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3R Viewpick 2013 January/February

Thank you for tuning to our new edition of 3R Engagement Newsletter for 2013. We start the year with good news from Finland, who is making big steps towards a sustainable extractive industry. The PDAC Convention Toronto 2013 will dedicate a large series of events on Corporate Social Responsibility in the exploration and exploitation of mineral resources companies. Our engagement in Africa starts on positive note.
Enjoy the lecture and we are looking forward to providing you with further updates on markets and our activities in the upcoming months.
Sincerely yours,
Eleni Regli

FINNWAVES

Finnish companies among 100 most sustainable companies in the world
The Global 100 list is based on an expert analysis of around 4 000 listed companies across a range of industries worldwide. Companies are compared in terms of their energy and water consumption, greenhouse gas emissions, the amount of waste they generate in relation to the financial benefit they produce, their safety performance, remuneration, personnel turnover, equality, commitment to research and development and the taxes they pay.
www.global100.org
This year the top-ranked company in Global 100 was **Umicore**, the Belgium-based materials technology and recycling company. The other companies among top five were **Natura Cosmeticos**, **Statoil**, **Neste Oil** and **Novo Nordisk**.
Three Finnish companies - **Neste Oil, Outotec and Kesko** - have been included in the Global 100 list of the world's most sustainable corporations by **Corporate Knights**, the Toronto-based media and investment research company. Neste Oil was ranked among the five top companies in the world with its number 4 global ranking. Outotec was ranked as number 12 and Kesko as number 50. The rankings were announced at the World Economic Forum in Davos, Switzerland. **Matti Lievonen**, Neste Oil's President & CEO comments that the company steadily worked on developing sustainability over the years.
www.nesteoil.com

The University of Oulu is near to its goal of becoming the global leader in minerals processing technology research.
The university has taken possession of what is claimed to be the first university-based minipilot concentrator. The small research and minerals processing plant represents the concentrating process of the Pyhäsalmi mine in Finland at a scale of 1:5000. The university has a minipilot concentrator with top-notch technologies as a learning environment. This will strengthen the mining expertise and increase cooperation opportunities with other mining schools. Collaborations inquiries came already from as far as China. The minerals and metals processing technology company Outotec delivered the equipment to the university's department of process and environmental engineering as part of its active university cooperation. Schneider Electric has designed the automation and process control solutions, while Logica Finland developed the production management system for the minipilot plant. With this minipilot in Oulu the university will able to promote minerals processing science education, developing the expertise in Finland and globally.
www.oulu.fi

Visedo, the Finnish heavy duty electric drive train specialist, and **Wima**, the German high quality super capacitor manufacturer commenced a partnership in bus and mobile work machine hybrid drive trains. The partnership covers technical development as well as sales and marketing activities where both companies are able to offer complete hybrid electric drive trains to vehicle and machine manufacturers. Visedo know-how in heavy duty hybrid systems and Wima capabilities in super capacitor technology are coming together. The new complete solution offers the customers the highest efficiency drive trains available in the global market. The first

applications in construction machinery using the Visedo-Wima solutions will be presented in **April 2013** in **Munich**, Germany at the **Bauma Exibition**.
www.visedo.com

Outotec wins Russian copper contract. The company signed a six years-plus service contract of over 140 Mil. EUR with **ZAO Mikheevsky GOK**, a subsidiary of **Russian Copper Company**, for the operation and maintenance of Mikheevsky copper concentrator, which is being built near Chelyabinsk, Russia. The services will be provided by approximately 100 operation and maintenance workers located at the Mikheevsky site and Outotec's Yekaterinenburg and St. Petersburg service centres, supported by Outotec's global organisation. The Finns will supply spare parts, grinding media and reagents for equipment under its scope of delivery too. It will also provide operation and maintenance management systems for the concentrator. The high quality and reliability of Outotec's technologies and expertise in metallurgical process and equipment have won the trust of the Russian Copper Company. The operation and maintenance contract is a continuation of Outotec's earlier contracts from 2011 of over 60 Mil. EUR. They included the process design and engineering for the entire Mikheevsky concentrator and the delivery of the main process equipment for flotation and dewatering, process automation, instrumentation and electric installations.
www.outotec.com

