



MSc

Additive Manufacture for Full Flexibility



Co-funded by the
European Union

Global manufacturing Innovation will be led by Europe

EIT Manufacturing's mission is to bring European manufacturing actors together in innovation ecosystems that add unique value to European products, processes and services and inspire the creation of globally competitive and sustainable manufacturing.

The European Institute of Innovation and Technology (EIT) is an EU body created in 2008 to strengthen Europe's ability to innovate. Today it is Europe's largest innovation ecosystem with over 2,000 partners.

The EIT supports the development of dynamic, long-term thematic partnerships (Knowledge and Innovation Communities, EIT KICs) among companies, research and higher education institutions, to face specific societal challenges.

Together with their leading partners across Europe, the EIT Community offers a wide range of innovation and entrepreneurship activities across Europe:

Entrepreneurial education courses, business creation and acceleration services and innovation driven research projects. The EIT Community helps innovators turn their best ideas into cutting-edge products, services and jobs for Europe.

Unique EIT model highlights:

- Provides access to a community that powers innovators through the entire innovation journey, from education to lab to market
- Embraces disruptive and incremental innovation and embeds entrepreneurial education activities in its innovation activities
- Business-oriented with strong focus on financial sustainability
- Delivers a pan-European bnetwork strongly anchored in local innovation ecosystems.

EIT Manufacturing is an Innovation Community within the European Institute of Innovation & Technology (EIT) – that connects the leading manufacturing actors in Europe. Fueled by a strong interdisciplinary and trusted community, we will add unique value to European products, processes, services – and inspire the creation of globally competitive and sustainable manufacturing.

EIT Manufacturing's approach is designed to immediately and forcefully address specific economic and societal challenges, leveraging opportunities to maximise the impact for a successful European manufacturing.

Our vision is that the global manufacturing innovation is led by Europe.

Our mission is to bring manufacturing actors of Europe together in innovation ecosystems that add unique value to European products, processes, services – and inspire creation of globally competitive and sustainable manufacturing.



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GENERAL INFORMATION

Locations: Austria, Finland, Ireland, Italy, Switzerland

Duration: 2 years

Application deadline: 1st March 2022

Language: English

Study Type: Campus

Pace: Full-time

What is this programme about?

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.



What are the obtained diplomas?

2 Master's Degrees (issued by the entry and exit universities)

An EIT Label Certificate

Entry University



University of Applied Sciences and Arts
of Southern Switzerland

SUPSI

Exit University



University of Applied Sciences and Arts
of Southern Switzerland

SUPSI



TECHNISCHE
UNIVERSITÄT
WIEN
Vienna | Austria

PARTNER UNIVERSITIES



**POLITECNICO
MILANO 1863**

Founded in 1863, Politecnico di Milano is one of the most outstanding universities in the world, ranked 20th in the World, 7th in Europe, and 1st in Italy, according to QS World University Ranking by Subject – Engineering & Technology 2020. The University, which trains engineers, architects and industrial designers, has always focused on the quality and innovation of its teaching and research, developing a fruitful relationship with business and productive world. It hosts the largest school of Engineering, Architecture and Design in Italy, with 2 main campuses located in Milan and 5 campuses based around the Lombardy region, one of the most vibrant and industrialized areas of Europe.



**Aalto University
School of Engineering**

University of Applied Sciences and Arts
of Southern Switzerland

SUPSI

The University of Applied Sciences and Arts of Southern Switzerland (SUPSI) is one of the nine professional universities recognised by the Swiss Confederation. Founded under federal law, SUPSI offers more than 30 Bachelor's Degree and Master's Degree courses, characterised by cutting edge education which unites classical theoretical-scientific instruction with a professional orientation. Great care is given to research, carried out in key sectors on competitively acquired projects with large European and national agencies or mandated by organisations and institutions.

The TU Wien is Austria's largest research and educational institution in the field of technology and natural sciences. More than 4,000 scientists are researching "technology for people" in five main research areas at eight faculties. The content of the studies offered is derived from the excellent research. More than 27,000 students in 55 degree programmes benefit from this. As a driver of innovation, TU Wien strengthens the business location, facilitates cooperation and contributes to the prosperity of society.



**TECHNISCHE
UNIVERSITÄT
WIEN**
Vienna | Austria



UCD is one of Europe's leading research-intensive universities; an environment where undergraduate education, masters and PhD training, research, innovation and community engagement form a dynamic spectrum of activity. Since its foundation, the University has made a unique contribution to the creation of modern Ireland, based on successful engagement with Irish society on every level and across every sphere of activity. The international standing of UCD has grown in recent years; it is currently ranked within the top 1% of higher education institutions world-wide.

