



Motorola Support Ensures Tetra Ireland 'Build-Own-Operate' Success



A national digital radio system for 'blue light' services and other public safety agencies in the Republic of Ireland

Tetra Ireland is building a national digital radio system in the Republic of Ireland. Serving the emergency services, public safety and civil protection users and based on Motorola's Dimetra IP solution, the network will comprise two main switching sites and 600 base stations, providing coverage to more than 95% of the country. Each agency will operate its own talk groups, with the ability to talk to other agency talk groups. The network will fully integrate with both mobile and fixed-line services.

Historically, each public safety agency built and operated its own analogue radio network, but, it was also impossible for most agencies to run joint communications. To ensure a fully integrated service and response, the Government contracted the Tetra Ireland consortium to deploy a national network based on a single digital standard that would deliver voice and data services, increase radio coverage and security, and support inter-agency and inter-network communications.

Deliver a fully-managed and future-proof service to a diverse user base of mission-critical users

Comprising Motorola, eircom and Sigma Wireless, the Tetra Ireland consortium was awarded an eight-year contract for the design, construction, management and operation of the network for emergency services, including non-commercial public safety agencies. Having proved its operational model and technology platform during a 'Service Performance Evaluation' (SPE) phase, the operator commenced services rollout to the Dublin Metropolitan Region in September 2008 (including the port and airport), with nation-wide coverage targeted for mid-2010. At this point, following an extensive user training and change management programme, Tetra Ireland will have migrated 20,000 users to the new Tetra system, providing 24/7 mission-critical services.

In serving the needs of a diverse user base under a flexible 'build-own-operate' model, Tetra Ireland faces a number of operational challenges – including provisioning Tetra terminals and services to end-user organisations under commercial contracts, plus maintenance, management and monitoring of the network. As the principal provider of fixed-line telecoms services in Ireland, eircom has an established network management centre (NMC) into which Tetra Ireland's network monitoring and billing systems must be integrated to guarantee full network visibility. What's more, it is imperative that the new Tetra network be both future-proof and resilient to deliver the levels of reliability and functionality required.

Motorola delivers comprehensive infrastructure service package to Tetra Ireland

Complementing the main supply contract for network infrastructure and the majority of subscriber terminals, Tetra Ireland purchased a comprehensive eight-year services and support package from Motorola. This includes:

- Consulting services
- Infrastructure service package
- Tetra terminals (five-year enhanced warranty)
- User training

Motorola's engineering and project consulting services (RF planning and user migration) are being provided in two phases. The first (implementation) covers the build and shipping of equipment, together with installation, configuration and commissioning. The second

Customer name
Pat Kelly, CEO

Company
Tetra Ireland

Technology partner
Eircom, Sigma Wireless

Service provider
Tetra Ireland

Industry name
Emergency services and other non-commercial public sector agencies

Product

- Consulting services
- Infrastructure service package
- Tetra terminals (five-year enhanced warranty)
- User training

Solution Features

- RF planning and user migration support
- Regular software and anti virus updates
- Monthly analysis and reporting
- Comprehensive support package covering project's 8 year lifecycle

Benefits

- Ensure network availability
- Lower business risk
- Future-proof network

“By establishing extended support agreements at agreed service levels and costs, we have reduced our risk, future-proofed the network and ensured network availability,”

Pat Kelly, CEO

Comprehensive infrastructure service package enables Tetra Ireland to ensure network availability, lower business risk and future-proof its network

Tetra Ireland selected a comprehensive infrastructure service package provided by Motorola to support delivery of its network and mission-critical operations. Encompassing network infrastructure, consulting services, Tetra terminals and user training, the package will enable Tetra Ireland to ensure network availability, lower business risk via extended support agreements at agreed service levels, and a future-proof system enabling user agencies to collaborate seamlessly using Tetra.

embraces RF (Radio Frequency) design and coverage plots, as well as network management and front-line support for both escalation and resolution of network issues. Motorola's expertise will also be utilised to help formulate Tetra Ireland's migration strategy in the areas of logistics, interfaces and training.

