communication network) require upgrades.

Indicator III.5 The research organization as a member in scientific networks/associative bodies [max. score: 5]	**Score obtained: 3.00**

- Analyse the capacity of the research organization to integrate into research networks and associative bodies, as evidenced by concluded agreements/protocols and other documents provided by the organization on the functionality of the partnerships, with a focus on joint submission and winning of projects, organization of joint scientific events, development of scientific publications, etc.
- Evaluate mainly whether the research organization has collaboration agreements/protocols in place, as well as whether there is documentary evidence that they are functional (submission and winning of projects in partnership, organization of scientific events in partnership, joint preparation of articles/studies/books, etc.).

COMMENT - STRENGTHS

• The research organization demonstrates broad institutional visibility through registration on international platforms supporting research collaboration and partnership building, including the EC Funding & Tenders Portal, INTERREG EUROPE, EUCalls, and BrainMap. • The research organization is a member of several nationally and internationally relevant associative bodies, such as CINCOR, CONPIROM, APROMECA, PRCP, AGIR and CREDING, reflecting integration into the national RDI ecosystem and professional engineering communities. • The research organization participates in scientific and technological networks that support collaboration and knowledge exchange, including RomNet-Minafab, EERTIS, and the European Cluster Collaboration Platform (ECCP), ensuring exposure to European research infrastructures and thematic cooperation frameworks. • The research organization is a member of innovation clusters and competitiveness poles aligned with its scientific profile, such as MECHATREC, INO-AGRO-POL, and the Măgurele High Tech Cluster (MHTC), strengthening its position in applied research and technology transfer environments. • The research organization maintains membership in national innovation and technology transfer networks, specifically ReNITT and ARoTT, confirming alignment with national innovation policy mechanisms. • Taken together, these memberships indicate a diversified institutional presence across scientific, technological, industrial and innovation ecosystems, supporting the research organization's mission in mechatronics and measurement technologies. • The reported networks and affiliations are thematically diverse (mono-disciplinary and interdisciplinary), suggesting openness to varied collaboration opportunities.

COMMENT - WEAKNESSES

• No evidence of concrete functional outcomes linked to these networks is provided, such as jointly submitted or awarded research projects, jointly organized scientific events, or jointly authored publications. • No shared deliverables, co-funded activities or measurable contributions arising from participation in networks or clusters are identified, limiting assessment of integration depth. - Although affiliation is extensive, the evidence remains largely declarative, with no documentation demonstrating concrete advantages or direct impact on the research organization's research activity. - Most affiliations are to domestic bodies, while registration on European platforms (e.g. the EC Funding & Tenders Portal) functions primarily as an information channel rather than a functional affiliation. - Some European platforms mentioned are reported as having weak direct impact on the research activity, with no tangible benefits demonstrated. - The capacity to deepen integration into these networks (through joint projects, joint publications or other collaborative outputs) cannot be assessed based on the provided documentation. - A stronger visibility and exploitation strategy within these networks is needed to establish new collaboration opportunities.

Indicator III.6 Accredited or non-accredited testing, trials, analysis laboratories; Open access libraries and databases created/administered, to the extent that funding was available [max. score: 10]	**Score obtained: 8.17**

- Analyse the extent to which the research organization is equipped with laboratories for tests, trials, analysis and their

accreditation status or the existence of their own libraries, Open access databases and the intensity of access, in correlation with the field in which the research organization is active and the available funds.
- Evaluate mainly whether, relative to the funds available and the field in which it operates, the research organization has laboratories for testing, trials analysis, and whether they are accredited or whether it has its own library or Open access databases and whether there is evidence that the scientific information in the library or Open access databases has been accessed.

COMMENT - STRENGTHS

• The research organization operates two RENAR-accredited laboratories, compliant with SR EN ISO/IEC 17025:2018, namely the Length Testing Laboratory (LI 1247/31.08.2021) and the Mechanical Pressure Calibration Laboratory (LE009/02.02.2021), ensuring recognized technical competence in dimensional metrology and pressure calibration, fully aligned with the institutional scientific mission. • The accredited laboratories provide mission-relevant specialized services, including precision dimensional measurements, geometric deviation analysis, hardness testing and pressure calibration, supporting both research projects and industrial beneficiaries. • The research infrastructure includes several modern non-accredited laboratories, which significantly enhance experimental capacity and support advanced research in mechatronics, materials engineering and biomedical applications. • The CERMISO Research Center strengthens institutional capabilities in cutting-edge domains, providing specialized infrastructure for autonomous mechatronic systems, mini-air systems and disaster-response technologies, aligned with national and European research priorities. • The research organization maintains its own technical-scientific library, comprising approximately 3,600 titles, including scientific studies, technical documentation, procedures and specialized collections, supporting the research activities of staff and students. • Access to leading international scientific databases is ensured through ANELIS Plus, providing up-to-date resources such as Web of Science, Scopus, ScienceDirect, Springer, Ei Compendex, EBSCO and ProQuest, enabling research at competitive international standards. • The research organization develops and administers Open Access scientific outputs, including the International Journal of Mechatronics and Applied Mechanics (IJOMAM), indexed in Scopus, Ei Compendex, EBSCO and ProQuest, demonstrating institutional capacity for wide and effective knowledge dissemination. • In addition to the accredited laboratories, additional testing and research-support laboratories and a dedicated research center are reported, complementing the experimental infrastructure.

