

**“GHEORGHE ASACHI” TECHNICAL UNIVERSITY OF IASI
(TUIASI)**

**DOCTORAL FIELD
Engineering and Management**

EXTERNAL EVALUATOR REPORT

September 27, 2021

Revised December 2021

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I. Introduction

This report summarizes the findings from the external evaluation of Doctoral Field of Engineering and Management at the “Gheorghe Asachi” Technical University of IASI (TUIASI). First, some background information is given as context, then the resources and methods used to prepare this report are listed. Next, an analysis of the performance indicators is given, followed by a SWOT analysis followed by the recommendations. Finally, conclusions are made.

General Background: “Gheorghe Asachi” Technical University of Iași was recognized in 2011 as an “Advanced Research and Education Institution”, with continued focus on interdisciplinary research, innovation, and the transfer of knowledge. The increase in research staff and their goal in the reaching a high level of achievement lead to TUIASI’s recognition and visibility at the national and international level.

There are multiple research/excellence centers accredited at TUIASI (CNCSIS accreditation) and seven research teams at faculty level, as well as several high-performance laboratories focusing on scientific research and the creation and transfer of knowledge. These research centers and laboratories allow the research staff to apply for national and international research grants,

research contracts with the industry or with governmental organizations; at the same time, enabling the development of doctoral and post-doctoral research programs. These activities place TUIASI among the top in scientific research in Romania.

Financial Resources Funding comes from, governmental funds allocated, the University's own revenues for internal competitions, support grants for research from industry sources.

The Doctoral field of Engineering and Management

The doctoral studies in the field of Engineering and Management at the "Gheorghe Asachi" Technical University of Iasi, started in 2008.

Mission: The mission of the Engineering and Management area of study is to develop, through education and research & development activities, unique competencies capable of undertaking interdisciplinary studies aiming to respond to the needs of the national and international businesses to stay competitive.

Objectives: The fundamental objective of doctoral studies in the area of Engineering and Management consists of;

- Training qualified specialists in design, research and development capable of assimilating and integrating practical and theoretical knowledge in engineering & management,
- Selecting and drawing excellent PhD students into various multidisciplinary research programs, at regional and global level;
- Observing the international intellectual values, professional standards and academic ethics in research and intellectual training,
- Obtaining results which allow for the increase of scientific outcomes through the publication of high ranking national and international scholarly publications,
- Connecting the research programs from the Engineering and Management doctoral area of study from the Faculty of Industrial Design and Business Management with other research programs at home and abroad, in accordance with European policies and strategies;
- Training highly qualified young researchers and generating opportunities for the integration of future holders of PhD degrees in the workforce.

The Doctoral Program: The program includes an advanced training aspect and a scientific research one. The Engineering and Management area of study provides the PhD students with an advanced education program training of a researcher able to conduct high level research in the

context of scientific methods and to use research results in projects, publications and communications, all in accordance with the principles of academic integrity and ethics, and intellectual property rights. The curriculum is flexible and it is periodically updated and in keeping up with the specific developments in the research area.

The doctoral program of engineering and management at TUIASI has a number of quality assurance procedures and systems to ensure quality of the academic program in all aspects. These are detailed in the Internal Evaluation Report.

PhD Advisors: The Scientific research program at “Gheorghe Asachi” University of Iași’ is under the coordination of 4 PhD advisors. In the past five years, the PhD advisors have substantially contributed to the publication of a significant number of high-impact papers.

Through the research projects obtained in competitions, PhD advisors have contributed to the development of research laboratories that provide PhD students with the best conditions for the completion of original, internationally recognized PhD theses.

Doctoral Students: The number of PhD students have been increasing over the years, from 29 in 2016 to 40 in 2021, indicating a successful program. During this period nine doctoral degrees were confirmed in Engineering and Management.

Research Directions: The multiple research directions listed in the internal study report were as follows: Open innovation / Co-creation, Innovation processes in business ecosystems, Entrepreneurship in creative industries, Strategies for enhancing human resources performance, Sustainable development and Corporate Social Responsibility, Management information systems. These research directions are common and appropriate for many national and international engineering and management programs. They cover a variety of multidisciplinary fields.

International visibility and cooperation The Faculty of Industrial Design and Business Management organized several national and international conferences and symposiums between 2016 and 2020

II. Methods Used

This report is based on the information supplied by TUIASI Internal Evaluation Report of the Doctoral Field of Engineering and Management and several Zoom meetings/discussions with program administrators, program coordinator, faculty advisors, doctoral students, doctoral

graduates and employers. On site visit was not possible due to the COVID virus pandemic (see References section for resources used).

