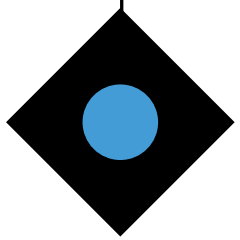
ENHANCE
European Universities of Technology Alliance

Automation and Control Engineering

Participation in the ENHANCE mobility programme



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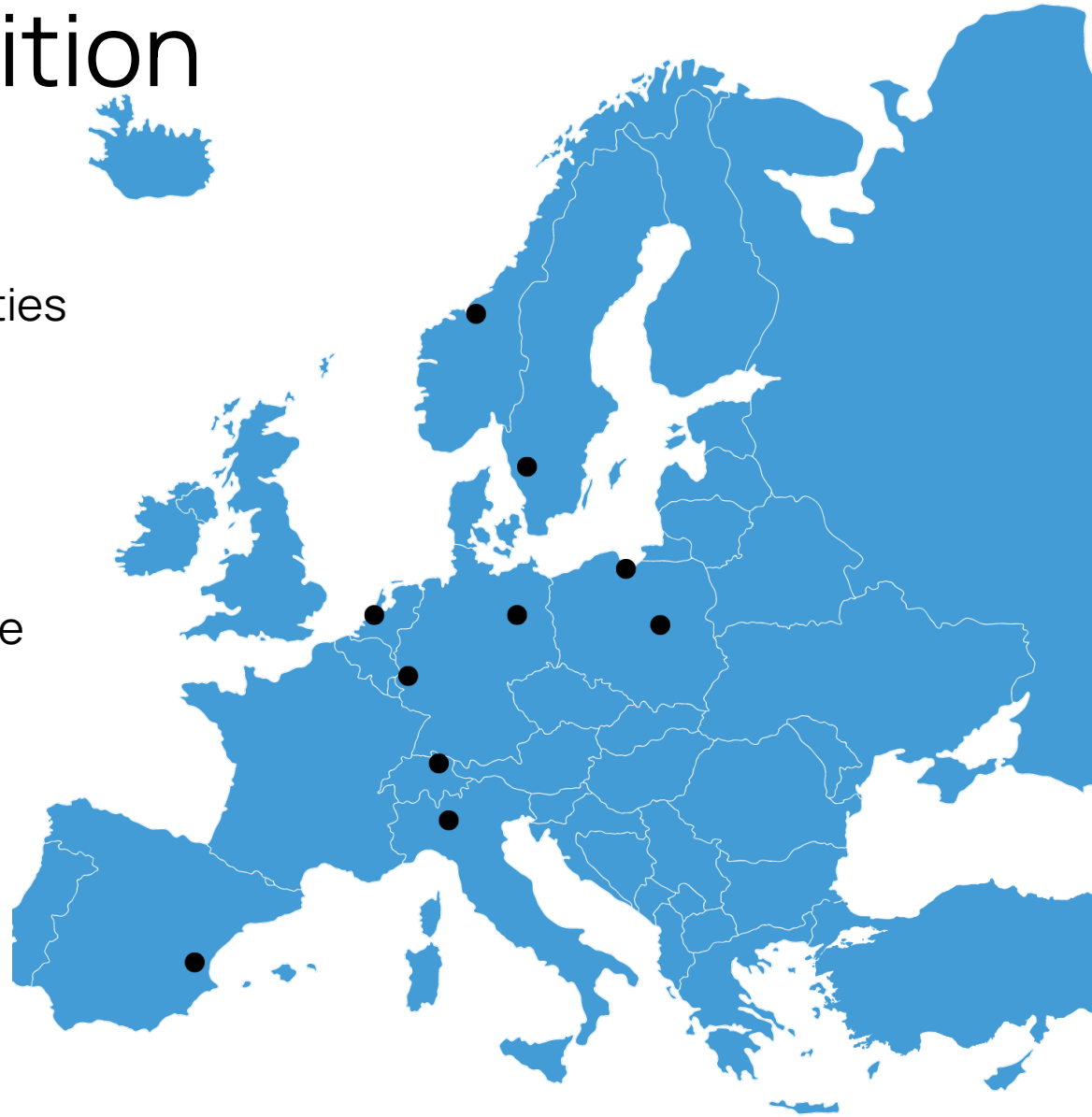
ENHANCE Value Proposition

