

# MINING & CONSTRUCTION



MECHANIZED ROCK EXCAVATION WITH ATLAS COPCO - NO. 2 / 2014

**Predictable  
productivity from  
automated drilling**



Building a  
workforce  
with strong  
community ties

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Global  
recognition for  
Atlas Copco

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Scenes  
from Global  
Petroleum Show

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*Atlas Copco*



**M**ines can be hazardous environments and the possibility of fire, flood, explosion and collapse have the potential to simultaneously affect a large number of people. Continued work between HSE and Stakeholders is aimed at controlling these risks.

Creating a safe work environment is the most important aspect of a commitment and pledge that an employer can make to each and every employee. Implementing rigorous procedures to manage health and safety protocols and continually investing time and resources to enhance health and safety is at the forefront of every mining operation's management team.

When a large mining company approached Atlas Copco Mining and Rock Excavation Technique Canada for a solution to drill holes over old existing mine shafts, safety was their main concern.

Along with old underground mine workings there were some other concerns as well such as frequent lightning storms, drilling close to working faces and high walls.

Their request was not just to minimize the risk of injury to the employees in these situations, but to remove the operator completely from the operating drill and place them in a remote, safe working environment far out of harm's way.

After approximately 24 months, the mine now has three Operator Remote Stations operating up to five drills at any given time.

Along with the solution came other efficiencies and benefits for the operator and mine management. With the "Multi Teleremote System," an operator is able to operate two drills at the same time, effectively doubling each operator's efficiency. The operator is also further removed from any noise, dust, and vibration that is typical to equipment in a mining application.

**Chris Graves**  
Business Development Manager—ADS

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**SAFETY FIRST**

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**Atlas Copco**

# *Enabling* **AUTOMATION—** *Opening up minds and pits, worldwide*

Atlas Copco Pit Viper automation extends drilling capability safely, efficiently and productively

**A**utomated drilling in surface mines is here, it's successful, and it's already at work in mines around the globe. Coal, copper, iron and gold mines in large mining countries such as Canada, Australia, South Africa, the United States and Chile are meeting mining objectives previously ruled out as unattainable. Pit Viper automation enables operators to accomplish more objectives safely. Operator assist functions like Auto-

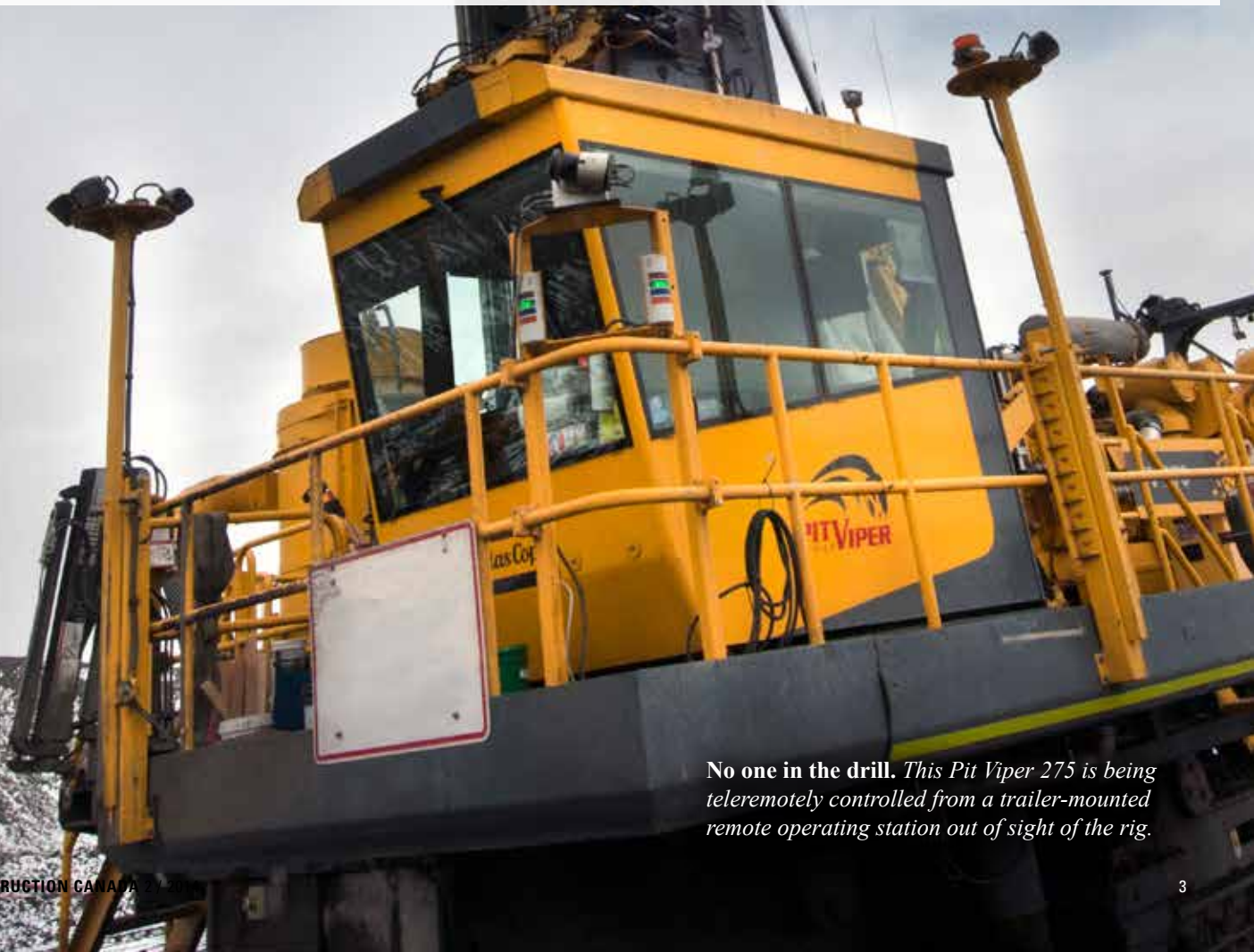
Level, AutoDrill, Auto Rod Changer, and multi-rig teleremote control are just a few of the features mines are using right now to gain consistent, sustainable productivity shift after shift.