An eight-zone mobile switching office (MSO) has already been deployed in Dublin, with a second disaster recovery site mirroring this topology at another location. The primary MSO employs multiple zones and automatic failover to the disaster recovery site to guarantee 24/7 availability. Motorola's engineering specialists worked closely with Tetra Ireland to design the fallback process and fleetmaps are incorporated as a network design feature to facilitate inter-agency calls. Security is via strict encryption separation between shared and individual talk groups (using group Cypher Key), while Tetra Ireland will deliver voice quality, resilience and coverage that is higher than that of any other Irish network. A unique system feature enables Tetra radio users to send Short Data Service (SDS) messages to mobile phones, as well as being able to make/receive calls to fixed and mobile networks.

Under Motorola's infrastructure service package, Tetra Ireland receives regular software updates and releases, such as new features and technology enhancements, without paying additional fees. Meanwhile, Motorola's security consulting services embrace intrusion detection and anti-virus (AV) updates. AV is provided on all Microsoft Windows-based hardware, and is downloaded via a central server for distribution throughout the Tetra Ireland network. To ensure there is no impact on live services, all AV definitions are tested on a separate Dimetra system prior to deployment. An Intrusion Detection System (IDS) using dedicated hardware prevents external network attacks, keeps all system files current, and issues alerts when necessary.

Motorola has also deployed small 'sniffer' applications throughout the network to gather and store performance data centrally. This information, combined with that provided via IDS, is accessed remotely for monthly analysis and reporting. More than twenty metrics are analysed, enabling Motorola to scrutinise performance of local Tetra sites, assess traffic loading and make informed recommendations ensuring Tetra Ireland provides optimum service quality and 24/7 availability to its mission-critical users.

Tetra Ireland will support the An Garda Síochána (Ireland's National Police Service), Ambulance, Customs, Fire and Prison Services, plus a number of public sector bodies. With such a diverse user base, Motorola is providing comprehensive training services to familiarise users with Tetra radios, the Integrated Command Control System (ICCS) and the Motorola Integrated Billing & Administration System (MiBAS).

“The Motorola services we selected will enable us to provision Tetra efficiently as a commercially-operated national network for 'blue-light' services and other public safety agencies,” says Pat Kelly, CEO, Tetra Ireland. “Having our teams work closely with Motorola experts on-site has ensured we continue to meet the strict rollout schedule stipulated within our contract and enabled us to solve a number of technical challenges, such as the provisioning of coverage for air support and off-shore operations, while meeting the requirement for a resilient and flexible network.”

Tetra Ireland achieves a cost-effective delivery of a resilient, flexible and future-proof mission-critical network

Having purchased a comprehensive Motorola services and support package covering the contract's eight-year lifecycle (plus an option of a two year extension), Tetra Ireland has delivered a resilient and future proof network. All Motorola hardware and software can be refreshed/updated in line with future technology development, while an SSA (Software Support Agreement) means that Tetra Ireland will realise significant cost savings, as well as benefiting from 24/7 expert technical support via Motorola's European System Support Centre (ESSC).

End users will pay a per capita fee for Tetra Ireland services (i.e. a fixed monthly charge with some additional costs for off-net data calls), with MiBAS used to provision radios, process all network billing and conduct live traffic analysis by region, site or user. Integration between Dimetra IP's Full Vision management system and eircom's Netcool application provides for alarm management and full network visibility.

“The integration of fixed and wireless alarm and monitoring systems represents a huge saving for us in terms of both CapEx and OpEx. We have also ensured that our network allows the flexible delivery of services to a range of different public safety organisations,” continues Kelly. For example, Motorola will ensure secure transit of Tetra radios between user agencies and its ESSC, and provide a battery refresh and five-year warranty on all subscriber terminals supplied. “By establishing extended support agreements at agreed service levels and costs, we have reduced our risk, future-proofed the network and ensured network availability,” he adds.

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