Climate change and the increasing use of natural resources in the arctic zone will be opening new seaways for exploration and business activities. Major opportunities for Finnish ice-breaking expertise will be created too.
Three Arctic seaways – the Northeast Passage north of Russia, the Northwest Passage north of Canada and the so-called Polar Route – will open by **climate change** shipping distances by as much as 20 to 40 % compared with the routes through the Panama and Suez canals. The Northeast Passage is spearheading this development with its nuclear-powered icebreaker service. In 2012, approximately 1.4 million tonnes of cargo aboard 43 vessels passed along this route. Russia aims to have some 20 million tonnes of cargo go through by 2020. The reported capacity is up to 50 million tonnes (**Tero Vauraste**, CEO of Arctia Shipping Oy). The **growing utilisation of natural resources** in these areas will increase the frequency of the use of Arctic seaways. The Arctic region has significant hydrocarbon and mineral reserves that will become more readily accessible as polar ice decreases.
Finn's know-how and potential is dearly needed.
Finland is the only country in the world with expertise in designing, building and operating icebreakers and other vessel types suitable for the Arctic. There will be no lack of opportunities due to the fact that the current global fleet of around 100 ageing icebreakers hardly meets even today's need. At least 20-40 new icebreakers will be required within the next 10-20 years to replace old ones and to meet new needs, and this includes proficient crews for operating them as well (Tero Vauraste). Building ten new icebreakers creates a turnover potential of EUR 1.5 billion and requires some 10'000 man-years of work. Once completed, operating ten icebreakers over their life cycle will additionally create turnover potential of EUR 5 to 6 billion and 15'000 man-years. When multiplied by three this amounts to an expected business potential of up to 75'000 man-years and EUR 20 billion, equalling roughly one third of the annual budget of the Finnish state.
Tighter environmental regulations in new context
Environmental issues are a particular challenge for future development in the Arctic zone because increasing activity also increases risks. Finland needs to export its globally renowned know-how to make the increasing volume of traffic safe and environmentally sustainable. Finnish expertise in combating oil spills is also world class. Additional factors concerning Finland's position in terms of maritime logistics are the EU's imminent sulphur emissions directive and EEDI (Energy Efficiency Design Index) which will both cut back emissions and increase shipping costs. Arctia has used Wärtsilä technology for converting its multipurpose icebreakers Fennica and Nordica to comply with the new environmental regulations. The conversion reduces the ships' SO_2 emissions by more than 99%, NO_2 emissions by approximately 90% and particulate emissions by around 50%.
www.arctia.fi

Finland is on fine tuning the sustainability and turning pollution into stone
Carbon Dioxide is locked up in safe minerals and increases the by-products yield income. This Finnish invention involves the chemical neutralisation of carbon dioxide and can help reducing the greenhouse gas emissions in order to minimise the climate change. The inventor Matti Nurmia from Cuycha Company modelled his method on natural weathering processes. Carbon dioxide (CO_2) naturally dissolves in the water from the air, turning rainwater into weak carbonic acid. This constantly reacts with alkaline chemicals in the earth's rocks producing harmless minerals. Stronger carbonic acid can be formed in huge CCN reactors by bubbling CO_2 emissions from power plants through ordinary water. Inside special reactors this fizzy water is fed through crushed feldspar, a common ingredient in rocks around the world. As Cuycha Innovation's CEO Markus Kankaanpää said, this locks up the carbon in safe minerals, and yields valuable by-products, including aluminium hydroxide, calcium carbonate, silicates, lithium carbonate, and rare earth elements.
Finland is internationally renowned for high-level innovation and expertise. The cleantech sectors belong to the best innovation field. Finnish companies provide products and services especially designed to prevent or reduce damage to environment. Renewable energy and energy efficiency, waste processing, pollution control and water protection are steadily major fields of research and industrial implementation. In 2012 the Cleantech Group and World Wild Fund ranked Finland among the world's leading countries for cleantech innovations in their Global Cleantech Innovation Index.
cleantechfinland.com

Not to contradict Aristotle: Roots of Arctic Toughness are Resources to a Good Life.
The Finnish capital was voted the second-most liveable city of 2012 by British lifestyle magazine Monocle and ranked by the New York Times as the world's second most interesting travel destination. It was also last year's World Design Capital. The happiest nations are

not the richest in GDP, but they are the ones wealthy in social capital. "Why, then, are these Nordic countries smiling? Because people are happier when they give – it's coded into our human genome. Virtuous acts and a social conscience are cornerstone of Aristotelian good life", said Anne Birgitta Pessi, professor of Practical theology at Helsinki University. Finland has a solid welfare state tradition and an active third sector. Volunteering and helping others greatly improves happiness. Professor Pessi proposed cure for social malaise is philanthropy.

Source: Finland Focus on the economy and technology 2013, How to live a good life

CANWAVES

3R Engagement will attend PDAC 2013 in Toronto, March 3-6.