III. Analysis of Performance Indicators

Standards and Performance/Field Indicators

Evaluation Criteria for doctoral programs grouped under parts A, B and C and their multiple sections are listed in the self-study report. The following conclusions are based on the Engineering and Management Doctoral Field's internal evaluation report of the field of engineering management and the meetings/discussions listed in References. The internal evaluation report was thorough and well prepared. The information needed for the analysis was available in detail.

To avoid repetitions, only assessment results and sections thought to be significant are discussed (*see the internal-evaluation report for details*).

A. Institutional Capacity Indicators

A.1. Management and administration institutional structures, and financial resources

A.1.1. The Institution Organizing Doctoral Studies (IODS) implemented the mechanisms for an effective performance as provided in the specific legislation on the organization of doctoral studies.

All criteria for performance sub indicators under A.1.1.1 were fulfilled

All criteria for performance sub indicators under A.1.1.2 were fulfilled

A.1.2. A.1.2. IODS has the necessary logistic resources to fulfil the mission of doctoral studies.

All criteria for performance sub indicators under A.1.2.1 were fulfilled

All criteria for performance sub indicators under A.1.2.2 were fulfilled

A.1.3. IODS ensures that financial resources are used optimally, and revenues from doctoral studies are supplemented by additional funding in addition to that provided by the government funding

All criteria for performance sub indicators under A.1.3.1 were fulfilled

All criteria for performance sub indicators under A.1.3.2 were fulfilled

All criteria for performance sub indicators under A.1.3.3 were fulfilled

At least 10% of the total amount of sums corresponding to the doctoral grants obtained by the university by means of institutional contracts and by means of tuition fees collected from self-funded doctoral students are used in order to fund the doctoral students' professional training expenses.

A.2.1. IODS has a modern research infrastructure that enables the implementation of specific doctoral studies activities.

All performance sub indicators under A.2.1.1 were fulfilled

All criteria for performance sub indicators under A.2.1.1 were fulfilled

A.3.1. Within each area of study there is qualified staff, with the necessary experience for the implementation of the PhD program.

All criteria for performance sub indicators under A.3.1.1 were fulfilled

All criteria for performance sub indicators under A.3.1.2 were fulfilled

At least 50% of the doctoral advisors in the evaluated doctoral area of study are tenured lecturers within the IODS, holding an open-ended position.

All criteria for performance sub indicators under A.3.1.3 were fulfilled

All criteria for performance sub indicators under A.3.1.4 were fulfilled

The percentage of doctoral advisors who concomitantly supervise more than 8 doctoral students, but no more than 12, during their doctoral studies does not exceed 20%.

A.3.2. The doctoral advisors in the area of study conduct internationally visible scientific activity.

All criteria for performance sub indicators under A.3.2.1 were fulfilled

All criteria for performance sub indicators under A.3.2.2 were fulfilled

At least 50% of the doctoral advisors in the doctoral area of study are still active in their scientific field, obtaining at least 25% of the score requested by NCAUTDC minimal standards in force at the time of the evaluation, that are required and compulsory in order

to obtain the habilitation qualification, on the basis of scientific results within the past 5 years.

B. EDUCATIONAL EFFICIENCY

B.1.1. The institution that organizes the PhD program has the capacity of drawing applicants outside of the institution of higher education or in larger numbers than the budget funded places.

All criteria for performance sub indicators under B.1.1.1 were fulfilled

B.1.2. Accepted doctoral candidates demonstrate academic, research and professional merit.

All criteria for performance sub indicators under B.1.2.1 were fulfilled

An interview with the applicant is a compulsory part of the admission procedure.

All criteria for performance sub indicators under B.1.2.2 were fulfilled

B.2.1. The education program based on advanced higher education studies is adequate for the improvement of the PhD students' research skills and the strengthening of ethical behavior in science.

All criteria for performance sub indicators under B.2.1.1 were fulfilled

All criteria for performance sub indicators under B.2.1.2 were fulfilled

All criteria for performance sub indicators under B.2.1.3 were fulfilled

All criteria for performance sub indicators under B.2.1.4 were fulfilled

All criteria for performance sub indicators under B.2.1.5 were fulfilled

B.3.1. The research is used by the PhD students in participation to scientific conferences, scientific publications,

All criteria for performance sub indicators under B.3.1.1 were fulfilled

All criteria for performance sub indicators under B.3.1.2 were fulfilled

B.3.2. The Doctoral School enlists a significant number of external scientific reviewers for the PhD defense committees for the analyzed area.

