

Study on the future development of the European Master in Official Statistics

Case studies

February 12, 2024

Analysis of existing collaboration cases in education programmes in statistics

This section analyses existing collaboration cases in education programmes in statistics in five case studies of existing master's and PhD programmes in data science, statistics, and official statistics specifically, some delivered in collaboration with national statistics institutes. The findings that might be relevant for the future development of EMOS indicate that official statistics curricula can also be taught at bachelor and PhD levels. Furthermore, flexible learning opportunities targeting practitioners working in the field and awarding different types of specialised certificates appear attractive. Joint curricular components such as summer schools in collaboration with multiple higher education institutions and other stakeholders such as national statistics institutes and line ministries offer the potential to strengthen inter-institutional collaboration.

BDMA: MA in Big Data Management and Analytics

<https://bdma.ulb.ac.be>

The Erasmus Mundus Joint Master Degree Programme in Big Data Management and Analytics (BDMA) is a unique programme that fully covers all of the data management and analytics aspects of Big Data (BD), built on top of Business Intelligence (BI) foundations, and complemented with horizontal skills. It has been jointly designed and adheres to international studies, being structured to cover all the skills BI and BD specialists require. BDMA is the follow-up to the Erasmus Mundus Joint Master Degree Programme in Information Technologies for Business Intelligence (IT4BI), which successfully welcomed 5 generation of students.



Participating organisations

- ULB Free University of Brussels (BE)
- UPC Polytechnic University of Catalonia (ES)
- TU/e Technical University Eindhoven (NL)
- CS Centrale Supelec (FR)
- UniPD University of Padua (IT)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master

Target groups: Applicants must have a bachelor's degree (the equivalent of 180 ECTS) with a major in computer science, mathematics, or a related field. They must be proficient in English.

Dedication: Full-time

Workload/duration: 2 years (120 ECTS)

Language of instruction: English (language courses are available in: English, French, Spanish, Catalan, and Dutch. Students follow mandatory local language courses during the first two semesters and may attend language courses at the university of the specialisation).

Started in 2019

Topics covered: Statistics and deep learning; Business intelligence; Big data; Large-scale analytics; Process analytics; Decision support & data analytics.

Fees: Erasmus + Programme Countries students: €4500 / year; Partner Countries students: €9000 / year

Erasmus Mundus Scholarships and Loans available.

Teaching methods and format: On-site, with compulsory mobility to at least three different countries.

Degree type/Label/Recognition: The BDMA programme will deliver three degrees from ULB, UPC, and the university of specialisation (either CS, UniPD or TU/e). Furthermore, the consortium will deliver a joint BDMA Certificate and a joint Europass Diploma Supplement.

Key aspects of the collaboration

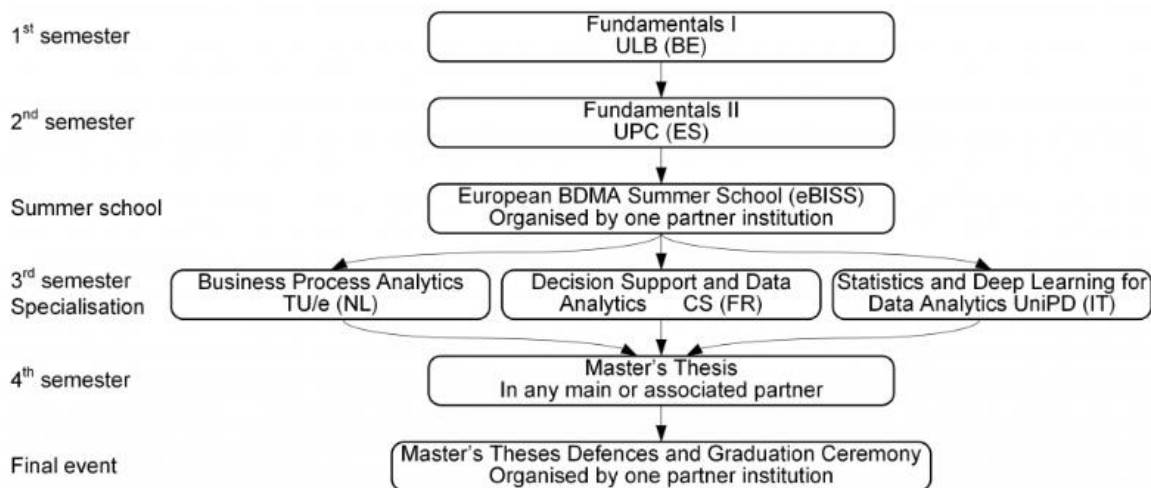
Collaboration arrangements: The BDMA consortium is composed of five full partners, but also counts on the cooperations with 25 associated partners: 9 industrial partners, 2 regional public authorities and 14 higher education institutions (HEIs).

Links to national and supranational policies and initiatives: BDMA is an Erasmus Mundus Joint Master (EMJM), which is an initiative within Erasmus +. An EMJM involves at least three HEIs from three different countries, of which at least two must be EU Member States and third countries associated with the Erasmus+ Programme. The EU provides funding for both running these programmes and offering competitive scholarships to the best students worldwide. The funding is awarded for 6 academic years, covering at least 4 editions of the masters programme. Each EMJM can receive up to €5 million, and students can be awarded a scholarship of €1,400 per month (max. 24 months).

Function/role of partners: Each of the five partners has hired a Local Administrative Manager (LAM) who is the main contact point for students in all matters and acts as liaison between students and the administrative departments at their institution.

Curricular components

The first year is devoted to fundamentals: The first semester is offered at ULB and the second at UPC. After the first year, all students participate in the European Business Intelligence Summer School (eBISS), which is hosted and organised annually by one partner institution. For the third semester, students choose a specialisation among three offered in the programme and move to the partner university offering this specialisation. The fourth semester is dedicated to the Master's Thesis which can be done either as a placement in the industry or an internship in any full or associated partner. Depending on the agreements with the host institution, students can receive an additional traineeship grant. Eventually, all students are gathered in the Master's Theses Defences and Graduation Ceremony, which is organised annually by one partner institution.



Source: BDMA course structure/mobility scheme



Pedagogical aspects of the programme

Student support: **BDMA Ambassadors** are students and alumni from different countries that can be contacted by prospective and current students.

BDMA has a **student guide** with information on all study destinations and HEIs. The guide gives practical information about living conditions at each of the five partner locations.

All students get **medical insurance coverage** included in their tuition fees, which is a requirement for all EMJM.

Innovative pedagogies/flexible learning: Students have three choices for specialised study tracks, making BDMA highly flexible.

The European Business Intelligence and Big Data Summer School (eBISS) represents an opportunity for postgraduate students to equip themselves with the theoretical, practical, and collaboration skills necessary for developing challenging Business Intelligence applications. During eBISS, all students present a poster on their own research.

Teacher support: BDMA offers a scholarship for selected visiting scholars working at HEIs from all over the world.



Quality assurance

Internal quality assurance: An Internal Evaluation Committee (IEC) composed of representatives of main partners and students will ensure a continuous quality evaluation of the programme. Students complete three types of questionnaires on an anonymous basis (one per course, one after each semester, and one after completing the programme). The Local Programme Coordinator at each partner is responsible for the collection of these questionnaires, which will be implemented in a centralised platform available to all partners.

External quality assurance: An External Evaluation Committee (EEC) composed of external actors and former BDMA students ensures an efficient external monitoring of the programme, both at the academic and administrative level. An external evaluation will be carried out once every two intakes of the programme. Additionally, an Advisory Board is responsible for analysing the curriculum of the programme and its potential evolution, so that it better targets the needs of future employers in the domain. It is composed of industrial and public associated partners, as well as alumni.

Lessons learned

Programme strengths: Two important strengths of the programme are (1) the **international component**, and (2) the **quality assurance** methods:

- (1) The programme attracts students from around the world with Erasmus Mundus scholarships prioritising geographical balance among scholars. Students get a chance to interact with international colleagues and live in at least three different countries throughout the programme.
- (2) BDMA has developed quality assurance systems that integrate students, partner universities and external stakeholders. Each group is included in specific stages and has a unique function to ensure the quality of the programme.

Assessment of transferability to EMOS

Similarities:

- (1) Both EMOS and BDMA award students with an **additional programme certificate** beyond their degree.
- (2) The **programme structures** are similar, with a master thesis done in collaboration with industry.

Differences:

- (1) All BDMA students study together for the first year of their studies, while each EMOS labelled programme follows an independent track.
- (2) BDMA has compulsory mobility components and a more international outlook.
- (3) BDMA offers more (compulsory) interaction opportunities among students, with a mandatory summer school.



Recommendations to EMOS

- (1) It would be interesting if EMOS could implement a student ambassadors programme, where one student per EMOS labelled programme is made available for questions from prospective students.
- (2) EMOS could create a shared summer school as a mandatory component of the label, where students work on challenges together and interact with NSIs from different countries.
- (3) EMOS could invest more into community-building for students and teachers from different EMOS labelled programmes.

References

BDMA course structure/mobility scheme. Available in: <https://bdma.ulb.ac.be/home/master-programme/course-structure-mobility-scheme/>

MSc and PhD in Population, territories and official statistics

<https://ence.ibge.gov.br/index.php/mestrado-e-doutorado/apresentacao>

The National School of Statistics (ENCE) was established within the National Statistics Institute of Brazil (IBGE) and launched its Bachelor programme in Statistics in 1953. The Master in population, territories and official statistics was created in 1998, followed by a PhD programme in the same topic in 2014.

The general objective of the master programme is to promote the training of researchers and professionals for the production and usage of official statistics that expand knowledge of the population and territorial reality and its dynamics. The direct link to the Brazilian National Statistics Office guarantees academic training integrated with the practice of producing and analysing official statistics.



Participating organisations

- National School of Statistical Sciences (ENCE)
- Brazilian national statistical office (IBGE)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master and Doctoral degrees.

Target groups: Students can come from any field if they fulfil the requirements for the level of study. Many students come from the NSI to upskill and further progress in their career.

Workload/duration: MSc 2 years (32 Brazilian credits); PhD 4 years (48 Brazilian credits)

Language of instruction: Portuguese.

Degree type/Label/Recognition: MSc and PhD
MSc launched in 1998; PhD launched in 2014.

Topics covered: Populations, territories and living conditions; Producing official statistics.

Dedication: Full-time.

Teaching methods and format: On-site.

Fees: No tuition fees, scholarships for living costs available.



Programme statistics

20 new master students per year

10 new PhD students per year

25 years of ENCE Master programme



85% of students with scholarships for living costs

Key aspects of the collaboration

Collaboration arrangements: The National School of Statistics (ENCE) is hosted within the Brazilian NSI (IBGE).

Function/role of partners: IBGE is the main funder of ENCE and, until recently, the sole provider of scholarships to master and PhD students. Now, ENCE has scholarships funded by other national organisations in Brazil, such as the Coordination for the Improvement of Higher Education Personnel (Capes). Most teachers and staff at ENCE are hired exclusively for the school, sometimes IBGE staff will teach classes at ENCE.

Curricular components

During the first year of studies, all students take the following mandatory courses:

- Social Statistics I
- Social Statistics II
- Population studies
- Territorial Organisation and Management
- Research methods
- Social contemporary theory
- Statistical and Geographic Information Systems

They should also select three optional courses out of the following:

- Demographic Methods and Analysis
- Population Projections and Estimates in Small Domains
- Population Policies and Demographic Dynamics
- Population and Economy in Brazil
- Public policies
- Sustainable development
- Urban and regional dynamics
- Geoprocessing
- Sampling
- Data analysis
- Multivariate analysis
- Planning and analysis of longitudinal data
- Spatial statistics
- Linear modelling
- Data quality in research

Additionally, students can choose optional courses in Software practices (excel, R, SAS, etc) and optional courses called 'guided studies' where they individually define the topics with a supervisor and conduct reading and research defined in common agreement.

The second year of the programme should be fully dedicated to the master's thesis, which can be completed in collaboration with several Brazilian ministries that have agreements with ENCE.



Pedagogical aspects of the programme

Student support: Besides the 17 scholarships offered every year by the programme, students can apply to other scholarships. The two most common are:

- (1) Consultancy scholarships from line ministries
- (2) Teaching assistantship scholarships at ENCE

All the scholarships require exclusive dedication, students cannot receive more than one scholarship or work while receiving it.

Innovative pedagogies/flexible learning: The programme is strongly focused on interdisciplinarity with a diverse body of teachers and wide coverage of disciplines. There are several opportunities for students to engage in challenge-based learning and work with real-life problems provided by the NSI and other national ministries. In particular, the programme has cooperation agreements with the Health Ministry and with the Tourism Ministry where students can act as consultants and write their theses on related topics. Additionally, students can choose to do a teaching internship within ENCE, where they act as teaching assistants for Bachelor courses.

