



Measurements and the global energy challenge

Release:

May 20 is World Metrology Day, commemorating the anniversary of the signing of the Metre Convention in 1875. This treaty provides the basis for a coherent measurement system worldwide.

The theme chosen for 2014 is **Measurements and the global energy challenge**.

The world is facing a growing global energy challenge over the coming decades. The crux of the problem is the growing energy demand, particularly from the emerging nations, coupled with the need to limit or reduce greenhouse gases. Add in the desire to have diversity and security of supply and the increasing costs to extract fossil fuels, and we see the trend is for a greater mix of energy sources, including renewables. Diversification, combined with demands for improvements in efficiency of energy generation, transmission and use, mean that technology is constantly being pushed to the limit.

To meet the challenge we need to improve our ability to measure a whole series of parameters. For example, more accurate measurement of the manufacturing temperature or surface form of a turbine blade will enable efficiency improvements. Better power quality measurements will help improve the stability of transmission grids, which nowadays must also cope with variable inputs from wind turbines and photovoltaic cells, etc. More complex electrical power metering is needed to ensure the energy we buy, or even perhaps sell, is correct.

Across the world, national metrology institutes continually advance measurement science by developing and validating new measurement techniques at whatever level of sophistication is needed. They also participate in comparisons coordinated by the Bureau International des Poids et Mesures (BIPM) to ensure the reliability of measurement results worldwide.

Many measuring instruments are controlled by law or are subject to regulatory control, for example the scales used to weigh goods in a shop, instruments to measure environmental pollution, or meters used to bill energy. The International Organization of Legal Metrology (OIML) develops international Recommendations, the aim of which is to align and harmonize requirements for these types of instruments worldwide.

World Metrology Day recognizes and celebrates the contribution of all the people that work in intergovernmental and national organizations throughout the year on behalf of all.

Further information, including a message from the Directors,
posters, and a list of events, is available at

www.worldmetrologyday.org

Contact: wmd@worldmetrologyday.org

Notes for Editors:

World Metrology Day is an annual event during which more than 80 countries celebrate the impact of measurement on our daily lives.

*This date was chosen in recognition of the signing of the Metre Convention on 20 May 1875, the beginning of formal international collaboration in metrology. Each year World Metrology Day is organized and celebrated jointly by the **International Bureau of Weights and Measures (BIPM)** and the **International Organization of Legal Metrology (OIML)** with the participation of the national organizations responsible for metrology.*

*The international metrology community which works to ensure that accurate measurements can be made across the world endeavors to raise awareness each World Metrology Day through a poster campaign and **web site**. Previous themes have included topics such as measurements for safety, for innovation, and measurements in sport, the environment, medicine and trade.*

About the BIPM

The signing of the Metre Convention in 1875 created the BIPM and for the first time formalized international cooperation in metrology. The Convention established the International Bureau of Weights and Measures and laid the

foundations for worldwide uniformity of measurement in all aspects of our endeavors, historically focusing on and assisting industry and trade, but today just as vital as we tackle the grand challenges of the 21st Century such as climate change, health, and energy. The BIPM undertakes scientific work at the highest level on a selected set of physical and chemical quantities. The BIPM is the hub of a worldwide network of national metrology institutes (NMIs) which continue to realize and disseminate the chain of traceability to the SI into national accredited laboratories and industry.

About the OIML

In 1955 the International Organization of Legal Metrology (OIML) was established as an Intergovernmental Treaty Organization in order to promote the global harmonization of legal metrology procedures with the Bureau International de Métrologie Légale (BIML) as the Secretariat and Headquarters of the OIML. Since that time, the OIML has developed a worldwide technical structure whose primary aim is to harmonize the regulations and metrological controls applied by the national metrological services, or related organizations.