RAN Product Portfolio

New Radio (NR) designed for mission-critical solutions

- Designed for 4G/5G private networks & 5G/FRMCS – 3GPP based
- Complementary to 4G/5G Core & MCx Kontron Transportation product portfolio
- Hardware platforms technology agnostic – 4G to 5G by software upgrade
- Reliability and system availability as key attributes
- Extended product life cycle

kontron
The Power of IoT

RAN Solution Highlights

Ready to support the next generation of wireless technologies

Kontron Transportation is a global leading supplier of dedicated end-to-end communications solutions for mission-critical networks.

Our RAN solution is 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 with FRMCS.

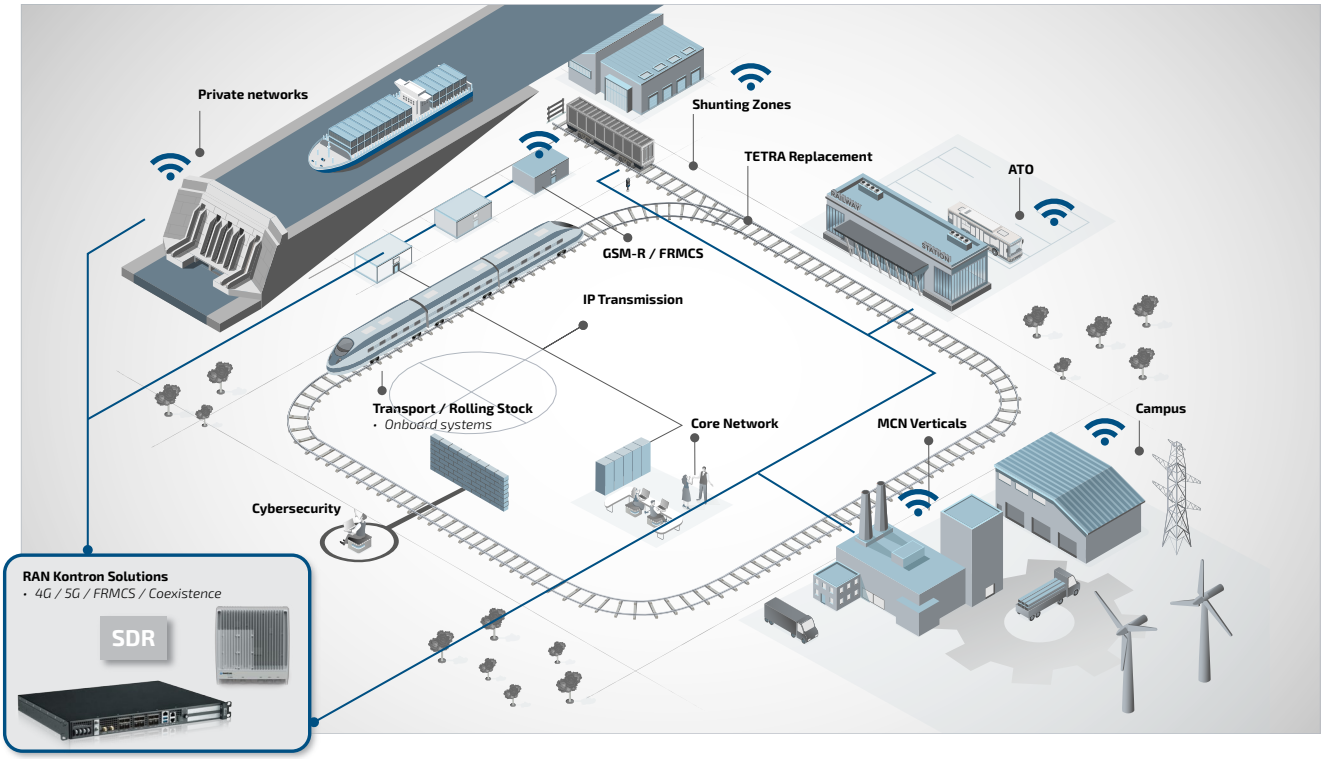
Our new radio product portfolio adopts an architecture where the baseband and the radios are separated, in order to address versatile installation options – indoor and/or outdoor.

RAN is a sub-system of our complete new portfolio, aiming to support the next generation of wireless technologies, such as 4G/5G private networks and railways FRMCS (5G) and is complemented by all software core and application solutions. In continuity of our telecom solutions for railways, our 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.