Research infrastructure: Research in the programme

is centred around two main themes: (1) Population, territories and living conditions, (2) Production of official statistics. Many research topics come from IBGE, where staff will connect with teachers who adapt a technical problem to a research question to be addressed by students in their assignments and theses. Several students have won research awards for their work with statistical production and improvement of sampling strategies within IBGE as a result of this interaction.

Graduate outcomes: ENCE's graduates are mostly employed in the IBGE, in research institutes connected to local governments and in other line ministries in the country, showing a good retention in the field.

While many graduates start their programme at ENCE and are later hired by IBGE, the contrary path is also very common. Several employees at IBGE take study leaves to get their master's at ENCE. That is common because career progression requirements in the Brazilian government and national agencies have a pre-defined pay increase for staff that have a Master's (additional 10%) or a PhD (12,5%).

Lifelong learning: Training and upskilling division (CTA) established by ENCE in 1995 focuses on training staff from national statistics agencies and civil servants from several public bodies but also has open courses to the wider society.



Quality assurance

Internal quality assurance the biggest graduate survey so far is currently being implemented with the goal to redesign and readjust the programme where necessary.

External quality assurance. The programme is subject to the national quality assurance which rates master's degrees from 1 to 7 points. Recently the programme improved from grade 5 to 6. The criteria for reaching grade 7 would include increasing the internationalisation of the programme with more joint publications and study visits.

Lessons learned

Programme strengths: Three important strengths of the programme are (1) the close **interaction with the NSI**, (2) the **links between theory and practice**, and (3) the strong **focus on research**:

- (1) The close interaction with IBGE is the biggest stand out aspect of ENCE programmes when compared to other related study programmes in Brazil. Students get to use data from IBGE in their courses and assignments and have classes with teachers who work at the NSI and can share the daily activities of the institute.
- (2) The cooperation with different ministries means that students tackle real-life problems in their master thesis and are often invited to support the application and analysis of census data as trainees or consultants.
- (3) The master's thesis is one of the main focuses of the programme, taking the full second year of studies. Most scholarships provided to students are research-based and have the master thesis as the main output to be provided. Given that ENCE also has a PhD programme, many students choose to continue their studies and pursue an academic career.

Key challenges to the collaboration.

- (1) **Interdisciplinarity:** Some graduates find it harder to get certain jobs when they have not graduated from a programme in a more specific discipline (statistics/mathematics/economics...). Many students do their master's at ENCE but prefer to do their PhD in a traditional discipline to increase their chances of becoming university professors or of success in public concursos requiring specific education.
- (2) **Attracting students:** For the past 4-5 years, the programme has been facing difficulties in attracting students. Instead of 25, the number of students to be admitted was reduced to 20, but only 13 candidates were recruited in 2022. The programme attributes this to low scholarships and to a decrease in employment opportunities in the public sector (including the NSI) due to recent political changes in Brazil. One initiative to increase interest in and the number of applicants to the MA programme was the inclusion of a module on demography in the ENCE Bachelor programme, where professors from the MA come to present and discuss issues related to official statistics.

Assessment of transferability to EMOS

Similarities:

- (1) The topics at ENCE match those of EMOS almost exactly, with a **significant interdisciplinary focus and a lot of data coming from the NSI** being used in classes and assignments
- (2) ENCE was created with the purpose of educating **graduates that can take positions at the NSI** and in other ministries, as well as **graduates that can make good use of official statistics** working in other organisations.
- (3) ENCE is also facing **difficulties in attracting students** for the master's degree.

Differences:

- (1) ENCE is a school established with a **national perspective**, focused on the Brazilian context. It is linked to the only NSI in Brazil and offers **limited international activities**.
- (2) While EMOS is very closely connected to the NSI, there are **no mandatory internships** in the programme, and there is a greater focus on the master thesis.



Recommendations to EMOS

- (1) There could be opportunities to expand EMOS' interaction with line ministries and other public organisations that use official statistics, where students could conduct their internships and complete theses.
- (2) The usage of data and experiences of professionals coming from the NSI can be intensified and should be further promoted to potential students, as this is one important attractive of EMOS.
- (3) The experience of ENCE shows that official statistics can successfully be implemented at the Bachelor and PhD level. However, there are important challenges that EMOS should consider if it decides to expand the programme to BA or PhD level:
 - a. The Bachelor course at ENCE is a BA in statistics, but the programme description states a focus in official statistics and strong interaction with the NSI. Embedding the focus on official statistics in a more general programme is important at the Bachelor level, to avoid creating a programme that is too narrow to be attractive at this level of study.
 - b. At the PhD level ENCE reported challenges with universities hiring policies for professors. Graduates struggle with applying for teaching positions in specific disciplines, given the interdisciplinary nature of their degree.

Joint Programme in Survey Methodology

<https://jpsm.umd.edu/>

The Joint Programme in Survey Methodology (JPSM) is a master's programme established in 1993 by the University of Maryland in collaboration with the University of Michigan, Westat (employee-owned consultancy firm), and other relevant agencies. Its primary goal is to educate survey researchers, statisticians and methodologists. JPSM currently offers several education options including a bachelor minor, summer schools, full- and part-time tracks, online and onsite programmes, short online/onsite courses, graduate certificates, as well as a PhD programme.

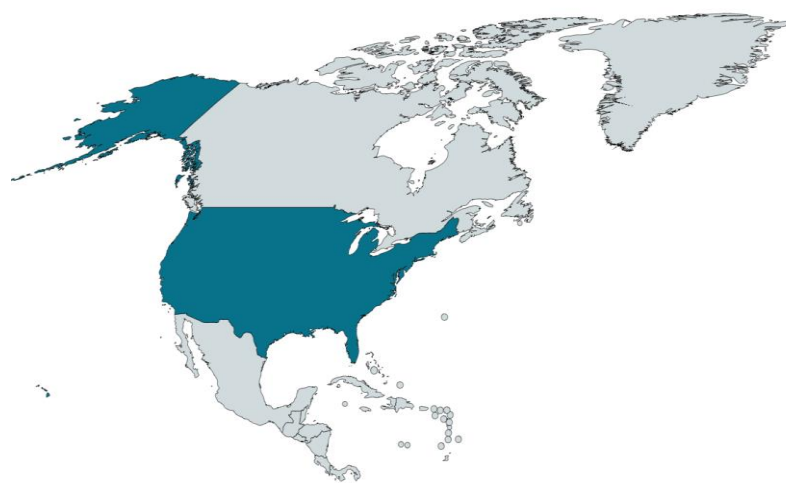


Participating organisations

- University of Maryland
- University of Michigan
- Westat



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master's.

Target groups: Baccalaureate degree holders with at least a B average grade. There are different requirements according to the concentration. For statistical science, courses in calculus, algebra, and statistics. For social science, courses in quantitative methods, statistics, and social sciences. For data science, at least two semesters in programming and courses in statistics.

Dedication: Full-time / Part-time

Workload/duration: 46 credits hours, plus a three-month internship.

Language of instruction: English

Specialisation areas: data science, survey statistics, and social science.

Topics covered: Survey design and methodology, total survey error and data quality, social sciences, survey statistics, and data science.

Fees: US \$1,142.00 per credit for onsite courses and US \$143.00 for the online courses. Flat rate for in-state and out-of-state students.

Teaching methods and format: Onsite/online

Degree type/Label/Recognition: Master of Science



More than **270 graduates** working in government agencies, academic settings, and private survey research firms

Graduates have **100% job placement rate** and work at top organisations and companies (e.g., Westat, Census Bureau, World Bank, Meta)

Key aspects of the collaboration

Collaboration arrangements: Students are fully enrolled in the University of Maryland or the University of Chicago. They can also access video lectures at the University of Chicago.

Function/role of the partners: The three partners collaborate in research. The University of Maryland has dedicated staff for JPSM, The University of Michigan contributes with professors from the Master in Survey and Data Science (MPSDS), and Westat provides researchers from their organisation.

Links to national and supranational policies and initiatives: JPSM resulted from the need for the US Federal Statistical System for employees with advanced training in survey statistics and methodology. To tackle this challenge, the US National Science Foundation offered a grant to establish such a programme responding to those national needs. The University of Maryland, the University of Chicago and Westat established the current alliance and were awarded five years of funding, which was the starting point of JPSM.

Curricular components

JPSM is composed of core, track and elective courses, plus a three-month internship. The core courses comprise 31 credits and the specialisations are 12 credits for social science and statistics and 9 credits for data science.

JPSM M.S. DEGREE REQUIREMENTS

Minimum of 46 Total Credit Hours

AREAS OF SPECIALIZATION	FALL YEAR 1	SPRING YEAR 1	SUMMER YEAR 1	FALL YEAR 2	SPRING YEAR 2
 Social Science	SURV 621-Fundamentals of Data Collection I SURV 615-Statistical Methods I SURV 632-Cognition, Communication and Survey Measurement Elective/Cognate	SURV 622-Fundamentals of Data Collection II SURV 616-Statistical Methods II SURV 625-Applied Sampling SURV 630-Questionnaire Design or advisor approved Elective/Cognate	Internship Completed Internship Paper Internship Focus Group	SURV 720-Total Survey Error and Data Quality I SURV 617-Applications of Statistical Modeling SURV 740-Fundamentals of Inference SURV 727-Fundamentals of Computing and Data Display	SURV 721-Total Survey Error and Data Quality II (Master's Capstone Project) Design Seminar SURV 701-Analysis of Complex Sample Survey Data SURV 745-Practical Tools for Sampling and Weighting
 Survey Statistics	SURV 621-Fundamentals of Data Collection I SURV 615-Statistical Methods I SURV 410-Introduction to Probability Theory Elective/Cognate	SURV 622-Fundamentals of Data Collection II SURV 616-Statistical Methods II SURV 440-Sampling Theory SURV 420-Introduction to Statistics	Internship Completed Internship Paper Internship Focus Group	SURV 720-Total Survey Error and Data Quality I SURV 617-Applications of Statistical Modeling SURV 740-Fundamentals of Inference OR advisor approved Elective/Cognate SURV 727-Fundamentals of Computing and Data Display	SURV 721-Total Survey Error and Data Quality II (Master's Capstone Project) Design Seminar SURV 742-Inference from Complex Samples OR advisor approved Elective/Cognate SURV 745-Practical Tools for Sampling and Weighting
 Data Science	SURV 621-Fundamentals of Data Collection I SURV 615-Statistical Methods I Elective/Cognate Elective/Cognate	SURV 622-Fundamentals of Data Collection II SURV 616-Statistical Methods II SURV 625-Applied Sampling SURV 619 Machine Learning for Social Science	Internship Completed Internship Paper Internship Focus Group	SURV 720-Total Survey Error and Data Quality I SURV 617-Applications of Statistical Modeling SURV 740-Fundamentals of Inference SURV 727-Fundamentals of Computing and Data Display	SURV 721-Total Survey Error and Data Quality II (Master's Capstone Project) Design Seminar SURV 701-Analysis of Complex Sample Survey Data SURV 745-Practical Tools for Sampling and Weighting

JPSM curriculum by area of specialisation: Source: <https://jpsm.umd.edu/academics/masters-courses>



Pedagogical aspects of the programme

Student support: merit and need-based financial aid, as well as research and teaching assistantship positions.

Digital infrastructure: JPSM is also offered online. Courses from partner universities and short courses are largely delivered online.

Innovative pedagogies/flexible learning: JPSM offers a variety of short courses and summer schools delivered online and onsite combining synchronous and asynchronous instruction. The programme also recognises previous learning, with students being able to replace some of their courses with more advanced ones.



Quality assurance

Internal quality assurance: At the University of Michigan, research studies routinely undergo not-for-cause reviews by the Office of Research Compliance Review (ORCR). Not-for-cause audits are conducted to verify the research is being conducted appropriately and recommend process improvements when necessary. ORCR's mission is to facilitate safe, ethical, efficient, and high-quality research.

Lessons learned

Programme strengths:

- (1) Curriculum co-delivered in collaboration with industry professionals;
- (2) Joint teaching efforts from the University of Maryland and the University of Michigan;
- (3) Blended theory and practice, complemented with internships in diverse federal and private agencies;
- (4) The programme is constantly reviewed to make sure it reflects the market needs.

