



SINREM: International Master of Science in Sustainable and Innovative Natural Resource Management

LAUNCH YOUR CAREER

IN RAW MATERIALS

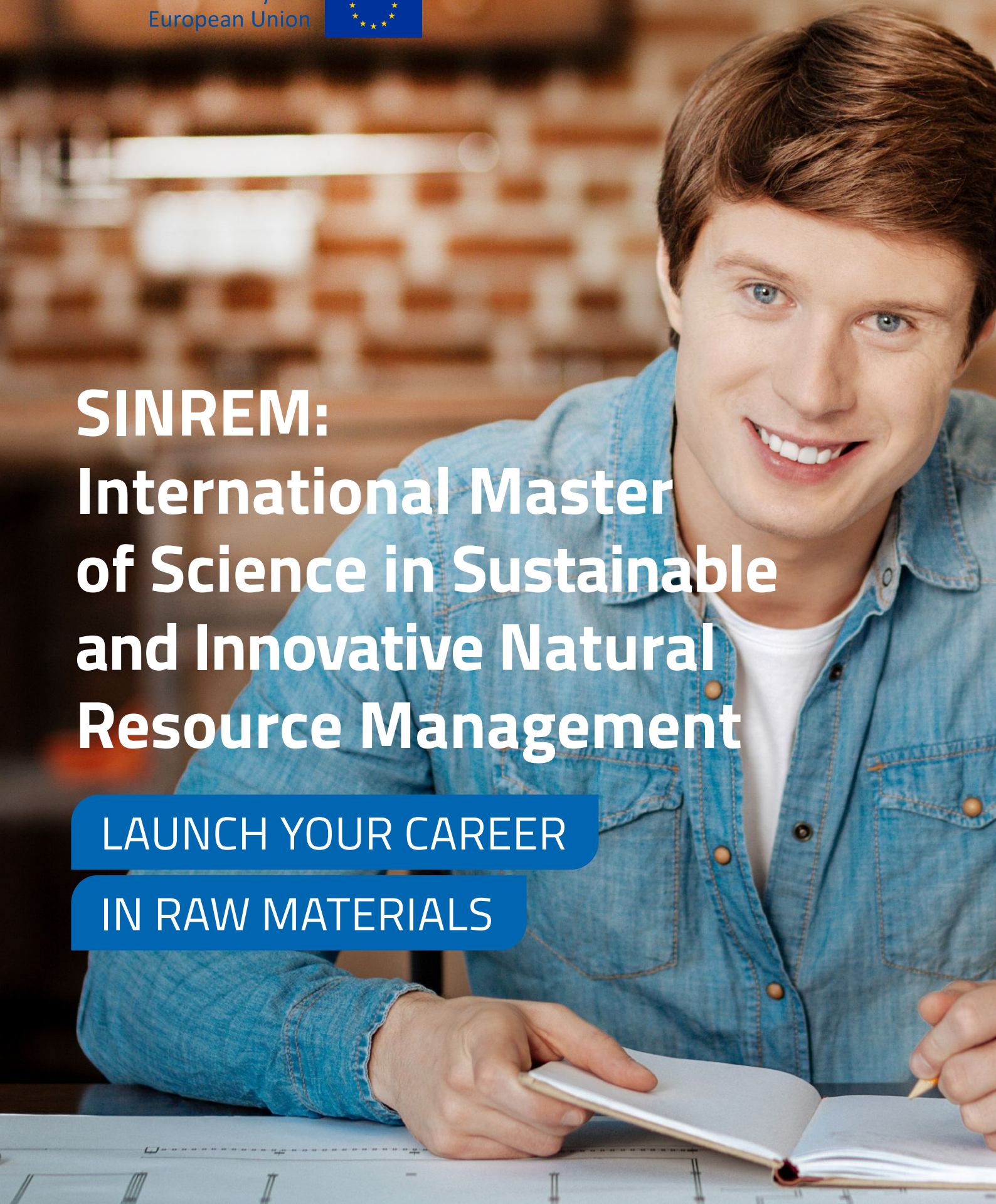




TABLE OF CONTENTS

Introduction	4
What do we offer students?	6
What to expect?	7
Exclusive activities and support for EIT-Labelled students	8
Do you have a raw materials business idea?	10
EIT RawMaterials Alumni	11
SINREM International Master of Science in Sustainable and Innovative Natural Resource Management	12
Programmes	16

Introduction



Our modern lifestyle relies on raw materials. From the iron and steel of our railway infrastructure to the gold and silver in the circuitry of smartphones: raw materials are everywhere. The transition to a climate neutral future requires cobalt for electric vehicles, lithium for rechargeable batteries, silicon for solar panels, and rare earth elements for wind turbines that generate renewable energy.

