This activity has received funding from European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

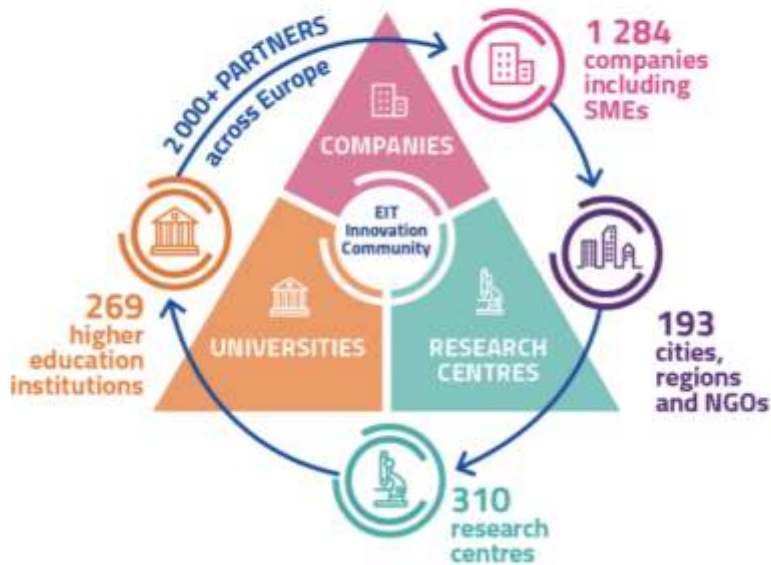# EIT-Manufacturing

@ Politecnico di Milano

Double Degree Programme

EIT

The European Institute of Innovation and Technology (EIT) is a unique EU initiative that drives innovation across Europe by integrating business, education and research to find solutions to pressing global challenges.

EIT supports the development of dynamic, long-term European partnerships among leading **companies**, **research labs** and **higher education**.

EIT Digital

EIT Urban Mobility

EIT Manufacturing

EIT Climate

EIT Food

EIT Raw Materials

EIT InnoEnergy

EIT Health

Europe's largest innovation community

2 000+ PARTNERS across Europe

COMPANIES

UNIVERSITIES

RESEARCH CENTRES

EIT Innovation Community

1 284 companies including SMEs

193 cities, regions and NGOs

269 higher education institutions

310 research centres

EIT Climate-KIC — Working to accelerate the transition to a zero-carbon economy

EIT Digital — Driving Europe's digital transformation

EIT Food — Leading a global revolution in food innovation and production

EIT RawMaterials — Developing raw materials into a major strength for Europe

EIT InnoEnergy — Achieving a sustainable energy future for Europe

EIT Health — Giving EU citizens greater opportunities to enjoy a healthy life

EIT Manufacturing — Strengthening and increasing the competitiveness of Europe's manufacturing industry

EIT Urban Mobility — Smart, green and integrated transport

EIT label double degree

The EIT Manufacturing Master's (EIT-M) is designed to attract and empower top talents preparing them to become leading innovators and entrepreneurs in manufacturing
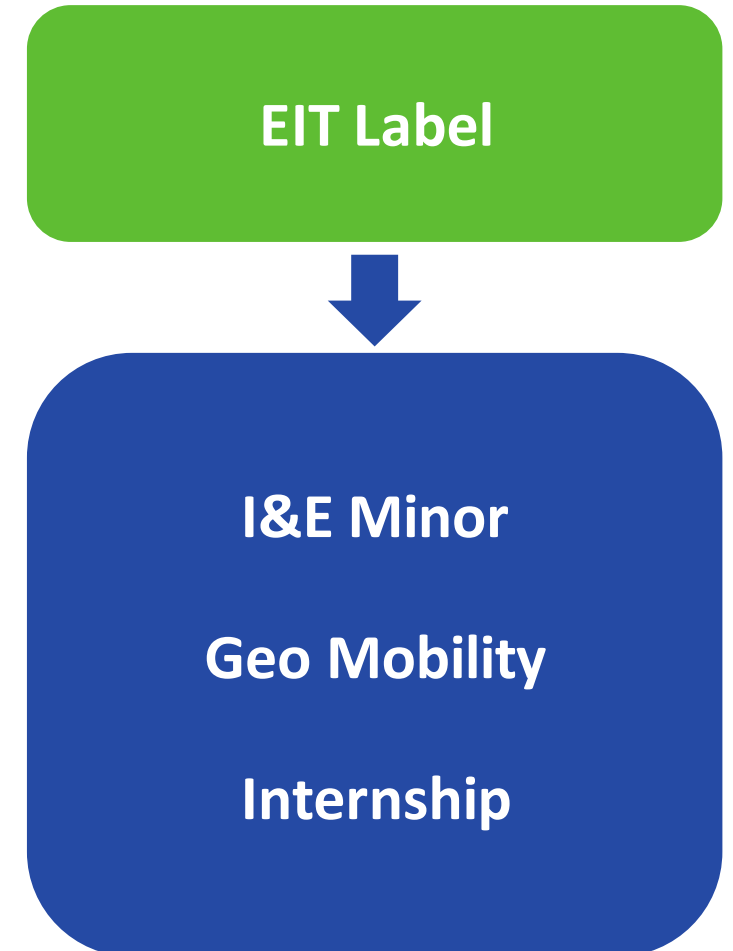
The education programmes will provide innovative, customised and industry-driven knowledge and the ultimate skills.

