



Kabelwerk **EUPEN** AG  
cable



## Hallandsås Tunnel

Eupen delivers broad-band Radiating Cables

### Customer

Statens Järnvägar  
Swedish State Railways

### Situation

The Hallandsås Tunnel is a railway tunnel in Sweden. The two bores are 8.7 km in lengths with 19 emergency cross-passages between the two tunnels every 500 m.

It is utilised by the West Coast Line to improve the connection between the cities of Gothenburg, Sweden, and Copenhagen, Denmark. In the longer term it will be a key component in the proposed Oslo to Hamburg high speed rail link via Gothenburg, Malmö and Copenhagen.

The project was troubled by construction difficulties caused by groundwater ingress, and a scandal when dangerous sealant materials were used causing workers to become ill and killing local fish and cattle. These caused the project to be halted from late 1997 to 2005. The project was finished in December 2015, over 23 years after start of construction.

The opening ceremony was held on 8 December 2015, and the tunnel opened for traffic on 13 December.

## Challenges

Tunnel radio coverage systems pose specific challenges when compared with traditional indoor or outdoor coverage, due mainly to the physical nature of the tunnel itself, as natural propagation in tunnels prevents the reception of signals and interrupts the flow of communications.

In an environment where the penetration of radio signals from the outside world is constraint and spaces for radio equipment is limited, to plan, design and implement a quality radio communications system that delivers all competing services in the same confined space present great challenges.

## Solution

For this tunnel Kabelwerk Eupen supplied it's broad-band EUCARAY® RMC158-HLFR "A"-Series Radiating Cable, providing industry leading performance, ensuring seamless transition upon entering the tunnels at speed and throughout the lengths of the tunnels.

It forms part of a reliable communications distribution system providing safety- and security-relevant TETRA, GSM-R and LTE communication for emergency services, railway operations and public users that meets all requirements of Trafikverket (Ministry of Transport) and the Swedish Railway.

The EUCARAY® Radiating Cables have been chosen because of the company's many years' experience in tunnel communication systems and its excellent reputation worldwide.

## Contact

Kabelwerk Eupen AG  
Malmedyer Str. 9  
B-4700 EUPEN  
Belgium

Tel: +32 87 59 70 00  
Fax: +32 87 59 70 60  
Email: [rf\\_products@eupen.com](mailto:rf_products@eupen.com)  
Website: [www.eupen.com](http://www.eupen.com)



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