



Digital Mine
This is the Digital Mine
Drill Guidance Solutions





Delivering Safe, Accurate and Reliable Drilling Performance

The operating climate for mining facilities has never been more challenging. Mine sites are faced with cost volatility, shrinking profit margins, and constantly changing buyer preferences.

In addition, mining operators are challenged with compressed cycle times, increased price pressure, demands for customization, knowledge attrition, and growing environmental scrutiny. As a global industrial leader, Wabtec faces these same challenges every day.

In response, Wabtec is reimagining how industrial companies, including many Wabtec companies, operate plants and deliver products using data as the fuel and advanced analytics as the growth engine. We embrace the vision of the Industrial Internet and the promise of driving disruptive, positive changes across the industrial landscape.

Wabtec is developing solutions that are needed for:

- Reduced unplanned downtime
- Optimized operations
- Enabled proactive processes and enable safer mine operation
- Improved gas drainage efficiency and exploration efficiency

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Our solution: is the world's most advanced, reliable and accurate Measure Whilst Drilling Drill-Guidance System, primarily used to safely, strategically and thoroughly drain coal seams of potentially deadly explosive gases prior to commencement of underground mining; and to drill effective water-drainage systems in mines and tunnels as well as exploratory drilling. Wabtec's Drill Guidance System provides the safest and most accurate and reliable drilling performance.

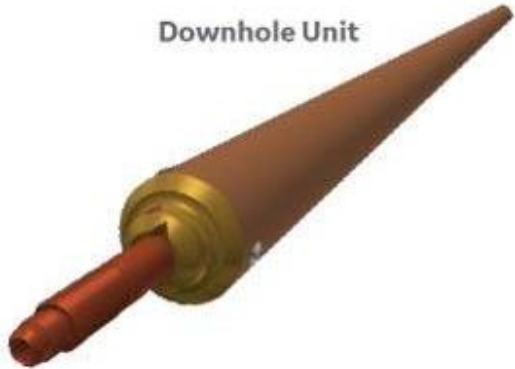
Differentiating Features

- Intrinsically safe operation
- Measures whilst drilling
- Underground in seam, directional survey system approved for UG mining use
- Touchscreen interface with intuitive software
- Re-chargeable Downhole Instrument
- I.S. MWD UIS drilling survey tool certified to Zone 0
- IECEx, Russia & MA Certification

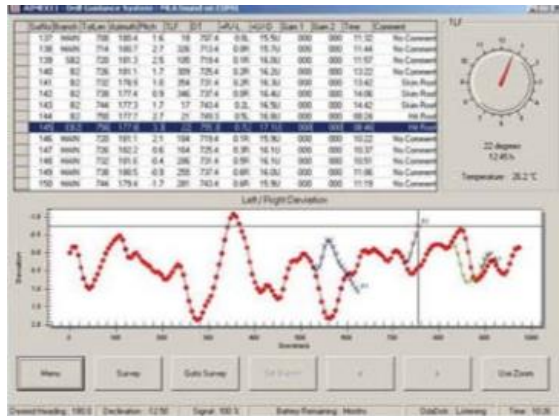
Our Main Products

Sophisticated Downhole Unit

Downhole Unit



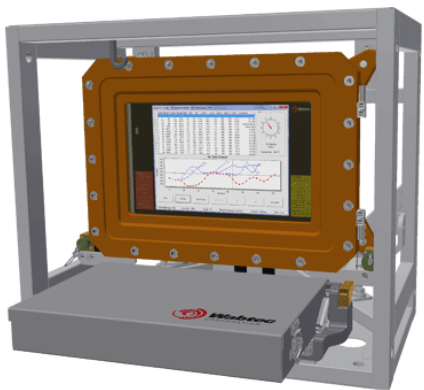
The DGS Downhole Unit is an I.S. MWD electronic survey instrument that is installed behind the downhole motor on the end of the drill rods when used during directional drilling. The Downhole Unit measures the pitch, azimuth and tool face survey information and sends this data as well as system information back to the DGS computer system mounted on the drill rig via the MECCA communications system installed in the drill rods. MWD means that the surveying of the drilled hole is far more efficient than other survey systems.



