



Liefering Motorway Tunnel / Salzburg

Tunnel Security



Security and Communication

Case Study Commend Österreich GmbH



Project Details

Customer

ASFINAG (motorway/speedway financing and operation)

Principal Contractor

STRABAG Anlagentechnik (mechanical engineering and construction)

Type of the project

Tunnel Intercom

Project Details

Indoor/Outdoor Emergency Call solution

Technical Specifications

11 x Intercom module SIP-ET 908A, installed into tunnel call stations

Tunnel Specifications

Total length: 503 m

Overall costs: approx. € 18 million

Construction: Mid June – Late November 2016



Standard-compliant call panel based on Intercom Installation Module ET 908A.

16 kHz eHD speech quality

Standard labels in German and English + third user language (in this case, Czech)

The Challenge

Recently refurbished to meet the latest environmental protection standards, the Liefering tunnel is located on the westbound A1 motorway between the "Salzburg Centre" and "Salzburg Kleßheim" exits. The tunnel was built in 2001 to provide relief from the high traffic volumes for residents in Salzburg's Liefering district. Up to 100,000 vehicles pass through the tunnel every day, with lorries and heavy-duty trucks accounting for around 15% of the overall traffic volume. The tunnel is monitored from a traffic management control room around 120 km away, in St Michael im Lungau.

To comply with the Road Tunnel Safety Act and to ensure the general safety of the motorists, the Liefering tunnel was refurbished and had its security technology brought up to the latest standards in 2016.

The technical upgrade covered everything from video surveillance, lighting and power supply to emergency call and radio systems, including new traffic signs and manhole covers, and an extra noise-absorbing road surface and tunnel wall coating. The old sprinkler system was replaced with a modern high-pressure water vaporisation system to ensure optimum fire protection. Acoustic tunnel monitoring was installed to boost tunnel safety even further.

Six additional emergency call stations **and three fire extinguisher bays were also installed** as part of the overall renovation.

Work on the 500 m tunnel proceeded from June until late November 2016, when the project was completed ahead of schedule. Thanks to the use of latest technology, the Liefering Tunnel now ranks as one of the most modern road structures of its kind in all of Europe.



The Solution

Austrian motorway operator ASFINAG contracted STRABAG (road engineering and construction) for the overall refurbishment of the Lieferring Tunnel. Among other safety equipment, the emergency call system was to be expanded and brought up to the latest standards. As a long-standing partner for the implementation of communication solutions in infrastructure projects all over Austria, Commend was sub-contracted by STRABAG Anlagentechnik (mechanical engineering and construction) for providing the emergency call solution for the tunnel.

The Commend emergency call system is **fully SIP-based** and comprises **6 emergency call pods** in front of the tunnel entry and exit points, **4 emergency call stations** inside the tunnel, and one **alarm point SOS station** in the hard shoulder area immediately in front of the tunnel.

The **emergency call stations** are **all based on Intercom module SIP-ET 908A**. This Intercom installation kit was integrated into the customer-specific casings by Commend's Customised Solutions department and equipped with a standardised call panel with handset. The devices are labelled in German, English, with Czech as a third option, as required by ASFINAG.

All emergency call stations are integrated into ASFINAG's network infrastructure and interface directly with the SIP server. All (emergency) calls are routed to the appropriate traffic management centre in St Michael im Lungau, approx. 120 km away. The additionally installed SOS button activates surveillance cameras and sends an alert signal to emergency desk staff, who then call back to assess the situation. Pushing the "Fire" alarm button will automatically alert the local fire-fighting services, which will be deployed immediately to the tunnel in case of a fire.

Brief company profiles

The Customer

Austrian-based motorway and speedway financing company ASFINAG is an infrastructure developer responsible for planning, financing, expansion, maintenance and operation of Austria's motorway/speedway network, as well as for toll collection. ASFINAG is wholly-owned by the Republic of Austria.

Until 2019, ASFINAG is planning to invest around € 1.5 billion in tunnel security. Motorists are to feel safe and secure when using the tunnel. Tunnels are highly specified constructions with specific characteristics. As closed-space constructions they pose particularly high risks.

The Principal Contractor

STRABAG Anlagentechnik, a 100% subsidiary of STRABAG AG (Austria), specialises in tunnel equipment, traffic technology, and electric engineering.

As Austria's leading construction company, STRABAG AG, a subsidiary of STRABAG SE, serves all areas of construction engineering. With its staff of 10,350, STRABAG achieved a turnover of around € 2 bn in FY 2015.





Security and Communication for tunnels

The communication platform for smooth, secure work flows



“ Naturally, the “Security Package” for the tunnel includes an emergency call solution. The installed Commend communication technology helps to suppress background noise and enables volume-enhanced, natural communication in both directions. During an emergency call, the caller’s normal voice sound is delivered in crystal clarity and easy to understand at the other end of the line to contribute to the fast assessment of the situation.

*Customer testimonial by Martin Stadlmann,
Technical Controlling / Group Manager, Tunnel Solutions*

“

Real life makes for the best stories

How do Commend solutions cope with the tough real-life communication and security challenges at locations all over the world? Real-life answers to this question are provided by our many case studies on customer projects, available at www.commend.com. Your local contact person will be happy to answer your questions about individual solutions.

Other project references:

Tunnel Valle di Lei, Switzerland

A9 Bosrucktunnel, Austria

Clem 7 Tunnel, Brisbane, Australia

Mamajskij Tunnel Sotschi, Russland

Railway Tunnel, Qazigund, India

Secure communication systems by Commend

Can you imagine a system that millions of people rely on every day, where every word has to count? That’s the world of Commend! Secure, reliable communication is our passion.

As global market leader with more than 40 years’ experience in developing voice technology, we have integrated video and interfaces to third-party equipment that complies with international norms and standards. Commend is the preferred choice for hands-free voice communication systems all over the world.

A strong network, worldwide.

COMMEND is represented around the world by local Commend partners to provide enhanced security and communication with tailored Intercom solutions.

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Natural
Communication



Audio
Bandwidth



High
Volume Capacity



Background Sound
Suppression



Loudspeaker-
to-Microphone Self-
Monitoring



Loudspeaker Line
Monitoring



ATEX certification
II 2G Ex e ia mb IIC T6