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Press Release

Techenomics adding value to core fluid management business

Digital data capture and WS2 caged nano particles provide greater benefits to clients

Techenomics is building on its core oil analysis and fluid management expertise by entering the digital data age and demonstrating the benefits gained by using WS2 caged nano particles.

Both projects aim to provide greater benefits for customers, enabling them to get more from their oil and lubricants – saving money, reducing downtime and increasing productivity.

These value-adding projects have been showcased by Techenomics in a series of forums in Australia, Singapore and Indonesia in the past few weeks, including at last week's Indonesia Miner in Jakarta.



Chris Adsett, CEO of
Techenomics International

“Both initiatives utilise state-of-the-art technology and form part of Techenomics transition from an Industry 3.0 predictive maintenance provider to an Industry 4.0 proactive maintenance company,” Techenomics CEO Chris Adsett says.

To reach the goal of empowering clients with real time data, Techenomics is building its digital data capability, which includes developing remote live sensors to capture data from important components of engines and equipment.

As part of this work, Techenomics is embarking on a series of trials in Batam, Indonesia. The trials on stationary engines will test how the development of sensors to capture data is progressing. Murdoch University Engineering student Brice Gower is working to enable the capture of digital data into Techenomics' Blue Oceans software using sensors adapted by Techenomics and the trials form an important aspect of this work.



Indonesia Miner Conference

Rather than the company's current system whereby samples are taken every 250 hours with a two-day turnaround, real time data capture will enable samples to be taken every second with a 10-second response time.

There are multiple points of contamination with the current system and no external factors are accounted for while remote sensors will allow for feed-forward disturbance rejection and contextual data will be added to the database.

“The sensors will build on Techenomics’ 20-plus years of historical data collection, enabling our failure analysts to train an Artificial Intelligence to provide proactive maintenance advice in real time,” Chris Adsett says.



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“The digital era has dawned for the mining industry and the future success of companies involved in all parts of the mining process will be determined by how well they embrace the technology made possible by this step-change. It is no good just saying that the industry will recover and grow by doing the same things it has done successfully in the past.”

In a similar way, tungsten disulphide (WS2) caged nano particles enable clients to get more from their oil and lubricants, thus decreasing fuel consumption, reducing engine wear and maintenance intervals, and, importantly, reducing harmful emissions.

Techenomics is distributing the WS2 product and was fortunate to have leading US-based nano-technology expert Dr George Diloyan outline the benefits during a series of forums.

George played a leading role in the development of the unique particles by Nanotech Industrial Solutions in his role as Head of Research.

The particles are spherical which comes from precise control and manufacturing and utilise the superior properties of tungsten. They are just 0.1 of a micron in size which, unlike most other additives, means they pass through all filters, including sub micro filters.

During the forums George outlined how WS2 was used in a power plant, generating savings in excess of six times the cost of the additives and a power increase of 58.8% in used engines. He also explained how weld loads increased 2-3 times by adding WS2 to grease.



George Diloyan

Chris Adsett says the roadshows proved a success with plenty of interest shown and a number of potential trials of the product to be arranged.

For more information about Techenomics contact: Chris Adsett, c.adsett@techenomics.com; in Indonesia Teguh, teguh@techenomics.com; in Singapore Siti, siti@techenomics.com; in Mongolia Tumeer, tumeer@techenomics.com; or in Australia Taylor O’Mahony, taylor@techenomics.com.