'Game changing' drilling sensors set to tap into a world market

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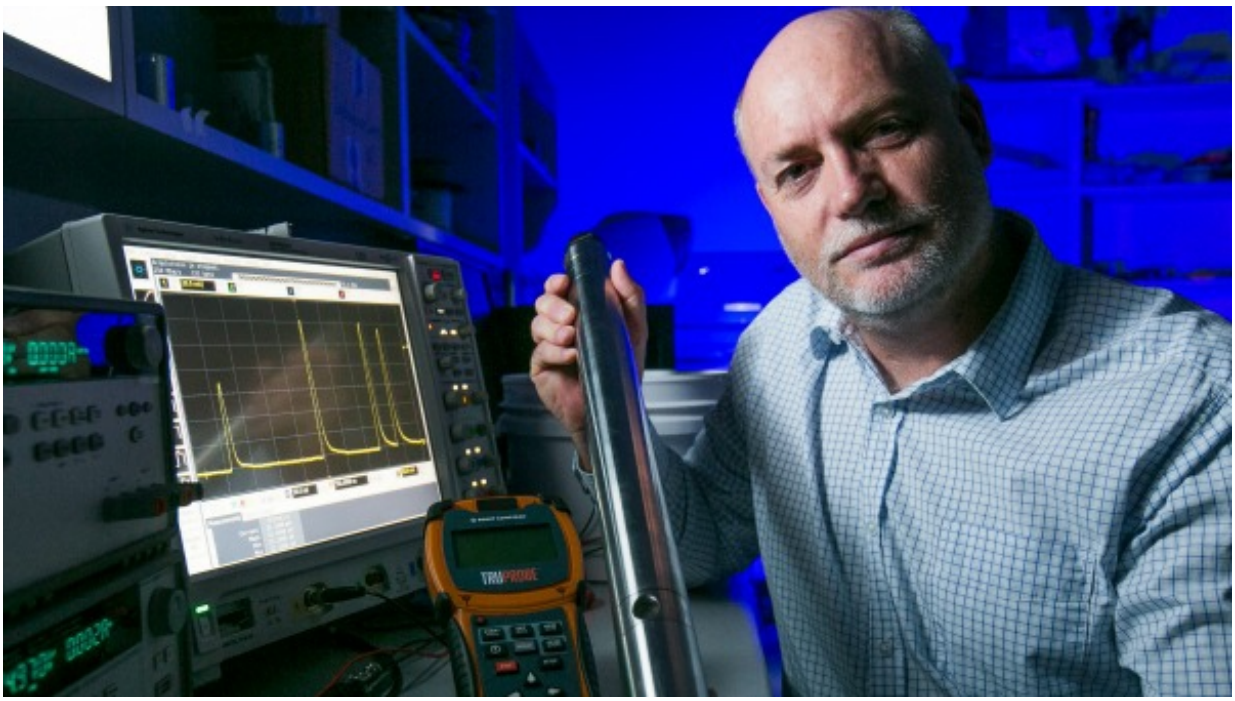

The device was called ‘game changing’ technology by one of the world’s biggest drilling equipment companies, Boart Longyear, Credit: Anton Kepic

Innovative sensor technology is set to change the way mineral exploration teams collect geophysical data, for potentially 20,000 rigs around the world, after developments by researchers at the WA School of Mines within Curtin University.

Drill teams will now be able to collect vast amounts of valuable geophysical information during the drill operation, instead of having a specialist wireline crew move in after the drill team has left the site, resulting in big savings in time and costs.

The AutoSonde device has sensors that collect data on the natural radioactivity of the surrounding rock, or natural gamma, and also its magnetic properties and other information.

"It's incredibly useful information that grows in value as you get more certain that you have a mineral deposit that's worth extracting," says project leader Associate Professor Anton Kepic of the Department of Exploration Geophysics in the Kalgoorlie-based WA School of Mines.

"I think initially it will lead to greater insights, which can lead to more finds."

The AutoSonde's sensors are placed within the drill rods and collect data in real time as the drill rods are pulled out of the hole.

The information is then logged using a simple handheld device and can quickly be sent anywhere in the world to be analysed.

The technology was developed in conjunction within industry partners Globaltech through the Deep Exploration Technologies CRC and is set to be commercialised in 2016.

It was also a finalist in the Mitsubishi Corporation Emerging Innovation category of the WA Innovator of the Year Awards.

So why use it?

"If you're going to go to the trouble of accessing the earth by drilling a

hole, you should extract as much information as possible, and do it right the first time," explains Assoc Prof Kepic,

"So we adapted the sensors to fit within the existing drilling technologies used today.

"We've devised it to be a 'deploy and forget' style tool which requires minimal involvement by the drilling crew and very little change to their normal pattern of work, and is relatively easy to operate—certainly easier than your average mobile phone."

And like mobile phones, the potential market for the AutoSonde is huge.

"There are some 20,000 drilling rigs this technology can be applied to around the world," he says.

The sensor device has been described as 'game changing' technology by one of the world's biggest drilling equipment companies, Boart Longyear.

The company has signed a commercialisation deal and will sell it in 2016 under the 'TruProbe' label.

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