

CTM

Fundació CTM Centre Tecnològic
Manresa, Spain



ABOUT

CTM is a non-profit foundation located in Manresa (Spain). The centre's aim is to efficiently contribute to the technological development of companies and improve their ability to compete economically through the provision of specialised services and the execution of R&D projects. The team of 100 professional works in three units: Sustainability, Materials technology and Process and Modelling and Simulation.

The Sustainability Unit specialises in R&D and innovation in the fields of waste management and raw materials recovery technologies and processes, water and groundwater technologies, risk analysis, energy efficiency, renewable technologies and environmental assessments. The unit works for companies and public institutions to improve their competitiveness and technological development whilst reducing their environmental footprint and moving towards a circular economy.

CTM's Materials Technology Unit is focused on the investigation of the relation between the microstructure and mechanical properties of materials and the optimisation of the forming processes. Finally, the Unit of Process Modelling and Simulation has an experimented team working on finite element simulation around the multiphysical field, non linear mechanics or electromagnetism, the working tools are commercial software (Abaqus or Ansys).

EXPERTISE

CTM activities address to support industries in R&D and innovation activities to increase their competitiveness in relation to waste, water, resources recovering (valuable compounds, metals, etc.), simulation and materials technology. CTM's team is experienced in processing, pyrometallurgy and hydrometallurgy methods in the raw materials and mineral sector on:

- Waste management and valorisation and improvement of industrial processes:
 - Recovering of compounds with high added value by separation technologies: metals, critical raw materials, rare earth elements, inorganic salts, polyphenols and proteins.
 - Integration of waste streams in new products and processes: industrial symbiosis.
 - Analysis of alternative for processes.
 - Bench scale tests to validate new methodologies/ processes.
 - Life Cycle Assessment/Cost Analysis.

- Wastewater technology, reutilisation and recovery of chemical reagents, extraction of compounds with high value.
- New applications for advanced high strength steels and innovative alloys
- Simulation of geochemical processes (precipitation/ dissolution, Redox, adsorption, ion-exchange)

FACILITIES & SERVICES

CTM's facilities include chemical and experimental laboratories to perform both bench scale and pilot tests. In the laboratories, advanced experimental tests are executed in the fields of expertise of the units. The main technological capacities include the study of physico-chemical and biological processes and treatments for solid and liquid samples.

- Analytical and instrumentation: preparation and full characterisation of solid and liquid samples
- Equipment to investigate separation techniques and chemical processes: membrane technology, dissolution/precipitation; oxidation/reduction processes, metal bioleaching processes, ionic exchange, solvent extraction.
- Materials and process modelling and simulation laboratories: microscopy FE-SEM with EDX and EBSD, Nano-indentation equipment, Leco C-S, Climatic and corrosion chamber.
- Pilot plant: CTM has available a room to carry out large demonstration tests of innovative waste recovery, compounds recovery from wastewater and groundwater technologies.



MORE INFORMATION

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