

EVALUATION REPORT

European master on Control of Renewable Energy systems (EU-Core)

École Centrale de Nantes (France)
Brandenburg University of Technology (Germany)
University of Zagreb (Croatia)

July 2025

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The consortium of EU-CORE has mandated the Hcéres to carry out the evaluation of its joint master programme. The evaluation is based on the “European Approach for Quality Assurance of Joint Programmes”, adopted in May 2015 by European Higher Education Area Ministers. These standards are available on the Hcéres website (hceres.fr)

In the name of the expert panel¹ :

Benoit EYNARD, Chair of the panel

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Coralie CHEVALLIER, President

¹In accordance with articles R. 114-15 and R. 114-10 of the Research Code, evaluation reports are signed by the chair of the expert panel and countersigned by the President of Hcéres.

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I. STUDY PROGRAMME IDENTITY SHEET

- **Study programme name:** European Master on Control of Renewable Energy Systems (EU-CORE)
- **Speciality:** Control of Energy Systems
- **Year of creation and context:** first cohort in 2025. The aim of this degree is to train engineers in the design of advanced renewable energy systems control technologies.
- **Sites where the programme is taught:**
 - France: Nantes
 - Germany: Cottbus–Senftenberg
 - Croatia: Zagreb
- **Partner institutions:**
 - *Ecole Centrale de Nantes*, Nantes, France, Coordinator
 - Brandenburg University of Technology, Cottbus-Senftenberg, Germany
 - University of Zagreb, Zagreb, Croatia
- **Regular study period:** 2 years
- **Number of ECTS:** 120 ECTS
- **Tuition fees per year:** €18,000

METHODS AND RESULTS OF THE PREVIOUS ACCREDITATION(S)

- No previous accreditation for this programme
- No results

HUMAN AND MATERIAL RESOURCES DEDICATED TO THE PROGRAMME

	Academic coordinators	Teaching staff	Administrative staff	Total by institutions
<i>Ecole Centrale de Nantes</i> (ECN)	2	10	4	16
Brandenburg University of Technology (BTU)	1	10	3	14
University of Zagreb (UZG)	1	10	6	17
Total (The consortium)	4	30	10	47

- **Material resources:**
 - Laboratories: ECN's test benches for electric motors, power electronics, and battery labs, alongside UZG's smart building, and smart grid facilities, and BTU's advanced facilities for climate and energy transition research, support practical learning and experimentation in renewable energy.
 - Collaborative workspaces: Computer rooms and advanced equipment at all partner institutions for research and group learning; ensuring students have access to the best resources for academic and professional development.
 - Digital and library resources: All partner universities offer extensive libraries with scientific literature, textbooks, and digital materials in English. Students also have access to digital workspaces for course materials and videoconferences.

STUDENT POPULATION: EVOLUTION AND TYPOLOGY OVER THE LAST 2/3 YEARS (including number of graduates)

- The first cohort is expected to enter in the 2025-2026 academic year.

II. VISIT DESCRIPTION

COMPOSITION OF THE EXPERT PANEL

- Benoît Eynard, Chair of the panel and academic expert, full professor at Université technologique de Compiègne
- Matthias Schirmer, Academic expert, full professor at Ernst-Abbe-Hochschule Jena
- Florence Terranova, Socio-professional expert, consultant at Sofreco
- Petrica Leanca, Student expert, master student at Universitatea Tehnică din Cluj-Napoca

Hcéres was represented by Bastien Torres, project manager, European and International Department.

VISIT DESCRIPTION

The online visit, held on 16 June 2025, was a comprehensive one-day review consisting of a series of meetings with various stakeholders involved in the EU-CORE programme.

Throughout the visit, the experts engaged with representatives and coordinators from each partner university, including administrative staff, quality assurance officers, lecturers, students and socio-economic partners. Further details of the visit and the outcomes of these meetings are set out in the following sections.

VISIT AGENDA

Timetable	Session	Participants
9 am – 9:30 am	Kick-off Session <ol style="list-style-type: none"> 1. Introduction by Hcéres representative 2. Introduction of the expert committee to the EU-Core joint master's programme representatives 3. Summary of the online evaluation visit 4. Roundtable from the EU-Core Joint Master representatives 	EU-Core: <ol style="list-style-type: none"> 1. ECN 2. UZG 3. BTU Hcéres expert panel + Hcéres representative
9:30 am – 10:30 am	Presentation of the EU-Core Joint Master's Programme by EU-Core representatives (10/15 min.) & Discussion	EU-Core Programme Coordinators: <ol style="list-style-type: none"> 1. ECN 2. UZG 3. BTU Hcéres expert panel + Hcéres representative

10:30 am – 11:30 am	3	Panel of academics	<p>Representative panel of lecturers, academics and research staff involved in the programme: permanent, contract and part-time lecturers from the different Higher Education institutions and different disciplines, excluding programme coordinators.</p> <p>1. ECN 2. UZG 3. BTU</p>
11:45 am – 12:45 pm	4	Quality assurance	<p>Staff involved in QA and course management, excluding programme coordinators.</p> <p>1. ECN 2. UZG 3. BTU</p>
2 pm – 3 pm	5	Socio-economic partners	<p>Representative panel of socio-economic partners (public sector, private sector, national, international) and <i>alumni (recent graduates, employers of current students)</i> excluding programme coordinators.</p> <p>ECN-UZG-BTU: Total Energies, Longitude Engineering, Rimac Technology, Koncar Digital, DLR</p>
3 pm – 4 pm	6	Quality assurance 2: student support policy	<p>EU-Core:</p> <p>1. ECN 2. UZG 3. BTU</p>
4 pm – 5 pm	7	Debriefing among the expert panel and preparation for the closing session	
5 pm – 6 pm	8	Closing session – Addressing final questions	<p>Master's programme coordinators and their teams (same persons as for the first session).</p> <p>1. ECN 2. UZG 3. BTU</p>

III. EVALUATION REPORT

1. ELIGIBILITY

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

1.1 STATUS

The EU-Core Master's programme (EUropean master on COntrol of Renewable Energy systems) is a joint programme coordinated by a consortium of three recognised higher education institutions within the European Higher Education Area (EHEA): *École Centrale de Nantes* (France), the University of Zagreb (Croatia), and Brandenburg University of Technology Cottbus–Senftenberg (Germany). All of these institutions are accredited by an EQAR-registered quality assurance agency: the High Council for the Evaluation of Research and Higher Education (Hcéres) in France, the Croatian Agency for Science and Higher Education (ASHE), and the Accreditation Agency for Study Programmes in Engineering, Informatics, Natural Sciences and Mathematics (ASIIN) from Germany. The programme awards a joint Master's degree aligned with Level 7 of the European Qualifications Framework (EQF), primarily covering the ISCED fields 0714 – Electricity and Energy, and 0711 – Industrial Engineering and Production.

École Centrale de Nantes (ECN) serves as the coordinating institution, overseeing both academic and administrative aspects of the EU-Core programme. The University of Zagreb (UNIZG) and Brandenburg University of Technology Cottbus–Senftenberg (BTU) are fully involved as partner institutions, jointly responsible for curriculum development, student supervision and mobility, and the co-awarding of the degree.

The EU-Core programme emerged from a shared vision between the three partner institutions: the pressing need to educate a new generation of engineers specialised in the control and optimisation of renewable energy systems. In the context of an accelerating energy transition, challenges related to the regulation, stability, and integration of renewable energy sources into power grids call for advanced skills, both theoretical and applied. The Master's degree was thus conceived at the intersection of automatic control, power electronics, and sustainable energy systems, with the ambition to address all forms of renewable energy through the combined expertise of the three partner universities.

