RawMaterials ACADEMY

EIT RawMaterials and the EIT Label

Introduction to the EIT-Labelled Master Programmes

This activity has received funding from the 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

The EIT Label

What is EIT RawMaterials and how can I contribute to their mission?

EIT RawMaterials is the largest and strongest consortium in the raw materials sector worldwide. Its vision is a European Union where raw materials are a major strength. EIT RawMaterials aims to train the next generation of raw materials experts, offering prospective students the unique opportunity to learn holistically about raw materials and circular economy challenges through the lens of entrepreneurship and innovation. During and after graduating from EIT RawMaterials Labelled programmes, the classroom becomes a laboratory, ideas are converted to solutions and graduates become societal game-changers.

EIT RawMaterials is part of a unique European initiative: EIT, the European Institute of Innovation and Technology. EIT's educational mission is to raise a new generation of innovators in Europe with an entrepreneurial mindset. The EIT Label is a certificate of quality that is awarded only to excellent educational programmes at the Master and Doctoral level.

As a student of an EIT RawMaterials Labelled programme, you will be part of the largest global raw materials partnership – with more than 100 partners from 20 EU countries coming from academia, research institutions and industry. Your collaboration will contribute to the EIT RawMaterials vision of finding new, innovative solutions to secure the sustainable supply of raw materials across the entire raw materials value chain – from mining to extraction, processing to reuse, recycling and circular economy strategies.

Are you interested in:

- **Becoming a global game-changer?**
- **Collaborating internationally to develop creative and sustainable solutions to resource and societal challenges?**
- **Gaining practical experience in your chosen industry sector, rather than only learning theory in a lecture hall?**
- **Getting involved in a dynamic start-up scene?**
- **Enhancing your educational experience and obtaining dual/joint degrees by spending each semester at different top universities?**
- **Becoming part of the EIT Alumni Community?**
- **Then the EIT RawMaterials Labelled programmes are for you!**

Why should I apply to an EIT Labelled programme?

EIT RawMaterials Labelled programmes offer you all of this

Seven Education programmes within the EIT RawMaterials Academy have been awarded the EIT Label

Five Master programmes

- AMIS – Master in Advanced Materials for Innovation and Sustainability
- EMC – European Mining Course
- EMerald – Master in Georesources Engineering
- SINReM – Master in Sustainable and Innovative Natural Resource Management
- SUMA – Master in Sustainable Materials

Two Doctoral programmes

- IDS-FunMat-INNO – International Doctoral School in Functional Materials
- NEAT Materials – New Approaches and Technologies in Materials Production

Graduates from all EIT-labelled programmes are awarded either a dual or joint degree from at least two of the participating universities, with an EIT Label certificate confirming graduation from an EIT-labelled programme.

AMIS
Master in Advanced Materials for Innovation and Sustainability

Awarded the EIT Label in 2016

Double Diploma	From two of the following: • Grenoble INP: Master Science et Génie des Matériaux • Aalto University: Master of Science (Technology) • TU Darmstadt: Master of Science in Materials or Master of Science in Physics or Chemistry • University of Bordeaux: Master Sciences et Technologies, mention CHIMIE, spécialité Synthèse et Propriétés des Matériaux Inorganiques – FAME Hybrids and Ceramics • University of Liège: Master en sciences physiques or Master en sciences chimiques - EIT Label Certificate
Credits	120 ECTS, 24 months
Language of Instruction	English
Starts in	September
Requirements	Eligible candidates must have a Bachelor degree in Science, Technology or Engineering (Physics, Chemistry, Materials Science) or its equivalent, as well as an English language certificate.
Fees	1.000€/year for EU students 8.000€/year for non-EU students
Application Period	1st Round: November to January 2nd Round: February to April
Scholarships	For students beginning in September 2018, EIT scholarships up to **EUR 9.000** per student are available with additional financial support for student involvement in conferences, summer schools and other events. For information on how EIT scholarships will be awarded and who is eligible, please contact the coordinating university directly: contact@amis-master.eu

Participating Universities

- Aalto University – Finland
- University of Bordeaux – France
- Technische Universität Darmstadt - Germany
- Grenoble INP – France
- University of Liège – Belgium

The Challenge

As global and EU population increases along with well-being and welfare, consumption per capita is also increasing. In the EU especially, consumption has outpaced production, particularly with respect to the more complicated, resource-intensive technologies and products that have become part of daily life. As a result, the importance of recycling and the circular economy will continue to increase in order to diversify our sources of supply and meet our needs.

