



Myriota

# Heavy Equipment Monitoring, Simplified.

How ultra-low-power satellite connectivity enabled an anywhere, remote asset tracking solution.

## Introduction

Myriota was founded in 2015 to revolutionise IoT through simple, secure and affordable access to data anywhere using advanced, direct-to-satellite technology. Myriota IP covers all aspects of the end-to-end solution; edge, satellite and cloud.

Enabled by anywhere connectivity, a vibrant ecosystem of Myriota Partners including Solution Providers and Original Equipment Manufacturers are unlocking previously impossible or impractical use cases to deliver tangibly better outcomes across agriculture, Defence, logistics, environmental sectors and more.

From safeguarding scarce water resources and optimising crop yields to maximising operational efficiency, global organisations now have access to critical data, anywhere and everywhere it's needed.

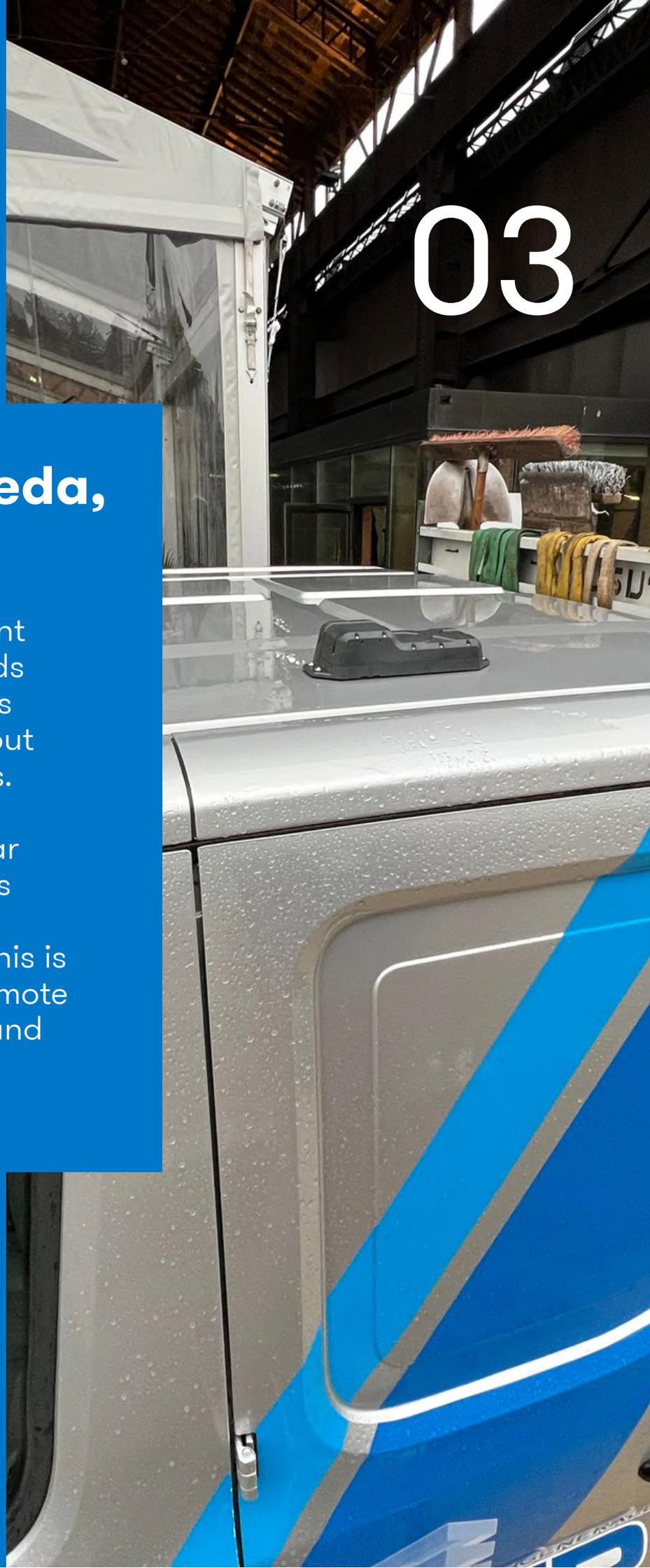
Heavy  
equipment  
monitoring,  
simplified

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## The Andromeda, by INCYT

Tracking the movement and condition of goods and equipment across continents brings about significant challenges.

