



Innovation & Entrepreneurship Program in Manufacturing 2022 - 2023

EIT Manufacturing Doctoral School



Awareness and
Orientation track



Year 1:

How to develop a business idea
April – December 2022

Year 2:

How to validate a business idea and
prepare for a launch
April – December 2023



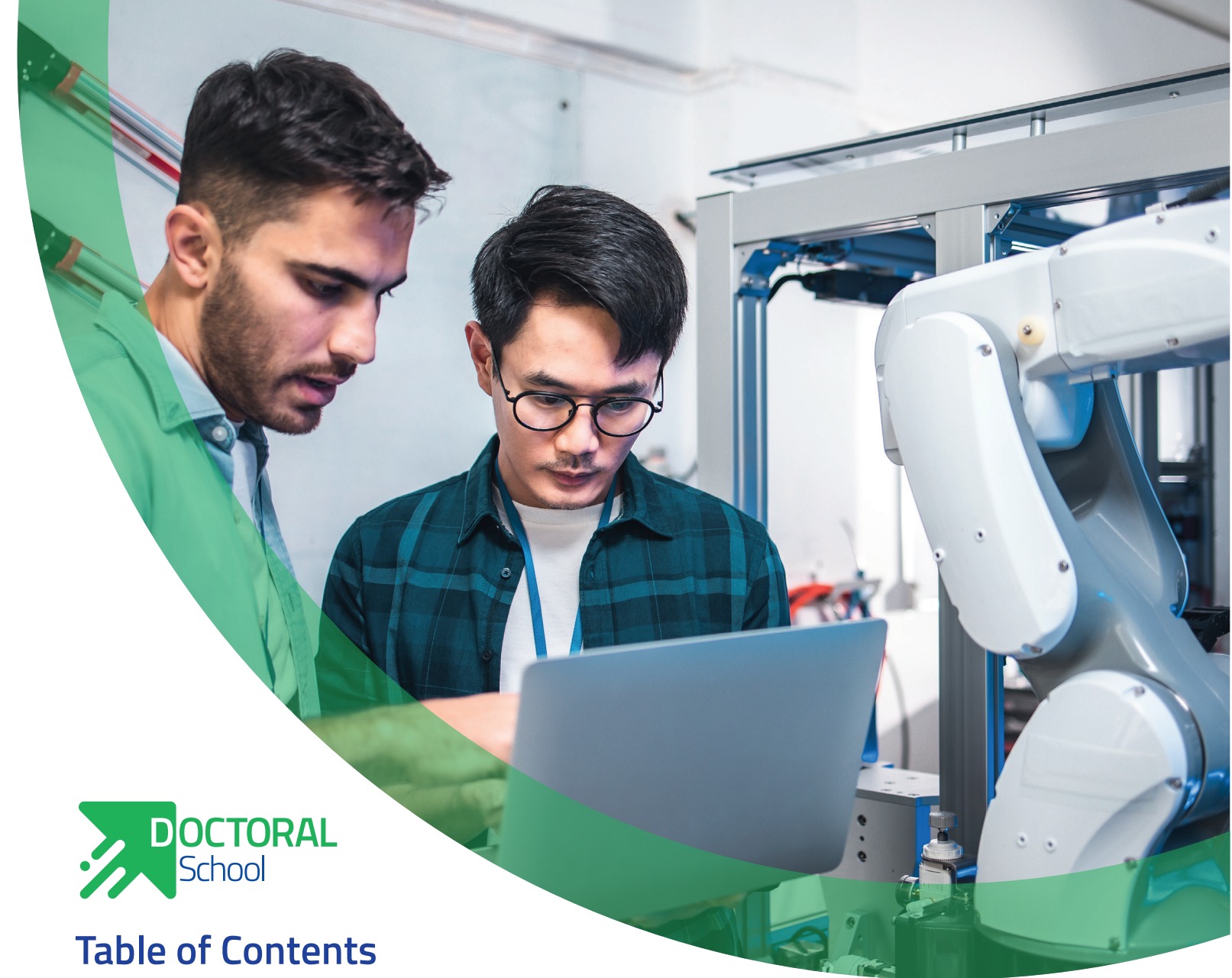


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Duration

April – December (27 weeks)



On-site

3 on-site events in EU
(two-days event + 2x two-weeks events)



Online

16 on-line events
(always Friday morning)



Credits

15 ECTS



Language

English





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:

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 network 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 and 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 successful European manufacturing.