The primary objective of the EU-Core Master's is to equip students with the ability to design, model, control, and optimise complex systems incorporating renewable energy sources. The programme develops advanced scientific competencies, including modelling, control, optimisation, and numerical simulation, while also fostering key professional skills essential for rapid integration into the European labour market.

The two-year programme (120 ECTS) is structured into four semesters, each delivered at a different partner institution:

- The first semester, held at ECN, focuses on Wind Energy, foundational knowledge in Control Systems, Power Systems, and general topics in Renewable Energy Sources (RES).
- The second semester, at the UNIZG, deepens expertise in Solar Energy, Smart Grids Management, Predictive Control, and Estimation and Fault Diagnosis.
- The third semester, delivered at BTU, focuses on Thermal Energy, Hydrogen, Energy Storage, and Integration of Renewables into Power Grids.
- The fourth semester is dedicated to a Master's thesis and a compulsory internship carried out in a company, research centre or public institution. The internship is validated by the host institution and aligned with the programme's learning objectives.

Students follow an integrated international pathway, studying in at least three different countries, with harmonised academic supervision and facilitated mobility. The consortium benefits from a strong network of industrial and institutional partners in the energy sector, who contribute to curriculum design, host interns,

organise site visits and occasionally deliver teaching modules. Among these partners are leading companies such as TotalEnergies, Enertrag, and Kongar. The consortium also maintains academic collaborations with institutions beyond Europe, including the *École Nationale Polytechnique* in Algiers, Tohoku University in Japan and the State University of Rio de Janeiro in Brazil.

1.2 JOINT DESIGN AND DELIVERY

The three partner universities of the EU-Core Master's programme are fully engaged in both the design and implementation of the programme. Each institution is responsible for delivering one semester of teaching, provided entirely in English, and for contributing actively to the development of academic content, administrative coordination, and student supervision.

Overall coordination is led by *École Centrale de Nantes*, which also hosts the joint integration week at the beginning of the first year. This event brings together all students and teaching staff to foster a shared cohort identity. Following the first semester, students continue their academic journey at two of the other partner institutions. At the end of the first year, a joint summer school is organised, enabling all teaching staff to meet, deliver integrated lectures and thematic conferences, and provide guidance to students.

The governance of the programme is based on a shared structure between the three institutions, articulated through several representative committees. These include the Programme Management Office (PMO), the Joint Programme Board (JPB), the Industrial Advisory Board (IAB), the Selection Committee (SC), the Quality and Innovation Committee (QIC), and the Communication and Dissemination Committee (CDC). These various committees enable a balanced distribution of responsibilities among consortium members and serve as platforms for inter-institutional dialogue and strategic planning.

The day-to-day coordination of the programme is overseen by the PMO, composed of academic and administrative staff from ECN. This committee is primarily responsible for the programme's administrative aspects, including student support, liaison with the European Commission, and management of digital platforms. This administrative function is complemented by the JPB, which ensures pedagogical alignment and coherence across the consortium. The JPB comprises the programme coordinator, one local academic coordinator from each institution, one administrative representative from each partner, and two student representatives, thereby ensuring a participatory and inclusive approach to governance.

Admissions procedures, as outlined in the Self-Evaluation Report, are coordinated by ECN in close collaboration with the other partners. Candidate selection is based on common criteria established and validated by the SC.

Mobility is a cornerstone of the EU-Core programme, with each student completing their studies in three different countries. These mobility periods are carefully supported by local administrative teams, who provide individualised guidance, as well as by academic staff, who themselves engage in mobility, particularly during the integration week and summer school.

The consortium's explicit ambition to award a single joint degree reflects a strong collective commitment to collaboration and to delivering a truly integrated curriculum. This framework equips students with a high level of adaptability and fosters their ability to operate within diverse academic and industrial environments—fully aligned with the objectives of a European joint master's programme.

However, it seems that the consortium will not be ready to offer a joint degree for the first student intake in September 2025. It is therefore the responsibility of *École Centrale de Nantes*, as the coordinating institution and the body in charge of student enrolment, to urgently identify a viable solution that would allow students to be registered in a programme officially recognised by the French State and by the other members of the consortium. It appears, however, that a joint degree will very likely be in place by 2027 for the graduation of the first cohort, although this cannot yet be confirmed with certainty.

As an interim measure, ECN may consider implementing a provisional arrangement for one or two academic years, while working towards the formal establishment of a fully integrated programme recognised by the French authorities. As of today, the necessary conditions for the creation of such a degree are not yet met. We strongly recommend that the coordinating institution promptly explore pathways based on existing, state-accredited degree programmes within its institution.

Without a legally recognised national degree for the 2025 intake, the programme will not meet the eligibility criteria and will therefore be considered non-compliant.

1.3 COOPERATION AGREEMENT

The effective operation of the EU-Core Master's programme is underpinned by a clear and rigorous distribution of responsibilities among the three partner universities, formalised in the Consortium Agreement signed in 2024. This agreement defines the governance structure, the administrative duties of each institution, and the procedures for financial management. The programme is funded for a six-year period, starting in 2024, by the European Commission.

As the coordinating institution, ECN plays a central role in the operational implementation of the programme. It is responsible for the joint secretariat, overseeing general administrative tasks, supervising the use of shared digital platforms, ensuring budgetary control, and liaising with the European Commission. All programme funding, including Erasmus Mundus mobility scholarships, is channelled through ECN, which subsequently redistributes the resources to the partner universities and transfers grants directly to students. Tuition fees are collected by ECN and are allocated to the host institutions once student enrolment is confirmed.

The Consortium Agreement clearly defines the roles of each partner, as reflected in the various governance and coordination committees outlined above. It also specifies the procedures for student admission and selection, including the common assessment grid, a list of required application documents, and the administrative enrolment process. Furthermore, it addresses the equivalence of assessments systems between institutions. However, it should be noted that grading practices remains unharmonised, with each institution continuing to apply its own academic standards—an aspect that may be seen as a limitation in terms of joint programme integration.

The annexes to the Consortium Agreement include key administrative documents such as the Financial Agreement and the contract between the student and the consortium, which sets out the tuition fees (€18,000) and the four instalment periods. They also provide for alternative enrolment options, including reduced tuition fees (€9,000) and full tuition waivers. In addition, the annexes contain the Student Agreement, which formally defines the administrative relationship between the student and the consortium.

The roles and responsibilities of each partner within the consortium are clearly established, and the structure based on multiple committees offers a solid framework for addressing challenges and fostering the programme's ongoing development. Legal mediation procedures are explicitly outlined in the Consortium Agreement. However, the current arrangement appears to lack a clearly defined dialogue or arbitration mechanism to resolve disagreements between partners or within the governance bodies. In such instances, the coordinating institution, *Ecole Centrale de Nantes*, is expected to intervene. However, the combination of these roles might be seen to undermine the objectivity required in such interventions. The Joint Programme Board, which is formally tasked for resolving such disputes, does not yet appear to have the appropriate tools or procedures in place to manage these situations effectively.

2. LEARNING OUTCOMES

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

2.1 LEVEL [ESG 1.2]

The three consortium partners are master degree-awarding higher education institutions, aligned with the national qualification frameworks of their respective countries. In accordance with Article 7.19 of the Consortium Agreement (Annex 2), the qualifications awarded to students upon successful completion of the Master's programme correspond to Level 7 of the European Qualifications Framework (EQF) and the second cycle of the Qualifications Framework of the European Higher Education Area (QF-EHEA).