The EIT Manufacturing Master training Program offers **mobility**, **mentorship**, **networking**, **innovation & entrepreneurship** including relevant trainings on how to develop a business model, **business case**, **testimonials and tours**, Industrial involvement and **Internships**, etc.

As a EIT Manufacturing Master Graduates you will be able to generate start-ups or innovation within manufacturing companies and ecosystem, contributing to European competitiveness, environmental sustainability and to the creation of new jobs.

EIT Label

I&E Minor

Geo Mobility

Internship

The EIT Manufacturing Master School

Four different programmes are on offer through the EIT-M Master School at a consortium of European universities.

Aalto University
School of Engineering

CENTRALE
NANTES

Mondragon   Goi Eskola Politeknikoa
Unibertsitatea   Faculty of Engineering

POLITECNICO
MILANO 1863

University of Applied Sciences and Arts
of Southern Switzerland

SUPSI

TECHNISCHE
UNIVERSITÄT
WIEN
Vienna | Austria

UCD
DUBLIN
University College Dublin
Ireland's Global University

o **People and Robots for Sustainable Work**

combining manufacturing science, robotic system physics and control system automation, including the design of customized manufacturing processes and production management.

o **Additive Manufacture for Full Flexibility**

combining manufacturing science, physics of additive manufacturing processes, mechanical design to exploit the design freedoms for more customized products and services, and production management

o **Zero-Defect Manufacture for a Circular Economy**

Combining manufacturing science physics of equipment and processes, data analytics, and process management including the flexibility enabled for smaller lot production.

o **Platforms for digitalized value networks**

Combining manufacturing science including the usage and adoption of advanced digital solutions and platforms.

The EIT Manufacturing Master School

Four different programmes are on offer through the EIT-M Master School at a consortium of European universities.

- People and Robots for Sustainable Work   -   Not @ POLIMI
  combining manufacturing science, robotic system physics and control system automation, including the design of customized manufacturing processes and production management.

- **Additive Manufacture for Full Flexibility   -   @ POLIMI MSC Mechanical Engineering**
  combining manufacturing science, physics of additive manufacturing processes, mechanical design to exploit the design freedoms for more customized products and services, and production management

- Zero-Defect Manufacture for a Circular Economy - @ POLIMI next opening in 2022
  Combining manufacturing science physics of equipment and processes, data analytics, and process management including the flexibility enabled for smaller lot production.

- **Platforms for digitalized value networks -   @ POLIMI MSC Management Engineering**
  Combining manufacturing science including the usage and adoption of advanced digital solutions and platforms.

The EIT Manufacturing Master School

Students move from their entry university at the end of the first year to their exit university in a different country for the second year. The language of instruction throughout is English.

EIT-M programme graduates are awarded two Master degrees - one from each university. An EIT Label certificate is also conferred to participants who have followed one of the 4 programmes (with international mobility), taken part in the Innovation & Entrepreneurship courses (in particular the summer school) and successfully completed an internship in industry.

The EIT-M, which is set to **welcome its first intake of students in September 2021,** will be one of the main assets of the EIT Manufacturing innovation communities, spreading innovation and creating new business in the manufacturing ecosystem.

EIT-M Master Programme

Type of modules	Total ect for EIT-M Master	Total ects 1st year	Total ects 2nd year
Technical courses (TC)	45	40-50	10-20
Specialization courses (SC)	15		
Innovation & entrepreneurship courses (I&E) including Summer school (5ects)	30	10-20	10-20
Master thesis (MT)	30	0	30
Tot	120	60	60

MASTER SCHOOL **JOURNEY MAP**

Additive Manufacture for Full Flexibility

@ POLIMI MSC Mechanical Engineering

Additive Manufacturing for Full Flexibility (AM) is a combination of studying **manufacturing science including physics of additive manufacturing processes**, **mechanical design including exploiting the design freedoms enabled for more customized products and services**, and production management including the flexibility enabled for smaller lot production.

Typical application areas of AM include rapid prototyping, flexible pattern and mold manufacturing, lightweight systems, and flexible manufacturing systems. During the programme students will gain new skills in these areas.

