



MissionX

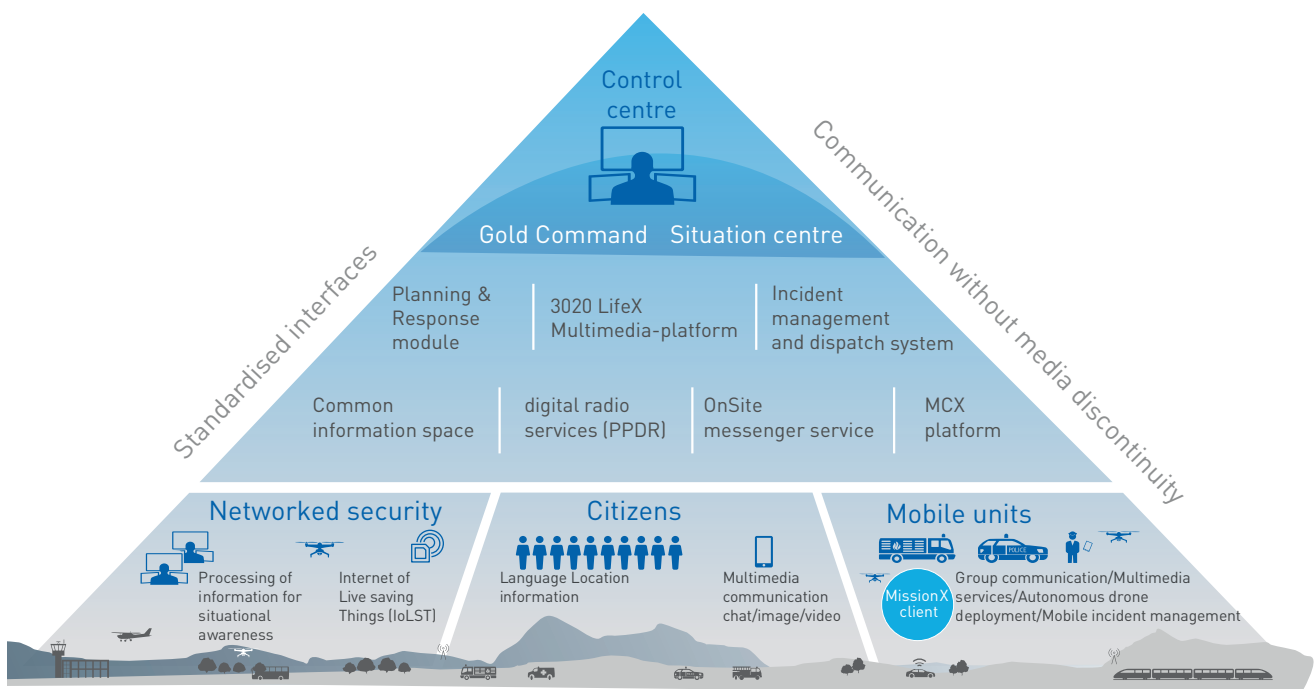
3GPP-standardised solution for mission-critical communication over 4G/5G mobile networks

Mission Critical Broadband makes it happen: Multimedia in the control centre and for first responders in the field

The all-IP network changeover has initiated a paradigm shift – both on the part of citizens, addressed by NG112 (by EENA/ETSI), and the emergency management services, addressed by MCX (by 3GPP/ETSI). The future of mobile mission-critical communication will be broadband and will enable PPDR organisations to use standardised solutions from different manufacturers. The availability of public or dedicated 4G/5G mobile networks and multimedia, mission-critical as well as incident-support applications (database queries, group communication, video communication, operational data, chat, ...) will enable highly efficient and secure communication between control centres and emergency responders in the future.

Based on standard 4G/5G mobile networks, multimedia mission-critical data services will support crucial features such as situational awareness, position tracking, distribution of images or live video streams. Multimedia can be received and shared securely by first responders from any

authority thanks to MissionX providing high-level interoperability, connecting even with third-party systems. MissionX has the potential to provide efficient support to decision-making processes in the field as well as in control centres during an incident.



Public Safety eco-system for mission-critical communication and multimedia services

Standardised interfaces as a success factor

For high-priority, interoperable, reliable and secure data exchange over standard 4G/5G mobile networks, MissionX implements the international standards of 3GPP (3rd Generation Partnership Project), an international association for the standardisation of mobile communications systems.

