

ZINKGRUVAN MINING AB MODERNIZES COMMUNICATIONS BY UNIFYING DMR AND LTE



Zinkgruvan Mining AB, owned by Boliden AB, operates one of Sweden’s largest underground mines, with operations reaching depths of approximately 1,400 meters. As the need for more efficient, digitalized operations grew, the mine sought to unify its Tait DMR Tier 3 radio network with their private LTE broadband system.

Using Tait PTTToX, Zinkgruvan created a single, unified communications platform that extends coverage, expands device flexibility, and supports future automation, while allowing teams to continue using familiar radio workflows underground.



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THE CHALLENGE **UNIFYING TWO NETWORKS**

Zinkgruvan’s existing DMR network supported six sites and around 750 radio users. In parallel, a private LTE network delivered broadband coverage across approximately one third of the underground environment, where most staff operate.

While both systems were effective independently, they operated in isolation. There was no way for users on LTE devices and radios to communicate directly, limiting flexibility and increasing operational complexity underground.

OPERATIONAL REQUIREMENTS

- › Allow LTE devices to join existing radio talk groups.
- › Support private calls between radios and LTE devices.
- › Avoid operational disruption for miners already trained on the DMR system.
- › Deliver reliable, low-latency voice across both networks.

The objective was clear: Create a unified communications experience that extends coverage, unlocks device flexibility and automation for their crews underground.

THE SOLUTION **TAIT PTTX**

Working closely with Zinkgruvan, Tait deployed its cost-effective PTTX solution to interconnect narrowband and broadband networks.

This enabled:

- › DMR radios and LTE devices to communicate as one fleet.
- › LTE smartphones to operate as fully functional push-to-talk devices.
- › Private calling between devices, regardless of network.
- › Existing talk groups remained unchanged, minimizing disruption for users.

KEY OUTCOMES

Once deployed, the unified solution delivered immediate benefits:

- › Smooth voice communication between LTE devices and radios, with no noticeable delay.
- › Automatic call diversion when a device was turned off or out of coverage.
- › A unified user experience, with LTE users included in radio address books
- › Centralized remote management of both DMR and PTTX devices via Tait EnableFleet.

By merging networks, the mine strengthened day-to-day operations and created a platform prepared for future solutions such as autonomous vehicles.

“ Since we could use the same fleet management tools for both PTTX and legacy radio – administration was simple. Administration of the PTTX devices was easy and straight forward. The main benefit is that majority of our operators only need to carry one device. The call forwarding simplified operations and there was no need for re-learning user’s ids and workgroups.

— Mats Andersson, *Telecom Engineer*

WHY UNIFYING LMR AND LTE MATTERS FOR MINING

Unifying LTE and radio systems through Tait PTTX delivers benefits that directly support mine-wide performance:

- › **More coverage options** allowing workers to communicate on the network best suited to their location.
- › **Expanded device flexibility** reducing the need to carry multiple devices (LTE smartphones can be used as radios).
- › **Improved operational efficiency** enabled by one unified communications layer for all teams.
- › **Cost-effective integration** by reusing existing infrastructure rather than replacing it.
- › **Future-ready communications platform** empowering next-generation mining technologies.

By unifying existing LTE broadband and DMR narrowband systems through Tait PTTX, Zinkgruvan Mining AB has created a resilient, future-focused communications solution that improves safety, increases flexibility, and reduces operational complexity.

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