see smart® Rail & Metro

Advanced cost-effective solutions for rail & metro based on

Critical Comms	Geolocation	Voice Alert	IoT	High Rate

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Innovative approach of bringing reliable radio coverage to rail & metro tunnels. It is a perfect merge of technology and smart solutions that secure all the stages of the tunnel lifecycle.

Innovative solutions for cost optimization of railway tunnel & metro lifecycle

see smart® Rail & Metro

see smart® Rail & Metro is a perfect merge of technology and smart solutions that aims to secure all the stages of the tunnel lifecycle: from construction and operation to maintenance, as well as solutions for emergency and condition monitoring.

Solutions for smart tunnels

The *see smart® rail & metro* approach offers integrated solutions for all radio communication assisted topics. Our technology allows to transport both RF and full IP monitoring signals together at the same time via one single **leaky fibre**, which is the central carrier for critical communications. It enables further technological migration and becomes the backbone for broadband communications.

Security management

Railway tunnels and metros are very dangerous confined spaces that thousands of people pass through every day. In case of accidents, the probability of human disaster is extremely high: multiple crashes, fire, or smoke can kill. The *see smart® rail & metro* approach ensures the prevention and management of incidents, with an obligation to secure property and people in case of an accident.

Facility Management

Operations officers, as well as construction and maintenance teams need a reliable private mobile radio on a daily basis to monitor and control all human and material resources, and environmental conditions inside the infrastructure to ensure the normal execution and schedule compliance. SEE Telecom's systems enable the team to be informed and ready to act in an emergency, but also minimize construction and maintenance costs, for example electricity costs.

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Next generation radiocommunication brings Voice and Data for advanced services

IoT Networks

All the objects inside the metro or railway tunnel communicate by IoT Networks. To prevent possible weak spots, which can cause accidents, periodic measurements of all fixtures are held. Message signs, lightings, ventilation are strictly controlled to detect any weaknesses.

Geolocation

Implementation of the newest technologies and radio communications, like GPS signals compatible with all standard devices allows the operating teams to control the trains most effectively and not to collapse the train schedules in case of accidents.

Services without limits

Thanks to our digital broadband technology, all 1- and 2-way radio networks can be rebroadcasted:

- VHF simplex, duplex
- DMR, DMR Tier 3, eDMR, MPT1327
- UHF simplex, EDACS
- TETRA, TETRAPOL, TEDS
- P25, LTE
- GSM-R, LTE-R
- GSM, DCS, UMTS, LTE
- Internet of Things (IoT), WIFI
- GPS, GALILEO
- 5G ready
- Etc...

Reliable critical communications

In case of intervention, emergency services as Police, Fire Brigades, Ambulances, need a robust and reliable radio coverage system to communicate inside metro stations and railway tunnels.

High Rate Radio Access

Based on a 4G LTE core SEE Telecom's systems allow operators to make voice calls, group calls, and digital conferences. IP technology allows you to connect to the infrastructure or site data server to exchange documents, view web pages for third-party applications, image uploads, etc.

Public Address—Voice Alert

In case of danger in a tunnel, passengers and workers have to be warned immediately. When an emergency occurs, operators are able to properly inform other users by using emergency communications by Voice Break-In and Public Address about the danger, the necessary measures to take, and direction to safe areas.

Center Of Competence Smart Tunnel

SEE Telecom is an R&D driven company. The modern facilities in Nivelles are being developed into a Center of Competence for Smart Tunnel Technologies, a place where innovations are integrated and tested before being introduced to the market.

With VHF, UHF, and TETRA Repeater Technology still at the core of the SEE Telecom Portfolio, none of the solutions jeopardize the functioning of the Security Communications Network, used by tunnel operations, maintenance, and inspections services on daily basis, as well as Police and Fire departments in case of incidents and essential for saving lives.

see smart® solution range

see smart® Tunnel Boring

see smart® Road Tunnel

see smart® Rail & Metro

see smart® Offshore

see smart® Mine & Gallery

see smart® Building

Some references

Belgium : Soumagne*, Antwerpen Rail Station, Peerdsbos*, Liefkenshoek

France : RER Paris, Cerbère, Hendaye, Paris (RER), Lille

Slovakia : Turecký Vrch

Netherlands : Amsterdam (Noord/Zuid line)

Turkey : Ankara, Antalya, Istanbul

Service level agreements

The availability of telecommunication system is fundamental during operation of infrastructures or during construction phase. SEE Telecom proposes Service Level Agreements with preventive and corrective maintenance to protect against any failure and damage. We are able to connect systems through a secured VPN to offer to our customers best-in-class technical support.

Worldwide presence

SEE Telecom has a worldwide network of local offices or official partners chosen for their professionalism and high skills. They have regular training sessions on our equipment and are perfectly able to design, install, and support customers needs with the best efficiency along with the project and life of the systems.

About SEE Telecom

SEE Telecom is a world leader in the provision of scalable, flexible, user-friendly, and cost-effective systems for multi-services radio coverage inside confined areas to enhance safety and facility management. Since 1999, SEE Telecom has equipped more than 1000 km of road tunnels, railway tunnels, and metros all over the world. SEE Telecom solutions are available worldwide through an exclusive network of partners.

Your authorized local partner :

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