As the world grows smaller and more hyper-connected, the impact of society on the Earth has never been more visible. It is now clear that we need to shift to a circular economy in order to responsibly use the Earth's finite resources. But what can just one individual do to help? More than you think! Real change requires courage, innovative thinking, and collective action – the same skill set that EIT RawMaterials Academy looks for in prospective students. Are you ready to mine your raw talent, help shape a more circular, green economy, and create sustainable solutions for tomorrow?



What do we offer students?

EIT RawMaterials Academy offers students a unique opportunity to learn in a dynamic environment, focusing on real-life challenges. Awarded by the EIT (European Institute of Innovation and Technology), a body of the European Union, the EIT Label is a certificate of quality that is granted only to excellent educational programmes at the master's and doctoral level.

As a student of an EIT-Labelled programme from EIT RawMaterials Academy, you'll be part of the largest European raw materials network with more than 300 organisations as partners, including higher education professionals, researchers, and industry experts from over 20 European countries. As an EIT Label student, you will be welcomed into this network and will champion and contribute to the EIT RawMaterials goals of finding new, innovative solutions to secure the sustainable supply of raw materials across the value chain: from exploration, mining and mineral

processing to recycling, substitution and a circular economy. EIT RawMaterials aims to equip a new generation of innovators in Europe with the necessary entrepreneurial mind-set for designing and delivering materials solutions. You'll also get the chance to collaborate internationally and develop sustainable solutions to pressing economic, environmental and societal challenges. And long after you graduate, you can stay connected via EIT RawMaterials Alumni.



JOIN AN EIT-LABELLED PROGRAMME AND BECOME A
GLOBAL GAME-CHANGER, EQUIPPED WITH THE KNOWLEDGE,
SKILLS AND EXPERIENCE EMPLOYERS SEEK.



What to expect?



→ Thesis internship placements at leading European companies

→ Membership of the EIT RawMaterials Alumni community

→ 'Learning by doing' with challenge-based courses that focus on real-life problems

→ Study tours and visits to innovative companies and industrial sites

→ Exciting new ways of learning: online courses, virtual and augmented reality and MOOCs

→ Courses designed to nurture start-up ideas

→ Course modules dedicated to entrepreneurship and innovation skills

→ EIT RawMaterials Innovation support: business plan competitions, innovation bootcamps and funding

→ Expertise in a raw materials discipline – a comprehensive understanding of the entire raw materials value chain

→ EIT RawMaterials summer schools and interdisciplinary courses

→ European mobility – study in at least two European countries

Exclusive activities and support for EIT-Labelled students

Students on EIT-Labelled master's programmes within the EIT RawMaterials Academy receive a range of additional opportunities to boost their innovation and entrepreneurship skills, grow their network in the raw materials sector and gain the experience they need to thrive.

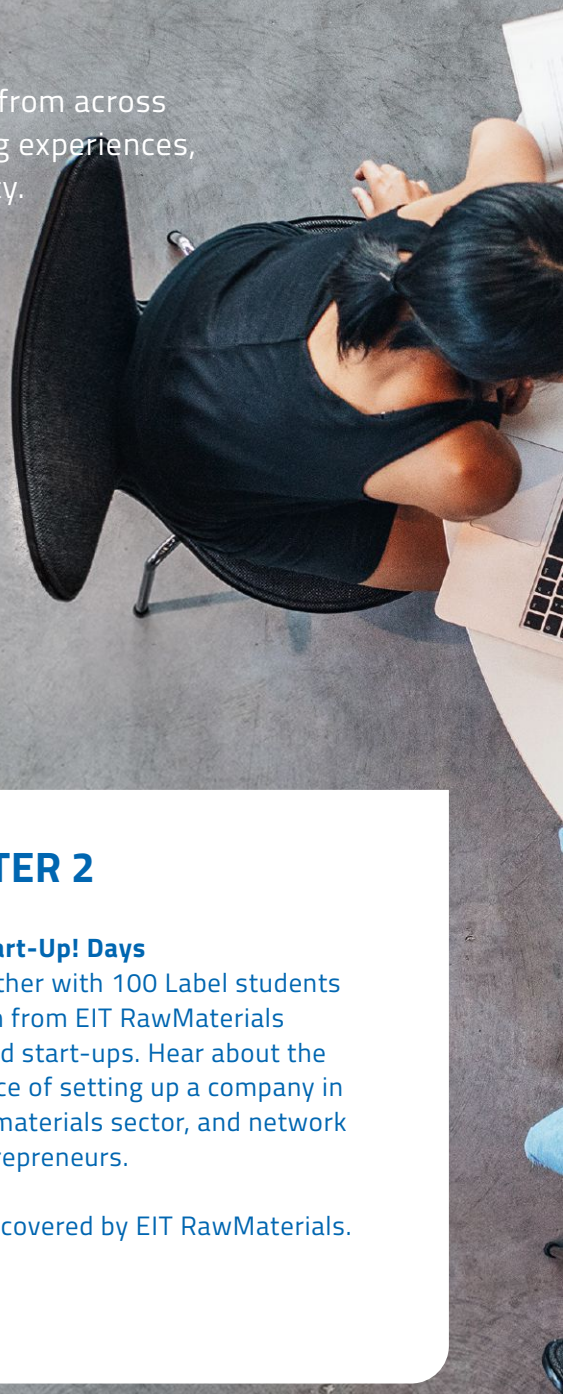
These exclusive events bring together EIT-Labelled students from across the Master School, and form the basis of your shared learning experiences, making you a full member of the EIT RawMaterials community.