Key challenge to the collaboration:

- (1) International students cannot complete traineeships at the federal agencies due to the citizenship requirement;
- (2) Balancing the resources between two university partners to share the teaching load equally;
- (3) Competition for students since both institutions deliver the same master's programme;
- (4) Different academic calendars at the partner institutions;
- (5) The funding of the programme depends entirely on tuition fees.

Assessment of transferability to EMOS

Similarities:

- (1) A strong emphasis on professional skills development through traineeships;
- (2) Substantial thematic overlap.

Differences:

- (1) Larger share of funding comes from the tuition fee (compared to public universities in Europe) resulting in more pressure to attract students.



- (1) Delivering short courses in addition to the full master's programme to make the courses and knowledge for practitioners available worldwide, this could also help increase the visibility and attractiveness of EMOS;
- (2) Delivering multiple learning pathways such as summer schools, certifications, micro-credentials, and/or short courses.
- (3) Continuously reviews and updates to the programme to match the labour market needs, which is significantly facilitated by the involvement of a private partner from the industry in teaching;
- (4) Implementing more flexible collaboration between institutions, involving sharing resources not necessarily under the frame of a joint degree.

References

University of Maryland. (N.D.) Joint Program in Survey Methodology – JPSM. <https://jpsm.umd.edu/academics/masters-overview>

University of Maryland JPSM. Interview with programme staff. May 23, 2023.

Correa Onel, S., and Johnson, D. (2019). Master's programme in Data Analytics for Government: The UK experience. [https://2019.isiproceedings.org/Files/9.Contributed-Paper-Session\(CPS\)-Volume-3.pdf](https://2019.isiproceedings.org/Files/9.Contributed-Paper-Session(CPS)-Volume-3.pdf)

MDataGov: MSc in Data Analytics for Government

<https://datasciencecampus.ons.gov.uk/capability/msc-in-data-analytics-for-government/>

MDataGov is a joint master programme launched in 2017 by the Office for National Statistics (ONS) Data Science Campus and four academic partners across the United Kingdom. Its goal is to equip public sector employees with the skills required to become modern public sector data analysts, helping to increase data science capability in the public sector. The main characteristic of MDataGov is its flexibility, allowing students to pursue it as a Master of Science (MSc), postgraduate diploma/certificate (PgDip/PgCert), or standalone courses for continuing professional development (CPD).



Participating organisations

- Office for National Statistics Data Science Campus (UK);
- Cardiff University (UK);
- University of Southampton (UK);
- Oxford Brookes University (UK);
- University of Glasgow (UK).



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master

Target groups: Currently employed staff within the UK Government Statistical Service and similar analytical roles or equivalent organisations overseas.

Workload/duration: 1 to 5 years. Full or part-time MSc (90 ECTS), PgDip (60 ECTS), PgCert (30 ECTS), CPD modules with optional assessment (2.5, 5 or 10 ECTS). Students taking CPD modules can accumulate credits towards a higher certificate at a later stage.

Dedication: Full-time and Part-time

Language of instruction: English

Topics covered: Vary among the partners, including data science, machine learning, distributed systems data visualisation, time series, survey fundamentals, statistical programming, and statistics in government

Fees: £11,596 in Southampton (£1,000 per CPD module); £1,130 per CPD module in Oxford Brookes; £15,000 in Glasgow; and £10,950 in Cardiff. Funding available through students' jobs and the Data Science Campus sponsorship of MDataGov standalone CPD modules.

Teaching methods and format: Onsite, online and hybrid

Key aspects of the collaboration

Collaboration arrangements: Joint initiative between the UK ONS Data Science Campus and four academic partners. Partners deliver their programmes separately. Credits are not transferable across MDataGov university providers.

Function/role of partners: Delivering the modules and programmes that meet the requirements. Designing the programme in consultation with the ONS and quality assurance.

Links to national and supranational policies and initiatives: The Statistics and Registration Service Act 2007 created the arrangements for the governance and management of official statistics across the UK. The Act lists the non-crown bodies sponsored by government departments which are producers of official statistics. It also designated the UK Statistics Authority as an independent, non-ministerial department reporting directly to Parliament with the competence to oversee, promote and safeguard the production and publication of official statistics that serve the public good. The Authority has the duty to monitor and report on the production and publication of all official statistics. This role is conducted by the Office for Statistics Regulation, the Authority's regulatory arm. The Act also established the post of National Statistician who, as the authority's chief executive, oversees the Authority's Executive Office – the Office for National Statistics.

Curricular components

University of Southampton: Core modules include data science foundations (5 ECTS), statistical programming (5 ECTS), statistics in government (5 ECTS), survey fundamentals (5 ECTS), as well as the dissertation (MSc only, 30 ECTS). For optional modules, the curriculum emphasises data visualisation, data mining, and machine learning (5 ECTS each). Each year, 12 optional modules are selected from 16, to ensure rotation of options for part-time students. The programme builds on the previously taught Masters in Official Statistics (MOffStat) programme, and the University of Southampton used to hold EMOS accreditation for MOffStat before Brexit.

University of Glasgow: Core courses as online distance learning include sampling fundamentals (5 ECTS), statistical computing (5 ECTS), data science foundations (5 ECTS), predictive modelling (5 ECTS), advanced predictive models (5 ECTS), statistics in government (5 ECTS), data programming in python (5 ECTS), uncertainty assessment and Bayesian computation (5 ECTS), introduction to survey research (5 ECTS), data mining and machine learning I: supervised and unsupervised learning (5 ECTS), data mining and machine learning II: big data and unstructured data (5 ECTS), large-scale computing for data analytics (5 ECTS), data analytics project (30 ECTS (MSc only)

Cardiff University: Core onsite modules comprehend data science foundations (5 ECTS), statistical programming (5 ECTS), survey fundamentals (5 ECTS), statistics in government (5 ECTS), and dissertation (30 ECTS).

Oxford Brookes University: Core online and hybrid modules comprehend statistics in government (5 ECTS), data science foundations (5 ECTS), survey fundamentals (5 ECTS), statistical programming (5 ECTS), introduction to survey research (5 ECTS), regression modelling (5 ECTS), advanced statistical modelling (5 ECTS), time series analysis (5 ECTS), introduction to machine learning (5 ECTS), advanced machine learning (5 ECTS), introduction to distributed systems (5 ECTS), data visualisation (5 ECTS), dissertation (30 ECTS).



Pedagogical aspects of the programme

Student support: Varies according to the university. Generally, the partner universities offer student support services and advice regarding student funding, accommodation, and other relevant aspects. In some cases, personal academic tutors and teaching support teams offer support and advice throughout the studies. Additionally, students organise the Annual MDataGov Symposium.

Teacher support: Varies according to the university. Universities usually have teaching and learning support units and resource centres.

Innovative pedagogies/flexible learning: MDataGov is offered both full- and part-time, so full-time employees can enrol. The University of Glasgow delivers the programme completely online and Oxford Brookes University delivers it online and hybrid. Students can take any of the course modules as continuing professional development, and stack them to apply for recognition of prior learning.

Digital infrastructure: state-of-the-art online learning facilities and an integrated virtual learning environment.



Quality assurance

Internal quality assurance: The quality assurance offices implement the processes to assure high-quality education. Quality is also assured at the programme level by external examiners from other universities, annual programme reviews, student input, as well as comprehensive programme revalidations.

External quality assurance: The Quality Assurance Agency for Higher Education (QAA) is the independent expert quality body for higher education across the UK. QAA is funded through membership, which is voluntary in England where over 98% of universities are members, and mandatory in Scotland, Wales and Northern Ireland. QAA membership provides vision expertise, practical support, resources and guidance on the topics of quality assurance.

Lessons learned

Programme strengths:

- (1) Labour market relevance: graduates receive transferable data science and analytics skills that are highly sought after in a broad range of sectors and in accordance with national authorities.
- (2) Official statistics component: the programme has been designed so that it can meet the continuing education and training needs of those who work with data in government.
- (3) Flexibility: different institutions deliver the programme both full-time and part-time, some also deliver it online. It can also be pursued as a modular structure for continuing professional development that could be accumulated towards a degree through recognition of prior learning.

Key challenge to the collaboration:

- (1) A steady stream of funded studentships is needed to maintain the financial viability of the programmes.
- (2) Transferability of credits among institutions is not possible among MDataGov universities, hindering the mobility of students.

Assessment of transferability to EMOS

Similarities:

- (1) Close cooperation with the Office for National Statistics in developing the curriculum and reflecting the market needs;
- (2) Partial overlap in topics, courses, learning outcomes and the overall purpose.

Differences:

- (1) No direct transnational collaboration between higher education institutions;
- (2) The curriculum does not include traineeships.
- (3) High degree of flexible formats and qualifications offered.



Recommendations to EMOS

- (1) Implementing flexible learning opportunities and pathways for practitioners already working in the field, e.g., Postgraduate Certificates or a micro-credential instead of a full Master's;
- (2) Targeting public sector employees to provide them with training framed in support agreements with their employers.
- (3) Providing various forms of academic support in the universities such as tutoring and mentoring.

References

Office for National Statistics Data Science Campus. (N.D.) Master's (MSc) in Data Analytics for Government.
<https://datasciencecampus.ons.gov.uk/capability/msc-in-data-analytics-for-government/>

University of Southampton. Validation with programme staff. May, 2023.

MSPPM: DATA ANALYTICS

<https://www.heinz.cmu.edu/programs/public-policy-management-master/data-analytics>

The Master of Science in Public Policy and Management: Data Analytics (MSPPM: DA) trains students to harness the power of data and analytic technologies to transform organisations that serve the public good. MSPPM-DA graduates have a highly valuable skill set in the policy field and are highly sought by employers. Additionally, Heinz College hosts diverse analytics-driven research institutes allowing students to participate in diverse data projects. The Data Analytics pathway is one of the four tracks of the master. The other three are MSPPM Pittsburgh, MSPPM Washington, D.C., and MSPPM Fast Track.

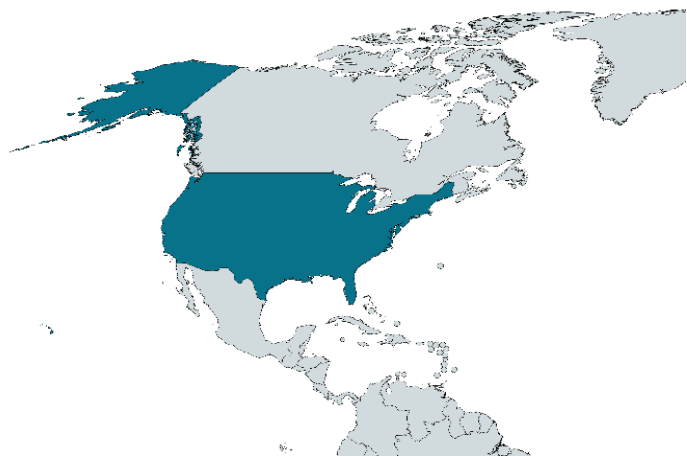


Participating organisations

- Carnegie Mellon University, Heinz College (US)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master's.

Target groups: students with university-level background in calculus or GRE/GMAT over 65% in the quantitative section, introductory statistics, and introduction to Python programming. Admission could be conditional to complete those courses.

Dedication: full-time

Workload/duration: 2 years (fast track option in 3 semesters)

Language of instruction: English.

Topics covered: Machine learning, Computer programming and analytics, Policy methods and ethical frameworks

Fees: US\$ 27.055,00 per semester

Teaching methods and format: onsite

Degree type/Label/Recognition: Master of Science



Programme statistics

72% of graduates earn over **75k** dollars a year with **36%** of graduates earning over **100k** dollars a year

41% of international students from **27** countries

Over a **third** of graduates work in **government and government consulting**

Curricular components

MSPPM-DA core curriculum differs by pathway. The curriculum by pathway is composed of:

1. **MSPPM Pittsburgh and Fast Track:** applied economic analysis, statistical reasoning with R, database management, organizational design and implementation, management science, policy and politics, financial statements and analysis of companies, writing for public policy, strategic presentation skills and public policy capstone project.
2. **MSPPM: DT:** In addition to the previous curriculum, machine learning, Computer Programming and Analytics and Policy Methods and Ethical Frameworks
3. **MSPPM Washington D.C.:** in addition to the first curriculum, program evaluation, cost-benefit analysis, how ideas become policy, leadership/management workshop: how Washington works, federal budget policy, policy analysis capstone project, and Heinz policy fellowship.

Additionally, students are required to complete a 10-week internship. Students may choose from more than 39 options including the World Bank, U.S. Department of State, United Nations, the Lego Group, Deloitte, and Facebook, among others.