All criteria for Performance sub indicators under B.3.2.1 were fulfilled

The number of PhD theses assigned to any one reviewer from an institution of higher education other than the evaluated IODS must not be higher than two (2) for theses supervised by the same PhD advisor in one year.

All criteria for Performance sub indicators under B.3.2.2 were fulfilled

C. QUALITY MANAGEMENT

C.1.1. The institutional framework exists and policies and procedures are applied for the internal assurance of relevant quality.

All criteria for performance sub indicators under C.1.1.1 were fulfilled

All criteria for performance sub indicators under C.1.1.2 were fulfilled

Evaluation mechanisms aimed at the identification of the needs, as well as the general level of satisfaction with the doctoral studies program by the PhD students for the duration of the doctoral program with a view to the on-going improvement of the academic and administrative processes. The drafting and implementation of a plan of action as a result of the analysis of the obtained results.

C.2.1. Relevant information for PhD students, future candidates and other information of public interest, respectively, are available for consultation electronically.

All criteria for performance sub indicators under C.2.1.1 were fulfilled

C.2.2. IODS/The doctoral school provides PhD students with access to the resources necessary for the pursuit of doctoral studies.

All criteria for performance sub indicators under C.2.2.1 were fulfilled

All criteria for performance sub indicators under C.2.2.2 were fulfilled

All criteri for performance sub indicators under C.2.2.3 were fulfilled

C.3.1. A strategy is in place and is applied to increase the degree of internationalization of the doctoral studies program.

All criteria for performance sub indicators under C.3.1.1 were fulfilled

The IODS has mobility agreements with foreign universities for the evaluated area of study research institutes, companies that activate in the area of study regarding the mobility of PhD students and teaching staff (ERASMUS agreements for the doctoral studies cycle, for example). At least 35% of the PhD students benefitted from a scholarship abroad or another type of mobility, such as participation to international scientific conferences. The IODS drafts and implements policies and action plans designed to increase of the number of PhD students participating in scholarships abroad to up to at least 20%, the target of the European Higher Education Area.

All criteria for performance sub indicators under C.3.1.2 were fulfilled

All criteria for performance sub indicators under C.3.1.3 were fulfilled

Conclusion for A, B, and C: *All criteria for performance indicators A, B, and C are fulfilled in all areas.*

Overall, a review and analysis of all criteria for Standards and Performance/Field Indicators at the level of Engineering Management Doctoral Field were fulfilled. This is a major accomplishment.

IV. SWOT Analysis and Recommendations

The doctoral program of Engineering and Management at TUIASI has many strengths and opportunities. Some of the *strengths* are:

The doctoral program appears well structured and managed with dedicated coordinators, students and administration. The program has been, and continues to be, successful as evidenced by increasing enrollments, graduates and theses defended over time. TUIASI was recognized as an “Advanced Research and Education Institution”, with continued focus on interdisciplinary research, innovation, and the transfer of knowledge.

Former students were complementary of the doctoral program in engineering and management at TUIASI. The curriculum is flexible, and it is periodically updated and in keeping up with the specific developments in the research area.

The multidisciplinary nature of the program and how it addresses the research and development needs of big companies with research directions in planning, communications, innovation, sustainable development, innovation and entrepreneurship in creative industries, and project/performance management is a major strength. Doctoral theses addressed multiple of research areas, some traditional, and some innovative and challenging. These thesis topics include, managerial processes in public procurement, cultural change management, corporate sustainability, migration of expertise, management of workforce with disabilities and their integration.

Another major strength is the program's successful cooperation with industry and its contributions. Such effort has led to establishment of industry/university partnerships leading to solutions to many issues and financial and research support for the doctoral students. Students seem to be mostly working professionals or have significant engineering experience. Some of them seem to have high positions in their organizations. They bring industrial experience and potential resources and research ideas/themes for the doctoral program.

The research at TUIASI resulted in many published books and scholarly articles in reputable journals. There appears ample support from the university for doctoral students to help them in attending conferences, publishing and for industry cooperation.

TUIASI has several research centers and laboratories that enable the students and the coordinators to communicate frequently and easily.

The program enables students/graduates to advance in their careers and/or find new opportunities due to their education at TUIASI both in industry and academia.

The doctoral program has been actively seeking international co-operation in research, education, and student exchange. These activities can attract new students and new research ideas and cooperation.

As mentioned previously, all criteria for Standards and Performance/Field Indicators at the level of Engineering Management Doctoral Field were fulfilled. This is a major accomplishment and strength.

