



## TENDER SPECIFICATION

### Doppler Radar system for ballistic testing Medium calibre ammunition

#### 1. Scope of work

Doppler Radar system complying with NATO EPVAT (“Electronic Pressure Velocity and Action Time”) uniform test methods, Stanag 4569, Stanag 2920, AEP55 and AEP97, for Ballistic testing of Medium calibre ammunition capable to detect the projectiles of calibres from 12,7 mm to 35 mm. Detecting smaller calibres will also be an advantage.

#### 2. Minimum output requirements

- Rate of Fire up to at least 3000 rounds per minute.
- Velocity in 5m increments or less, up to a distance of at least 250m at the target.
- T2 and T4 Shot time.
- Muzzle velocity up to at least 2000m/s.
- Detect self-destruction and tracer initiation up to 250m.

#### 3. Minimum instrumentation requirements

##### 3.1 Doppler Radar unit with Junction box, signal cable and Tripod

- Transmitter power: 100Mw
- Transmitter stability: <0.1 %
- Transmitter frequency: 24.125GHz to 35.5GHz
- Velocity range: ~20 – 2 000 m/s
- Intrinsic system accuracy: < 0.1 %
- Antenna gain: 8db – 22db
- Beam width: 12 degrees
- Operating temperature: -10 to 65°c
- Junction box with USB interface 2.0. A/D converter with resolution 16 bit and built-in signal conditioning.
- Signal cable connecting the Doppler Radar unit to the Junction box, at least 75m.
- Tripod for Acoustic sensor, Doppler Radar unit and mirror device.

##### 3.2 Muzzle Flash Detector kit

- Muzzle flash detector
- At least 30m signal cable with adapter
- Power supply and pulse output

### **3.3 Operating system requirements**

- The Software needs to perform velocity analysis, real time data capture, analysis, display and reporting on flexible formats.
- The Software needs to capture the Rate of Fire, up to at least 3000 rounds per minute, analyse and report on flexible formats.
- Computer: Suitable rugged laptop with the latest Windows version to accommodate the required software and with 2 free USB ports.

#### **Confirmed by:**

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