DGS Touch



DGS Touch Screen



Our Main Products

DGS Touch

DGS Touch is an Intrinsically Safe (I.S.) Measure Whilst Drilling (MWD) survey tool for Directional Drilling in underground Coal mines for gas drainage, exploration and dewatering holes.

This is operated entirely using the Touch Screen which provides easy access to all features of the system. The intuitive software offers only the screens relevant to the current operation which increases drilling efficiency and enables the operator to very quickly access the specific functions required. DGS Touch is designed to provide advanced diagnostics, such as full battery management, Downhole Instrument diagnostics and MECCA line communication analysis.

FLAMEPROOF ENCLOSURE

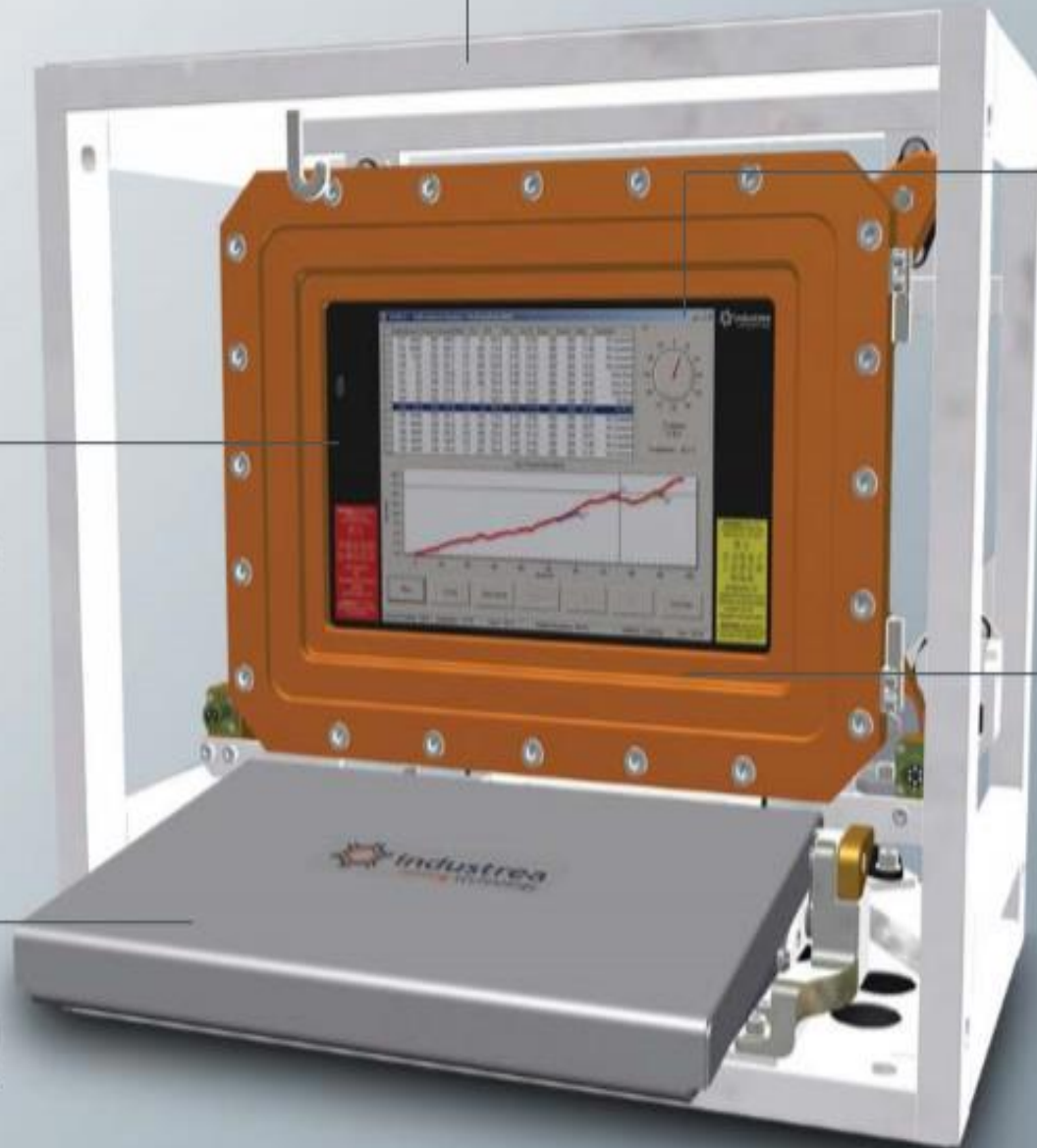
The steel enclosure is manufactured to comply with Australian & International standards for safe use in underground gassy coal mines.