COMMENT - WEAKNESSES

• The number of RENAR-accredited laboratories is limited relative to the broad multidisciplinary profile of the research organization (mechatronics, robotics, micro- and nanotechnologies, biomedical engineering, intelligent measurement systems), which may constrain partnership development or third-party service provision. • The analysed documentation does not provide quantitative indicators of laboratory operation, such as annual testing/calibration volumes, number of external beneficiaries, turnaround times or service revenues, limiting assessment of functional impact and utilization levels. • Although access to international databases is ensured, no usage metrics are provided, such as download statistics, search frequencies or correlations between database access and publication output. • Open Access platforms and journals are described structurally, but no evidence is provided regarding readership, download numbers, citation data or geographic distribution of users, limiting assessment of international impact.

Indicator III.7 Degree of digitalization of the research organization [max. score: 3]	**Score obtained: 3.00**

- Analyse whether, relative to the research organization's mission and in correlation with the current standards in the field, the IT infrastructure is adequate for the researchers' work, and the extent to which the research organization has an updated website with the results of the research carried out in the research organization available in an open access regime.
- Evaluate mainly whether the IT infrastructure is appropriate to the research organization's mission, the research

organization has a website in Romanian and English and, in correlation with the available funds, the website is updated with research results published in an open access regime.

COMMENT - STRENGTHS

• The research organization has developed a modern and diversified IT infrastructure, adequate to its RDI mission and current field standards, supporting researchers' activities and institutional management. • A dedicated internal digital platform for R&D management has been developed and is currently being rolled out institution-wide, providing digital monitoring of research processes, electronic document circulation, hierarchical access rights, and integrated communication between management and research teams. • Significant progress has been made in digitizing administrative and operational workflows, as demonstrated by the use of Prosys for digital financial-accounting reporting, digital inventory systems, electronic HR records (Revisal), digitized payments and payroll via online banking, implementation of electronic signatures at management level, partial digital archiving, and modernized digital security systems. • The research organization provides public-oriented digital research services, including a functional bilingual institutional website (Romanian and English), an open-access peer-reviewed journal (IJOMAM), annual open-access catalogues of research results, and digital platforms for dissemination of scientific publications and project deliverables. • The institutional website includes open-access research outputs and is periodically updated with project information and scientific results. • Researchers benefit from comprehensive digital access to international scientific literature through the ANELIS Plus consortium, ensuring institutional access to major databases and supporting competitive research activities. • The degree of digitalization is coherent, strategically implemented and fully aligned with the research organization's mission, supporting both scientific productivity and efficient institutional management.

COMMENT - WEAKNESSES

• The internal digital platform dedicated to R&D management has not yet been demonstrated as fully operationally integrated across all departments, with no documentation showing complete institutional adoption during the evaluation period. • Although the website is functional and bilingual, update depth is uneven across sections, which may limit the completeness of public visibility regarding ongoing scientific achievements. • No usage metrics or analytics are provided for digital resources (website, scientific databases, open-access journal), making it difficult to demonstrate actual intensity of use or correlation with research output. • Although a BDI-indexed journal exists, no evidence is provided regarding its digital accessibility, readership or impact, limiting assessment of online dissemination effectiveness.

Indicator III.8 Innovation Management System

[max. score: 2]

Score obtained: 2.00

- Analyse whether the organization has an approved and implemented innovation management regulation/procedure and whether it has organized its own technology transfer centre.
- The maximum score is awarded when the research organization provides evidence of accreditation/certification of the innovation management system by an authorised institution and the establishment/operation of a technology transfer centre.

COMMENT - STRENGTHS

• The system includes dedicated procedures such as: PMI-02 – Innovation Management System and related processes; PG-MId-01 – Idea Management Procedure; PMI-12 – Research Results Registration Procedure; PG-VPN-01 – Research Results Valuation and Exploitation Procedure; PMI-11 – Invention Patent Award Procedure, demonstrating the existence of a structured and operational framework for innovation management. • The Innovation Management System is certified by an authorized institution, namely CIT-IRECSON, through Certificate No. CIT/48/3/31.10.2023, attesting compliance with SR 13572:2016, valid until 30.10.2026, providing verifiable external confirmation of conformity with a recognized standard. • The research organization has established and operates its own accredited technology transfer centre, the Technology Transfer and Consultancy Relay Centre (CRTTC), accredited through Certificate No. 147/2023, valid for the period 27.02.2023–27.02.2028, which actively supports research results valorisation, technology transfer and consultancy activities. • The certified Innovation Management System, the accredited technology transfer centre and the comprehensive set of operational procedures demonstrate full compliance with all indicator requirements, justifying the maximum score.

COMMENT - WEAKNESSES

• No weaknesses have been identified.

Criterion IV. PERFORMANCE AND SOCIO-ECONOMIC IMPACT
[max. score: 25]

Indicator IV.1 The extent to which the activity responds to public interests of national or local importance
[max. score: 5]

Score obtained: 4.50

- Analyse, relative to the research-development field, and the available funding and human resources, the organization's capacity to coordinate or participate in the development of studies, sectoral projects, research projects of local or national impact; research services for or in partnership with commercial entities.
- Evaluate mainly the coordination of or participation in the development of complex works with national and local economic/social impact.