AMIS is a Master programme in Advanced Materials for Innovation and Sustainability. The primary objective of the programme is to provide students with an understanding of the full raw materials value chain and a mind-set for innovation and entrepreneurship focusing on sustainability. AMIS tackles this challenge by focusing on three themes – all of which are central themes of EIT RawMaterials:

- Substitution of critical or toxic materials in products and for optimized performance
- Material chain optimization for end-of-life products
- Product and services design for the circular economy

AMIS focuses primarily on metal and mineral raw materials. However, bio-base and polymer materials are covered in terms of their substitution potential, as well as other materials in the context of multi-material product recycling.

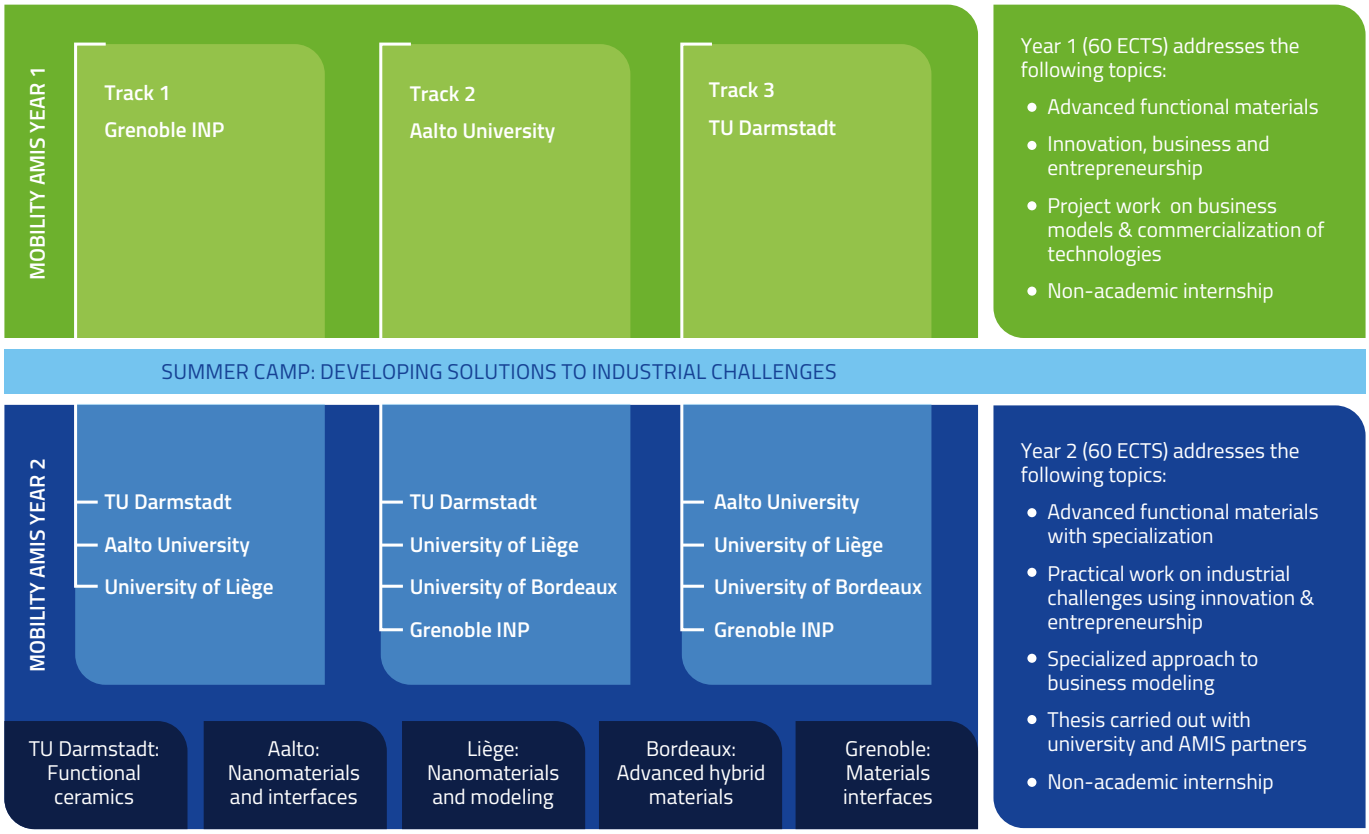
AMIS aims to train T-shaped professionals - experts in a particular raw materials discipline with an overview of the entire raw materials value chain. T-shaped professionals also work closely with industry to explore how innovation and entrepreneurship can strengthen the market uptake of raw materials solutions.

