Metnet – European Pilot Plant network for Extractive Metallurgy and Mineral Processing

Marianne Magnelöv, Marion Lenoir, Gro Eide
Prometia Scientific Seminar, Berlin, 13-14 December
Metnet make Europe’s pilot-scale equipment available

No one has all the answers. The best way to create innovative solutions for the industry is to work together. The strength lies in cooperation!

By contacting either of us, you will find the specific competence and equipment you need.

www.metnet.eu
The strength lies in cooperation

1. **BRGM**
   Processing of minerals and secondary materials

2. **CEA**
   Hydrometallurgy for non-ferrous industry

3. **CRM**
   Pyrometallurgy for ferrous and non-ferrous industry

4. **Elkem Technology R&D Technical Center**
   Pyrometallurgy for ferrous and non-ferrous industry

5. **Eramet Research**
   Mineral processing, hydro- and pyrometallurgy for ferrous and non-ferrous industry

6. **Extracthive**
   Mineral processing and hydrometallurgy for non-ferrous industry

7. **GTK**
   Processing of minerals and secondary materials

8. **IMN**
   Mineral processing, hydro- and pyrometallurgy for non-ferrous industry

9. **Materials Processing Institute**
   Pyrometallurgy for ferrous industry

10. **Swerim**
    Pyrometallurgy for ferrous and non-ferrous industry
A network for innovative solutions and competitiveness

• Unique testing environment - Processing chain integration by combining expert qualification and pilot plant equipment from different sites

• Development, validation and upscaling of new processes and technologies under industrial conditions

• Facilities adapted to suit each customers own operating conditions and specific needs to treat all types of metallic ores, industrial minerals, metallurgical residues, tailings, urban waste etc.

• Mineral and metallurgical upscaling infrastructure - from raw materials to metals
Industrial support organisation (ISO)

Supports Metnet to develop the offer and improve service to customer by identifying needs and trends of industry.

- Arcelor Mittal
- A.V Dawson
- Boliden
- British Steel
- CASPEO
- Eurotab
- EYDE cluster
- Ferrovan oy
- Harsco
- Innovator
- Keliber
- Reactive Metal Particles

- SSAB Europe
- SUEZ Belgium
- Tata Steel, Europe
- TEGma
- ZGH Boleslaw
- ZM Silesia SA
Extended services

- Upscaling consultancy directed to SME and start-ups
- Interaction with academia for practical courses of industrial development and scale-up
- Training aimed at technical and operational staff in the industry
GOOD EXAMPLE : the Go-4-0 Project

Collaboration between METNET partners / upscaling project / METNET expertise

Go-4-0 project: decrease of the need for landfill deposits by turning waste streams from the metal industry into valuable products

- **EIT-RM project**: 2,5 M€ - 3 years
  - EIT-RM Upscaling Projects start at TRL 5 – Having pilot facilities facilitates the participation in these projects

- 5 partners: industrials / research centers / universities

- Collaboration between METNET partners: bringing together different pilot facilities
  - CRM: Agglomeration / briquetting
  - ERAMET: Semi-industrial pilot tests

- Validation of the industrial process

- **METNET, a recognized and requested expertise**: for example, ERAMET responded to a customer’s request for expertise on a pyrometallurgical process thanks to METNET

2018-12-17
EU-project Spire – REE4EU 2016-2019

- Pilot scale set-up and operation of the integrated recycling process of Rare Earth Elements for permanent magnets and Ni-hydrid batteries

- Elkem Technology is responsible for the pilot scale up with Ion Liquid Extraction and High Temperature Electrolysis

- Total budget 8 MEUR, Elkem 1,7 MEUR
RemovAI – H2020 2018-2022

- Solutions for Bauxite Residue (BR) and spent potlining (SPL)
- Total budget 111 MNOK, Elkem 10 MNOK
- Possibility to test waste materials and agglomeration of raw materials for FeSi-process
Next steps

PROMETIA

Projects
Open Innovation
Lobby + Workshops
Pilot facilities
- Strengthen Prometia to develop its pilot activities
- Strengthen Metnet by reaching out to a broader market

• Sustainable network
• New services
• Attract industry