One of these is cellular black spots. Another is making tracking accessible at scale. This is particularly true in remote areas like mine sites and in rural areas.



## Heavy equipment monitoring, Simplified

Responding to this need, the Sydney-based design house, INCYT, created the Andromeda device to retrofit powered and unpowered assets.

Unlike other similar devices, the battery-powered Andromeda features a four-way hybrid communications capability comprising WiFi, Bluetooth, cellular (LTE-M) and satellite.

The test for INCYT was to add satellite connectivity without draining the battery. For this, they turned to Myriota and its Network of low-orbit satellites.





**Adam Schindhelm**  
CEO, INCYT

“

**Myriota was an obvious choice as the leader in ultra-low-power satellite connectivity designed specifically for the Internet of Things. We could see there was a challenge in the tracking industry where current options rely on LTE-M or more costly methods that often require external power.**

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Today, paired with the INCYT app and simple data integration with Myriota via restful API, Andromeda provides industries – including shipping and logistics, asset and fleet tracking, construction and mining – with an easy answer to long-standing challenges.

**Up to 80% of loss scenarios occur in the 20% of locations outside of reliable terrestrial connectivity.**



Add in rural and maritime locations and the problem becomes huge, as over 90% of the globe is without reliable IoT connectivity.

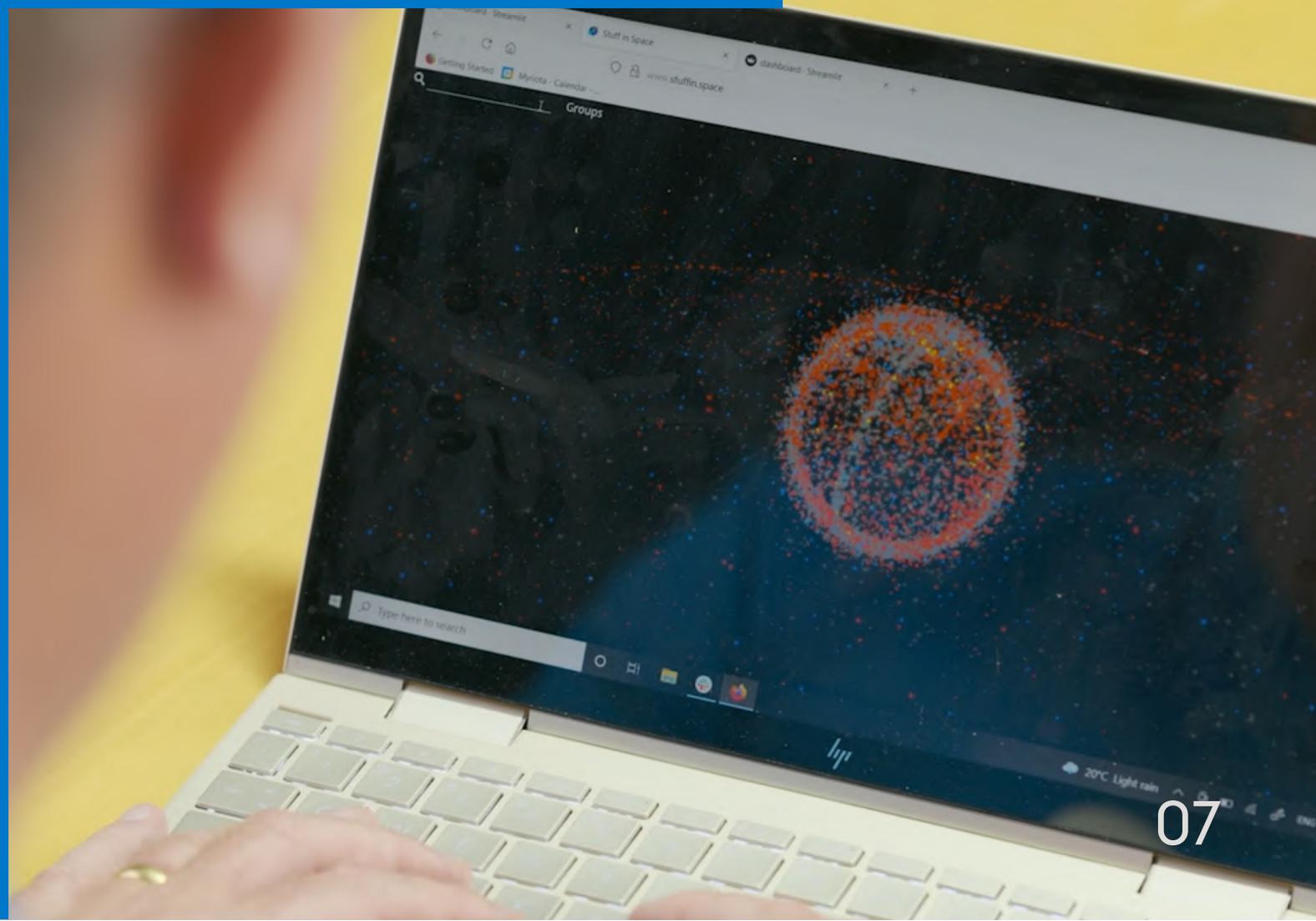
With Andromeda, this enormous blackspot is shrinking. The ‘born global’ device offers scalable, failsafe tracking from anywhere on land, rail or sea.