- European Universities of **Technology Alliance**
- 10 leading European research-intensive universities with a focus on science and technology
- Rooted in **European values**
- Empowering people with knowledge and competencies in science and technology, to drive **responsible transformation** for the benefit of society



CHALMERS
ETH zürich
GDAŃSK UNIVERSITY OF TECHNOLOGY
NTNU Norwegian University of Science and Technology
POLITECNICO MILANO 1863
RWTH AACHEN UNIVERSITY
TU Delft
TECHNISCHE UNIVERSITÄT BERLIN
UNIVERSITAT POLITÈCNICA DE VALÈNCIA
Warsaw University of Technology

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Spot the difference!

ERASMUS EXCHANGE

Established by the EU in 1987 and expanded in depth and breadth over the year, it has developed an organised and integrated system of cross-border student interchange involving a broad range of universities, higher education institutions, faculties, subjects, research areas across Europe.

Inter-institutional cooperation reflected into specific agreements

Principles of **equivalence** and **mutual recognition**

Completion of courses and exams translated into the student's **transcript of records**

ENHANCE PROGRAMME

Special programme within **a prestigious alliance** of 10 leading European research-intensive universities of Science & Technology

5 selected Study Programmes (**Energy Engineering** MSc being one of those)

Close cooperation among Academics for the pre-emptive selection of **pre-approved courses** with **guaranteed ECTS recognition**

Principles of **complementarity** and **synergy**

Traditional POLIMI study plan embedding ENHANCE courses in the official Manifesto (no Learning Agreement required)

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ENHANCE: Benefits for Students

- **Streamlined choice** of courses: students can rely on a pre-selected list of courses reviewed by their study programme coordinators

- **Complementary** academic offer: students can enrol in thematic courses or access focused research facilities not available at their home university

- Pre-emptive **automatic recognition**: simplified procedure promoted by the coordination work among Academics

- Opportunity to become part of a **dynamic community** where long-term mobilities can be integrated with short-term innovative learning offers, language tandems, workshops and trainings: https://enhanceuniversity.eu/

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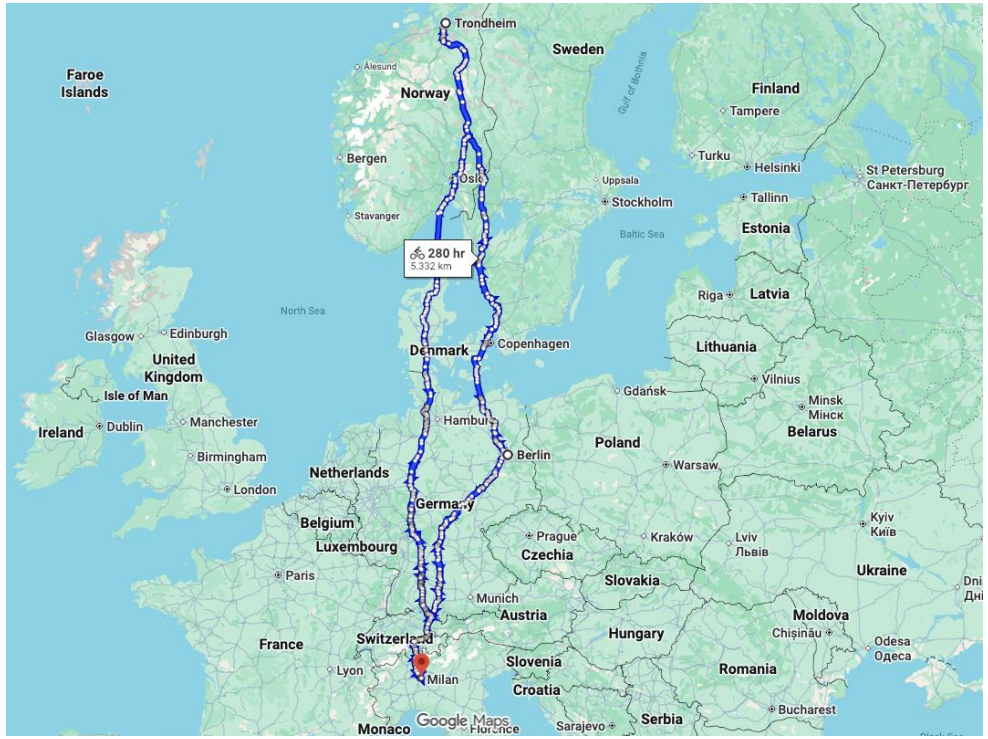
ENHANCE: For Automation and Control

