

## CEE-SIMP

# Circular Economy Entrepreneurship in System Integrated Metals Processing

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# International course with industry co-operation



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- Organizers:



- Students and teachers from different universities around Europe (Finland, Norway, Poland, Estonia, Sweden, Netherlands).
- Project work topics from industry (Outotec, DIMECC)

# Background



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- EIT Knowledge and Innovation Communities (KIC) main goal to turn students into entrepreneurs and strengthen entrepreneurial education.
  - Student to Entrepreneur
  - Idea to Product
  - Lab to Customer
- CEE-SIMP Challenge: How do we bring together bright minds at the Doctoral-level to create significant value-generating proposals addressing industrial needs ?

# Structure on the course



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- 6 online lectures recorded, with topics on entrepreneurship, circular economy and sustainable metals production and processing.
- 5 Working cases from industrial partners to develop potential value-generating solution.
- Aims:
  - Development of entrepreneurial insight for students, emphasis of sustainable metallic raw materials production.
  - Multidisciplinary, learning from peers
  - Industry co-operation
  - Generating of new, feasible business ideas for sustainable metals production.

# On-line lectures



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- Introduction lecture, practicalities and connections.  
Rodrigo Serna, Aalto University
- **Urban mining: Processing of secondary raw materials.**  
Rodrigo Serna, Aalto University
- **New circular economy business in metals production.**  
Tomasz Chmielewski, Wroclaw University of Technology
- **New circular economy business opportunities in metals and machinery.**  
David Peck, TUDelft
- **Global challenges. Why do we need circular economy? Sustainability in circular economy.**  
Markus Reuter, Helmholtz Institute Freiberg for Resource Technology
- **Entrepreneurship for the circular economy.**  
Lund University
- **Additive manufacturing for Metals.**  
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# Project work



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- The assignment is a pre-study on new business opportunities for by-products from metals' processing
- **Technical report**
  - A detailed description on the technical solution proposed to solve the industrial problem.
- **Business idea report**
  - A report focused specifically on the business potential of your proposed technological solution
    - Following the EITRawMaterials model for Business Idea Competition
      - The following items should be addressed:
        - Who are the customers, users/beneficiaries?
        - What is the opportunity/market need (in terms of potential revenues or cost reduction)?
        - What is new in your idea?
        - What are the expected output/outcomes and impacts of your solution?

# Course schedule



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	April	May	June	July	August
<b>Activities and resources (Organizers)</b>	<p>Online lectures</p> <p>Project work topics available</p> <p>Team formation</p>		<p>Online feedback based on project work report and first pitch (4.6 – 8.6.)</p>		<p>Summer Camp (7.8. – 9.8.)</p>
<b>Deliverables (Participants)</b>	<p>Choice of project work topic by teams</p> <p>Team organization: designation of roles and tasks</p>	<p>Project work report (DL: 25.05.)</p>	<p>First 3 min pitch for online meeting</p>	<p>Business idea plan (DL: 27.07.)</p>	<p>Final presentation for IdeaCamp</p> <p>Final pitch for competition</p>

# Summer Camp @ LUT 2018



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## *CEE-SIMP Summer Camp LUT'18*



RawMaterials

Connecting matters



EIT RawMaterials is supported by the EIT,  
a body of the European Union



# Summer Camp



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- Organized three times and course Summer Camp always in different location (Aalto, TUT, LUT).
- Organizer makes the program.
- Summer Camp
  - Oral presentations and discussion on the assignments
  - Deepening lectures on how to develop a profitable start-up (company) including funding and pitch training
  - Talks from industry representatives and existing start-ups
  - Case studies (in groups): development of business plan and pitching talk
  - Pitch competition

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- Hands on entrepreneurial experience
- JHC – prototyping & testing
- Lectures on Innovations & Entrepreneurship



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- Working with own projects, presentation and pitching



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- Local business examples: Flowrox (new business line) & Lehmus Roastery (new high-end markets).



# Experiences and good practices



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- Simulates well working life in terms of project work (multidisciplinary, international, on-line working, project delivery & presentation).
- Good and improving feedback from students and industry.
- **MORE STUDENTS NEEDED.**
  - Designed for 30 students.
  - **Open for all doctoral students (including funding for Summer Camp).**
- **2019 Summer Camp in TU Delft, Netherlands.**

Thank you



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