

Press Factsheet

Kontron Transportation GmbH

Kontron Transportation GmbH is a global leading supplier of dedicated end-to-end communication solutions for mission-critical networks, that offers tailor-made solutions to support its customers with their communication challenges.

The company's focus is to produce, transport and process voice, data and video information reliably and securely in an efficient and sustainable way. The core product portfolio includes GSM-Railways, FRMCS (future railway mobile communication system), MCx (mission-critical over public networks), 4G/5G public network solutions and IIoT solutions focusing on data processing. Main customers are railways and public transport operators all over Europe.

Kontron Transportation drives the evolution into the next generation of broadband solutions for mission-critical networks, for instance as an associated member of the European research initiative Shift2Rail.

The company has more than 450 employees, 10 sites all over Europe and is headquartered in Vienna.

Long-term trusted partner for railways

As trusted and long-term partner Kontron Transportation delivers its projects with an ideal balance between protecting investments and sustainable evolution of networks. With its approach Kontron Transportation actively contributes to the European green deal for sustainable and smart mobility.

The core business focuses on in-house solutions for railways, public transport, utilities and telecommunication companies as well as other industries with mission-critical demands all over Europe, complemented by a partner ecosystem. As a manufacturer and system integrator Kontron Transportation is combining technical trends with state-of-the art technologies and expertise.

Kontron Transportation serves more than 50 railway customers, among them some operating the largest IP-ready railway communications networks in the world, based on GSM-R standard. Austrian Railways (ÖBB), Deutsche Bahn, Network Rail, SNCF Réseau/Synerail, Správa železnic (SZDC) and Société du Grand Paris (SGP). To its core markets (in alphabetical order) belong Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Ireland, Luxembourg, Spain and the United Kingdom.

Driver of the next generation in future railway mobile communication

To remain at the forefront of innovation Kontron Transportation invests in research & development and drives the evolution into the next generation of broadband solutions for mission-critical networks. At the R&D centers in Vienna and Paris, Kontron Transportation develops next generation systems, applications and services as well as solutions for operational and business support systems.

The company continues its lead contributor role in standardization working groups and European research projects, which help to identify the best solution for today's and tomorrow's requirements. It also has a driving role in the European rail joint technology initiative Shift2Rail, which aims to drive innovation to the rail sector. In detail, the company is helping to develop a highly secure next generation of railway mobile communication system, which will help operators to manage more traffic on their networks, and to raise the competitiveness of European railway solutions and products globally.

Kontron Transportation is one of the driving forces in the definition and specification of FRMCS standards. The company is closely working with international bodies such as the Union of Railways (UIC), the European Telecommunications Standards Institute (ETSI), the European Railway Agency (ERA) and joined the European Rail Industry Association (UNIFE). Michael Mikulandra, Head of products at Kontron Transportation, also is currently the chairman of the UNITEL committee within UNIFE. Kontron Transportation participates in 3GPP working groups, which represent an important milestone on the way to the industrialization of FRMCS as part of the newly planned European Technical Specification for Interoperability (TSI).

Modern mission-critical network solutions

The core product portfolio includes GSM-Railways, FRMCS (future railway mobile communication system), MCx (mission-critical over public networks), 4G/5G private network solutions as well as IIoT solutions focusing on data processing. The fundamental basis for product development is the international standards for mobile communication 3GPP and ETSI. All products meet the defined requirements and are ready to use. With firm and dedicated focus on the railway market the company also develops tailor-made products and solutions, which fully address and satisfy customer needs.

The service capabilities include research & development, design, commercial and technical operation and maintenance, installation and commissioning as well as system integration and general contracting. As a system integration specialist, Kontron Transportation brings together its customers' subsystems and ensures that they work together smoothly.

Focus at Innotrans 2022:**Partner for railways on their way to FRMCS**

With its unique railway communication expertise, Kontron Transportation safely leads its customers from GSM-R to FRMCS and ensures, that the life cycle meets the customers investment cycle. Having a look on the next few years, railways will set a first step into FRMCS, and Kontron Transportation will be by their side. The company works with customers individually on migration plans and has a plan for every customer. Kontron Transportation paves the way for its customers and introducing them to FRMCS by communicating and explaining the subsequent steps.

Along this smooth transition towards FRMCS, Kontron Transportation took the long-term support engagement for the GSM-R technology until 2035 and beyond together with its customers. That means to continue the GSM-R portfolio in line with railway standards and customer specific requirements. The company pursues an IP evolution with fundamental requirements for mission-critical services and commits to its long-term support until the customer's FRMCS network becomes operational. Highest priority is to protect the customers already done investments on their path to FRMCS.

