PS-LTE KICKSTARTER

Designed for Mission Critical Networks

PS-LTE KICKSTARTER solution

- Ready to use compact LTE platform in a compact 19" smart rack
- Capable of operating within the 2.6GHz spectrum band in TDD mode with support of different frame configurations, including configuration 0 (for more uplink capacity)
- Mission Critical Push to Talk (MCPTT) mobile application and dispatcher based on 3GPP MCX standards
- Optionally expandable and deployable in different LTE frequency bands

POSSIBILITIES START HERE kontron S&T Group

PS-LTE KICKSTARTER

Kontron Transportation, a S&T Group company, is a global constructor and developer of end-to-end communications solutions for mission-critical networks. Our highly specialized and innovative technologies, products or services cover the entire value chain, from planning, developing and producing to deploying, maintaining and operating.
Leveraging the long-standing expertise in 2G and 2.5G Private Mobile Radio technology for the Railway environment (PMR GSM-R) and the group's leading position in Embedded Computing Technology (ECT), Kontron Transportation has strategically extended its portfolio to address Public Safety Long-Term Evolution (PS-LTE) use cases as well as the next generation of mission-critical networks and proposes a tailor-made solution and innovative applications based on cybersecure and reliable state-of-the-art products with differentiating specific features for mission critical networks. As a result, mission critical customers benefit from an accelerated time-to-market for digitalization and connectivity solutions, a reduced total cost of ownership, a product longevity and the best fully integrated applications overall.

The PS-LTE Kickstarter platform allows a fast deployment of a 4G PMR network for small to medium surface areas (ex: shunting area, level crossing, airport, port, construction site, and much more). It includes a 3GPP standard based and certified MCX application capable of addressing security and prioritized access requirements with the best quality of service and pre-emption features necessary for point-to-point, emergency and group Mission Critical Communication.

The PS-LTE Kickstarter platform finally offers the capability to interwork with legacy network and multiple devices and is easily extensible through addition of radio access nodes to allow a wider network coverage.

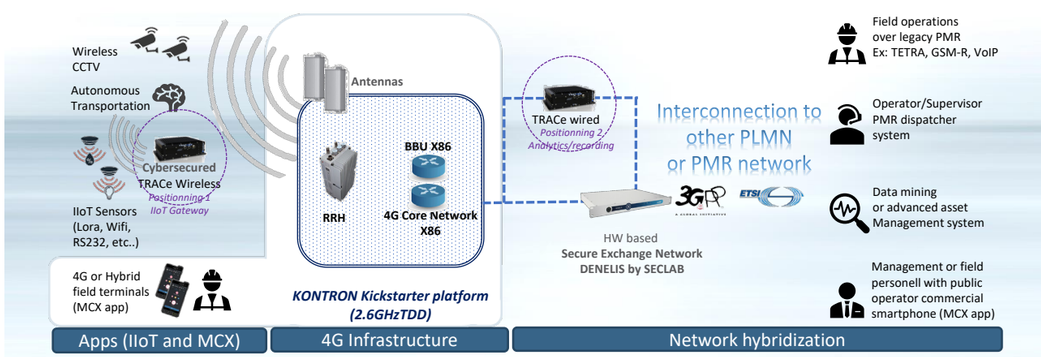
TECHNOLOGY

The Kontron PS-LTE Kickstarter platform, delivered in compact mobile rack, is offering an end to end PS-LTE framework highly suitable to limited surface areas in its basic configuration. The current version V1.0 of the platform is compliant to 3GPP Rel 14 standards and is constantly enhanced with 3GPP Rel 15-16 contents and evolutions.

The Kontron PS-LTE Kickstarter platform is customizable and expandable depending on customer's choice of implementation and specific needs. Quickly deployable either in permanent or temporary location and easy to set up in standalone configuration, it offers state of the art MCX communication services and supports different frame configuration in TDD mode, including the frame 0 configuration which brings additional capacity in uplink direction.

In its extended configuration it can operate under a large range of frequency bands. With support of its ANSSI certified Secure Exchange Network feature, it can also interconnect to other PMR networks (TETRA, GSM-R, VoIP,...) or other PLMN in order to allow hybridized communication.

COMPONENTS



The default PS-LTE Kickstarter platforms includes:

- 3 Remote Radio Heads (RRH) operating within the 2.6 Ghz* spectrum band and antennas – (other frequencies are optionally available on demand)
- 1 Base Band Unit (BBU) based on x86 platform
- 1 Core server unit based on x86 platform including all core software solution and applications: IMS, EPC, MC-PTT, Dispatcher

Depending on customer needs, the platform is optionally expandable with various applications and extension kits.

