



DIGITAL COMMS PROVIDE MAXIMUM SAFETY



Phillip Island Grand Prix Circuit is a busy operation with the track in use up to 300 days per year. Day-to-day running of the circuit falls to a dedicated team including Tim Greeks, Operations Manager at the Circuit.

The business is proud of its sophisticated technology solutions. In order to meet the Circuit's exacting requirements for radio communications reliability during the World Superbikes 2017 event, BTW Communications deployed a mobile repeater system based on Motorola Solutions' MOTOTRBO Capacity Plus technology.

More than 300 MOTOTRBO digital portable radios from Motorola Solutions' next generation DP4000e Series provided reliable communications across the event. Ten channels enabled seamless communication between the event manager, contractors/service providers, race control, ancillary race support channels and medical teams, with one channel dedicated to emergency services.

The system offered many benefits, says Greeks.

Better safety: Safety for all involved, especially riders, is the first priority at Phillip Island. One lap of the circuit takes only 1.5 minutes so things happen quickly and communication in the event of an incident is critical.

"The main reason for the system is to make sure riders are safe. If a rider falls off – and it inevitably happens often – we need real time information about the level of injury, whether the rider needs medical treatment or if we just need to collect the bike. Bikes travel at top speeds close to 350 kilometres per hour so we do need to respond quickly if the bike is down, and people need to know to warn riders to slow down on approach," explains Greeks.

It is essential that race controller communications from the control tower always have priority over other radio users. The MOTOTRBO transmit (TX) interrupt feature gives race controllers the ability to override a call in progress, or to free up a channel that is being blocked by someone accidentally leaning on a push-to-talk (PTT) button.

Caller ID and aliases (radio names) provide additional visual feedback on display radios to race control to identify the caller and their specific flag or track position on the circuit. In the case of several incidents occurring at the same time, race control can easily prioritise calls to specific track sections.

Another important aspect of safety is hearing protection for race marshals. The races are so loud that people close to the track can have difficulty hearing the radio calls without the right equipment. With minimum noise restriction on the World Superbikes, noise levels reach more than 100 decibels. Working closer to the track, marshals experience maximum noise levels and MOTOTRBO heavy duty headsets with noise cancelling microphones are essential to protecting hearing.

Complete coverage: With past experience of black spots, Greeks was keen to ensure reliable radio coverage of the entire track.

"Undulations in the geographical layout had caused coverage issues in the past, but BTW Communications brought in a mobile antenna and mast, and there were no issues."

Customer

Phillip Island Grand Prix Circuit

Industry

Event Management

Technology Partner

BTW Communications

Need

- A reliable communications system to ensure participants' safety

Benefits

- Better safety
- Complete coverage
- Clarity of communications
- Great battery life

"Batteries are lasting the whole shift [...] Contractors are calling or receiving calls all day, but they only required a battery change at the start of the morning before a 10 to 11 hour shift."

Tim Greeks, Operations Manager, Phillip Island Grand Prix Circuit





Clarity of communications: Calls must be clear for messages to be understood, particularly by marshals, race operators and the medical team. With an estimated average of 7,500 calls per day of the World Superbikes, there is no room for missed or garbled messages.

Call clarity was reportedly excellent, and noise cancelling technology provided clear voice transmissions from trackside to race control and other users. Marshals can communicate with each other within close range of a very noisy track.

Great battery life: The digital MOTOTRBO radios utilise next generation low voltage technology which, when used with high capacity batteries, provides up to 27 hours of continuous operation. Despite race controllers and other volunteers or employees using the radios almost continuously, battery changes on the DP4000e series radios were not required during the day, saving time and increasing efficiency.

Track marshals and other track support staff were extremely surprised and impressed by the performance of the DP4000e Series' battery life. Based on experiences from past events they expected to require a battery change at mid-afternoon which, being the busiest part of the day, is also the most inconvenient.

"Batteries are lasting the whole shift, so very few people were changing batteries. Contractors are calling or receiving calls all day, but they only required a battery change at the start of the morning before a 10 to 11 hour shift."

Resiliency: A resilient communications system means that anyone can talk at any time. Greeks says that given the high volume of calls he expected the network might be locked out once or twice during the day, however, he was pleased to note that there was no break in communications during the event.

Phillip Island Circuit had to make sure the deployed repeater system worked reliably, particularly as the event is televised live internationally. The repeaters, including spares, supplied by BTW Communications, operate on primary mains power with back-up batteries and further redundancy provided by solar power so that no matter what happens, the system keeps working.

Voice recording capability: A feature of particular interest to Phillip Island Circuit was MOTOTRBO digital radios' capacity to record all calls for later access. In the case of an accident or incident, the organisation can review all conversations to determine exactly what happened, review staff responses and evaluate response procedures. Fortunately, the 2017 event went smoothly, with no need to review the recordings.

Ease of use: The majority of marshals are volunteers, who are often not accustomed to using radio equipment. Greeks explained that it was "essential for those volunteers that the equipment was not complicated; they just need to know to push the button and talk into it. They were certainly easy to operate".

Greeks was very complimentary about the experience of working with BTW Communications throughout the 2017 World Superbikes event:

"This was the smoothest, easiest and most reliable relationship I have ever had with a radio provider. BTW did an outstanding job. You just can't have an event without communications."