Kontron Transportation started to make the introduction of this new technology to rail customers in Europe a few years ago. To make the switch from GSM-R to FRMCS as easy as possible Kontron Transportation guides each customer with a tailor-made solution to the future communication system. The company's portfolio is end-to-end innovative, driven by new standards, best-of-breed, future-proof, safe and secure.

MCx

Based on the future FRMCS standardization 3GPP and ETSI, the Kontron Transportation MCx solution extends obsolete analog radio communication means with modern "state of the art" train radio functionalities.

The private 5G networks of the Main Lines are used as transport medium for the MCx application with GSM-R features such as single call, group call and train emergency call.

For Secondary Lines, which cannot build their own infrastructure due to high investments, Kontron Transportation has developed the MCx OTT (Over the Top) solution. Here, the networks of the public providers are used as transport medium for the own MCx application with GSM-R features.

Both solutions are based on the future FRMCS standardization (3GPP, ETSI). The Kontron Transportation MCx solution extends obsolete analog radio communication means with modern state-of-the-art train radio functionalities, without the need to develop an own infrastructure.

Kontron Transportation offers the solution as a "hosted solution" in a data center or as a server solution in the railroad's own IT departments. Private 5G IP-68 industrial-grade smartphones with

an MCx client, IP-enabled Dispatchers with several modern user interfaces, and private 5G capable cab radios, that follow the FRMCS standard, serve as end devices.

Next-Gen Dispatcher

The Next-Gen Dispatcher of Kontron Transportation is a future-proof, standards-based dispatching solution for existing and future rail networks. It supports individual and user-tailored applications for rail operations. It combines point-to-point, group and broadcast call functions with message-based communication, such as chat with data transfer, SMS, SDS and emergency alarm. In addition to the existing functionalities such as individual call, group call or train emergency call, the dispatcher also provides further intelligent innovations. For example, a geographical map is provided, which makes it possible to detect the individual trains based on their GPS coordinates and display them on the map. This helps the Dispatcher to detect possible radio gaps on the track at an early stage and to initiate appropriate measures. Additional call lists, mails and predefined messages help to send recurring news quickly and effectively. The Dispatcher's key display is freely programmable and assignable, ensuring an individual configuration adapted to operational requirements.

Cybersecurity concepts

Security is at the forefront of Kontron Transportation's activities and has become an essential element in refining processes, designing and developing new products and supporting the solutions deployed in customer networks.

4G/5G private network solution

The Kontron Transportation 4G/5G private network solution is tailor-made and offers innovative applications based on cybersecure and reliable state-of-the art products with differentiating specific features for mission-critical networks. Mission-critical customers benefit from an accelerated time-to-market for digitalization and connectivity solutions, reduced total cost of ownership, customer-oriented product lifecycle and a fully integrated and advanced product portfolio.

The 4G/5G private network solution allows a fast deployment of a PS-LTE network for small to medium coverage areas (ex: shunting area, level crossing, airport, port, construction site, and many more) to replace, modernize or interconnect to an existing PMR or TETRA network. It includes a 3GPP standard based and certified MCx application framework capable of addressing security and prioritized access requirements with superior service quality and comprehensive pre-emption features required for point-to-point, emergency and group mission-critical communication.

The 4G/5G private network solution finally offers the capability to interwork with legacy networks and multiple devices and is easily expandable through addition of radio access nodes to allow a larger network coverage.

NEW: Kontron Transportation RAN Portfolio - new radio designed for mission critical solutions

RAN is a sub-system of the completely new portfolio, aiming to support next generation of wireless technologies, such as 4G/5G private networks and railways FRMCS (5G) and is complemented by all core software solution and applications.

The new Radio Access Network (RAN) solution represents the continuity of product leadership that Kontron Transportation has demonstrated for decades in mission-critical networks. Starting with telecom applications for railroads, such as GSM-R, MCx, 4G/5G Private Networks (as an alternative to Tetra obsolescence) and in the future FRMCS.

This new radio product line adopts an architecture where the baseband and the radios are separated in order to address versatile installation options – indoor and/or outdoor.

The RAN is a subsystem of the new Kontron Transportation portfolio, which is designed to support the next generation of mobile technologies such as 4G/5G private networks and railroad FRMCS (5G). It is complemented by all software core and application solutions and dispatcher.

In continuity to the Kontron Transportation telecom solutions for railways, the RAN product line delivers specific functionalities such as whitespace for technology coexistence and smooth migration from GSM-R, intelligent handover and FRMCS features set within MCx standards.

Kontron Transportation briefly

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| Company | Kontron Transportation GmbH |
| Headquarter | Vienna, Austria |
| Business activities in | >25 countries |
| Employees | 450 |
| CEO, COO | Michael Riegert, Bernd Eder |

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