As comprehensively outlined in Annex 4 of the Self-Evaluation Report the Intended Learning Outcomes (ILOs) are well-adapted to this EQF level, placing a clear emphasis on the acquisition of specialised knowledge in the field of managing and controlling renewable energy systems, alongside a strong research component embedded within the programme's educational framework. Students develop analytical and problem-solving skills, for example through the analysis and modelling of the dynamic behaviour of renewable energy systems, or through work on independent research and development projects involving the formulation of research questions, methodological approaches, and the evaluation of results. In addition to technical expertise, the EU-CORE programme also prioritises the development of professional and strategic responsibility among its graduates through dedicated workshops on professional ethics, governance, and strategic management, as featured in the Winter and Summer School programmes.

2.2 DISCIPLINARY FIELD

EU-CORE is a multidisciplinary programme centred on various renewable energy sources, designed to prepare students for integrated and cross-disciplinary career paths. The main objective of the programme is to provide students with a solid interdisciplinary foundation in the core areas of control and management of renewable energy systems.

Against the backdrop of the EU Green Deal and the associated transformation of energy systems, there is a growing demand in both research and industry for graduates with expertise in renewable energy. The variable nature of wind and solar energy poses increasing challenges for integration into existing energy grids. As a result, topics such as forecasting, control, and operational management are becoming even more critical. This Master's programme directly responds to this need and is delivered in an international and interdisciplinary setting.

Depending on the partner institution, students specialise in Wind Energy (ECN), Solar Energy and Smart Grid (UNIZG), or Geothermal and Hydrogen Energies (BTU). Each partner provides in-depth knowledge on the physical principles of the respective energy sources, as well as advanced strategies for control, operation, and grid integration. Graduates also acquire skills in simulating and optimising energy systems using software such as MATLAB, HOMER or SAM.

In addition to theoretical, technical, and experimental knowledge students receive training in key non-technical competencies, including sustainable development, project management, open science, and entrepreneurship. The programme also emphasises the importance of regulatory frameworks and policies in the field of renewable energies, fostering a comprehensive understanding of the broader context in which technical solutions are implemented.

In summary, it can be said that the students are well prepared both for responsible industrial activities in the energy supply sector as well as for PhD programmes and other research-oriented activities.

2.3 ACHIEVEMENT [ESG 1.2]

As this is the first external evaluation at the level of the joint programme, which will only be introduced in September 25 there are no graduates yet and no available indicators of achievement like success rates, employability rates, or enrolment ratios. However the partners have implemented a two-tier evaluation strategy managed by the Quality and Innovation Committee under the supervision of the Joint Programme Board.

Important instruments here are the student surveys that are carried out each semester on module content, teaching quality, learning outcomes and support. In addition to these academic indicators, students are also asked about accommodation facilities and support, campus life and level of integration. Student feedback will be collected electronically by ECN and subsequently shared with the Industrial Advisory Board (IAB) and the JPB to enable corrective measures for each partner if necessary.

Less formalised measures include integrating international high-level scholars into teaching and supervising activities through the peer review of the EU CORE programme and its management, teaching methods and the learning materials. The practical professional experience of graduates and associated industrial partners is also included in the evaluation process in order to adapt the required knowledge and skills for professional practice where necessary. All feedback is collected by the QIC and sent to the JPB in a report with comments and suggestions for improvement of the study programme. Based on these measures for the continuous improvement of course content and teaching methods, the achievement of the learning outcomes can be expected.

3. STUDY PROGRAMME [ESG 1.2]

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

3.1 CURRICULUM

The proposed structure and content of the EU-CORE curriculum are clearly relevant to the training of students at Master's level in the control of renewable energy systems. The programme draws on the specific expertise of each full partner institution within the consortium: wind energy at ECN, solar energy at UNIZG, and geothermal and hydrogen energies at BTU. It follows a classical four-semester structure, with three semesters dedicated to lectures, tutorials, and practical work, and the final semester reserved for the Master's thesis or internship. Each semester corresponds to 30 ECTS credits, totalling 120 ECTS credits upon completion and awarding the Master's degree.

The overall academic structure provides a comprehensive and coherent curriculum that benefits from the complementary expertise in renewable energy sources and their control. It also takes into account the integration of these energy sources into smart and power grids across the core universities and their associated partners, including both academics institutions and industry stakeholders. The teaching plan is well structured throughout the four semesters of the Master's programme.

In the first semestre, student arrive at ECN. After the academic integration they attend lectures on control theory, control systems, power conversion, wind energy and renewable energy systems. In semester two, students join UNIZG for studying solar energy with a specific perspective on predictive control, estimation theory and control of smart grid. In semester three, students join BTU to receive training in geothermal energy, hydrogen energy and fuel cell, electrochemical and chemical energy storage, process optimisation and energy systems engineering.

At BTU, students have the opportunity to choose five out of seven courses, based on their previous knowledge and individual interests. This flexibility is viewed positively as it supports specialisation. As part of the further development of the EU CORE programme, it is recommended that similar options be explored for the study semesters at ECN and UNIZG.

In the fourth semester, students work on their Master's thesis, which may be undertaken at the research institutes of any full or associated partner, or within one of the associated industrial partner companies. This arrangement enables students to develop deep expertise aligned with their personal academic or professional aspirations. Thesis supervision and academic oversight are governed by the regulations of the host partner university, which is also responsible for signing the internship agreement. The internship and thesis work are directly linked to the topics studied during the first three semesters, namely wind, solar, geothermal, or hydrogen energy. These areas are highly relevant for training high-potential students and future experts in renewal energy systems. This structure clearly enhances students' employability and provide valuable professional exposure upon graduation.

It should be underlined that soft skills training and teaching focused on industrial best practices are delivered during the winter and summer schools, which are organised following the first two semesters. Given the importance of this component of the study programme, it might be sensible to formally include it in the syllabus and the curriculum, with clearly defined course content and scope.

3.2 CREDITS

The ECTS plan is well defined for each semesters and each lectures, with 120 credits to be completed for the whole two years and divided in 30 ECTS for each semester. A table of credits alignment for the lecture validation and module passing is proposed according to ECTS standard from A (excellent) to F (fail). This table allows each partners to keep its own standards for module awarding. The complete use of ECTS standards should be considered for stronger integration of European higher education practices between the partners.

The detailed definition of each lectures and its content allow a clear understanding of the teaching and training plan that students will follow in their semester of mobility between ECN, UNIBZ and BTU.

3.3 WORKLOAD

The Master's programme is traditionally delivered over two years and comprises 120 ECTS credits. The workload for each lecture or module is clearly detailed, with definitions outlining the content, number of hours, type of teaching, etc. This workload includes all learning-related activities, such as lectures, tutorials, practical work, seminars, self-study, project work, and assessment preparation. The number of ECTS credits allocated to each lecture also provides students with a clear indication of the expected workload. The JPB, in collaboration with input from the QIC, is responsible for the continuous improvement and revision of workloads, based on student feedback and advice from industry partners.

4. ADMISSION AND RECOGNITION [ESG 1.4]

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

4.1. ADMISSION

The admission requirements and the selection procedures are clearly defined. A selection committee involving all partners has been set up to manage this important task. The committee is in charge of making decisions regarding student applications and the selection procedures. A web platform has been implemented to help student applications and management of the selection procedures. Students are then able to provide all the requested information and data, especially regarding their academic background, the results they obtained in their Bachelor's degree and their certified English language. All this information allows to build a ranking of applicants based on the criteria consolidating by the committee.

