



Oulu Mining School Research Centre

The goal of this project was to establish a multidisciplinary research centre in the University of Oulu. The Oulu Mining School Research Centre brings together scientific and technological excellence in the fields of geology, mineral prospecting, mining engineering and mineral processing. The cluster serves university level education and basic research. As a result of the project, the research centre has become an internationally significant centre of innovation, education and research in the extractive industry. Through the establishment of the research centre, Oulu has assumed a nationally significant role in the industry.



Developing industry excellence in the North

The significance of the extractive industry is growing, especially in East and North Finland. However, the development of the industry is hindered by a lack of expertise in all levels of qualification. This project has responded to the challenge by establishing a new mining unit and the Oulu Mining School Research Centre in the University of Oulu's Faculty of Technology. It trains new experts for the industry, which supports the development of the extractive industry and business in the Oulu Region.

University level education in the mining industry has been divided into several universities and faculties throughout Finland. There has been a growing demand for a university that would comprehensively serve the needs of the mining industry. This project aims to answer that demand by establishing Oulu Mining School (OMS) and the OMS Research Centre in the University of Oulu.

The goal of developing the OMS Research Centre is to build a nationally and internationally leading education and research unit, which serves the lifecycle needs of the mining industry and the associated technology and ICT industries. The centre that has been built as a result of this project is globally unique in its multidisciplinary nature. The project combined the expertise and equipment of the Faculty of Natural Sciences (geosciences and applied geophysics) and the Faculty of Technology (mining engineering and mineral processing) and placed it together in one location.

OMS Research Centre

Project code: **A70181**

Oulun yliopisto

1.8.2014–31.12.2017

Budget: **941 963 €**

ERDF funding from the Council of Oulu
Region: **659 375 €**

OMS Research Centre (investments)

Project code: **A70191**

Oulun yliopisto

16.2.2015–31.12.2017

Budget: **951 760 €**

ERDF funding from the Council of Oulu
Region: **666 232 €**

“Seamless multidisciplinary co-operation between students, researchers and business is a part of everyday operations in the Oulu Mining School Research Centre”, says Project Manager Ilkka Hynynen.

One of the most ambitious goals of the project was to build a cleaning and recycling unit for process water, which resulted in the world’s first closed process for froth flotation. The equipment cleans process water and recycles it back into the mineral processing process. After that, sandy processing waste is collected and, through heat treatment, developed into a recyclable product that can be used elsewhere, e.g. in the construction industry.

Effective development work benefits everyone

The establishment of a nationally and internationally significant research centre is beneficial to the entire region. From a wider perspective, there has been international demand for a centre of expertise like the Oulu Mining School Research Centre. The centre has been built to be an open system for research and education in universities, research facilities and businesses internationally.

The extractive industry is particularly important for East and North Finland. The research centre puts Oulu in the epicentre of the mining industry and effectively gives it a nationally leading role. Oulu is situated geographically in the middle of the Norwegian, Swedish, Northwest Russian and Finnish mining industries. The role of the Oulu Mining School as the leading mining university in Northern Scandinavia is evident. This role creates significant value to the development of the business sector in the region and supports the establishment of location independent mining research companies.

Tangible results through continuity and quality

The project achieved its goals successfully and the research centre is in full operation. The project produced tangible results that were immediately available for utilisation, e.g. a new industrial equipment infrastructure for mining research and education, modern laboratory equipment integrated to the refinery, and a process environment for cleaning and recycling natural, process and mining waters. The equipment cleans water in a closed process, so that it can be reused.

The OMS Research Centre will continue its operations according to set goals as a research centre for the mining industry in the University of Oulu and as a multidisciplinary innovation platform supporting the education and research needs of the Faculty of Technology and the Faculty of Information Technology and Electrical Engineering. The project also resulted in three full-time jobs in OMS.

The project produced a comprehensive research centre, which increases the versatility of education and advances efficiency by introducing the world of university research to a new work culture of close co-operation with the business sector. For example, SME enterprises in the measurement industry benefit significantly from the research centre, because it enables the testing of new applications in a genuine industrial environment. The business sector also benefits from increases in resource use efficiency, shortening development times of mining processes, and increased efficiency of development work on environmental matters.

“In collaboration with the business sector, OMS produces top-level experts to serve the needs of business and research”, states Hynynen.

Objectives

To create a world-class cutting-edge multidisciplinary mining research centre in the University of Oulu, which serves the needs of university-level education, basic research and the mining industry.

Results

The project achieved its goals successfully and has been widely praised by partners from industry, international research centres and universities.



Oulu Regional Council allocates funding for regional development from the ERDF

Oulu Regional Council is a Managing Authority for the Sustainable growth and jobs 2014–2020 – Finland’s Structural Funds Programme in Northern Ostrobothnia.

European Regional Development Fund’s (ERDF) main objectives are to improve the competitiveness of SMEs and produce and use the latest information and knowledge.

‘Sustainable growth and jobs 2014–2020 – Finland’s structural funds programme’ has two priority axes and seven specific objectives for ERDF. Each project must deliver at least one of these specific objectives.

ERDF priority axes and specific objectives:

1. Competitiveness of SMEs
 - Generating new business
 - Improving transport and logistic connections that are important to SMEs (Eastern and Northern Finland)
 - Promoting growth and internationalisation of enterprises
 - Promoting energy efficiency in SMEs
2. Producing and using the latest information and knowledge
 - Development of the centres of research, expertise and innovation on the basis of regional strengths
 - Strengthening innovation in enterprises
 - Developing solutions based on renewable energy and energy-efficient solutions

More information on Structural Funds in Finland from the dedicated website www.rakennerahastot.fi