

## COMMUNICATION SYSTEM HELPS WITH FIREARMS TRAINING

Designed to help train military and police forces, Militec produces smart targets for shooting ranges. These microprocessor-based systems allow trainers to select action modes such as high-speed turning or pop-up, and can capture data including numbers of hits and trainees' reaction times to be uploaded after each shooting session. All control and communication happens via a low-power wireless link capable of spanning distances of up to 1000m or more.



Not only are there several target types available, but the company can customise the systems to meet the needs of authorities all over the world. The targets can be motor or winch driven, and powered from an AC/DC 12V power supply or from a lead-acid battery mounted on the target. Hits are detected using a vibration sensor that is tuned for low frequencies so as to detect only a strike on the target and eliminate the high-frequency over-pressure caused by a round passing the target at high speed. To assess trainee reaction times, the targets record the time between exposure and hit by subtracting the known motor-related delay as the target is exposed after the radio receives the activation signal.

Trainers can program and control the targets, and collect all recorded data after the end of each session, using a radio handset. In addition, Militec's Windows-based control system, PC Shoot, helps trainers create sequences to simulate battle scenarios, and analyse the collected data from each target.

Militec has selected the Radiometrix TR2M narrowband FM multi-channel UHF transceiver to provide reliable wireless communication with each target. The compact module supports data rates of up to 5kpbs,

can be supplied for any 5MHz frequency band from 420MHz to 480MHz, and meets stringent standards for radio equipment, such as EN 300 220-3 and EN 301 489-3. Eight channels provide flexibility to avoid possible interference from any strong RF sources that may be close to outdoor shooting ranges, such as police radios or mobile-network repeaters. Of additional benefit, Militec's precise signalling prevents the targets responding spuriously to rogue signals.

The company, however, needs to be able to fine-tune its systems to meet individual customer requirements and comply with local RF regulations. Typically, the radios operate in the 458MHz frequency band, but differing telemetry laws in territories around the world have called for non-standard frequencies such as 408MHz in some projects.

Bob Lewis, managing director at Militec, commented: "Radiometrix is always ready to help, by quickly supplying transceiver modules for any operating frequency we need, and helping with individual integration or modification needs. They also help us take advantage of any design changes or improvements to their modules. When the standard TR2M transceivers were upgraded, resulting in a faster slew rate, we received support to integrate the new modules

with our system to benefit from the performance improvements without suffering any unexpected timing issues."



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