#### **Full benefit of RCS**

Since Atlas Copco first introduced its electronic Rig Control System (RCS) in 1998, innovative features based on RCS have come

steadily one after another. Automating control of various rig functions using the RCS operating system replaces human observation and electronic inputs from joysticks and switches with computerized inputs based on sensors and programming.

The most noticeable gain from computerized automation is that the computer will not vary from how it was trained to perform. While even the most masterful driller varies »



**No one in the drill.** This Pit Viper 275 is being teleremotely controlled from a trailer-mounted remote operating station out of sight of the rig.



*This mobile remote Pit Viper operator station is a purpose-built solution to teleremotely control a Pit Viper from outside the pit. Video cameras send the driller a live feed as though he were on the rig. Distance is limited only by the capabilities of the communication network used for transmission. Customers have the option to use their own network or a radio network set up by Atlas Copco dedicated to teleremote operations.*

“From a single remote operating station, the driller moves one drill over its hole and starts the auto drilling process, and then he moves the second drill over its hole and begins its auto drilling process.”

### Chris Graves

Sales Support Manager for Atlas Copco Drilling Solutions Canada.

*One Canadian mine is successfully using teleremote operations already.*

» slightly in performance from one repetition to the next due to fatigue, distraction or simple error, a computer performs each repetition with reliable precision. A master driller might beat a computer’s time in a single repetition, but for most tasks the computer will outpace the driller by shift’s end. It also means automated operating performance can be replicated shift after shift no matter which human operator is monitoring the automation.

Fifteen years and four RCS generations later, automation packages are available for any Atlas Copco Pit Viper drill. Atlas Copco’s suite of office-based software tools, such as Surface Manager, complements automation packages with easy-to-use reporting interfaces. Surface Manager displays Pit Viper data in a sensible layout to map drill usage, evaluate production statistics, track consumables and compare planned outcomes against actual results. Portrayed on charts and graphs, such active management tools help with driller training and provide decision-making support for all stakeholders.

### Increased automation equals increased utilization

Paulyn Espindola, the product manager for Atlas Copco Drilling Solutions in Chile, said one of his copper mining customers is increasing rig utilization by expanding where it can use its drills. The Atlas Copco Pit Viper 351 diesel rig that joined a fleet of five

PV-351 rigs in April is the first teleremote rig for open pit mining operations in Chile. Complete wireless control of the rig allows the operator to now drill in and around an impact crater at the mine since the driller is well away from the drilling operation.

Espindola said the copper mine had a unique challenge that only automation could overcome. The Pit Viper automation package allowed the mine to choose features and upgrade packages that precisely matched its operational needs.

### Automation for limited resources

Dustin Penn, the business line manager for Atlas Copco Drilling Solutions in Australia, has several iron ore mines with RCS-based PV-271 blasthole rigs. Some have pushed forward from AutoLevel and AutoDrill to more advanced systems to continue to conquer operational goals.

“The issue in Australia,” Penn said, “is the limited workforce and the extraordinary expense of personnel logistics for our customers, everything from employee housing and food service to transportation. It’s a two-hour flight for them to get in and out of the mine.”

The goal for these Australian mines is to expand their capabilities by growing a fleet with the quality drillers they have. That means automation, Penn said. “With automation the driller can become a supervisor of a

drill fleet, not just a single driller operating one machine.”

Automation will not just lower production costs but will also streamline servicing. Multiple services such as water, fuel and visual inspection will be performed at once, more efficiently. Combined with the decreased downtime at shift changes, automation promotes greater Pit Viper utilization.

Penn emphasized that transitioning to automation requires unified dedication from all management groups at a mine, from senior management to IT and human resources departments, to drilling, planning and blasting. Then the mine has to integrate with the supplier. Penn’s customers set up cross-functional teams to work with Atlas Copco as they incorporated automation into the mine’s operations.

The rewards make the integration process worth it, Penn said, resulting in predictable productivity that will help the mine accurately calculate capital from its drilling and blasting plans. Automation also brings a greater level of equipment reliability, he said, making fewer mistakes than human operators. Penn said everyone is happy, from management to investors.

