



EU salt Safety Award 2021

Making underground mining safer with WiFi

Background

- ◆ Salinen Austria operates 3 mining plants
- ◆ Salt is mined with controlled drill-hole mining (wet mining)
- ◆ Production points are widespread in the mines



Challenge

Primary goal: Increasing Safety

- ◆ Miners often work far away from a phone system
- ◆ In an emergency it is difficult to call for help
Worst case: the injured person must be left alone
- ◆ Often 2 miners are necessary for a simple work only for safety reasons
- ◆ Wired telephone system is the only way for communication to outside (single point of failure)
- ◆ It is difficult to contact the miners from outside the mine for example in case of a fire

Additional goals:

- ◆ Optimizing production and maintenance processes
- ◆ Reducing downtimes
- ◆ => Saving costs



Foto: Anil Bruckner, www.anilbruckner.com, 0664/1144102 unretuschierte Rohdatei

Solution

“Bring the mine online and connect it to the world out there...”

- ◆ Installation of Wi-Fi in all underground production areas
- ◆ Smartphone for every miner for Voice Over Wi-Fi and Internet
- ◆ Online access to all other control systems (process control system, ventilation, ...)
- ◆ Also in use by tour guides in our tourist mines
- ◆ Usage of standard Wi-Fi hardware for cost efficiency



Outcome

- ◆ Emergency calls are possible in all production areas (Voice over Wi-Fi)
- ◆ Emergency / evacuation messages can be sent to all or to specific miners
- ◆ Reducing evacuation time
- ◆ Communication with rescue teams (real time situation report, tactical instructions)
- ◆ Production process optimization: Real time information for everyone by using smartphones, tablets, notebooks and all related applications (machine- / process- / drill hole-parameters)
- ◆ (Cost-) optimization of production

