



2020 IEEE INTERNATIONAL WORKSHOP ON Metrology for Industry 4.0 & IoT

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CNR - NATIONAL RESEARCH COUNCIL
HEADQUARTERS - **Piazzale Aldo Moro**

CALL FOR PAPERS for the Special Session on METROLOGY FOR DATA INTEROPERABILITY IN INDUSTRY 4.0

Interoperability is often a highly desirable property; in broad terms, inter-operable entities are interchangeable for particular applications. Modularisation and standardisation are classic engineering routes to interoperability: components that conform to a standard are intentionally inter-operable. But, how can this apply to measurement data in industry 4.0? What is needed to provide inter-operable measurements between different machines or even between factories in different countries? Can such a wide domain as 'measurement' be standardised?

These questions must be discussed in the context of current and emerging digital technologies, while keeping the basic principles of measurement science in mind.

Society already has sophisticated measurement infrastructures that provide critical measurement information where it is needed; these 'national quality infrastructures' (NQIs) are delivering interoperability, but not yet to the digital world. The challenge, and opportunity, is to now extend NQIs to the digital economy.

MAIN TOPICS

This special session invites contributions to the discussion.

Topics include (but are not limited to):

- Measurement information infrastructures;
- Metadata, thesauri and ontology concepts in industry 4.0;
- Calibration of digital systems;
- Digital calibration certificates;
- Digital representations for physical quantities and units;
- Curation of measurement data in industrial sensor networks;
- Novel concepts for third-party accreditation using digital technologies
- Representing measurement requirements and tolerance for error;
- Metrological traceability in digital systems and sensor networks;
- Metrological evaluation of autonomous system performance;
- Co-calibration and related concepts for on-line calibration;
- Untraceable measurement data

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