Brisbane Airport Link
Helping to connect Brisbane

Case Study
The most important thing will build is trust

Overview
Cobham Wireless provided both a cellular and public safety coverage system to Australia's largest road infrastructure project. This solution had to support both multi-operator coverage as well as radio broadcast for the emergency and security services.

Challenge
This was the largest road infrastructure project in Australia consisting of 15Km of tunnelling, busway tunnels and connecting ramps, as well as 25 bridges and 7km of new road. The complex system needed to support 3 mobile phone operators and public safety services.

The Challenge
As the largest road infrastructure project in Australia, Cobham Wireless is proud to have worked with Thiess John Holland on the Airport Link in Brisbane. It was completed in Summer 2012 and we helped ensure that the longest tunnel in the country was fully kitted out with the latest in both public safety and cellular wireless coverage technology.

The Airport Link and busway project involved 15km of tunnelling, busway tunnels and connecting ramps, as well as 25 bridges and resulted in over 7km of new road. This was going to be a lengthy and complex coverage project and Cobham Wireless was chosen to provide cellular coverage for 3 operators as well as public safety coverage throughout the length of the construction.

The deployment needed to provide multi-operator coverage as well as both radio broadcast and cellular mobile services inside the tunnel. The result would be a complex multi-band system with the added difficulty of deployment in such a confined area. The solution had to be reliable and cost-effective, but the technological approach needed to be innovative and customizable.

The Solution
With unrivalled expertise in this field, Cobham Wireless used the opportunity to bring their vast experience of building coverage systems in tunnels all over the world, to this project. The in-house R&D team set about developing a cutting edge, specially customized solution for client Thiess John Holland.

The final system consisted of 50 multiband fibre optic repeaters for the cellular operators and 40 UHF and TETRA800 fibre optic repeaters, all installed throughout the length of the tunnel. The repeaters are fed by fibre, with an Optical Master Unit (OMU) to power them, located inside the tunnel too.

The system is managed by the state-of-the-art Active Element Manager (AEM), a network management system that can be used to manage any type of Cobham Wireless repeater, remotely and through a variety of connection methods.

Optical Master Unit (OMU)

The Benefit

The contract for building the tunnel was awarded in June 2008 and, the work was finally completed in July this year. Following a preview walk on 15 July and final safety approvals, the Airport Link opened to the public at 11.55pm on 24 July 2012, with fully functional public safety and cellular coverage. The Airport Link now incorporates the longest tunnel in Australia and Brisconnections, the tunnel operator, claims it is the safest too.

With a re-focus on safety for travellers in recent years, following incidents such as 9/11 in the US and 7/7 in London, ensuring a secure and reliable public safety communications systems was vital for this project. The Airport Link now has a leading-edge communications system that will provide public safety services with the means to communicate with each other as well as with the public, whenever and wherever they are along the link.

Thiess John Holland now owns a communications system that is flexible and future-proofed against technology upgrades and changes – and with the speed at which technology evolves nowadays, this is no mean feat. The Link benefits from equipment that has a global reputation for being of the highest quality, whilst being dependable and reliable in terms of its performance out in the field. Cobham Wireless' communication equipment will continue to keep the emergency services and the public in touch with each other and everyone else, for a very long time to come.