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

Our mission is to accelerate faster innovation with the potential to improve everyday life globally, help meet Europe's ambitious climate goals, and ensure that its workforce is ready for tomorrow's challenges.



Awareness and orientation track

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 in the market. The “Awareness and orientation track” of the Innovation & Entrepreneurship Program is meant for PhD students who do not intend 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 in the future. The track consists of two one-year programs: In year 1 the participant starts with learning “How to develop a business idea”, and in year 2 the participant continues exploring “How to validate a business idea and how to prepare for a launch”.

Year 1 program: How to develop a business idea



During the first year, the PhD student will go through three different phases that will guide him/her in the development of a business idea.

Self-discovery
(April-May)

Explore their own/team potential and define the ecosystem that would fit best when they are ready to start an entrepreneurial or intrapreneurial manufacturing project.

Market exploration
(May-July)

Explore the market for societal, economic and environmental problems that can be solved by the manufacturing research.

Ideation
(Sept-Dec)

Develop a solution that solves the problem(s) they have discovered, for the benefit of the sector and society.

Year 2 program: How to validate a business idea and prepare for a launch



In the second year, the PhD student will go through two different phases to prepare for the launch of the business idea that has been developed in the first-year program.

Validation and iteration
(April-July)

First, they will learn how to validate their value proposition, solution, and related business model in the market through the use of lean experimentation techniques.

Pre-launch strategy
(Sept-Dec)

Then, they will build their plans and materials to prepare for the launch of their business project. Teams with a feasible project at the end of this phase can apply to the Business Creation Pillar of EIT Manufacturing to continue the incubation and realization of their entrepreneurial project.

Since PhD students in the Awareness and orientation track are not yet planning to start an entrepreneurial or intrapreneurial project, the validation, iteration, and pre-launch activities will be applied on an existing startup or corporate entrepreneurship project, creating an open innovation relationship with the manufacturing business.

- You now are reading the brochure on the year 1 program -



The methodology of the Innovation and Entrepreneurship Program in both years is based on Design Thinking principles. The five phases, from empathizing to testing, according to the Stanford d.School methodology, are reflected in our program. In addition, we have added two more phases to our roadmap: self-discovery and pre-launch. Within those phases, business creation methodologies are complemented with manufacturing scientific and technological knowledge and practice. Manufacturing mentors are also assigned to the students/teams to support them along the innovation process. This makes our program unique, all-embracing and specifically manufacturing focused.

All learning sessions will be taught in a two-hour format and will always be preceded by some resources to be studied before. Then, after 'class', your instructor will give you an action plan in which you apply the learning objectives on your entrepreneurial or intrapreneurial manufacturing project. If you still do not have a business project, you will be asked to reflect how you could valorize your research project in the future. The same instructor will meet up with each of the participants some days after the session for a mentoring session, during which questions can be asked related to the learning objectives and the results of the action plan will be reviewed.

Instructors and experts:

All our instructors and mentors are business and academic experts connected to the world of manufacturing, innovation, and business design. The following expert disciplines have been included in this program:



Expert Sustainable Development
for Manufacturing



Intellectual Property Rights
Expert in an Industrial Setting



Business Designer



Team Coach



Design Researcher



Collective Innovation
Expert



Creativity Expert



UX Designer



Communication and
Storytelling Expert

Calendar 2022

Awareness and orientation track – How to develop a business idea



Self-discovery phase

Market exploration phase

Ideation phase

On-site event

Innovation focus in 2022: GREEN Manufacturing

April

- 21-22 Welcome ceremony I&E Program
- 21 I&E team building activity
- 22 Seminar: intro self-discovery phase and team discovery
- 22 Seminar: leadership & team performance
- 29 Webinar: context mapping

May

- 06 Webinar: leadership & team performance
- 13 Webinar: intro to market exploration phase and exploration mapping
- 20 Webinar: manufacturing & industrial insights and tendencies
- 27 Webinar: problem definition

June

- 03 Webinar: design research
- 17 Webinar: value proposition and design challenge
- 27 Opening Summer School 
- 27 Seminar: scientific cutting-edge research methods
- 28 Summer Symposium
- 30 Start Design Research Bootcamp