Pedagogical aspects of the programme

Student support: Students looking for financial aid are automatically considered for merit-based scholarships when applying and advice on how to fund their studies. The programme also offers student employment opportunities. Additionally, the faculty offers diverse numerous campus life services.

Teacher support: the Eberly Center for Teaching Excellence & Educational Innovation support the educators

Innovative pedagogies/flexible learning: Four tracks, real problem-based capstone projects, opportunities to work as research assistants in diverse projects, project-based courses, and "Micro-mini" courses (two-weekend full-day sessions to solve challenges related to societal consequences of technological change).

Lessons learned

Programme strengths:

- (1) Labour market relevance. Graduates receive transferable data science and analytics skills that are highly sought after in a broad range of sectors, and are provided ample professional development opportunities;
- (2) Combining public policy and data analytics to teach graduates evidence-based problem-solving strategies acknowledges the complexity and implications of technological change.
- (3) Numerous experiential learning opportunities based on real-world challenges help students to go beyond the classroom, gain tangible skills, network with clients, make meaningful connections, and apply their knowledge.
- (4) A wide range of public and private sector partners enhances graduate career prospects.

Assessment of transferability to EMOS

Similarities:

- (1) Similar thematic focus: Combination of public policy and data analytics to prepare graduates capable of solving issues in the governmental sector;
- (2) Exchange opportunities: partnerships with the SDA Bocconi School of Management (Milan), CIDE (Mexico City), University of Mannheim, University of Munich and Delft University of Technology, among others;
- (3) Most of the graduates are employed in the private sector. 18% are employed in the public sector.

Differences:

- (1) Primary focus on public policy and not official, but rather applied statistics;
- (2) High intensity of collaboration with the private sector;
- (3) High reliance on tuition fees.



Recommendations to EMOS

- (1) Including more interdisciplinary courses and approaches into the curriculum so the graduates can gain a more versatile skillset;
- (2) Designing different tracks that allow students to shape their profile and focus either on a more academic path, or more professional training opportunities.

References

Heinz College. (N. D.). MSPPM Data Analytics: <https://www.heinz.cmu.edu/programs/public-policy-management-master/data-analytics#DACareers>

Analysis of existing relevant collaboration initiatives in other disciplines

This section presents five case studies of existing collaboration initiatives in other disciplines than statistics or data science. These include four joint master's degrees and one diploma supplement. The main takeaways from the analysis of implementation and structure of these programmes that might inform the future development of EMOS are the benefits of joint activities such as shared online or on-site courses, summer schools or other events, as well as compulsory mobility components fostering networking and community development. Furthermore, centralized communication, alumni communities and active online presence tend to increase the visibility and attractiveness of the programmes.

The European Institute of Innovation & Technology (EIT) Digital Master School offers two-year programmes enabling students to attend two partner universities in two different European countries. Moreover, students get to build a tailor-made curriculum based on their unique skills and interests. The programme offers seven double degrees, each combining technical competencies with practical skills in innovation and entrepreneurship (I&E). The EIT Digital Master School aims to educate innovators with an entrepreneurial mindset delivering talent to the digital labour market that will either be co-creators of ventures or enter the industry.

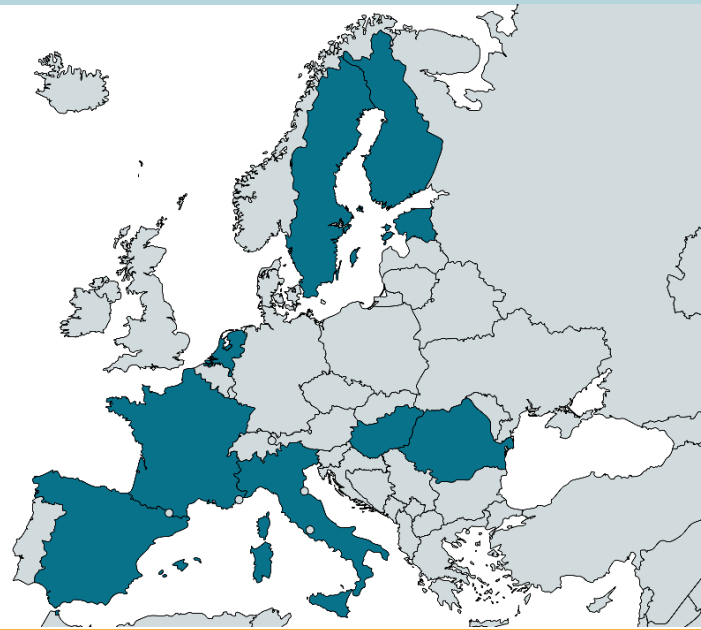


Participating organisations

- EIT Digital
- University of Rennes (FR)
- University of Trento (IT)
- University of Turku (FI)
- University of Twente (NL)
- Eötvös Loránd University (HU)
- Babeş-Bolyai University (RO)
- EURECOM, Campus SophiaTech (FR)
- KTH Royal Institute of Technology (SE)
- Technical University of Madrid (ES)
- Université Côte d'Azur (FR)
- Polytechnic University of Milan (IT)
- Aalto University (FI)
- Budapest University of Technology and Economics (HU)
- University of Bologna (IT)
- Tallinn University of Technology (EE)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master

Target groups: Potential students need to have a bachelor's degree related to the intended study programme and demonstrate Entrepreneurial excellence and Innovative potential

Workload/duration: 2 years (120 ECTS)

Language of instruction: English

Degree type/Label/Recognition: Students receive a degree from both universities in their individual study plan, i.e., a **double Masters's degree**. In addition, an **EIT Label Certificate** is awarded for the minor in innovation and entrepreneurship.

Started in 2012

Topics covered: Autonomous Systems; Cyber Security; Embedded Systems; Cloud and Network Infrastructures; Data Science; Fintech; Human-Computer Interaction and Design.

Dedication: Full-time

Teaching methods and format: On-site

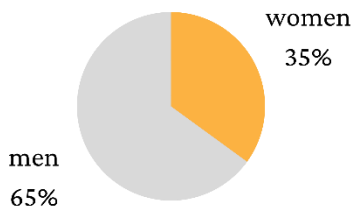
Fees: EU or EEA students: 5,000 EUR/year

non-EU or EEA students: 15,000 EUR /year.

Travel to the Kick-Off Event, Summer School and Graduation Ceremony is usually covered by EIT Digital. Several scholarships are available.



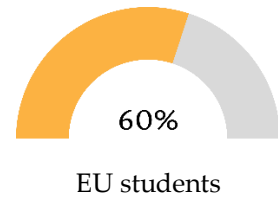
2000+ graduates since 2012



220-250 new students per year

95% of graduates are employed within 6 months after graduation and **93%** of alumni work in the same or related field to their studies¹

Most of EU students are from **Italy, Spain, and Hungary**. Non-EU students mostly come from **China, India, Pakistan, and Nigeria**.



Key aspects of the collaboration

Collaboration arrangements: EIT Digital signs a four-year renewable cooperation agreement with each partner university.

Links to national and supranational policies and initiatives: the European Institute of Innovation and Technology, an independent body of the European Union, manages the EIT label.

Function/role of partners: **EIT Digital** is responsible for the marketing activity, the selection process, the recruitment campaign, and the programme finances. EIT Digital receives the tuition fees from students and repays partner universities according to the agreements signed. Additionally, EIT Digital maintains and develops the ecosystem recruiting new partner universities and companies to host internships and master theses.

Partner universities are responsible for the delivery of the programme courses. To become partners in the EIT Digital Master School, universities must be EIT Digital partners and pay the EIT digital yearly partnership fee.

Curricular components

All seven EIT Digital Master School programmes follow the same scheme: Students spend one year at an 'entry' university and one year at an 'exit' university. Between the first and second years, a summer school programme addresses business opportunities within a socially relevant theme. The second year consists of a specialisation and a graduation project. The graduation project includes an internship at a company or a research institute and cumulates with a master's thesis having a strong innovation and entrepreneurship dimension.

All students complete a **Minor in innovation and entrepreneurship** of 27-33 ECTS consisting of three courses, one summer school, and one supervised business analysis that focuses on applying prior I&E knowledge and competencies in a real business context.

Students from the different EIT Digital Master programmes have the opportunity to meet and interact at least three times during their degree:

- (1) A 3-day **kick-off event** gathering all students for three days to work on business challenges guided by mentors.
- (2) A **summer school** after the 1st year of the programme. Students choose between any of the 10-12 two-week summer programmes on various topics entailing work on business challenges.
- (3) **Joint graduation ceremony**.



Pedagogical aspects of the programme

Student support: A programme of volunteer student ambassadors provides support for current and potential students by answering their questions, co-mentoring business challenges along with academics and alumni, and participating in EIT Digital webinars to promote the Master School.

Innovative pedagogies/flexible learning: Each university has its own curricula with mandatory and optional courses. In the second year of study, students choose a specialisation university based on their interests. There are several different combinations of first and second-year universities within the same programme.

Digital infrastructure: Learning resources for courses on innovation and entrepreneurship (EIT label minor) are stored in a joint Moodle platform and used by each partner university while organising the courses on-site.



Quality assurance

Internal quality assurance focuses on ensuring that the partner universities meet the learning outcomes and level of quality expected from the programme. Applying to join the master school, a university must present a curriculum that is in line with the programme learning outcomes with the application. Their proposal is then analysed by the program lead in cooperation with a representative from each partner university. Student surveys are also a part of internal quality assurance. EIT Digital conducts surveys at the end of the kick-off event, and at the end of each study year.

External quality assurance is largely based on the EIT label requirements. The label is an initiative established by EIT, a larger body of which EIT Digital is a part. The EIT Label Handbook provides guidance for subsidiary organisations on how to apply. EIT grants EIT Digital the right to issue the label and renews this right based on evidence that the EIT Digital Master School implements the guidelines from the EIT Label Handbook. In addition, all universities applying to be part of the master's school should have national accreditation.

Lessons learned

Programme strengths: Three important strengths of the programme are (1) the **marketing and communication** efforts with potential students, (2) the **links between theory and practice**, and (3) the strong **interactions between students** from different tracks in the programme.

- (1) EIT Digital organises several marketing activities, including webinarsⁱⁱ to highlight the benefits of the programme to potential students and clarify their questions. Alumni and current students (student ambassadors) often join these webinars to share their own experiences in the programme. Additionally, partner universities also organise marketing activities with their students.
- (2) Students gain a deep understanding of the market applications of their study objects. EIT Digital Master School graduates thoroughly understand what design thinking process, or a business plan is. Around 20-25% of graduates create their own startups after graduation.
- (3) The programme manager reported that students maintain contact and often continue developing joint projects after gathering to work on a business challenge during the Kick-Off event.

Key challenge to the collaboration is maintaining the quality and the relevance of the study programmes in an extremely fast-paced environment and constantly evolving technologies.

Similarities:

- (1) The **selection of partner universities** to implement the programme is very similar to EMOS, based on regular evaluation of the curricula and fit with the learning outcomes of the Master School.
- (2) The **degrees offered** are also similar, with EIT Digital master school awarding a label in addition to a university degree issued by partner universities, as does EMOS.
- (3) The programme structure in both cases involves a thesis in collaboration with a non-university partner.

Differences:

- (1) **EIT Digital has a larger role** in the Master School than Eurostat does for EMOS. EIT Digital centralises admission procedures and finances, including student fees.
- (2) EIT Digital promotes **interaction between students from different partner universities** by organising the Kick-Off Event, the Summer School and the Graduation Ceremony.
- (3) EIT Digital Master School takes more advantage of the **international network**, sending students to two different partner universities in different countries during their studies.



Recommendations to EMOS

- (1) EMOS could benefit from providing more opportunities for interaction between students from different partner universities, for example by bringing back the Statistics Week.
- (2) Intensifying marketing efforts coming from Eurostat, including webinars with the presence of alumni.
- (3) Making better use of the international aspect of EMOS by promoting student mobility between partner universities.

References

EIT Label handbook. Available at: <https://eit.europa.eu/library/eit-label-handbook-2021>

ⁱ According to the alumni survey conducted in December 2020/January 2021.

ⁱⁱ The list of upcoming webinars can be found here: <https://masterschool.eitdigital.eu/information-sessions> .

Global Markets, Local Creativities (GLOCAL)

<https://globallocal-erasmusmundus.eu/>

GLOCAL is an Erasmus Mundus Joint Master's Degree (EMJMD) programme offered by five European and two non-European Universities. The programme explores a variety of perspectives on the process and experience of globalisation. Students receive a theoretical grounding in international business and the global economy and are encouraged to think critically about the respective roles of individuals, firms, cities, regions, nations, and supra-national bodies in determining and shaping the world in which we live. Students' learning experience is further enhanced through debates with international colleagues, internship opportunities as well as the cultural aspect of the Erasmus Mundus programme.