The MSc in Automation and Control has partnered with

- TU Berlin
- NTNU: Norwegian University of Science and Technology



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ENHANCE: For Automation and Control

TU Berlin

- Established in 1948
- 34000 students
- High international student population (approx. 25-27%), with a significant number of partnerships with foreign universities
- Located in a major tech and startup hub; strong institutional ties with companies like Siemens, Deutsche Bahn, and Telekom offer direct pathways for internships and thesis projects

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ENHANCE: For Automation and Control

NTNU

- Established in 1910 (as Norwegian Institute of Technology)
- 50,000 students
- Consistently ranked as one of the best universities in the world for partnership with corporate industry (e.g., Equinor, Telenor, SINTEF), bridging the gap between academia and real-world application.
- You can access the "Koie" network—a system of small, rustic cabins scattered throughout the Norwegian wilderness that are exclusive to NTNU students for hiking and skiing trips.

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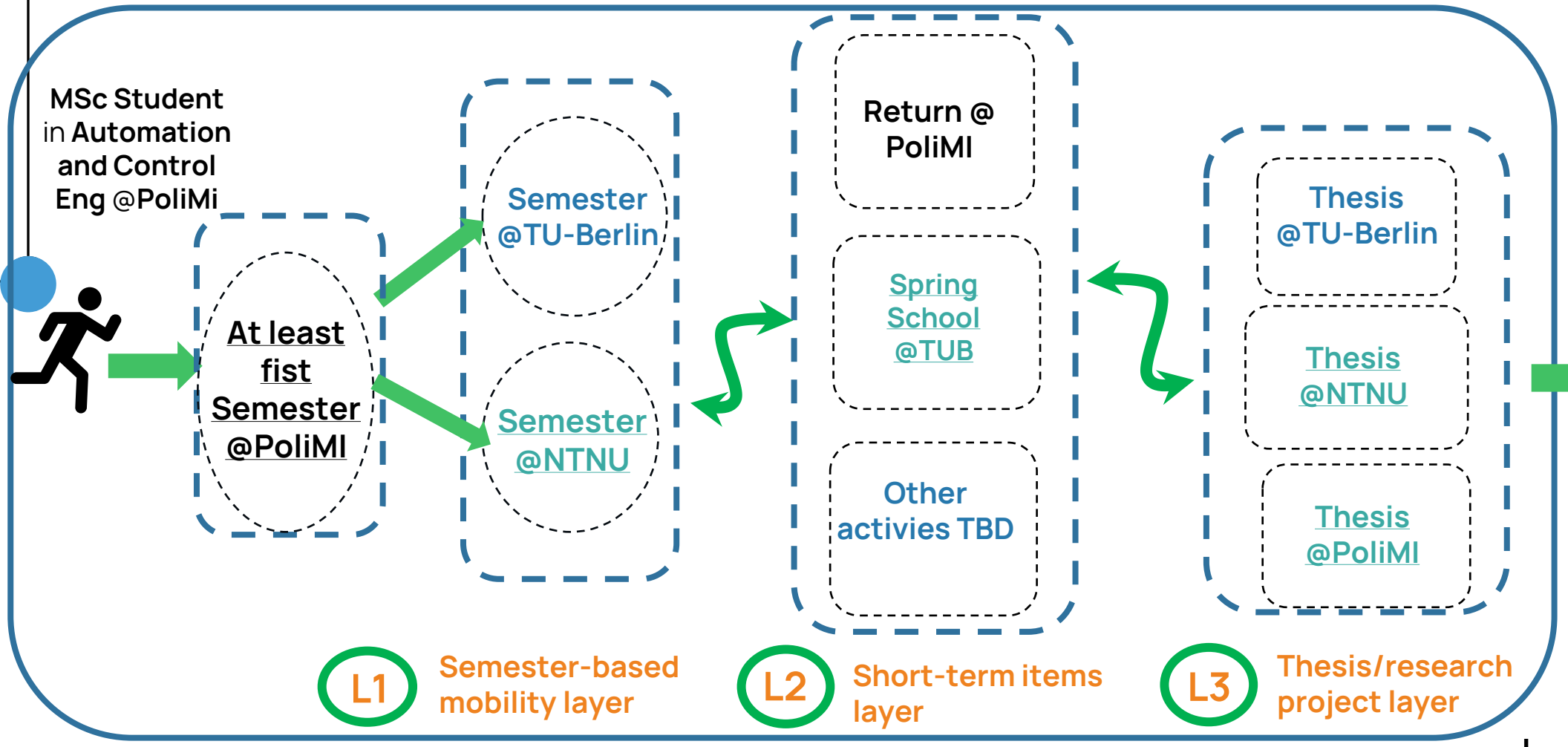
Example of student journey



