



Wi-Fi connectivity and cybersecurity for urban tram network

Teldat provides a complete solution to serve 150 trams in the city of Jerusalem with Wi-Fi connectivity and cybersecurity.

Client Summary

In addition to manufacturing and distributing high-tech trains, the client also offers comprehensive railway solutions (such as feasibility studies, public works, signaling or system maintenance and management work). As these projects are global in nature, the company's customers get a complete and specific solution characterized by the integration and compatibility of all elements.

Though the company was founded over 100 years ago, an innovative spirit and ability to adapt its products to meet customer needs continue to be its hallmarks. It is a multinational company with offices and production plants spread around the world.

Challenge

On the one hand, the client wanted to equip the city of Jerusalem's municipal trams with passenger Wi-Fi. Providing passenger Wi-Fi allows the client to improve user experience. This has obvious advantages for both passengers and client, as it helps provide passengers with entertainment while giving them information through a portal. Passengers can get things like travel updates, buy tickets, see downloadable apps, or obtain the latest news or deals while on the move.

Also, as technology evolves, an increasing proportion of people are using their daily journey to work to start their workday. By putting Wi-

Fi on tram cars, passengers can work (without losing connectivity) in the same way they would at the office or from home.

On the other hand, the client needed to ensure its network was protected and provide a secure passenger Wi-Fi service. Therefore, the tram car manufacturer was interested in finding an overall solution that would address both challenges: on the one side providing Wi-Fi connectivity, and on the other, an onboard cybersecurity solution capable of detecting and preventing intrusion attempts.

Solution

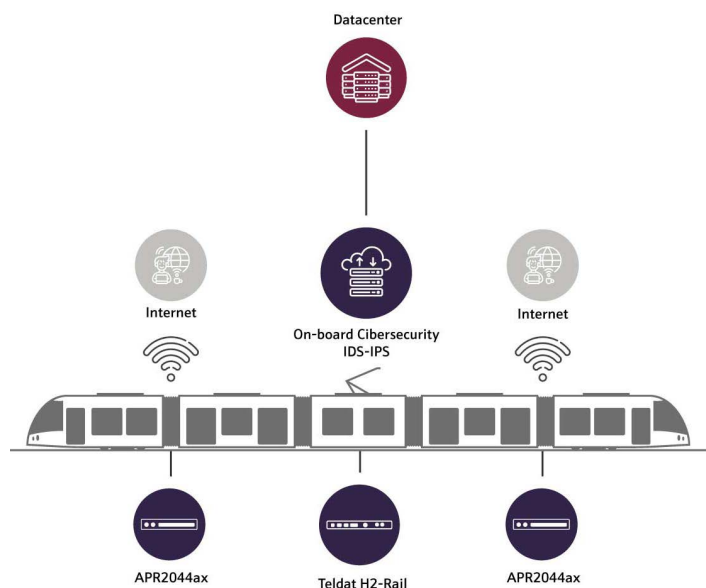
A hardware/software combination consisting of the following components was implemented to overcome the problems facing the client:

H2-Rail router: a multiservice communications platform for railway environments. It provides reliable 4G/LTE communications and broadband over Wi-Fi with redundancy options, bandwidth aggregation and advanced network security mechanisms. The hardware design is compliant with railway regulations for installations on lightweight and high-speed trains or trams.

Teldat APR2044ax: an access point specifically designed for WLAN applications in railway environments. With a view to providing onboard wireless connectivity, it can be installed in vehicles such as trams and is expressly designed to comply with demanding railway regulations. Its two radio modules offer dual-band Wi-Fi connectivity simultaneously, which means you can connect next-generation devices to the 5 GHz band. It also supports advanced Wi-Fi functions such as multiple SSIDs, different access levels, logical separation, and prioritization and QoS systems.

Cybersecurity solution: provided by Teldat and able to detect and predict intrusion (IDS-IPS). In addition, it provides protection against known malwares using threat intelligence and can identify thousands of applications (including cloud applications) to perform a deep inspection of network traffic. It uses dynamic analysis for protecting against unknown attacks and provides automated mitigation to stop targeted attacks.

The client also has access to **Teldat's CNM** management system, allowing it to control onboard devices from a central location.



Results

The client obtained the following results after implementing the solution proposed by Teldat:

- Increase in competitiveness and the range of services offered to passengers.
- Thanks to Wi-Fi, an opportunity to further enhance user experience by establishing onboard entertainment systems, etc.
- Cost savings thanks to the Wi-Fi 6ax's ability to establish

connections even when the passenger density is high, and because only one access point needs to be installed in each tram car (rather than two).

- Cybersecurity guarantee for its entire network and its passengers' connections.



Why Teldat

The client was already aware of Teldat's expertise in the world of IP networks and cellular interconnections after working with Teldat on previous projects in other parts of the world.

Similarly, the client had already experienced the high-quality service and technical support provided by Teldat.

Teldat has been in the telecommunications sector for more than 40 years and is a benchmark in terms of quality solutions. Its ability to offer a holistic hardware/software solution covering Wi-Fi connectivity and cybersecurity also made Teldat the perfect partner for this project.

España

Teldat S.A.
Parque Tecnológico de Madrid
Tres Cantos – 28760
Madrid (Spain)
Phone: +34 91 807 6565
info@teldat.com

Datos de contacto de nuestras oficinas comerciales en www.teldat.com

Alemania

bintec elmeg GmbH
Suedwestpark 94. 90449
Nuremberg (Germany)
Phone: +49 911 9673 0
info@bintec-elmeg.com