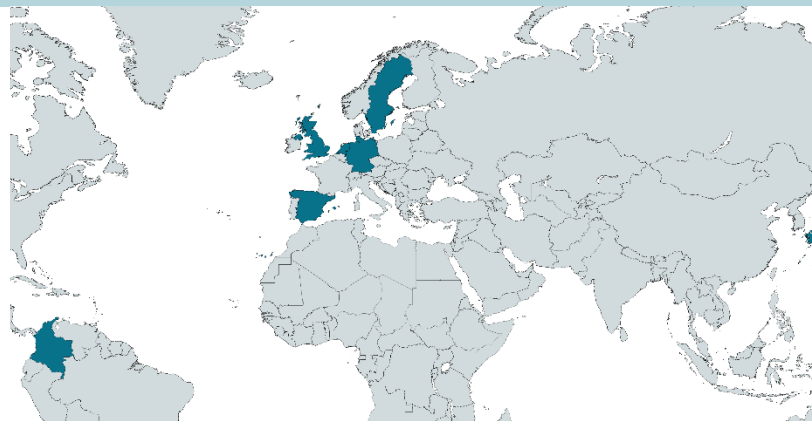


Participating organisations

- University of Glasgow (UK)
- Erasmus University Rotterdam (NL)
- Kyoto University (JP)
- University of Barcelona (ES)
- Uppsala University (SE)
- Georg-August-university Gottingen (DE)
- University of the Andes (CL)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master

Target groups: Students need to have completed their bachelor's degree. Certain specialisation tracks require 60+ ECTS in either history, sociology, business, or economics.

Workload/duration: 2 years (120 ECTS)

Language of instruction: All teaching is in English. Students are encouraged to attend additional language courses. All students will receive one language course included in their tuition fee at the University of Glasgow in the first semester.

Degree type/Label/Recognition: Jointly Conferred International Master, or International Master from the University of Glasgow + separate master's degrees from other universities.

Started in 2017

Topics covered: Globalisation; Creative Firms, Industries, and Cities; Sustainability of Economic Institutions; Global History and Creative Industries; Entrepreneurship and Sustainability in Emerging Markets; Global Markets and Development

Dedication: Full-time

Teaching methods and format: On-site

Fees: UK/EU - £8,100/year or €9,320/year

International - £15,967/year or €18,372/year

Erasmus Mundus Scholarships and Loans available (about 50% of students are on Erasmus Mundus scholarships).



Programme statistics

Students on cohorts I-VI
come from

61 nationalities

Source: The GLOCAL Experience blog

78% of alumni fully **employed**

12% undertaking **internships**

4% working as **volunteers***

50% of alumni **located
in Europe***

*Source: GAA survey (data collected in September 2020 from the 1st cohort alumni)

Key aspects of the collaboration

Collaboration arrangements: 7 partner institutions and 16 associate partners (14 higher education institutions (HEIs) and 2 museums). GLOCAL is one of the few EMJMD programmes with non-European partners. At the beginning of each Erasmus Mundus funding round, all full partners sign a legally binding memorandum of agreement that describes their role in the cooperation. The consortium has monthly online meetings and try to meet in person several times throughout the year

Links to national and supranational policies and initiatives: GLOCAL is an Erasmus Mundus Joint Master (EMJM), which is an initiative within Erasmus +. An EMJM involves at least three HEIs from three different countries, of which at least two must be EU Member States and third countries associated to the Erasmus+ Programme. The EU provides funding for both running these programmes and offering competitive scholarships to the best students worldwide. The funding is awarded for 6 academic years, covering at least 4 editions of the master's programme. Each EMJM can receive up to €5 million, and students can be awarded a scholarship of €1,400 per month (max. 24 months).

Function/role of partners: University of Glasgow (UK) is the coordinating institution, and they take care of the budget and coordinate admissions. However, the programme is very much a joint effort, and the coordinating role is more of an administrative one. The 7 main partners also collaborate via cross-delivery and co-teaching between partners, motivated by making use of their strengths and inviting academics that are experts in certain topics.

Curricular components

GLOCAL features a choice of **7 Study Tracks** at 7 Consortium Partner Universities:

- Global Markets and Creative Industries
- Sustainable Business Development
- Industrial Dynamics and Sustainability
- Institutional Change and Creative Industries
- Global Markets and Development
- Global Political Economy
- Sustainability: Institutions and Management

All students will spend their first semester in Glasgow, the second semester in either Barcelona or Uppsala, and then choose between Rotterdam, Göttingen, Los Andes or Kyoto for their 3rd Consortium Partner University.

A week-long **Summer School** takes place at the end of students' first year of GLOCAL. It is organised by a different partner university each year and includes visiting professors from associate partners from around the world. The 2018 Summer School took place in Göttingen and 2019 in Rotterdam. The 2022 Summer School took place Prague. The 2020 Summer School in Gdansk was cancelled due to COVID-19.

Depending on the track selected, GLOCAL students have the opportunity to undertake an internship and/or consultancy during the programme. Barcelona, Rotterdam, and Los Andes offer an **internship or consultancy project** as a credit-bearing optional course. Internships may be possible in other countries, but these will not be credit bearing and should be discussed separately with the course convenor.



Pedagogical aspects of the programme

Student support: The **GLOCAL Alumni Association** (GAA) was launched in 2019 by the first GLOCAL graduates. The main goal of GAA is to maintain connections between the programme and its graduates. The GAA has a quarterly newsletter where it shares updates on different career paths and the GLOCAL community. The GAA has also built a mentoring programme which gives space for graduates to share their experience with current students.

The **GLOCAL Experience: A student-led blog** publishes student and staff testimonials, tips on social and academic life, and more.

Teacher support: Staff mobility is at the heart of the GLOCAL philosophy and delivery. Cross-teaching by colleagues in other universities is very much part of the experience. Some examples include the delivery of the core 'Global Varieties of Capitalism' course in the first semester by colleagues from Gottingen and Kyoto; a course in Barcelona by colleagues from Rotterdam, in Rotterdam by Glasgow colleagues and in Gottingen by professors from Barcelona. As the programme has expanded, GLOCAL sought to include guest lectures and contributions from partners where possible. They see this as important in creating the unified GLOCAL identity that reaches beyond the individual universities and pathways.

Innovative pedagogies/flexible learning: The learning pathways of students are highly personalised by the seven different study tracks. Additionally, GLOCAL brings an interdisciplinary perspective to globalisation, allowing for different perspectives and approaches to the topic.

During the Summer School students are exposed to challenge-based learning in contact with stakeholders. In the 2022 event, students were assigned to eight different NGOs in the Czech Republic and were then tasked with solving a specific issue with the organisation.



Quality assurance

Internal quality assurance is centred at the yearly end-of-the-year meeting, where the consortium meets to review the past year and adjust plans for the future.

External quality assurance is mostly done through the Erasmus Mundus grand agreements and regular reporting to the European Commission.

Lessons learned

Programme strengths: (1) Good **communication** of the programme's goals and activities, (2) the **connection with students, alumni, and teachers** and (3) the **wide range of topics** offered:

- (1) The programme is active in several social media networks (Instagram, Facebook, and Twitter) and posts constant updates on GLOCAL events and student achievements. They have also created several video testimonials of students and staff in the programme, which are available on the programme website.
- (2) Students and Alumni are very engaged, and the programme provides good platforms for them to be active. The alumni association and the student-led blog are both advertised in the programme website and social media, indicating an ample support to those initiatives. Teachers are also engaged through cross-teaching experiences, which create opportunities for sharing knowledge between different HEIs.
- (3) GLOCAL approaches a wide range of topics and students are encouraged to pursue their own interests within the larger theme of the programme. The selection process also considers a wide range of previous education fields, creating a diverse student body. After graduation, students can apply their skills from GLOCAL in several different fields. Alumni of the programme are working in the most varied fields and positions (Software Engineer, Climate Activist, Finance Manager, Social Entrepreneur, PhD Researcher, Project Manager and more).

Key challenge to the collaboration is managing the different institutional and national regulations between seven partners. Additionally, a challenge is making sure students get the appropriate support, especially considering the high level of mobility of the programme, and all the challenges that come with it, such as housing and visa procedures.

Similarities:

- (1) Both programmes have a **multidisciplinary** perspective.

Differences:

- (1) GLOCAL students have **compulsory mobility** during their studies.
- (2) GLOCAL is run only by the HEIs, with no direct coordination from an EU institution.



Recommendations to EMOS

- (1) There are many benefits in being more connected to students and alumni, especially in a context where the programme is decentralised, and students take different tracks. EMOS could benefit from a joint alumni organisation and student blogs like the ones existing in GLOCAL. In that direction, EMOS could increase direct communication with students and alumni, which could help develop a sense of belonging and community.
- (2) The information about EMOS accessible to potential applicants is still rather scattered and dependent on each partner HEI. EMOS could benefit from intensifying its centralised communication efforts, with video testimonials about the programme and active social media presence.
- (3) Having an annual event where all students meet, such as the GLOCAL Summer School, can be an important opportunity for students to interact and serve as a motivator for prospective students to join the programme. This is also an interesting opportunity for students to interact with key stakeholders and collaborate on real-world challenges.
- (4) Cross-teaching between different EMOS labelled programmes could be incentivised and expanded. It is currently done only by a few German universities (Berlin-Bamberg-Trier).

References

The GLOCAL Experience blog. Available at: <https://theglocalexperience.com/>

GAA survey. Available at: <https://globallocal-erasmusmundus.eu/the-glocal-community/our-alumni/>

Master's in Environmental Pathways for Sustainable Energy Systems – SELECT

<https://www.innoenergy.com/for-students/master-school/master-s-in-sustainable-energy-systems/>

SELECT is one of six master's programmes run by EIT Innoenergy Master School. Students learn to address societal challenges with technical solutions in fields such as renewable energy, solar systems, biomass processing, offshore energy and more. They study in at least two different countries and take classes online in other partner universities. The programme has EIT label.

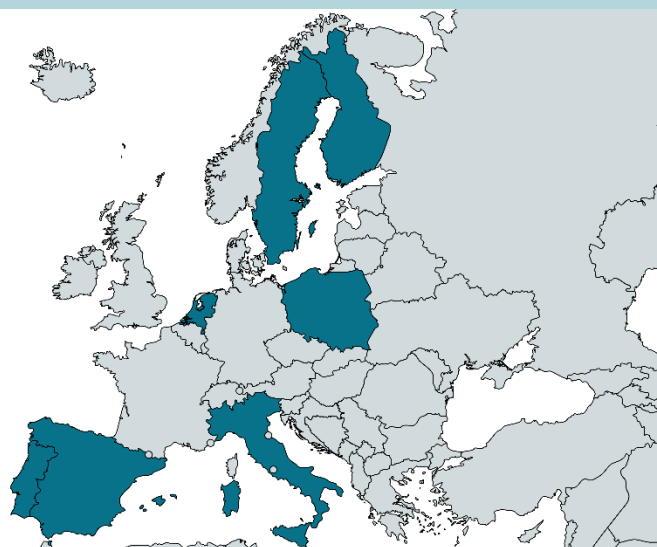


Participating organisations

- KTH Royal Institute of Technology (SE)
- UPC Universitat Politècnica de Catalunya (ES)
- Instituto Superior Técnico (PT)
- TU/e Eindhoven University of Technology (NL)
- Politecnico di Torino (IT)
- Aalto University (FI)
- AGH: University of Science and Technology (PL)
- ESADE Business School (ES)
- EIT Innoenergy (NL)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master

Target groups: Potential students need to have a bachelor's degree related to the intended study programme

Workload/duration: 2 years (120 ECTS)

Language of instruction: English

Degree type/Label/Recognition: After successfully completing the programme, students will receive a degree from each of their chosen universities (double degree), a certificate from ESADE Business School and the EIT Label.

Started in 2011

Topics covered: Sustainable energy conversion, renewable energy, and ways of ensuring minimal human impact on the environment

Dedication: Full-time

Teaching methods and format: Hybrid

Fees: €18,000 per year, which include tuition fees from all partner universities and all study trip costs. There are scholarships available from EIT Innoenergy and from partner universities.



#2

Master in Energy and
Natural Resources in
Western Europe according
to Eduniversal Best
Masters Ranking 2022

Key aspects of the collaboration

Collaboration arrangements: EIT Innoenergy signs a four-year renewable cooperation agreement with each partner university.

