MINING SOLUTIONS

Aptella

AUTOMATION +
POSITIONING TECH

Why Aptella

We're there when you need us

With more than 30 years' experience in deploying intelligent positioning solutions, Aptella and its founding businesses have continuously broken new ground in the application of technology to enable safer, more efficient and more productive mine site operations.

Aptella's expert team is unrivalled in the industry - our people are passionate about what they do and committed to supporting our customers whenever and wherever they're working.

With more than 350 employees across Australia, New Zealand and Southeast Asia, no other company can deliver the depth of expertise and boots on the ground support that Aptella has to offer. We source the latest and most advanced technology from leading suppliers worldwide, ensuring it is fit for the local market and assisting customers with training, service, calibration and support to suit their unique business needs.

Workshop services

Comprehensive product service, maintenance, repairs and advice are provided via our local service centres with manufacturer-trained technicians. We guarantee all our work and can supply calibration certificates if required.

Training

Our expert trainers are here to help you get productive immediately and enable you to take control of your digital jobsite. Our training is application specific and tailored to your industry, providing the perfect foundations to tackle any task or project.

Hire or lease options

A full range of systems, from laser levels through to machine systems and survey instruments, can be hired or leased to suit any application and reduce capital outlay. Get the flexibility to customise technology to suit unique site requirements.

Remote Access & Support

To give you fast help when you need it, our technicians can remotely access your systems when required to troubleshoot and train users to get you back to the job as soon as we can.

Access high precision and fleet management devices remotely.

Send & receive messages to operators, surveyors & managers.

Multiple solutions from a single, local supplier

Simplify your procurement process and select from our range of leading, tried and tested solutions

For all machines & survey assets

Aptella are the retrofit experts, specialising in sourcing and supplying machine-agnostic solutions for your mixed fleet

Site-wide change management

Our team works with you to customise solutions that compliment your existing workflows and simplify your day-to-day operations

Fast support a phone call away

The combination of remote access support and a large, local network of field technicians delivers unrivalled support

Flexible Service Level Agreements

To ensure that your mining solutions are always performing at their best, the team at Aptella is here to support you. Our highly trained specialist technicians are committed to providing the highest quality of service, with a combination of remote and boots-on-the-ground support hubs dedicated to ensuring requests are quickly actioned to maximise your machine uptime.

Our comprehensive Service Level Agreements are fully tailored to your unique requirements, to give managers and operators peace of mind that technical assistance, training and remote updates are available as needed, reducing the need for on-site visits.

Mine4D

Production
Haul Cycle Data Logging

Automated data capture in real-time
Enables immediate feedback for effective
and prompt decisions:

> Material
> Location
> Paired vehicle
> Payload
> Second gear re-weigh
> Activity & delay codes
> Vehicle state (loading, travel loaded, dumping, travel empty, stopped, queuing, spotting, re-spotting, etc)

Load Assist
Operator feedback for optimal loading

> Haul cycle data
> Load pass tonnages/BCM
> Target payload
> Centre of gravity
> Dump destination

Time
Vehicle Utilisation Insights

iVolve Mine4D Time records vehicle usage information including engine utilisation, Service Meter Unit (SMU) hours, as well as activities and delays based on operator selections from and in-cab iVolve display.

Utilisation and SMU are typically obtained from an interface to the vehicles on-board ECMs, otherwise they're determined by Mine4D Time with additional inputs.

Mine4D Time reports directly to the Iris server, so supervisors can remotely monitor the working state of all vehicles in real-time with iControl. For reporting, iReport can collate information across multiple shifts.

Guidance
For excavators and dozers

iVolve integrates Fleet Management System and High Precision Machine Guidance to deliver the combined benefits of real-time operational data and advanced machine guidance.

Unlock the Insights

> Application access
> Vehicle location
> Manual / automatic SMU
> Speed alerts (GPS)
> Activities / delays
> Messaging
> Operator login
> Maintenance events/ alarms
> Fuel levels

> Load & dump location
> Load pass & overload notification
> Material type & warnings
> Destination
> In-cab production stats
> Smart production states
> Automatic utilisation
> Centre of gravity

GoLine

Your tailored iVolve homepage

Accessible anywhere, on any device, on one page, iVolve's GoLine provides users from all levels simple access to the iVolve Mine4D apps. Real-time monitoring of site operations, viewing notifications, reporting, reviewing and maintaining data, setting up and configuring assets, and more is all possible on your GoLine web portal.