Andromeda was built and tested against Australia's climate extremes. With a robust UV stabilised shell and easy 4-screw install, it is designed to last and can be deployed in minutes.

Its powerful military-grade battery means longer tracking life and less maintenance. Even with daily reports, it delivers an impressive battery life of up to four and a half years.

Via the Myriota Network, all bulk data carried via Andromeda over satellite-to-ground station links are encrypted and authenticated, employing a zero-trust security posture.

**Learn more at [incyt.com.au](https://incyt.com.au)**



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**Working in collaboration with the Myriota team, we think we've achieved something really special in Andromeda, and it opens up so many opportunities for businesses globally.**

”

**LX Group CEO Adam Schindhelm**



# Heavy equipment monitoring, simplified.

Gain vital insights on heavy equipment anywhere on the Earth's surface with direct-to-satellite connectivity.

Missing, misplaced or misused – when assets like heavy equipment are not being used as intended, the associated costs can multiply quickly.

**Idle times average 36%, with strong evidence that operators who lag behind their peers in reducing downtime are losing business; wasting time, and money, and increasing ecological impact on the environment.\***

\*McKinsey & Company, The Internet of Things: Catching up to an accelerating opportunity, November 2021





**Downtime and missed revenue, damage repairs and fuel costs will impact whether you are an owner-operator, hire company or lease holder. And that is just the tip of the iceberg.**

There are many heavy equipment monitoring systems in the market, but none match Myriota's direct-to-satellite IoT connectivity and ultra-low-power demands.