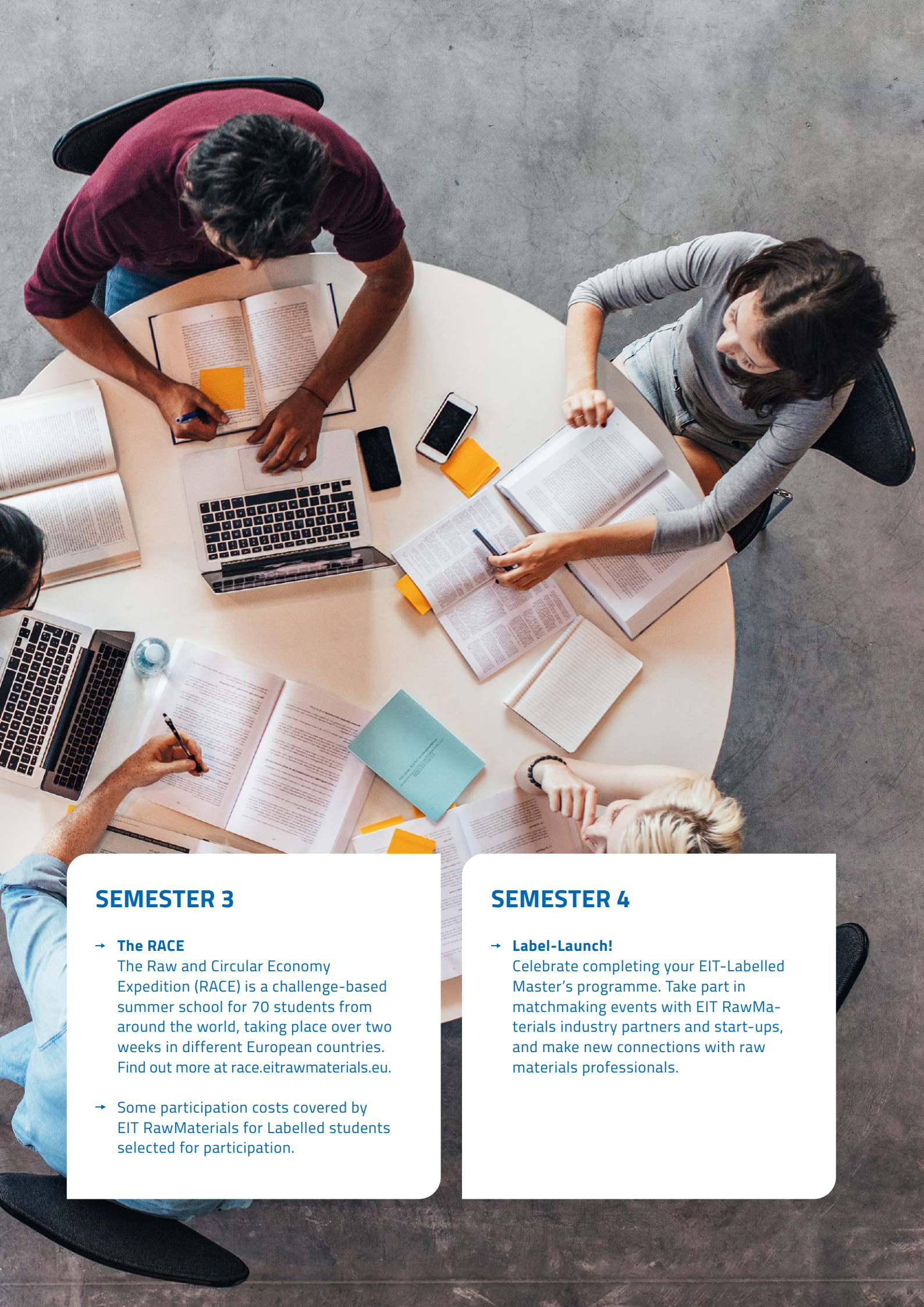
SEMESTER 1

- **Label Induction Days**
Meet the EIT RawMaterials Academy and learn how to get involved in our community and access the many opportunities on offer. Sign up for EIT RawMaterials Alumni and start growing your network.
- Vote for your representative on the Label Student Board, or stand for election!

