Fleet Management System (FMS)

is the primary production management tool for mine operations. Radio network is the key component of the system, affecting FMS usage performance

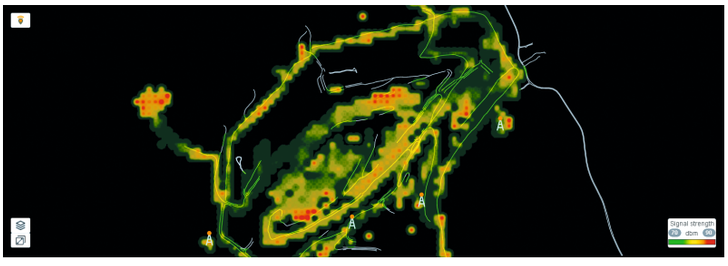
Known problems:

- Open pit surface topography is ever-changing and there is a constant need to re-design and support the field radio network;
- Default FMS network-control functionality is not sufficient for reliable analysis;
- Regular network surveys by means of special hardware lead to additional costs and delays.

GeoWlan is a solution aimed to overcome the existing limitations and provide mines with real-time tools to control and manage wireless networks. GeoWlan automatically collects network performance information using a software agent installed on existent mining equipment that is always running in the pit.

Key features:

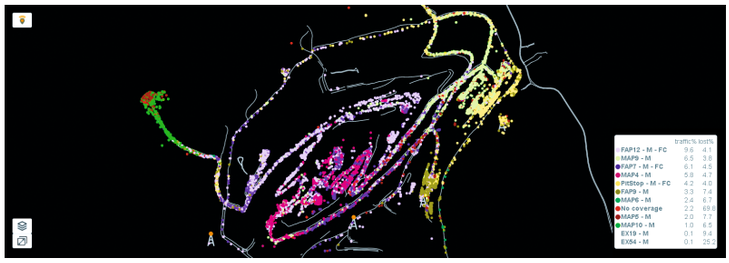
- Automatic real-time data capture;
- All networking events are saved and transmitted later using the internal buffering;
- No need for the additional hardware;
- Mine local coordinates and DXF support;
- Integration with any customer reporting system.



Real-time Coverage Heat map allows identifying areas with low and good signal based on CCQ (Client connection quality) metric.

Access Points usage map allows to:

- Identify which Access Points (AP) are providing coverage for certain areas;
- Find APs that might produce additional noise and reduce CCQ;
- Track the equipment handover between APs.



Improve FMS Data Quality and Optimization solution through the better radio network quality control -

- No missed real-time information from the field (production cycle timestamps, equipment telemetry data, speed and GPS information);
- High Precision (HP) systems fully depend on GPS corrections to arrive in time through the radio network.

Decrease costs on network support

- No specialized hardware for radio survey required;
- No need to go and do pit radio survey (transport, labor);
- Switch-off unused APs according to the survey results (power bills, maintenance and support costs);
- Minimize the number of mobile trailers (solar panels and batteries support cost, labor cost for trailer relocation during the blasts).

Improve safety

- Blind spots on road segments do not allow controlling truck speed;
- Operators might miss messages from FMS and dispatchers;
- Mine Safety solutions (such as collision avoidance, fatigue alert, etc.) heavily rely on wireless network quality.