Your gateway to iReport and iControl from a single interface.

TRUCK LOAD CYCLES
Review, edit, and add details for your load cycle data.

MASTER DATA
Manage activity and delay codes, devices, geofences, materials and operators.

DEFECT MANAGER
Review, assign and close defects generated by operators or office staff.

EVENT MANAGER
Review, assign and close events opened by the OEM or iVolve system.

New

SHIFT PLANNER
Plan crews, targets, and downtime for a given date range and shift.

Crew assignments: add crews to the shift data to enable reporting by crew.

Target assignments: set goals for specific vehicles or vehicle types

Planned downtime assignments: allocate vehicle downtimes for upcoming shifts.

> More accurate visualisations to monitor planned vs actual production progress.

> Complete timeline management with drag and drop of planned to actual timeline in the Timelines app.

New

TIMELINES
Achieve complete availability reporting for all machines with an intuitive, simple drag & drop tool.

> Update or add activities and delay reported by the machine.

> Update or add an operator logged into a machine.

> Copy planned downtime events to the actual timeline.
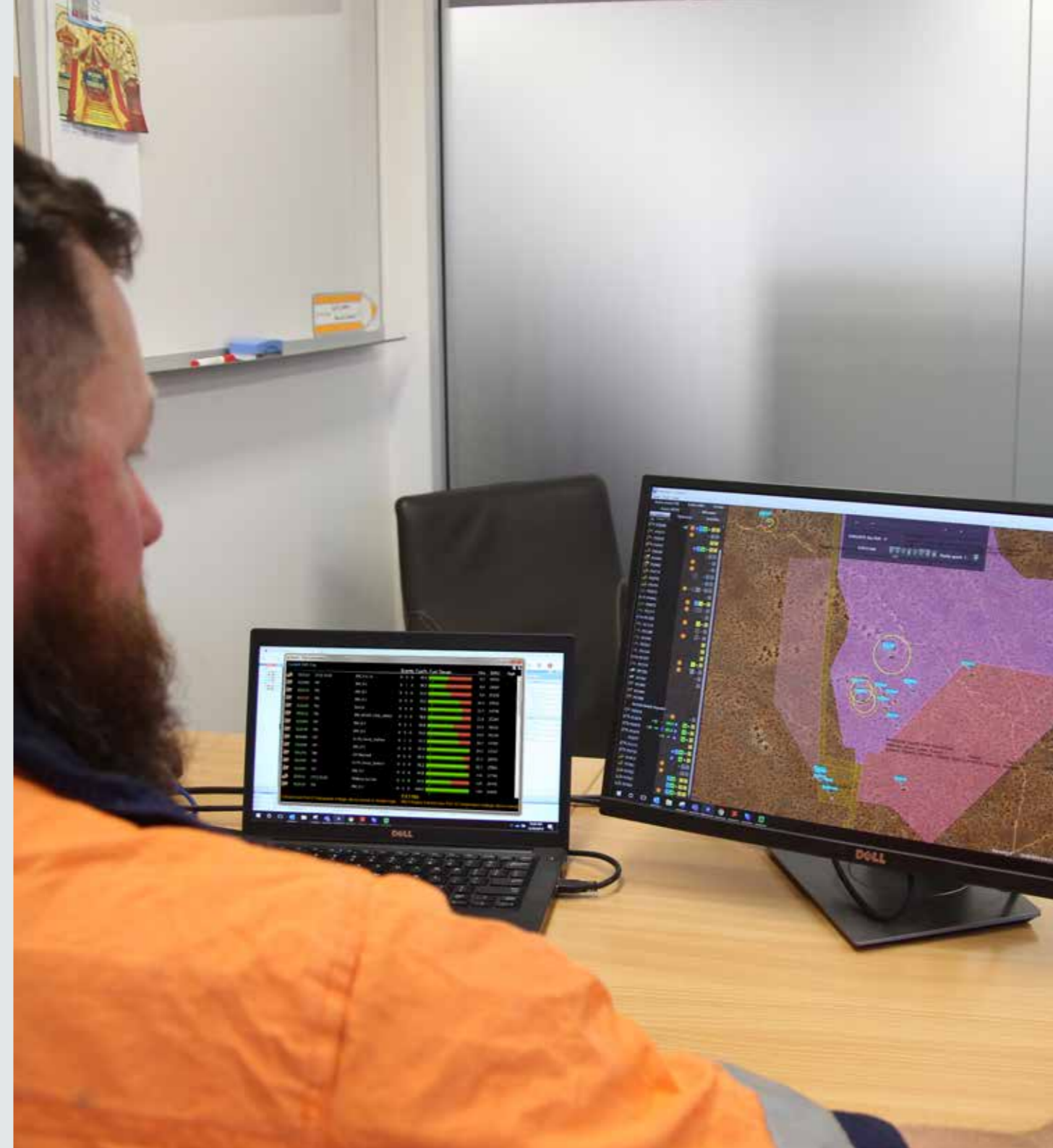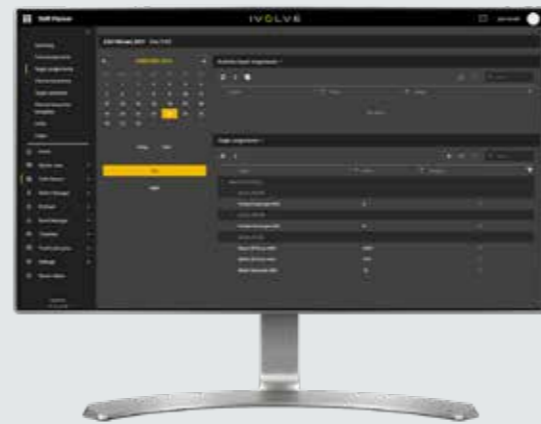
iControl