## Anywhere connectivity

Coverage even in the most remote job or mine sites



## Long battery life

Years of battery life for sites without mains or solar power



## All the data you need

From idle time to threshold-based alerts in as little as eight messages per day



## Dramatically lower cost

No infrastructure costs – no gateways, no towers, no setup fees

Flexible, ultra-low-cost data plans – only pay for what you need



## Secure and private data

No additional cost or power to enable security – it's baked in

Trusted by defence, our Network was built for security from the ground up

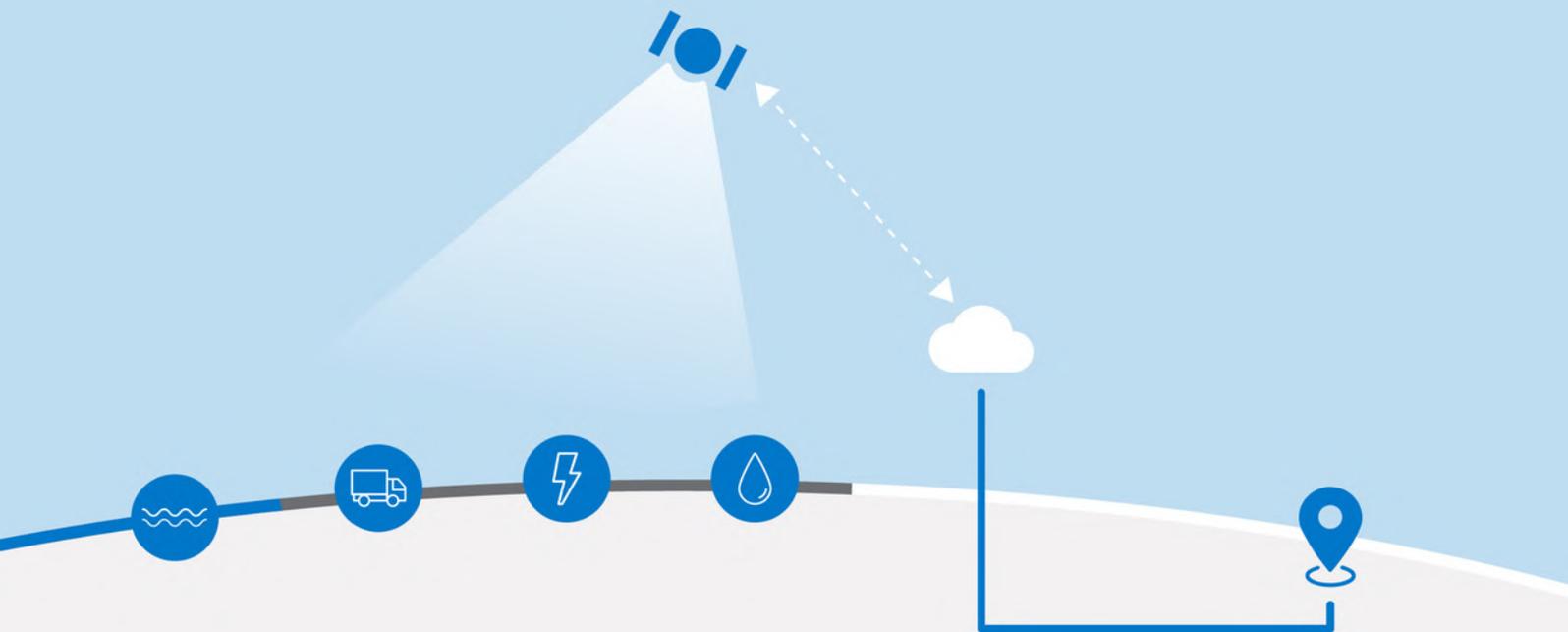


## Single SKU for global distribution

No SIM cards or other regional modifications required



# Direct-to-satellite communications made easy



## 1 Heavy vehicle monitoring devices

In-field devices record vehicle sensor data

## 2 Wake and send

Myriota Module wakes as the satellite passes and sends data

## 3 Cloud transfer

Satellite receives and forwards data to the Myriota Cloud

## 4 Data distribution

Data is immediately distributed to the configured client cloud or server

# Heavy equipment fleet owner?

**An anywhere solution will keep it earning and safe.**

Construction, mining and hire fleets deserve better.  
Better insights to improve productivity and bottomline.  
Better tracking to maximise billing, asset use and life.

**Construction operators suffer 51% worse financial performance if less than 75% of their vehicle fleet is connected via IoT\***



From brake temperature and fuel usage to idle time and machine health, machine monitoring is a fundamental tool to ensure equipment is running at peak performance for optimal asset utilisation.

\*McKinsey & Company, The Internet of Things: Catching up to an accelerating opportunity, November 2021

For hire companies, there are additional issues in tracking usage and equipment location. In the United States alone, the theft of up to 1,000 pieces of heavy equipment per month equates to US \$1 billion in lost value annually.

**With Myriota-enabled automated data collection and actionable insights, fleets in all industries can reduce maintenance, improve efficiency, productivity and returns, and improve workforce safety.**





As capital-intensive industries, Construction and Mining must pay close attention to the utilisation and performance of equipment, assets and infrastructure in both metro and remote areas - productivity shouldn't diminish outside city limits.

Investing in satellite IoT technologies today present the opportunity for massive economic growth by OEMs and device manufacturers.