Through the programme, AMIS students will become experts in the field of raw materials, particularly in sustainable functional materials, while gaining a holistic view on the value and process chain.

Programme Structure

AMIS is a two-year programme:

Year 1 takes place at Grenoble INP, Aalto University or TU Darmstadt. Once students have chosen their entry university, AMIS provides a general curriculum in Materials Sciences, including mandatory courses



in Advanced Functional Materials and Innovation, Business and Entrepreneurship.

Year 2 is the specialization year and takes place at one of the five consortium partner universities. Year 2 includes mandatory courses in Advanced Functional Materials with a specialization in materials interfaces, nanomaterials, ceramics or hybrids, as well as the Master thesis, a research and development experience in material science jointly supervised by home university professors and host non-academic partners. Student mobility is an integrated part of the programme, involving study at two of the five consortium partner universities, depending on your chosen speciality. Year 1 and Year 2 must be taken at universities in different countries.

Innovation & Entrepreneurship Training

Robust entrepreneurship education is a cornerstone of AMIS. Students will have the benefit of well-rounded, hands-on innovation and entrepreneurship training that will equip them for a professional future, including joint collaboration courses with AMIS partners:

- Project-based courses (Inno Projects I and II) focusing on development of business models for the commercialization process of new technologies.
- The one-week intensive Summer Camp working in teams on industry case studies to create new or significantly improved products, services, processes, policies, new business models or jobs.
- Inno-mission Internship: work experience in a company or research organization developing a solution-focused approach by translating innovations into feasible business solutions and the commercialization of new technologies.
- Practical work on various industrial projects integrated with innovation and entrepreneurship content.
- Throughout the programme, students will have the opportunity to meet with relevant academic contacts in the innovation and entrepreneurship ecosystem as well as non-academic partners (industries, research and training organizations, entrepreneurs) who will also support future career building. The objective is to share best practices to enable learning from their methods and mistakes. If the results of a Master thesis are deemed suitable, AMIS graduates can also expect assistance from partners in setting up a business or spin-off.

Professional profiles after graduation

The skills and knowledge AMIS alumni will develop will be highly appreciated by industries in the Materials Science domain or by laboratories, especially in the following sectors: microelectronics, optics, bio-technologies, energy, communication, environment. As a resource engineer, potential career paths include:

Academic career/research: at universities, research institutions, teaching students or in a managerial position. Scientists with high commercialization awareness, knowledge, and competences; someone who can effectively communicate the commercial value of their scientific research.

Resource industry: SMEs in chemistry, exploration, green energy, machinery and plant construction, metal working industry, ceramics, environmental economy (R&D, product development, management, production, marketing and sales). Expert or manager whose actions and decisions influence the innovation output, value creation and performance of the company.

Freelancer and entrepreneur: create your own business or become a consultant.

Wider society: science journalism, consulting, project development and management, advisor to policy makers, administration, specialist agencies, media etc.

Are you a student who is:

- Interested in sparking innovation in the raw materials sector?
- Keen to become entrepreneurial and start your own company?
- Motivated to find real solutions to environmental and societal challenges?
- Interested in hands-on learning in industry and research companies?

For more information:

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