COMMENT - STRENGTHS

• The research organization demonstrates extensive and long-standing collaborations with major national industrial stakeholders, with direct impact on strategic sectors of the Romanian economy, particularly the automotive industry, a nationally recognized priority sector. • During 2020–2024, functional partnerships with Renault Technologie Roumanie (RTR), Renault Mecanique Roumanie (RMR) and HORSE Romania SA are documented, resulting in delivered applied solutions relevant to national industrial competitiveness and technological development. • The research organization has a proven capacity to provide specialized RDI services to a wide range of commercial entities operating in sectors of national importance, including dimensional metrology, pressure calibration, safety testing and mechatronics, with applications in transport, energy, manufacturing and medical equipment. • The involvement of the research organization in the national strategic project SIPOCA 393 demonstrates its capacity to contribute to evidence-based public policy development, with socio-economic and administrative relevance at national level. • The research organization's RENAR-accredited laboratories provide essential services for public safety and critical infrastructure reliability, supporting areas such as railway safety, gas systems, refrigeration systems and automotive production, with continuous use by national operators. • The activities carried out generate outputs with national and local relevance, contributing tangibly to industrial competitiveness, regulatory processes, public safety and national policy-making. • The impact of the research activity is mainly concentrated in the automotive field, a strategic sector at national level, where RDI services and industrial collaborations are well established.

COMMENT - WEAKNESSES

• The analysed documentation does not provide quantitative socio-economic impact indicators, such as measurable economic gains, technology adoption rates, generated savings or explicit public-benefit metrics, limiting the assessment of the magnitude of national impact. • Collaborations with local or regional public authorities are documented to a lesser extent, with most evidence focusing on national industrial partners or ministerial-level initiatives, limiting demonstration of local-level impact. • For the SIPOCA 393 project, although the research organization's contributions are described, no evidence of subsequent policy implementation or measurable national effects is provided. • Participation in the development of sectoral studies or projects with local or national impact is considered relatively limited beyond the automotive portfolio, where impact is most evident. • Reported impact is mainly qualitative, supported by descriptions and scientific outputs, while direct societal impact outcomes are less clearly documented.

Indicator IV.2 The capacity to develop national and international collaborations
[max. score: 10]

Score obtained: 6.33

- Analyse the capacity of the research organization to develop national and international collaborations that have as main outcomes the joint use of components of the research infrastructure, providing access to researchers from other research organizations to different components of its own infrastructure (including IOSIN); provide support services for other research organizations or researchers from outside the organization, co-opting partner organizations or researchers from other organizations in initiated projects.
- Evaluate mainly the evidence of a high degree of joint use of infrastructure with other research organizations, providing access to components of the research infrastructure for researchers from other research organizations, providing services to other research organizations or researchers from other research organizations, as well as attracting researchers or research organizations in inter- and trans-disciplinary research projects.

COMMENT - STRENGTHS

• The research organization demonstrates the capacity to establish and operationalize national RDI collaborations, through participation in implemented multi-institutional research projects during the evaluation period, such as SIRAMAND, DIGITECH and POC KTAutoComp, confirming functional cooperation with national RDI institutes (e.g. INMA) and universities. • The research organization was involved in 7 national projects, acting as coordinator in two of them, and as consortium member in the others, demonstrating leadership capacity and institutional integration in national collaborations. • Accredited laboratory services are provided to other RDI institutions and universities, demonstrating joint use of research infrastructure through testing and calibration activities performed in accredited laboratories. • The research organization offers specialized technical and scientific services to external researchers (benchmarking, machining operations, specialized measurements), relying on its own metrological and technological infrastructure, thus supporting external research activities. • The capacity to attract external researchers is documented, including diaspora researchers (Prof. Ion Stiharu – Concordia University) and collaborations with researchers from France and Turkey, confirming openness to interdisciplinary and international cooperation. • Institutional membership in the MECHATREC Cluster provides a structured framework for inter-institutional cooperation, knowledge transfer and coordinated research actions in mechatronics, supporting medium- and long-term collaborations. • Participation in the national consortium "Center of Excellence on Advanced Responsive Materials" (2024) demonstrates the research organization's ability to integrate into complex national collaborative structures alongside major national RDI actors. • Intense activity in preparing and submitting international project proposals is reported, with 18 proposals submitted under Horizon Europe, Horizon 2020, ERC, Interreg and Danube Region calls, indicating a high level of institutional commitment to internationalization.

COMMENT - WEAKNESSES

• Most reported international collaborations remain at the project proposal stage, evaluated but not funded, and therefore cannot be considered implemented RDI collaborations or evidence of shared infrastructure use or joint research outcomes. • The success rate of international proposals is low, with only 2 out of 18 proposals funded, indicating the need to strengthen strategies for accessing European and international funding. • No quantitative or procedural evidence is provided to confirm systematic access by external researchers to the research organization's infrastructure (access logs, formal agreements or usage reports), limiting demonstration of structured joint use. • Several international partnerships remain at the consortium-building stage for funding applications, with no documented outputs such as implemented studies, joint prototypes, co-authored publications or technology transfer activities. • No fully implemented international RDI project is documented for 2020-2024, limiting assessment of international collaboration outcomes and effective experience in shared infrastructure use at international level. • A large share of contract-based activities is reported, with reduced collaborative research intensity, and few research visitors hosted during the evaluation period.

