

HTZ AUTOMATE

RF NETWORK PLANNING AUTOMATION FOR THE MINING INDUSTRY

KEEP AUTONOMOUS MINES CONNECTED AS TERRAIN, NETWORK ASSETS AND MINE PHASES CHANGE

Autonomous haulage, remote-controlled drilling and real-time fleet management depend on seamless wireless connectivity in every part of the mine: across open pits, along haul roads, and deep into underground drives and stopes.

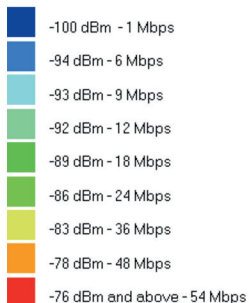
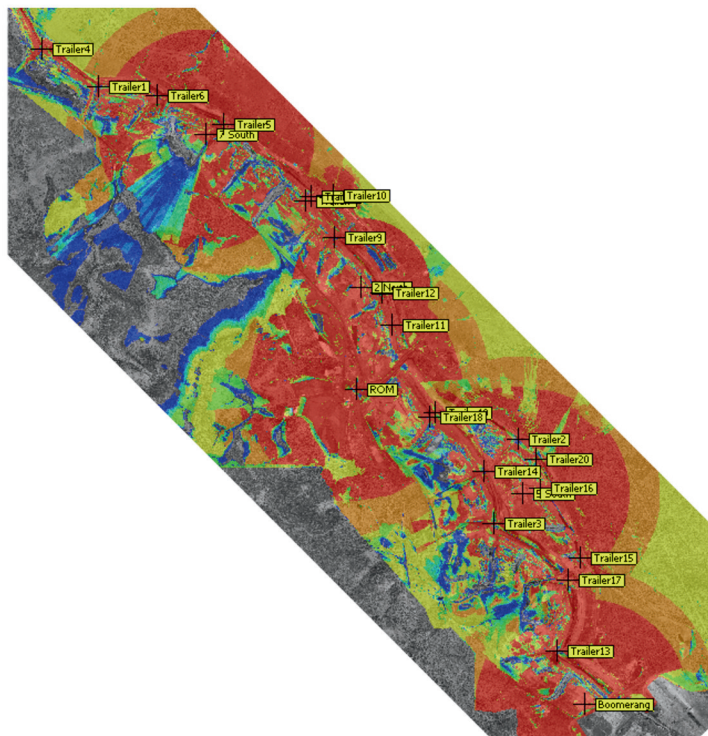
As the mine changes, coverage plans must keep up. HTZ Automate turns recurring coverage studies into a scheduled workflow. It imports the latest terrain surveys, tunnel models and network asset data, re-runs predictions in 3D, and publishes consistent, up-to-date coverage maps to engineering and operations teams.

Planners can find gaps before they affect operations, check new sites and handovers between surface and underground networks, and keep every autonomous system connected. The result is uninterrupted connectivity, safer operations and higher productivity through every mine phase, from first cut to final extraction.

A Source :
5210 equipment mounted
on the towers
Directive antennas mounted
on the trailers
5210 equipment mounted
on the trailers

Rx antenna height : 2m AGL
4210 Equipment mounted on
Mobile Land Cruisers

Coverage probability : 95 %



AUTOMATED WORKFLOWS SUPPORTING THE NETWORK PLANNING CYCLE

Define RF studies once and
execute them automatically
as operational data changes

CURRENT NETWORK VIEW

Keep coverage analysis aligned
with the latest terrain and
network configuration

CONSISTENT ANALYSIS

Apply consistent engineering
parameters, thresholds and
outputs across every study

REDUCED ENGINEERING EFFORT

Automate repetitive calculations,
mapping and reporting
so engineers can focus on
network decisions

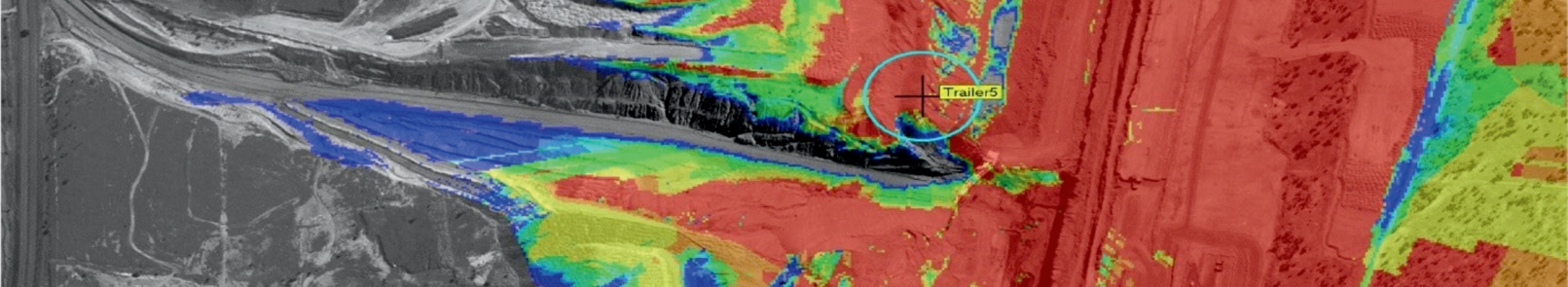
AUTOMATIC OUTPUT DELIVERY

Export coverage maps in generic
formats (e.g. KMZ) and reports
automatically after every run,
ready to share with engineering
and operations teams.

FULL WORKFLOW VISIBILITY

Track the status of every
scheduled run,
from start to finished output.





FROM CHANGING TERRAIN TO CURRENT RF INTELLIGENCE

HTZ Automate turns recurring radio network studies into scheduled, repeatable workflows. Engineers define each study once, and the platform runs it as often as the operation requires, so nobody has to rebuild it by hand every time the site changes.

The platform connects directly to operational data sources, picks up changes to terrain surveys and network assets, and triggers the required RF calculations automatically. As the mine changes, the planning model keeps up without waiting for manual updates.

Coverage can be recalculated for 4G/5G private mobile networks and TETRA, including RSRP, SINR and RSSI analysis. When the calculations are complete, HTZ Automate generates coverage heatmaps, point-to-point (P2P) and point-to-multipoint (P2MP) link profiles, and reports, ready to share with engineering and operations teams. Every study uses the same engineering parameters and thresholds, so results from one run can be reliably compared with the next.

The result is a continuous planning cycle that runs on a preset schedule and delivers consistent, up-to-date RF analysis without manual intervention. Each run is tracked, so the planning history is fully visible and traceable. Engineers spend less time on repetitive calculations and more time on the network decisions that keep operations connected, safe and productive.



HTZ imports, converts and processes high-resolution cartographic and terrain data from mine surveys (e.g. LiDAR) and other sources. As benches, dumps, cutbacks and pit depths change, new digital terrain models can be incorporated into the workflow.

This ensures predictions reflect the current physical environment, giving engineers greater confidence in coverage analysis across the mine.