Devices and accessories
Kontron proposes various add-on products from ruggedized terminals to IoT sensors for use with the Kontron edge computing TRACe™ platform for Industrial IoT applications leveraging the PS-LTE network as transport medium.

Cybersecurity
An innovative Secure Xchange Network solution, based on uncompromising hardware solution rather than vulnerable software solution and smarter than Data Diode can be easily integrated as an option based on the ANSSI certified DENELIS™ platform (SXN) from SECLAB.
Number one solution for critical file exchanges, SXN is a hardware-enforced cross-domain gateway designed to allow controlled data exchanges (files and flows) between the PS-LTE PMR network and the customer's IT environment to prevent any attack from corrupting the protected network.

Analytics
The Kontron ruggedized edge computing TRACe™ platform for Industrial IoT applications is available in various form factors and used to retrieve, record and analyze operational or mission critical data.
The TRACe™ platform can be fitted with PS-LTE access module supporting TDD mode in frame 0 configuration in which brings additional capacity in uplink direction (ex for large data or video transfer usage).

PRODUCT DETAILS

ACCESS COMPONENTS

The Kontron Access solution is composed of a Base Band Unit (BBU) and three Remote Radio Heads (RRHs). The industrial computer based BBU can be installed in communication room or outdoor in cabinet. The outdoor unit RRH can be mounted on a wall or on a pole.

CORE COMPONENTS

The Kontron Core solution is composed of a single common hardware platform on which all software functions are deployed on a virtualized environment: EPC, Core IMS and Application Server are running on Red Hat Linux- compatible off-the-shelf server hardware platforms.

EPC
The Kontron Evolved Packet Core system (EPC) is based on 3GPP all-IP System Architecture Evolution (SAE) and provides a converged framework for packet-based real-time and non-real-time services. The Kontron EPC solution includes MME, S-GW and P-GW functions on the same hardware.

Core IMS
VICT (Versatile IP Core Tailored) IMS/SIP database and core are part of this ecosystem, tailor-made by Kontron to enable mission critical voice communication services.
The VICT IMS is the network component of an overall Mission
Critical Network architecture where the SIP core and HSS network node functionality resides.

Application Server
The main functions of the Kontron Application Server (AS) are Call Control, Policy Control and Resource Function (PCRF), Configuration and Identity Management, and Key Management, constituting the base for MCX and Dispatcher services.
The Dispatcher application server provides Dispatcher specific features and business logic and allows the Dispatcher an extended range of functions such as dynamic re-grouping.

APPLICATIONS AND TERMINALS

The basic offer for Kontron PS-LTE Kickstarter platform includes MC-X and NextGen Dispatcher licenses. The MC-X application can be installed on either terminals proposed by Kontron Transportation or compatible customer handsets.

MCX App
MCX App is a multi OS (Android, iOS, Linux) compatible next generation client application for Kontron converged FRMCS and PS-LTE solution with mission critical common services, which supports mission critical communication including mission critical push-to-talk (MCPTT), mission critical data (MCData), and mission critical video (MCVideo).

Mobiles and SIMs (optional)
Kontron works with reliable partners to complete its end to end solution with end user devices. Solution can include Sonim XP8, an extremely rugged mobile handset enabling real-time voice and data collection and connectivity for workers in demanding and harsh environments, as well as provisioned SIM cards.

Dispatcher terminals
The Dispatcher terminal units MD-Ti15 and MD-Ti10 are compact and have a small footprint on the desktop. The client applications are largely hardware independent, which greatly reduces lifecycle costs. For mission critical networks, the MCN. dispatcher is a future-proof solution. In addition to the MCX call, data and video services, the MCN.dispatcher also provides a large set of supplementary services. The MCN.dispatcher gives the user the freedom to log on to any terminal and take over the corresponding roles of its functions (roles management).

IMPLEMENTATION MODELS

Transportation (airports, railways, public transports, ports and container terminals, etc…)

Use case: The customer is looking for a solution to replace obsolete PMR communication systems such as TETRA and at the same time wants to implement a broadband network that can be used to support various additional services, like remote monitoring and maintenance at specific areas such as level crossing, shunting and other localized operations fields.

Energy (nuclear & hydraulic power plants, oil & gaz) and factories

Use case: Power plants are often still using multiple narrowband communication technologies which are not able to deal with new use cases (video streaming, increasing numbers of sensors). The PS-LTE Kickstarter platform will bring quick and easy implementation benefits with its standard form factor and very limited footprint. It also permits a secured multi core architecture model deployment which will help the customer to ensure autonomy and resiliency and brings network interworking.

Logistics, local authorities and communities

Use case : The customer is looking to implement and operate a private broadband network that will allow MCPTT communication (voice, video and data) and to deploy IIoT solutions for monitoring, tracking and control of assets.

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