



EIT Manufacturing Doctoral School





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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- Admission and Finance

Duration

Min. 2 years during PhD studies



Application

Along the year with 2 selections time, in first and third quarter of each year.

Check Doctoral School website for applications deadlines



Study Type

Blended (On site and On line)



Language

English



Credits

ECTS (30 ECTS of mobility + 30 ECTS in I&E training)

1 ECTS = 25 hours of in class and offline work



Eligibility

Only PhD students of the partners universities can apply to the EIT Manufacturing Doctoral School full programme of 60 ECTS

I&E programme is open also to external manufacturing PhD students, researchers and professionals (see terms and condition in the admission and finance section and dedicated programmes brochures and EITM website) and offline work

What are the obtained diplomas?

An EIT Label Certificate included into PhD diploma supplement of the student

What's the Doctoral School programme about?

The EITM Doctoral School aims to empower Manufacturing PhD students by developing their innovation and entrepreneurial skills.

Through experiential learning, students will develop new ideas of products and services for manufacturing sector and they will discover how to create a start-up and attract venture capital. What's more, by being part of an international network of professional contacts, students will gain a systemic view of technology, social challenges, and sustainability, empowering them to create the manufacturing businesses of the future.



Arts et Métiers is a higher education engineering school in France with 8 Education and Research Campuses, 14 research laboratories and 3 institutes. Arts et Métiers develops teaching and research activities with a focus on five strategically chosen fields: Future of manufacturing, Mobility, Energy, Health Technology and Construction.



Grenoble INP is the Institute of Engineering of Univ. Grenoble Alpes, which is one of the ten French Research and Innovation intensive Universities (IDEX label) and also one of the four French Institutes of Artificial Intelligence (MIAI).



FEUP is currently one of Portugal's oldest and most prestigious teaching and research institutions in engineering and related fields, a reputation that is justified by the wide range of high quality training that FEUP offers in all its degrees. In addition, FEUP's modern building complex, inaugurated in 2000, at Polo II (Asprela) of the University of Porto, has become an important "incubator" for innovation and knowledge, fuelled by the impressive work done by the research centres that it hosts and their proximity to the business and social milieu.



The Czech Technical University in Prague (CTU) is one of the biggest and oldest technical universities in Europe and currently the major technical university in the Czech Republic with approx. 1,700 members of academic staff. CTU currently has eight faculties and about 16,000 students. It is represented in EIT Manufacturing project by two of its units — The Czech Institute of Informatics, Robotics, and Cybernetics (CIIRC) and Faculty of Mechanical Engineering.



Slovak University of Technology in Bratislava (STUBA) is the largest and most significant technical university in Slovakia and it is a modern EU educational and research institution, founded in 1937. STUBA consists of 7 faculties: Civil Engineering, Mechanical Engineering, Electrical Engineering and Information Technology, Chemical and Food Technology, Architecture, Materials Science and Technology, Informatics, as well as one institute – Management. The studies are performed at 3 levels. In the area of scientific and research activities STUBA successfully joins European Union programmes.



University of Tartu is Estonia's leading centre of research and training. It preserves the culture of the Estonian people and spearheads the country's reputation in research and provision of higher education. UT belongs to the top 1.2% of world's best universities and is among the best universities of New Europe (EU13). The institutes of Technology and Computer Science at UT offer international Masters and Doctoral programmes in Robotics and Computer Engineering, Computer Science and Security and Cloud Computing. Industry collaboration focuses on Intelligent Materials and Systems, AI and Robotics, Mobility Solutions and Business Process Analytics.

The EITM Doctoral School Programme offers a wide range of activities, such as summer and winter schools, seminars, Teaching & Learning factories, hackathons, and other innovative pedagogical approaches. Company visits, professional networking opportunities, International academic and industrial exchanges complete the Programme. Students can personalise their study plan choosing from the annual offerings of the EITM Doctoral School, in order to complete the mandatory ECTS.

The EITM Doctoral School Programme consists of 60 ECTS to be completed along student PhD studies in 2 years minimum time. To complete the programme students must collect:

- 30 ECTS of student mobility
- 30 ECTS of Innovation & Entrepreneurship (I&E) training in Manufacturing



Student mobility allows PhD students to experience new academic, international and industrial environments to gain new knowledge, intercultural skills and to enforce their research and professional network.

The Doctoral School programme requires 30 ECTS of mobility to be done mainly in Europe.