Indicator IV.3 The contribution to national and international experimental development and innovation
[max. score: 10]

Score obtained: 8.00

- Analyse the works identified by the research organization as being of reference for science in terms of the contributions made by the research organization through these works, and the evidence of recognition of their impact by the national and international scientific community; analyse the results of applied research and patents identified by the research organization as having economic impact.
- Evaluate mainly the publication of reference works in the respective field, e.g. handbooks; books in the most prestigious publishing houses; results highlighted, e.g. on the cover of prestigious journals, organization of activities to disseminate results of scientific work through large-scale events/studies/reports with proven prestige in the national and international scientific community; experimental development works/patents for or in partnership with the economic environment.

COMMENT - STRENGTHS

• The research organization has produced reference scientific works with demonstrable international impact, validated through citation indicators in Web of Science and Scopus, confirming recognition by the scientific community. • National and international patents with clear economic relevance are reported, including European patent EP3760170 (19.06.2024), demonstrating European-level recognition of applied research results and compliance with the criterion on industrial impact. • Multiple applied research results have been transferred to industry, including equipment for HR12 engine water-circuit tightness, prototype installations for laser microprocessing, CNC inspection cells and LPG protection systems, all implemented in collaboration with major industrial beneficiaries such as HORSE Romania, Renault Technologie Roumanie, DACIA, APEL LASER and iP Automatic Design. • Contributions to experimental development and innovation are carried out in direct partnership with the economic sector, including jointly developed patents, functional prototypes, testing systems and precision equipment, demonstrating measurable impact and industrial applicability. • Experimental development activities cover a broad range of technological domains, such as mechatronics, additive manufacturing, laser processing, metrology, industrial equipment and circular economy, highlighting a mature and complex innovation capacity aligned with industry needs. • Continuous experimental activity is supported by in-house infrastructure (mechanical workshop, additive manufacturing facilities), and sustained collaboration with leading automotive industries is acknowledged as a strength. • A high level of participation in national and international fairs is reported, reflecting external appreciation and visibility of the experimental development activities carried out by the research organization. • A collaborative platform for environmental monitoring has been efficiently set up together with universities and industrial partners, indicating expansion of innovation activities into emerging fields.

COMMENT - WEAKNESSES

• No evidence is provided that the published works achieved the highest international prestige levels, such as inclusion in the top 10% journals according to the Nature Index or equivalent indicators, although their impact is significant. • No evidence is provided of large-scale commercialization of patents, licensing revenues or widespread industrial adoption beyond direct contractual beneficiaries. • No prestigious national awards, distinctions or major international prizes associated with the presented works, patents or books are reported, which are typically linked to top-level research excellence. • Publication activity is considered relatively limited, including only one published book during the evaluation period, restricting demonstration of reference-type contributions (handbooks, monographs). • Participation in international research-oriented consortia is assessed as moderate, with reduced project coordination activity, limiting international visibility at scientific leadership level.

Criterion V. HUMAN RESOURCES

[max. score: 15]

Indicator V.1 Staff structure by scientific grade and the share of PhD supervisors, and career development opportunities

[max. score: 10]

Score obtained: 6.00

- Analyse the career development opportunities offered by the research organization to its members, the structure of the scientific research staff by scientific grade, the number and share of PhDs, PhD supervisors, the quality of the research team as a whole and the extent to which it is appropriate for the mission and activities carried out by the research organization.
- Evaluate mainly the career development opportunities offered to researchers within the research organization, a balanced structure of total staff and research staff by scientific grade, a high number and share of PhD supervisors.

COMMENT - STRENGTHS

• The research organization has implemented a structured and continuous career development framework, supported by documented regulations and procedures for recruitment, promotion, professional training and researcher mobility, reflecting a coherent human resources strategy. • Internal promotion competitions have been organized, including promotions from CS III to CS II and from ACS to CS, as well as competitions for management positions (Scientific Director, Department Director) during 2022-2023, demonstrating institutional commitment to professional advancement. • The research organization shows a strong orientation towards training and attracting young researchers, through internships, training programmes, graduate integration and support for master's, doctoral and postdoctoral programmes, ensuring long-term continuity of research capacity. • Structured measures for researcher mobility and international exposure are in place, aligned with the European Charter for Researchers and the Code of Conduct, enhancing institutional attractiveness and research quality. • Existing senior researchers (CS I and CS II) play an active mentoring and scientific leadership role, supporting the development of early-career researchers. • The research team is considered adequately prepared for the mission of the research organization, with skills aligned to the operation of accredited laboratories, prototyping facilities and experimental installations. • A good gender balance among staff members is reported, and the high retirement rate forecast is identified as an opportunity for generational renewal and strengthening of mid-career staff levels.

COMMENT - WEAKNESSES

• The number of senior researchers (CS I and CS II) has significantly declined during the reference period, with CS I decreasing from 20 (2020) to 7 (2024) and CS II remaining at only two researchers, limiting scientific leadership capacity and strategic project coordination. • The number and share of PhD holders decreased sharply, from 22 (2020) to 12 (2024), weakening the overall scientific potential of the research organization, despite the existence of an adequate procedural framework. • No active PhD supervisors are reported after 2021, as the number dropped from 2 (2020) to 0 during 2022-2024, affecting the institutional capacity for doctoral training and PhD student attraction. • The overall volume of research staff is decreasing across most categories (CS I, CS III, TDE engineers), impacting mentorship capacity, workload distribution and the ability to sustain complex multidisciplinary R&D activities. • Staff ageing represents a structural vulnerability, with an average age of 52 years at institutional level and approximately 56 years among researchers, requiring accelerated renewal measures. • No evidence of internationally visible excellence indicators is provided, such as highly cited researchers, major academic awards or membership of international scientific elites.