### Predictable and repeatable

Tyler Berens, the Atlas Copco product line manager for automation products on surface drills, said, “Automation isn’t about having a

good day or bad day. It's about having a predictable and repeatable day." Berens said that kind of consistency arises from two points about Pit Viper automation.

First, the automated features are based on the RCS system familiar to all drillers who have operated Atlas Copco RCS-equipped rigs. Therefore, commonality of the operating system, similar ergonomics and drill functions reduce training time as drillers adjust to auto-modes.

Secondly, if a mine wants to add drills to its mine plan, multiple Pit Vipers can be operated by the same operator or by multiple operators in the safety and comfort of the teleremote control center. Dynamic integration is part of Atlas Copco's Automation DNA.

"Upkeep of the automation was meant to be simple as well," said Jon Torpy, Atlas Copco Drilling Solutions VP of Marketing for Blasthole Drills. "We train existing technicians on its maintenance. And we stand behind it. As you can see, we have the capacity to support this product around the world." The result is predictable, reliable and efficient productivity, shift after shift.

And with Pit Viper rigs, monitoring and supervising is a remote feature that can be done as easily in the cab as back in the office, at the mine or anywhere in the world.

### **AutoDrill: Completing the product with Auto Rod Change**

Berens gave an example of putting technology to work at a coal mine running two PV-275s. One PV-275 rig uses RCS electronic control while its newest PV-275 has received automation upgrades that include auto rod changing and teleremote operation. The new drill was commissioned by Bryan Scoggin, one of Atlas Copco's drillmasters.

Scoggin, who has years of experience rotary drilling in just about every type of material, said when he commissioned the Auto Rod Change system for this operation, he was "blown away" by its performance: "I have plenty of experience with changing pipe in multi-pass operations, and while I may beat the system over a couple of holes, it usually beats me over the course of a few hours of drilling. The Auto Rod Change is one of the smoothest, most consistent automations that I have had the opportunity to work with."

Berens said that this customer prides itself on its world-class productivity and looks to use automation to eliminate variances from shift to shift and driller to driller. As the auto rod changing feature demonstrates, automation helps newer drillers reach the productivity of experienced drillers faster.



Atlas Copco has seen consistent performance from the PV-275 with automated systems in line with some of the mine's better operators. Berens said, "While it can't out-drill the best operators yet, it is able to keep up with and out-drill many of them consistently, shift after shift, day after day—and that's the real pay back you get from the RCS technology."

Berens continued: "The operators at this mine told us in the beginning that they had their doubts, but they regularly comment now how impressed they are with how well the technology works. In the end, that's what's important, that we have a reliable, mine-ready product that has a real impact

on the overall performance of the mining operation."

### **Teleremote operation**

This same coal mine has recently put teleremote operation to use. Scoggin commented how easy it was for the operators to make the transition from drilling on board their drill to running it teleremotely: "They already had one RCS-equipped PV-275. The two run the same, so the drillers knew what to expect. Several operators told Bryan that they couldn't believe how simple it was and that, in the future, they don't know who would want to go back on a rig after sitting in the comfort of the teleremote station." »

*Automation equipment on board this Atlas Copco Pit Viper 275 includes cameras and HPGPS. Safe To Board lights aid drill operators in a remote operating facility with the right information at the right time. The mine's drilling instructor says operators have little trouble converting to remote operation, since the electronic controls they use and the inputs they make with them are the same whether they are in the rig or at the remote station.*



» Sales Support Manager for Atlas Copco Drilling Solutions Canada, Chris Graves, said the first mine to use teleremote in his country had approached Atlas Copco for a solution to overcome two major safety concerns. One, the region is plagued seasonally by severe electrical storms. Lightning detectors placed well beyond the mine's periphery give the mine sufficient lead time to safely recall drillers from their rigs, which sit exposed to the storm on open pit benches. The drillers take shelter in a building to wait out the storm. During such storms, which can be daily occurrences, the mine had been losing two to three hours of drilling.

Two, the mine also wanted to extend its surface pit over a historical network of underground workings. Remote operation removes any concern for the driller's wellbeing over a previously worked property.

Atlas Copco upgraded the Canadian mine's PV-235 with a teleremote kit. That first drill was operated from a protected operator station installed on the bed of a pickup

truck. It was so successful, the mine ordered another conversion, this time mounting a PV-235 cab on a trailer which can be relocated by a wheeled truck or tracked vehicle. The cab is compact enough to move easily about the mine yet gives the operator the same room and comfort of the rig itself, without any of the noise or dust.

The remote control station does not need to be within sight of the rig, since every gauge and display on the rig is cloned within the station. In principle, the only limitation for how far the remote control facility can be from the rig is the capability of the network used for remote communication. The customer has the choice of running teleremote on the customer's own wireless network or on a separate radio network set up by Atlas Copco.

#### **Multi-rig operation**

Berens said user-friendliness was a design feature of the automation products. "Atlas Copco automation is meant to be easy, intuitive and simple." This ease of use supports

operation of multiple rigs from a single operator's station.