Additive Manufacture for Full Flexibility

A student who graduates from the Additive Manufacturing for Full Flexibility (AM) shall be able to:

- **critically, independently and creatively participate in strategic work** to meet manufacturing-related problems and to be able to relate these measures to sustainable social development,

- **implement the gained engineering expertise in AM** to create new or improved methods, techniques, products, and services in the field;

- **think beyond traditional disciplinary boundaries** to find innovative solutions to real-world problems and to come up with new ideas;

- **draw up plans and to make decisions foreseeing** future consequences from a scientific, ethical, and societal perspective;

- **turn innovations** in the area into feasible and successful business solutions

- **profitably work in teams and contexts** by taking into account all relevant elements and **showing effective decision-making and leadership abilities**.

Additive Manufacture for Full Flexibility

1st year @ POLIMI
Draft plan

Type of modules	POLIMI courses	ECTS	Sem.	Total credits
TC	ADVANCED MANUFACTURING PROCESSES	10	1	36
	APPLIED METALLURGY	6	1	
	CONTROL AND ACTUATING DEVICES FOR MECHANICAL SYSTEMS	9	1	
	MEASUREMENTS	5	2	
	MACHINE DESIGN	6	2	
SC	ADDITIVE MANUFACTURING	8	1	8
I&E	DESIGN & MANAGEMENT OF PRODUCTION SYSTEMS or LEADERSHIP & INNOVATION	10	2	16
	MANAGING TECHNOLOGY DISRUPTION	6	2	
I&E	CENTRALLY ORGANIZED SUMMER SCHOOL	5	2	5

Platforms for digitalized value networks

@ POLIMI MSC Management Engineering

The programme is a combination of studying **manufacturing science including the usage and adoption of advanced digital solutions and platforms**.
During the programme, students will gain new skills in these areas.
In Platforms for digitalized value Networks, **relevant fields include modelling and simulation, virtual prototyping, system engineering, industrial processes and operations**.

Students learn the latest theoretical knowledge and know how to apply their skills in practical real-life problems.
Typical application areas of Platforms for digitalized values networks: Cyber-physical systems (CPS), Information system management, digital monitoring.

Platforms for digitalized value networks

A student who graduates from the Platform for digitalized value network programme shall be able to:

- **have broad knowledge** of theories and concepts **in Cyber-physical systems** (CPS), **Information system management, digital monitoring**

- **critically, independently and creatively participate in strategic work** to meet manufacturing-related problems and to be able to relate these measures to sustainable social development,

- **implement the gained engineering expertise in AM** to create new or improved methods, techniques, products, and services in the field;

- **think beyond traditional disciplinary boundaries** to find innovative solutions to real-world problems and to come up with new ideas;

- **draw up plans and to make decisions foreseeing** future consequences from a scientific, ethical, and societal perspective;

- **turn innovations** in the area into feasible and successful business solutions

- **profitably work in teams and contexts** by taking into account all relevant elements and **showing effective decision-making and leadership abilities**.

Platforms for digitalized value networks

1st year @ POLIMI
Draft plan

Type of modules	POLIMI courses	ECTS	Sem.	Total credits
TC	INDUSTRIAL TECHNOLOGIES	10	1	30
	LOGISTICS MANAGEMENT	10	2	
	OPERATIONS MANAGEMENT	10	2	
SC	ACCOUNTING, FINANCE & CONTROL	10	1	10
I&E	LEADERSHIP & INNOVATION	10	2	20
	STRATEGY & MARKETING	10	1	
I&E	CENTRALLY ORGANIZED SUMMER SCHOOL	5	2	5

Apply to EIT-M Master School

APPLICATION PORTAL > **https://apply.eitmanufacturing.eu**

Remember to apply by the POLIMI Portal for MSC course, also.

A student can choose to apply to a **maximum of two (2) programmes, ranking them in the preferred order**.
Within each programme the student can choose up to three study tracks, meaning combinations of entry and exit universities, wherever available. The student has to upload the following documents, in pdf and portrait format, before the applications deadline. Specific information about the document requirements and format are available at the applications portal.

- DEGREE OR STATEMENT OF FINAL YEAR ENROLLMENT
- ENGLISH CERTIFICATE
- CURRICULUM
- MOTIVATION LETTER MAX 2 pages
- PASSPORT / ID COPY

Application Deadline March 9th

possible extension to March 15th

Scholarship awarding

SCHOLARSHIPS MAY INCLUDE:

MOBILITY GRANT | SUBSISTENCE COSTS SUPPORT | FEE WAIVERS

During the selection the student application will be evaluated according to the ranking of the programmes and respective three study track choices.

Once the selections are closed, the student will receive a written communication about his/her admission to the specific programme and study track.

Scholarships are awarded to a sub-set of students based on a ranking that considers:
- Academic grades
- Gender
- RIS countries citizenship
- Study track