

Fire Brigade Deploys a Private 5G Network for Secure Communications

Athonet mobile core supports transportable communications network that federates with other fire agencies



Note: This picture is not representative of end-customer

One of our system integrator partners provides IT services for defense, fire, and security organizations.



GOVERNMENT

the challenge

The fire brigade needed a 5G autonomous network of mobile coverage, hosted on the fire engine, that would operate anywhere the team traveled. In addition, the solution needed to federate easily with different bubbles hosted on vehicles from other fire brigades, interconnected through a backhaul system, to create a single federated communications layer.

The goal was to provide a quick and secure communications network a fire brigade could rely on as it moved to different incident sites.

the solution



PRIVATE 5G-SA CORE



IMS FOR INTERNAL VOXX COMMUNICATION AND MC-PTT



CGW (CHARGING GATEWAY)



MC-PTT: MISSION CRITICAL-PUSH TO TALK

the result

- 5G-SA autonomous bubbles hosting 5G-SA Cores
- Voice over New Radio support and Push To Talk functionalities
- Dynamic federation capability between multiple bubbles interconnected
- Immediate coverage in any location and situation
- Possible to remotely monitor the on-field situation and coordinate the tasks

INTRODUCTION

The system integrator supplies communications networks to fire brigade. The fire brigades move from site to site as conditions demand, and they use mobile devices to communicate effectively with fire brigades from other jurisdictions as they team up to fight a fire. They selected an Athonet mobile core and related equipment integrated by Elbit Systems to provide a solution to meet their requirement.

DESCRIPTION

The system integrator deployed a private 5G/LTE network based on an Athonet mobile Core. The 5G/LTE private mobile solution provides reliable broadband, low latency, and secure communications for M2M, video and voice services. It also enables different public safety organisations to share the same infrastructure while maintaining dedicated quality of service.

BENEFITS OF DEPLOYMENT

- **Application support:** Next-generation 5G functionality and performance, supporting communications and other data-hungry applications with low latency for mission critical activities.
- **Multi-brigade communications:** Ability to federate different vehicle network to dynamically create a larger virtual single bubble, increasing cooperation between units and extending overall coverage.
- **Push-to-Talk services:** Next-generation services enable complete control of group communication, multimedia sharing, real time geo-localization of personnel, and safety services like emergency calls and “man down” alarms.
- **Real-time images:** The network supports delivery of real-time images, information, localization from the field to headquarters and permits the response team to survey remotely what is happening in the field, reducing travel and related impacts on the ecosystem
- **Health and safety monitoring:** The network improves monitoring of the local activities and health status of the personnel via m2m communication, improving response times and increasing overall team safety.

CONCLUSION



The Athonet mobile core enables a private 5G network that delivers seamless federation of multiple fire brigade bubbles to facilitate site-wide communications among teams. The teams can communicate with high reliability and low interference, and the high bandwidth of the network supports next-generation applications for mapping and other functions.

The solution makes it easy to effectively monitor the deployment area in real time and to communicate easily between the various operators, making it possible to anticipate or promptly report potentially dangerous situations and to monitor the safety of operators and rescued people more effectively.

“During an emergency, reliable communications is essential. Having a robust network that can federate with other fire teams makes us more efficient and increases safety, both for us and for the people we are helping.”

— *Fire brigade commander*

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Athonet is a leader in private cellular network technology delivering a mobile core to enterprises and communication service providers to connect applications, devices and radios.

With more than 18 years of experience in delivering 4G/5G mobile core solutions to customers and partners in every region of the world, Athonet supports key industries where network control, mobility, security, performance, and cost are important for business outcomes.

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