Graves said the Canadian mine, in fact, has been successfully controlling two PV-235 drill rigs simultaneously. "From a single remote operating station, the driller moves one drill over its hole and starts the auto drilling process, and then he moves the second drill over its hole and begins its auto drilling process."

Graves said the mine may entertain the idea of having a single driller controlling more machines, but right now, it sees sufficient benefit in just being able to cover for a driller who is sick or has taken time off, or being able to add drills without waiting to add new drillers.

#### **Robust as their platform**

Torpy described the development and release of Atlas Copco technology systems: "As a former mining engineer who has worked in open pit mining, I feel very strongly that we need to release mining-ready technology. The technology we put on the Pit Viper has to be as tough as the Pit Viper drill itself, and we have now demonstrated that we can do that with technology running in multiple types of mining environments around the world. Developing the technology to be efficient is just one piece of making it successful. Designing it to be robust and to fit within the existing maintenance infrastructure of our customers is the other piece."

Berens emphasized that Atlas Copco subjected all technology to the most extreme conditions it could find. Pit Vipers have been subject to years of use in the dust and extreme heat of the USA's desert copper mines in Arizona, as well as in the extreme subarctic cold of interior Canada and Northern Europe.

Teleremote operation of a PV-235 in the Canada mine, for instance, was unaffected during this past winter even in temperatures that fell below minus 40 degrees Celsius. The Chilean copper and molybdenum mine's PV-351 rigs have no trouble operating at over 3,500 m elevation.

Both Torpy and Berens said that 2014 is going to be "an exciting year with much more to come in the way of technology for Atlas Copco drill rigs." Multi-rig remote control is the first in a series of high-tech advancements Atlas Copco plans to launch throughout 2014, with fully autonomous drilling now a realizable target in the not too distant future. ●

# MAKING *automation* HISTORY

*A Smart ROC D65 made history by completing an entire drill pattern while being controlled entirely by a computer.*

## A world first in fully automated production drilling

It might look like any other drill pattern, but one particular set of holes at an Australian quarry is actually the marking of a major milestone.

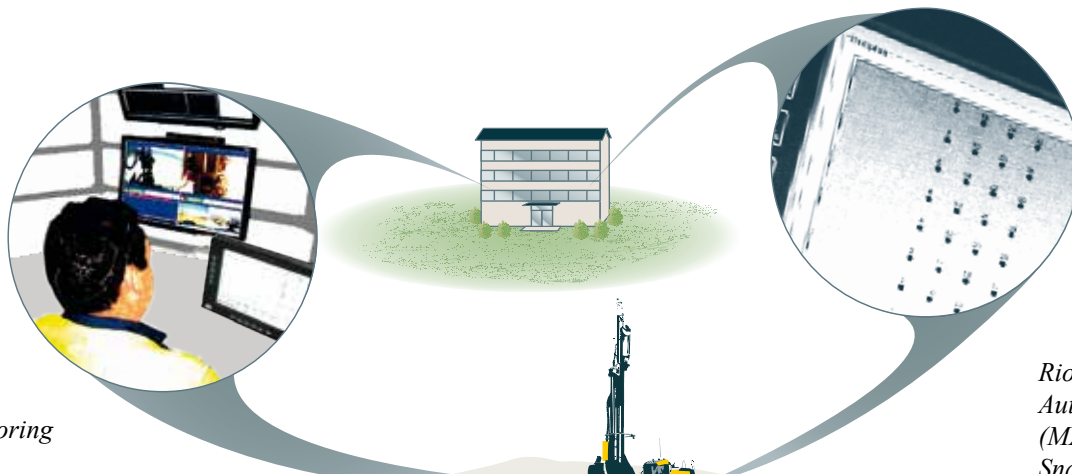
At Rio Tinto's Technology and Innovation test quarry outside Perth in Western Australia, an advanced Atlas Copco SmartROC D65 followed computer-generated instructions to complete an entire drill pattern without human intervention. The drill pattern had been pre-designed in the mine office and the drill was controlled and directed at the touch of a button.

The project demonstrated the ability of the RCS (Rig Control System) software on board the SmartROC D65 to communicate with the mine's Mine Automation System (MAS), a system that provides the command and control of automated equipment. The rig completed drilling tasks effectively under instruction from a computer, successfully navi-

gating and drilling 15 holes—three rows of five holes each—without any human involvement, and then returned to a waiting stance for further instructions.

The success of this project represents a first for the surface mining industry and a milestone in a project that has been ongoing since 2008. The challenge was to develop an automated drill rig that could be integrated with the MAS system, which was further developed to remotely connect with the drill rig.

There are many benefits that fully automated drilling could bring, such as the ability of a single operator to operate multiple drills, and flexible operation which would be possible between operators and potentially between operating sites. Most importantly, the automation could lead to improved drill utilization and consistency in drill outcomes, providing more accurate information for mine operations. ⦿



*Remote monitoring of the drilling process from the mine office.*

*Rio Tinto's Mine Automation System (MAS) instructs the Smart ROC D65.*





# A mine's most valuable resource —its people

## Atlas Copco Master Driller program helps train community-based workforce in McCaw North's multi-group partnerships

It can be difficult for the mining industry to establish a solid workforce in remote areas of Northwest Territory. Instead of the older philosophy of relocating personnel, contractors such as McCaw North Drilling & Blasting are today focused on a strategy to train employee candidates from the local workforce. This shift is possible through an initiative of the Mine Training Society (MTS)—Northwest Territories, now in its 11th year.

