Caterpillar and Minetec – helping underground capability catch up with surface

6 June 2018

In the latest Caterpillar Mining webinar, titled *The Latest Innovations In Cat® Mining Technology*, Randy Schoepke, Caterpillar Commercial Manager for Underground gave the first details yet into what the recent Minetec deal means in terms of Caterpillar's underground offering capabilities and strategy going forward.

Talking about the Minetec deal and the reasons behind it Schoepke stated: "A couple of months ago we made an announcement that we had partnered with Minetec, which has really allowed us to expand what's going to be the MineStar for Underground product portfolio. Historically we have focussed on the Command space and particularly on the yellow LHD. We are expanding the Command breadth of product with the development of a truck offering. When we talk about interoperability we are also looking in that space from an underground perspective as well. But we were a little light in the Fleet space, and the Detect or safety space. So when we did a real honest look at our product portfolio a couple of years ago there were several gaps -we had to make a decision – do we invent this on our own? Or do we partner with someone in the industry who has a proven success record? Minetec really ticked a lot of those boxes."

He went on to talk about what Minetec brings to the table in more detail: "The big enabler that they brought to us was underground positioning. What they brought was an underground tracking network with a high speed data channel on top of it. It really

allows us to take advantage of a lot of those technologies and features that the surface has been able to take advantage of over the years via GPS -understanding what material it is, where you're taking it from, being able to predict collision interactions, collision avoidance, proximity awareness – all of those things are now able to be delivered in the underground environment."

He also referenced work on the value in mining method specific solutions: "We've been working with a partner, a customer, to develop a Fleet Management Solution for large block cave applications – that's machine assignment, that's draw point compliance making sure that the material is flowing correctly – but a lot of those things that have limited application as there's only about 26 block caves in the world and there's over 2,000 stoping mines…so what we have been able to do is expand our offering now into stoping environments – like any other MineStar capability set we've talked about its a building blocks approach."

On Minetec technology specifics again: "With the underground tracking it allows you to get real time positioning – sub metre positioning on your personnel and assets but a more entry level product is simply our V2X product for underground, so that's peer to peer communications, so you have personnel to vehicle collision awareness so the operator on board can take action. Once you've got some of the hardware on the machine, and the personnel node, if you enable the tracking layer, which is a communications layer, which many customers need anyway, then we can do real time tracking of personnel in the mine – which is very handy for safety. If there's an incident you want to know where people are; if they're at the muster point. But we can also get more accurate cycle time data – understanding the time usage model of the machines and being able to analyse the tasks and reassign machines based on the dynamic environment of the underground. Knowing exactly where a machine is parked up at the end of a shift will also help you get the next operator there much more quickly. Stoping mines usually evacuate to blast – and so understanding exactly where that machine was parked is critical."

On scaling the offering to customer wants and needs and standing out against its competitors, Schoepke said: "We've talked to many customers, and many are on their own technology journey. Sometimes point solutions are being purchased – a point solution for safety, a point solution for production management, a point solution for automation – and they are burdened with the task of integrating all that into one reporting, one enterprise solution. What we have done is we have taken that burden away from the customer. We are providing the full suite of products or a point solution if that's what you want because our products are fully scalable – so that's a true differentiation point. Plus the underground tracking or enabling feature is proprietary to Cat and Minetec so that's a very unique feature."

Moving on to machine health monitoring: "Health in the underground space is every bit as important and available as it is on the surface. We may have different challenges such as with connectivity, maybe if we don't have full wireless coverage, but we can

hotspot information off because we can buffer it on board. But understanding and being able to predict those maintenance events on underground machines is every bit as important as it is on the surface."

What about using the new technology on non-Cat equipment? "The Command product right now works on Caterpillar equipment, like I have mentioned we are embracing the interoperability strategy and we are willing to go down that path. Now the Fleet and safety products, and the tracking products – those are OEM agnostic, we can put thos on light vehicle, a UTV, heavy vehicles – it doesn't matter as we are not integrating to the base machine controls; this is a layer over the top where operators are getting tasks assigned."

Finally, he was asked about timeline and market entry: "Currently our Cat dealers have the sole right to sell the Minetec brand and we will be selling that Minetec brand. But we are also integrating in four phases Minetec into MineStar. The MineStar brand will be prevalent next year on this underground offering but right now it is available through your local dealer."