The 3GPP-defined Mission Critical Services include applications such as “Mission Critical Push-to-Talk” (MCPTT), “Mission Critical Video” (MCVideo), “Data” (MCData) and all required management services (MCX). MissionX also enables InterWorking with TETRA, and supports all TETRA-Vendors.

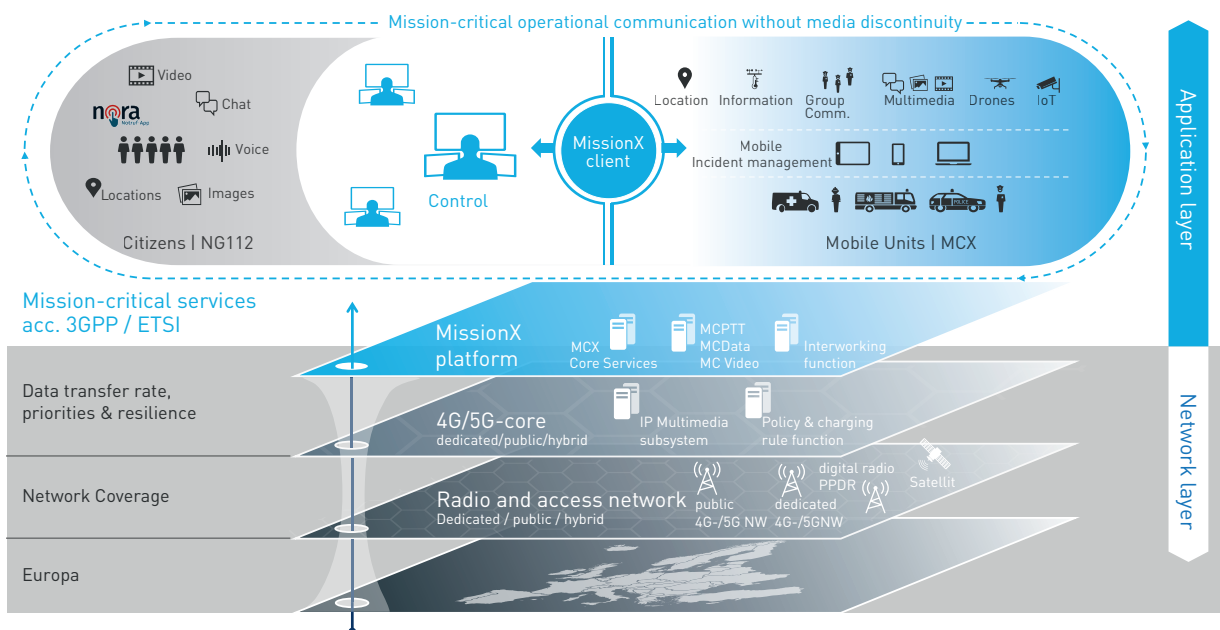
MissionX – 3GPP standardised solution

MissionX is an integrated, end-to-end solution based on Mission Critical Services (MCS/MCX) as defined by 3GPP, which reliably ensures mission-critical multimedia communication over public, dedicated and hybrid standardised 4G/5G mobile networks provided by various network operators.

The MissionX E2E solution consists of three main components – the core components, the mobile client applications of the MissionX platform, and the control centre client applications. All components communicate via the standard interfaces defined by 3GPP MCX.

Third-party vendors of mobile applications or control centre solutions can be used in exactly

the same way as the applications contained in the MissionX solution, as long as they comply with the 3GPP MCX standard. The MissionX solution architecture meets the most stringent specifications for mobile mission-critical broadband communication, especially the high requirements for system availability and reliability, resilience, using sophisticated security concepts, and a new concept on data ownership for multi-tenant solutions.



