

MINING

NEWSLETTER FROM RAMBOLL

JUNE 2014

RAMBOLL

ENVIRONMENTAL MINE MONITORING

Ramboll Finland has succeeded in establishing a position in environmental mine monitoring, counting projects wins for the Kevitsa, Kittilä and Talvivaara mines.

To date, Ramboll has for example designed environmental impact assessments (EIA) for the mining industry. However, the fact that Ramboll has the leading environmental laboratory in Finland underpinned these project wins in the new clean tech business area. "Having our own laboratory, we can develop systems that quickly generate water sample results that

we can return to our clients within a week, unlike our competitors who need a month to do the same," says Jaana Hakola, Key Account Manager for the Mining Sector.

The clean tech business is one of Finland's economic policy priorities, and the Finnish government aims to make Finland a clean tech pioneer by 2020.

FURTHER INFORMATION

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COOPERATION BETWEEN RAMBOLL AND MICOMO

Last week Ramboll in Gothenburg was visited by Micomo (Mining Information Communications and Monitoring) from Chile.

Micomo, created by Codelco and NTT, has a unique experience on structural monitoring technologies in different severe environments. For the last 8 years they have been using sensing optical fiber for early detection of possible structural failures.

Micomo's experience in monitoring tunnels, dams and mine pillars adds to Ramboll's expertise to deliver a more complete service to the customers. This is why both companies have signed a collaboration agreement to work together in future projects.

This technology has been used in underwater-pressured tunnels for the hydroelectric power industry and in several

mining sites such as Chuquicamata, El Teniente, among others. We appreciate their visit and we are sure that the cooperation between Ramboll and Micomo will enhance our work with our clients.

FURTHER INFORMATION

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Technologies developed by Micomo were used in the rescue of the 33 miners trapped in the San Jose mine.



MIXING OF TILL AND GREEN LIQUOR DREGS FOR THE CONSTRUCTION OF SEALING LAYERS

A consortium including Ramboll, Ecoloop Ragn-Sells and Luleå University of Technology was awarded a project financed by SP-processum to make a pilot experiment to mix till and green liquor dregs, a rest product from the paper industry, to improve the physical properties of till used for the construction of sealing layers. The mixing experiment was performed at Bänkläppens landfill. Different mixing proportions, mixing equipment and mixing time were evaluated. The produced materials are under assessment at Luleå University of technology regarding e.g. hydraulic conductivity. Next step in the project is to plan for a demonstration project and the preparation of a guide for

the construction of sealing layers using till improved with green liquor dregs.

FURTHER INFORMATION
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NEW SALES MANAGER AT RAMBOLL ANALYTICS

Rauni Karjala is the new international Sales Manager at Ramboll Analytics. She will mostly concentrate on the Nordic and Baltic markets. Rauni Karjala has a Master degree in Chemical Engineering and she has a long experience in the environmental field, especially in the water and wastewater treatment sectors. Rauni has also worked in several specialist groups, e.g. in the group of the Finnish sewage BAT paper making. Rauni has a special interest in recycling and the correct

usage of the scarce resources now and in the future assessments during the early stages of projects.

FURTHER INFORMATION
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Visit Ramboll at Almedalen, July 2nd.

The topic for Ramboll's talk is Livable Cities

RAMBOLL WISH YOU A NICE SUMMER!

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