**By 2025, it is predicted that the investment in IoT adoption by end users could be up to \$840\* billion in Construction and \$350\* billion in Mining.**



\*McKinsey & Company, The Internet of Things: Catching up to an accelerating opportunity, November 2021



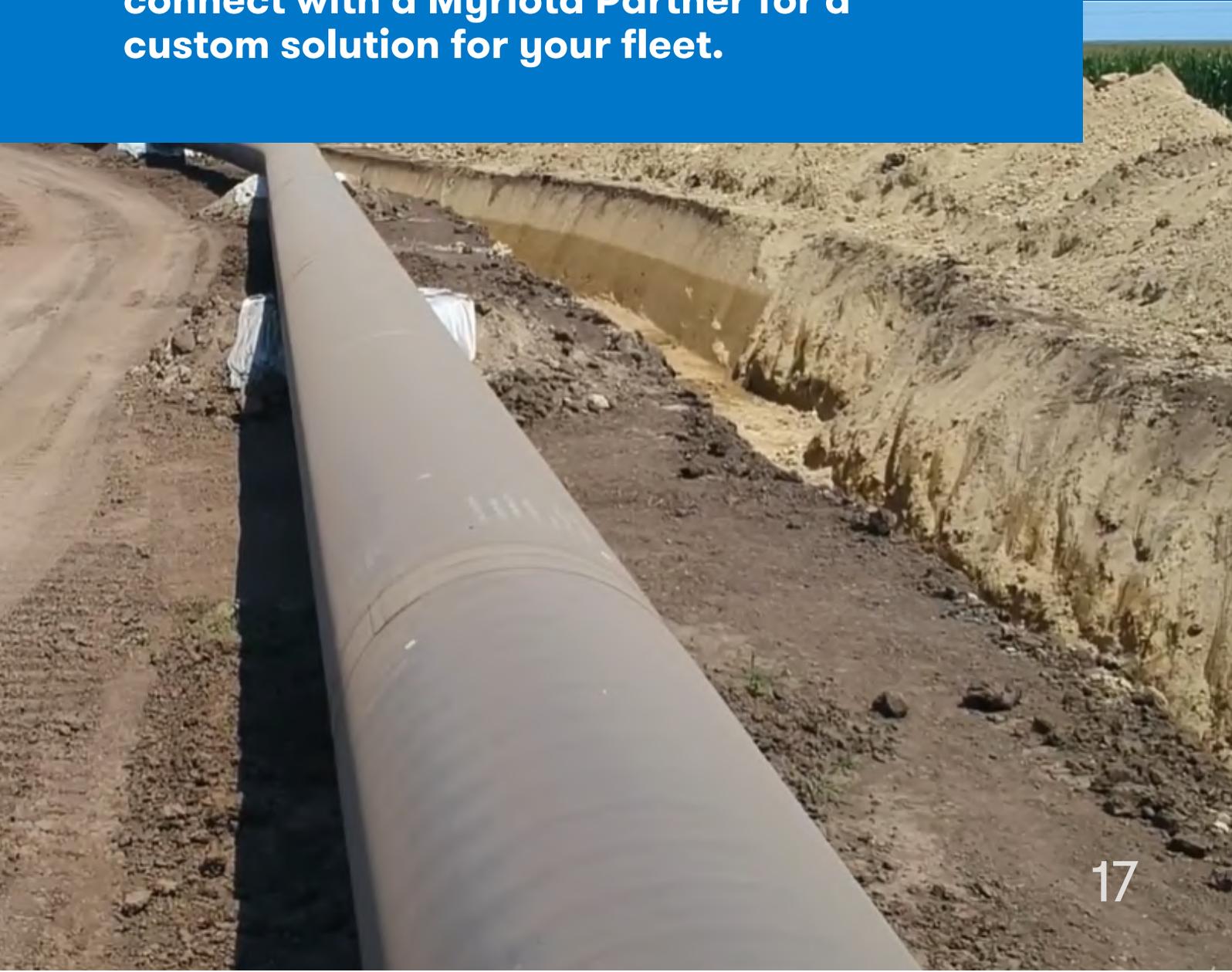
Operations Management is the largest source of opportunity, accounting for \$1 trillion\* by 2030 across Construction, Mining and Oil & Gas.

Automating and understanding operations, especially in remote locations, represents significant benefits for heavy industries operating across large and geographically dispersed locations.

Increased throughput, reduced raw materials cost, and personnel efficiency account for a large share of the impact in improved margins and satellite IoT is needed to reach these goals.

If you are unsatisfied with the current energy-intensive satellite and cellular-based tracking technology, switch to Myriota's direct-to-satellite connectivity.

