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## **Atlas Copco's cutting-edge compressor room optimisation solutions help users gain full benefit from their compressed air systems**

Atlas Copco's cutting-edge analysing, optimising and monitoring service solutions assist users in gaining the full benefit from their air compressor systems by maximising the overall efficiency of their compressed air installations through improved reliability and availability and significant reductions in energy consumption and CO<sup>2</sup> emissions.

"The production of compressed air is one of the biggest energy consumers in manufacturing and processing plants, expending to roughly 4% of the total global energy consumption," notes Jaydon Prinsloo, Advanced Service Sales Engineer at Atlas Copco Compressor Technique. "Subsequently, energy is the most expensive component in the total cost of producing compressed air, making up to 70% of a compressor's life cycle costs. Given that compressed air is the life blood of most production plants, users are dependent on this critical commodity. We are also acutely aware of the fact that users are under constant pressure to produce more at lower costs to ensure sustainable and profitable operations."

Having developed the first air compressor in 1904, Atlas Copco channels this time-honoured experience through continued investment in compressed air technology R&D. "In our continuous quest to deliver the most efficient compressed air solutions, our focus is on engineering more energy-efficient machines and shaping state-of-the-art technologies," continues Prinsloo. "Fundamental to our third focus area, the development of forward-thinking service solutions, are our analysing, optimising and monitoring solutions that assist users to unlock the full potential of their compressed air systems and benefit from reduced operating expenditure over the air compressor's life cycle, low total cost of ownership and a rapid return on investment."

To clinch this benefit-trio, users need to understand their compressed air system, know if it is efficient and identify efficiency opportunities. Thus, the first step in optimising a compressor room starts with a reliable analysis of the compressed air system. "Using Atlas Copco's AIRScan, we conduct a comprehensive audit of the customer's compressed air installation to establish system efficiency and identify potential energy saving opportunities. The audit can establish, for example, whether compressed air is produced at a higher pressure than required or if there are any air leaks," explains Prinsloo. This unique compressor audit software generates a report that provides in-depth problem evaluation, realistic projections, actionable insights and well-founded recommendations to enable customers to make well-informed decisions.

Armed with all the necessary information, Atlas Copco recommends that customers first address the quick-fixes that deliver fast results. "So we start with air leak detection and repair saving up to a staggering 43kw on 1cm leak at 7bar," advises Prinsloo. Losses in energy consumption of as much as 20% can be quickly remedied with a simple repair using Atlas Copco's RePress. "This cost-saving and sustainable product enables leak detection and repair to be carried out while the distribution net is under pressure, eliminating the need for dismantling pipes and couplings, which means zero downtime of the compressed air system," emphasises Prinsloo.

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The next step in optimising compressed air system performance is the automation of equipment control to achieve efficiency, reliability and connectivity through Atlas Copco's advanced monitoring and control technologies. Atlas Copco's master controller, Optimizer 4.0, ensures that users get the best compressor energy performance and minimised CO<sup>2</sup> emissions, with the added benefit of maximum local and online connectivity. As the name suggests, Equalizer 4.0 equalises the running hours and lowers the pressure band, reducing energy consumption.

But the efficiency advantage goes even further through Atlas Copco's Energy Recovery solutions. A staggering 94% of the energy consumed by an air compressor is converted into heat. Welcome news for customers is that Atlas Copco can assist in putting this thermal energy to good use. Instead of diverting the heat to the cooling system for release into the atmosphere, Energy Recover recovers a large portion of this heat for re-use in a variety of applications such as heating the workspace, providing hot water for industrial processes that require heat or steam or for use in bathroom showers. Prinsloo points to the substantial cost saving implications as a plant can scale down or eliminate the use of heat generating equipment such as geysers and preheaters for boiler water thus lowering overall energy consumption. Moreover, re-using this free heat also complies with sustainability standards by reducing emissions.

Another solution from Atlas Copco to facilitate the customer's journey in achieving optimal compressed air system performance and efficiency is AIRnet. This aluminium and stainless steel pipe range provides optimal conditions so that high quality compressed air reaches the point of use with the right pressure and flow. The anti-corrosive, rust-proof properties of aluminium makes it the industry standard for compressed air piping systems, ensuring less pressure drop and subsequently optimising air quality. Compliant with the highest quality standards, AIRnet Stainless Steel piping systems ensure 100% oil-free air delivery from generation to point-of-use and is ideal for harsh environments like pharma and food and beverage. AIRnet is lightweight, safe, easy to handle and quick to install.

"Knowing the status of the compressed air equipment at all times and being in a position to react quickly is the final step in achieving optimum efficiency and maximum availability," states Prinsloo. Atlas Copco's advanced monitoring and communication system, SmartLink, monitors and self-diagnoses Atlas Copco machines and automatically uploads data via GPS to Atlas Copco servers in the cloud. SmartLink tracks all the vital signs of the compressed air equipment and can actively monitor more than 30 data points. Alerts can be sent to smart devices. This efficient air compressor monitoring solution generates customised reports and recommendations that enable users to follow up on the performance and service status of all the equipment in the air compressor room, helping to boost overall machine health. Detailed reports show real opportunities, help to keep track of efficiencies and give practical advice on how to further improve on the compressed air system's efficiency and reliability.

Another SmartLink value add, Service Timeline, indicates the service status of every machine and provides a calendar of planned visits as well as service reports. On-time service and predictive maintenance maximise uptime by enhancing machine reliability and stability. SmartLink Uptime keeps an eye on critical components with service, sensor and alarm data uploaded from the compressor every 40 seconds. Should an issue arise, users as well as Atlas Copco are immediately alerted and technicians are dispatched, helping to avoid costly unscheduled downtime. With SmartLink, which is ISO 50001 (Energy Management) compliant, users can realise energy savings of up to 30% and apply sustainable environmental practices.

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At **Atlas Copco**, we have been turning industrial ideas into business-critical benefits since 1873. By listening to our customers and knowing their needs, we deliver value and innovate with the future in mind.

[www.atlascopco.com/en-za](http://www.atlascopco.com/en-za)

#### **Atlas Copco CT**

Great ideas accelerate innovation. At Atlas Copco Compressor Technique we team up with our customers to turn industrial ideas into smart connected air and gas solutions and leading edge compressed air technology. Our passionate people, expertise and service bring sustainable value to industries everywhere.

Atlas Copco – Home of industrial ideas

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