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An increasingly complex landscape

Tait CTO PJ Jayawardene discusses the company's work in the UK, its 'open platform' and why he believes emergency services shouldn't just be given a 'binary' choice when it comes to comms tech

You recently wrote that emergency services organisations were too often presented with an 'either/or' option when it comes to communications technology. Could you unpack that a little?

What we're observing now, as a challenge around the world, is how to handle all the information which is currently available [to emergency services]. While at the same time, also trying to respond to incidents faster.

Alongside that, there's also the impact of environmental events, such as natural disasters that first-responders must navigate. Couple that with increasingly high-density populations, the impact of events are now amplified.

Going back to the increased volume of information [available to public safety organisations], there are now multiple sources of data, which need to be ingested and co-ordinated.

People used to say that knowledge is power, but right now – from a first-responder perspective – you could say that there is too much knowledge generated from multiple sources. This may become 'noise' that the first-responders have to navigate.

Could you elaborate on that? What's the impact from an operational perspective?

To take one example, if you look at a news article [reporting an incident], it could be published multiple times from multiple sources. A tweet can be re-posted 50 times. For first-responders wanting to use data sources, they now must navigate the large volume of data to discern the actual elements of information.

From an emergency services perspective, these 'external' data sources can either inhibit or enhance the actions of first-responders.

For instance, [in relation to an RTC] a member of the public could make a report saying they've seen three cars, while someone else might say there's a bus involved. So, how does a first-responder

Environmental disasters are becoming an increasing challenge for public safety

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use this information to discern the right response?

With all that in mind – and coming back to the original question – I don't think providing first-responders with an 'either/or' option when it comes to communications technology is fair. That is, purely focusing on – for instance – mobile radio does not enable the best use of the pertinent information for first-responders.

Our view is that presenting them with a binary choice is not right and quite naïve.

In what ways can the extra information you mentioned be beneficial to emergency services organisations? For instance, in relation to response times?

Taking fire and rescue in London as an example, 70 per cent of the response time is how long it takes for the first-responder to go from dispatch to the incident.

So, in that kind of dense environment, if we can get curated

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information from traffic accidents and other peripheral events back to the first-responders, they could consider alternate routes to respond faster. That might mean maybe a minute or even seconds saved in the response time, which in life and death situations can have a huge impact.

"Couple that with increasingly high-density populations, and the impact of events is amplified"

That said, going back to the point about presenting emergency services with a binary choice, what we don't want first-responders to have to do is look at six different devices to keep up with that flood of information.

Rather, to achieve the 'what' [saving lives], the 'hows' need to be flexible. That's why I believe the discussion only being about TETRA and LMR is not correctly addressing the growing needs we must solve as an industry.

What we're talking about is the ability to ingest information, curate it and deliver it on multiple mechanisms. There is a balance to be struck in the ecosystem and information sources to make the work of first-responders simpler.

How does that relate to your company's technology?

Through our open platform, we aim to provide an interface connecting all the data services together, and then curate it based on what user organisations want and need. That then allows them to perform their standard operating procedures in the simplest possible way.

If needed, we have the devices, we have the infrastructure, but at the same time, having an open platform allows agencies to take the best of breed. In other words, if they have – for instance – their own comms infrastructure, their own CCTV cameras, they can feed that information to our platform to connect the entire ecosystem together to make intelligent and fast decisions.

At the same time, it's not just a platform but a service, tying all the pieces together. Integrating the system can take time, after all, because you're often dealing with proprietary technology, as well as idiosyncrasies of the disparate systems themselves.

Tait as a company has always been compliant with open standards, with land mobile digital radio solutions. We are always open to connecting with something else, because we don't want to have to tell the customer to rip and replace everything.

Can you give a real-world, operational example of your work in this area, either in the UK or elsewhere?

One of the projects that we're involved in is the New Zealand Public Safety Network. Our part primarily involves the mobile portion, based on the P25 platform.

The other dimension of the New Zealand

Public Safety Network is the development of a cellular service for first-responders, using the infrastructure of two existing mobile operators to support the broadband needs of the first-responders using the same network.

Consequently, there will be a need to bridge the two via an interworking function. Tait will be [facilitating] the enablement of the interworking of the two networks to enable the use of both technologies.

Changing the subject slightly, could you discuss some of the work you've carried out with emergency services organisations in the UK? For instance, London Fire Brigade.

We have a long history with London Fire Brigade, providing portable DMR radios as well as speaker microphones to them.

One of the areas that we are now exploring and want to bring in across the entire fire domain is 'location accuracy' using our devices. We're actively developing that functionality at the moment, through a location accuracy pilot taking place in Christchurch.

If you think of a burning building, the first thing that happens when firefighters go in is that they lose GPS, on top of which you can't use a Wi-Fi-based solution, because the power has been cut. That being the case, how are you going to track the firefighters' location for their own safety?

[We're looking at] different ways of solving the problem without having to overhaul the existing equipment itself. We want to make sure that firefighters are safe when they go into a building.

Coming back to the notion of a 'binary' choice, what is your view on what is currently happening in the UK with ESN? With the original driver being to retire Airwave, how does that sit with you given what we have been talking about?

It is difficult for a technology decision to align with a prioritised policy decision. It's always a challenge, because the motivators of the policy drivers may not always align with technology. That said, somebody has to make that policy decision, and that bold [strategic] statement that would push technology to meet the vision.

At the same time, those decisions do have consequences, and we always end up asking 'How do we enable this?' Making that decision and driving for a technology strategy sooner will never be 100 per cent aligned.

There will be pitfalls, there will be corner cases, there will be 'gotchas'. I'm hoping for a time of calm implementation, and that people are open to choices which allow you to keep the best of both worlds.

Tait is a company that is traditionally known for DMR as opposed to something like TETRA. Where does the former technology fit into the emergency services landscape going forward, particularly in the UK?

DMR has had huge application in markets adjacent to where first-responders reside. For instance, in security, transportation, utilities, logistics and so on.

The way we approach DMR is as a solution that enables better operations, in order to drive efficiencies and ensure worker safety. If you prevent the need for a first-responder to turn up, I think, by proxy, you've made the life of the first-responder better.

Going back to what we were talking about earlier around sources of information, you now have this problem of how we get systems to talk together. We've approached that by providing multi-protocol, multi-technology and multi-band devices.

Looking at a non-UK example, in the US, school safety officers use DMR. Then when a first-responder turns up at the school, they'll be using P25, so you need a way for the two to co-ordinate with each other.

DMR is a cost-effective solution that's being used in all kinds of areas affecting people's lives and work.

Our goal is to make sure that the people who use our technology remain safe and have peace of mind.

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Tait is involved in the New Zealand public safety network