



MOTOTRBO™ CAPACITY MAX FOR NEW INDONESIAN MOTOR RACING CIRCUIT

FOR FAIL-SAFE, CRYSTAL-CLEAR COMMUNICATIONS DURING EVENTS



PERTAMINA MANDALIKA INTERNATIONAL CIRCUIT

The Pertamina Mandalika International Circuit is a brand-new Indonesian motorsport circuit, located in Lombok; it is supported by the local government, looking to boost tourism in the area, which is already a hugely important market for motorcycle manufacturers. Started in June 2020 and completed in August 2021 (making this the fastest ever track construction), this purpose-built 4.32km winding circuit is named after the growing Mandalika resort area of almost 100 hectares, into which it is integrated. The circuit was inaugurated on 12 November 2021 by President Joko Widodo, when it hosted the 2021 Mandalika Superbike Grand Prix. With a 200,000-crowd capacity and stunning sea views, it is no wonder that Mandalika is now firmly featured in the MotoGP 2022 calendar. It has already hosted the MotoGP preseason test in February and, in March, the second stage of the 2022 MotoGP World Championship.

CHALLENGE

MGPA, subsidiary of the Indonesian Tourism Development Corporation (ITDC), appointed DZE Asia Pte Ltd to deliver the radio communication, electronic flag, CCTV and race control systems. DZE Asia Pte Ltd, based in Singapore, is a subsidiary of DZ Engineering Srl and part of the Dino Zoli Group. DZE is a General Contractor & Systems Integrator for Lighting and Race Communications Systems. It first started working with Motorola Solutions platinum partner, Sinora Srl, in 2008, when the two companies deployed the radio communications system at the Marina Bay Street

Circuit in Singapore: a system that both companies still maintain. Sinora is a system integrator specialising in professional radio communications and video surveillance systems and is the first Italian company to receive the Motorola Solutions 'Safety Reimagined' certification. In view of the shared experience and synergy between the two companies, Sinora and DZE decided to work together again; and, following a successful trial at the Mandalika Superbike Grand Prix, they were commissioned to deploy a reliable, resilient radio system with proven operational success in the motorsport sector at the Mandalika circuit.

CUSTOMER PROFILE

Organisations:

- Pertamina Mandalika International Circuit
- Mandalika Grand Prix Association (MGPA)
- DZE Asia Pte Ltd

Partner:

Sinora Srl

Industry:

Motorsport

Location:

Lombok, Indonesia

Motorola Solutions Products:

A single-site MOTOTRBO Capacity Max Trunked Radio System comprising:

- 5 x MOTOTRBO SLR 5500 Repeaters
- Circa 250 x DP4801e Two-Way Portable Radios
- 15 x DM4401e Mobile Two-Way Radios
- Accessories including headsets, spare batteries and chargers
- TRBOnet Voice Recorder
- Radio Management

CASE STUDY

PERTAMINA MANDALIKA INTERNATIONAL CIRCUIT

“Operating in the world of motorsport means taking on the responsibility of designing, installing and managing a system that has to work perfectly. If the telecommunications aren’t working, the race cannot start. If telecommunications break down, the race is suspended. In an international event, with the eyes of millions and millions of people around the world following the race live, you have to have the best-in-class fail-safe system. Which is why we’ve deployed a MOTOTRBO system.”

Marco Scaioli, Director, DZE Asia Pte Ltd



SOLUTION

Sinora and DZE Asia Pte Ltd chose a single-site MOTOTRBO™ Capacity Max System to meet Mandalika’s requirements. They had less than seven weeks to plan, order and install the system, so had to work to exceptionally tight timeframes to have everything fully operational before the MotoGP preseason test. The five SLR 5500 repeaters (with redundant power supply) are located in race control and the engineers have set up an antenna on the roof of the pit-stop building, to ensure a strong signal, even at the furthest points of the course. Channels are configured for up to nine simultaneous conversations, with managed priorities and queuing, and are shared by eight principal talk groups using circa 250 DP4801e Two-Way Portable Radios with noise-cancelling headsets. Specific talk groups have been set up for the race management marshals: track officials, flagmen for signalling, medical staff, rescue teams (including fire services), pit lane, technical, contractors and a general channel.

Race control, meanwhile, uses 15 DM4401e mobile radios, equipped with a bespoke headphone system designed by Sinora, to coordinate the race teams; there are radios for the Executive Director, the Race Director, the COC (Clerk of the Course), the Deputy COC, the CMO, the Medical Director, the CCTV Operator, the Dorna Staff TV Control, the Police, the FIM Safety Officer and two for FIM Stewards, as well as a radio for each of the Radio Marshal, Track Recovery and Minute by Minute channels. TRBOnet Voice Recorder has been deployed to record calls, in case of need for playback. Moreover, the portable and mobile radios can be remotely updated via Over-The-Air- Programming (OTAP) with Motorola Solutions Radio Management.

BENEFIT

The success of this project is due to the partners’ extensive knowledge and experience in the motorsport sector, which enabled the deployment of the most suitable system within just seven weeks. Indeed, the MOTOTRBO Capacity Max system ensures that operational teams have clear, reliable communications, so races can proceed unhindered. However, it is not just the tried and tested infrastructure that makes this deployment a success – it is also down to the smaller details such as the extended battery life and the IP68 rating of the DP4801e radios, which ensure they keep on working when needed. The system is currently switched off between races. However, as the Mandalika resort grows, there are opportunities for the network to extend and be used permanently to also manage operations in the wider holiday complex.



Motorola Solutions Products:

- 6-year Motorola Solutions service contract for infrastructure
- Standard 2-year warranty for radios

Benefits:

- Partners with extensive knowledge and experience in the motorsport sector
- Exceptionally fast deployment to meet race deadlines
- Fail-safe, clear, secure communications, with up to nine simultaneous communications and voice recording
- Scalable system to meet future needs of both the circuit and the associated holiday resort



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