One can make some recommendations in terms of opportunities for improvement that may be interpreted as *weaknesses*: The doctoral school seems to provide PhD students with adequate access to the resources necessary for the pursuit of doctoral studies (C.2.2.2). However, as in any higher education institution, increasing funding by seeking additional sources of funds for scholarships other than governmental/university ones may be helpful in increasing enrollments and attracting new students. An *opportunity* here may be to offer certificate programs to the industry with short courses for profit for the program. The proceedings from such efforts can increase both the availability of student funds and industrial cooperation.

Considering that some of the coordinators advise more than the desired 8 students, additional resources and increasing the number of doctoral advisors/coordinators is recommended.

Advising nine doctoral students, as some faculty seem to do, can be a heavy load considering the teaching, administrative and scholarly activities required.

As a suggestion, a supplementary course in advanced statistics for data collection and analysis may be a good addition to the curriculum as well as a course (or as part of a course) in life cycle cost implications of project, performance and economic analysis.

V. Overview of judgments awarded and of the recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
1.	PI	A.1.1.1. The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain: a) the internal regulations of the Doctoral School; b) the Methodology for conducting elections for the position of director of the Council of doctoral school (CSD), as well as elections by the students of their representative in CSD and the evidence of their conduct;	fulfilled	Fulfilled, no specific recommendations.

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		<p>c) the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral students, for the completion of doctoral studies);</p> <p>d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad;</p> <p>e) functional management structures (Council of the doctoral school), giving as well proof of the regularity of meetings;</p> <p>f) the contract for doctoral studies;</p> <p>g) internal procedures for the analysis and approval of proposals regarding the training for doctoral study programs based on advanced academic studies.</p>		
2.	PI	<p>A.1.1.2. The doctoral school' Regulation includes mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph (5) of the Government Decision No. 681/2011 on the approval of the Code of Doctoral Studies with subsequent amendments and additions.</p>	fulfilled	Fulfilled, no specific recommendations
3.	PI	<p>A.1.2.1. The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.</p>	fulfilled	Fulfilled, no specific recommendations
4.	PI	<p>A.1.2.2. The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.</p>	fulfilled	Fulfilled, no specific recommendations
5.	IP	<p>A.1.3.1. Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students.</p>	fulfilled	Fulfilled, no specific recommendations
6.	PI *	<p>A.1.3.2. The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding</p>	fulfilled	Fulfilled, no specific recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially supported through research or institutional / human resources development grants is not less than 20%.		
7.	PI *	A.1.3.3. At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).	fulfilled	Fulfilled, no specific recommendations
8.	CPI	A.2.1.1. The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are presented to the public through a specific platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly	fulfilled	Fulfilled, no specific recommendations
9.	CPI	A.3.1.1. Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification.	fulfilled	Fulfilled, no specific recommendations
10.	PI *	A.3.1.2. At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.	fulfilled	Fulfilled, no specific recommendations
11.	PI	A.3.1.3. The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are	fulfilled	Fulfilled, no specific recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.		
12.	PI *	A.3.1.4. The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs does not exceed 20%.	fulfilled	Fulfilled, no specific recommendations
13.	CPI	A.3.2.1. At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science- or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions.	fulfilled	Fulfilled, no specific recommendations
14.	PI *	A.3.2.2. At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory	fulfilled	Fulfilled, no specific recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		for acquiring their enabling certificate, based on their scientific results within the past five years		
15.	PI *	B.1.1.1. The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1,2.	fulfilled	Fulfilled, no specific recommendations
16.	PI *	B.1.2.1. Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.	fulfilled	Fulfilled, no specific recommendations
17.	PI	B.1.2.2. The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission does not exceed 30%.	fulfilled	Fulfilled, no specific recommendations
18.	PI	B.2.1.1. The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing.	fulfilled	Fulfilled, no specific recommendations
19.	PI	B.2.1.2. At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program.	fulfilled	Fulfilled, no specific recommendations
20.	PI	B.2.1.3. The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes”, specifying the knowledge, skills, responsibility and	fulfilled	Fulfilled, no specific recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		autonomy that doctoral students should acquire after completing each discipline or through the research activities.		
21.	PI	B.2.1.4. All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.	fulfilled	Fulfilled, no specific recommendations
22.	CPI	B.2.1.5. For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.	fulfilled	Fulfilled, no specific recommendations
23.	CPI	B.3.1.1. For the evaluated domain, the evaluation commission will be provided with at least one paper or some other relevant contribution per doctoral student who has obtained a doctor's title within the past 5 years. From this list, the members of the evaluation commission shall randomly select 5 such papers / relevant contributions per doctoral study domain for review. At least 3 selected papers must contain significant original contributions in the respective domain	fulfilled	Fulfilled, no specific recommendations
24.	PI *	B.3.1.2. The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.	fulfilled.	Fulfilled, no specific recommendations
25.	PI *	B.3.2.1. The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.	fulfilled	Fulfilled, no specific recommendations
26.	PI *	B.3.2.2. The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the	fulfilled	Fulfilled, no specific recommendations.