The selection procedure has been specified to be compliant with the European regulations regarding the Erasmus Mundus scholarship. All details are provided to the applicants for guiding on the website via the frequently-asked-questions page. A help-desk has been set up during the overall application and recruitment process. A contact person for programme management office is also available via email for answering questions of applicants.

Applicants must be graduated in science, engineering and technology field with a Bachelor's degree in electrical engineering, mechanical engineering or process engineering. Knowledge of control theory applied in the above-mentioned field is required. English language proficiency must be certified according to the European level standard B2 with a test for none native speakers e.g. Cambridge, TOIEC or TOELF. The recruitment process needs to be improved to make the degree more attractive to European applicants.

A first group of 60 pre-selected applicants are then interviewed by two members of the selection committee. These members are coming from two different institutions to ensure equity and fairness in the procedure. The applicants are notified and prepared for the interview content. The technical fields and English skills are the key criteria that the interviewers are in charge to assess. After the final decision making and applicants ranking then all of them are notified of acceptance or rejection and the following step for registration is monitored.

4.2. RECOGNITION

The prior learning of student is taken into account, with the requirement that their Bachelor's degree corresponds to 180 ECTS credits.

The rules for mutual recognition between partners are well defined and practically applied to ensure alignment of all lectures and modules within the Master's programme. This alignment is also crucial for the awarding the Master's degree in compliance with national accreditation regulations. These provisions are explicitly acknowledged in the Consortium Agreement and the joint master's programme regulations.

All three partners are signatories to the Erasmus+ Charter for Higher Education, committing to the automatic recognition of ECTS credits earned during study periods at partner institutions. This ensures the the alignment of qualification standards and study periods across the consortium.

5. LEARNING, TEACHING AND ASSESSMENT [ESG 1.3]

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

5.1 LEARNING AND TEACHING

The Self-Evaluation Report demonstrates a strong alignment between the intended learning outcomes and the pedagogical approaches employed to achieve them. The academic structure of the EU-CORE consortium delivers a progressive and complementary curriculum across its three partner institutions: ECN, UNIZG, and BTU. Students embark on a comprehensive educational journey encompassing all major renewable energy technologies and their respective control systems.

The programme successfully integrates theoretical knowledge with practical skills through a range of teaching methods, including project-based learning, seminars, and laboratory work. Seasonal academic events, such as Winter and Summer Schools, alongside Integration Weeks, are strategically scheduled throughout the academic calendar. These initiatives not only nurture soft skills like leadership, communication, and critical thinking but also promote intercultural exchange, foster team cohesion, and build a strong sense of community among students. Additionally, each host country incorporates local language and cultural modules into the curriculum to support students' adaptation to their new environments. Student organisations, including Erasmus Student Network and Erasmus Mundus Association play a critical role in easing mobility-related challenges and enhancing social integration on each campus. Teaching feedback is systematically gathered at the end of each semester, with

open communication between students and academic staff actively encouraged. Evaluation results will be shared among partner institutions to ensure transparency and a understanding of areas requiring improvement.

The presence of high-level academic and industrial partners from across the globe enhances the global relevance and applicability of the EU-CORE curriculum. The consortium draws on the complementary expertise of its teaching staff to ensure that each student receives an academically rigorous and industry-relevant education. The programme distinguishes itself by embedding the development of soft skills within its academic mission, effectively preparing students to become both competent researchers and future leaders in the renewable energy sector.

Each partner university upholds an institutional policy on diversity and inclusion, ensuring that the programme remains accessible and welcoming to all students, regardless of background. Moreover, a Code of Good Conduct will be formally integrated into the student agreement, reinforcing the consortium's commitment to ethical behaviour, equity, and mutual respect within the academic community.

Support for students with special needs is available at each partner institution. Information regarding accessibility services is publicly available via institutional websites, although the approaches may vary across universities. Dedicated staff members are in place on each campus to provide tailored support, thereby ensuring that the learning environment is inclusive and accommodating, not only for students with disabilities, but also for those with other specific needs.

To foster cross-campus engagement, the EU-CORE consortium intends to develop an alumni network. This will serve both as a platform for long-term collaboration and as an effective tool for programme promotion and visibility. Student participation is further enabled through the democratic election of two student representatives per cohort, who contribute to the Quality and Innovation Committee (QIC). This guarantees that student voices are directly involved in decision-making and continuous quality enhancement processes.

While the programme follows a fixed mobility path through the three partner institutions, it incorporates flexibility at several levels. Students are offered a range of compulsory elective courses and have the freedom to choose the host institution or organisation for their fourth-semester Master's thesis or internship. In addition, comprehensive academic mentoring is provided at each campus. The consortium has committed to handling exceptional cases with care and flexibility to ensure that all students are adequately supported throughout their academic journey and able to complete their studies successfully.

While each partner institution delivers high-quality academic content, there remains room for improvement in the coordination and alignment of curricula across campuses. Greater emphasis on shared documentation, common assessment rubrics, and joint pedagogical tools would further enhance coherence and consistency in teaching quality throughout the programme.

It is also noteworthy that the higher education institutions within the consortium participate in other Joint Programmes, equipping academic staff with valuable experience and expertise in managing and delivering this type of collaborative educational initiative.

In summary, the EU-CORE Joint Master Programme represents a high-calibre European academic initiative that is cultivating the next generation of specialists in renewable energy control systems. It combines the disciplinary strengths of its partner institutions with a student-centred approach that seeks to respond effectively to students' needs. The programme offers a rich and engaging learning experience. Further investment in cross-campus teaching, exchanges, and staff mobility will serve to strengthen the quality and sustainability of this Master's degree.

5.2 ASSESSMENT OF STUDENTS

According to the Self-Evaluation Report, students' academic performance is continuously monitored at each partner institution through standard assessment methods, including examinations, group project presentations, and individual coursework. While these assessments are conducted locally, they are reviewed by the Joint Programme Board, which is responsible for identifying students facing academic challenges and ensuring that appropriate support is provided in a timely manner.

Assessments are carried out in accordance with the Joint Examination Regulations, and ECTS credits are awarded upon successful completion of each course. As outlined in *the Self-Evaluation report: Evaluation*

Assessment, the consortium has developed a shared grading equivalency framework to translate institutional grading system into a common and transparent scale of student achievement.

However, the evaluation of the Master's thesis remains decentralised. Each institution is solely responsible for the supervision and assessment of theses conducted under its auspices. While a joint ECTS grade conversion system is in place, this fragmented approach may lead to inconsistencies in assessment criteria, expectations, and levels of academic rigour. The lack of a unified framework introduces a risk of subjectivity and reduced comparability across institutions. To address this issue, the consortium is encouraged to develop a standardised, cross-institutional framework for both supervision and evaluation of the Master's thesis. All juries will use a common evaluation template with joint guidelines. According to the consortium a template will be validated during the 2026 annual consortium meeting, with the objective of ensuring academic and research excellence, and avoiding inconsistencies across partners. Such a framework should promote objectivity, ensure fairness, and strengthen the academic integrity of the final evaluation. It should include common assessment criteria, standardised evaluation rubrics, and harmonised supervision guidelines across all partners. The thesis defence consists of a final oral presentation of approximately 30 minutes and is assessed on the quality of the research, the written document, and the student's presentation performance.

In line with its commitment to inclusivity, the consortium provides adapted assessments for students with disabilities. Each case is addressed individually to ensure appropriate accommodations are in place.

Finally, in light of the increasing role of artificial intelligence in higher education, the programme is encouraged to revise its assessment policies to clarify expectations around the ethical use of AI tools, academic originality, and authorship.