Map Based Visualisation

iControl® is the iVolve map based visualisation tool displaying your fleets' real-time data for a complete overview of the state of the fleet and assets.

Details such as the location and operational status of vehicles; the quantity of material a vehicle is carrying; and the amount of fuel a vehicle currently has are all examples of the information that can be clearly visualised in real-time on the map and other iControl® views.

> Data and image overlay sources include:

> aerial photography

> vector or CAD drawings

> databases and GPS.

High Precision Machine Guidance

Dozer

Give your operators the power to mine to the design and reduce downtime. With a simple, user friendly interface that can be used across a multiple machine types, Carlson Grade will increase machine productivity and profitability.

> Correct floor elevation
> Up productivity via accurate push strategies
> Reduce idle time
> Easily mine to the design
> Reduce survey cost
> Increase safety with watch and warning zones
> Track materials
> Determine accurate overhaul costs

Drill

Accurate drilling = Better Blasting

Better blasting = Better Fragmentation

Better Fragmentation = Lower Downstream Costs

> Get correct angle and depth of all holes
> Enable correct hole and row distance at bottom of the blast
> Significantly reduce the need to mark collar points and depth
> Retrofit to all makes and models of drill rig
> Reduces blasting and survey costs
> Customise proximity and warning zones to keep machines in safe working boundaries

Excavator

Carlson Grade for excavators gives operators greater situational awareness through proximity warnings between machines and fixed assets. It also increases safety for surveyors and engineers by reducing survey time in the field.

> Build to design for better highwall and proper bench elevation
> Dig to design utilising surfaces or block models
> Real-time cut/fill/on-grade to multiple design surfaces
> Build simple or complex pads and slopes
> Accurately build to elevation offsets
> Track single or multiple points

Stockpile

Safety Benefits:
> Increase operator awareness through proximity warnings between machines and fixed assets - machine to machine peer communication
> Ability to use 2D and 3D watch zones and warning zones by geofencing infrastructure
> Increase safety by reducing survey time in the field for surveyors & engineers
> Historical machine playback for incident analysis

Productivity Benefits:
> Accurate design info & correct floor elevation;
> Simple screen display for ease of operations
> Tag delays
> On-screen ramp and bench design
> Operator Login available
> Accurately generate productivity reports
> Direct import of DXF/DWG files

Utilisation Benefits:
> Eliminating delays waiting on survey
> Rapid response to changes through remote or manual upload of designs
> Real-time locating and playback of where and how machines are being used;
> Machine utilisation tracking and task analysis
> Real-time machine system view and troubleshooting capability from anywhere in the world

Command & Control from Anywhere

Carlson Command is an office software platform designed for data collection, analysis and reporting. Accessible from anywhere that has an internet connection, Carlson Command is a monitoring and data management software solution that transmits data from machines to the office and from the office to machines.