Please stay tuned – upcoming information will be published on exact rules and eligibility to achieve the ENHANCE Degree Label

* As per regular Erasmus mobility, the student is only eligible for 12-month-funding during their degree programme

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TU Berlin Courses

Courses divided into courses that are **equivalent** and **complementary** courses (with exclusion rules)

Nonlinear Control *(nonlinear control)*	Fall	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=30467&version=4
Multivariable and Robust Control in Frequency Domain *(robust control)*	Fall	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=30526&version=7
Project Lab Automation *(Automation and control laboratory)*	Spring/Fall	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=40139&version=6
Motion Planning *(control of mobile robots)*	Spring	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=41049&version=4

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TU Berlin Courses

Courses divided into courses that are **equivalent** and **complementary** courses (with exclusion rules)

Engineering For Equity Think Tank *(TAB transversal skills)*	6 ECTS	Spring	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=50993&version=2
Model Predictive Control *(TAB 1)*	6 ECTS	Spring	not available yet (course to be created)
Hybrid Systems *(TAB 1)*	6 ECTS	Spring	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=40493&version=10
Control of Smart Sensor Systems *(TAB 4)*	6 ECTS	Fall/Spring	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=41187&version=2
Scientific Problems in the Field of Sensor and Actuator Systems (*TAB 4)*	3 ECTS	Fall/Spring	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=41091&version=2

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TU Berlin Courses

Courses divided into courses that are **equivalent** and **complementary** courses (with exclusion rules)

Smart Sensors and Actuators *(TAB 4) – excludes Control of Smart Sensor Systems)*	6 ECTS	Fall	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=40225&version=5
Foundations of Statistical Inference, Detection, and Estimation *(TAB 1)*	6 ECTS	Spring	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=41105&version=1
Flying Robots* *(TAB 4)*	9 ECTS	Fall	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=41159&version=3
Multi-Robot Systems* *(TAB 4)*	3 ECTS	Spring	https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschreibung/anzeigen.html?nummer=41158&version=3

* Limited seats available: seat assigned by lottery

Complementary courses will be recognized with their effective credit hours value. Equivalent courses will be recognized with the credit hours of the equivalent course

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TU Berlin Courses

Some suggested packages:

FALL

Smart Sensors and Actuators (TAB 4) – 6 ECTS
Scientific Problems in the Field of Sensor and Actuator Systems (TAB 4) – 3 ECTS
+ course with equivalence