6. STUDENT SUPPORT [ESG 1.6]

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

The student support framework within the EU-CORE consortium is well-structured and offers reassurance that students will receive consistent and appropriate guidance throughout their academic journey. Each of the three partner universities —ECN, UNIZG, and BTU— provides tailored support services designed to address the academic, administrative, and personal needs of international students, ensuring a positive and enriching experience across all mobility phases.

According to the Self-Evaluation Report and insights gathered during stakeholder meetings, the consortium would appear to demonstrate a high level of attentiveness to student welfare. Support measures begin well before students arrive on campus, particularly at ECN, where comprehensive pre-arrival guidance is provided. ECN manages all visa-related procedures for the first semester, ensuring a smooth entry into the European Union for non-EU students. Once settled, students are equipped with the necessary documentation and information to travel freely between partner institutions.

Securing accommodation is a priority, and each university offers a range of housing solutions, from university-owned student dormitories to private-sector options in the local area. All relevant information regarding accommodation is made available to students well in advance, enabling them to secure suitable housing before the start of their mobility period.

Each institution also offers counselling hours, during which students can seek academic guidance, raise concerns, or receive individualised support. These sessions are designed to enhance the learning experience and ensure timely and responsive resolution of academic or administrative issues. Support services remain available even during academic breaks, ensuring continuity of care.

Moreover, mental health and well-being are considered key priorities by the consortium. Dedicated psychological support is available for students experiencing stress, anxiety, or other well-being challenges during their studies and transitions between campuses.

To further facilitate academic and social integration, Winter and Summer Schools are fully funded and require no financial contribution from students. These intensive training sessions are strategically scheduled to maximise participation and combine academic content with soft skills development.

Students also benefit from targeted financial support, including Erasmus Mundus-funded scholarships and additional scholarships provided directly by the consortium. These opportunities are clearly communicated, and students are actively encouraged to apply.

Across all three institutions, student services are diverse and well-developed, offering comprehensive assistance ranging from international mobility advice to academic counselling. International Officers at each university serve as key contact points, ensuring that students receive personalised assistance throughout their stay.

In summary, the EU-CORE programme offers a robust and well-coordinated student support system covering every stage of the academic journey—from pre-arrival preparation to post-arrival assistance, mental health care, housing, financial aid, and mobility logistics. Each partner institution contributes to high-quality, locally adapted services, ensuring that students benefit from both consistency and flexibility throughout the programme. This student-centred approach is expected to significantly contribute to the overall success and satisfaction of the programme participants.

7. RESOURCES [ESG 1.5 & 1.6]

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

7.1 STAFF

The Self-Evaluation Report effectively highlights the academic excellence, international visibility, and complementary expertise of the teaching staff from the three partner institutions involved in the EU-CORE Joint Master Programme. Most of the teaching staff are recognised scholars with strong profiles in the field of Renewable Energy Systems (RES). Their respective CVs demonstrate deep specialisation and convincingly reflect their capacity to deliver advanced, research-led teachings aligned with each institution's areas of strength. They also actively contribute to European and global research initiatives, including European-funded projects, and are embedded in relevant scientific networks.

The consortium agreement stipulates that each partner institution provides appropriately qualified staff to support the programme's delivery. Significant changes in staff composition must be reported to the Joint Programme Board, which also plays a key role in coordinating staff development activities. While the Self-Evaluation Report refers to this commitment, it does not provide details on structured staff training initiatives or policies. This represents a potential area for continuous improvement, particularly to foster harmonised pedagogical practices and promote academic mobility across institutions.

The current academic staff is distributed as follows: ECN has seven academic staff members, UNIZG eleven, and BTU five. Overall, the number of internal staff appears adequate for the foreseen number of students per cohort.

The programme will also benefit from its integration with industry and international research partners. High-level academic collaborators from countries including the USA, Brazil, India, and Japan have been identified for their expertise in RES. However, the Self-Evaluation Report does not specify how the contributions will be organised during the two-year programme. It does indicate that the mobility of these visiting scholars will be coordinated among the three institutions.

Additionally, associated industrial partners—including SMEs, multinational corporations, and research centres—are expected to play strategic role in maintaining curriculum's relevance, enhancing graduate employability, and supervising theses and internships. These partners will also contribute through guest lectures, curriculum input, and participation in the Industrial Advisory Board, although the operational modalities of their involvement

are not fully detailed. Furthermore, the Report does not enclose the names or profiles of the academic scholars and representatives from these associated partners.

Complementing the academic component, each institution has appointed three administrative staff members to provide essential support in areas such as mobility coordination, admissions, and programme governance. Their prior involvement in academic committees and experience in international programme management are valuable assets for the EU-CORE Master's programme. The consortium also plans to strengthen administrative capacity through internal mobility and training. These are positive elements that will contribute to the long-term sustainability of the Programme.

In addition to standard academic semesters, the Joint Programme includes Winter and Summer Schools designed to develop transversal skills such as communication, leadership, project management, and entrepreneurship. While the pedagogical value of these components is acknowledged, further clarification on the staff and resources responsible for their delivery would improve transparency.

Overall, the governance arrangements are clearly articulated and appear fit for purpose, enabling smooth programme management and transparent decision-making. The JPB, composed of academic and administrative representatives from all three institutions, oversees programme coordination, quality assurance, curriculum development, and student-related matters. It meets regularly (both online and in person) to ensure consistent implementation and review. At the operational level, the Programme Management Office, hosted at ECN, is responsible for executing decisions, managing daily administrative functions, and maintaining communications with students and staff. The PMO also oversees legal and financial matters and facilitates staff and student mobility across the consortium.

In summary, the EU-CORE Joint Master's Programme represents a well-integrated and high-quality European academic initiative. It is supported by a diverse and highly skilled academic and administrative team, enriched by strategic collaborations with international academic and industrial partners, and effective organisational structure. Further detailing of staff development mechanisms and external partner engagement would further enhance the overall transparency and sustainability of the programme.

7.2 FACILITIES

The EU-CORE Joint Master's programme is underpinned by a robust and well-integrated infrastructure provided by three leading institutions: ECN, UNIZG, and BTU. Each partner brings to the consortium high-quality, purpose-built facilities that align closely with the programme's learning objectives and its core research focus on Renewable Energy Systems (RES). The Self-Evaluation Report convincingly evidences the appropriateness of these resources.

Students across the consortium will benefit from a rich and diverse environment that combines cutting-edge experimental infrastructure with harmonised administrative services and digital learning tools. ECN's electric motor and battery test benches, UNIZG's smart building and grid laboratories, and BTU's energy transition research platforms exemplify the programme's commitment to research-informed, practice-oriented education. Access to digital libraries, specialised software (e.g., MATLAB, IBM CPLEX), online platforms, and collaborative workspaces further enriches the learning experience. Libraries and multimedia centres at all institutions support both independent and group study.

The integrated mobility scheme ensures that all students, regardless of their chosen track, can equitably benefit from the unique strengths and resources of each partner institution. This reinforces the academic coherence of the programme and its commitment to delivering a comprehensive, transnational learning experience.

While the SER offers a strong overview of existing facilities, it provides limited information on their capacity to accommodate future cohorts and does not fully clarify the extent to which the facilities of associated partners will be accessible to students beyond internship periods.

Inclusiveness is a core value of the consortium, reflected in a range of concrete measures, such as the loan of IT equipment, provision of assistive technologies, and access to psychological and medical services during mobility periods. Each institution ensures barrier-free access to classrooms, laboratories, and accommodation, and designates an inclusiveness representative to provide tailored support. The programme also demonstrates

a strong and proactive commitment to gender equality, equal opportunity, and non-discrimination across all areas of implementation.