RAN Solution Use Cases Overview

Designed for versatility

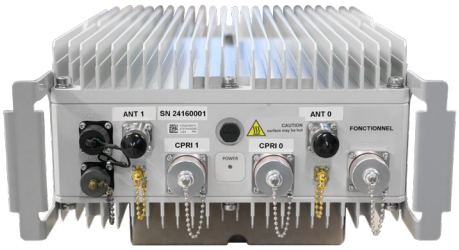
- Our new Radio Access Network can be deployed in a multitude of scenarios/required applications, with their own specifications
- Frequencies managed via dedicated radio units (RRH)



Technical Information

Baseband Unit (BBU & CU/DU)

PROCESSOR	Intel® Xeon® Processors; Intel® QuickAssist Technology (Intel® QAT) Intel® Advanced Vector Extensions 512 (Intel® AVX-512); Built-In Intel® Virtualization Technology CPU options D-2187NT 16C/2.1Ghz, D-2796NT 20C/2.0 GHz, D-2899NT 22C/2.2 GHz
MEMORY	F8x DDR4 DIMM sockets, 4 channels @ 2667 MHz support up to 512 GByte
STORAGE	2x M.2-2230/2280/22110, up to 960 GByte (SATA or NVMe); Support RAID 1
PLATFORM	Built for RAN application and MEC computing – x86 Kontron Hardware platform 12x10G/6x25G integrated switch Intel® Xeon®-D 16 cores Native x86 4 G/5 G (NSA/SA) 3GPP R16 stacks (including PHY) for smooth lifecycle Support TDD, FDD, dual TDD/FDD, 900/1900, White Space 5GNR/GSM-R, Dual connectivity…
FRONTHAUL & SYNCHRONISATION	Supports 4x CPRI ORI links with PCI Interface Boards (4G split 8.0), Planned support of eCPRI ORAN (5GNR split 7-2 or 8) supports GPS and 1588v2/SyncE
ENVIRONMENTAL/DIMENSIONS	Operating temperature: -40 °C to 65 °C 1U x 13.5 in. (355 mm) deep and designed to be mounted in a 19" standard rack Operating Input Voltage options: -48 V DC (-40 VDC to -57 VDC); AC 115/230V 50/60Hz (-5 °C to 65 °C) Outdoor version option Dual PSU, DC, options Outdoor version option



Remote Radio Head (RRH & RU)

PLATFORM	Common Platform for Mission Critical networks and Railways applications 2x 2 MIMO (stackable 4x4) or 4x4 MIMO Power ranging between 250 mW up to 20 W per Port (30 W port planned for FRMCS deployment) 2x CPRI ORI TDM with split 8.0 Ran (for 4 G) HW ready for eCPRI ORAN with split 7.2 or 8 (for 5GNR) Embedded GPS receiver/IEEE 1588 v2 (for eCPRi) Various bands 4G/5GNR PS/FRMCS with reduced spectrum B1, 2, 3, 5, 7, B8/n100(WS), 14, 20, 28, 68, 30, 38, B39(N39/n101), 40, 41, 42, 4 G/LTE and 5G NR support External Alarms planned for FRMCS deployments
POWER SUPPLY	Dual PSU – isolated DC -36 to -58 – Power consumption 350 W max planned for FRMCS
ENVIRONMENTAL/DIMENSIONS	Outdoor product IP67 when installed Operating temperature range -40 °C to +55 °C Various form factors and dimensions
REGULATORY	CE Marking – ROHS – WEEE - REACH

About Kontron Transportation

Kontron Transportation GmbH is a global leading supplier of end-to-end communication solutions for mission-critical networks. The core customer segment is railways throughout Europe and beyond.
The focus is on systems that produce, transport, and process voice, data, and video information reliably, securely, efficiently, and sustainably. This includes GSM-Railways, FRMCS (future railway mobile communication system), MCx (mission-critical over public networks) with IWF (interworking functions), enhanced radio solutions and radio access networks, transmission networks, private cloud platforms and cybersecurity concepts round off the portfolio. This portfolio also offers selected communication products to utilities and enterprises. In addition, specific mobility products such as validators and fare collection systems are provided to public transport operators.

As a driving force in the definition and specification of FRMCS standards, Kontron Transportation is significantly involved in standardization working groups and European research projects such as Morane2.
The company has more than 700 employees, 11 sites all over Europe and is headquartered in Vienna.

Kontron Transportation is part of Kontron Group.

For more information, please visit: **www.kontron.com/ktrdn**

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