

Saving Fuel, Reducing Haul Cycle times & Improving Safety

A 3D-P customer was in the process of expanding operations and had created a four-way stop across a haul road to allow construction traffic access into the expansion area. This intersection was slowing down heavy haulage production vehicles and for safety reasons was being manned by two traffic wardens around the clock.

3D-P was contracted to assess the problem and subsequently proposed and engineering a cost-effective solution that saved fuel and reduced haul cycle times by ensuring heavy haulage vehicles were provided automatic right-of-way. The 3D-P solution also improved safety by automating the use of physical barriers and eliminating the need for personnel to manually attend to the intersection.

Flexible Computing with the Intelligent Endpoint™

The customer was already relying on 3D-P's Intelligent Endpoints to enable on-machine communications. The Intelligent Endpoint is much more than simply a ruggedized radio and also boasts a powerful open computing platform which enables the easy development of custom applications.



This allowed 3D-P to develop an on-board application which determined if a haul truck was heading towards the intersection based on the Endpoint's location awareness. Upon approach, the Intelligent Endpoint messages the traffic light controller. Construction

road traffic then receives a red light and a traffic barrier arm is automatically lowered. In turn, the haul truck receives a green light and safely proceeds through the intersection unimpeded. Upon clearing the intersection, the Intelligent Endpoint sends a second message to the traffic light controller to allow for normal operation to resume.

Ongoing Return on Investment

Alternative options such as application specific hardware were being considered to support this initiative. Because of the customer's investment in Intelligent Endpoints, however, 3D-P was able to engineer a solution that could be deployed remotely over the air and required no new hardware installations or truck down time.

This simple but effective solution provided significant up-front savings as well as sizable on-going cost benefits and handily demonstrates the strong ROI provided by deploying 3D-P's Intelligent Endpoint product line.

Hardware savings Application specific hardware	\$4k/truck
Truck down time savings \$10k/hr x 2 hr installation	\$20k/truck
Total up-front savings	US \$24k/truck
Labour savings \$30/hr x 2 guards x 24/7/365	\$526k/year
Truck productivity savings \$10k/hr x 0.25 hr/day x 365	\$912k/year
Annual Savings	US \$1.44M/year

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