Indicator V.2 Members in the editorial board of a national/international journal (rated by Web of Science, SCOPUS) or in the editorial board of an established international publishing house; members in an international think tank/expert group at European/global level; members (fellow, senior) of an international scientific society [max. score: 1]	**Score obtained: 0.50**

- Analyse how the researchers from the research organization, through their results and their prestige, contribute to increasing the visibility of the research organization, of the Romanian scientific research in the respective applied field, at international and European level.
- For the period under evaluation, evaluate mainly the presence of the researchers from the research organization in the editorial boards of prestigious national and international journals, in the editorial boards of established international publishing houses, in international think tanks/expert groups at European/global level, their membership (fellow, senior) in prestigious international scientific societies in the field.

COMMENT - STRENGTHS

• The research organization has researchers involved in editorial and reviewer-type activities for national scientific journals and international conference proceedings, contributing to maintaining scientific visibility and dissemination of applied research results. • Active editorial involvement of staff members is documented, as follows: Dr. eng. Daniela Doina Cioboată • Editor-in-Chief of ICoRSE conference proceedings, published by Springer (since 2021); Editor-in-Chief of IJOMAM, CEFIN Publishing House (since 2021); member of the Editorial Board of EAI Endorsed Transactions on Digital Transformation of Industrial Processes (since 2024); member of the Editorial Board of Hidraulica journal (since 2024). Prof. dr. eng. Gheorghe I. Gheorghe – Editor-in-Chief of ICOMECYME 2020 proceedings, published by Springer; Editor-in-Chief of IJOMAM, CEFIN Publishing House (until 2021). Dr. phys. Liliana Bădiță-Voicu – member of the Editorial Board of EAI Endorsed Transactions on Digital Transformation of Industrial Processes (since 2024); Associate Editor of IJOMAM, CEFIN Publishing House (since 2021). • These editorial roles support scientific communication activities, peer review processes and dissemination of RDI results, reflecting the research organization's engagement within the scientific community.

COMMENT - WEAKNESSES

• No participation of the research organization's researchers in the editorial boards of internationally prestigious journals indexed in Web of Science or SCOPUS is documented, as required by the indicator. • No memberships in editorial boards of internationally established publishing houses are reported, beyond conference proceedings editing. • No evidence is provided of membership in international expert groups or think tanks at European or global level. • No researcher is documented as a fellow or senior member of prestigious international scientific societies, limiting institutional visibility at elite scientific level.

Indicator V.3 Members in the management/scientific board of an international organization or association in the field [max. score: 1]	**Score obtained: 0.00**

- Analyse how the research organization and the Romanian scientific research benefit from increased visibility and prestige through the representatives of the research organization in the management/scientific board of prestigious international organizations/associations.
- For the period under evaluation, evaluate mainly the presence of researchers from the research organization in the management/scientific board of prestigious international organizations/associations.

COMMENT - STRENGTHS

• The evaluated documentation explicitly states "Not the case", reflecting transparency and completeness of reporting by the research organization, with no omission or misrepresentation of information relevant to the criterion.

COMMENT - WEAKNESSES

• During the evaluation period, no researcher from the research organization held leadership or representative positions on the management or scientific boards of prestigious international organizations or associations, resulting in non-fulfilment of the criterion and a score of zero.

Indicator V.4 Members/experts in joint committees/working groups of public authorities at national level

[max. score: 1]

Score obtained: 0.67

- Analyse how the research organization, through its researchers, has been involved during the period under evaluation in solving current societal problems.
- For the period under evaluation, mainly evaluate the presence of researchers from the research organization as members or experts in joint working groups/committees set up by public authorities at national level for the substantiation and preparation of draft legislation, strategies and policies, action plans, policy papers, etc.

COMMENT - STRENGTHS

• The research organization documents the active participation of its researchers as members or experts in national-level public policy, standardization and smart specialization structures, demonstrating functional involvement in public-interest processes. • Participation is reported in relevant national committees and working groups, including: Expert Panel for Updating National Smart Specialization Priorities – Digital Economy; National Standardization Body ASRO, through Technical Committee 383 – Innovation Management, Technical Committee 398 – Circular Economy and Technical Committee 377 – Medical Devices; Regional Thematic Group for Competitiveness, Smart Specialization and Digitalization – South Muntenia Region. • Three researchers from the research organization are explicitly identified as active members or experts in these national structures, covering strategic areas such as digital economy, innovation, circular economy, medical devices and regional development, corresponding to the methodological requirements of the indicator.

COMMENT - WEAKNESSES

• No concrete outputs or demonstrable deliverables arising from participation in these bodies are provided (e.g. legislative drafts, strategy chapters, adopted recommendations), limiting assessment of impact beyond formal participation. • Most memberships are within technical standardization committees (ASRO) or regional strategic groups, rather than high-impact national commissions directly linked to legislative processes, national strategies or inter-ministerial decision-making, typically associated with maximum scoring. • The number of involved researchers is modest relative to the overall staff structure, and the evidence indicates individual rather than institution-wide systemic involvement, limiting the scale of contribution. • No participation in major national-level working groups responsible for drafting national RDI strategies, regulatory reforms, national programmes or cross-government policy instruments is documented. • The visibility and impact of the research organization in national public governance processes remain structurally limited, requiring broader engagement in high-level decision-making structures.