**Myriota connectivity can be added to existing OEM tracking devices, or connect with a Myriota Partner for a custom solution for your fleet.**



Heavy  
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What can be  
monitored,  
anywhere?





## Location monitoring (GNSS)

Position maps, location reports and remote access to diagnostics and insights



## Machine information

Track engine hours, vehicle temperature and mileage reports



### Cost Analysis Summary

14 July - 21 July

Vehicle ID: #452 of 20,000

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Number of stops: 633

Total distance: 5612

Average stop duration: 33min

Average run time: 2:46

Average stop cost: \$5.42



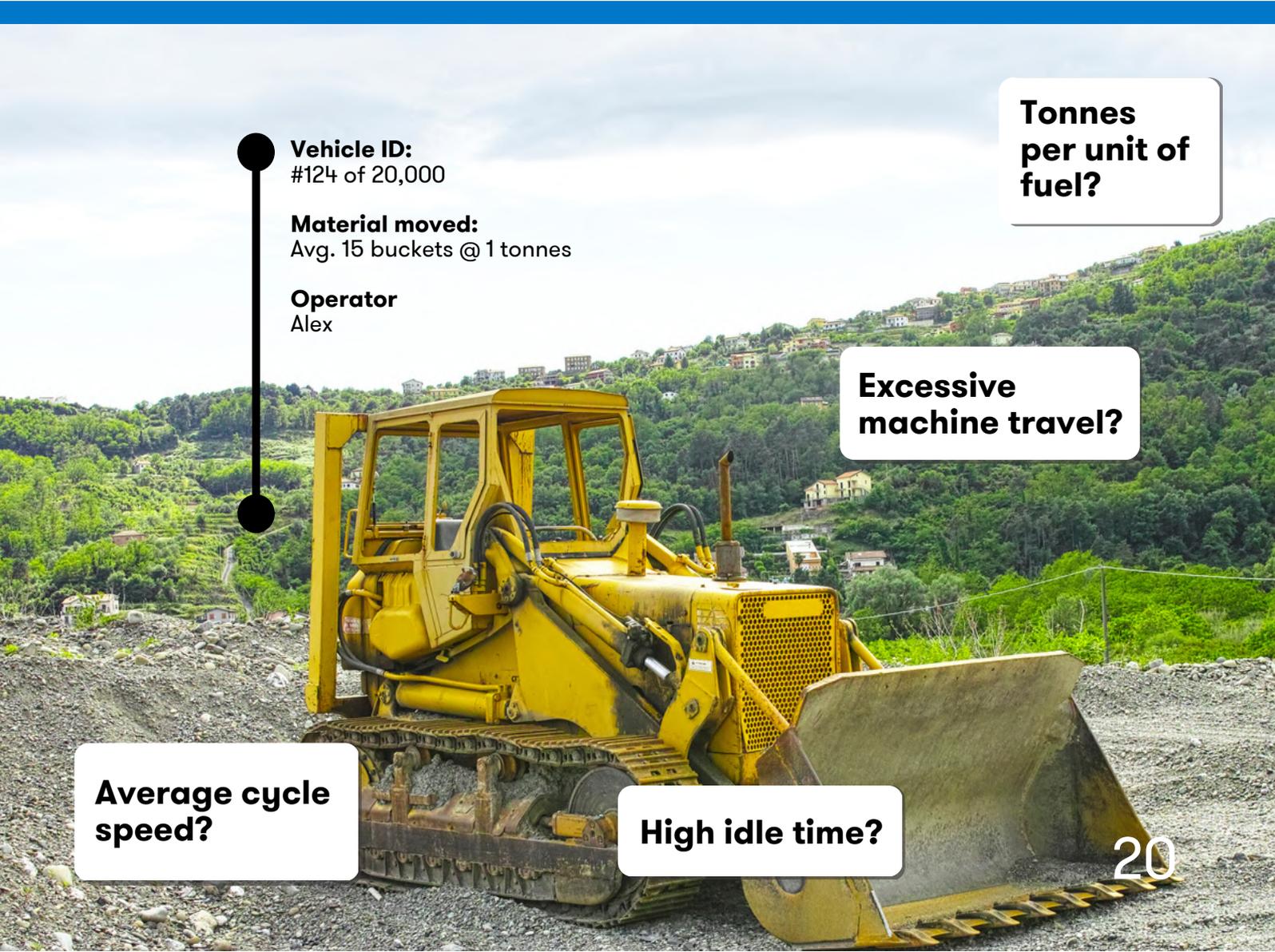
## Predictive maintenance

By identifying misuse and tracking key usage metrics, you can reduce or near eliminate unscheduled downtime caused by equipment or system failure



