



CAPABILITY STATEMENT

Ventilation solutions
for underground
mines



zitron.com

Global Presence

With over 50 years' experience in designing, manufacturing and supplying bespoke underground ventilation systems, Zitrón is today acknowledged as a world leader in the field of ventilation for underground mines and for road and railway tunnels, as well as metro networks.

Local Strength

With production hubs located in the Americas, Europe, Asia and Oceania, Zitrón is today active in over 80 countries, through an established network of subsidiaries and dedicated representatives

Today, Zitrón is firmly established as a major player in the underground ventilation market, with an acknowledged reputation for the quality of our work and our willingness to go to the next level to ensure that our customers have the optimal solutions for their specific needs.

Whether ventilation solutions are required for the construction phase or the subsequent long-term operation of critical tunnels, where user comfort and safety are paramount, Zitrón can provide the optimal individually tailored products and services.

Since our founding in 1963, Zitrón's commitment to quality and innovation has enabled us to grow into one of the most technologically driven and successful ventilation companies in the world, with operations in over 80 countries across 6 continents.

What sets us apart is the experience and dedication of our people, our customer-focused mindset, our ongoing investment in testing and research, and our ability to operate in the most remote and demanding of locations and environments. These attributes make Zitrón the industry benchmark.



Mining

As underground mining has pushed into ever deeper depths, Zitron has been at the forefront of developing state-of-the-art ventilation systems that play a vital role in ensuring worker safety and mine productivity. Our systems are tailored to meet the constantly evolving conditions of each individual mine, thereby reducing energy costs and delivering optimal performance over the life of mine.



Transport Infrastructures

Zitron has the know-how, experience and cutting-edge products and services to meet whatever ventilation requirements a customer may have for tunnels in transport infrastructure. We can supply a complete range of axial, centrifugal and jet fans, as well as other related components, to deliver systems that maximise productivity and usability, and ensure the safety of workers and commuters alike.



Marine

Exposure to harsh climatic conditions and the design limitations imposed by space restrictions mean that ocean going vessels and offshore platforms demand ventilation systems specifically tailored to meet very stringent demands. Zitron has the know-how to deliver the highly specialised ventilation solutions required for such vessels and conditions.



Wind Tunnels

Zitron offers bespoke aerodynamic solutions for all types of wind tunnels worldwide. Our proven designs can deliver a concentrated flow of air in either a vertical or horizontal flow, thereby guaranteeing the efficiency of any wind tunnel, be it used for recreational or industrial purposes.

Tailored solutions

The network of evolving tunnels that underpin underground mining demand ventilation systems that are tailored to their specific conditions, including variables such as length, depth, size and usage.

Zitrón works closely with our customers to understand all the operating parameters of the environment to be ventilated, to enhance the system design process by contributing our know-how and experience, and to supply the best solutions.

Proven products and services

Zitrón's investment in ongoing research and development, plus the extensive experience gained over more than 50 years involvement in the underground ventilation sector, ensures that our products are at the cutting edge of innovation and incorporate the latest technologies.

These elements combine to ensure that Zitrón's products and services are the industry benchmarks, giving our customers access to the most efficient and reliable ventilation solutions on offer anywhere in the world.

Comprehensive testing

At Zitrón, we prioritise the performance and reliability of our fans. We have invested in building a state-of-the-art test bench that is the largest of its type in the world and enables the testing of fans with up to 2,500 kW and 5.8m diameter under simulated real operating conditions.

This test bench allows full-scale testing of fans reproducing any ventilation circuit parameters - flow, pressure, efficiency, vibrations, temperature, etc. - specified by our customers. The testing parameters can cover not only the initial underground conditions, but also potential scenarios that might arise during the life of a mine.

Regular maintenance of a ventilation system is essential for ensuring its proper performance. Particularly in the case of systems installed in highly corrosive environments such as underground mines, where tunnels are continuously evolving and fans are susceptible to increased failures and greater than usual wear and tear.

Zitrón is ideally qualified to carry out all maintenance work on ventilation systems. We can design and implement an integral maintenance program for all systems, thereby enabling preventative and corrective action to be taken as and when required.

System maintenance

Zitrón has developed innovative technologies such as data capture and monitoring systems that enable continuous control of the status of ventilation systems, either onsite or remotely.

This real time data transmission solution can improve equipment performance, reliability and lifespan. Our monitoring and control systems make possible the continuous analysis of ventilation system parameters - including energy consumption, CO2 emissions, amongst others - and the early detection of anomalies that require attention.

Data capture and monitoring

Designing the optimal ventilation system, and correctly installing and maintaining it, are critical elements in the safety, productivity and profitability of every underground mine, and should only be entrusted to experienced and trained personnel.

Whatever the ventilation job, from design to manufacture, installation to maintenance, rebuilds to expansions, Zitrón can undertake and manage the entire process. We supply the trained personnel, the approved parts and the logistics required for each assignment.

Complete turnkey solutions

Performance and reliability

Heavy duty axial and centrifugal fans

Zitrón can supply a full range of axial and centrifugal fans of different sizes, materials and blade types. All Zitrón fans are designed and manufactured to the highest quality standards and tailored to meet the specific requirements of each application.

Dampers

Our comprehensive range of dampers are designed to operate under the harshest underground mining conditions and are engineered to maximise system performance by controlling air flows, thereby assisting to lower energy costs and enhance safety measures.

