

Optimization of the value chain for polymineralic ores of economic strategic metals

Starting Point

Although polymineral raw material deposits are economically more "robust" than others due to their diverse range of products, they still have the technological and economic disadvantage of a comparatively costly extraction and processing.

In connection with economic-strategic raw materials, the focus is increasingly on these resources, which have so far been neglected.

Objective

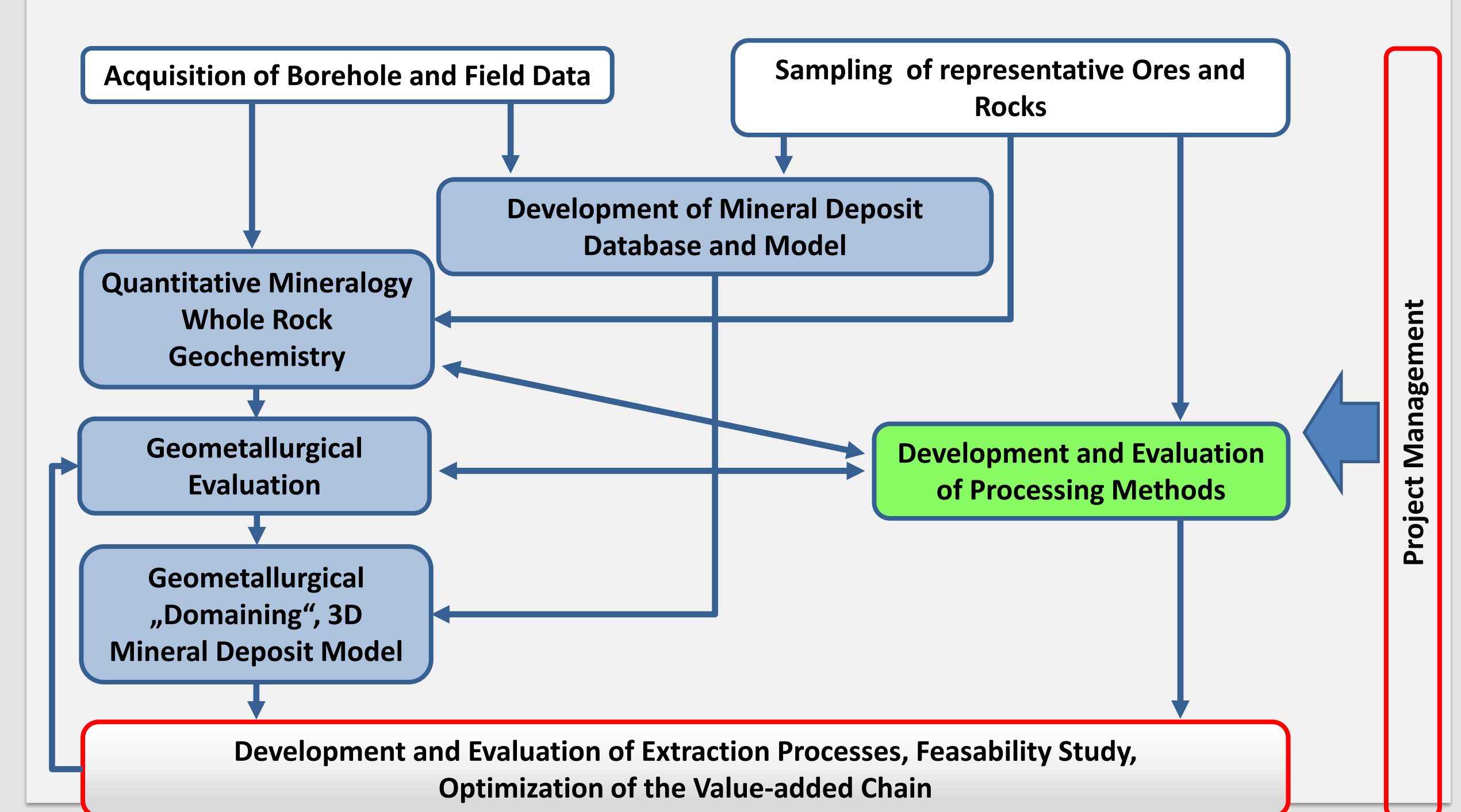
Using geometallurgical methods, OptiWiM coordinates the requirements for extraction and processing of polymineral deposits in the exploration of deposits.



Khalzan Buregtei, Khovd District, Mongolia

The study is carried out for example at a polymineral deposit. Thanks to the raw materials agreement between Germany and Mongolia, the "Khalzan Buregtei" deposit in Western Mongolia is now available for investigation.

Approach



Project Processing Steps and their Linking

First of all, important parameters such as mineral intergrowths, grain size, chemical and mineralogical composition of the ores are examined.

The information gathered is used to create computer-aided 3D models. On the one hand, these provide information on the required selectivity of the extraction process and on the other hand, they provide information on the most suitable processing methods.

The solutions found are examined for their technical and economic applicability.

Contribution to the Supply of Economic and Strategic Raw Materials

Geometallurgical methods combine geoscientific, engineering and business knowledge. The methodology to be described with OptiWiM contributes to making economic strategic raw materials available in a way that reduces the importance of monopoly structures on world markets.

Consortium

In OptiWiM, the disciplines of mining, processing, mineralogy and economic geology are combined, realized by the cooperation of RWTH Aachen University (IML, AMR) and the Gesellschaft für Consulting, Business und Management mbH (CBM). Associate cooperate partner is the German Mongolian Institute for Resources and Technology (GMIT).