> Productivity analysis

> Data management of single or multiple sites

> Direct machine-to-machine communication and data sharing with live and historical 3D machine playback

> In-cab monitoring and training from the office

> Full design mapping with real-time cut, fill and elevation information

> Create and customise tasks, delays and down codes

Top New Features

> Modern, powerful protocols for machine connectionand data transfer to enable lightweight user install

> Send projects, installs, files and configurations to a single machine or your whole fleet with confidence

> Advanced data input and real-time transfer means accurate, up-to-date records

> Required task feature ensures operators are logging their time accurately

> Manage, view, and create custom reports of multiple As-Built surfaces within the site linework

User-Friendly Web Interface

> Quick, Easy Report Customisation

> Cloud Data Management

> Management of Multiple Sites

> Scheduled Reporting with Automatic Emails

> Comfortable, Clear Interface

Powerful Management & Reporting

> Individual Machine Volume Metrics

> Dozer Push Metrics

> Time Reporting

> Drill Reporting

> Productivity Analysis

> Surface Colour Mapping

> Cut/Fill Colour Mapping

> Rover Position Trace

> Historical Replay

Dynamic Productivity Tools

> On-the-move data exchange (machine to machine)

> Surface updating

> In-cab monitoring

> Tasks & delays/down-codes

> On-site proximity warnings & avoidance zones
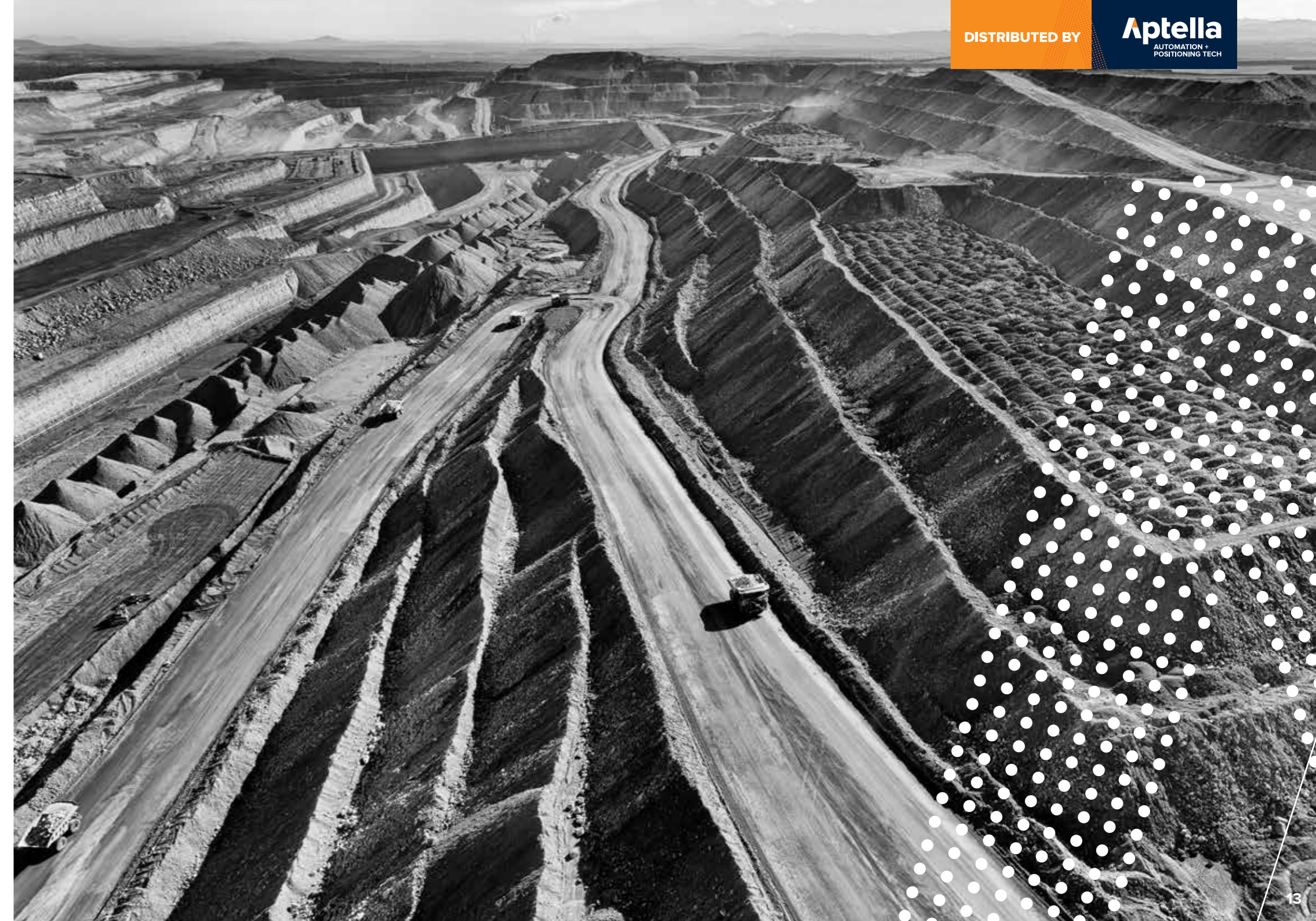
Retrofit Autonomy
For all makes and models of truck