Silencers

When controlling noise levels is critical to a mine's licence to operate, our experienced technicians can design suitably tailored solutions, utilizing various types of silencers (abortive or reactive) and ductwork lagging systems, to either deliver a new, more powerful, ventilation system or to retrofit an existing system.

Full suite of electrical instrumentation

Zitrón can supply a complete electrical package for any mining ventilation project, with all electrical components installed inside a switchroom that is pre-commissioned prior to delivery to site. Our remote monitoring systems enable the continuous analysis and control of the ventilation system from offsite, thereby enhancing efficiencies and productivity.

Associated site works

Our site delivery teams have the skills and experience to deliver complete turnkey installations, where all associated mechanical, electrical and civil works are installed under strict Zitrón supervision and in full compliance with local safety regulations. We can manage the commissioning and testing of the ventilation system, provide training to mine personnel, and when required, provide ongoing maintenance service and support.

We're driven by success Yours!

**We are committed to using the latest
technology and the most talented
personnel to deliver the best
solution for your ventilation needs**



Our people



Zitrón is committed to building, valuing and promoting diversity and inclusiveness across our company.

We understand that our most valuable asset is the more than 400 professionals that make up the global Zitrón team



We are focused on ensuring that all personnel have access to the opportunities and support needed to further their career goals and are fairly rewarded for their work.

We strive to attract the best talent, to nurture it and to enable each person to realise their full potential by placing them in a work environment that provides access to the latest technology, to ongoing professional development activities and to creative thinking.

Zitrón strives to be the best underground ventilation company in the world and is committed to contributing to the world we live in by creating, supporting and nurturing programs and initiatives that enhance the wellbeing of our people, our environment and our society.

VISION

To be the best at what we do, harnessing talent, technology and innovation, and a service culture, to become the preferred provider of ventilation solutions.

VALUES

Our values reflect who we are and what we stand for as a company.

MISSION

To make ventilation work for our customers, by providing them with tailored solutions that add value to their business.

Integrity

We uphold the highest standards of integrity in all our actions.

Teamwork

We work together, across boundaries, to meet the needs of our customers and to make Zitrón the best in its field.

Respect for People

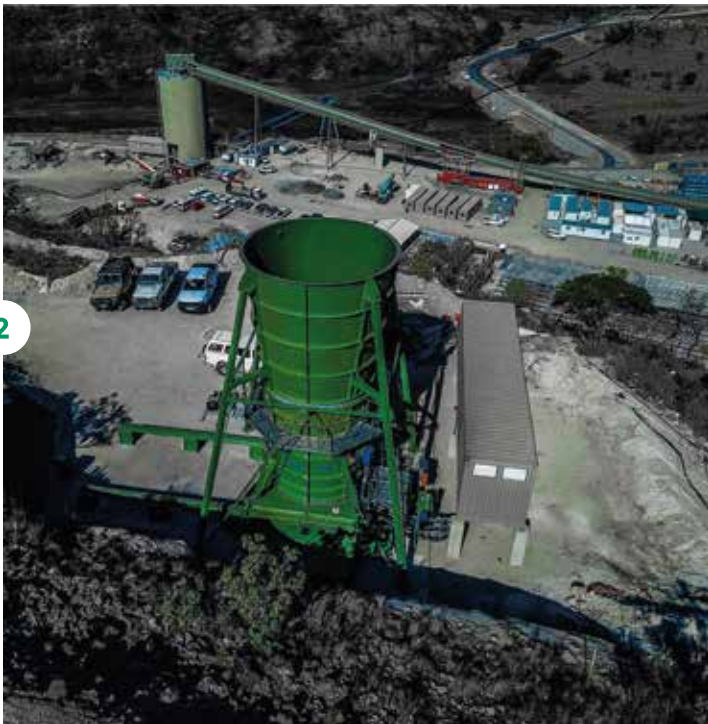
We value our people, encourage their development and reward their performance.

Quality

We provide outstanding products and unsurpassed service that together deliver maximum value to our customers.

Customer Commitment

We develop relationships that make a positive difference to our customer's business.



1 NORTHPARKES MINE, Australia

DETAILS: 2 ZVN 1-28-900/6 heavy duty axial horizontal fans with 1,800 kW total power. 2,800 mm diameter.

2 BOOYSENDAL PLATINUM MINE, South Africa

DETAILS: 3 ZVN 1-36-1300/8 vertical. 3,900 kW of power, 3,600 mm diameter.



3 DWARSRIVIER CHROME MINE, South Africa

DETAILS: 3 ZVN 1-20-315/4 main fans & 2 ZVN 1-20-315/4. 2,000mm Diameter. 315kW total power.



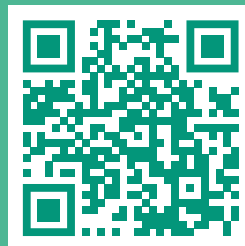
4 JUANICIPIO MINE, MEXICO

DETAILS: ZVN 1-33-1035/8 fan model. 3,300 mm diameter, 1,035 kW of power.

5 ANGLO AMERICAN COAL, South Africa

DETAILS: Brown 2 project, 3off ZVN 1-18-250/4 main fans. 1,800mm diameter. 250kW power.

**Contact us to know
more about our
projects worldwide**





About Zitron

Since 1963, ZITRÓN has been at the forefront of providing customers with cutting-edge, tailor-made solutions for their ventilation system requirements for underground infrastructures such as road, rail, metro tunnels and mining.

Contact us:

📍 HEADQUARTERS

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