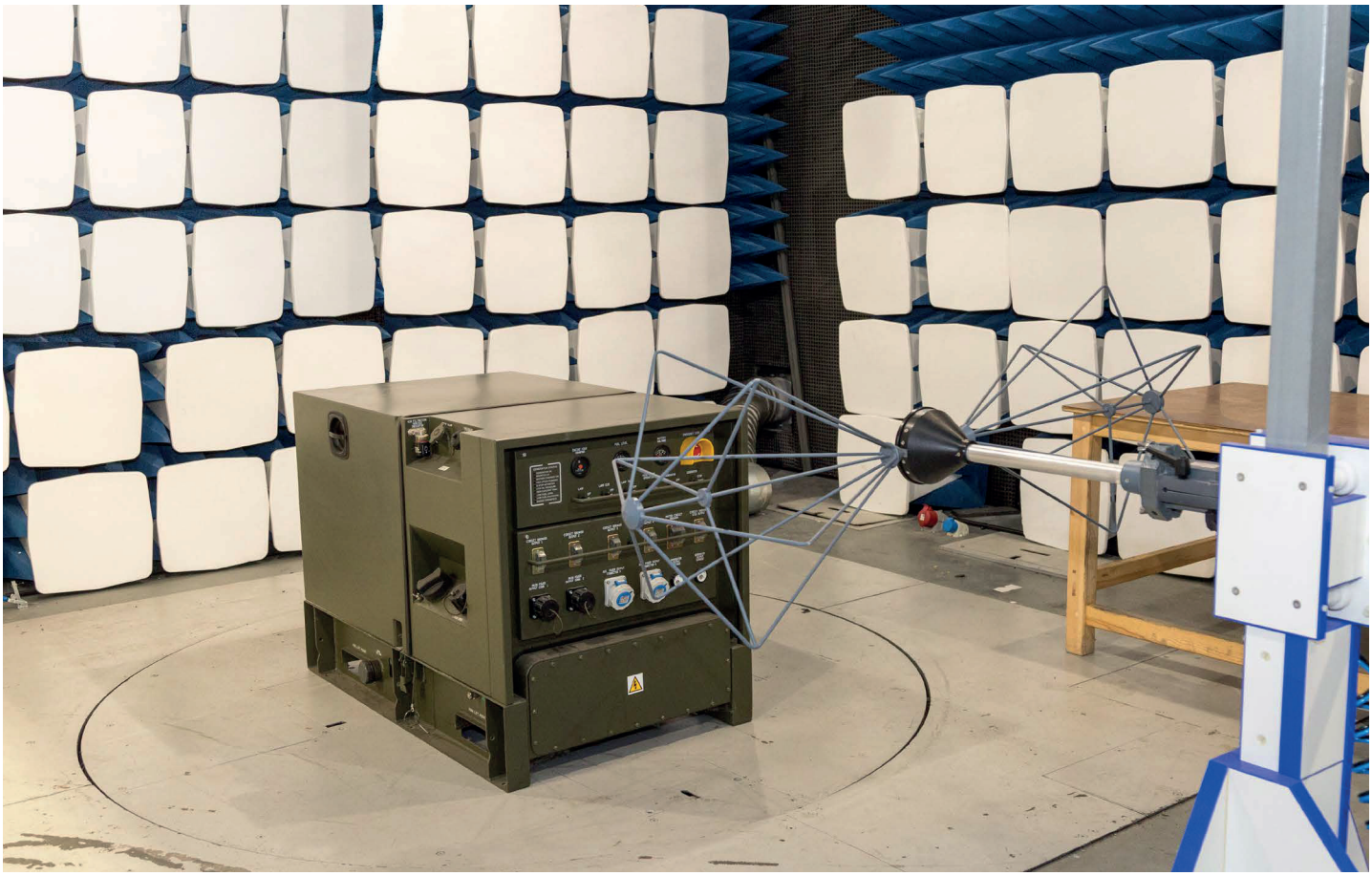
EMC Test Facility

The Rolls-Royce Distributed Generation Systems Electro Magnetic Compatability (EMC) test facility is designed and built to perform full EMC Emissions and Immunity testing for all main; Def-Stan, MIL-STD, Aero and Commercial EMC Test Standards.



Top class performance and accuracy:

The facility has been independently tested and verified to UKAS standards to be compliant to the latest and most stringent worldwide EMC chamber construction and performance standard; CISPR16-1-4.

This offers a top class and stable test environment ensuring that all measurements have the highest integrity and repeatability therefore producing extremely robust test results and product compliance confidence.

Due to the EMC chamber's high performance, the only limit to the type of test standards undertaken is the scope of test equipment employed.

Multiple applications:

The facility can be used to carry out EMC testing for many purposes including:

- New product compliance/pre-compliance tests to DefStan, MIL-STD, Aero and Commercial EMC test procedures and standards.
- EMC performance/de-risk checking for; component selection, product research, equipment modifications, and component changes.
- QA checking EMC performance of final production-line products.

Rolls-Royce

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Main features:

The central feature of the facility is a 10m x 6m x 5.5m ('3m') semi-anechoic chamber designed, constructed and tested to be compliant to the latest and most stringent EMC chamber construction and performance standard; CISPR16-1-4.
This ensures that the facility is capable of performing full EMC Emissions and Immunity testing for all main; Def-Stan, MIL-STD, Aero and Commercial EMC/EMI Test Standards.

Frequency ranges:

- Emissions: 14 kHz – 18 GHz
- Immunity: 30 MHz – 18 GHz

Shielding performance:

- RF shielding to IEEE-299:
- 10 kHz magnetic field: -60dB
- 200 kHz magnetic field: -100dB
- 1GHz far E field: -100dB
- 18GHz microwave: -100dB

Anechoic performance:

- Emission NSA performance compliant to CISPR16 (+/-4dB in the range of 30-1000MHz).
- Emission performance above 1GHz compliant to CISPR16 -1-4 in a SVSWR calibration 0-6dB.
- Quiet Zone 2m, ± 6dB measurement uncertainty.
- Field uniformity performance 26 MHz to 18 GHz; 0 to 6dB.
- NSA performance; ± 3.5dB.

Additional features:

- Automated recessed turntable.
- Automated adjustable height antenna mast.
- Fully shielded large control room.
- Capable of radiated immunity testing up to 200V/m field strength for Military (MIL-STD 461, Def-Stan 59-411) and Aero (DO 160) with pre-compliance EMC test.
- Presently equipped with pre-qualification EMC test equipment for all main radiated and conducted emissions test standards within the range 9kHz to 3GHz. Additional test equipment is employed when performing immunity and more specialised application/product specific test standards as required.
- Equipped with specialised and uncommon auxiliary systems:- forced air ventilation, exhaust extraction, fire alarm, fire suppression (for testing running engines/generators) and compressed air supplies.
- Filtered AC & DC load bank interfaces for testing running generator sets.
- Filtered 1 & 3 phase AC and DC external electrical supplies are available for supplying any power requirements for various EUT types.
- CCTV system for remote monitoring of EUT behaviour during tests.
- Maximum equipment under test dimensions (particularly length) vary according to different test. standard set-up stipulations and main door dimensions (W: 2.5m x H: 2.5m).