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TCCA Critical Update Webinar

TETRA Critical Communications for Border Control and Defence

04 November 2026

Below are the questions from the audience not answered during the webinar, with answers provided by the presenters.

You can watch the recording of the webinar here

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1. **Can you confirm that all Emergency Organizations in Cyprus use the TETRA services? It is pretty unique in Europe and it is a great achievement...**

Yes, in the Republic of Cyprus all of our main emergency response agencies share one national TETRA network. Each agency has its own talkgroups for day-to-day operations. When they respond to an incident together, they can coordinate directly on a shared talkgroup. Bringing all those agencies together on one network was a real achievement for Cyprus.

2. **For MCX, what are the mitigations in place in a situation where the telcos infrastructure are destroyed during crisis or war? How can MCX continue to work and be used?**

From the end user's side, we plan on the assumption that parts of any network will go down in a crisis, whoever owns the sites. Power cuts, damage to sites and links, and jamming hit dedicated networks too. So the real question isn't whether one layer is perfect, but how many layers you have and whether your people know how to move between them.

In general terms the layers are: priority and extra resilience in the broadband network itself, agreed with the operator. The existing TETRA network for as long as it runs alongside broadband, deployable coverage and backup power that can be moved to where needed, with satellite links where the ground network is gone. And, when there's no network at all, radios talking directly to each other.

What we need now is that in devices we can actually buy, and as simple and reliable as the TETRA direct mode in use today.

One point isn't about technology at all: fallback arrangements only work if people practise them regularly.

Non-terrestrial networks (NTN), particularly low Earth orbit (LEO) satellite services, are a potential game changer for resilience. If terrestrial links are damaged, satellite can help reconnect surviving mobile sites or connect temporary ones. With proper integration, IP-based MCX services should work much as they normally do, provided users and applications can tolerate any additional latency, but that needs to be tested under realistic conditions.

In Norway, the technology has been available for some time and the market is moving quickly, but operational use is still limited. Many organizations still see satellite connectivity as an add-on. Making it a fully integrated capability means building it into how we plan, operate and exercise our emergency communications.

Having several independent satellite providers gives us more options if one service becomes unavailable. Even then, satellite services depend on ground infrastructure, and public agencies still rely on telecoms providers somewhere along the chain. Some of those dependencies may only become apparent when we exercise the fallback. Peacetime is when we can find those surprises and fix what we can before a crisis puts the system to the test.

3. **Spectrum licence for installing a TETRA base station on a vessel: In most countries this will not be allowed. Any country specific circumstances in Cyprus and their neighbor countries here?**

It is possible for any country, through a national decision, to establish a TETRA base station—or a "communications bubble"—on board vessels such as those of the Coast Guard. Licenses for the use of TETRA radio frequencies are granted by the national frequency authority in accordance with frequency regulations.

A vessel or an aircraft is considered to be part of the territory of the state in which it is registered. From this perspective, if the use of TETRA is permitted and technically feasible on a given vessel, such use is also allowed in international waters. Nevertheless, it is advisable to verify the authorization for using radio frequencies in international waters with one’s own national frequency authority.

International decisions regarding the harmonization of radio frequencies naturally guide the granting of usage rights. In coastal areas, care must be taken to ensure that a vessel’s communications bubble does not cause interference with communication networks operating on the shore.

When a vessel visits a friendly nation, a formal notification is submitted, which includes details of the radio transmitters and frequencies (such as radar systems) that the vessel intends to use.

This response reflects the perspective of the operator Erillisverkot (Finland) regarding frequency-related matters. Binding answers to questions concerning frequencies should be obtained from the national frequency authority.

4. **What makes TETRA a superior solution for maritime fire suppression as compared to other available alternatives?**

It's not about a superior technology. What matters is what the people fighting the fire need. In Finland the Border Guard leads maritime search and rescue, and fires on ships at sea are fought by specialised rescue service teams, the Maritime Incident Response Groups (MIRG), usually flown to the ship by Border Guard helicopters.

In that kind of operation, the value lies less in the radio technology than in everyone already being on the same network before anything happens. The rescue coordination centre, the helicopter crew, the firefighting team on board and the rescue services ashore can share the same talkgroups from the first minute, with no gateways to set up. On board, the team can talk to each other in direct mode where network coverage inside a steel hull is poor, on radios built for gloves, smoke, water and noise.

The weak point is usually the interface with the ship's own crew, who use the ship's radios. Working well with the crew depends as much on agreed procedures and joint exercises as on technology.

So it is much more accurate to look at what is 'fit for purpose'— and shipboard fire suppression is an exceptionally harsh RF and operational environment.

TETRA has been used daily for decades by fire brigades worldwide, both in open areas and inside complex buildings and structures. That proven track record across countless critical incidents led the users to conclude that TETRA is truly 'fit for purpose' for this type of mission. Its high reliability, instant communications, mission-critical feature set, and purpose-made devices made it the preferred choice. In addition, by operating in lower UHF frequencies, TETRA delivers strong coverage and penetrates heavy obstacles effectively while keeping handheld radios compact and practical.

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