

Expression of interest

Contact details

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KÜMAŞ

Kümaş was established in 1972 to produce dead burnt magnesite. Since then, Kümaş has become one of the largest integrated manufacturer and supplier of refractories for iron & steel, cement, lime, glass, nonferrous metals, and chemical industries. Also we provide heat processed magnesite as raw material to other refractory producers. Kümaş is located in Midwestern Turkey near the city of Kütahya, the location has been acknowledged as one of the most valuable sources of magnesite ore deposits throughout the world. Possession of its own raw material has been a determining factor in the success of KÜMAŞ.

Specific topic/s in Horizon 2020 SC5 Work Programme:

- [SC5-11d-2015: New sustainable exploration technologies and geomodels](#)

About the Project Idea:

The main purpose of the project idea is to gain the possibility of sustainable, cost effective mining operations. The following problems and recommended solutions are identified:

1. In order to overcome the problem of geological uncertainty and obtaining an accurate and detailed geological map of the open pit mine, Remote Sensing techniques will be used as mining exploration. ASTER and Landsat 8 satellites images will be used for this purpose.
2. It is known that, magnesite occurrence is mostly tectonic dependence. The major stress direction acted the region must be known. For this purpose, Satellite images will be used and lineament of the region will be detected. Statistical lineament analysis of the region will be done.
3. In order to obtain the drilling plan of the open pit mine, digital elevation map and 3-D view of the recent open pit mine, drilling locations must be selected and drilling plan will be prepared after getting detailed geological map of the area by RS technique.
4. To interpret the existing drilling log data, database will be designed for this project idea.

Our competencies and potential contribution to the Project Idea

We have qualifications about the following areas;

- Geological exploration, geological studies (especially for ultrabasic rocks),
- Studies about Remote Sensing since 1976, (Erdas, ILWIS and GRASS)
- Studies about Geographic Information Systems (Geomedia, Mapinfo, nowadays Open Source software like Quantum GIS),
- Modelling of open pit mine with Micromine (one of the famous software for mining studies). Turkish representative of this firm is a mining engineer and will be co-worker of this study.
- Preparation of short and long term 3-D design model of the open pit mine.

R&D Background: R&D Projects and Innovative Products

Refractory brick and mortar production for all industries is made by using the original recipes which were developed by KÜMAŞ R&D activities. Kümaş has one patent application.

Current R&D projects:

Direct Bonded Cement Brick, Glass Furnace Regenerator Bricks, Lead Melting Furnaces Bricks, EAF Bottom Ramming Mortar, Metallic Magnesium, Pure MgO By Leach-Roast Process, The Chemical Enrichment of Magnesite Ore, Innovative Sintered Spinel, Sorel Cement, Magnesia Board, Briquetted DBM.

KUMAS has not involved in EU projects before, however is implementing 18 projects which are funded by national grants.