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

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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.
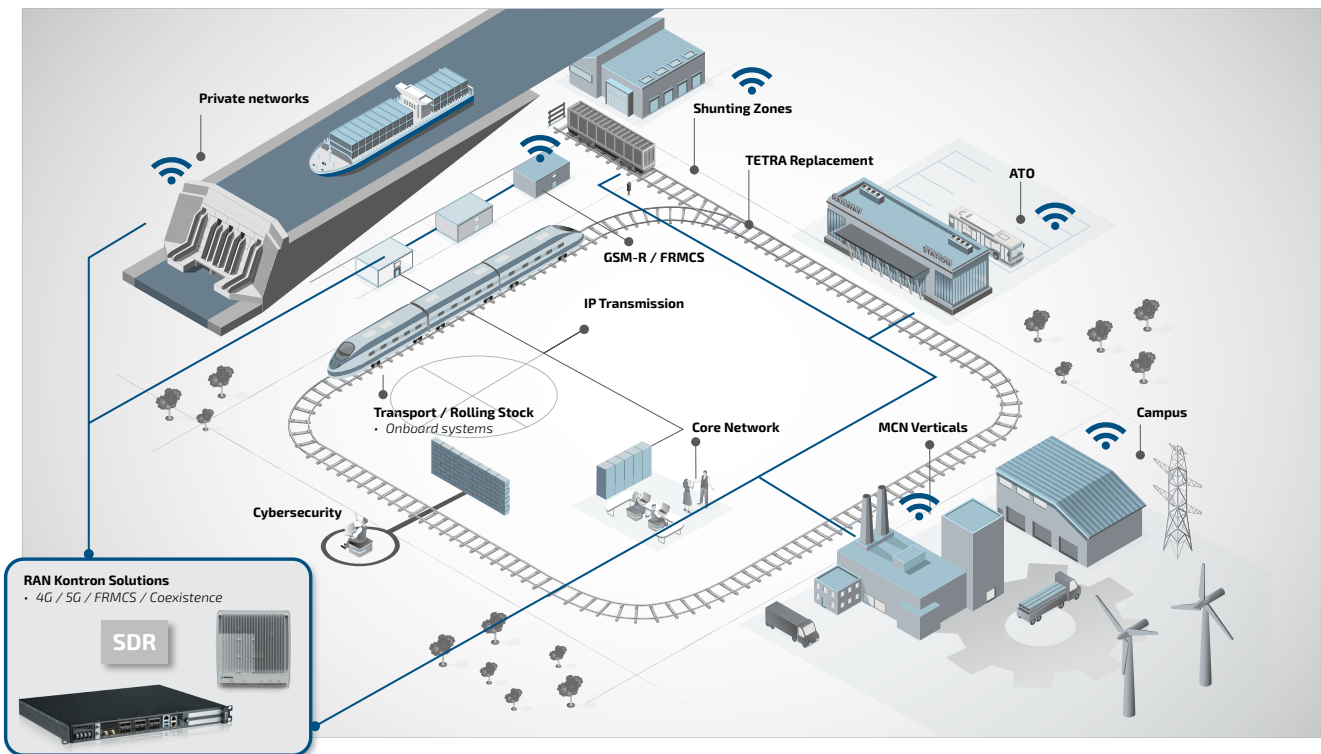
RAN is a sub-system of our complete new portfolio, aiming to support the next generation of wireless technologies, such as 4G/5G private networks and railways FRMCS (5G) and is complemented by all software core and application solutions. In continuity of our telecom solutions for railways, our RAN product 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® D-2100 Processor Skylake Architecture; Intel® QuickAssist Technology (Intel® QAT); Intel® Advanced Vector Extensions 512 (Intel® AVX-512); Built-In Intel® Virtualization Technology Available CPU options D-2187NT 16C/2.1 Ghz 110 W (QA)
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 links with PCI Interface Boards (4G Mode 8.0) Supports 2x eCPRI (5GNR mode 7.x) Supports GPS and 1588v2/SyncE RRH 4 G synchronized via CPRI Links
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
POWER	ATX (Multirail) plus 4-pin socket (12 V for CPU)

Remote Radio Head (RRH & RU)

PLATFORM	Common Platform for Mission Critical networks and Railways applications 2x 2 MIMO 20 W per Port (30 W per port planned for FRMCS deployment) 2x CPRI ORI TDM with split 8.0 Ran (for 4 G) 2x eCPRI with split 7.2 O-Ran (for 5GNR) Embedded GPS receiver/IEEE 1588 v2 (for eCPRi) For bands 4G/5GNR PS/FRMCS with reduced spectrum B1, 2, 3, 5, 7, B8/n100(WS), 14, 20, 28, 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 250 W max planned for FRMCS
ENVIRONMENTAL/DIMENSIONS	Outdoor product IP67 when installed Operating temperature range -40 °C to +55 °C Dimensions (mm): H x D x L = 148 x 200 x 295 mm
REGULATORY	CE Marking – ROHS – WEEE - REACH

About Kontron Transportation

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 companys 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 is part of the Kontron group, has more than 650 employees, 12 sites all over Europe and is headquartered in Vienna.

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

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