15 ECTS

Flying Robots* (TAB 4) – 9 ECTS
+ course with equivalence (or 6 ECTS)

15 ECTS

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the European Union

TU Berlin Courses

Some suggested packages:

SPRING

Control of Smart Sensor Systems (TAB 4) - 6 ECTS
Scientific Problems in the Field of Sensor and Actuator Systems (TAB 4) - 3 ECTS
+ course with equivalence or 6 ECTS course

15 ECTS

Multi-Robot Systems* (TAB 4) - 3 ECTS
Project Lab Automation
Model Predictive Control

15 ECTS

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NTNU Courses

Courses divided into courses that are **equivalent** and **complementary** courses (with exclusion rules)

Nonlinear systems *(Nonlinear control)*	TTK4150	7.5	Fall	https://www.ntnu.edu/studies/courses/TTK4150/2024#tab=omEmnet
Adaptive Control *(Data driven control system design)*	TTK4215	7.5	Fall	https://www.ntnu.edu/studies/courses/TTK4215/2024#tab=omEmnet
Modeling and Control of Robots *(Control of industrial robots)*	TTK4195	7.5	Spring	https://www.ntnu.edu/studies/courses/TTK4195/2024#tab=omEmnet
Robotic Vision *(image analysis and computer vision)*	TTK4255	7.5	Spring	https://www.ntnu.edu/studies/courses/TTK4255/2024#tab=omEmnet
Mission Planning for Autonomous Systems (*control of Mobile Robots)*	TTK4192	7.5	Spring	https://www.ntnu.edu/studies/courses/TTK4192/2024#tab=omEmnet
Instrumentation Systems and Safety *(Safety in automation systems)*	TTK4175	7.5	Spring	https://www.ntnu.edu/studies/courses/TTK4175/2024#tab=omEmnet
Advanced Control of Industrial Processes (Advanced process control)	TTK4210	7.5	Spring	https://www.ntnu.edu/studies/courses/TTK4210/2024#tab=omEmnet

Equivalent courses will be recognized with the credit hours of the equivalent course

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NTNU Courses

Courses divided into courses that are **equivalent** and **complementary** courses (with exclusion rules)

Guidance, Navigation and Control of Vehicles	TTK4190	7.5 ECTS	Fall	https://www.ntnu.edu/studies/courses/TTK4190/2024#tab=omEmnet
Sensor Fusion	TTK4250	5 ECTS	Fall	https://www.ntnu.edu/studies/courses/TTK4250/2024#tab=omEmnet
Embedded and Industrial Computer Systems Design	TTK4115	7.5 ECTS	Fall	https://www.ntnu.edu/studies/courses/TTK4155/2024#tab=omEmnet
Optical Remote Sensing	TTK4265	7.5 ECTS	Fall	https://www.ntnu.edu/studies/courses/TTK4265/2024#tab=omEmnet
Biomedical Instrumentation and Control	TTK4270	7.5 ECTS	Fall	https://www.ntnu.edu/studies/courses/TTK4270/2024#tab=omEmnet

Complementary courses will be recognized with their effective credit hours value, to be taken in “pairs” – 15 ECTS.

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1° Call for International Mobility 2026/27