PhD students must undergo under the following types of mobility to fulfil the mobility programme requirements:

- **International mobility: 15 ECTS**
- **Cross-Organizational mobility: 15 ECTS**

The 2 mobility periods can be consecutive or done in two different timeframes, along the 2 years of the programme. An academic and/or industrial mentor is assigned to students during the mobility period.

Students are responsible to organize their own mobility, while EITM Doctoral School can assist them within its partners members.

International mobility



Only PhD students of the partners universities can apply to the EIT Manufacturing Doctoral School full programme of 60 ECTS

I&E programme is open also to external manufacturing PhD students, researchers and professionals (see terms and condition in the admission and finance section and dedicated programmes brochures and EITM website) and offline work

Cross-Organizational Mobility



During Cross-Organizational PhD students spend 15 ECTS in a NOT-Academic organization, mainly but not limited to manufacturing industry (manufacturing company, association, manufacturing end-user, policy office, etc.). The organization can be either in the same country of the student home university or abroad.

IMPORTANT: Student mobility must be always 30 ECTS, this means:

- Students, who undergo international mobility in a NOT-Academic organization, must complete additional 15 ECTS of Cross-Organizational mobility, either at the same organization or in a different organization, eventually in the same country of their home university. The 2 mobility periods can be consecutive or done in two different timeframes, along the 2 years of the programme.
- Students, who undergo Cross-Organizational mobility in a foreign country of their home university, must complete additional 15 ECTS of International mobility, either at the same NOT-Academic organization or in a different NOT-Academic organization, or in an Academic environment in a different country of their home university. The 2 mobility periods can be consecutive or done in two different timeframes, along the 2 years of the programme.

Innovation and Entrepreneurship (I&E) programme in Manufacturing

The Innovation and Entrepreneurship Program at the EIT Manufacturing Doctoral School allows Manufacturing PhD students to gain and develop the skills and capabilities needed to valorize their expertise and research into the market, in order to become the change makers of the manufacturing sector.

Main characteristics:



Focused in Manufacturing trends and societal challenges



Include a structured entrepreneurship/ intrapreneurship path



Learning by doing approach



Teachers and experts well experienced in their topic



Mentors for students/group of students



On line and on site* activities (*welcome ceremony, summer school, winter school)

I&E programme structure:

The I&E programme consists of 30 ECTS to be covered along two years and it is organized into two main tracks for 2 different PhD students profiles:



Awareness and orientation track

PhD student profile:

PhD students who don't have yet the intention to start an entrepreneurial or intrapreneurial project in the short term, but want to learn what steps should be taken in order to be able to use that knowledge somewhere in the future.



Business creation track

PhD student profile:

PhD students who want to valorize knowledge, research findings, and related market insights, ready to become entrepreneurs or intrapreneurs by the end of the PhD studies.

Each of the above-mentioned tracks consists of two one-year programs:

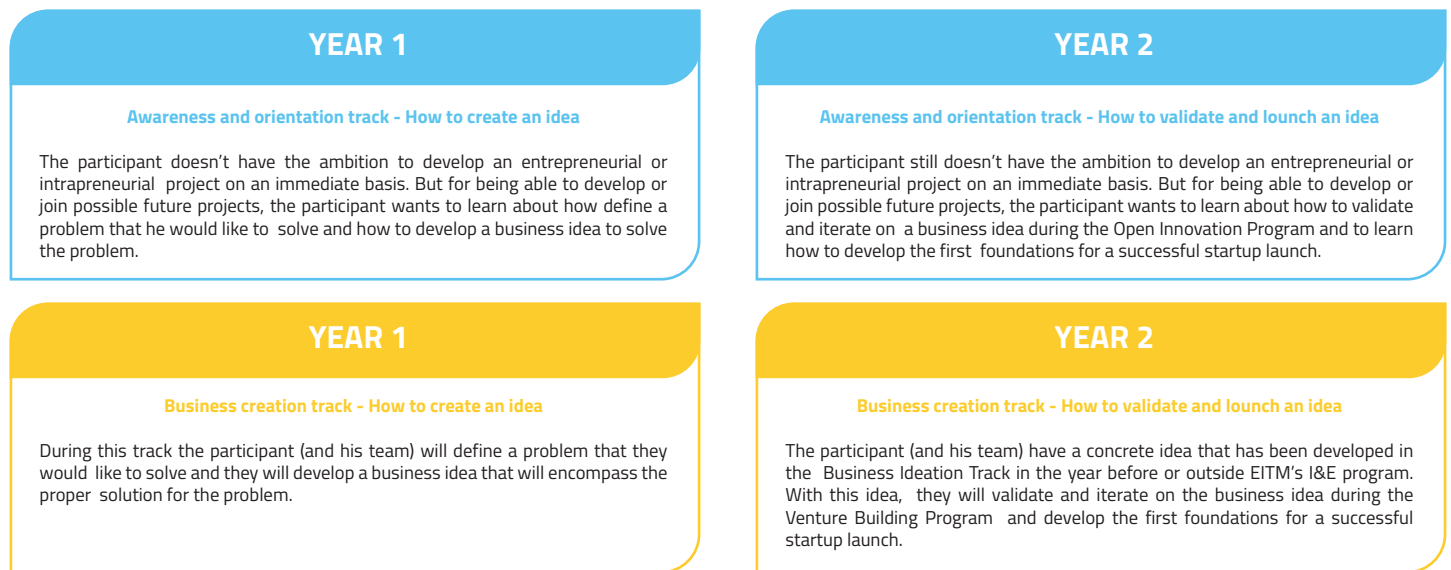


Year 1: How to create an idea



Year 2: How to validate and launch an idea

The resulting PhD student study paths along the 2 years are:



At the end of year 1 an assessment is done and eventually students can switch from one track to the other according to the results of their developed idea feasibility and maturity.

Learning phases of the I&E programme tracks

During the first-year of both I&E programme tracks, PhD students will go through three phases:

■ Year 1 phases of I&E programme tracks:



The Year 1 Program is for both "Awareness and orientation track" and "Business creation track" similar in content. The guidance, however, through mentoring sessions will be adjusted to the student profile.

During the year 2 program, two additional phases will be offered to PhD students in both of the above mentioned tracks:

■ Year 2 phases of I&E programme tracks:



During Year 2 Program students of the "Awareness and Orientation track" student profile will apply all learning contents to a project of an existing manufacturing startup or corporate venture, and for that participates in an "open innovation program" while the "Business Creation track" student profile will apply all the learning objectives on his/her own entrepreneurial project during the "venture building program".

I&E Awareness & orientation track: how to create an idea



Participant Target: PhD student who doesn't have the ambition to develop an entrepreneurial or intrapreneurial project on an immediate basis.

Entry requirements: no entrepreneurship previous knowledge requested

Learning Approach: Learning by doing

Duration: April - December

ECTS equivalence: 15

What you will learn during this programme

The I&E "Awareness and Orientation Track - How to create an idea" is the first year part of the 2 years long "Awareness and Orientation Track" for Manufacturing PhD students. During this first year programme, PhD students will deepen knowledge and skills on technologies and processes for innovation in the Manufacturing sector and they will learn and practice how to define a problem and develop a business idea to solve it, with a sustainable and ethic approach. More information available in the dedicated brochure.

Innovation focus in 2022: GREEN Manufacturing

Calendar 2022

April 2022 (1 ECTS)

Welcome ceremony

Seminar:

- self-discovery phase and team discovery
- leadership & team performance

Webinars:

- Context Mapping

May 2022 (0,75 ECTS)

Webinars:

- Exploration mapping
- Manufacturing and industrial insights and tendencies
- Problem definition

June 2022 (0,5 ECTS)

Webinars:

- Design research
- Value proposition & design challenge

27th Summer School starts



Summer symposium

1-13 July 2022 (5,5 ECTS)

- Seminars about scientific cutting-edge research methods for Green Manufacturing

- Design research bootcamp
- Hackathon event: bridging exploration and ideation
- Networking event

12-30 Sep 2022 (0,5 ECTS)

Webinars:

- Recap exploration
- Creativity and ideation skills

Oct 2022 (0,75 ECTS)

Webinars:

- Ideating and designing with a sustainable, social and ethical mindset
- Technology as a driver for solution design
- Prototyping

Nov 2022 (4 ECTS)

Webinars:

- User vs customer
- Business model design
- Differentiated value

21-30 Winter school



- Seminar protecting your business through IPR
- Creativity & ideation bootcamp
- Seminars (optional): PSS for Green Manufacturing

1-15 Dec 2022 (2 ECTS)

1-2 Winter school (continuation)

- Workshop: Pitching
- Pitch event
- Networking events and company visit

15/12 Final video presentations

Possibility to continue attending the Awareness and orientation track – How to validate and launch an idea

OR

Possibility to switch to Business Creation Track – How to validate and launch an idea

I&E Awareness & orientation track: How to validate and launch an idea



Participant Target: PhD student who doesn't have the ambition to develop an entrepreneurial or intrapreneurial project on an immediate basis.

