

# Real-time inspection technology

## Driving productivity and safety

Many mine sites in southern Africa are considering how leaning into new technology and telematics can better inform decision-making and keep trucks in production, especially when it comes to tyres.



↑ Kal Tire autonomous inspection station

Some companies have benefitted from tyre pressure monitoring systems (TPMS) – which give a strong picture of what’s happening inside a tyre – and now sites are learning about advanced tools that not only give a picture of what’s happening outside the tyre, but also automate steps to take action.

For several years, Kal Tire’s proprietary tyre maintenance planning system, TOMS, has been helping customers enhance fleet productivity and safety with the visibility and automation needed to support proactive mining tyre management.

As Kal Tire strives to give customers the ability to make better operational decisions, and as mining increasingly automates, the company has formed an agreement to integrate TOMS with Pitcrew.ai’s thermal imaging technology – bringing customers autonomous tyre inspections.

The automated inspection stations monitor the front and rear tyres of passing mining trucks. The AI software searches thermal imaging video footage for anomalies such as hot spots, belt edge and tread separations, and other mechanical problems that could have a serious impact on safety,

downtime and productivity.

While Pitcrew.ai’s thermal imaging and software captures the data, TOMS makes that data useful and automates critical next steps.

For example, a haul truck passes the inspection station, which captures and detects a hot tyre. That finding, and all findings, are reported into TOMS. The system then automates an inspection work order as part of a self-reinforcing feedback loop. Next, TOMS schedules tyre change work as necessary based on damage severity. The ability to identify tyre-related issues in real time and to react quickly to avoid serious tyre issues is critical.

### Why could thermal imaging AI paired with a maintenance planning system be especially valuable in southern Africa?

Firstly, TOMS and Pitcrew.ai have proven success operating in a variety of climates and applications, from frigid oil sands operations in Canada to the ruggedness and heat of the Australian surface operations.

Secondly, the real-time inspection technology presents great potential for mining operations looking to reduce the risk of exposure of their employees to giant OTR tyres, and to reduce the reliance on frequent physical inspections, creating even more uptime for a site’s prime movers.

Thirdly, leaning into technology and telematics supports growth in autonomous mining, enabling site teams to work more efficiently and focus on their expertise while data is collected autonomously.

Lastly, having more tyres on the road that can perform safely means sites can improve haul truck productivity and safety – two critical KPI’s for many local mines.

Kal Tire has brought Pitcrew.ai’s real-time inspection technology to sites in Australia, Canada,

Mozambique, and Chile and the

company expects to extend the number of stations operating across Kal Tire serviced sites in 2022 and 2023. **MRA**

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# Expect **more** sustainability



Solving the challenge of scrap tyres in a way that's practical and sustainable could be around the corner for Southern Africa. After successfully opening a thermal conversion OTR tyre recycling facility in Chile that converts scrap tyres into base elements for reuse, Kal Tire is ready to bring this scalable solution to other regions.

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