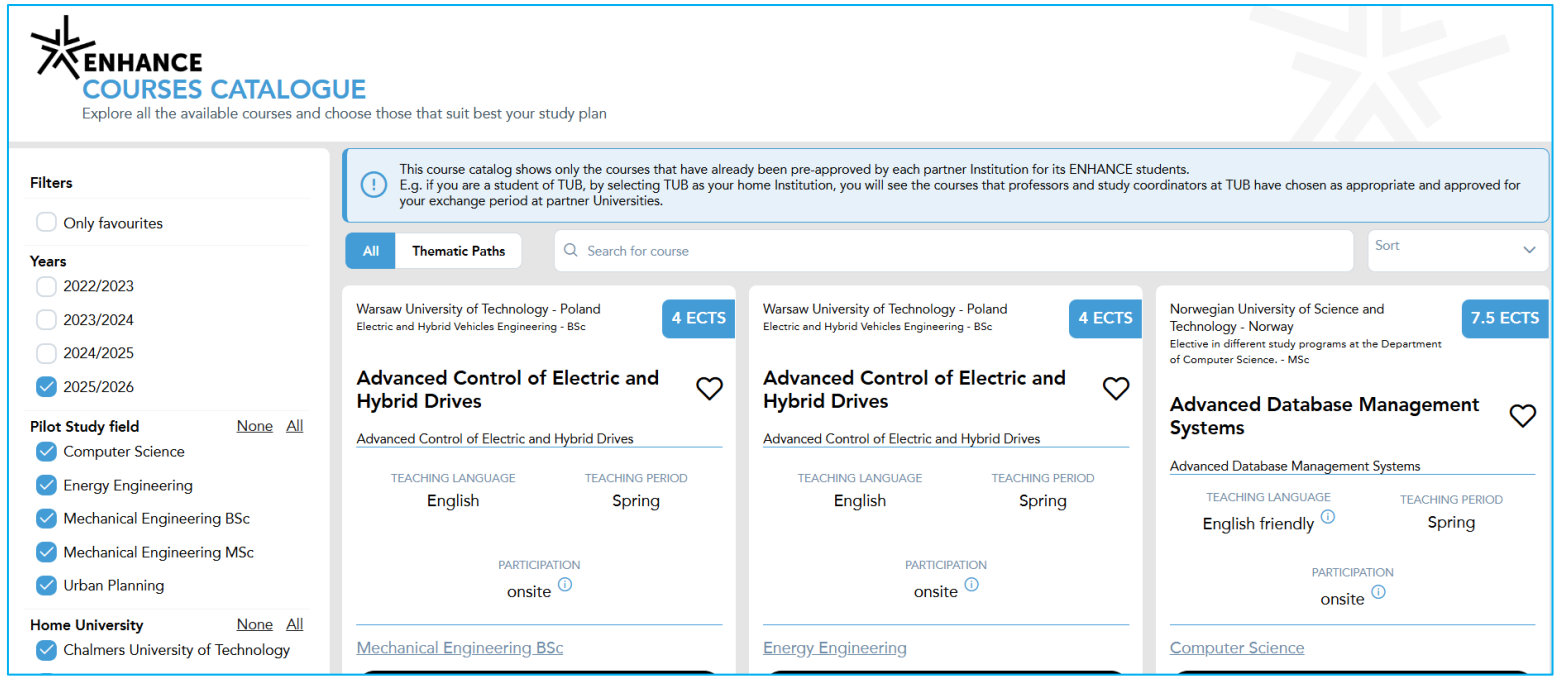
Our call for international mobility, a.y 2026/2027, is now open:

18° November 2025

Deadline : January, 09° 2026, by midday!

1. If you are interested in Enhance special programme, please firstly read the call (section «Special Programmes»)
2. When you apply, include **Enhance Thematic Paths** in your preferences

Where to start from?



Currently under development by our ICT Department (check whether to include this slide or not, according to the ENHANCE course catalogue update status)

Go to the website
https://educationpathways.enhanceuniversity.eu/

Filter against your home university

Browse the list of available courses and identify the host university delivering them