LCD DISPLAY

Full colour numerical and graphical information is displayed on the LCD screen including left/right deviation, up/down deviation down track and real-time Constant Tool Face (CTF).

FOLDING WORKSPACE

Provides a handy workspace for filling out drilling records or any other tasks requiring a flat surface and it also includes storage for documentation and other items such as pens or pencils.



CONSTANT TOOLFACE

Real-time Toolface orientation is indication on the colour LCD display and this angle can be displayed in degrees or in hours.

TOUCH SCREEN

All operations of the DGS are controlled using the touch screen and the software displays the menu buttons relevant to the current operation.

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Wabtec DGS is a Risk Mitigation Product and is Certified for use in Group I Explosive Atmospheres in several countries and is currently the Industry Leader, with proven performance for **over 20 years** and a Global footprint with unparalleled accuracy, it has been praised by customers as consistently “hitting targets the size of a dinner plate at **1000 meters**”.

Independent analysis conducted by a group of mine sites on the reliability of their electrical equipment found the Wabtec DGS survey tools to be the most reliable by a very large margin while preventing unsafe gas outbursts.

Wabtec has a strong & loyal customer Base including several Key Mining Houses and Drilling Contractors around the globe for promoting a solution that enables safe, accurate, reliable drilling performance

Advantages

- High Reliability
- Proven in use 25 years
- High Accuracy Directional Drilling (Measure whilst drilling) MWD
- High Speed- No Downtime
- Certified for use in coal mines

Outcomes

- Reduce explosive costs by more than 20-25%
- Improve compliance to drill patterns by 55-60%
- Provide safe, efficient water/gas drainage while preventing unsafe gas outbursts
- Enable coal seam mapping/profiling in 3D while reducing manual surveys



Our Commitment

We continuously strengthen our offering through in-house development and third-party partnerships. Our latest advances will enable geological ore-body mapping and dewatering of open-pit mining as additional functionalities.

Wabtec's Drill Guidance Solutions enables a safe, accurate and reliable drilling performance at your Mine Sites.

Customers in Action

Peabody running for over 130 years, runs 4 DGS systems at their oldest operating coal mine. The 4 DGS Systems have saved them time and money by effectively draining its mines of gas to enable Authority To Mine certification



with 15 such systems and include contract miners such as Valley Longwall and Radco Group Australia

Most of the world's underground coal mines, from South Africa to Russia, use a version of Wabtec's DGS, which has for two decades enjoyed a monopoly in this application

In Japan, our DGS systems have for the past 20 years been drilling to effectively drain water from the path of tunnel borers used on the Maglev very-high-speed train project



About Wabtec

Wabtec Corporation (NYSE: WAB) is a leading global provider of equipment, systems, digital solutions and value-added services for freight and transit rail. Drawing on nearly four centuries of collective experience across Wabtec, GE Transportation and Falveley Transport, the company has unmatched digital expertise, technological innovation, and world-class manufacturing and services, enabling the digital-rail-and-transit ecosystems.

Wabtec is focused on performance that drives progress, creating transportation solutions that move and improve the world. The freight portfolio features a comprehensive line of locomotives, software applications and a broad selection of mission-critical controls systems, including Positive

Train Control (PTC). The transit portfolio provides highly-engineered systems and services to virtually every major rail transit system around the world, supplying an integrated series of components for buses and all train-related market segments that deliver safety, efficiency and passenger comfort.

Along with its industry-leading portfolio of products and solutions for the rail and transit industries, Wabtec is a leader in mining, marine and industrial solutions. Wabtec has approximately 27,000 employees in facilities throughout the world.

Visit the company's new website at:
WabtecCorp.com

For more information

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