# Metrology for the Future of Space Craft Testing Workshop

Facilitated by National Physical Laboratory - NPL

**When:** Wednesday 30th May

**Time:**  10:00 - 13:00 (tbc)

**Location:**  Aj030 or ESCAPE (tbc), ESTEC

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**Background:**

We are witnessing an evolution in spacecraft design and manufacturing, which is bringing its own specific needs and challenges in adopting new technologies to verify reliability and performance. The space market requires new approaches to verification and quality assurance, taking inspiration from non-space industry, emerging technologies and digital innovations. This may include, for instance, the verification of large constellations, which will require new methods to cope with large-scale, short cadence production lines, advances in measurement and instrumentation science, new ways to test spacecraft with the potential to reduce costs and to improve confidence and reliability of space hardware testing.

**Objective:**

This open-minded workshop shall provide an opportunity to re-think the metrology and tools available for spacecraft testing, to challenge traditional approaches. The workshop intends to identify and discuss specific needs and challenges that are envisaged in all areas of environmental testing of space hardware. Candidate research and development topics shall be identified. The outcome shall serve as input to develop a long-term strategic view on the future measurement needs for spacecraft testing.

**Workshop Format:**

Workshop attendees are invited to fill an anonymous questionnaire to identify the perceived needs and challenges in spacecraft testing. The questionnaire will be handed out at the ECSSMET reception desk.

An introductory address by NPL will provide an overview about global spacecraft manufacturing needs and challenges for future missions and tries to give an insight into upcoming metrology technologies. The address will also include feedback on questionnaire results of possible key needs and challenges.

This will be followed by a first round of discussions with regard to testing needs and challenges for the space industry in the next 10-20 years. During a short breakout, attendees can add their sector testing desired impacts and challenges to posters / post-it notes in the room. In the second round, the future and emerging testing technologies and digital innovations will be discussed.