Indicator V.5 Members of a doctoral school; members (fellow, senior) of a national scientific society; members in the scientific/editorial board of a prestigious national journal
[max. score: 1]

Score obtained: 0.50

- Analyse the degree to which the research organization, through its researchers, is recognized in the academic environment and in society for its ability to contribute to the coordination and quality enhancement of the training of doctoral students, to the development of knowledge in the specific research field, to the maintenance of high quality standards and respect for ethics and academic integrity in the specific research field.
- For the period under evaluation, mainly evaluate the membership of researchers from the research organization in doctoral schools as coordinators/mentors, their presence as members in national scientific societies in the specific research field, in scientific/editorial boards of prestigious journals, etc.

COMMENT - STRENGTHS

• The research organization demonstrated, in the early part of the evaluation period, formal involvement in doctoral training, through researchers holding doctoral supervision or coordination roles. Prof. Univ. Dr. Eng. Gheorghe I. Gheorghe acted as a doctoral supervisor at "Valahia" University of Târgoviște and as a co-supervisor at the National University of Science and Technology POLITEHNICA Bucharest (UPB). Prof. Dr. Eng. Doru Dumitru Palade served as Head of PhD students within the Mechanical Engineering Commission at UPB, contributing to doctoral programme coordination and quality assurance. • Both researchers were corresponding members of the Academy of Technical Sciences of Romania (ASTR), demonstrating national-level academic recognition. • Researchers of the research organization are members of several relevant national professional associations in engineering and mechatronics, indicating institutional integration into the national scientific community. • National-level editorial involvement is documented through Prof. Gheorghe I. Gheorghe's participation in the Scientific Council of the Scientific Bulletin of "Valahia" University of Târgoviște – Materials and Mechanics, contributing to editorial quality assurance.

COMMENT - WEAKNESSES

• No active doctoral supervisors are documented after the early part of the evaluation period, indicating a lack of continuous and sustained doctoral supervision capacity within the research organization. • The number of researchers involved in PhD coordination is low, and no habilitated researchers are present to ensure future development of this capacity. • Membership in scientific societies, although present, is limited in scope and prestige, with no researchers holding senior, fellow or leadership positions in leading national scientific societies. • Editorial activity is limited, focusing on participation in the scientific council of a single national journal, with no involvement in other high-impact national or international journals. • The reported involvement reflects individual, isolated contributions, without evidence of a coherent and sustained institutional strategy to strengthen national academic recognition.

Indicator V.6 Awards/distinctions/titles
[max. score: 1]

Score obtained: 0.67

- Analyse the extent to which the research organization's prestigious results and researchers have been recognized in the period under evaluation by established national and international forums, state institutions and authorities, international and national scientific societies, universities, following selection processes, etc.
- Evaluate mainly the recognition of researchers' results and their professional prestige by national and international established forums, through awards/distinctions/titles, namely: award of the Romanian Academy; award/distinction granted by state institutions/authorities; award (distinction) of a national scientific society obtained through a selection process; award (distinction) of an international scientific society obtained through a selection process; Doctor Honoris Causa title awarded by a university, etc.
- Note: Awards for research results (PRECISI) will not be considered.

COMMENT - STRENGTHS

• The research organization obtained a substantial number of distinctions during the 2020–2024 evaluation period, with 21 awards, diplomas and medals documented, peak years being 2022 (8 awards) and 2023 (7 awards), indicating sustained activity in experimental development and innovation. • International visibility is demonstrated through awards received at the PRO INVENT International Salon of Research, Innovation and Invention, an internationally recognized exhibition, including Gold Medals, Excellence Diplomas and special prizes granted by established national research institutes. • The awarded outputs cover a broad and multidisciplinary technological spectrum (mechatronics, robotics, metrology, medical engineering, agricultural technologies), demonstrating applied innovation capacity aligned with the research organization's mission. • Recognitions from national RDI organizations (diplomas) are reported, reflecting institutional acknowledgment within the Romanian research and innovation ecosystem. • At individual level, the Doctor Honoris Causa title awarded to Prof. Dr. Eng. Gheorghe I. Gheorghe is reported; although conferred prior to the reference period (2017), it signals long-term scientific prestige of a senior researcher within the research organization. • The instiutional visit revealed a "wall of fame", reflecting the continuity of recognitions received over the institute's lifetime.

COMMENT - WEAKNESSES

• No major awards granted during 2020–2024 by top-tier scientific institutions are documented, such as Romanian Academy awards, branch academies, international scientific societies, or competitively awarded international academic prizes. • Most distinctions originate from innovation exhibitions, and although PRO INVENT and similar events are recognized, they are not equivalent to awards granted by national academies, international scientific societies or peer-reviewed scientific bodies. • Award distribution is uneven, with no awards recorded in 2024, interrupting the continuity of recognition throughout the evaluation period. • No distinctions obtained through competitive international scientific evaluation committees are reported; all recognitions stem from exhibition juries or institutional acknowledgements, which carry lower weight in excellence scoring. • No Doctor Honoris Causa titles or other major academic distinctions were awarded during the reference period, limiting demonstration of recent academic recognition.