MTS creates a funding channel and support system to foster alliances between mines, contractors and northern communities that train and employ Northerners and Aboriginal peoples. It's a win-win strategy. The mines get a stable, highly competent workforce. The community thrives with good-paying mining jobs. Communities see boosted family incomes, infrastructure improvements and new businesses and services. The increase in commerce creates more revenues for community development.

For more than 30 years McCaw North has been providing mines in the northern territories with services such as drilling and blasting, piling installations, curtain grouting, rock stabilization and installation of instrumentation systems. This year McCaw North has partnered with MTS to train selected applicants in drilling and blasting skills, completing three courses of Atlas Copco's Master Driller program.

Chris Huggins, Atlas Copco account manager for the Yukon and Northwest Territories, said the Master Driller program provides McCaw North's MTS students with third party credentials and recognition. Huggins said Atlas Copco is committed to supporting MTS through McCaw North. "The more opportunities there are to train Northern and Aboriginal students, the more we hope to be involved," he said.

Huggins said that when field training involves the use of Atlas Copco drill rigs, Atlas



*Instructor Sam Neatby (white hardhat) with trainee Jessie Williah.*

Copco will supply trainers. McCaw North has been training with two Atlas Copco ROC D9-11 blasthole rigs, though McCaw North's large fleet also includes an ECM-590 and two Atlas Copco DML rigs.

### **Community is key**

Headquartered in Yellowknife, McCaw North knows that supporting a strong, local economy is to everyone's mutual benefit. For this reason the company is dedicated to hiring Northern and Aboriginal workers, as well as buying as many of its consumables and machines locally, allying itself with Northern and Aboriginal subcontractors. The result, Martin said, has been "... so superior that we can't imagine ever doing business here any other way."

"About two years ago," Martin said, "we decided there were quality people right here that could be taught the skills for the job."

Martin said right away they learned that since Canada has a rich history of mining, "A lot of people have the skills already. We just have to teach them the same as other trainees for standardizing performance across our workforce."

In 2012 McCaw North started negotiations with Canada's Mining Training Society to become a supporting partner.

McCaw North is involved in several major joint ventures as "Tlicho/McCaw North," a partnership with the Tlicho Aboriginal Group. Two other joint ventures are Westarc with Nuna Logistics, an Inuit-owned company; and Denesoline/McCaw North with Denesoline Corporation, which is owned by the Lutsel K'e Dene First Nation community.

### **Training components**

Atlas Copco's Master Driller courses are more than just on-the-job training. The more »

## THE MINE TRAINING SOCIETY

Since 2003 the Mine Training Society (MTS) has been creating symbiotic partnerships between aboriginal governments, provincial governments and the mining industry. The consensus of all involved is that it's working.

Not long ago mining corporations appeared to be land-leasing strangers looming on the fringe of the community, separate from it. Today, through the efforts of the Mine Training Society, mining companies are integral members of the community sharing in its identity, heritage and legacy. Ten years since its implementation, everyone seems to be on board. All three of the major diamond mines in the Northwest Territories are MTS partners—De

Beers Canada, Diavik Diamond Mines and Dominion Diamond Corporation—as are BHP Billiton, Procon Mining and Tunnelling Corporation and the government of the Northwest Territories.

Partners like McCaw North Drilling & Blasting deliver the training courses in their operational specialties. While Aboriginal people and Northerners gain qualifications toward high-value, long-term employment in the mining industry, the mining industry gains access to a highly skilled workforce and enjoys its role as a welcome, contributing and integral institution within the community.

The partnership MTS fosters between mines and communities also brings widespread benefit

to the region through increased job opportunities. Jobs aren't just mining-specific trades such as heavy equipment operator, geoscience field assistant and underground miner; they include positions with dozens of associated support industries. Development projects to rejuvenate infrastructure boost the region's economy by increasing job opportunities. These range from demolition and construction contractors to education and medical professionals to chefs and restaurateurs. Of the 14,000 jobs MTS estimates will have been created by 2017, 5,000 will be directly related to mining, with 9,000 more in positions associated with support-related industries.

» skilled among the candidates use the training as a refresher course or skills-upgrade program.

All candidates can earn qualifications through its standardized curriculum. Master Driller Level 1 is a week-long course in drilling theory. It is followed by a two-week-long hands-on Level 2 practicum in which students apply theory learned in Level 1.

Over the course of the 21-day program, a group of 10 students masters the fundamentals of blasthole drilling for both top hammer and down-the-hole hammer drill rigs. Emphasis is on safety, industry best practices and efficiency. Together, the program gives students 75 hours of in-class academic theory and 100 hours of on-site practical training.