Links to national and supranational policies and initiatives: the European Institute of Innovation and Technology, an independent body of the European Union, manages the EIT label.

Function/role of partners: EIT Innoenergy is responsible for the marketing activity, the application portals, and the programme finances. Seven partner universities select the students and report their decision to EIT Innoenergy, which then sends acceptance letters and receives the tuition fees from the students. The seven partner universities are responsible for the course offer throughout the programme.

A special module on 'Entrepreneurship and Innovation' is taught by ESADE Business School. ESADE is not a degree awarding partner and does not participate in regular courses, but only runs this parallel track which awards students with a Certificate of Academic Participation in the Entrepreneurship Integrated Program.

Several initiatives are organised by EIT Innoenergy for all the six master programmes in their Master School including SELECT such as:

- (1) Innoenergy teachers;
- (2) Battle of Green Talent;
- (3) EIT Innoenergy Connect.

They are explained in more detail in the following sections.

Curricular components

Two universities offer the first year of studies together as a shared curriculum (KTH and UPC). Half of the students are based in KTH, and half in UPC. Students based in KTH join UPC courses virtually, and the other way around. During the second year, students choose one of the following specialisation tracks:

- Combined Energy Systems at KTH Royal Institute of Technology
- Energy-to-X and CO2 management at PoliTo Politecnico di Torino
- Innovation in Energy Systems at TU/e Eindhoven University of Technology
- Offshore Energy Systems at IST Instituto Superior Técnico
- Digital Energy Systems at UPC Universitat Politècnica de Catalunya
- Sustainable Biomass Processing at Aalto University
- Sustainable Energy Systems at AGH University of Science and Technology

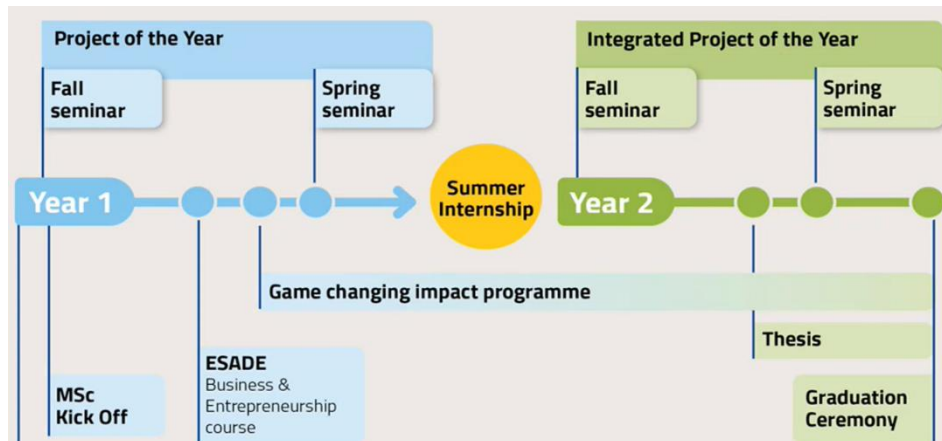
All students work on a Master's thesis project worth 30 ECTS and undertaken in collaboration with industry, research or NGO partners.

Additionally, all students take the "Entrepreneurship Integrated Programme" (EIP) during their degree. The EIP involves several seminars offered by ESADE Business School, and two projects developed by students, one in the first and one in the second year of studies. For the first project, one of SELECT's industry partners provides students with a real-life challenge to work on. Students work in small teams throughout the year to find solutions for these challenges

and take part in on-site visits to the facilities of the programme's industry partners. In the second year, students decide on their own EIP project based on topics identified during their first year of study.

The programme includes several events where all SELECT students meet in person:

- A kick off meeting;
- **Fall Seminar 1:** ESADE courses and introduction of the EIP project of the year;
- **Spring Seminar 1:** ESADE courses and presentation of the developments in the project of the year;
- **Fall Seminar 2:** ESADE courses and presentation by students of their project topic for the second year. First year students are also present, as this is their Fall Seminar 1;
- **Spring Seminar 2:** Final project presentation for second year students. First year students follow the schedule of their Spring Seminar 1.



Source: SELECT syllabus



Pedagogical aspects of the programme

Student support: The **InnoEnergy Career Centre** provides support and career guidance to students and graduates of SELECT programme. First year students from all EIT Innoenergy master programmes meet at the **EIT Innoenergy Connect** where they can meet their peers from other programmes and network with universities and companies.

Students are given a budget to develop their EIP projects, which they can spend to develop a prototype, visit a target community, buy supplies etc.

Digital infrastructure: Joint application platform run by EIT Innoenergy for potential students. Special conference classrooms for hybrid teaching at UPC and KTH.

Innovative pedagogies/flexible learning: **Battle of Green Talent** is an online entrepreneurship competition designed for students from all EIT InnoEnergy master programmes. For 6 months, students transform their ideas into business proposals while competing with peers, interacting with virtual investors from top business schools around the world and getting advice from experienced business development professionals. The best team wins a package with a cash prize of €10,000 and a voucher worth €5,000 to benefit from start-up incubation services of EIT InnoEnergy.

Teacher support: EIT Innoenergy organises an annual teacher conference where teachers from all six EIT Innoenergy master programmes meet and discuss their challenges and achievements.



Quality assurance

External quality assurance is largely based on the EIT label requirements. EIT grants EIT Innoenergy the right to issue the label and renews this right based on evidence that the EIT Innoenergy Master School implements the guidelines outlined in the EIT Label Handbook.

Lessons learned

Programme strengths: Three important strengths of the programme are (1) the **integration** efforts of students on different study tracks/host institutions (2) the **links between theory and practice**, and (3) the addition of a **partner specialised in entrepreneurship training**:

- (1) SELECT has developed several innovative approaches to keep students connected and interacting with each other even though they are in different locations. These range from hybrid teaching in the first year to group projects where students from different study tracks work together throughout the year. The many in-person events ensure the connection and allow for students from different cohorts to interact.
- (2) Students are working on real challenges throughout the programme in their EIP projects. They get a chance to interact with business partners and visit their facilities. They can also do their theses in collaboration with industry and NGOs.
- (3) Including ESADE Business School as the responsible for the Entrepreneurship Integrated Programme ensures that students receive the same high quality learning experience and that the EIP module is prioritised in the curriculum as a separate parallel path.

A key challenge to the collaboration is the organisation of the first year of studies, which requires very strong alignment between partner universities in order to run the hybrid classes. Additionally, decision-making within the programme can be challenging, since there are many partners involved.

Assessment of transferability to EMOS

Similarities:

- (1) Both programmes have strong **interaction with external stakeholders**/employers.
- (2) The **degrees offered** are similar, with EIT Digital master school awarding a label in addition to a university degree issued by partner universities, as does EMOS.
- (3) Both EMOS and SELECT offer **labels** that are issued by an EU institution, which defines the learning outcomes to be implemented by partner HEIs.

Differences:

- (1) SELECT programme has a mandatory **hybrid** component where all students take online classes at a partner university.
- (2) There are many more opportunities for students to **meet in person** in the SELECT programme.



Recommendations to EMOS

- (1) EMOS could benefit from reinstating/creating more opportunities for interaction of all EMOS students, potentially providing funding opportunities. This could make the programme more attractive to potential students and would allow current students to benefit from the international network associated with the EMOS label.
- (2) Students could present the development of their traineeships and master theses in events that involve other EMOS labelled programmes and students from other cohorts.
- (3) EMOS could establish a centralised fee to cover all potential events and study trips, with scholarships available.

References

EIT Label handbook. Available at: <https://eit.europa.eu/library/eit-label-handbook-2021>

SELECT Syllabus. Available at: <https://www.innoenergy.com/for-students/master-school/master-s-in-sustainable-energy-systems/>

YUFE Student Journey

<https://yufe.eu/students/>

Young Universities for the Future of Europe (YUFE) is one of the European Universities Alliance launched in 2019 and formed of ten young research-intensive universities and two non-academic partners funded by Erasmus+. The Student Journey is one of the core elements of their educational offer. It is a student-centred, open curriculum track jointly offered by all alliance partners and rewarded with a diploma supplement. With this programme, the alliance is taking the first steps to gather experience for its first two-year European Degree. Unlike a regular exchange, students can combine their academic endeavours with language courses, professional training and civic engagement.

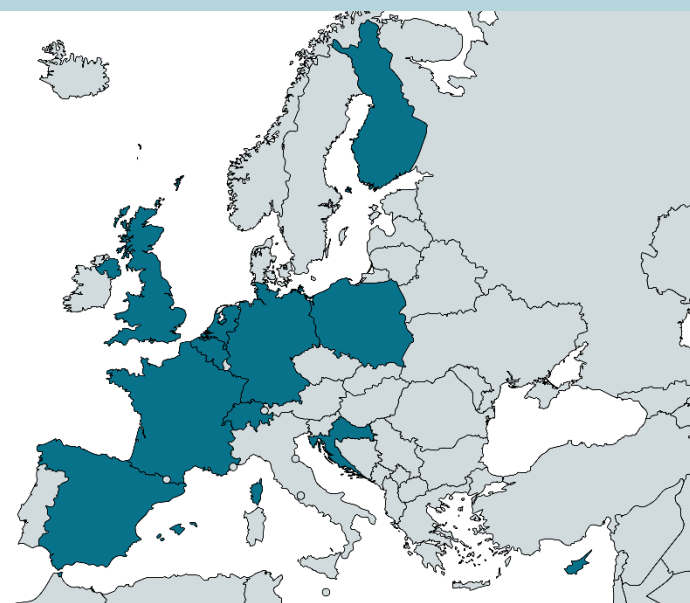


Participating organisations

- Maastricht University (NL)
- Nicolaus Copernicus University (PL)
- Universidad Carlos III De Madrid (ES)
- University of Antwerp (BE)
- University of Bremen (DE)
- University of Cyprus (CY)
- University of Eastern Finland (FI)
- University of Essex (UK)
- University of Rijeka (HR)
- Université Sorbonne Nouvelle (FR)
- ETS Global (International Organization)
- The Adecco Group (CH-FR)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Can be obtained at any level of studies (BA/MA/PhD).

Target groups: All students from the YUFE alliance.

Workload/duration: 12 ECTS, flexible duration.

Language of instruction: English and languages of all partner universities (Spanish, Croatian, German, Dutch, Finnish, French, Polish and Greek).

Degree type/Label/Recognition: 12 ECTS as a diploma supplement.

Started: 2020 as a YUFE Diploma Supplement.

Topics covered: European identity and responsibilities in a global world, citizens' well-being, digital societies, sustainability and other topics.

Dedication: Part-time

Teaching methods and format: Onsite and online

Fees and financial support: Fees depend on the home institution. Students going on a physical exchange can apply for mobility funding. No fees or financial support for virtual courses.



Over **860**
students
since 2020

On average, YUFE students enrol in **5,5**
courses and/or activities during their
YUFE Student Journey and go to **3**
other YUFE partners across
Europe to complete them

Students have participated in more
than **5500** online and onsite YUFE
courses/activities

Key aspects of the collaboration

Collaboration arrangements: Inter-institutional Erasmus+ agreement for student and staff mobility between the partners and an Alliance consortium agreement as part of the collaboration through the European Universities initiative.

Function/role of partners: the partner universities share the information on available courses on the Virtual Campus and cooperate on organising physical mobility.

Links to national and supranational policies and initiatives: the European Universities initiative and the Young European Research Universities Network (YERUN) are the main umbrellas bringing together the consortium to work collaboratively on diverse initiatives.

Curricular components

To complete the YUFE student journey, students must obtain a minimum of 12 ECTS for online, physical or blended academic courses at another YUFE partner, obtain a minimum of two YUFE Stars (a “badge” awarded as a recognition of participation in extracurricular activities), participate in at least three lectures by the YUFE Academy, and take part in all YUFE's induction courses on the YUFE Virtual Campus.

YUFE Stars are gained by:

- Undertaking physical, blended or virtual mobility (Mobility Star);
- Learning a language (Language Star);
- Taking up volunteer work (Civic Star)
- Following professional training (Professional Star).

At YUFE, it is important to acknowledge, beyond academic performance, the effort in mobility, language learning, professional training, job shadowing, and community service. YUFE Star System is an innovative recognition system for these extracurricular activities with specific and personalised learning goals reflected in a Personal Development Plan that goes beyond academic education in a European University setting. At the moment, the YUFE Star System is open to students only, but the groups of learners will be enlarged in the near future.



Pedagogical aspects of the programme

Student support: Online open days, personal development plan once the student is enrolled, mobility offices in partner universities.

