

I D C C A S E S T U D Y

Mission-Critical Emergency Services Communications: Victorian Government

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The Victorian Government Emergency Services private two-way radio and mobile data network sets a new benchmark in emergency services communications in Australia.

Encompassing the greater metropolitan Melbourne area, the network operates under a fully outsourced, multi-agency public safety communications model, and is managed in partnership between the Emergency Services Telecommunications Authority (ESTA) and Motorola Australia.

It is a first-of-its-kind network in Australia and provides consolidated, mission-critical communication services to the emergency services organisations (ESO) in greater Melbourne, delivering financial and non-financial benefits to the State Government, police, fire and ambulance members, and the general public.

The Challenge – From Siloed Technology to World-Class Cross-Agency Solution

Pre-2005, Melbourne's key ESOs (i.e. police, fire and ambulance) communicated using independent, ageing analogue two-way radio technology that did not support interoperability, did not offer the highest level of security, and did not meet increasing levels of coverage, capacity and mission-critical service level requirements. Neither did the technology support mobile data capabilities, meaning ESO's couldn't access critical information from their data networks through their handsets. This functionality was identified as a strategic tool that would improve productivity, efficiency and safety for officers in the field.

To rectify these shortcomings, the Victorian Government set out to define a new consolidated communications system, taking into account all end-user and stakeholder requirements, that would not only meet the needs of the independent ESOs, but also deliver significant new benefits and facilitate unprecedented levels of functionality. It sought – and received – the close co-operation of affected stakeholders to not only define the scope and logistics of the new network, but to evaluate the optimal model for delivering a shared emergency communication service across the state.

From the outset it was important that any new network delivered significantly higher levels of performance, measured against stringent key performance indicators (KPIs), to ensure the government's risk was mitigated by the highest possible level of service performance from all parties involved. Such an approach required significant consultation between the ESOs and some of the state's leading technology providers to determine how the network would be run, if it would be outsourced (in part or as a whole) to the private sector, and if so, if it could still meet the government's strict security, performance and risk mitigation requirements.

“At the time we recognised that, while there were certainly some unique aspects to the requirements of different ESOs, on the whole they use common platforms, not only in Australia but around the world,” said Mr Keith Walker, contract manager for ESTA's Mobile Data Network, and contract director for the Metropolitan Mobile Radio network. “What was important to make this project a success was the ability to compromise on needs that were perhaps too specific to meet realistically, and for any third parties involved to be able to adapt their solutions to meet all

the necessary requirements. What we wouldn't compromise on was finding a world-class communications platform."

Changing the Paradigm and Mitigating Risk

After substantial evaluation and market testing, the State Government devised a multi-pronged approach that would simultaneously provide mission-critical voice and data services to ESOs while mitigating risk and establishing clearly enforceable service level agreements. The new network, based on a public-private partnership (PPP) model, would allow the state to focus on its core competencies, freeing up the resources it needed to refine and improve its service delivery to the ESOs and the public over time.

"We were changing a long-established paradigm of state-provided and managed emergency service support by opting for an outsourced model, so we had to have absolute faith in our convictions that this was the right way to go," said Mr Walker.

"The list of requirements set out in the tender mandated that we find a mature and established communication solutions provider, particularly in the field of mobile communications, with experience in similar deployments around the world not only with technology, but also the management and delivery and of an integrated emergency services communications solution. Moreover the provider needed to prove it had the resources to design, build, and commission the new network prior to the 2008 Melbourne Commonwealth Games, which was by then less than two years away.

"After a thorough market scope and tender, we were left with no doubt that Motorola Australia had all of these qualities, and more, and had no hesitation in appointing the company to build, own and operate the Mobile Data Network (MDN) and Metropolitan Mobile Radio network (MMR) on behalf of the state."

Mr Walker says the advantages of consolidating and outsourcing the network were many and varied. "When you consolidate your services you get a consolidation of spend, so with the same or less money you get a common platform across a number of agencies. Consolidation also enables a closer integration between agencies, enabling a consistency of service across the whole service area to all the agencies.

"As for the issue of risk, we have to recognise that [managing a communications network] is not a core competency of the state, but it is for a company like Motorola, which provides world-class, worldwide services to emergency service organisations on a daily basis. This raises the issue of trust, something that I firmly believe is earned, not given, and through all of our discussions and negotiations with Motorola, this is one area that really stood out for me; the maturity and competency Motorola showed us earned the company a lot of trust, and went a long way to easing any concerns we may have had over the risks inherent to a project of this magnitude."