Entry requirements: having completed first year of the Awareness and Orientation Track or availability to work on a real business challenge with open innovation approach.

Learning Approach: Learning by doing

Duration: April - December

ECTS equivalence: 15

What you will learn during this programme

The I&E "Awareness and Orientation Track - How to validate and launch an idea" is the second year of the 2 years long "Awareness and Orientation Track" for Manufacturing PhD students. During this second year programme, PhD students will deepen knowledge and skills on technologies and processes for innovation in the Manufacturing sector and they will learn and practice how to validate and iterate on a business idea with an Open Innovation approach and to develop the first foundations for a successful startup launch. More information available in the dedicated brochure.

Innovation focus in 2022: GREEN Manufacturing

Calendar 2022

April 2022 (2,5 ECTS)

Welcome ceremony

Seminar: Intro validation and iteration phase

Seminar: Business concept and blueprint

Meetings with startup to innovate with

May 2022 (4 ECTS)

Start Open Innovation Program

Webinars:
▪ pitching and storytelling
▪ validation and lean experimentation techniques

Prototyping Bootcamp

Sprint 1 lean experimentation

Innovation mentorship

June 2022 (3 ECTS)

Webinars:
▪ Prototyping design constraints and industrial feasibility
▪ Green manufacturing

Sprint 2 & 3 validation

Pitch round

Innovation mentorship

1-13 July 2022 (2,25 ECTS)

Sprint 4 lean experimentation

Summer School



Hackathon event

Presentation of validation results

Pitch round

Networking events

12-30 Sep 2022 (0,75 ECTS)

Webinars:
▪ Building your product demo
▪ Product roadmap
▪ Designing a brand

Innovation mentorship

Oct 2022 (1 ECTS)

Webinars:
▪ Sales plan
▪ Organization plan and project GANNT
▪ Legal framework
▪ Financial plan

Innovation mentorship

Nov 2022 (0,5 ECTS)

Webinars:
▪ Investor deck
▪ Pitching and
▪ Storytelling

Innovation mentorship

1-15 Dec 2022 (1,25 ECTS)

1-2 Winter school



Opening Demo Day Innovation programme

Pitch event

▪ Networking events
▪ Closing ceremony



I&E Business Creation track: How to create an idea



Participant Target: PhD students who want to valorize knowledge, research findings, and related market insights, ready to become entrepreneurs or intrapreneurs by the end of the PhD studies.

Entry requirements: no entrepreneurship previous knowledge requested.

Learning Approach: Learning by doing

Duration: April - December

ECTS equivalence: 15

What you will learn during this programme

The I&E "Business Creation Track - How to create an idea" is the first year part of the 2 years long "Business Creation Track" for Manufacturing PhD students. During this first year programme, PhD students will deepen knowledge and skills on technologies and processes for innovation in the Manufacturing sector and they will learn and practice how to define a problem to develop a business idea that will encompass the proper solution for the problem. More information available in the dedicated brochure.

Innovation focus in 2022: GREEN Manufacturing

Calendar 2022

April 2022 (0,75 ECTS)

Welcome ceremony

Seminar:

- self-discovery phase and team discovery
- leadership & team performance

Webinars:

- Context Mapping

May 2022 (1 ECTS)

Webinars:

- Leadership & team performance
 - Exploration mapping
 - Manufacturing and industrial insights and tendencies
 - Problem definition
- I&E Mentorship

June 2022 (0,5 ECTS)

Webinars:

- Design research
- Value proposition & design challenge

27th Summer School starts



Summer symposium

1-13 July 2022 (5,5 ECTS)

- Seminars about scientific cutting-edge research methods for Green Manufacturing

- Design research bootcamp
- Hackathon event: bridging exploration and ideation
- Networking event

12-30 Sep 2022 (0,5 ECTS)

Webinars:

- Recap exploration & start ideation
- Creativity and ideation skills

I&E Mentorship

Oct 2022 (1 ECTS)

Webinars:

- Ideating and designing with a sustainable, social and ethical mindset
- Technology as a driver for solution design
- Prototyping techniques
- User vs customer design

I&E Mentorship

Nov 2022 (4 ECTS)

Webinars:

- Business model design
- Differentiated value

I&E Mentorship

21-30 Winter school



- Seminar protecting your business through IPR
- Creativity & ideation bootcamp
- Seminars (optional): PSS for Green Manufacturing

1-15 Dec 2022 (2 ECTS)

1-2 Winter school (continuation)

- Workshop: Pitching
- Pitch event
- Networking events and company visit

15/12 Final video presentations

Possibility to continue attending the I&E Business Creation Track: how to validate an launch idea

OR

Possibility to switch to the I&E Awareness and Orientation Track: how to validate an launch idea



I&E Business Creation track: How to validate and launch an idea



Participant Target: PhD student who have a concrete idea to be validated and launched into the market.

