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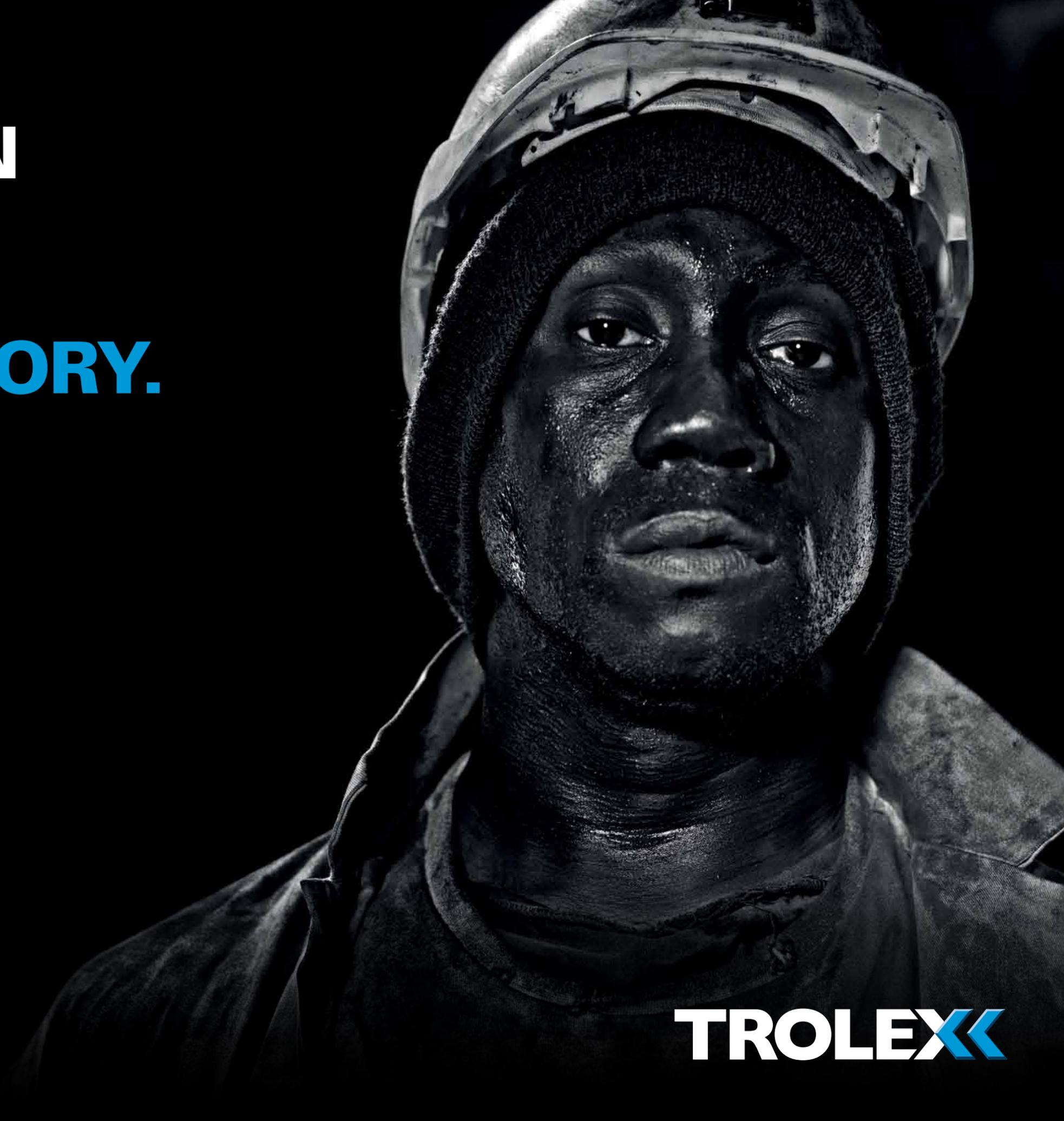


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# SAFETY FIRST

*Troxex, which designs and manufactures monitoring, control and automation equipment for the mining industry, has ambitious plans for growth and diversification. Technical director Stan Curtis talks about the will to innovate*

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Managing director  
Glyn Jones

**M**ining is not only one of the world's oldest professions but also one of the most potentially hazardous. The underground world can be threatened by toxic and explosive gases, fire, compromised ventilation, flooding and malfunctioning machinery. Harnessing the latest technology to address these risks and improve mine efficiency is the business of UK-based Trolex. Over the past 50 years, the company has established an enviable reputation for monitoring, control and automation systems in the coal, hard rock and potash mining sectors and has become market leader in monitoring systems for tunnel and tunnel boring machines. Today it has a truly global footprint managed through a network of sales and technical offices, and distributors.