### Mine-miner connection

MTS is unique from other miner training systems in that it connects students and employers with each other even while the students are learning the basics of the industry. Martin said candidates who complete both Level 1 and Level 2 earn the opportunity to become full-time mining employees. So far, all trainees who completed the program have stayed on with McCaw North, but they are free to take their skills to any company of their choosing. There is no contractual requirement for them to stay with McCaw North.

Though that sounds risky, Martin said, "We actually maintain our workforce, trainees replacing people who are transitioning out. We can train 10 per session, though it's too early to say for sure who'll make a career out of it. So far about 40 percent completed the training and 100 percent of those stayed

on with us." McCaw North will have up to 60 or more employees working on Northwest Territories projects at any given time.

### Building from Master Driller training

The Atlas Copco Master Driller program has worked so well that McCaw North has created similar instructional curricula for other jobs, such as blasting- and construction-related jobs. McCaw North described them as complementary to the Master Driller program.

"First, a good driller knows not only how to drill a specific hole but also why it must be drilled that way. The blasting part of the program provides drillers with the knowledge of blast patterns and technique. Besides, drillers need to be helping blasters load and shoot when they aren't turning iron. Any successful drill-blast job requires teamwork—but especially up here, where they'll be drilling when the temperature outside is 50 below."

### Connecting with trainees

The MTS-partnering process is straightforward, Martin said. "Say we put in a bid for an eight-month contract. MTS will supply trainees for that job. We will hire who we need and do the training program through that job."

It's not full funding, Martin said. MTS subsidizes about half the cost. "We pay for equipment, fuel, tooling, etc. MTS pays training wages."

### Results so far

Martin said McCaw North is very pleased with how things are looking. "You know, you



*Instructor Sam Neatby (white hardhat) with trainee Jessie Williah*

worry at first you could lose your shirt. But the current way it's working is good all the way around. Production is a little slower, but the end justifies the means."

The final analysis? Martin said, "We come out with good employees, and it's good for the community in return."

McCaw North's next drill and blasting training opportunity will take place at a Hay River quarry. Trainees will be employed through that project while they train. Trainees might stay on at Hay River as part of continuing development there. ☉

*Atlas Copco's latest generation of QLTS Solar LED light towers are versatile, portable and green as they run on solar-powered batteries. Charged during the day, the batteries last through the night.*



# Atlas Copco Canada offers solar solution to portable lighting

**A**tlas Copco's latest generation of QLTS Solar LED light towers not only are versatile and portable but also provide "green technology" as they run on solar-powered batteries. These units significantly reduce environmental impact and operate silently, making them ideal for special events, residential construction, nature reserves or any application requiring light in a remote area.

The solar operation of the QLTS light towers means low life cycle costs since they do not require fuel and have no engine or alternator to maintain. The QLTS does not emit any engine emissions or noise pollution, key for companies or governmental departments or agencies looking to embrace a more environmentally friendly solution to meet their lighting needs.


The QLTS series comes standard with both manual and automatic photocell-operated lights. The automatic photocell turns the unit on or off depending on light conditions. Operators also have the ability to use individual lights, from one to eight, tailoring the amount of light generated to the needs of the application. These features save energy and reduce "light pollution."

A motion detector option can add to equipment security in remote areas. The lights activate automatically and silently, surprising would-be thieves.

The highly efficient AGM batteries provide long-lasting, reliable power to the durable LED lights. With sufficient sunlight during the day, these towers can provide light for many night shifts without requiring a charge. If needed, an onboard charging system al-



lows the QLTS to be plugged into a standard wall receptacle.

The QLTS light towers are also easy to operate, stable and extensively field tested, making them an efficient addition to any municipal, rental or construction fleet. 

# Atlas Copco receives worldwide recognition for business practices

Atlas Copco has received two global honors for sustainability and ethics during the first half of 2014. Earlier this spring, Atlas Copco was named one of the World's Most Ethical Companies by the Ethisphere Institute for the second consecutive year. The prestigious list, presented at the Global Ethics Summit in New York, recognizes companies that demonstrate leadership in ethics, corporate responsibility, sustainability and governance. This year's list included 144 honorees representing 41 industries.

Atlas Copco was included on the list due in part to global initiatives such as a zero tolerance policy against corruption, a comprehensive education program for employees and an extensive evaluation of the company's suppliers and their safety, health and environmental practices. Atlas Copco also provides an annual corruption-awareness training program in which thousands of employees have participated, and employees and managers are expected to adhere to the company's Business Code of Practice.

As part of the company's dedication to business ethics and standards, Atlas Copco is a signatory to the UN Global Compact, a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption.

In June, Atlas Copco received notification that they were ranked seventh in Newsweek's Sustainability Ranking. One of the world's foremost environmental rankings, Newsweek's list ranks the 500 largest publicly-traded, global companies by market capitalization.

The rankings were created using data from Bloomberg's Professional Service, which includes sustainability information from over 5,000 public securities, and CDP, an international nonprofit that helps

companies measure, disclose, manage and share vital environmental information. A total of 809 qualified companies were scored against eight key performance indicators based on the companies' publicly available data. Indicators include total energy consumption, greenhouse gas emissions, water use, waste generation and recycling, reputation and sustainability incentives for senior management.