Criterion VI. STRATEGIC DEVELOPMENT PLAN FOR THE EVALUATED PERIOD AND FOR THE NEXT 5 YEARS

[max. score: 20]

Indicator VI.1 The quality and feasibility of the proposed strategic objectives relative to the research organization's mission and the field in which it operates [max. score: 10]	Score obtained: 7.50

- Analyse: the feasibility of the strategic objectives and the extent to which the proposed strategic directions support the achievement of these objectives, in line with the research organization's mission; the quality of the institutional strategic plan for the evaluated period and for the following 5 years; the quality of the SWOT analysis of the research organization relative to the environment in which it operates; the extent to which the organization's research directions are aligned with those specific to the national and European research, development and innovation space and to the field in which the research organization operates, and the extent to which the human resources policy is in line with the requirements of the European Charter for Researchers, the Code of Conduct for the Recruitment of Researchers, and the commitment to the Human Resources Strategy for Researchers - HRS4R.
- Evaluate mainly whether the presented objectives are feasible, appropriate and the proposed strategic directions of development support their implementation relative to the research organization's mission, there is a realistic Institutional Strategic Plan and appropriate for the research organization's mission, and there is a high degree of correlation of the specific research directions of the research organization with the specific directions of the national and European research, development and innovation space.

- Evaluate mainly the alignment of the organization's human resources strategy with the requirements of the European Charter for Researchers, the Code of Conduct for the Recruitment of Researchers and the commitment to the Human Resources Strategy for Researchers (HRS4R).

COMMENT - STRENGTHS

• The strategic objectives of the research organization are coherent and clearly aligned with the institutional mission, focusing on well-defined competence areas such as mechatronics, intelligent measurement systems, micro- and nanotechnologies, innovation and technology transfer. • The Strategic Development Plan reflects these core areas and proposes development directions considered feasible, relative to the certified operational framework and existing infrastructure of the research organization. • Strategic directions are correlated with national and European research, development and innovation priorities, particularly in areas such as advanced materials, digitalization, robotics and intelligent systems, consistent with the National Research Infrastructure Roadmap. • The SWOT analysis identifies relevant internal and external factors, highlighting strengths, vulnerabilities and constraints of the economic and institutional environment, while strategic objectives respond, at a conceptual level, to these contextual elements. • The strategy addresses key institutional development themes, such as human resources, activity continuity, technology transfer, increased visibility and connection to emerging national and European research trends, demonstrating management's capacity to identify relevant directions. • Human resources policies refer to training, mobility, career development and procedural regulation, indicating an institutional intention to align with the European Charter for Researchers, the Code of Conduct for the Recruitment of Researchers and HRS4R principles. • Continuity of research activities is identified as a strategic objective, and management demonstrates awareness of major challenges related to funding, visibility and exploitation of available research infrastructure.

COMMENT - WEAKNESSES

• Several strategic objectives are not quantified, as they lack performance indicators, measurable milestones and explicit implementation deadlines, limiting assessment of five-year feasibility. • Although the SWOT analysis correctly identifies strengths and constraints, major structural vulnerabilities, such as the decline in senior researchers, absence of PhD supervisors, staff ageing and insufficient attraction of young researchers, are not translated into concrete strategic measures. • Deep integration into European strategic research ecosystems remains limited, with no documented participation in major Horizon Europe structures, reducing demonstration of effective alignment with the European RDI agenda. • Alignment with the European Charter for Researchers and HRS4R principles is mainly conceptual, without documented institutional commitments, implementation plans or concrete evidence of application. • Objectives related to technology transfer and innovation are considered ambitious relative to current human and financial resource constraints, and the strategic plan does not present a detailed risk management or resource allocation framework to support their achievement. • Overall feasibility is partly constrained by structural weaknesses acknowledged in the SWOT analysis itself: high average staff age, limited number of CS I/CS II researchers, modest international competitiveness and insufficient exploitation of research infrastructure, which reduce the capacity to fully achieve advanced objectives, particularly those requiring rapid expansion in high-tech fields and increased international impact. • The strategic plan is assessed as rather general, focusing on common directions, with limited operational detail, indicating the need for more targeted and solution-oriented planning.

Indicator VI.2 The extent to which the scientific and institutional objectives are correlated with relevant trends in the organization's scientific field and societal needs **[max. score: 10]**	**Score obtained: 8.00**

- Analyse the extent to which the research organization provides an appropriate framework to keep researchers up-to-date with the latest developments in the field, conducive to innovation and technology transfer; the extent to which the scientific and institutional objectives of the research organization are in line with the relevant trends in the scientific field in which it operates and with the real needs of society.

- Evaluate mainly the support for innovation and technology transfer; the initiative to set up an international scientific advisory board of the research organization; a high degree of correlation regarding the scientific and institutional objectives with relevant national and international trends in the organization's scientific field and societal needs.