Having successfully completed a proof of concept project in Karlawinda, WA, Aptella is working with SafeAI to retrofit a mixed fleet of 100 mining trucks for MACA. MACA will be the first contract miner to deploy AI-powered autonomy for its customers, establishing safer, more productive and more cost-effective operations.

> Agnostic solution for mixed fleets

> Retrofit to any make or age

> Next generation Autonomy 2.0

> Tried and tested locally & overseas

Backed by Aptella

As with all our mining solutions, SafeAI autonomy is powered and supported by the Aptella network of in-field and technical experts.

Advantages:

> An experienced team that has retrofitted machine technology to all makes, models, sizes and ages of heavy machinery for more than 30 years

> Partnered with SafeAI research and development team to deliver responsive,high performance solutions

> Remote access capabilities for fast support and the ability to tap into the wider Aptella mining team

> Large team of local, boots on the ground in-field support with hubs in all key mining locations throughout Australia

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This versatile, scalable solution is unmatched in our industry right now, and has profound implications for site safety, efficiency and cost-effectiveness.

We expect to see quick takeup from our customers as they begin to see the tremendous impact of this technology

Shane Clark
GM Estimating & Technical Services, MACA

Rajant Kinetic Mesh Networks

Rajant's Kinetic Mesh® is the only wireless network that autonomously adapts to operational and environmental changes in open-pit and underground mines.

In over 230 mines worldwide, Kinetic Mesh networks dynamically evolve to keep applications, equipment, and mine production running on the surface and underground, with no fibre or mobile phone towers needed.

Rajant Kinetic Mesh® provides a mobile mining network that enables mining operators to meet continuous production and industry safety mandates with unwavering network availability. The unique nature of our Kinetic Mesh architecture allows open-pit and underground mines to easily introduce, relocate, or remove network infrastructure – without causing any network downtime – to deliver highly adaptable coverage and continuous connectivity. It's the only network for mining autonomy that runs without fail.

Kinetic Mesh® networks work autonomously to provide optimal connectivity across an organization's dynamic environment of fixed and mobile assets, delivering robust applications in real-time.

> Total Mobility

> Proven Resiliency

> Maximum Bandwidth Utilisation

> Rapid Scalability

> Extreme Ruggedness and Security

Backed by Local Support

Aptella provides local support and on-site configuration of your Rajant Kinetic Mesh networks. Our experienced team has deployed numerous Rajant networks successfully for our mining customers.

