

Paul Moore spoke with Tom Feldhusen, Senior Sales Manager – Mining at Phoenix Lighting, about mine lighting developments

Q Has the mining industry completely switched to LED lighting in the main, or is it only used in areas that need that level of brightness such as to illuminate loading/unloading areas; on conveyors, etc?

LED lighting technology has gained acceptance with the mainstream mining industry. Mobile equipment and electric rope shovels have completely switched to LED. Draglines have been a little slower to switch but are starting to pick up. Some geographic pockets seem to be lagging in draglines more than others, but we're starting to see an increase even in those areas. Although LED technology comes with a long list of benefits, the mining industry has been most motivated by the maintenance savings. Processing plants are now embracing the technology and are switching as projects and associated budgets allow. Conveyor lighting isn't as vulnerable to outages, but mines are still seeing the benefit of switching to LED for the maintenance (and energy) savings. Each mine site has followed a different path to LED, but all new projects seem to include LED. No sites seem to specify traditional lighting anymore as support for legacy lighting is dwindling rapidly. Once the effectiveness of LED was proven and costs of the fixtures and installation started going down, mine sites broadened their outlook beyond production critical equipment and into other areas for LED lighting.

Q Has there been equal demand for LED lighting solutions on mobile mining equipment as there has been on fixed mining equipment?

Yes - we don't separate mobile and fixed equipment anymore. LED outsells traditional lighting options in every application we serve.

Q Is it fair to say that the mine lighting in industry is very divided, with several players offering surface lighting options; then cap lamp specialists, then underground fixed lighting specialists? Why is the market so fragmented?

Yes - it's divided. This is due to regulatory compliances needed for each market as well as brand recognition within each sector. The participants in each industry have a long history in each respective area of the mining industry.

Q How successful has Sturdilite been to date in terms of use in mining worldwide? Can you give an example of a mining customer using it, how they use it and any feedback they have given?

What about the new ModCom 2, how has it been received and how would you summarise its market "sell" point?

The Sturdilite E-DC Series has been a huge advancement for mobile equipment. The levels of success we've experienced have varied by region. Since the 1940s, we were known for AC lighting for shovels, drills and draglines, and our customer base was primarily North America. In recent years, our customer base has grown rapidly to include all areas of the world. With this global expansion, we have also extended our expertise into the DC market to serve mobile equipment. Newer customers (who don't have decades of experience with Phoenix) have been quick to embrace our full catalogue of lighting fixtures while North America has been slower to realise the comprehensive offering we have for surface mining. The ModCom 2 has been even more successful than the original ModCom LED floodlights. Phoenix has responded to downward trends in pricing by applying its industry expertise to purposefully design, built and sell this fixture at a competitive price. The ModCom 2 is also about half the size and weight and can go into areas that the first generation couldn't. We have also seen an increase in light output and light quality, which means it can replace even higher wattage legacy fixtures (1,500W/2,000W HID). The light control is also setting the industry standard with our array of optic options. All-in-all, we are finding that one ModCom 2 floodlight can do the job of many other fixtures.

Q To what extent do lighting companies offer mines "audits" to assess their lighting needs and make a plan for them? Or is lighting just sold "off the shelf"?

Phoenix offers extensive lighting layouts and full audits of equipment to assess lighting needs and areas for improvement. A cheap LED fixture can certainly be bought off-the-shelf, but the actual fixture is just part of the equation. The audits, lighting layouts and customer feedback are important to the success of each project. That's why we offer the other services. If we don't have those conversations, our fixture may not be as effective. That's why those off-the-shelf solutions are not generally used in safety-critical applications.

unlikely case of failure, this means if there is a failure on any components of the lighting it would be isolated and not affect the remaining lighting system. The LED strip lighting can extend indefinitely by utilising the "piggy back" method, whereas the power controller double output leads energise the front of a specific strip light run, and the rear of another separate strip light run with electrical connections required every 40 m to energise the power controllers.

The lighting is supplied and packaged in lightweight and easy to manage 10 m rolls, each of which comes complete with male and female adaptors, one on each end which provides a 'plug and play' modular functionality allowing various lengths to be easily joined together or removed to reach the desired length from 10 to 100 m. Also, the various segments are interchangeable, this means any of the four options being Alpha, Beta, Gamma & Delta may be incorporated in any configuration within a single run of lighting emitting different levels of lighting throughout the length or different colours as desired, provided that the maximum range of 40 m is not exceeded. This 10 m segmented plug and play design, ensures for quick and efficient replacements should any damage occur on any lighting segment.

"Installation of the HALO lighting solution is an effortless and rapid exercise with one team of only two people estimated to be able to install up to 1,000 m per day; the lighting is rolled out across the area to be installed and simply fixed onto any existing structures such as straining wires etc by means of cable straps or any other means preferred."

To counter attempts to copy HALO, each roll of lighting comes complete with a HALO authentic label including holographic sticker and QR scanning functionality which will provide the user with unique product details for verification, also on the underneath of each strip, the HALO branding as well as product descriptive printing is visible.

Bezuidenhout concludes: "HALO is truly a zero-maintenance lighting solution known affectionately by its users as the 'install & forget' lighting system. It has a very low profile of only 4 mm and very robust design which makes it almost impervious to external mechanical damage unlike all other bulky lighting systems, and enjoys 99% success rate with as little as 1% repairs or returns documented throughout seven years of successful operations. HALO has demonstrated to vastly improve safety & increase productivity due to its constant flood of illumination with zero dark spots whatsoever even illuminating ceilings in a 360-degree light distribution." **IM**