COMMENT - STRENGTHS

• The research organization's strategic plan demonstrates a strong and coherent correlation between scientific and institutional objectives and major European and national RDI trends, including mechatronics, advanced materials, intelligent systems, Industry 4.0, digitalization, circular economy and environmental sustainability. • Research directions are explicitly aligned with Horizon Europe priorities, RIS3 domains and national RDI strategies, indicating a sound understanding of the strategic framework in which the research organization operates. • Institutional objectives support innovation and technology transfer through structured mechanisms, with prototyping, research results valorisation, industrial cooperation and strengthening of the technology transfer centre (CRTTC) embedded in the institutional strategy. • Institutional objectives are correlated with major societal challenges, such as industrial competitiveness, digitalization, circular economy, environmental protection and societal well-being, ensuring socio-economic relevance of the proposed research directions. • The research organization provides a generally adequate framework for keeping researchers up to date with international developments, through conference participation, access to international scientific literature and professional networking, fostering innovation and technology transfer. • The strategy reflects a sound conceptual integration between scientific objectives, institutional objectives and societal needs, being assessed as well aligned with current scientific and technological trends.

COMMENT - WEAKNESSES

• Although the intention to establish an International Scientific Advisory Board is declared, this initiative remains at a conceptual level, with no documented concrete measures, actions, timelines, membership structures or implementation stages. • Correlation between strategic objectives and national/European trends is not supported by quantifiable indicators, as KPIs, monitoring indicators or measurable correlations between scientific outputs and RDI trends are missing, limiting impact demonstration. • Although societal challenges are mentioned, few concrete actions directly targeting current societal needs are reported, and the research organization is perceived as moderately dynamic compared to expectations for a national RDI entity. • The operational link between strategic objectives and implementation mechanisms is insufficiently detailed, making it difficult to assess how strategic alignment translates into concrete outcomes. • The absence of clear periodic evaluation tools for alignment with scientific and societal trends limits the research organization's capacity for rapid adaptation to emerging challenges.

Criterion VII. CONCLUSIONS/RECOMMENDATIONS

VII.1 Conclusions/recommendations

- General conclusions and/or recommendations

Conclusions: • INCDMTM is a technically competent applied research institute with clear national relevance, characterized by strong industrial integration, modern infrastructure and functional management systems. • The institute benefits from a solid institutional foundation, supported by stable national funding, RENAR-accredited laboratories, a certified Innovation Management System and an accredited technology transfer centre, enabling the delivery of RDI services, technologies, prototypes and patents, as well as long-term industrial collaborations. • The institute's activity addresses relevant national needs, particularly in industrial engineering, mechatronics, calibration, advanced manufacturing, circular economy and technology transfer, confirming its applied role within the Romanian RDI ecosystem. • National funding capacity is strong, with consistent multi-annual revenues. However, internationalization remains limited, and the number of competitively funded international projects is low, indicating reduced international scientific leadership and insufficient structuring of European grant applications. • National collaborations are well developed through multi-institutional projects, shared laboratory services, industrial partnerships and technological networks. International collaborations remain largely at proposal stage, with no funded joint RDI projects implemented during the evaluation period. • Scientific output is stable, particularly in SCOPUS-indexed publications, complemented by books, chapters, editorial activities and significant patenting activity. Citation indicators show a positive trend, consistent with the applied research profile. However, high-prestige international outputs (WoS Q1–Q2 publications, globally visible monographs, large-scale patent exploitation) remain limited. • The institute demonstrates robust applied RDI and experimental development capacity, validated through numerous prototypes, patents and technological solutions transferred to industry, confirming its direct relevance to the economic sector. • Doctoral activity was present in the early evaluation period, but the number of active PhD supervisors dropped to zero after 2021, accompanied by a significant decline in PhD students, affecting academic renewal capacity. • Human resources are competent, but face major structural vulnerabilities: decline in CS I/CS II researchers, reduced number of PhD holders, ageing staff, and difficulties in attracting young researchers. • The institute holds advanced research infrastructure, distributed across specialized laboratories, Open Access platforms, journals, digital systems and access to major international scientific databases. Digitalization is advanced, with operational software systems and e-management tools. • The feasibility of the Strategic Development Plan is constrained by internal structural weaknesses, particularly related to human resources, internationalization and doctoral capacity, despite correct conceptual alignment with RDI trends. Recommendations • Strengthen internationalization, through structured participation in Horizon Europe, development of stable European partnerships, initiation of joint doctoral and postdoctoral grants, and increased involvement in international consortia. • Move from declarative international collaborations to funded and implemented projects, by clearly documenting partnerships and targeting joint RDI projects with measurable impact. • Increase scientific visibility, by targeting WoS Q1–Q2 journals, developing clear patent exploitation strategies, and ensuring structured dissemination of applied research results. • Quantify socio-economic impact and rigorously document industrial uptake of research results, to enhance future evaluation outcomes. • Rebuild doctoral capacity, through functional university partnerships, attraction of young researchers, and revitalization of doctoral and postdoctoral training mechanisms. • Implement targeted human resources policies, focused on attracting high-level researchers, supporting career progression, increasing the share of PhD staff and rebalancing the age and expertise structure. • Strengthen ethics and integrity education, by documenting case resolution processes and correlating integrity outcomes with institutional strategy. • Enhance external accessibility (national and international) to research infrastructure and provide clear evidence of digital system integration and use.

Total Score: 142,00

Evaluator 1 (Rapporteur): PASCULESCU VLAD MIHAI

Signature

Evaluator 2 : MATEKOVITS LADISLAU

Signature: ___

Evaluator 3 : CIOCA LUCIAN-IONEL

Signature: _