SEMESTER 2

- **Label Start-Up! Days**
Get together with 100 Label students and learn from EIT RawMaterials supported start-ups. Hear about the experience of setting up a company in the raw materials sector, and network with entrepreneurs.
- All costs covered by EIT RawMaterials.





SEMESTER 3

→ The RACE

The Raw and Circular Economy Expedition (RACE) is a challenge-based summer school for 70 students from around the world, taking place over two weeks in different European countries. Find out more at race.eitrawmaterials.eu.

- Some participation costs covered by EIT RawMaterials for Labelled students selected for participation.

SEMESTER 4

→ Label-Launch!

Celebrate completing your EIT-Labelled Master's programme. Take part in matchmaking events with EIT RawMaterials industry partners and start-ups, and make new connections with raw materials professionals.

Do you have a raw materials business idea?

EIT RawMaterials offers a range of support for individuals and companies with innovative business ideas, including:

Lab2Market

- A three-term entrepreneurship training programme, exclusively for EIT Label students and graduates. Lab2Market will help you come up with a business idea, create a start-up and connect you with investors and customers. Grants are available for selected participants.

EIT Jumpstarter

- One of Europe's top pre-accelerator programmes, to help you develop your business idea and understand what's needed to create a successful start-up.

EIT RawMaterials Accelerator

- A three-stage accelerator programme to help start-ups with a developed product to bring their solution to the market.

Booster Call

- Financial and network access support for start-ups and SMEs in the raw materials sector.

EIT RawMaterials Alumni

From the moment you join an EIT-Labelled Master's programme in the EIT RawMaterials Academy, you are eligible to join EIT RawMaterials Alumni. This organisation provides a great opportunity to connect with the EIT RawMaterials ecosystem and varied EIT RawMaterials activities, such as business idea competitions, start-ups, professional development courses and Master's and PhD programmes.

It is run by and for its members, who can take part in events, and develop their careers through internships and job offers, networking activities and much more, forming a hub for a diverse range of raw materials students, academics and professionals. Furthermore, EIT RawMaterials Alumni provides you with a connection to the wider EIT Alumni community and alumni events around Europe.





International Master of Science in Sustainable and Innovative Natural Resource Management

Awarded the EIT Label in 2017

THE CHALLENGE

Mineral and metal raw materials are one of the fastest depleting resources on Earth. A steady and sustainable supply of many of these materials is vital for a decarbonising society, renewable energy infrastructure, electric mobility and also consumer products and electronics. The outdated make-take-use-dispose model is no longer valid in a world of finite resources. In order to deal with this challenge, three renowned European universities jointly

organise the International Master of Science in Sustainable and Innovative Natural Resource Management (SINReM). SINReM trains students to develop sustainable solutions across the entire raw materials value chain. From resource exploration to sustainable extraction processes and the development of more sustainable materials and recycling, students are taught to find new solutions that work towards the achievement of a circular economy.

With the support of the
Erasmus+ Programme
of the European Union



Joint diploma	Joint diploma of International Master of Science in Sustainable and Innovative Natural Resource Management from Ghent University, TU Freiberg and Uppsala University. – EIT Label Certificate
Credits	120 ECTS, 24 months
Language of Instruction	English
Starts in	September
Requirements	A bachelor's degree (minimum 180 ECTS) in bioscience engineering, chemical engineering, chemistry, environmental sciences and engineering, geology, geophysics, mining engineering, mineralogy, materials sciences, metallurgy or process engineering, or another degree that shows affinity with any aspect of the (minerals and metal) raw materials value chain. This should include the equivalent of at least 10 ECTS in chemistry and 15 ECTS in physics/mathematics. Degrees in natural resources management (forestry, wildlife, bio-conservation, ect.) are not suited for the SINReM programme. Visit www.sinrem.eu for more detailed academic and language requirements.
Tuition fees	European (EEA and Swiss) 2023: €6,000/year All others 2023: €12,000/year Visit www.sinrem.eu for up-to-date fee information.
Application Period	All nationalities for Erasmus Mundus scholarship: 28 February 2024. Non-EEA and non-Swiss for AVSA scholarship or as self-funding student: 28 February 2024. EEA and Swiss for AVSA scholarship or as self-funding student: 31 May 2024. Visit www.sinrem.eu for up-to-date deadline information.
Scholarships	For students enrolling in September 2024, AVSA scholarships of €15,000 from EIT RawMaterials are available. European EIT RawMaterials scholarship holders receive a partial tuition fee waiver down to €2,000 per year. Additionally, a number of Erasmus Mundus full scholarships of up to €49,000 are available, covering full tuition fees and living expenses. Visit www.sinrem.eu for up-to-date scholarship information.