In conclusion, the EU-CORE Joint Master's programme offers a well-structured, resource-rich environment that effectively supports advanced academic and research activities. Its facilities and services are not only appropriate for achieving the intended learning outcomes but also reflect a commendable commitment to equity, accessibility, and inclusion.

8. TRANSPARENCY AND DOCUMENTATION [ESG 1.8]

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

The admission requirements and procedures are well defined and documented in accordance with the 180 ECTS diploma standard. In order to apply, students must hold a Bachelor's degree in Sciences, with a specific focus on Mechanical Engineering, Electrical Engineering, or Process Engineering, and must have received prior training in automatic control. The intended learning outcomes and course content are also clearly documented and readily accessible to applicants via the official website EU-CORE programme website. Furthermore, the examination and assessment methods, as well as detailed, transparent information on admission criteria and application procedures, are likewise made available online.

The Student Agreement outlines the examination and assessment procedures, along with students' rights and responsibilities. In addition, the Student Financial Agreement and Scholarship Certificate are clearly defined. A range of dissemination channels is employed to promote the programme at national, European, and international levels. Digital media and online networks are particularly well utilised to reach the appropriate student profiles.

Each EU-CORE partner institution also provides detailed information via its own university web portal. For example, BTU offers students access to online tools for exam registration, module descriptions, certificate requests, and course schedules via its student and examination management systems.

Digital learning systems such as Moodle play a key role in supporting multimedia teaching and learning. This platform provides an online access to course contents, thereby ensuring flexible and continuous for all students and all along their mobility. Currently, each full partner institution operates its own learning environment. This raises an important question regarding the integration of these platforms: would the development of a joint digital teaching system accessible to all EU-CORE students and staff strengthen pedagogical coherence and programme-wide coordination? .

9. QUALITY ASSURANCE [ESG 1.1 & PART 1]

Level of compliance		
Compliant	Compliant with conditions	Non-compliant

The Self-Evaluation Report demonstrates a strong and explicit commitment by the EU-CORE consortium to implementing robust quality assurance (QA) mechanisms. The cooperation agreement outlines each partner institution's engagement in applying QA measures annually, in line with shared principles that promote academic integrity, excellence, inclusiveness, and the prevention of discrimination and fraud. In addition, the consortium has formally committed to pursuing this initial joint accreditation—scheduled for completion before the first cohort begins. This commitment signals a concrete and serious intention to build a unified transnational QA framework that meets both Erasmus Mundus and broader European quality assurance standards. However, it must be noted that the actual operationalisation of this joint QA framework remains in its formative stages, and close monitoring will be necessary to ensure its timely and effective implementation once the Joint Programme is underway.

Structurally, the proposed QA policy appears well-anchored within the overall governance framework, with clearly defined bodies and roles, although some committees have yet to be formally established. It is embedded at every stage of the programme lifecycle—ranging from course design and student selection to monitoring, evaluation, and feedback—through coherent processes aligned with the European Standards and Guidelines (ESG). The Self-Evaluation Report does not indicate whether the internal QA policy is publicly accessible on the programme's website, although regular meetings are planned to ensure continuous communication with students representatives.

At the governance level, the Self-Evaluation Report delineates the distinct roles of the Joint Programme Board (JPB) and the Quality and Innovation Committee (QIC) in overseeing QA activities. The QIC is responsible for coordinating all internal and external QA processes and submits biannual reports to the JPB on both academic and managerial matters, including innovation and continuous improvement. It includes a range of stakeholders, such as academic and administrative staff from all partner institutions, as well as students.

The JPB, in turn, considers the QIC's recommendations in defining the programme's policies and strategic direction, and formally "recognises" QA as part of its governance function. However, this recognition is not further elaborated, and the Self-Evaluation Report does not present an initial set of quality or key performance indicators (KPIs) for the Joint Programme to ensure quality and effectiveness of its delivery.

Internal QA mechanisms are expected to rely on a two-tier system that combines both quantitative and qualitative data collection. Specifically, the QA processes will involve a series of structured anonymous surveys and targeted external feedback mechanisms. These will include regular contributions from the Industrial Advisory Board (IAB), Associated Partners, peer reviewers, and employers of graduates. The feedback loop is intended not only to monitor performance but also to support curriculum development and strategic improvement.

Three main types of surveys are planned for systematic use:

- *Management Quality Surveys*, focusing on communication, application procedures, administrative responsiveness, and pre-arrival support;
- *Academic Satisfaction Surveys*, targeting teaching quality, academic coherence, and content relevance across partner institutions;
- *Employability Surveys*, aiming to track alumni career paths, assess time-to-employment, and evaluate graduates' preparedness for academic and industry roles.

While these instruments are well-documented, the frequency of their administration, the consistency of data analysis, and the procedures for integrating external feedback still lack detailed explanation. For example, the mechanisms by which Associated Partners or the IAB will provide structured input—such as advisory reports or formal consultations—are not fully specified. Alumni feedback could also be harnessed more strategically to assess the medium- and long-term impact of the Joint Programme, particularly in relation to evolving labour

market needs. Moreover, while curriculum review will be part of the QA process, the mechanisms for revising and approving academic content are not yet fully outlined. Although students and alumni are expected to be involved in QA processes, their participation in programme design or approval processes is not currently evidenced.

Complementing the internal QA framework, an independent External Quality Assessment Board will be established. Led by a senior multidisciplinary expert, this body will oversee the integrity, coherence, and outcomes of the programme. Additionally, as part of the grant agreement with the EACEA, the programme will be subject to technical and financial audits by the European Commission, ensuring accountability in the use of public funds.

In conclusion, the design and planned implementation of for the EU-CORE Joint Programme reflects meaningful alignment with ESG Part 1 (Internal QA), through a well-conceived governance structure, stakeholder involvement, and a commitment to evidence-based continuous improvement. However, as the programme has not yet commenced, the operational maturity of its QA mechanisms remains in development. Key aspects—such as the strategic oversight role of the JPB, the formalisation of external inputs, curriculum revision procedures, and the public availability of the QA policy—would benefit from further clarification and structured implementation to ensure the delivery of high-quality Joint Master's Programme.

