

South Africa's Mine Ventilation Game Changer

Pretoria, 15 August: Local fans and ventilation firm MechCaL, has over the past 2 years, experienced accelerated growth in all areas of the business –all due to their vision of placing client delivery as a top priority and a passion for producing innovative products that are changing the face of South African mining ventilation.

Over the past 24 months, MechCaL has secured clients that include the likes of AngloPlat, Anglo American, Glencore, Sibanye Gold, Lonmin and Aquarius Platinum. “Providing the highest quality products backed by performance guarantees and a strong after sales service culture has allowed us to prove ourselves in the market over the past two years,” says Acting MD and MechCaL spokesperson, Prof Jan du Plessis. “We have taken on a number of exciting projects for high profile South African companies including a complete retrofit of our fans for AngloPlat in November 2014 and the delivery of an innovative compressor fan prototype to AngloAshanti earlier this year.”

Internationally MechCaL's products have been commissioned from companies across the globe with their full product line being rolled out to the Zambian market a year ago where they have been well received by the mines in the region. “We continually focus on diversifying not only our products but our markets as well. Until recently, penetrating African markets outside of South Africa was challenging but our fans have been well received in the Zambian market thus far which is mostly due to the energy savings our products are able to achieve as power tariffs in that region have increased,” says Prof du Plessis. One of the first Zambian mining operations to show interest in MechCaL's products in that region was Glencore's Mopani Copper Mines PLC who placed an initial order of 17 fans from across the MechCaL product range.

Over the past two years MechCaL have also expanded their product line with the addition of new Jet Fans as well as the introduction of new products that upped the ante for advanced ventilation. This includes the introduction of large wind tunnel fans to the company's offering and the subsequent manufacture of one of the world's largest ever produced acoustic wind tunnel fans for a well-known motoring manufacturer in Germany.

In December 2015 MechCaL teamed up with environmental solutions provider, iCAT, to create the IVAP-500, an advanced optimized evaporation cannon capable of evaporating mine water under harsh environments. “Inventive and pioneering product design has been one of our hallmarks and is in line with our goal to streamline the process for our clients by providing them new solutions that are custom designed so that they are able to secure the benefits of multiple products with a single unit,” Prof du Plessis explains.

Their pioneering product design was recently put in the spotlight when they delivered a ground breaking fan prototype to AngloAshanti's Mponeng mine. The fan in question formed part of a vapour compressor which is an integral part of a vapour compression refrigeration plant at Mponeng. The fan forms a flexible blade compressor that leverages the outstanding strength of high end composite materials – the use of which has become another MechCaL hallmark.

This level of innovation caught the attention of international organisations and in early 2016 MechCaL secured an investment from German fan manufacturer TLT Turbo GmbH. TLT-Turbo is one of the world's leading manufacturers of technology-driven industrial fans and ventilation systems with a history of more than 140 years in the industry. "We knew straight away that the interaction between the experts within TLT-Turbo and MechCaL would greatly advance our current research and development initiatives," says Prof du Plessis. "MechCaL was at a turning point and needed a change in shareholding. We were excited to welcome TLT-Turbo as a strategic shareholder to support further growth, especially into international markets."

Further growth in the company continued to be the mainstay theme of this year with the expansion of MechCaL's service offering to include repairs and maintenance. "We found that in this changing economy, companies are choosing to have equipment repaired instead of replaced, and as a result, we made the decision to expand our service offering to include repairs. This service helps support mines and businesses by ensuring that the equipment that they rely on every day is always operational," says Prof du Plessis. Following the construction of a dedicated repairs area at MechCaL's manufacturing facility in Pretoria and the roll out of the repairs service to the market, they secured a sole repairs provider agreement with Lonmin and many companies have since followed suit.

MechCaL Principal Engineer and Director of Operations, Michael Minges says that MechCaL has an excellent track record of their fans lasting for quite some time. "Since 2011 only 14 to 15% of our fans in the market have come in for repair over the last 5 years, which equates to 2 to 3% per year on average. This is a small number when compared to the repairs and maintenance needed on the older types of fans – which is in the region of 20 to 30% per year. These numbers reduce the repairs budget for mines considerably as quality and not quantity is the deciding factor."

MechCaL repairs mechanical failures under warranty. According to Minges, warranty offered on fans can vary slightly dependant on the client and what the final application of the fan would be. Initially MechCaL offered 12 months warranty on all fans but this was later extended to 18 months when it became apparent how long their fans were lasting in the field – providing evidence that their products were lasting longer than those of their competitors. "By focusing on developing a superior product from the start, our goal is to create an environment where preventative maintenance is not necessary on an on-going basis, and where repairs do become necessary, we always provide clients with the option to upgrade to the latest product to ensure consistent peak performance and minimum MTBF," says Minges.

In addition to adding the dedicated repairs area, MechCaL has upgraded their testing facility with the only independently verified ISO 5801 standard Type D test ducting in the local fan industry, for testing of 570mm, 760mm, 1015mm and 1200mm fan sizes. MechCaL has also upgraded its manufacturing infrastructure with the addition of a clean room, a new high temperature modular oven and additional engineering high precision jig tables at the end of 2014. More recently MechCaL invested in a technologically advanced robot to add greater efficiency and accuracy to their production processes. "Naturally working within one of the world's most demanding mining regions requires that we stay ahead of the curve in order to

be competitive. This necessitates the installation of world class equipment,” says Prof du Plessis.

MechCaL’s ability to stay ahead of the curve has been recognised in the industry with the company having been nominated for – and the recipients of – several industry awards. These include three Technology Top 100 wins in the Technology, Innovation, Research and Sustainability category, the Frost & Sullivan award for Best Practice in Enabling Technology, the IDC’s Most Innovative Company award, the Technology Top 100 Minister of Science & Technology’s Award for Sustainable Performance and the Best Paper of the Year award from the Mining Ventilation Society of South Africa.

“We are entering the final quarter of 2016 on a strong note with positive client feedback on our products, increased interest in our engineering and maintenance services supported by technological advancements in our manufacturing infrastructure. All this relates directly to placing seamless and efficient delivery of products and services to our clients as a top priority,” Prof du Plessis concludes.

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