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.		
27.	PI	<p>C.1.1.1. The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory:</p> <ul style="list-style-type: none"> a) the scientific work of Doctoral advisors; b) the infrastructure and logistics necessary to carry out the research activity; c) the procedures and subsequent rules based on which doctoral studies are organized; d) the scientific activity of doctoral students; e) the training program based on advanced academic studies of doctoral students; f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students. 	fulfilled	Fulfilled, no specific recommendations
28.	PI *	<p>C.1.1.2. Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.</p>	fulfilled	Fulfilled, no specific recommendations
29.	CPI	<p>C.2.1.1. The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as:</p> <ul style="list-style-type: none"> a) the Doctoral School regulation; b) the admission regulation; c) the doctoral studies contract; d) the study completion regulation including the procedure for the public presentation of the thesis; e) the content of training program based on advanced academic studies; 	fulfilled	Fulfilled, no specific recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		<p>f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data;</p> <p>g) the list of doctoral students within the domain with necessary information (year of registration; advisor);</p> <p>h) information on the standards for developing the doctoral thesis;</p> <p>i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation.</p>		
30.	PI	C.2.2.1. All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.	fulfilled	Fulfilled, no specific recommendations
31.	PI	C.2.2.2. Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.	fulfilled	Fulfilled, no specific recommendations
32.	PI	C.2.2.3. All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.	fulfilled	Fulfilled, no specific recommendations
33.	PI *	C.3.1.1. IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area.	fulfilled	Fulfilled, no specific recommendations
34.	PI	C.3.1.2. In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies	fulfilled	Fulfilled, no specific recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
		in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.		
35.	PI	C.3.1.3. The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.).	fulfilled	Fulfilled, no specific recommendations

All criteria for Standards and Performance/Field Indicators at the level of Engineering Management Doctoral Field are fulfilled.

VI. Conclusions and general recommendations

Internationally, Engineering and Management programs at graduate level are both popular and serve an essential need from industry, academia and applied research. The popularity seems to stem from the multidisciplinary nature of the curricula and research and cooperation with the industry. Students, practicing engineering professionals and administrators of technical organizations with diverse backgrounds are attracted to the field of Engineering and Management as they all find themselves operating in a project management environment.

Overall, the Doctoral Field in Engineering and Management at TUIASI has a clear and well-defined mission statement, objectives and well thought out curricula updated as necessary, fulfilling a unique need for a multidisciplinary doctoral program addressing industry demands and meeting the expectations. The doctoral program has been fulfilling all Quality Assurance measures in meeting standards imposed (see sections III and IV). The doctoral theses and student research are leading to scholarly publications, research proposals and industry partnerships.

The doctoral program has also been seeking International cooperation and experience and an entrepreneurial dimension in research and education.

Some students may like to see more provisions in enabling collaborations with other students in exchanging ideas and experiences. Perhaps a research forum, held once or twice a year to enable

collaborations with masters and doctoral students and domains in exchanging ideas and experiences may be very helpful where each doctoral student presents an outline of their research/methodology to all other doctoral students and the faculty of the department. We do this annually and invite industry and government representatives also. It is also a good recruiting tool.

The doctoral program of Engineering and Management at TUIASI is a successful program growing rapidly with many opportunities. Indications are there that the doctoral field in Engineering and Management is well managed by its faculty and administrators, with dedicated advisors going out of their way in advising students in challenging research areas. Doctoral students are complementary of their advisors and the doctoral program. It seems to be an ideal environment where students and their advisors are working in harmony to make the program a continued success. As an external evaluator, I give my high approval of the Doctoral field in Engineering and Management at TUIASI.

VII. References and resources:

TUIASI Internal Evaluation Report_Annex2_Domeniul IMAN (2021).

13.9.2021 ZOOM meeting: 13:30 pm. Academic Staff, TUIASI.

16.9.2021 ZOOM meeting: 17:00 pm. Program Coordinator, Director of doctoral field, faculty, former student.