Backed by Madison Technologies, Australia's B2B wireless network specialists, no other company can offer the expertise and responsiveness of our team to support your mesh network needs.
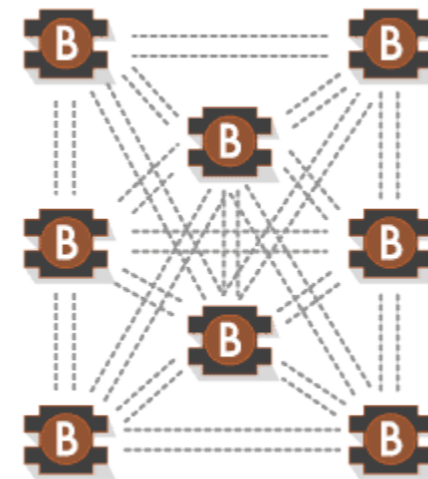
Intelligent Safety

Blindsight is a complete safety solution for the most dynamic industrial environments. Built on industry-leading AI vision, Blindsight detects, alerts and informs your team on high-risk interactions that matter most. From operator alerts and data for your daily toolbox reporting to worksite safety benchmarking, Blindsight allows your team to course-correct behaviours swiftly.

> Automatic detection of people to protect workers in dynamic environments without the need for tags

> Real-time reporting and safety index benchmarks to measure your workplace safety metrics

> Video capture of each trigger event to give managers powerful insights into site safety behaviours

> Configurable to your site and workplace health and safety processes and procedures

Network and GNSS Productivity

Multiple subscription based GNSS correction solutions are designed to provide productivity 24/7 with:

Universal Tracking Channels

Topcon's patented Universal Tracking Channels™ technology provides the industry's most efficient approach towards identifying and using each and every satellite constellation and signal. Any constellation and any signal can be used in any available channel. Thus reaching maximum performance with a reduced number of channels.

Topcon GNSS receivers are the only ones to use Universal Tracking Channels technology, automatically ensuring optimum reception of all GNSS satellite signals.

HiPer HR
Advanced GNSS Receiver

Part of our Elite Survey suite, it's highly configurable and designed to grow with you. You can track every satellite signal above, and handle any job that comes your way.

> Next generation Fence Antenna® technology for superior reception

> Unique 9-axis TILT™ compensation

> Internal Wi-Fi and multi-spectrum Bluetooth®

> LongLink™ interference-free communication, up to 300m range

HiPer VR
Versatile GNSS Receiver

The HiPer VR is small and light, but don't let its small size fool you. It's not only packed with the most advanced GNSS technology, it's also built with a rugged housing – not weak plastic – to take the punishment of the job site.

> Universal Tracking Channels™ for all satellites, signals and constellations

> Field-tested and ready IP67 design

> Compact form factor ideal for Millimeter GPS and Hybrid Positioning™

> Revolutionary 9-axis IMU and ultra-compact 3-axis eCompass

Topcon HiPer CR
Site Receiver

Get precise centimeter-level accuracy effortlessly with this compact powerhouse, ideal for various survey and construction tasks. The HiPer CR is an ultra-lightweight and compact solution that minimizes pole weight, ensuring easy mobility and field usability. Despite its small size, the HiPer CR integrated helical antenna excels in challenging canopy and jobsite environments, delivering exceptional performance.