July

- 01-08 Design Research Bootcamp
- 01-08 Seminars (additional) about scientific cutting-edge research methods for Green Manufacturing
- 01-08 Different networking events
- 11-12 Hackathon event: bridging exploration and ideation
- 13 Closure Summer School


September

- 16 phase Webinar: intro to ideation phase and recap previous
- 30 Webinar: creativity and ideation skills

October





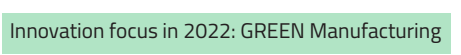
- 07 Webinar: ideating and designing with a sustainable, social and ethical mindset
- 14 Webinar: technology as a driver for solution design
- 21 Webinar: prototyping techniques
- 28 Webinar: user vs customer-centric design

November

- 04 Webinar: business model design
- 11 Webinar: differentiated value
- 21 Opening Winter School 
- 21 Seminar: protecting your business through IPR
- 21-30 Different networking events
- 22-30 Creativity & Ideation Bootcamp
- 22-30 Seminar (optional): PSS for Green Manufacturing
- 29 Workshop pitching
- 30 Pitch event

December

- 01 Networking event
- 01-02 Attendance to second-year students' pitches
- 02 Closure Winter School
- 16 Final Video Presentations

 Self-discovery phase	 Market exploration phase	 Ideation phase	 On-site event	 Innovation focus in 2022: GREEN Manufacturing
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April	
21-22	Welcome ceremony I&E Program
21	I&E team building activity
22	Seminar: intro self-discovery phase and team discovery
22	Seminar: leadership & team performance
29	Webinar: context mapping

Welcome Ceremony I&E Program (on-site)

The official two-day opening of the I&E program at EIT Manufacturing in Paris: participants of all four tracks will kick-off with a program introduction, two seminars and a team building.

▪ Seminar: intro self-discovery phase and team discovery

Introduction to the first phase of this track by the program leader. Also, presenting a technique to study the means, capacity, and potential of the team, to discover what business environment would fit to start an entrepreneurial manufacturing project.

▪ Seminar: leadership & team performance

A workshop with a team-coach where participants learn about leadership techniques and how to get the most out of an entrepreneurial team.

▪ I&E team building

The welcome event will include a team building activity to create bonding among the different participants of the I&E Program.

Webinar: context mapping

In this online workshop the participants will learn from a business design expert about a tool called Context Map, which helps them to determine the business ecosystem they would like to start an entrepreneurial manufacturing project (in the future).

May	
06	Webinar: leadership & team performance
13	Webinar: intro to market exploration phase and exploration mapping
20	Webinar: manufacturing & industrial insights and tendencies
27	Webinar: problem definition

Webinar: leadership & team performance

During this online follow-up session, the participants will continue with the team-coach discussing techniques they started to develop in the seminar during the welcome ceremony. They will determine key-team success factors that should be embraced during their entrepreneurial activity (in the future).

Webinar: intro to market exploration and exploration mapping

This is an online introduction to the second phase of this track, presenting a technique to guide (future) entrepreneurs on how to carry out an adequate market exploration. This exploration mapping tool contains a stakeholder mapping, definition of personas, identification of problems, the formulation of value propositions, and a solid design challenge for the next phase, ideation.


Webinar: manufacturing & industrial insights and tendencies

An academic expert will offer an immersion into what is happening in the world of modern manufacturing and how these insights and tendencies influence innovation and entrepreneurial activity.

Webinar: problem definition

With a business design expert, the participants are going to deepen the problem definition, being part of the Exploration Map tool.

Self-discovery phase Market exploration phase Ideation phase On-site event Innovation focus in 2022: GREEN Manufacturing

June	
03	Webinar: design research
17	Webinar: value proposition and design challenge
27	Opening Summer School 
27	Seminar: scientific cutting-edge research methods
28	Summer Symposium
30	Start Design Research Bootcamp

Webinar: design research

In this online workshop, the participants will learn from a design research expert about techniques that will facilitate their market exploration and the completion of the exploration map tool. This workshop is an introduction to the Design Research Bootcamp that will be held during the Summer School.

Webinar: value proposition and design challenge

In this online session, a business design expert will discuss the last steps of the exploration map tool: formulating some value propositions for potential clients and generating the foundation for the next phase, ideation, through a well-defined design challenge.