SYLLABUS*

Type of Modules	Total Credits for EIT Manufacturing Master	Total credits Year 1	Total Credits Year 2
Technical courses	45	40-50	10-20
Specialization courses	15		
Innovation & entrepreneurship courses	30	10-20	10-20
Master Thesis	30	0	30
Total	120	60	60

* The syllabi presented are indications of the classes for the year and may differ

SUPSI

Materials Selection and Design

Ordinary Differential Equations and Dynamical Systems

Modelling Simulation and Optimization

Computational Structural Mechanics

Applied Statistics and Data Analysis

Multi-agent Systems

Structural and Vibration

Innovation and Lean

Quality and Risk management

TU Wien

Basics of Laser Technology

Isogeometric Analysis

Composites Engineering

Additive Manufacturing Technologies

Biocompatible Materials

Innovation Theory

UCD

Computational Continuum Mechanics

Manufacturing Engineering

Advanced Metals & Materials Processing

Medical Device Design

Mechanical Engineering Design

Master Thesis

European Union - Institutions, Policies and Future Challenges

End of Life Management

Technology work and Organization

Mechanical Behaviour of 3D printed components

Aalto

Machine Design Project

Advanced Manufacturing

Production Engineering

Quality Management and Petrology

Welding Technology and Design

Production Systems Modeling

Manufacturing Methods

Advanced Casting Technology

Machine Learning: Supervised Methods

Artificial Intelligence

Computer Vision

Politecnico di Milano

Advanced manufacturing processes

Applied Metallurgy

Control and Actuating devices for mechanical systems

Measurements

Machine design

Additive Manufacturing

Design & Management of production systems

Managing Technology Disruption



ADMISSION



Who can apply to the Master school?

- Students who have a Bachelor of Science Degree of 180 ECTS in a the field related to the track.
 - Students in their final year of Bachelor of Science studies may also apply and if qualified, receive a conditional acceptance. They will have to present their degree certificate to the entry university before enrolment, at the latest.
 - The specific preferred admission diplomas are: B.Sc. degree in Mechanical Engineering, Industrial Engineering or equivalent degrees.
- Other possible B. Sc degrees are : Electrical engineering, computer engineering, computer science, information technology or equivalent
- Students Bachelor of Science degree **must** provide the student with basic competence in the following fields: engineering design, analysis, production operations, and mathematics including calculus, algebra, and mathematical statistics.*

What are the language requirements of the EITM Master School?

All programmes are thought in English.

Students are requested to provide an English certificate (IELTS, TOEFL, etc.) to prove their English proficiency*

Minimum certificate grade is:

- IELTS ≥ 6.5 , with no section lower than 6

A photocopy of the IELTS test result together with your application documents is sufficient.

- TOEFL ≥ 93 (minimum 21 for writing, 19 in the other sections)

English test results from TOEFL should be sent directly from the ETS test centre to the EIT Manufacturing Master School Office (EIT Manufacturing Master School code number: C898)

- CAE: grades A – C are accepted
- CPE: grades A – C are accepted

*The TOEFL Test can be waived under certain conditions, please refer to the website for more details



FINANCE AND SCHOLARSHIPS

Tuition fees per year:
8,000€ for EU/EFTA candidates
15,000 for non EU/EFTA candidates

Fees include all programme expenses and insurance but do not cover living expenses and local university text books.

How are scholarships awarded?

Scholarships may include: mobility grant, subsistence costs support and fee waivers. Scholarships are awarded to a sub-set of students based on a ranking that considers:

- Academic grades
- Gender
- RIS countries citizenship*
- Study track

All students are eligible for scholarships and they don't need to present any specific request for it. The EIT Manufacturing Master School will rank the students and offer the scholarships at the time of the student admission.



A WORD FROM THE EIT MANUFACTURING



Paola FANTINI

Education Director EIT Manufacturing

In the EIT Manufacturing Master programmes, students will gain the capabilities, opportunities and support from the network to become real entrepreneurs and change makers, to pursue the career they want to take. They will learn to question the status-quo, identify challenges and opportunities, mobilize energies, develop and promote innovative solutions. They will become skilled at dialoguing, reasoning and negotiating with peers and other stakeholders, in addition to acquiring excellent technical and business competences.



Lucia RAMUNDO

Master and PhD Program Manager

Our programmes allow students to become experts in innovative manufacturing fields from both from both the technological and business and management side. We develop their leadership, creativity and all soft skills needed to navigate the complex industrial landscape while also taking into account the needs of society.

The Additive Manufacture for Full Flexibility programme is a Master of Science level programme within the EIT Manufacturing Master School. The EITM Master School is a highly prestigious Manufacturing Engineering and Science education provider on an advanced level with a focus on Innovation and Entrepreneurship (I&E). The education at EIT Manufacturing Master School combines technical competence with skills in Innovation and Entrepreneurship. EIT Manufacturing Master School students will be an elite group of forthcoming engineers, operators, innovators, and other relevant professionals.

EIT MANUFACTURING

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Making innovation happen!

About EIT Manufacturing

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Keep up with the latest on:

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