# Tools for sustainable gold mining in EU - The SUSMIN project

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**Timetable:** 1.1.2014-31.12.2016

Budget: 1.9 M€

#### **Partners:**

Geological Survey of Finland (GTK) Wroclaw University of Technology (WUT) Geological Institute of Romania (GIR) University of Babes-Bolyai (UBB) Luleå University of Technology (LTU) University of Porto (UP) Trinity College Dublin (TCD)

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#### **Stakeholders:**

Global mining industry: RMGC, SAMAX, MedGold, Agnico-Eagle, Dragon Mining Technology companies: Outotec Finland Oyj, Kemira Oyj, Oulu Water Alliance Ltd

# **NEEDS**

- Sustainable supply of gold is crucial to revitalise Europe's industry and economy to meet increasing demand without compromising the social and environmental issues of gold mining
- Gold mining has challenges in ecoefficiency and extraction methods (e.g. cyanide)
- Novel sustainable methods and technologies for mineral processing, water treatment and management of environmental and social impacts are needed

# **OUTCOMES AND IMPACTS OF THE** RESEARCH

- Supports environmentally, socially and economically sustainable gold production in EU
- Project provides technologies and methods for sustainable mineral processing, water treatment and management of environmental and social impacts
  - → To manage economical, social and environmental risks of gold mining
  - → To achieve sustainability and long-term development of the mining areas
- Results will be combined to reports and recommendations for mine industry, environmental authorities as well as consultants
- Result will be disseminated through workshops in participating countries

#### **APPROACH and WORK PACKAGES**

#### 1. Gold exploration

→ New geophysical techniques for gold exploration



### 2. Mineral processing

→ Eco-efficient ore beneficiation methods and alternatives to cyanide leaching



### 3. Mine water treatment technologies

→ Novel water treatment solutions by advanced adsorbents



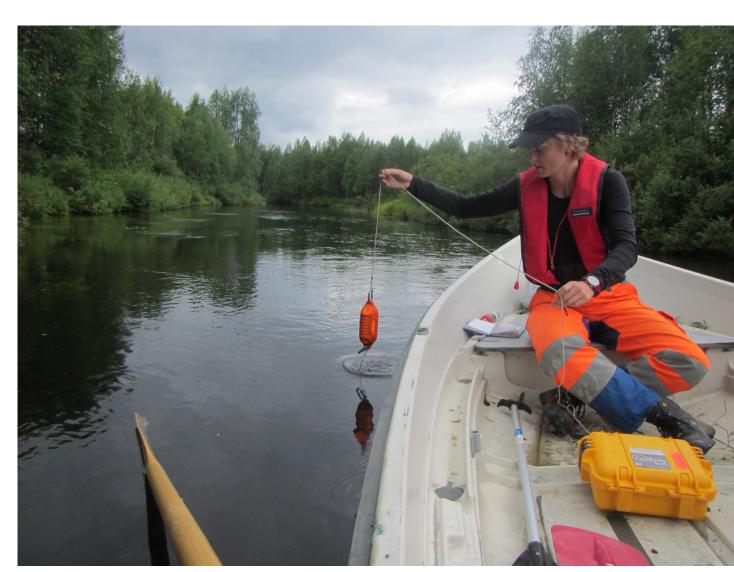
# 4. Mine waste management

→ Long-term stability of mine wastes and waste facilities and prevention of contaminated drainage



#### 5. Environmental monitoring, modelling and risk assessment

→ Solutions for monitoring, predicting and preventing environmental effects of mining



## 6. Sosio-economics of gold mining

- → Tools for enhancing the corporate social responsibility, community engagement and management of the stakeholder relations
- 7. Synthesis, communication, coordination

### **CASE STUDIES**

Romania: Rosia Montana and Brad-Certej Portugal: Castromil and Lagoa Negra Sweden: Dragon Mining Svartliden Mine Finland: Agnico-Eagle Kittilä Mine and Dragon Mining Orivesi

**MORE INFO** 

http://projects.gtk.fi/susmin/

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