Opening Summer School (on-site)

A two-week Summer School will be held in Prague and Bratislava. The objective of the Summer School is to deepen green manufacturing knowledge and techniques related to the market exploration process and to build a transition to the next phase, ideation. The program starts with the following seminar:

▪ Seminar: scientific cutting-edge research methods

An academic expert will lead the participants through the latest insights on research methods.

Summer Symposium (on-site)

The symposium will be held in Prague as part of the Summer School. During this symposium, the different PhD students will present and discuss their research findings and progress of their research projects.

July	
01-08	Design Research Bootcamp
01-08	Seminars (additional) about scientific cutting-edge research methods for Green Manufacturing
01-08	Different networking events
11-12	Hackathon event: bridging exploration and ideation
13	Closure Summer School

The Summer School will continue with several business, cultural, social, and networking events throughout the two weeks in both cities. In addition, the following two events will be paramount:

▪ Design Research Bootcamp

During seven days, the participants will develop techniques that will facilitate their market exploration process. The design research expert from the webinar in June will work in a dynamic and practical way on the first entrepreneurial findings from the different participants.

▪ Seminar (optional): scientific cutting-edge research methods for Green Manufacturing

An academic expert will lead the participants through the latest insights on research methods specifically for Green Manufacturing.

▪ Hackathon event

During this two-day event the participants will try to solve some real-world problems from companies, startups, or their own defined problems. This event bridges the market exploration phase with the next phase, ideation. The Hackathon will provide a gamified and structured way to executive a problem-solving process that serve as take-aways for the ideation phase. This Hackathon will be moderated by collective innovation experts. Participants from the Year 2 program will also attend to create networking among both talent pools.

Self-discovery phase

Market exploration phase

Ideation phase

On-site event

Innovation focus in 2022: GREEN Manufacturing

September

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| 16 | Webinar: intro to ideation phase and recap previous phase |
| 30 | Webinar: creativity and ideation skills |

Webinar: intro to ideation phase and recap previous phase

This webinar is an online introduction to the third phase of this track by the program leader, explaining how the ideation phase will be boosted with creativity, prototyping and business design techniques. In addition, the participants will get a short overview of what has been done in the previous phase of market exploration, to refresh their minds after a well-deserved summer break.

Webinar: creativity and ideation skills

In this online session a creativity expert will share a set of brainstorming, creativity, and ideation techniques that will help the participants in developing a solution for the problem they defined in the previous phase. This workshop is an intro on what will be further developed during the Creativity & Ideation Bootcamp as part of the Winter School in November.

October

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| 07 | Webinar: ideating and designing with a sustainable, Social and ethical mindset |
| 14 | Webinar: technology as a driver for solution design |
| 21 | Webinar: prototyping techniques |
| 28 | Webinar: user vs customer-centric design |

Webinar: ideating and designing with a sustainable, social, and ethical mindset

An academic design expert in manufacturing will introduce participants to the importance of three mindsets that have to be considered when ideating and developing business solutions: sustainability, social impact, and ethics. These mindsets no longer just a marketing and branding tool; they have become essential and necessary in responsible design.

Webinar: technology as a driver for solution design

In this online session, an academic expert will show the potential of technology as a driver for the ideation and solution development process in green manufacturing. Technology by itself isn't innovation; technology makes innovation happen!


Webinar: prototyping techniques

During this online workshop, a UX design expert will share some techniques and tools that will help the participants to visualize their ideation findings to create a first simple prototype. These techniques and tools will be deepened during the Prototyping Bootcamp in the beginning of the next year program.

Webinar: user vs customer-centric design

This is the first of three online business design workshops that will facilitate 'business-thinking' in the ideation and solution development process. First, the participants have to understand the difference between the user and the client of a solution.

Self-discovery phase	Market exploration phase	Ideation phase	On-site event	Innovation focus in 2022: GREEN Manufacturing
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November	
04	Webinar: business model design
11	Webinar: differentiated value
21	Opening Winter School 
21	Seminar: protecting your business through IPR
21-30	Different networking events
22-30	Creativity & Ideation Bootcamp
22-30	Seminar (optional): PSS for Green Manufacturing
29	Workshop pitching
30	Pitch event

Webinar: business model design

Behind every solution, whether a product, service or both, there is a business model. In this online workshop, the participants will learn how to structure and to develop a complete business model through the Business Model Canvas method. For those participants who want more advanced tools to develop their business concept, revenue model, and pricing model, the business design expert will organize an additional mentoring session.

