

## New technology takes freight transportation above ground

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**It's a big vision, but the company behind a new transport technology that hauls minerals above ground plans to become the primary provider of transport solutions for emerging resource companies in Australia's iron ore and coal provinces.**

By Jennifer Perry

The String Transport System uses a fully automated, elevated track structure that comprises steel hollow rails reinforced by hundreds of high-tension wires running through the middle of the rail and filled with concrete, all suspended above ground by towers approximately 30 m apart, five to six metres above ground, or 10-20 m where underlying terrain is rough.



Unlike road or rail systems, because the system is elevated it can traverse mountains or other rough terrain and is not constrained by earthworks, embankments, sleepers and ballast, with minimal environmental impact at ground level.

Importantly, the new technology can be built for approximately half existing railway construction costs, according to a recently completed independent capital cost analysis.

String Transport Systems director Michael McBride believes one of the biggest problems facing Australian miners is prohibitively high transportation costs from available transport solutions.

According to the Minerals Council *Vision 2020* report, new freight transport infrastructure will be required to meet an increase of 365 million tonnes per year of iron ore exports by 2020.

“The significant cost reductions in the capital and operating costs of this technology could be a catalyst to generating significant revenues for junior miners,” McBride said.

The technology could particularly benefit emerging miners who have been denied access to third party railway lines by offering them access to a less expensive, open access freight network, capable of delivering their products to port.

“The String Transport System’s greatest benefit though to these miners is the ‘Zero Capex’ offering, whereby miners will pay for access to the network, lease the rolling stock and a per tonne kilometre haulage rate, without having to pay for the underlying infrastructure,” he said, adding that this is certain to improve the financial viability projects.

The system has been in development for 32 years and was given project grant assistance from the United Nation’s UNHABITAT program.

As of December last year, the company raised \$900,000 to progress the technology’s technical analysis and concept design phases.

The company this month obtained a \$10m equity funding facility to further the commercialisation of the technology, which will be released upon listing on a suitable stock exchange

“32 years of R&D has preceded the formation of our company in Australia and we are proud to have fully developed solutions ready for design documentation and commercial implementation,” McBride said.

Technical analysis of the system under Australian conditions has been received and concept design works are nearing completion for the parameters of a demonstration facility involving a bulk haulage system using the technology.

McBride said industry interest had been particularly strong in Western Australia, where the company works in conjunction with EPCM partner, ProMet Engineers

Feedback from miners has also led to a wider application of the technology than the company had originally intended.

“What we have discovered from speaking with junior miners is that our system is not only suitable for long distance haulage, but also for short haul between a mine site to a processing plant, or to carry away tailings” he said.

The company has completed a preliminary scoping study report for the technology’s application to Queensland’s South Galilee Coal project – a joint venture between AMCI Capital and Bandanna Energy.

The project’s proposed port facility area faces several limiting factors including the stockpiling of the coal needing to take place some 6km from the loading terminal.

McBride said the project is faced with the “monumental task” of moving up to 20 million tonnes per annum across a very short distance.

“Trucks are not an option and the existing railway cannot be extended. The only option is to possibly use an overland conveyer or our technology,” he said.

Because the String Transport System’s track structure is elevated, it would protect and preserve the natural environment, with low noise and vibrations and no obstruction to fauna.

“The system is sustainable as it produces lower emissions, uses less energy, causes minimal land disturbance and lower consumption of construction materials,” McBride said.

In fact, the company claims that the technology has the lowest environmental footprint of any mode.

“The benefits of the system are numerous: lower capital costs, lower operating costs and significant reduction in environmental damage,” McBride said.

Key advantages of the String Transport System in comparison to current and emerging transportation technologies include an all-terrain capability, no at grade crossings, reduced material consumption, fully automated and all-weather operation, reduced steel wheel/steel rail friction and reduced aerodynamic resistance.

The company is commercialising the technology for Australia’s mining and freight sector with an initial focus on the Australian resources industry and has commenced works to develop the project-design blueprint for transportation of bulk commodities system with the capacity of up to 100 million tonnes per annum.

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