PDAC International Convention, Trade Show & Investors Exchange is the world's leading Convention for companies, organisations and individuals interested in, or connected with mineral exploration. The four-day annual Convention to be held in Toronto, Canada has grown in size, stature and influence since it began in 1932, and today is the event of choice for the world's mineral industry. In addition to interacting with over 1'000 exhibitors the attendees from 125 countries will have the opportunity to attend technical sessions, short courses, as well as social and networking events. The last year PDAC, International Convention, Trade Show and Investors Exchange broke the record with over 30'000 people attending the 80th gathering at the Metro Toronto Convention Centre in March. This edition of PDAC, organised by Prospectors & Developers Association of Canada is expected to register an even higher number of participants. .

Corporate Social Responsibility (CSR) Event Series are specially designed to provide a forum for learning and discussion on issues related to CSR in the mining industry and exploration sector in particular. The event aims to reflect both the industry's successes in the area, while also emphasising the value of learning from each other's experiences. The participants will explore the benefits, costs, risks and responsibilities associated to mining and metals industries of today's world, and discuss how well they are defined, assigned and monitored. Major debate issues encompass: Extracting Corporate Value out of Responsible Business Conduct, The Growing Market Demand for Responsibly –Produced, Conflict-Free Metals, IFC Performance Standards, Preparing for Increased Anti-Corruption Enforcement, The Transparency Value, Using New Media in the Mining Sustainable Dialogue, Business Cases for Biodiversity and Ecosystem Services, etc.

AFRIWAVES

Investitionen in Afrika

Afrika befindet sich in einem starken Wandel. Die wirtschaftlichen Perspektiven dieses Kontinents zeigen den Anlegern unterschiedliche Entwicklungen auf, jedoch die meisten sind im positiven Renditen-Bereich. Die Volkswirtschaften sind von zunehmender Robustheit, mit günstigen Auswirkungen auf die Finanzmärkte. Die Börse aus Nigeria steigerte im Jahr 2012 ihren Wert um 40% und der kenianische Aktienmarkt stieg im selben Jahr um 30%. Weniger positiv zu beurteilen ist die Einseitigkeit der Produktionssektoren. Die extraktiven Industrien beherrschen weiterhin die Märkte. Die afrikanischen Länder verpassten es auch im Jahr 2012 die Produktion genügend weiter zu diversifizieren und blieben primär Exporteure von Erdöl, Uran, Titan, Kupfer, Gold, Platin und Palladium. Ein bedeutendes Potenzial befindet sich im wachsenden afrikanischen Binnenmarkt. Demographische Entwicklung, Verstädterung ganzer Regionen, wachsender Lebensstandard sind nur einige Impulse für eine erhöhte Nachfrage nach Güter und Dienstleistungen auf dem Kontinent. Die Schätzungen der Ausgaben für Konsumgüter in Afrika sprechen von aktuell rund 900 Mrd. USD. Diese sollen bis im Jahr 2020 bereits 1'400 Mrd. USD erreichen. Investitionen in Afrika sind noch vielen Risiken ausgesetzt. Nachhaltige Investitionen finden nur schwerlich einen günstigen Boden. Dennoch ermöglicht die Globalisierung der Märkte zumindest mehr Transparenz bei der Suche nach CSR-Pionieren unter den vielen Unternehmen Afrikas, deren Bemühungen sich zu unterstützen lohnt. Es bleiben weiterhin viele Hürden zu überwinden, denn Korruption, politische Unruhen und die Abhängigkeit von Rohstoffen sind im Investment-Prozess nicht zu unterschätzen. Zudem verfügen die Märkte in den meisten afrikanischen Ländern nur über eine geringe Liquidität. Investitionen sollten langfristige Anlage-Strategien befolgen und es empfiehlt sich Anlagen mittels professioneller Anlagefonds zu suchen.

Shapes of African Ethics – „Wisdom, like knowledge, is conceived in traditional Africa societies as having a practical as well as a theoretical dimension." The theoretical wisdom must have direct relevance to practical problems of life and to dealing with concrete human problems. At home and in other community settings, proverbs are used to pass on rich cultural traditions, to transmit folklore, and to communicate expected codes of behaviour. The nature of African proverbs allows them to be interpreted, across time and in different situations, to offer advice, educate and warn. According to Steve Kquofi and Peace Amate from the University of Science and Technology in Kumasi, Ghana, proverbs are interesting because they do not only tap into universal themes in the human condition, such as the psychological system about human lifecycle, but they also vary in ways that appear to reflect specific cultural differences. (New African, No 525)