Webinar: differentiated value

In this online session, the business design expert will share the Doblin Model with the participants. The objective of this model is to study how the developed solution can be differentiated from similar competitors' solutions. In addition, the participants will learn how to present the level of differentiations through the use of value curves.

Opening Winter School (on-site)

A two-week Winter School program will be held in Grenoble. The program will contain several business, cultural, social, and networking events. In addition a Bootcamp will boost the ideation and solution development process with more creativity and ideation skills and techniques. The program consists of the following events:

▪ Seminar: protecting your business through IPR

An academic expert will present ways participants can protect the manufacturing business solutions they have been developing throughout the ideation phase with IPR measurements.

▪ Creativity and Ideation Bootcamp

Over the course of seven days, the participants will learn about different brainstorming, creativity, and ideation methods that will let them to develop out-of-the-box business solutions for the problems they have detected in the exploration phase.

▪ Seminar (optional): PSS for Green Manufacturing:

Academic experts will lead the participants through the challenges of PSS for the transition towards a green manufacturing.

▪ Workshop pitching (continuing Winter School)

During this workshop, the communication and storytelling expert will guide the participants on how to structure and properly communicate the business idea they have been developing during the past three months.

▪ Pitch event

The participants will present what they have been practicing the day before during the workshop pitching session.

December	
01	Networking event
01-02	Attendance to second-year students' pitches
02	Closure Winter School
16	Final Video Presentations

Attendance to second-year students' pitches:

Participants will have the opportunity to assist to the second year students' pitches for additional networking and business opportunities.

Final Video Presentations

In this last online event, the participants will show the videos they have created, with their final pitch about the business idea they have developed throughout this program. This event then closes the year 1 program.



Requirements

- *You are either a PhD student, researcher, professional in a manufacturing field, or interested in developing business ideas involving manufacturing.*
- *You do not need to have the intention to develop an entrepreneurial or intrapreneurial project for the Awareness and orientation track. Your learning experience will be connected with your PhD research or manufacturing interests.*
- *You have to attend the entire program to obtain the 15 ECTS.*
- *If you are an EIT Manufacturing Doctoral School student, to obtain the EIT Label Certificate you also have to attend the follow-up program, 'How to validate a business idea and how to prepare for a launch', resulting in an additional 15 ECTS.*

Selection and intake assessment

Applications will be accepted until the 15th of March. In the second half of March, a selection and intake assessment will take place, with the aim to define your entrepreneurial capacity and intentions. You could be invited to an online interview, if needed.



Arts et Metiers is a higher education engineering school in France with 8 Education and Research Campuses, 14 research laboratories and 3 institutes. Arts et Metiers 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 FACULDADE DE ENGENHARIA
UNIVERSIDADE DO PORTO

FEUP is currently one of Portugal's oldest and most prestigious teaching and research institutions in engineering and related fields, with 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.



Mondragon University is a non-profit cooperative private university in the Basque Country, officially established and recognised in 1997. It is part of Mondragon Corporation. Committed since its foundation to quality education and studies with a practical focus, they give great importance to the comprehensive training of their students.



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 projects by two of its units — The Czech Institute of Informatics, Robotics, and Cybernetics (CIIRC), and the Faculty of Mechanical Engineering.



SLOVAK UNIVERSITY OF
TECHNOLOGY IN BRATISLAVA

Slovak University of Technology in Bratislava (STUBA) is the largest and most significant technical university in Slovakia. 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 programs.



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.



Paola Fantini

Education Director EIT Manufacturing

In the EIT Manufacturing education programs, 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 programs 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.

Program developed in collaboration with:



Henri Mennens

innpulse Innovation Consulting

The Innovation and Entrepreneurship Program at the EIT Manufacturing Doctoral School lets participants valorize their knowledge, research findings, and related market insights. For a period of two years, we offer them a roadmap that will help them to find out how to develop an entrepreneurial or intrapreneurial project during the Doctoral School or afterwards. The program has the latest insights on business design, innovation, and entrepreneurship, provided by awesome experts from the business and academic field.



Making innovation happen!



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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.

Keep up with the latest on:

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