Digital infrastructure: fully functional YUFE Virtual Campus for online delivery of the joint alliance curriculum

Innovative pedagogies/flexible learning: the students are able to design a personalised/open curriculum/open for their YUFE Student Journey.

Teacher support: staff training opportunities, meetings to exchange best teaching practices, and staff mobility through a blended intensive program to engage teachers.



Quality assurance

The YUFE alliance works with existing accredited programmes. YUFE Student Journey utilises existing academic courses so there is no additional layer of quality assurance necessary next to what is already delivered at partner universities. The cooperation within YUFE started from the YERUN network (Young European Research Universities Network) of which seven of YUFE's academic institutions are part, which has already allowed them to work together on several joint activities.

Lessons learned

Programme strengths:

- (1) The YUFE Student Journey is attractive because of the offer of flexible learning pathways which allow students to shape their own curriculum;
- (2) Incorporating and recognising personal and professional development activities such as language learning, civic engagement, and work experience as part of the academic curriculum is significant for students;

Key challenges to the collaboration:

- (1) Differences between partner universities and national contexts (academic calendars, different legal and national regulations that govern cooperation and mobility, different educational requirements and degree accreditation);
- (2) Transition from a more traditional bilateral mobility to a broader, multilateral mobility;
- (3) Limits on physical mobility (time and funding);
- (4) Consolidating a shared Virtual Campus connecting the student and learning management systems of 10 partners.

Assessment of transferability to EMOS

Similarities:

- (1) Qualification awarded as a supplement/component of an existing diploma;
- (2) Incorporates professional skills development.

Differences:

- (1) The Student Journey is organised through a European Universities alliance which receives European and national funding for its activities and closely cooperates on various aspects of education rather than just a component of the curriculum;
- (2) YUFE's added value is the opportunity to broaden thematic horizons while EMOS offers a specialisation.



- (1) Building on prior cooperation experiences to establish new ways of collaborating helps overcome some initial hurdles and makes collaboration smoother and more effective from the beginning. YUFE alliance has emerged from previous international bilateral and multilateral cooperation through Erasmus+, YERUN and other initiatives/organisations;
- (2) Flexible learning pathways make the programme more inclusive and attractive to students who can shape it according to their academic needs and personal circumstances;
- (3) Instead of starting with a joint degree, it could be more effective to start with small-scale joint mobility and collaboration initiatives that can be scaled up to a joint degree. It is easier to organise and paves the way for more extensive collaboration efforts.

References

YUFE Alliance. Interview with YUFE staff. March, 2023.

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MSc Programme in Sustainable Energy Technology

<https://www.dtu.dk/english/education/graduate/joint-international-programmes/all-programmes/sustainable-energy-technology>

This master's degree is offered by the Technical University of Denmark (DTU) and Eindhoven University of Technology (TU/e), also known as DTU-TU/e 1:1 MSc Programme. It is organised under the umbrella of the EuroTech European Universities Alliance. Students spend one year at DTU and one year at TU/e. As a result, they obtain a MSc degree from the university where they are enrolled as full-degree students and receive a diploma from one institution plus an additional certificate of participation in the joint programme.



Participating organisations

- Technical University of Denmark (DTU)
- Eindhoven University of Technology (TU/e)



Geographical distribution



Key parameters of the programme

Level/type of qualification: Master

Target groups: TU/e students enrolled in the MSc Sustainable Energy Technology and DTU students enrolled in the MSc programme in Sustainable Energy.

Dedication: Full-time, 120 ECTS.

Workload/duration: 2 years.

Language of instruction: English/ Danish/ Dutch.

Topics covered: Sustainable energy energy conversion and storage.

Fees: DTU € 15.000/year; TU/e € 16.700/year for non-EU students; scholarships available.

Teaching methods and format: Onsite.

Degree type/Label/Recognition: MSc. The diploma includes both universities and is supplemented by a special insert which describes the participation in the DTU-TU/e 1:1 MSc programme.

Key aspects of the collaboration

Collaboration arrangements: Erasmus+ exchange agreement between both institutions.

Function/role of partners: Providing teaching, research facilities and thesis co-supervision to students of both institutions.

Links to national and supranational policies and initiatives: The programme is organised through the European Universities alliance EuroTeq, which includes both DTU and TU/e as members. EuroTeq comprehends six leading universities of science and technology, aiming to be the leading Europe-wide eco-system for collaborative responsible value creation in technology.

Curricular components

The programme consists of three semesters of coursework and a master's thesis. As part of their application for the DTU-TU/e 1:1 exchange program, students must prepare a study plan during the first semester to be approved by the programme coordinator, the intended thesis supervisor, and the examination committee of the home institution. The first two semesters are focused on general competences and a technological specialisation. In the third semester, students join a research group at the host institution (30 ECTS) and develop their research thesis (30 ECTS), which is co-supervised by academic staff of both DTU and TU/e. Students can gain 15 ECTS by opting for an internship instead of coursework.



Pedagogical aspects of the programme

Innovative pedagogies/flexible learning:

The programme aims to incorporate more online or blended teaching and learning.

Students create their own study plans based on pre-defined learning outcomes. Students are advised and receive feedback on their study plans from the programme coordinator, the intended thesis supervisor, and the examination committee of the home institution.

Student support: Students who work 10 hours a week in Denmark receive additional state support. There are also scholarships available for national and international students at both institutions.



Quality assurance

Internal quality assurance: each institution follows the annual internal quality assurance procedures. The study programmes of the students are approved by the programme coordinator, the intended thesis supervisor, and the examination committee of the home institution. Additionally, after completion of the studies, the programme coordinator checks the transcripts and transfers the credits from the partner institution.

External quality assurance: In the Netherlands, NVAO handles the quality assurance of the programme. Denmark has, as part of the Bologna Process, implemented the European Standards and Guidelines for Quality Assurance in the Higher Education Area (ESG), and all public higher education study programmes must meet these international quality and relevance standards.

Lessons learned

Programme strengths:

- (1) Flexible curriculum. Students can create their own personalised learning plans and have a wide range of choice of courses and/or research or internship opportunities;
- (2) Well-established collaboration between two universities through exchange agreements and consolidated study plans allows for seamless mobility and credit transfer allowing students to concentrate on their studies rather than administrative aspects;
- (3) Broad career prospects in the field of sustainable energy. Graduates can be employed for projects in companies developing and producing renewable energy technologies and energy conversion technologies, project design and the development and implementation of renewable energy projects for e.g., energy companies.

Key challenge to the collaboration:

- (1) Students must spend a year at each institution, which seems rather a long time in a two-year master's programme, considering they only get one degree.
- (2) Limited options of courses that students can take;
- (3) Simplifying the administrative process for applicant students;
- (4) Differences between the grading systems in partner institutions.

Assessment of transferability to EMOS

Similarities:

- (1) A programme that responds to the labour market needs and prepares highly qualified experts in a rather specific field (sustainable technology);
- (2) Focus on the practical skills training.

Differences:

- (1) Organised through the framework of the European Universities Alliance EuroTeQ;
- (2) Includes compulsory mobility and co-supervision



Recommendations to EMOS

- (1) Providing sufficient student support through exchange agreements and other measures to encourage student mobility between EMOS partner institutions.

References

Technical University of Denmark. (N.D.). Sustainable Energy Technology (TU/e) - joint international programme. <https://www.dtu.dk/english/education/graduate/joint-international-programmes/all-programmes/sustainable-energy-technology?accordion=2>

Technical University of Denmark. Interview with programme staff. April and June, 2022.

European Master's in Translation (EMT)

https://commission.europa.eu/resources-partners/european-masters-translation-emt_en

EMT is a quality label for master's programmes in translation launched in 2006 and awarded by the Directorate-General for Translation (DGT) of the European Commission. This initiative enhances the quality of translation education and increases translators' availability in the market throughout the European Union.

The EMT's main objective is to improve the quality of translator training and enhance the job prospects of young language professionals. To achieve this, the EMT has developed the EMT Competence Framework, a set of competencies designed by European experts that translators need to succeed in the market. Many universities in the EU and beyond use this framework as a guide when designing their programmes.

The main support that the EMT offers to its network partners is sponsored EMT meetings, support from EMT-dedicated teams and DGT experts, direct cooperation with the language industry, funding for EMT board meetings, state-of-the-art technology support, insights and motivations to build partnerships, first-hand information from the DGT, support for knowledge sharing, participation in dedicated working groups, and additional benefits for students (participation in the Translating Europe Forum and traineeships).

DG Translation registered the EMT at the European Union Intellectual Property Office (EUIPO) as an EU trademark under application number #010341601, category Advertising, Business Management, and Education, Training, Entertainment, Sports and Cultural Activities. This register aims to protect the EMT's established meaning and relevance and to avoid unwarranted claims from third parties,

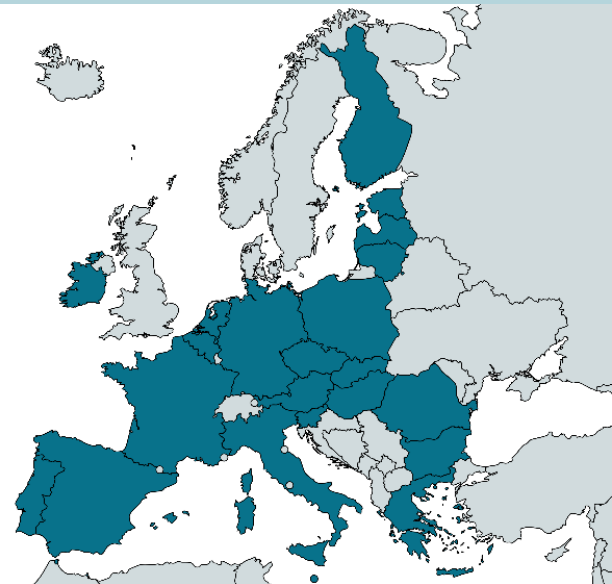


Participating organisations



Geographical distribution

- Austria (1 programme)
- Belgium (10 programmes)
- Bulgaria (3 programmes)
- Czechia (1 programme)
- Estonia (1 programme)
- Finland (3 programmes)
- France (15 programmes)
- Germany (1 programme)
- Greece (1 programme)
- Hungary (1 programme)
- Ireland (4 programmes)
- Italy (4 programmes)
- Latvia (3 programmes)
- Lebanon (1 programme)
- Lithuania (2 programmes)
- Malta (1 programme)
- Netherlands (2 programmes)
- Poland (4 programmes)
- Portugal (3 programmes)
- Romania (1 programme)
- Slovakia (1 programme)
- Slovenia (1 programme)
- Spain (6 programmes)



Key parameters of the label

Level/type of qualification: master's degree quality label.

Target groups: masters programmes in translation

Topics covered: Translation.

Fees: up to each programme.

from EU countries and EU candidate countries/potential candidates, European Neighbourhood Policy and European Economic Area countries.

Workload/duration: between 60 and 120 ECTS.

Language of instruction: diverse.

Teaching methods and format: diverse.

Degree type/Label/Recognition: Master's.



Label statistics

68 institutions members
of the EMT network

70 EMT labelled
programmes

83% of the EMT programmes reported
positive changes in their quality as an effect of
EMT label (2022)

Key aspects of the collaboration

Collaboration arrangements: Members of the EMT network are selected based on calls for applications conducted every five years. Programmes must meet the EMT standards: coverage of the key competences according to the EMT Competence Framework, programme structure, sustainability, and career support and monitoring.

Function/role of partners: Members receive a membership certificate and sign the EMT charter, which sets out their obligations as EMT members. EMT Network members can use the EMT name and logo as a quality label to promote their master's programmes. Network members also participate in diverse activities and working groups organised by the EMT.

Links to national and supranational policies and initiatives: The EMT initiative is led by the Directorate-General for Translation (DGT), which translates texts for the European Commission into and out of the EU's 24 official languages. As an employer, stakeholder, and leader in the topic, DGT fosters the harmonisation and exchange of practices in translation studies in Europe and beyond. For this purpose, the EMT foster the annual Translating Europe Forum. In the broader context of the Bologna process, the initiative serves as a model for its approach to convergence in European higher education.

Curricular components

The curricular components of the EMT are defined by the EMT Competence Framework, which "aims to consolidate and enhance the employability of graduates of master's degrees in translation throughout Europe". It sets out a common set of learning outcomes for EMT master's degree programmes, described in terms of the general competences and specific skills that their graduates are expected to possess. The EMT framework has five main areas of competence:

- Language and culture: Transcultural and sociolinguistic awareness and communicative skills.
- Translation: Strategic, methodological and thematic competences.
- Technology: Knowledge and skills of tools and their applications.
- Personal and interpersonal: Soft skills that enhance graduate adaptability and employability.
- Service provision: skills related to translation implementation in professional contexts, from clients' awareness to project management.