Entry requirements: having completed first year of the Business Creation Track or the full programme and having a concrete business idea.

Learning Approach: Learning by doing

Duration: April - December

ECTS equivalence: 15

What you will learn during this programme

The I&E "Business Creation Track - How to validate and launch an idea" is the second year of the 2 years long "Business Creation Track" for Manufacturing PhD students. During this second year programme, PhD students will deepen knowledge and skills on technologies and processes for innovation in the Manufacturing sector and they will learn and practice how to validate and iterate on their own business idea and to develop the first foundations for a successful startup launch. More information available in the dedicated brochure.

Innovation focus in 2022: GREEN Manufacturing

Calendar 2022

April 2022 (2,5 ECTS)

Welcome ceremony

Seminar: Intro validation and iteration phase

Seminar: Business concept and blueprint

- Recuperation and consolidation business concept

May 2022 (4 ECTS)

Recuperation and consolidation business concept

Start Venture Building Program

Webinars:

- pitching and storytelling
- validation and lean experimentation techniques

Prototyping Bootcamp

Sprint 1 lean experimentation

I&E Mentorship

12-30 Sep 2022 (0,75 ECTS)

Webinars:

- Building your product demo
- Product roadmap
- Designing a brand

I&E Mentorship

Oct 2022 (1 ECTS)

Webinars

- Sales plan
- Organization plan and project GANNT
- Legal framework
- Financial plan

I&E Mentorship

June 2022 (3 ECTS)

Webinars:

- Prototyping design constraints and industrial feasibility
- Green manufacturing

Sprint 2 & 3 validation

Pitch round

I&E Mentorship

Nov 2022 (0,5 ECTS)

Webinars:

- how to develop your investor deck
- pitching and storytelling II

I&E Mentorship

1-13 July 2022 (2,25 ECTS)

Sprint 4 lean experimentation

Summer School



Hackathon event

Presentation of validation results

Pitch round

Networking events

1-15 Dec 2022 (1,25 ECTS)

1-2 Winter school



Opening Demo Day Venture Building programme

Pitch event (and submission investor deck)

- Networking events

- Closing ceremony



Who can apply to the doctoral school?

- Students who are enrolled into a PhD course in manufacturing related topics at one of the partner universities and still having minimum 2 years to complete their PhD studies.

The specific admission requirements are:

- English proficiency
- PhD supervisor approval to attend the full 60 ECTS of the Doctoral School programme Innovation & Entrepreneurship potential

NOTE: The I&E programme tracks and their on site activities, such as summer and winter schools are open also to external students. For information on eligibility and admission criteria, please check the detailed brochure of each I&E programme track and the EIT Manufacturing website: Doctoral School - EIT Manufacturing.

When to apply to the Doctoral School?

Applications are open all year round, but selections are done twice a year, first quarter and third quarter of each year. Please consult the Doctoral school web pages for specific dates. Students admitted in the first quarter can start the I&E programme tracks immediately, while students admitted in the third quarter can start the programme through the mobility and then the I&E programme the following year.

What are the language requirements of the EITM Doctoral School?

The Doctoral School programme language is English.

Students are requested to provide either a recent English certificate (IELTS, TOEFL, etc.) or a declaration from the PhD Home university partner, issued by the PhD administration office, certifying the English proficiency of the student. The student could be eventually invited to an online interview, if requested by the selection committee.

Free of charge for selected candidates.

Students will be requested to pay for non-mandatory activities at a special rate, which will be communicated at the time of the activity application opening.

Scholarships

Scholarships* include:

- mobility grant
- subsistence costs support during mobility (no double EU funding is allowed, not allowed for fully funded industrial doctorate positions)
- possible fee waivers for mandatory activities

* Scholarships are subjected to EIT grant



Students don't need to present any specific request for scholarship eligibility.





Paola Fantini

Education Director EIT Manufacturing

In the EIT Manufacturing education 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 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.



Making innovation happen!



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Keep up with the latest on:

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