

# The Strategic Role of Inter-Laboratory Comparison Among International Institutions to Assure Confidence: Report of the INRIM and the European Spatial Agency Comparison on Electrical Quantities

F. Galliana<sup>1\*</sup> and M. Del Moro<sup>2</sup>

<sup>1</sup>Department of Innovation and Metrology Services, National Institute of Metrological Research, Strada delle Cacce 91, 10135 Turin, Italy

<sup>2</sup>Serco Nederland BV for ESA - European Space Agency, Keplerlaan 1, 2201 AZ Noordwijk, The Netherlands

\*Corresponding author, E-mail: [f.galliana@irim.it](mailto:f.galliana@irim.it)

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**Abstract:** Inter-laboratory comparisons (ILCs) are an effective mean to establish the compatibility of the measurements among laboratories also belonging to different countries and so belonging to different measurement systems. As consequence, they are a mean to assure confidence in the competence and in the correctness of the unit dissemination processes from national Standards in different countries. This paper refers on an ILC between the National Institute of Metrological Research (INRIM-Italy) and the European Space Research and Technology Centre (ESA-ESTEC), belonging therefore to two different measurement systems, on DC Voltage, DC Resistance and Electrical Capacitance carried out in 2016. The comparison had satisfactory results.

**Keywords:** Measurement system; Measurement compatibility; Inter-laboratory comparison; Measurement uncertainty; Normalized error; Low frequency electrical quantities