Wireless Deformation Monitoring

Accurate, High Resolution, Stable And Repeatable

> Only use high precision, stable sensors

> Easy to use web based visualisation

> Multi-level text and email alerts

Innovation And Intelligence

> Innovate and collaborate closely with / for clients

> Integrated and triggered imaging and wireless solutions

> Intelligent solutions support decision making

Our systems are remotely configurable and customisable. They facilitate predictive remote asset knowledge and understanding to improve predictability ahead of failure, assets can be repaired, replaced or maintained ahead of catastrophic failures.
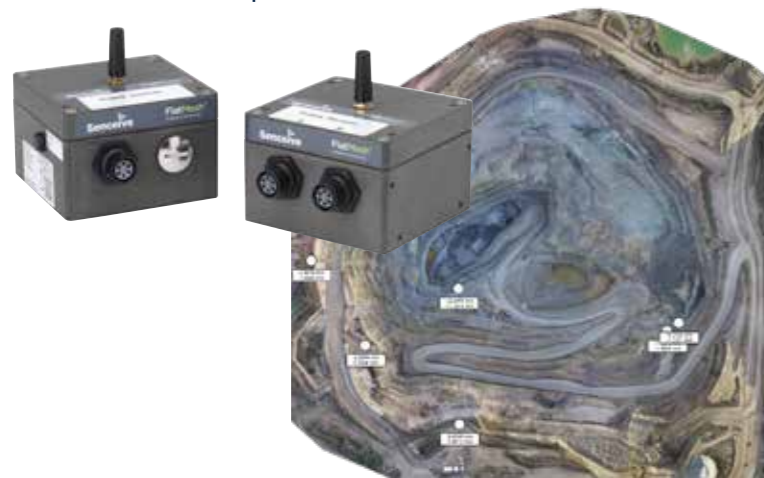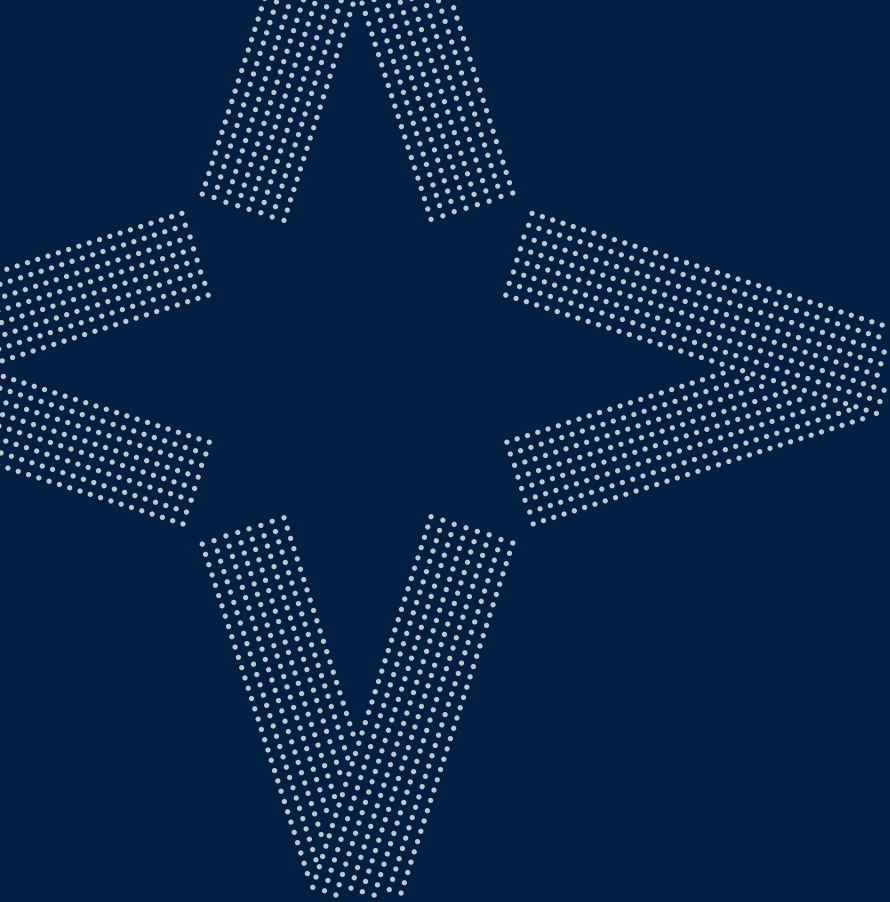
Mine Grade Survey Drones

Remotely Piloted Aircraft Systems (RPAS)

Aptella has an expert RPAS team to assist with training and technical support of your survey drone technology. With complete packages that cover hardware, photogrammetry software and visualisation tools, we ensure you have a robust solution backed by superior customer service and dedicated support.

From the Trinity F90+ Vertical Take-Off and Landing (VTOL) aircraft to map large areas with high accuracy, to a range of multi-rotor drones ideal for stockpiles and inspections, Aptella will work with you to find the best solution for your aerial mapping needs.

As the first company to introduce survey drones for mapping applications in Australia, we offer end-to-end, field tested solutions.

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