MissionX Solution

MissionX platform – a multi-vendor enabler

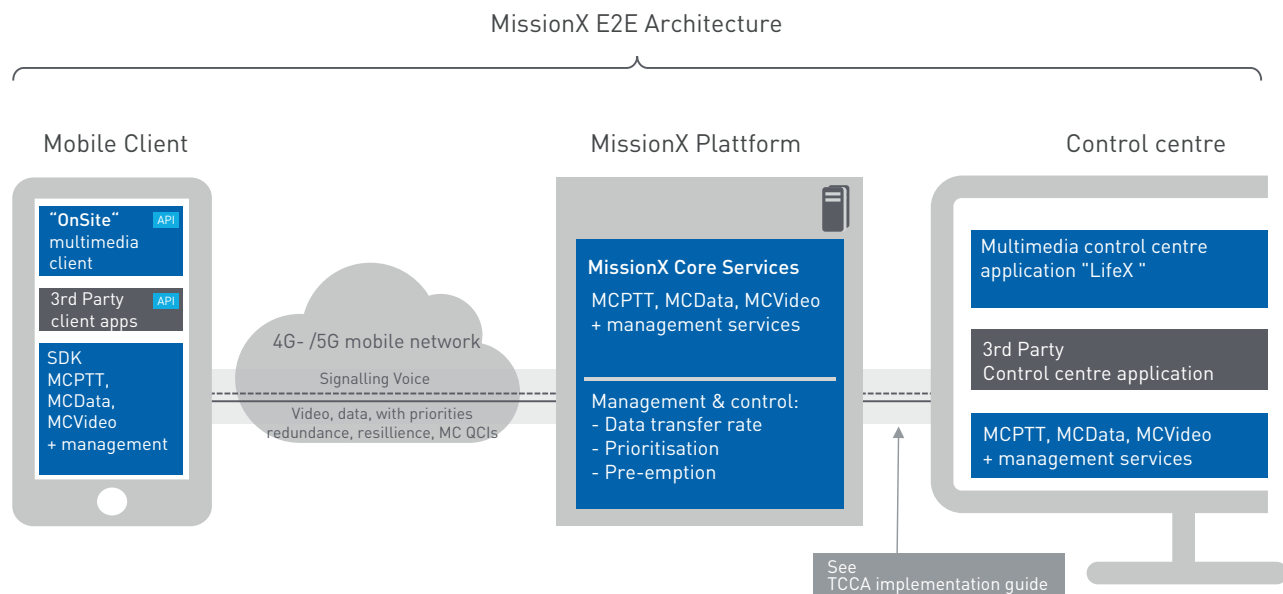
The MissionX platform provides the MCX application services for MCPTT, MCData and MCVideo. Furthermore, all requirements for secure data communication are ensured for each connection using the standardised E2E encryption mechanisms, procedures and interfaces provided by MCX for 4G/5G core network. The integrated “InterWorking Function” (IWF) specified in the 3GPP standard means that the Frequentis MissionX platform is already prepared for cross-technology, mission-critical communication with existing systems (e.g., TETRA, P25) and broadband mission-

critical communication networks based on 4G/5G technologies. All standard IWF IFs are already provided on the MCX Servers of MissionX. This solution has already been tested with individual P25 and TETRA providers. Groups and rights assignments from the existing systems can also be inherited by MissionX’s managing services to ensure cross-technology and cross-network communication during the migration phase. The MissionX platform can be connected to other 3GPP-compliant MCX solutions if an organisation is pursuing a multi-vendor policy.

Mobile client – implementing diversity in client apps

The Frequentis “OnSite” mobile client provides MissionX services for first responders. In addition to the standard MCX functions, the development of additional mobile apps is supported by a Software Developer Kit (SDK).

This enables the efficient integration of existing applications and new developments into the MissionX E2E solution and ensures a standardised transfer to the MissionX core services.



MissionX E2E architecture: from mobile devices to the control centre

Control centre client

The third core component is the Frequentis MissionX control centre client LifeX, a multimedia communication service developed specifically for mission-critical communication. A third-party control centre client can also be connected to MissionX as long as it complies with the 3GPP MCX standard. This enables all multimedia deployment communication (group calls, text, image and video transmissions, various database queries, etc.) to be conducted within one incident processing tool. All communication is recorded chronologically in LifeX and is displayed

to the user in graphical form. The mission communication can be called up and supplemented by users at any time until the end of the incident.

Frequentis supports customers with the integration of customer-specific data sources.

The Frequentis LifeX control centre solution also enables group patching of MCX, TETRA and P25 call groups to support the transition of networks as an alternative to 3GPP MCX IWF (InterWorking Function).

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