



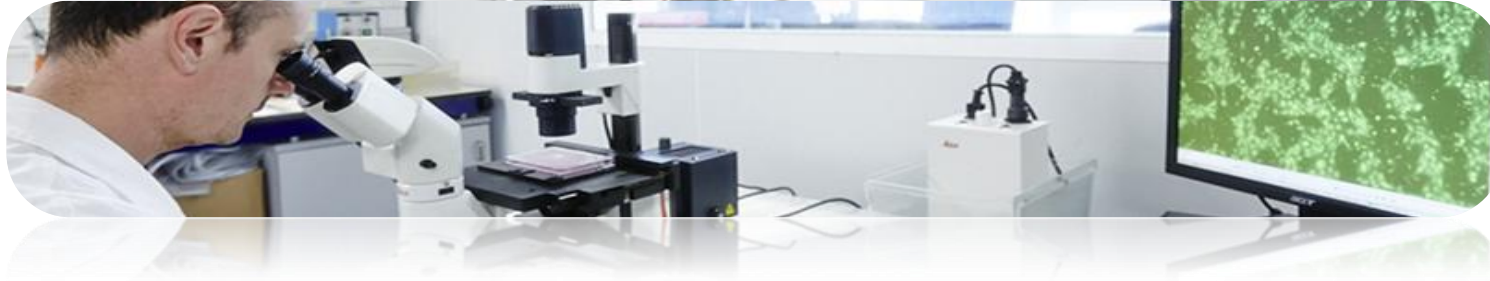
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METAL BY-PRODUCTS RECOVERY
12-13 November 2015
Brussels, Belgium

LEITAT expertise for SC5-13b-2016

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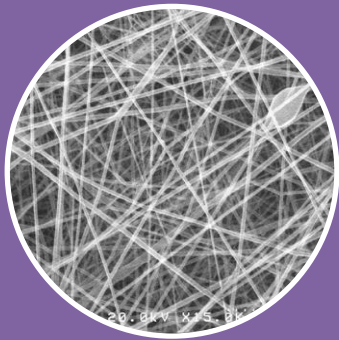


Knowledge divisions





Recovery technologies for metals (heavy, precious and/or rare Earth elements)

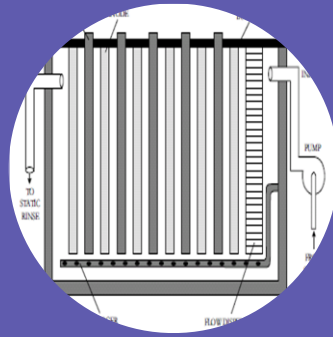


SELECTIVE ADSORPTION AND AFFINITY MEMBRANES

Nanofibers for metal uptake from water (Electrospinning)

Nanoparticles, Polymer Nanocomposites

Surface activation



ELECTROCHEMISTRY FOR PRECIPITATION AND SELECTIVE SEPARATION OF MEMBRANES

Electrowinning

From solid wastes (WEEE, scrap, etc)



BIOLEACHING

Extraction of Co, Mo, Ni, Pb and Zn from sulfide ores

IONIC LIQUIDS

Metal electro-deposition



ANALYSIS OF METALS

Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

X Ray Fluorescence (XRF)

PRE-TREATMENT SAMPLE

Directly (XRF)

-Microwave Digestion and Fusion (ICP-MS)



Environmental monitoring and Remediation strategies



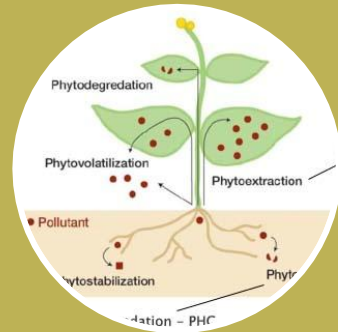
ENVIRONMENTAL RISK ASSESSMENT & EFFECTIVENESS OF THE TECHNOLOGY

- Safe application rate
- Ecotoxicological evaluation before and after remediation following standard guidelines (terrestrial and aquatic systems)



HUMAN RISK ASSESSMENT OF THE TECHNOLOGY

Occupational / consumer hazard assessment (*in vitro* and *in vivo* tests)



ENVIRONMENTAL MICROBIOMA

Analysis of microbial populations in environmental compartments

BIOREMEDIATION

Novel strains, bioaugmentation and biostimulation

PHYTOREMEDIATION

Selection of microbial strains for enhancing phytoremediation



ENVIRONMENTAL & COST ASSESSMENT

- Life Cycle Assessment
- Life Cycle Costing
- Training & Environmental Awareness
- Ecolabel and Communication
- Sustainable Production



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Programa Operativo FEDER 2014-2020

Thanks for your attention

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