IV. CONCLUSION

The EU-CORE joint programme is well designed and clearly answers a large number of education, teaching, and academic requirements for training international students within the framework of an Erasmus Mundus Joint Master's Degree degree. The first cohort is expected to enter in the 2025-2026 academic year. The programme's eligibility is consistent; however, some administrative issues remain to be addressed. As the joint degree has not yet been implemented, we hope that it will be in place in time for the graduation of the first cohort. The intended learning outcomes are well defined in accordance with the standards of EQF Level 7 and the second cycle of the Qualifications Framework of the European Higher Education Area. The EU-CORE programme offers a solid interdisciplinary foundation, covering key areas of Renewable Energy Systems control, including Wind Energy (ECN), Solar Energy and Smart Grid (UNIZG) as well as Geothermal and Hydrogen Energies (BTU). The study programme is clearly relevant to the aims of a Master degree in this field. The structure follows a classic four-semester model, with three semesters dedicated to lectures, tutorials or practical work, and a final semester devoted to the Master's thesis or an internship. The programme's content and focus significantly enhance the employability and professional visibility of its future graduates. Regarding admissions and recognition procedure, a selection committee comprising representatives from all partners institutions oversees this key process. The rules for mutual academic recognition are well defined and practically implemented, ensuring coherence across the curriculum. All three partners are signatories of the Erasmus+ Charter for Higher Education and have committed to the automatic recognition of ECTS credits earned during study periods at other partner institutions. Regarding learning, teaching and assessment, the academic structure of the EU-CORE consortium provides a progressive and complementary curriculum across the three institutions. The programme successfully integrates theoretical knowledge with applied skills through a range of teaching methods, including project-based learning, seminars, and laboratory sessions. The involvement of prominent academic and industrial partners from around the world further enhances the programme's global relevance and practical applicability. Assessments are conducted in line with the Joint Examination Regulations, and ECTS credits are awarded upon successful completion of each course. The student support framework within the EU-CORE consortium is well-structured, ensuring that students receive consistent and appropriate support throughout their studies. All three institutions offer diverse and comprehensive student services, covering areas such as international mobility, and academic advising. The teaching staff are highly qualified, internationally recognised experts in the field of Renewable Energy Systems (RES) and Automatic Control. The academic references, international visibility, and complementary expertise of the faculty are outstanding. The intended learning outcomes and course contents are also well documented and easily accessible. The EU-CORE consortium proposes to implement some robust mechanisms for quality assurance (QA) through a unified transnational QA framework.

As a conclusion, the design and implementation plans for the EU-CORE Joint Programme are highly relevant and supported by a teaching body of exceptional international calibre. The academic curriculum and its learning outcomes are solid and coherent. Students will benefit from effective academic and mobility support throughout the duration of the programme, enabling them to gain excellent professional exposure.

The table below summarises the level of compliance with each standard and the overall alignment of the joint programme with the European Approach for Quality Assurance of joint Programmes.

Standard	Assessment
1. Eligibility	Compliant with conditions
2. Learning outcomes	Compliant
3. Study programme	Compliant
4. Admission and recognition	Compliant
5. Learning, teaching and assessment	Compliant with conditions
6. Student support	Compliant
7. Resources	Compliant
8. Transparency and documentation	Compliant
9 Quality assurance	Compliant
Programme as a whole	Compliant

STRENGTHS

- The consortium presents a strong academic expertise in renewable energy system and will ensure valuable teaching and learning for high potential Master's students.
- The learning outcomes and study programme are really clear and well structured.
- The consortium provides a diverse array of student support services, ensuring that holistic and appropriate care is available to all students.

WEAKNESSES

- The standardised teaching and academic processes designed for the EU-CORE joint programme will be put to the test during the first operational activities and continuous improvements approaches will be required for their adoption by the consortium.
- The recruitment process needs to be improved to make the Master's degree more attractive to European applicants.
- The practices for the internship need to be aligned between each academic institution.

RECOMMENDATIONS

- Organise a first round of improvements based on the feedback from the first cohort, as well as from academic staff and industrial partners for the professional seminars and internships.
- Develop a comprehensive recruitment strategy aimed at achieving a more equitable balance between European and non-European applicants, while also promoting gender equity.
- Develop procedures to align internship practices among the consortium partners.

V. COMMENTS OF THE INSTITUTION

Joint Master Programme EU-CORE: European Master on Control of Renewable Energy Systems POLITICAL LETTER

We would like to thank you for the positive report received from the HCERES evaluation panel. This very first experience by the newly created EMJM EU-CORE program of having its first joint Master Programme is exemplary for the further development of the sustainability of the program and the European Higher Education Area (EHEA).

We appreciate the evaluation panel's recognition of the consortium's strong academic expertise in renewable energy systems. We are also pleased that the clarity and structure of the study programme, as well as the comprehensive student support services, have been positively acknowledged. We remain fully committed to maintaining these high standards and to providing an excellent learning experience for all our Master's students.

Moreover, the HCERES report includes very relevant recommendations regarding important aspects of the programme.

Joint design and delivery

There is a concern regarding the delivery of a joint degree for the first student intake. In this respect, we would like to emphasise that the consortium will be ready to award a joint degree to the first cohort of students, enrolled in 2025 and graduating in 2027. The EU-CORE joint degree, coordinated by Centrale Nantes, fully complies with the requirements of the French authorities (French *circulaire n° 2019-134 of 25 September 2019*) and has already been approved within the governance structures of all partner institutions.

Students are expected to be enrolled in the local programmes recognised by the French State and by the other consortium members, as detailed in Table 1 below. On the French side, the degree title "Automation and Robotics" is used, and the "EU-CORE" local track has been established internally in accordance with the decision of the Academic Council dated 26 November 2025.

The distinction between the joint accreditation process under the European Approach for Quality Assurance and the implementation of the joint degree was clearly defined during the preparatory phase of the EU-CORE programme, prior to its submission to the 2024 European call. While the timeline for the recognition of the joint accreditation by the French Ministry of Higher Education has been duly taken into account, it has no impact on the establishment of the joint degree to be awarded to the first cohort by the end of 2027.

A diploma template compliant with French regulations (*circulaire n° 2019-134 of 25 September 2019*) has already been validated within the consortium's governance, together with the official titles of the degrees (see Annex 1). Obtaining the joint accreditation will ultimately enhance the

programme’s visibility, providing a single six-year accreditation that will harmonise the title of the joint degree.

Name of the institution	Type of degree awarded for this Master course	Title in local language	Title in English	Date and reference of formal approval degree
ECN	National Degree	Automatique et robotique	Master of Science in Control and Robotics	2022, 20170882
UNIZG	National Degree	Magistar/magistra inženjer/inženjerka informacijske i komunikacijske tehnologije	Master of Science in Information and Communication Technology	2020, register code: 393, entry code: 2751 in Official Register of Study Prog. Accredited in the Republic of Croatia
BTU	National Degree	M.Sc. Power Engineering	M.Sc. Power Engineering	2026, ASIIN

Figure 1 - Local Master Degree of accreditations

ADMISSION

In terms of diversity of origin among applicant students, the EU-CORE marketing strategy chosen aims to strengthen the visibility of the programme worldwide, with the objective of attracting the most promising students while building strong connections within both the scientific community and the industrial ecosystem of the field. Meanwhile, the marketing strategy is being revised and adjusted. Specific promotional activities focusing on Europe are already under development and will be prioritised for the next intakes.

In this context, an online promotional event focused on the Latin American region is currently under consideration via the Erasmus Mundus Latam Network Community on PersonalBranding.pe. The proposed online session is scheduled for Tuesday, October 2, 2025, from 7 PM to 9 PM.

Based on the statistics from the first round of applications, the number of European applicants is relatively limited. The first meeting of the Communication and Dissemination Committee (CDC) is scheduled for the end of September 2025 (exact date to be confirmed). An action plan for recruitment will be adopted during this meeting and implemented in the following weeks after, in preparation for the second cohort.

ASSESSMENT OF STUDENTS

A Code of Conduct is currently being developed, which specifically addresses issues such as the ethical use of artificial intelligence. With regard to academic originality, an annual workshop is included in the Summer School programme. This event provides professors, researchers, and scholars with an opportunity to discuss the academic content of the programme and to propose relevant pedagogical innovations. Furthermore, questions related to authorship in scientific publications are systematically covered during the Winter School workshops.

Internship/Master thesis

Joint examination boards are clearly defined in the Consortium Agreement. With regard to the evaluation of the Master's thesis, each defence will take place locally at the institution of the main supervisor. All examination panels will use a common evaluation template and shared guidelines, to be validated during the 2026 annual consortium meeting. This approach aims to ensure academic and research excellence, while avoiding inconsistencies across partner institutions.

