Celebrating excellence

Contents

I am delighted to announce the winners of the 2015 *Mining Magazine* Awards. Held annually, the awards recognise innovation and commitment within the mining industry. This can be through a particular project, initiative or product release, or through the original application of existing products and practices. We also acknowledge companies that have shown steadfast commitment to sustainability and environmental stewardship, and to those pushing forward innovation.

We have shaken up the categories this year, adding awards for software, drill and blast, load and haul, safety, technology, and service and support. There were many deserving companies and projects nominated, so this year we are listing the runners-up along with the winners.

2015 was a difficult year for the mining sector, but in some ways this fosters innovation as companies rise to overcome the challenges they are facing. Competition will undoubtedly be tough in 2016 too, as there are several prominent industry tradeshows and exhibitions in the mining calendar. The most notable is MINExpo in September; many OEMs and miners will use this event to launch new products and detail new initiatives.

Congratulations to all of our winners, who are listed below.

Ailbhe Goodbody, deputy editor, Mining Magazine

And the winners are...

Exploration

Reflex EZ-GAMMA and EZ-GYRO

Contractor Foraco completed the deepest diamond hole ever drilled into the Kalgoorlie Golden Mile, Western Australia, receiving drill-bit position and rock lithology information in near real-time all the way down to 3,011.5m depth. Reflex's EZ-GAMMA logging and EZ-GYRO survey instruments gave the driller and mine owner, KCGM, reliable data that it could base timely decisions on, and accurate data was reported in near real-time via the cloud-based Reflex HUB.

Runners-up:
- CSIRO Lab-at-Rig
- Swick Orexplore on-site scanner

Software

Hexagon Mining HxM Athena

HxM Athena is a business-intelligence and analytics solution based on attractive synergies within Hexagon Mining, which is set to be the company's flagship product and a key to its vision for an integrated, digital mine. HxM Athena imports, validates, analyses and stores data from multiple input sources to a single data repository. It then presents the data in dashboard views that are easy to use and understand.

Runners-up:
- DRA Engineering Mine Operations Management System (MOMS)
- RPM XECUTE

Drill and blast

Orica Ultra-High Intensity Blasting (UHIB)

The UHIB technique was developed following modelling, conducted by the University of Queensland together with Orica and AMSRI, which indicated that if explosive energy could be increased beyond the accepted practices by greater than four times, then a step change in mill productivity could be achieved. UHIB overcomes the constraints of conventional blasting by safely initiating two layers within a single blast, using the accurate timing of electronic blasting systems.

Runners-up:
- Agnico Eagle Kittilä gold mine – raise boring
- Sandvik DR461i blasthole drill

Load and haul

Modular Mining Systems DISPATCH Underground 2015

Modular's DISPATCH Underground system has been helping underground mine operations achieve their utilisation and productivity goals since 1989. The latest edition has been re-engineered from the ground up, providing tools for inventory and material movement, crew management, equipment and location tracking, and active task management. The company made several changes based on customer feedback, and its first installation has been successfully commissioned at a high-grade gold-silver mine in Sonora, Mexico.

Runners-up:
- Atlas Copco Loading Optimizer
- Caterpillar 994K wheel loader

Mineral processing

Metso's HRC-3000 is the world's largest high-pressure grinding roll (HPGR), with 3m-diameter by 2m-wide rolls and 11.4MW total installed power. Depending on the application, the capacity of the machine can exceed 5,400t/h, which is double that of the previous-largest HPGR. It was developed in collaboration with Freeport McMoRan to be used as a highly efficient HPGR crushing circuit for the new Metcalf concentrator in Freeport's Morenci mine in Arizona, US.

Metso HRC-3000 HPGR

Runners-up:
- FLSmidth nextSTEP rotor/stator
- Kaltech Sentinel

Bulk handling

Martin Engineering's EVO Slider Cradle is a conveyor component designed to mitigate spillage and belt-wear issues at material transfer points by supporting the belt and preventing spillage due to belt edge sag. Located under the skirt board in the chute box after the impact cradle, it uses 'double-life' slider bars, with a low-friction seal. The result is a flat and stable belt surface throughout the settling zone.

Martin Engineering EVO Slider Cradle

Runners-up:
- RCR Tomlinson turnkey in-pit ore-sizing plant
- Vale/ABB Carajas Serra Sul S11D truckless transport project

Safety

MineARC's engineering team has developed a breathable air system with features to reduce running costs and improve safety during an emergency. One of the benefits of the CAMS is its optimisation of mine air services and guarantee against over-pressurisation of the refuge chamber. MineARC's studies show that over a year CAMS can equate to financial savings of around 80% in mine air usage.

MineARC Compressed Air Management System (CAMS)

Runners-up:
- GroundProbe SSR-SARx
- SAFEmine collision avoidance system

Technology

DWP technology enables the placement of wellheads outside active mining areas, strategic interception of multiple hydraulic targets, more effective dewatering and removal of in-pit dewatering infrastructure. SWS says costs are typically half of conventional dewatering in challenging settings. By improving costs, operational conditions and ore recovery, efficiency savings can run into millions of dollars over the project's life.

Schlumberger Water Services Directional Well Placement (DWP) technology

Runners-up:
- Dingo Trakka Field Inspection app
- Lockheed Martin/Sandpit Innovation mineRECON offering/service

Service and support

Kal Tire developed its Ultra Repair Technology for ultra-class mining tyres. Created by the company's tyre experts in Canada, the ultra-repair patches are handmade and installed with new technology in order to replace steel belts and restore the tyre to its original strength and integrity. The process has been tested in challenging environments and conditions with excellent results, from oil sands to coal and metal mines.

Kal Tire Ultra Repair Technology

Runners-up:
- ABB Process Improvement Services (PRISE)
- Sandvik Integrity Monitoring System (IMS)

Environmental excellence

This tool uses satellite precipitation data to estimate water availability and hydrologic impacts at mines. Its advantages include: easy access to hydrologic information, including up to 17 years of statistically representative precipitation data; assessments completed in a few weeks; and water volume estimates updated easily and used at every stage of the mine life.

MWH satellite-enabled hydrologic assessments

Runners-up:
- Anglo American eMalahleni water reclamation plant
- juwi/Sandfire DeGrussa solar power plant

Editor's award

RMDS, developed in collaboration with Atlas Copco, uses tunnel-boring machine (TBM) technology to secure rapid access to orebodies and to safely develop infrastructural mine tunnels for mechanised mining in hard rock. Featuring standard TBM-type steel cutting discs, the machine can cost-effectively cut abrasive rocks with an unconfined compressive strength of up to 250MPa.

Anglo American Rapid Mine Development System (RMDS)