“The SINReM program has allowed me to study at 3 different world-class universities. It has been a great way to combine my studies with travelling. Although we were held back by the pandemic in many ways, I can't think of a better way to have spent the last 2 years (2020-2022)!”

— **MARTHA HENDERSON, CANADA (SINREM)**

PARTICIPATING UNIVERSITIES

Ghent University

Belgium

TU Bergakademie Freiberg

Germany

Uppsala University

Sweden

FOR MORE INFORMATION

sinrem@ugent.be

www.sinrem.eu

Programme Structure

YEAR 1

SEMESTER 1 Ghent University

- Problems and innovations in the process chain of mineral resources at TU Freiberg (4 ECTS)
- Introduction to the circular economy, economics and management of natural resources (4 ECTS)
- Clean technology (5 ECTS)
- Sustainable development and multicriteria decision-making (3 ECTS)
- Rational use of materials (5 ECTS)
- Resource recovery and recycling technologies (5 ECTS)

SEMESTER 2 Uppsala University

- Mineral exploration (10 ECTS)
- Innovation management and entrepreneurship (10 ECTS)
- Elective course (5 ECTS)
- Summer course on Resources chemistry at TU Freiberg (9 ECTS)



HOLISTIC VIEW OF THE VALUE AND PROCESS CHAIN



YEAR 2

ELECTIVE MAJOR

Ghent University

- Circular societies (15 ECTS) OR
- Resource recovery and sustainable materials (15 ECTS)
- Financial and sustainability reporting, financial planning and business valuation (5 ECTS)
- Training in industry (internship) (10 ECTS)
- Master thesis (30 ECTS)

Uppsala University

- Georesource exploration (15 ECTS) OR
- Sustainable entrepreneurship (15 ECTS)
- Financial and sustainability reporting, financial planning and business valuation (5 ECTS)
- Training in industry (internship) (10 ECTS)
- Master thesis (30 ECTS)

TU Freiberg

- Sustainable processes (15 ECTS)
- Financial and sustainability reporting, financial planning and business valuation (5 ECTS)
- Training in industry (internship) (10 ECTS)
- Master thesis (30 ECTS)



DEEP UNDERSTANDING OF ONE SUBJECT AREA



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PROFESSIONAL PROFILES AFTER GRADUATION

Entrepreneur: SINReM prepares you to start your own business. You will interact with company founders from the raw materials sector, gain the necessary knowledge and skills for innovation management and IPR, learn to develop and analyse business models and plan how to implement research results into application. Industrial partners and the research transfer/ business development departments of the three partner universities are also there to support you.

Work in the Industry: Create a spin-off from an existing company or become a resource engineer in research departments or technological departments of small, medium and large companies worldwide.

ARE YOU A STUDENT WHO IS:

- Interested in exploring how to use engineer technologies to improve the use of finite raw materials?
- Keen to learn how innovation and entrepreneurship competence and skills can position you to contribute both to current industries and create your own start-up?
- Motivated to work closely with industry and research on developing science-based solutions to pressing challenges?

VISIT SINREM.EU
TO FIND OUT MORE AND APPLY

Programmes

Nine Master's programmes within the EIT RawMaterials Academy hold the EIT Label. Graduates from all EIT-Labelled programmes are awarded a degree from one or more of the participating universities, with an EIT Label Certificate confirming graduation from an EIT-Labelled programme.



AMIR

Master in
Advanced Materials:
Innovative Recycling



AMIS

Master in Advanced
Materials for Innovation
and Sustainability



EMerald

Master in Georesources
Engineering (Innovative
Education in Geometallurgy
and Circular Economy)



MEITIM

Master in Entrepreneurship,
Innovation and Technology
Integration in Mining



RaVeN

Master in
Mining Engineering



SINReM

International Master
of Science in Sustainable
and Innovative Natural
Resource Management



SUMA

Master in
Sustainable Materials



TIMREX

Master in
Mineral Exploration

Labelled by:



A body of the European Union



Supported by:



Co-funded by the
European Union



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