At the heart of the company's success lies a vast reservoir of technical expertise, supported by a capacity to innovate and develop new ideas. "We have a huge product development program," explains technical director Stan Curtis. "Approximately half is directed at developing unique solutions for problems experienced in individual mines. The other half is spent developing products for the catalogue. Next year we expect to launch at least a dozen new products, and the majority of them will be extremely intelligent."

Trolex works very closely with the

mines and with the major mine equipment manufacturers and has acquired an intimate knowledge of the issues they face. Many new developments come directly from customer requests. Others have evolved from mining disasters. "After the Copiapó mining disaster in Chile in 2010, for example, engineers realized that the miners survived because they were able to huddle together in a small air bubble as they awaited rescue. Now, very strong steel structures called refuge chambers are being fitted into mines around the world."

These refuge chambers do what their name suggests. They provide a strong and safe structure in which trapped miners can await rescue. Fitted with life support equipment such as compressed air, CO2 scrubbers and even wireless communications systems, the shelters depend on

continuous intelligent monitoring and control of the internal and external environments for their effectiveness in protecting life. "We have played a major role in developing and installing the intelligent monitoring, electronics, controls and battery power supply for the chambers," Curtis says. "They have the potential to save many lives, and we're really pleased to be involved in it."

Intelligence is the primary differentiator for much of the next generation of Trolex equipment. The company has recently been installing fully integrated mine-wide

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**Multiple by which Trolex  
aspires to grow within  
the next five years**

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environmental and equipment monitoring systems that can be accessed and controlled from the surface or via the web. The majority of components in the system already contain microprocessors that analyze the data, take decisions and act on them. “Increasing the range and capability of the intelligence element is where I see the next changes in mining technology,” Curtis says. In the future, he visualizes gathering data from these monitoring systems and building artificial intelligence capable of analyzing it, not only to identify change but also to interpret it and diagnose possible causes at an early stage. This could revolutionize the effectiveness of mine safety, efficiency and control.

Curtis has also been introducing new design concepts to the mining environment. For example, in the consumer electronics sector where he originated, excellence in the electronics has to be matched by excellence in presentation, packaging and supporting documentation. If any of these fall short of expectation the perception is that the product will as well. Applying this to the mining sector, much more attention is now paid to instrument casings. One of the new products being launched next



Machine monitoring

year contains technical improvements to an existing product. “The original was housed in a plain steel box. We have replaced that with a molded box that looks as though you could drive a truck over it and it would survive.” Distinctive, well-engineered and tough, the new box radiates an impression of being innovative and designed for the

challenging environment. “Very often, it will be the visual appearance that will finally tip the decision to buy.”

Three years ago, the company embarked on an ambitious growth strategy, with the aim of growing the business by a multiple of over six during the next five years. “Traditionally, our industry has been composed of many niche players,” Curtis explains, “which means our customers have had to deal with many companies on each project. Our plan is to provide our customers with the full spectrum of monitoring, control

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Location of Trolex’s sales and technical office in China

and automation solutions. Where we identify gaps in our product offering we will either fill the gap by organic growth, and where we can’t do this we will acquire companies with the capabilities we require.”

Today, Trolex has a truly global footprint, and this comes as the result of a significant expansion drive. Widely represented in North America, Europe, Asia and Australasia, the company identified two rapidly expanding mining regions where it is seriously under represented: South America and China. “We are now expanding rapidly into China,” Curtis says.

“INCREASING THE RANGE AND CAPABILITY OF THE INTELLIGENCE ELEMENT IS WHERE I SEE THE NEXT CHANGES IN MINING TECHNOLOGY”



Sentro 8 Sensorstation

“Last year we appointed three distributors in China and we have established a sales and technical office in Shenzhen so that we have technical staff on the ground there who speak the language and understand the culture.”

Expansion into South America is in progress but not yet so far advanced. The company has very recently appointed distributors in Chile, Argentina, Brazil and Colombia and is actively seeking further partnerships to cement its presence on the continent.

To support these growth plans and to drive the company forward with innovation across all areas of the business, there have been some interesting changes in top management. Managing director Glyn Jones has been assembling a dynamic new management team and Curtis is one of the new generation. Having been with Trolex for two years, he brings many additional years’ experience in consumer electronics with him and is generating some interesting new ideas in conjunction with his fellow directors. “There is a real energy and vigor in the company,” he says. “As a management team we are able to bounce off each other. And part of that is that we are all full of new ideas, based on a lifetime of experience in other industries.”



Refuge chamber

Marketing, for example, is being handled in a way that differs from most competitors. The company has developed a fresh, interactive and informative approach, communicating with the marketplace through Twitter and LinkedIn, providing regular advice columns and opinion pieces for sector publications and a website filled with useful information and data.

It is certainly an exciting time for Trolex as the company moves forward with fresh ideas, and continues to innovate across all areas of the business. **BE**

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