



TCCA – Omdia Webinar

21 November 2023

The data-centric future of Public Safety communications – Mission Critical IoT

[View the webinar here](#)

Q & A

What is your understanding about the pace of IoT deployment in other continents, and are there any plans to expand the scope of the study beyond Europe?

Europe is taking a proactive approach to the adoption of mission critical IoT, but it is definitely not the fastest adopter worldwide. There are markets such as North America and Asia & Oceania that are driving the adoption of mission critical IoT. Also, they are generating much faster innovative applications and therefore we are seeing faster growing numbers in devices and solutions.

In terms of our strategic market analysis, the first stage was to analyse the European market. Stage 2 will cover Asia & Oceania and North America regions. Beyond that, we will finalise this study with the inclusion of the remaining regions, to create a global view.

Since Asia & Oceania and North America regions are showing faster adoption rates, we want to dive deeper and compare the dynamics and insights that are speeding up this demand, compare regulatory environments and challenging factors, and to understand novel use cases that could be replicated in other regions.

Interested parties should reach out to TCCA or Alfonso directly to collaborate in this effort. Every voice from stakeholders will provide a valuable angle that will help create the balance in the ecosystem of how we plan for future demand, how we create the incentive for the industry to generate commercially viable solutions, and how we make sure that in the very near future first responders are enabled with data centric IoT devices and applications.

Does your study consider the effect of 5G non-terrestrial networks (NTN) satellite-based 5G networks on mission critical IoT adoption in the future?

We are seeing Non-Terrestrial Networks (NTN) being a significant trend that will protect the coverage aspect and have an impact on the resilience of the network – not just in respect of IoT applications but also from a voice perspective. Satellite will help provide an extra level of coverage protection and support the required ‘connectivity anywhere’.

NTN are expected to play a crucial role in critical communications with the idea that they can support the existing critical infrastructure whilst addressing rural coverage limitations of terrestrial networks and thereby create almost ubiquitous coverage. This reliability of coverage will overcome



some of the adoption challenges of critical broadband and expedite the adoption of new use cases without any coverage restrictions.

In terms of the adoption of direct-to-satellite communications, despite the readiness of the standards, and the available technology, real large-scale adoption will happen once a mix of suitable business models are set in place for the public safety user community, across different governments and agencies. So, in terms of the timeline, NTN will definitely have an important impact, but the effects will be larger in the later years of the forecast window.

Do you see any changes in the regulatory environment based on the feedback you received, and how might that affect the forecast? And linked question: How is the security aspect for MC IoT addressed specifically with the growing security threats?

The regulatory environment can be seen as a double-edged sword – some people say that regulation will be the real sounding ground in order to make sure that the growth of the technology is scalable, secure and futureproofed; others see it as a little bit of an entry barrier. In the European framework there are a lot of examples of regulation at both at EU and national levels. Most of them are at an early stage, but they are targeting important areas including cybersecurity of sensors and IoT connections, and privacy of the data connections. Also creating a common definition for these IoT devices with of data-centric connections so they can support the use of high priority resources to make sure that the traffic generated is also considered mission critical.

We are seeing a lot of progress being made in vital areas around security that will have a very positive impact on the adoption of applications where privacy and security of data is critical – for example when dealing with video that public safety users will take of the public, guaranteeing the privacy and robust and secure storage of this information. This is paramount to bring these types of applications from promising ideas into a practical reality.

This study could feed into the work of TCCA's Legal and Regulatory Working Group and potentially trigger some related initiatives.

In terms of the mention of 'single connection to the vehicle' - did any agencies identify the need for multiple connections – maybe from a resilience perspective?

This study concluded that connected the adoption growth rate of connected vehicles but public safety agencies in Europe will exceed 20% CAGR from 2023 to 2030. Omdia forecasts that close to 80% of public safety vehicles will be equipped with cellular connectivity by 2030 in Western Europe and 65% in Eastern Europe.

Resilience and guaranteeing continuity of service is a key area that is taken into account during the adoption of connected vehicles and very important for all the agencies in the public safety community. Even though there are a high number of sensors within the vehicle, it is only one active connection at the time- and it is only these active connections that have been factored into the forecasts. However, there are multiple “redundancy” design methodologies identified that rely on a standby connection and fallback connectivity mechanisms to guarantee continuity of service under any circumstance.