"Atlas Copco emphasizes a value-based culture that prioritizes long-term, ethical and sustainable business development, not only because it is the right thing to do, but because it also makes good business sense," said Jim Levitt, president, Atlas Copco North America LLC. "We are honored to be recognized by the Ethisphere Institute and Newsweek for our dedication to ethical practices and sustainable productivity."

Newsweek said about Atlas Copco: "While Atlas Copco is already one of the lowest emitters of carbon within its industry, it has set an ambitious goal of reducing carbon dioxide emissions by at least 20 percent by 2020 from a 2010 baseline.

In addition, the company has realized in recent years that the largest portion of its environmental footprint occurs in the use of its products. That's why Atlas Copco is now working to develop a clear understanding of the environmental impacts of using its products all the way to their ultimate disposal. This can help inform the design of more energy-efficient, recyclable and reusable products."

This recognition underscores Atlas Copco's brand promise, "Committed to Sustainable Productivity." Sustainable Productivity is Atlas Copco's way of being a reliable, responsible corporate citizen to the environment as well as its customers and employees. Atlas Copco works to improve resource efficiency in the manufacturing process and in the use of its equipment. ☉



*Atlas Copco's Water For All program is one example of the company's commitment to ethics and sustainability. The employee-funded program has funded the drilling, construction and maintenance of wells that provide clean drinking water to more than 1.5 million people.*

**Atlas Copco AB continues to be a member of the Dow Jones Sustainability Index, the UN Global Compact 100 and the FTSE4Good Index; the company has also been named to Forbes' 100 Most Innovative Companies list.**

## New range of Drum Cutter attachments available

A new range of Drum Cutter attachments has been added to Atlas Copco's Construction Tools offering. Eight new DC models provide cutting widths from 480 to 1239.52 mm, and are ideal for a wide variety of applications such as narrow trenching and precise profiling of rock or concrete.



"The new Drum Cutters are an excellent choice for demolition, dredging, frozen soil excavation and soft rock excavation in quarries," said Wayne Ross, Construction Tools Division vice-president and business line manager. "They are a complementary product to our hydraulic breakers and offer an additional solution for softer rock applications up to 100 MPa."

Designed with a high torque gear motor and an optimized pick pattern, the new Drum Cutters offer increased productivity on the jobsite. The housing was designed with Hardox steel for wear protection and increased uptime. The attachment can also be rotated 360-degrees for easy positioning.



The eight Drum Cutters are available with service weights ranging from 200 kg to 2900 kg, and are suitable for carriers of 1 to 50 tonnes.

Engineered with special cutting technology, the new Drum Cutters provide accurate removal of material in any kind of rock or concrete surface. Due to the small grain sizes produced, cut rock or concrete can be used as backfill without additional crushing.

Atlas Copco Drum Cutters can also be used underwater to a depth of 30 meters without additional installation.

Because of their low noise and vibration levels, the new Drum Cutters are ideal for restrictive jobsites and in sound-sensitive urban areas.

## New Hydro Magnet range introduced

Atlas Copco's new range of hydraulic magnet attachments is now available. Designed for recycling plants, scrapyards and demolition, the Hydro Magnet allows valuable iron and steel to be separated quickly and easily from concrete waste. The Hydro Magnet is available in two versions: as a fixed magnet (F), or as a mobile magnet with chain link (M).

"The innovation of the Hydro Magnet range is the electronic control system, which is responsible for the buildup and release of the magnetic energy. This inverter technology ensures that the material can be loaded and unloaded considerably faster versus conventional magnet plates," said Wayne Ross, Construction Tools Division vice-president and business line manager.



Engineered with a flow divider, the Hydro Magnet's hydraulic power provides automatic flow and pressure control. Magnetic power is achieved almost instantly and can hold a large amount of ferrous materials firmly in place. A shock alternation of the polarity accelerates demagnetization, resulting in a fast material drop and a magnet plate free from even small pieces of steel. The overall result is a faster collection and loading process.

Simply plugged into the existing grapple or shear installation, the Hydro Magnet requires no extra generator or electro cable on the carrier. Load capacities range from 280 kg up to 7,500 kg.

The new Hydro Magnet range is equipped with an Atlas Copco digital generator made of corrosion-free alloy. The generator delivers a magnetization and demagnetization process cycle that is up to 25 percent faster than conventional magnet controllers. This also provides lower fuel consumption. Encased in a waterproof body, the control device protects the Hydro Magnet against the risk of short circuiting, overheating or excessively high or low revolutions of the generator.

A hermetically-sealed steel case protects the magnet coil against mechanical impacts and humidity, and an external Hardox steel ring protects against wear.

A multi-functional diagnostic panel in a waterproof body indicates current working status and potential faults for troubleshooting.

Collecting demolition materials using an Atlas Copco Hydro Magnet also reduces the risk of damage to crushers, conveyor belts, tires, or other jobsite equipment.