The EMT Competence Framework has now become a leading reference standard for translator training throughout the

European Union and beyond, both in academia and industry.

Once the EMT labels a programme, they are officially awarded the label in a ceremony and receive the documentation to add to their official documents. Additionally, the programmes can issue a supplement to their master's degrees that mentions that the awarding institution is an EMT member.



Quality assurance

Internal quality assurance: EMT considers an added value that programmes applying to the label have in place an effective quality assurance system. However, it is up to each programme how they implement their quality assurance mechanisms.

External quality assurance: The EMT label acts as a proxy for quality. It shows that translation programmes meet international standards regarding curriculum, teaching, professional preparation, infrastructure and facilities. The quality standards are set by the EMT Board, a selected group of experts representing member universities and the DGT. Applications to EMT label are evaluated by academic experts assisted by representatives of the language industry who are members of the LIND (Language INDustry) expert group.

Lessons learned

Label strengths:

- (1) Wide and consolidated recognition as a quality label for translation programmes in Europe and beyond.
- (2) Provision of a transnational and comprehensive Competence Framework serving as a reference for diverse institutions in the implementation of their programmes.
- (3) Focus on employability aligning training programmes with the current needs of the translation market.
- (4) Flexible program parameters that allow labelling a wide range of master's programmes in diverse education systems.
- (5) Leadership in harmonisation and exchange of practices in translation studies in Europe and beyond.

Key challenges to the collaboration:

- (1) Five-year selection cycles that may lead to delays in incorporating new developments.
- (2) Varied quality of the individual programmes due to the diversity in teaching methods, program structures, and formats.
- (3) Potential risk of standardization over innovation.

Assessment of transferability to EMOS

Similarities:

- (1) Use of the "label strategy" to interact with master programmes.
- (2) Implementation of diverse supporting activities for stakeholders.
- (3) Facilitation of university-industry cooperation and engagement of industry stakeholders.

Differences:

- (1) Broader scope in the number of programmes and requirements to grant the label.
- (2) Use of a competence framework as the basis for granting the label.
- (3) Use of the label as an external quality assurance mechanism.
- (4) EMT requires their labelled programmes to implement career support and graduate monitoring mechanisms.



Recommendations to EMOS

- (1) The introduction of flexible requirements for granting the label can enhance the number of labelled programmes with the label, which would broaden the network of official statistics master's programs across European countries.
- (2) EMOS can use the label prestige to become an external quality mechanism. This implies transitioning to a quality assurance body by changing EMOS learning outcomes for flexible standards in the form of a framework and implementing external assessment procedures.
- (3) Graduate monitoring mechanisms can be required as a selection criterion for awarding EMOS labels as a strategy to measure graduate employment and the label's effectiveness.

References

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European Commission. (N.D.). European Master in Translation (EMT). https://commission.europa.eu/resources-partners/european-masters-translation-emt_en

European Joint Master's in Strategic Border Management - EJMSBM

<https://op.europa.eu/en/publication-detail/-/publication/11bef818-523d-11e7-a5ca-01aa75ed71a1/language-en>

The EJMSBM programme was developed by the European Agency for the Management of Operational Cooperation at the External Borders (FRONTEX) in collaboration with six partner universities and more than 20 EU border guard training organisations and academies. It supports a European-integrated strategic approach to border management. It aims to apply management and organisational development principles to provide police and other agents responsible for ensuring security at the borders of the EU with scientific tools, based on the skills and competencies they need. It promotes harmonisation and interoperability of border and coast guard activities at the EU level by training future leaders under common learning standards, philosophy, and values¹.

EJMSBM fills the current gap in border guard education in the EU, as there is no higher education programme at the master's level on strategic border management for mid and high-level border guard officers. It allows Member States to qualify and promote professional development for their officers within a common European framework. It is also a mechanism to streamline high-level education initiatives and costs within a coordinated approach to avoid overlaps or inconsistencies in training. From a European perspective, EJMSBM is a highly cost-effective investment in European border guard executive education since it engages present and future leaders in discussions and co-creation of solutions for current challenges in border management at the EU level².

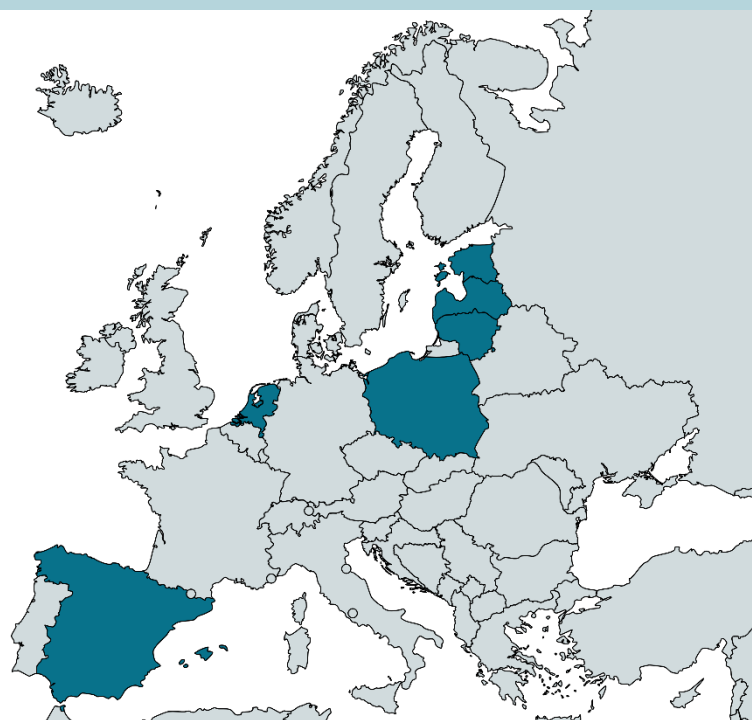


Participating organisations



Geographical distribution

- FRONTEX, European Border and Coast Guard Agency (PL)
- Estonian Academy of Security Sciences (EE)
- Rezekne Academy of Technologies (LV)
- Mykolas Romeris University (LT)
- Netherlands Defence Academy Faculty of Military Science (NL)
- Royal Netherlands Marechaussee Training and Expertise Center (NL)
- National University for Distance-Learning Education (ES)
- State Border Guard College (LV)
- Guardia Civil Officers' Academy (ES)
- University of Salamanca (ES)
- National Police Force (ES)



Key parameters of the programme

Level/type of qualification: level 7 of the Sectoral Qualifications Framework for Border Guarding.

Target groups: students with a minimum of three years of experience in operational border guarding functions, in middle management positions.

Workload/duration: 18 months, 90 ECTS.

Language of instruction: English

Started in 2012

Topics covered: Social sciences, public security, management.

Dedication: Full-time.

Teaching methods and format: Blended.

Fees: Fees and mobility costs covered by FRONTEX.

Degree type/Label/Recognition: Joint Master's degree awarded by all HEIs involved.



6 higher education institutions involved.

20+ border guard stakeholders involved

30 positions available in cohorts 2015 and 2017, and **40** for 2021.

Key aspects of the collaboration

Collaboration arrangements: Higher education institutions equally participate in the design, validation, and implementation of EJMSBM, and shared governance, which has distributed roles across the consortium in management and quality assurance responsibilities.

Links to national and supranational policies and initiatives: Involvement of diverse national authorities in border management in the co-design and delivery of EJMSBM. Students with border management responsibilities from diverse EU countries.

Links to national and supranational policies and initiatives: FRONTEX promotes operational cooperation among the national authorities working in border management and supports the training and education of national border guards by establishing common training standards at the European level.

Curricular components

- (1) Stage 1: General topics needed for the master.
 - a. Module 1: Strategy, planning, and evaluation in border guarding. (5ECTS)
 - b. Module 2: Fundamental rights and ethics in European border security management. (5ECTS)
 - c. Module 3: Leadership and organisational development in border management (5ECTS)
 - d. Module 4: EU borders policies and strategies (5ECTS)
 - e. Module 5: Innovation and technology in border security. (5ECTS)
 - f. Module 6: Researching management practices in border security. (5ECTS)
- (2) Stage 2: Topics for deepening knowledge about border management.
 - a. Module 7: The global context of European border security. (5ECTS)
 - b. Module 8: Strategic risk and threat management for European border security. (5ECTS)
 - c. Module 9: Cooperation in strategic border management. (10ECTS)
 - d. Module 10: Researching integrated practices in border management. (10ECTS)
- (3) Stage 3: Dissertation. (30ECTS)



Pedagogical aspects of the programme

Student support: academic and non-academic advice, orientation to the programme (Module 0), mentorship, financial support for travel and accommodation, and alumni programme.

Innovative pedagogies/flexible learning: blended learning and student-centred approach, recognition of prior learning, peer-learning, group work, formative assessments

Digital infrastructure: Information about the EJMSBM and relevant policies are available online and in Moodle and are regularly updated.



Internal quality assurance: Quality assurance responsibilities are distributed among the participant HEIs. It is monitored at the programme and module levels and focuses on four main pillars: learning outcomes, degree *studiability*, learning and assessment strategies, and consistency of delivery. The program has an Academic Council and Governance Board that supervises the Programme Board, Module Board, and Exam Board in charge of specific quality assurance functions.

External quality assurance: The Accreditation Organisation of the Netherlands and Flanders (NVAO), included in the Register of European Quality Assurance Agencies for Higher Education (EQAR), accredited the programme³. Under the European Consortium for Accreditation in higher education (ECA) Assessment Framework for Joint Programmes in Single Accreditation Procedures developed through the JOQAR (Joint programmes: Quality Assurance and Recognition of degrees awarded) project.

Lessons learned

Programme strengths: Three important strengths of EJMSBM are (1) the **consolidation of a European Integrated Strategic Approach** to border management, (2) the **high level of collaboration and cooperation among stakeholders**, and (3) a **strong link between theory and practice**, allowing for the strengthening of border management as a research field. The main lessons learnt were:

- (1) EJMSBM has contributed to the development of common European learning standards for border guard officers (“common core curricula”), to contribute to the development of a common culture and approach to European border security.
- (2) EJMSBM developed a strategic approach to professional training to strengthen the national capacities of the Member States (MS), reinforcing the European dimension of training.
- (3) EJMSBM brings together stakeholders of diverse border guard organisations to co-create relevant solutions to European border security and the sending national border guard organisations, ultimately contributing to the policymaking process at the EU level.

Key challenges to the collaboration are the alignment of EJMSBM with the training systems of a high number of countries, offering a “truly joint degree” with shared responsibilities without a “home university” role, which is fulfilled by FRONTEX, and the sustainability of EJMSBM beyond the funding period (6 years).

Assessment of transferability to EMOS

Similarities:

- (1) Purpose of connecting stakeholders in a specific field at the national and EU level
- (2) High level of involvement and cooperation among stakeholders.
- (3) A strong focus on quality assurance as a measure to guarantee the quality of the education offered under their responsibility.

Differences:

- (1) EJMSBM focuses on developing cooperation and joint approaches at the EU level whereas EMOS fosters collaboration mostly at the local level.
- (2) Nature of programme: EJMSBM is a joint European master's degree jointly delivered, while EMOS is a label delivered independently by diverse HEIs.
- (3) Target groups: While EMOS is open to junior profiles, EJMSBM focuses on mid- and high-level profiles.



- (1) Considering a joint degree approach awarded by diverse HEIs as a strategy to increase the attractiveness of the programmes offered by EMOS Label.
- (2) Promoting greater collaboration at the EU level in the delivery of EMOS-labelled programmes as a strategy to bring the stakeholders together to develop European approaches to official statistics.
- (3) Enhancing flexibility by recognising prior learning to address the diverse needs of students and higher education institutions.
- (4) Incorporating blended learning in certain modules to ensure dynamic and responsive educational experiences.

References

¹ Frontex, European joint master's in strategic border management – Excellency in border guard leadership, Frontex, 2017, <https://data.europa.eu/doi/10.2819/69077>

² Peres, A. (2017). European Joint Master's in Strategic Border Management: a reflective history. In Single Accreditation of Joint Programmes: Turning the Bologna Guideline into Reality. Conference Report. <https://www.frontex.europa.eu/assets/Publications/Training/EJMBSM-Conference-report-2017.pdf>

³ NVAO. (2020). European Joint Master's in Strategic Border Management (EJMSBM). <https://www.mruni.eu/wp-content/uploads/2022/09/2021-m-NVAO-ekspertinio-vertinimo-issvados-pdf>