

VERSATILE BOOM LIFT FINDS ITS NEW HOME 3,200 FEET BELOW GROUND

Working on a big job in harsh underground conditions, ETS Schacht Konrad Consortium turned to an articulating Genie Z[®]-45 XC™ boom lift.

As part of the transformation of a disused iron ore mine in north central Germany, crews were working at 3,280 ft (1,000 m) below ground at a constant temperature of 104°F (40°C). The Genie lift helped them prepare and stabilize existing tunnels and newly bored storage chambers in Germany's first deep geological repository for low- and medium-level radioactive waste, known as the Konrad Pit.



CHALLENGE

The transformation of the old ore mine is a long-term process. In preparation for its future as a repository, a boring machine was employed to enlarge existing tunnels and open up new storage chambers.

Once boring was completed, crews needed the ability to drill holes and reinforce them at varying heights, plus they had to stabilize the tunnels with sprayed concrete. Reach capabilities were integral to productivity — if operators had to use a machine that required frequent repositioning, it would have drastically slowed them down.

SOLUTION

The Genie Z-45 XC was first used as the wall was prepared by drilling holes and reinforcing them with steel. Then, the boom was positioned at the center of the tunnel where it operated in sweeping, semi-circular movements to enable operators — equipped with a spraying machine — to stabilize the tunnels and finish the walls with a concrete covering applied from ceiling to floor.

With its dual-envelope design and lift capabilities of 660 lb (300 kg) unrestricted and 1,000 lb (454 kg) restricted, the Genie lift allowed two workers to operate two concrete sprayers simultaneously — a productivity increase that wouldn't have been possible using a boom lift with a standard lifting capacity of 500 lb (227 kg).

RESULTS

The crew saved time thanks to the Genie Z-45 XC boom with its 24 ft 9 in (7.55 m) horizontal outreach and an up-and-over clearance of 24 ft 5 in (7 m) that enabled them to easily prepare and stabilize the walls. And when they had to move the machine, the unit's tight turning radius and zero turntable tail swing were a definite plus that made maneuvering through junctions and curves in the relatively narrow shafts much easier.