Defining the Solution and Leveraging Global Experience

Motorola's key differentiator, according to Mr Walker, was its capacity to offer services across a broad range of "service towers".

"You need to be good at logistics, you need to be good at your core technology, you need to have the capacity to change, expand and modify, and Motorola was good at all of those. So it had a very mature service offering."

The state presented Motorola with a risk matrix, incorporated as part of the contract. This required that:

- Technology risk was a core competency of Motorola, with its a deep understanding of the technology involved, and that the company would take ownership in this area.
- Motorola managed the financial risk by being solely responsible for servicing the loan and securing funding for the project.
- Motorola's digital technology solution increased the security of communications across both the data and digital radio networks, using the highest levels of encryption to prevent intrusion.

“Drawing on years of global emergency service experience, Motorola has been able to introduce proven innovations from overseas; this is something that clearly distinguishes Motorola from its competitors,” said Mr Walker. “I don't think anyone knew quite how much change was going to be required, but these are living environments we work in, and we take no risks whatsoever when it comes to safeguarding people's lives. Motorola showed a willingness – and proficiency – to integrate its products with a range of other products that we use. For example, we asked the company to integrate its in-car products with a third-party screen provider, with our computer-aided dispatch, and our police databases, and they have been very innovative in achieving this for us.

“Motorola's flexibility is also evident in its clearly-defined processes, where it promptly deals with issues as they arise to ensure an outstanding result. It excels in two other key areas, transparency and reporting, both critical to any government project.”

Migrating from individual ESO networks and funding models, the new outsourced model also ensured that monthly payments were predictable and centrally managed, eliminating the threat of internal budgetary constraints and changes. In addition, the state no longer needs to employ staff to manage day-to-day network operations and maintenance, freeing up valuable resources to focus on its core business of providing a better emergency and public safety service to the people of Victoria.

Measuring Success: Better Outcomes For All

The benefits of the new communications network can be measured at different levels for each of the different stakeholders and beneficiaries: ESOs, the state and the general public.

For ESOs the introduction of data services, combined with the superior voice clarity of digital radio, represents a huge leap forward in functionality, safety and productivity, particularly for ESO officers in the field. For example, ambulance officers can now receive high quality dispatch data to better aid a patient; and police officers can access their own databases, in real time, adding to their safety and security when dealing with dangerous situations, but also aiding their efficiency.

“We've been able to recover significant network capacity by migrating to a digital network,” said Mr Walker. “So while a police officer runs a registration plate check over the mobile data network, he or she can also retrieve an instant history of the owner, including any previous criminal convictions or registered firearm possessions, making the process much more efficient but also greatly improving the officer's safety.”

For the State Government, the benefits of not owning the infrastructure were numerous, and mostly centred on financial and structural ownership.

“Even if we did own the infrastructure we would still need to maintain it. Instead we can now draw those resources from Motorola as required, in addition to gaining all the other benefits of having Motorola design, develop and deploy the technology we need to service the public. That said, we

have the option, at the end of the contract period, to assume ownership of the network as a whole, so to that degree we've found a very flexible partner in Motorola."

Last but not least, the public stands to benefit directly from the new network, primarily from the much-improved communications resources available to the ESOs, and the ability of ESO officers to execute their jobs more efficiently. "Dispatches are quicker, the quality of the data [that officers] receive is better, and their capacity to work is better."

Walker claims the project is a benchmark in the delivery of public safety communications. "It's very rare that you get a project that has so comprehensively met and in many cases exceeded its KPIs."

Future Plans

The mobile radio and data networks provide a world-class service with a long life expectancy. With a strong baseline firmly established, ESTA is also looking at upgrading the mobile data network to deliver broadband-level data, increasing speed and capacity to allow ESO officers to perform more data-intensive tasks on the road. Examples include sending crime scene photos directly from the field to the station, or sending detailed mapping and terrain data to fire brigades entering unfamiliar and potentially dangerous areas.

"The great advantage of this project is that it takes a lot of the normal day-to-day running of such a complex service out of the hands of the state, so it can then devote its energies better to determining how to best modify that service for the future, define its future roadmap, and refine exactly what it is that's expected of the service."

While the process has been very structured and strategic, Motorola has provided the state with a key advantage: flexibility of choice. The state now has a number of different options for how to best move forward and focus on the future needs of emergency services and the communities they serve.

Methodology

Information contained within this case study was obtained by IDC through a face-to-face interview with Keith Walker, Contract Manager MDN/Contract Director MMR at Emergency Services Telecommunications Authority (ESTA) with supplementary information provided by Motorola.

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