## 18-tonne underground loader launched

**The Scooptram ST18, an 18-tonne capacity underground loader, is now available for large operations including development work and production mining. The Scooptram ST18 works well with the 60-tonne capacity of the successful Minetruck MT6020 and completes Atlas Copco's range of underground loaders in this segment.**

**“W**e are pleased to introduce this highly anticipated LHD to the market,” said Travis Battley, Atlas Copco business line manager URE. “The new Scooptram ST18 offers increased operator safety, higher productivity and maximum efficiency.”

The optimized bucket and unique boom design with load sensing hydraulics and variable displacement pumps increase capacity and speed. Combined with the Atlas Copco Rig Control System that monitors, supports and controls all aspects of the operation, the ST18 provides better muck pile penetration, less wear and tear on the machine and an overall faster and more productive loading cycle.

To maximize uptime, the automatic ride control and automatic declutch increase the lifespan of the equipment and reduce

spillage from the bucket. Automatic traction control reduces tire wear and fuel consumption; and soft stops on the boom, bucket and steering reduce daily wear and tear on the machine.

Scooptram ST18 safety features include an automatic brake test, protection guards, three-point access system, boom lockup, fire suppression systems and a machine protection system that monitors the engine, transmission and hydraulics. Due to the sloping design and shorter power frame, visibility is best in class even toward the rear. Radio remote control or semi-autonomous controls are also available.

For preventative maintenance, the Scooptram ST18 is equipped with RigScan, an advanced audit service product that offers a real-time, non-intrusive look at the equipment's condition and performance. A remote moni-



toring system also allows operators to view production and maintenance data through a user-friendly web interface.

Atlas Copco offers a Scooptram ST18 training program consisting of classroom, simulator and on-site training. By using a sophisticated training simulator, new operators have ample opportunity to practice on machines and systems before entering the mine.

## Atlas Copco introduces new 1 megawatt generator

**Atlas Copco has introduced the new QAC 1200 1MW generator. To expand upon the standard QAC 1MW generator designed for the European market, the QAC 1200 was specifically engineered to Canadian and U.S. specifications. With a wide variety of options, customers can customize the unit based on their situation such as high altitudes or extreme weather conditions. The flexibility of the QAC 1200 makes it ideal for either prime power or critical standby power in the mining, oil and gas, industrial and construction industries, as well as an excellent rental product.**



**T**he QAC 1200 features a Cummins QST30G5 diesel engine that is EPA Tier 2 certified and provides 1140 kVA/912 kW prime power rating (60 Hz). With this fuel efficient, electronically-governed engine, the integrated fuel tank provides a minimum run time of eight hours. The QAC 1200 was also engineered with 500-hour service intervals, resulting in low life cycle costs. With a compact 6-meter container and a spillage-free frame, the QAC 1200 offers complete compliance with environmental regulations and efficient transportation. The unit's low

noise level (85 dBA at 1 meter) is ideal for sound-sensitive applications.

Another option available is the Qc4002 controller that allows a user to create a Power Management System (PMS). This allows a very simple method to parallel two or more generators beyond 1MW, enhancing the core value of predictable power.

Additional options include battery charger, coolant heater, alternator heater, external fuel supply 3-way valves with quick connections, automatic fuel transfer system, engine lube oil make up system, cold weather pack-

age, air inlet shutdown valve and spark arrestor.

The QAC 1200 is designed to deliver predictable power through reliable performance and risk-free operation. “Customers don't need a piece of equipment, they need power. In order to deliver these key benefits and the peace of mind that comes with them, Predictable Power is ingrained in everything we do, from design, testing, building, to commissioning and maintenance,” said Atlas Copco Portable Energy's Julio Tome, Product Manager—Generators.

## Atlas Copco Portable Energy participates in Global Petroleum Show

The 2014 Global Petroleum Show, held June 10-12 at Stampede Park in Calgary, Alberta, saw a record 66,000 visitors during its three-day run. Attendees from nearly 100 countries participated in networking events and industry presentations while also browsing the 66,890-square-meter trade show.

Atlas Copco Construction Equipment Canada exhibited at the trade show, with the following equipment on display:

- Generators: QAC 1200 Flx, QAS 150 MVT, QAS 25
- Compressors: XRVS 1000+, XAS 400 JD Hard Hat
- QLTS 8 Solar Light Tower
- Hurricane M41 Booster



Atlas Copco's Jean-Luc Lavoie, Eastern Canada Regional Sales Manager, left, and Rui Pereira, Equipment Coordinator, right, stand next to the Hurricane M41 booster on display at the show.



The Atlas Copco booth featured a variety of portable energy units, such as the QLTS 8 solar light tower, left, and a QAS150MVT generator (quad voltage 208-240-480-600 volt), right. Present at the show were sales, parts and service representatives from Atlas Copco Construction Equipment Canada. Portable Energy division management from Canada and the United States as well as factory product managers from Atlas Copco's compressor and generator factory and the Hurricane booster factory were also in attendance.



One of the featured displays at the Atlas Copco booth was a Qc4002 controller exhibit. The unique Qc4002 controls generator functions. This particular display demonstrated how multiple units can work together in case of a grid failure, synchronizing the gensets for backup power.

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