



## Safety and agility for mine development

Maptek™ laser scanning is promoting agility and adherence to mine planning at Mineração Caraíba SA.

Mineração Caraíba SA is an underground copper producer which has been operating for more than 40 years in Brazil.

Located in the north of Bahia State, its activities began in 1979 under the name Caraíba Metais, 105 years after the discovery of copper reserves in the region.

Mineração Caraíba SA was acquired by Erro Copper Corporation and in 2019 reached a record production of around 40,000 tons of copper concentrate. An increase to 43,000 tons of concentrate is expected for 2020, combining the production of the Pilar and Vermelhos mines.

Before implementation of Maptek™ laser scanner technology, Mineração Caraíba SA used total station survey equipment. Performance was well below that needed for efficient survey, taking into account the size and demands of the various mine sectors.

Delivery of results was slow and work focused on the measurement of mining advances and stockpile volumes, where safety was compromised by the need for employees to access areas of risk.

In 2012, the company acquired its first laser scanner, the Maptek™ 4400. Its efficiency was proven from the start, with fast and accurate delivery of field results from the more than 150 km of existing galleries across the mine.

The time saved was converted into analysis and interpretation of data collected in the field.

Another important factor was the increase of safety in the field, allowing remote survey of places that represent risk to employees.

In 2019, a new Maptek™ SR3 laser scanner with in-built camera was acquired. This dedicated underground technology helps to capture information from the various sectors of the mine, down to more than 900 m.

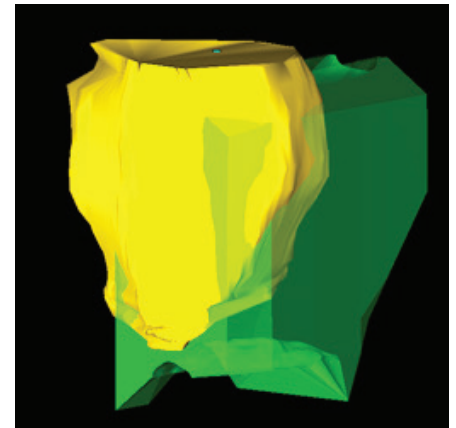
Maptek™ PointStudio™ software contributes to the reconciliation of mining faces, mine operations, stockpile survey and geological and geotechnical studies.

The equipment is effectively in 24-hour use across the site.

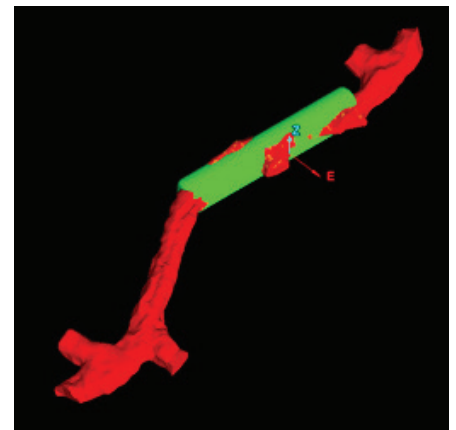
In addition to incorporating modern systems, the Maptek SR3 scanner brought more agility to field activities. Lower weight and size contribute to easier transport along the galleries and accesses, increasing productivity.

The SR3 laser scanner data processed in PointStudio software brings a closer match to reality. This allows accurate planning of mining operations, reducing expensive equipment costs, increasing the recovery of ore during extraction, reducing explosives costs and optimising the fleet.

*Thanks to  
Mineração Caraíba SA*



*Reconciliation of the final stope in PointStudio*



*Reconciliation of the completed gallery in PointStudio*