

P25 system of the month

Government Wireless Network | Queensland, Australia



Government Wireless Network

The Government Wireless Network (GWN) provides public safety agencies with a fully integrated, secure digital radio communications network for mission-critical voice, radio and data communications across the greater Brisbane and South East Queensland region in Queensland, Australia.

Operating in the 400MHz Harmonised Government Spectrum – specifically the 420-430MHz frequency band (Band 5), the network brings agencies onto the same radio communications platform to assist in improving the efficiency and effectiveness of frontline operations.

Queensland is adopting Project 25 (P25) Phase 2 technology for the GWN. Utilising P25 Phase 2 technology, the network provides the highest levels of radio communications availability, reliability, security and clarity via a fully fault-tolerant architecture.

The Queensland Government, Telstra Corporation Limited and Motorola Solutions Australia have formed a successful partnership to design and deliver a secure, fully integrated government radio communications network.

Full implementation of the GWN and operational transition of Queensland's police, fire and ambulance services will be completed by June 2016. When complete, the network will service more than 17,500 frontline police and emergency services personnel in South East Queensland.

Delivery

The Queensland Department of Science, Information Technology and Innovation is delivering the GWN in partnership with Queensland Police Service, Queensland Fire and Emergency Services and Queensland Ambulance Service to ensure the solution meets operational requirements and fully integrates with other dispatch systems.

Telstra Corporation Limited, with its public safety strategic solutions supplier Motorola Solutions Australia, is responsible for the design, build, financing, operation and maintenance of the GWN under a 15-year managed service agreement with the Queensland Government.

Mingara Australasia is the Queensland Government technical advisor for the GWN and their extensive experience in specifying, planning and delivering similar radio communications networks in other Australian and international jurisdictions has been a major contributor to the success of the GWN.

With a total contract value of \$515 million, the GWN is one of the largest public sector ICT 'as-a-service' arrangements currently being delivered in Australia.

GWN fast facts

- Queensland is adopting P25 Phase 2 technology for the GWN.
- The GWN provides coverage across an area of 30,000 square kilometres stretching reaching 99% of the population in South East Queensland.
- 179 GWN radio sites have been built and commissioned.
- 3,061 police and emergency services vehicles have been installed with GWN equipment.
- 7,830 GWN portable radios have been deployed to public safety agencies.
- 26,520 GWN accessories have been distributed to frontline personnel (e.g. batteries, chargers and headsets).
- 3 fully deployable trunked radio transmission sites have been built to support and extend the footprint of the GWN. They are the first fully deployable P25 Phase 2 trunked radio transmission sites in Australia.
- A unique feature of the Queensland network is full encryption of all users.
- More than 17,500 frontline police and emergency services staff will use the GWN by June 2016.

GWN for the G20

The Brisbane G20 Leaders' Summit held in November 2014 was the largest peacetime security operation ever held in Australia. The network played a vital role in the G20 by maximising public safety agency response capability and providing secure and interoperable mobile radio communications.

The GWN set a new Australian benchmark in inter-agency interoperability, encryption and frontline officer safety. About 9,750 Queensland police, fire and ambulance personnel and 500 national and international security specialists relied on the GWN wireless capability to ensure the safety of 20 world leaders, 43 international diplomats, 4,000 delegates and 3,000 domestic and international media, as well as the general public and issue-motivated protest groups.

South East Queensland implementation

The South East Queensland implementation of the GWN is the largest single deployment of Project 25 Phase 2 technology in the world, with 179 radio base station sites built and commissioned.

The GWN provides 99% coverage of the South East Queensland population across an area of 30,000 square kilometres stretching from Tweed Heads in the south, Oakey in the west and Gympie in the north. The extensive coverage of the GWN provides public safety agencies with vastly improved radio communications reach into the community.

The GWN is being delivered in stages with full implementation of the network to be completed by June 2016. A staged approach means implementation is more manageable for public safety agencies, particularly from a training and organisational change perspective.

A close and productive relationship between the Queensland Government, Telstra and Motorola, and public safety agencies has allowed for the seamless flow of deliverables and interdependencies. As a result, operational transition to the GWN in stages 1 and 2 has been a resounding success.

For a project of this size, scale, complexity and importance, highly effective planning, good operational readiness and an integrated approach have been key factors of its success.

ISSI and CSSI interface

The GWN has been equipped and licenced with a range of P25 features and functionality, however two key features have been provided to facilitate interconnection to external P25 systems and consoles. These are the ISSI and CSSI interfaces. As the CSSI feature set is predominantly a subset of the ISSI, GWN testing of the ISSI interface was also seen as satisfying the CSSI testing requirement.

The GWN is provided with an off-line facility or 'sand pit' which fully replicates the production system and hence non-disruptive ISSI interface testing with third party P25 systems was able to be tested. This testing was successful, however the process proved invaluable as it highlighted a large range of network configuration settings, terminal ID requirements and P25 feature sets that need to be known and set up correctly before ISSI links can be permitted between two or more P25 production network. These lessons learned are invaluable and can be used to assist mitigating any connectivity risks into the future.

Network scalability

The network and contract has been designed to be scalable to allow for the expansion of GWN coverage and capacity to other locations in Queensland and to other users.

There is potential to expand the GWN to allow other government agencies, such as the State Emergency Service, and local government to use it. However, at this stage, the government has only committed to deliver the network for Queensland's public safety agencies operating in South East Queensland.