ProMine Partners

GTK, Finland
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PMO, Finland
PYHÄSALMI MINE OY
KCL, Finland
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VTT, Finland
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KWH-MIRKA

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KGHM CUPRUM SP ZOO CENTRUM BADAWCZO-ROZWOJOWE
ECOREN, Poland
KGHM ECOREN S.A.
IMN, Poland
INSTYTUT METALI NIEZELAZNYCH

HG, Greece
HELLAS GOLD S.A.
IGME GR, Greece
INSTITOUTO GEOLOGIKON KAI METALLEFTIKON EREVNON

IGME ES, Spain
INSTITUTO GEOLÓGICO Y MINERO DE ESPAÑA

BRGM, France
BUREAU DE RECHERCHES GÉOLOGIQUES ET MINIÈRES
INPL, France
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BOLIDEN MINERAL AB
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KEMAKTA KONSULT AB
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WOLA CHEMISCH-TECHNISCHE ERZEUGNISSE GMBH
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TU BAF, Germany
TECHNISCHE UNIVERSITÄT BERGAKADEMIE FREIBERG

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CALDURAN KALKZANDSTEEN BV
SELOR, Netherlands
SELOR EEIG
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TECHNISCHE UNIVERSITEIT EINDHOVEN

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AGC MINAS DE PORTUGAL UNIPESSOAL LIMITADA
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THE UNIVERSITY OF WARWICK
BANGOR, UK
BANGOR UNIVERSITY

IRMCo, Malta
INTEGRATED RESOURCES MANAGEMENT (IRM) COMPANY LIMITED

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Project start date 1st May 2009/**duration** 4 years

ProMine comes alive at an interesting point in time when the prospects for nanoscience to be developed towards its full potential can become a reality. ProMine presents a dynamic multi-disciplinary vehicle that brings the worlds of science, industry, economics and creativity together, towards a common vision of developing cutting edge new technologies and nano products, leading to the revitalisation of the European Mining Industry.

ProMine's long term vision, aims to achieve cohesion and connectedness, and it is our common goal that the project will leave a lasting legacy.

Mineral nanoscience to give European industry a global competitive edge

Optimum recovery of metals using highly specialized biotechnologies

A powerful data management and visualization system of Europe's mineral resources

Predictive 4D Modelling to yield new discoveries of Europe's deep mineral resources

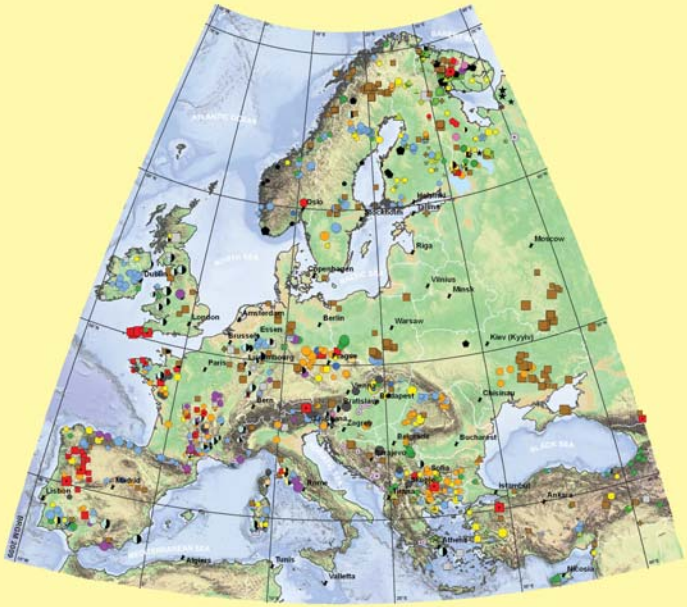
Rigorous sustainability assessment to ensure reduced environmental footprint

Knowledge based strategies to stimulate industrial links and guide good practice

ProMine

Nano-particle products from new mineral resources in Europe

A 21st century VISION of new ways of mining & product development & processes across 4 mineral belts in Europe



A research and technological development project co-funded by the European Commission's Seventh Framework Programme within Theme 4: NMP - Nanosciences, Nanotechnologies, Materials and new Production Technologies.

Bringing new products to market

ProMine brings together a broad spectrum of European leaders from industry and research to develop new, added value products, with the aim of stimulating the European mineral-based industry. Five innovative nano-particle products will be developed: 1) spherical rhenium powders for super alloys in aircraft and aerospace industry, 2) nano-silica for the construction industry, 3) nano-powders for paper coating, 4) nano-iron oxyhydroxysulphate for pigment production, and 5) metal fibres for abrasives.

Mineral nanoscience to give European industry a global competitive edge

Developing a pan-European WebGIS of Mineral Resources

All potential mineral resources (known and predicted) within Europe will be fully assessed, and the reserves needed for delivering the tailored raw materials to the manufacturing industry defined. The information will be made available to the extractive industry in a GIS-based system built using the latest developments in metallogeny, satellite image processing and database management.

A powerful data management and visualization system of Europe's mineral resources

Sustainability Assessment

Assessment will consider the environmental, economic and social dimensions of sustainability, through the use of Life Cycle Assessment and Life Cycle Costing techniques. A performance evaluation to investigate the impact of the project results (improved mineral databases, new products and eco-efficient production methods) at the selected sites will then be extrapolated to Europe-wide scale.

Rigorous sustainability assessment to ensure reduced environmental footprint

Innovative processing techniques

Research will focus on the integration of new technologies (including biotechnology) in current production methods (co-processing concept) and on the efficient utilisation of secondary raw material, minimizing the environmental impact of the final discharges and increasing the opportunity of transforming wastes into new products. This is expected to significantly improve the eco-efficiency of processing methods as well as raise the revenues of current mineral exploitation.

Optimum recovery of metals using highly specialized biotechnologies

Introducing 4Dimensional Geological Modelling

Linked to the mineral resource database, ProMine will develop 4D geology models which take into account the geological evolution in 3 dimensions integrated over time. Geological subsurface models will be demonstrated for four major active mining belts in Europe: 1) Fennoscandian Shield (Skellefte-Pyhäsalmi), 2) Forsudetic belt (Kupferschiefer area) of Poland-Germany, 3) Iberian belt of Portugal-Spain, and 4) the Hellenic belt of northern Greece.

Predictive 4D Modelling to yield new discoveries of Europe's deep mineral resources

Knowledge management and exploitation

The complexity and multi-disciplinary nature of ProMine presents a challenge in ensuring good communication among all the project's stakeholders. A broad based communication platform, using latest technologies and tools will provide a forum for rapid and effective interaction between the consortium, the ETP-SMR, industry, authorities and other interested parties including the local communities and the general public.

Knowledge based strategies to stimulate industrial links and guide good practice