



CENTRAL DEBORAH GOLD MINE, VICTORIA, AUSTRALIA

CASE STUDY

Preserving history while protecting people — above and below ground

Access anytime, anywhere

ALIMAK

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The Central Deborah Gold Mine, a key historical site in Bendigo, Australia, has long been a testament to the region's rich mining heritage. Operating from 1939 to 1954, the mine extracted 929 kg of gold—worth approximately \$150 million AUD today. At its peak, the mine reached a depth of 412 meters, encompassing 17 levels and 15 kilometers of tunnels. Today, it operates as a tourist gold mine, showcasing Bendigo's underground gold rush story.

Since 1986, the site has had an Alimak™ Scando™ 20/32TD elevator that has been transporting visitors 61 metres underground to experience the harsh realities of Australia's gold rush era. With over 60,000 visitors annually, the elevator plays a critical role in ensuring safe, reliable access to the mine's historic depths.

In 2022, the Alimak Scando 20/32TD underwent a refurbishment included a fully galvanised cage, new guide rollers, rack, and upgraded electrical systems — all designed to meet modern safety standards while preserving the rugged, authentic ride that defines the visitor experience. These upgrades ensure that every journey underground is not only memorable but also secure.

But safety at Central Deborah goes beyond tourism. Deep underground, groundwater pumps at Level 4 (109 meters) remove over 1.5 million liters of contaminated water daily to protect the mine and the surrounding water table which is connected by over 5,500 historic mine shafts in the area. Until recently, maintenance crews had to climb over 100 meters of vertical ladders to reach these pumps — a physically demanding, time consuming and high-risk task.

Working within a narrow 1.2 x 1.2 metre shaft lined with timber sleepers, our team engineered a custom 300 kg, 4-passenger Alimak SE elevator with a U-600 mast — designed to fit the space without compromising the mine's historical integrity.

To secure the elevator safely in this confined and sensitive environment:

- 36 custom rock-bolted ties were designed and installed to anchor the mast securely.
- A suspended steel pit structure was constructed at the 109-meter mark to provide a stable base.
- Timbers were carefully removed every 3.3 meters to allow for safe rock bolting, preserving the shaft's heritage while ensuring structural integrity.

These measures eliminated the need for ladder access, significantly reducing the risk of falls, fatigue, and injury for maintenance personnel.



To avoid the high cost and complexity of crane hire — and to further enhance safety — Alimak introduced a permanent Tirak™ winch system with man-riding capabilities. This system now serves as both a materials hoist and an emergency recovery device, ensuring that workers have a safe and reliable means of evacuation in the event of an incident.

The Tirak system features a winch with a capacity of 1,000 kg, fully certified for man-riding operations. A header beam is installed above all compartments, allowing for flexible access throughout the shaft. This permanent solution offers a cost-effective alternative to temporary lifting methods, enhancing overall safety and reducing operational expenses at the site.

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A PARTNERSHIP BUILT ON TRUST

We are proud to support the team at Bendigo Heritage in their mission to preserve history while prioritizing safety. This project is a testament to what's possible when engineering meets purpose — and when protecting people is the top priority.

“Our partnership with Alimak is built on trust. It is easy to have trust when Alimak continues to deliver the best products for our complex environments which are delivered by a team of caring, passionate and professional individuals who constantly go above and beyond.”

“From project initiation through to completion, the team displayed exceptional professionalism, technical knowledge, and a collaborative spirit that greatly contributed to the successful outcome of this significant heritage infrastructure upgrade. Their responsiveness to site challenges, commitment to safety, and proactive communication ensured a smooth and efficient installation process.”

- James Reade
Chief Executive Officer, Bendigo Heritage

ELEVATOR DETAILS

Location:	Central Deborah Mine, Victoria, Australia
Application:	Tourist attraction
Industry:	Mining /Tourism
Elevator models:	Alimak SE 300 & Alimak Scando 20/32TD
Capacity:	300 kg and 2,000 kg
Elevator car size:	0.78 x 0.91 m & 1.5 x 3.2 m
Speed:	0.59 & 0.65 m/s
Lifting height:	109 & 75 m
No. of landings:	4 & 2



Alimak™ is a global market leader and pioneer in the design and manufacture of vertical access solutions for industrial and construction industries. The company provides high quality rack and pinion and traction elevators, construction hoists and work platforms. Alimak has a well-established global sales, service and distribution platform across more than 100 countries with strong market presence. The company has a large global installed base of over 23,000 units which provides unique know-how of all industrial application areas. Alimak was founded in 1948 and is part of Alimak Group which is headquartered in Stockholm, Sweden.

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