



## ABOUT

Established in 1886, GTK is an internationally oriented geoscience research agency operating under the Finnish Ministry of Employment and the Economy. GTK's core activities include economic geology, exploration, geophysics, information technology and evaluation and processing of natural resources, with a strong research effort in the analysis of geological processes and mineral systems, as well as in the development of exploration and beneficiation technologies. GTK runs the only mineral processing pilot plant in Europe.

GTK's vision is to evolve into a European centre of excellence for natural resources and their sustainable use, and to consolidate its role as the national geo information centre.

GTK currently employs 550 permanent staff with an operational budget of €50 M. The mining sector forms the most important customer group to which GTK provides confidential expertise in economic geology, exploration, mineral processing and sustainable mining both in Finland and worldwide.

## EXPERTISE

GTK's expertise focuses on:

**Mineral potential** including studies on reserves and discovery potential of minerals, and their life cycle and total environment impact, studies in ores and ore-forming processes, and tectonic and metallogenic models.

**Minerals processing** including process mineralogy, development of eco-efficient mineral processing methods, environmental technologies for mineral processing. The mineral processing laboratory is equipped to develop mineral processing methods along the beneficiation chain from mineralogical analysis, testwork performance to flowsheet optimisation from bench scale to pilot scale. The materials processed include variety of ores, such as sulphide copper, lead, zinc and nickel, gold and PGM, iron and phosphate ores etc. and also mine tailings and metallurgical slags.

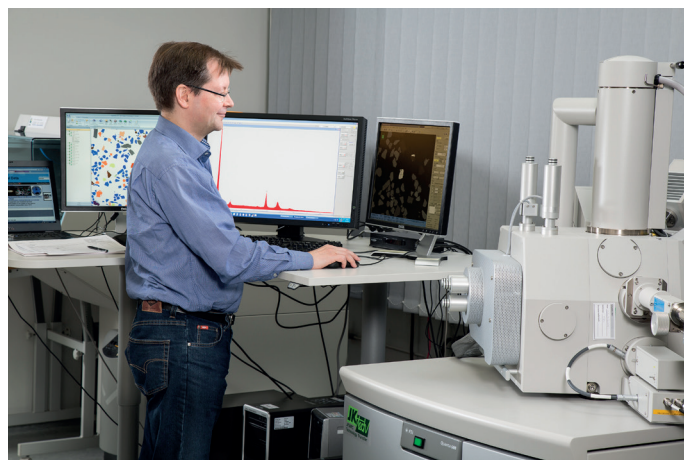
**Mining environmental research** including methods to minimise emissions from mine sites, risk assessment and modeling at mine sites.

## FACILITIES & SERVICES

GTK Research Laboratory is part of Finland's national research infrastructure. The lab is well equipped with the latest instrumentation for the analysis and study of geological materials, such as SEM, EPMA, MLA, XRD and EDS analysis, and provides services in electron optics and microanalysis, radiogenic isotopes, stable isotopes, mineralogical studies, gem materials and gold nuggets, and selective fragmentation of geological samples and composite materials, etc.

GTK Mintec provides lab scale beneficiation testwork and pilot plant operations services. The facilities contain from lab scale to pilot scale equipments in comminution and classification, flotation, hydrometallurgy, low and high intensity magnetic separation, gravity separation and DMS, and dewatering.

Equipped with a high standard process automatic control system the pilot plant has various mineral processing operations such as metal and autogenous grinding, gravity and DMS, continuous WLIMS and WHIMS, and flotation with various size cells from 50 litres to 1.5 m<sup>3</sup>. It also enables the testing of continuous beneficiation processes at the capacity range of 0.5 to 5 tons per hour and sample amount from 10 to 300 tons.



## MORE INFORMATION

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