Each student will be supervised by one main supervisor from the partner institution hosting the student in Semester 4, and a co-supervisor from one of the two other consortium universities. Once all defences have been completed, a joint EU-CORE jury will convene at the beginning of September. This jury will provide an opportunity to discuss specific cases, and to exchange on evaluation criteria, methods, and procedures — as part of the continuous improvement of the programme's quality assurance process.



Prof. Franck Plestan
Coordinator of EU-CORE

Annex1

EU-CORE joint degree template¹

¹ Important: for Croatia and Germany it shows only a template, and not the actual title, which will for all three countries in English be like provided now in the French part of the joint diploma in annex 1 -- Master in Control of Renewable Energy Systems.

MASTER OF SCIENCE IN CONTROL OF RENEWABLE ENERGY SYSTEMS

Jointly delivered by Ecole Centrale de Nantes (ECN), France - University of Zagreb (UNIZG), Croatia - Brandenburg University of Technology, Cottbus-Seftenberg (BTU),

<p>ESPACE EUROPEEN DE L'ENSEIGNEMENT SUPERIEUR REPUBLIQUE FRANÇAISE</p> <p>MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR, DE LA RECHERCHE ET DE L'INNOVATION ECOLE CENTRALE DE NANTES (membre de la COMUE UNIVERSITE BRETAGNE LOIRE)</p> <p>MASTER</p> <p>Vu le code de l'éducation, notamment son article L. 613-1 ; D.613-3 et D.613.6 ;</p> <p>Vu l'arrêté ministériel du 19 juillet 2017 relatif à l'accréditation de l'Ecole Centrale de Nantes l'habilitant à délivrer des diplômés nationaux ;</p> <p>Vu les pièces justificatives produites par xxx né le xx à xx, en vue de son inscription en master ;</p> <p>Vu les procès-verbaux du jury attestant que l'intéressé a satisfait au contrôle des connaissances et des aptitudes prévu par les textes réglementaires ;</p> <p>Vu le parcours type Electric Vehicle Propulsion and Control ;</p> <p>Le diplôme de MASTER sciences, technologies, santé mention Control of Renewable Energy Systems est délivré à xxx</p> <p>au titre de l'année universitaire 20xx/20xx,</p> <p>et confère le grade de master,</p> <p>pour en jouir avec les droits et prérogatives qui y sont attachés.</p> <p>Fait à Nantes, le xx 20xx</p> <p>Le Titulaire Le Directeur de l'Ecole Centrale de Nantes Jean-Baptiste AVRILLIER William MAROIS</p> <p>Le Recteur de l'académie de Nantes Chancelier des universités</p> <p>No d'inscription : M_CORO_20-xx-20-xx</p>	 <p>born on [PIN] in [Republic of Croatia], having fulfilled all academic requirements and passed all of his exams, completed the university graduate study programme in INFORMATION AND COMMUNICATION TECHNOLOGY, profile [PIN] in the scientific field of [PIN]. In the course of his graduate study he obtained a total of [PIN] ECTS credits. Therefore, he has earned the academic title of MASTER OF SCIENCE IN INFORMATION AND COMMUNICATION TECHNOLOGY comprising all the related rights prescribed by law.</p> <p>No [Zagreb] Dean [Full Professor] PhD</p>	<p>URKUNDE CERTIFICATE</p> <p>Die Brandenburgische Universität of Technology, Cottbus - Senftenberg vertreten durch [PIN] die Fakultät für Maschinenbau, Elektro- und Energiesysteme venient [PIN] vertreten durch [PIN] der Brandenburgische Universität of Technology, Cottbus - Senftenberg</p> <p>geboren am [PIN] in [PIN] nach Erreichung aller notwendigen Leistungen im Studiengang [PIN] Power Engineering den akademischen Grad [PIN] the degree of Master of Science (M.Sc.)</p> <p>Dieser Grad ist dem akademischen Grad Diplom-Ingenieur (Dipl.-Ing.) äquivalent. Cottbus, XXXXXXXX</p> <p>Prof. Dr.-Ing. Georg Mülrenkamp Dekan/in / Dean</p> <p>Prof. Dr. rer. nat. Lars Rößner Prüfungsausschussvorsitzender / Head of the Examination Board</p>
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The evaluation reports of Hceres
are available online : www.hceres.fr/en

Evaluation of higher education institutions
Evaluation of research units
Evaluation of study programmes
Evaluation of research organisation
International evaluation and accreditation



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European Approach for Quality Assurance of Joint Programmes

ACCREDITATION PROPOSAL

EUropean master on COntrol of Renewable Energy systems (EU-CORE)

École Centrale de Nantes
Brandenburg University of Technology
University of Zagreb

July 2025

SCOPE OF THE PROPOSAL

The EU-CORE consortium has mandated the Hcéres to perform the evaluation of its Joint Master programme. The consortium is made of the following universities:

- École Centrale de Nantes (France)
- Brandenburg University of Technology (Germany)
- University of Zagreb (Croatia)

The evaluation is based on the European Approach for Quality Assurance of Joint Programmes¹, adopted in May 2015 by the Ministers of the European Higher Education Area and is compliant with the Standards and guidelines for quality assurance in the European Higher Education Area (ESG)².

PROPOSAL

Following a thorough evaluation process coordinated by Hcéres, the expert panel hereby recommends to grant full accreditation to European Master on Control of Renewable Energy Systems (EU-CORE).

The table below summarises the level of compliance of each standard and the overall compliance of the joint programme with the European Approach for quality assurance of joint programmes.

Standard	Assessment
1. Eligibility	Compliant with conditions
2. Learning outcomes	Compliant
3. Study programme	Compliant
4. Admission and recognition	Compliant
5. Learning, teaching and assessment	Compliant with conditions
6. Student support	Compliant
7. Ressources	Compliant
8. Transparency and documentation	Compliant
9 Quality assurance	Compliant
Programme as a whole	Compliant

Hcéres will communicate the evaluation report together with the accreditation decision to the quality assurance agencies from the countries represented in the EU-CORE joint master. Hcéres has also invited the consortium to contact the respective national or regional accreditation bodies regarding the procedure required to accept this accreditation decision.

The following strengths, weaknesses and recommendations are given for further improvement of the programme:

STRENGTHS

- The consortium presents a strong academic expertise in renewable energy system and will ensure valuable teaching and learning for high potential master's students.
- The learning outcomes and study programme are really clear and well structured.
- The consortium provides a diverse array of student support services, ensuring that holistic and appropriate care is available to all students.

WEAKNESSES

- The standardised teaching and academic processes designed for the EU-CORE joint programme will be put to the test during the first operational activities and continuous improvements approaches will be required for their adoption by the consortium.
- The recruitment process needs to be improved to make the Master's degree more attractive to European applicants.
- The practices for the internship need to be aligned between each academic institution.

¹ https://www.eqar.eu/assets/uploads/2018/04/02_European_Approach_QA_of_Joint_Programmes_v1_0.pdf

² https://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf



RECOMMENDATIONS

- Organise a first round of improvements based on the feedback from the first cohort, as well as from academic staff and industrial partners for the professional seminars and internships.
- Develop a comprehensive recruitment strategy aimed at achieving a more equitable balance between European and non-European applicants, while also promoting gender equity.
- Develop procedures to align internship practices among the consortium partners.

This proposal together with the evaluation report will be published on the Hcéres website.



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are available online : www.hceres.fr/en

Evaluation of higher education institutions
Evaluation of research units
Evaluation of study programmes
Evaluation of research organisation
International evaluation and accreditation



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