## Event-based notifications

Identify after-hours usage, vehicle arrivals and departures, and unnecessary idling time to reduce dangerous work practices and eliminate time and fuel inefficiencies



**Vehicle ID:**  
#124 of 20,000

**Material moved:**  
Avg. 15 buckets @ 1 tonnes

**Operator**  
Alex

**Tonnes per unit of fuel?**

**Excessive machine travel?**

**Average cycle speed?**

**High idle time?**



## Monitoring at cents per message

Monitor more assets across multiple sites with flexible, low-cost data plans at cents per message



## Remote connectivity direct-to-satellite

IoT connectivity independent of topography, infrastructure and cellular service areas. Unlock global opportunity with affordable access to critical data, anywhere on Earth





## Heavy equipment uptime

Insight into uptime and health, receive non-critical notifications, monitor OEE and utilisation

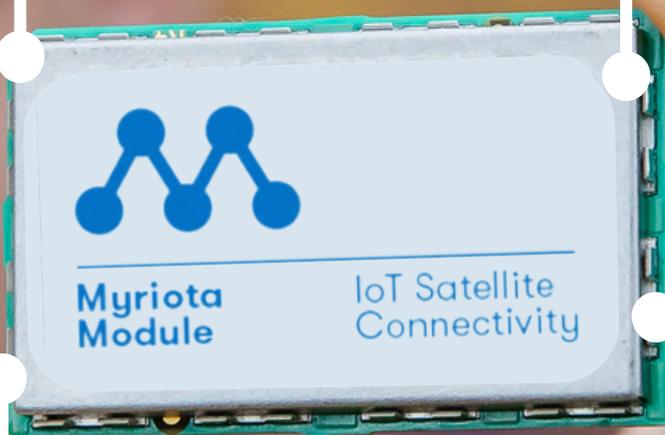


## Onboard geofencing

Receive non-critical notifications when machines enter or leave worksites

**Small form factor for compact design**

**Fully encrypted, zero-trust security**



**Sophisticated, edge compute device**

**Patented signal processing for massive scale, to billions of devices**

# Original equipment manufacturer?

**Upgrade to connectivity anywhere.**

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Maximise the life of your tracking solution and ROI for you and your customers.

**When you become a Myriota Partner, you can better service your customers and grow your market share.**





The Myriota Network will reliably and cost-effectively take your tracking solution into places it has never been. Beyond GPS and cellular networks, into the most remote places on Earth.

Supporting at-scale deployment through a resilient, capable connectivity platform that is simple to adopt, deploy and fast to yield the expected benefits.



With Myriota's direct-to-satellite connectivity, there are no infrastructure costs – no gateways, no towers, and no set-up fees. Plus, our long-battery-life devices allow years-long tracking and monitoring in sites without mains or solar power.

Upgrade to connectivity anywhere – and get the jump on your competition.

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## **Myriota, Everywhere.**

**We believe in a world  
made better through  
seamless access to  
critical data, anywhere  
and everywhere it's  
needed.**

Myriota was founded to revolutionise the Internet of Things (IoT) through simple, secure and affordable access to data anywhere using advanced, direct-to-satellite technology. With offices globally, Myriota is headquartered in Adelaide, a focal point of the Australian space industry and home of the Australian Space Agency. Myriota has a growing portfolio of over 24 core patents, and support from major international investors.

**With deep heritage in telecommunications research, world-first transmission of IoT data direct-to-nanosatellite was achieved in 2013. Myriota has made this ground-breaking technology commercially available for partners worldwide.**



Myriota

# Get in contact

[enquiries@myriota.com](mailto:enquiries@myriota.com)

## Webinar

### The power of anywhere connectivity for heavy equipment monitoring

Deep dive into how remote, underutilised heavy equipment can benefit from affordable, long-battery-life connectivity via satellite.

