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Please direct all correspondence in relation to this RFI via the Defence Sourcing Portal (DSP)

DEFENCE, SCIENCE AND TECHNOLOGY LABORATORY (DSTL)
REQUEST FOR INFORMATION

Anechoic Chamber (REF: RFI20210701)

PART A: PROJECT INFORMATION

Introduction:

The objective of this Request for Information (RFI) is to determine the potential market capability, interest and approaches for the provision of Multiple Anechoic Chambers which may resolve the problem described below. Therefore Dstl invites the market to consider and respond to the questions presented in consideration of the problem as described and against the defined equipment parameters.

Background:

Dstl are forecasting a requirement that will involve the Procurement of a number of Anechoic Chambers, at present Dstl have identified a new building currently under construction to house the Chambers. The construction timeline for the new building has a completion and handover forecasted in April 2022. This handover is then followed by a period of Dstl setting the building to work, timeline 3 calendar months,. Purchasing new chambers as opposed to re-using the ones in situ is seen as a good mitigation to potential delays on the construction project. New chambers can be installed during the Estates setting to work period (from April 2022)

The Equipment:

1 A Brief Description of the Requirement

1.1 Anechoic chamber Room CE 800-G16:

Ground floor large Anechoic chamber room 10m x 6.8m x 5.7m (L x W x H) fully-lined with Hybrid-RAM for EMC, antenna and immunity testing covering frequency band 26 MHz to 40 GHz with ante-room 2.6m x 2m x 2.2m (L x W x H). All inclusive of turtabable, mast, DUT camera, Infrared camera, DUT field probe, safety monitoring system with 4 x patch and 4 x floor panels, several RF feed through connections and associated filters including mains.

1.2 Anechoic Chamber Room CE 800-106:

Upper floor high power Anechoic chamber room 7m x 6.2m X 3m (L x W X H) fully-lined hybrid or standard RAM for EMC, antenna and immunity testing covering frequency band 26 or 80 MHz to 40 GHz with ante-room 3.7m x 3.125m x 2.2m (L x W x H). All inclusive of turntable, mast, DUT camera, Infrared camera, DUT field probe, safety monitoring system 4 x patch and 4 x floor panels, several RF feed through connections and filters including mains.

1.3 Back-to-Back connected screen rooms CE 800-106:

Two bac-to-back connected screen rooms each 3m x 3.5m x 3m (W x L x H) with interconnected internal door, two external doors and with 3 x patch panels, several RF feed through connections and associated filters including mains.

1.4 Anechoic Tube Room CE 800-G01:

1.4.1 Anechoic tube requirements:

- Operating frequency range: 500 MHz – 12 GHz
- Shielding isolation: <100 dB
- External chamber dimensions: Width 1500, Depth 4000, Height 2000 (mm)
- Doors approx. 650 x 650 (mm) are required at each end of the chamber
- Penetration panels at each end of the chamber, each with 4 x SMA-Type and 4 x N-Type connectors (All connections should be precision, female type and supplied with appropriate inside and outside tethered caps/covers)
- Internal fibre lighting is required (No LEDs)
- All chamber parts must be able to fit through standard double doors as the chamber will be constructed on site (ground floor)
- VHP-12 RAM standard/hybrid (chosen for optimum performance over operating frequency range), non-carbon shredding, fire retardant
- Fire retardant standard: NRL 8093 (tests 1,2 and 3), DIN4102 Class A or Class B, UL94HBF, ISO 11925-2, EURO Class E. Note that a test report and certificate are required for in-house Fire Safety officer at PTN site.
- Bid must include a wheeled stand suitable to support the chamber and raise it to a working height
- Mains filtering >=100dB attenuation from 10 KHz to 40 GHz.

1.4.2 Remote turntable/platform requirements:

- Turntable must be able to move backwards and forwards down the useable length of the chamber in 1 mm steps. Must be able to traverse the length of the chamber in approx. 2 minutes
- Turntable must be able to rotate 360 degrees in 1 degree steps (full rotation in less than a minute)
- All motors, electronics, and metal need to be external to the chamber. Only plastic, nylon, rubber, etc. can be inside the chamber.
- It is NOT acceptable to have shielded electronics inside the chamber.
- For use with payloads up to 2.5 kg
- The design should not be belt driven.
- Must be remote operated by serial commands or similar