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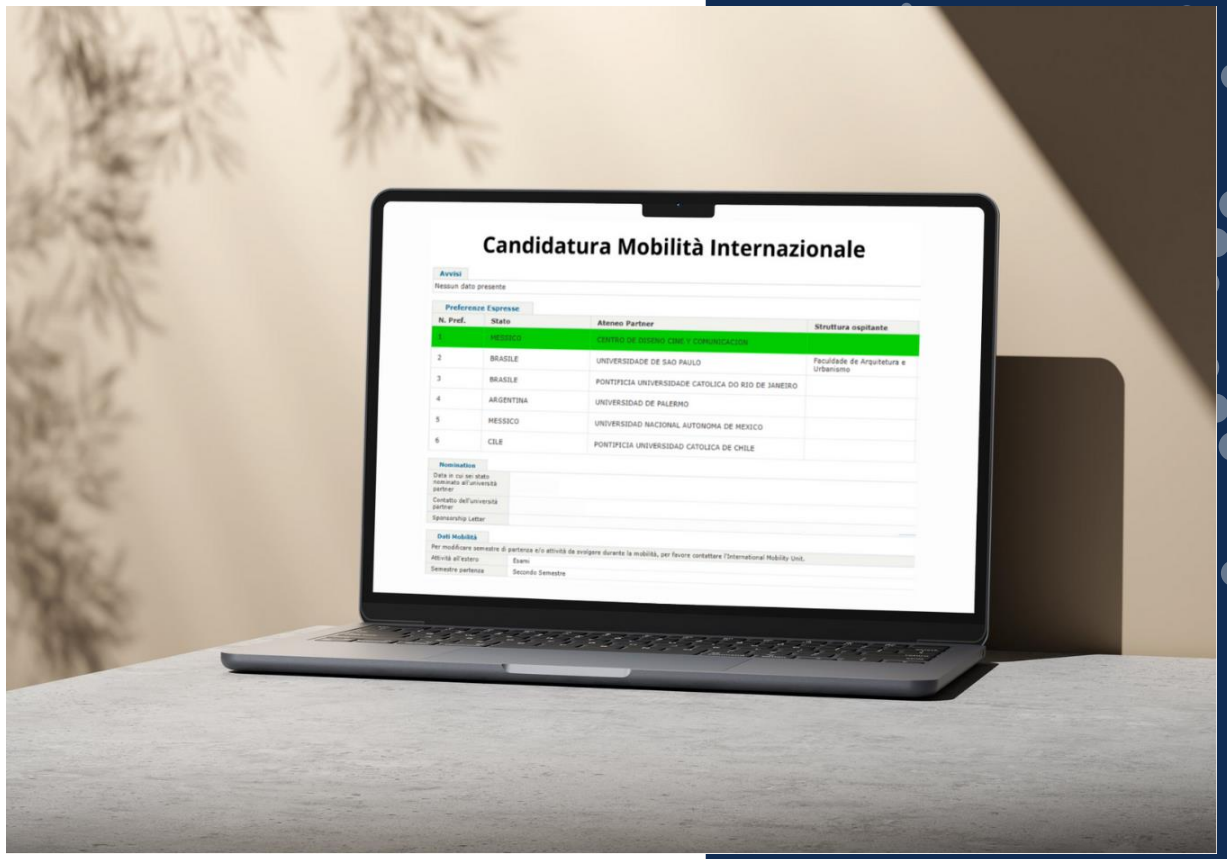
How the assessment is carried out :

Schools of Engineering

- «Grade» formula (see art. 4 of the Call for international mobility ay 2026/2027)
- You can be selected only for one of your preferences
- If you are selected for «Enhance Thematic Paths», after the assignment phase you will be asked to rank the Partner Universities of the Alliance which currently allow long term mobilities within your pilot programme (TU Berlin, NTNU)
- The assigment of the Parner University will be done using «grade formula»

When is a seat assigned?

A seat is **ASSIGNED** when it is highlighted in **green**!



ALWAYS GIVE AN ANSWER!

The selected student must in any case **express his/her decision** (**accept**, **reject** it or **wait for the next allocation** if possible) by clicking on the active "**what do you want to do?**" link next to the name of the foreign university (or special programme) for which he/she has been selected.

To confirm the mobility highlighted in green, the candidate must also indicate the semester of mobility and the activity that he/she intends to perform abroad.

The selected student who **rejects** or does not express his/her decision in the acceptance phase relating to the allocation in which he/she is selected **will be automatically excluded from the subsequent selection phases and from International Mobility for Study for the 2026/2027 academic year**.

Deadline:
January 9° 2026 by midday (CET)!

Keep in touch!

Follow us on **Instagram**

@exchange.polimi

Follow **Enhance** on **Instagram**

@enhancealliance

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European Universities of Technology Alliance

Thank you!

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