RealMass

Improvement of the realisation of the mass scale

COORDINATOR

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Building Europe’s capacity for dissemination of the redefined kilogram

Redefinition of the kilogram offers the prospect of far more accurate measurements of mass for research communities. In time, European industries could also benefit, as precise measurement of mass is critical for many production processes, including in the chemical, pharmaceutical and automotive sectors. However, the calibration laboratories that underpin assurance of the accuracy of these measurements are currently unable to provide excellent services in the 1 mg to 20 kg range, through insufficient availability of guidance and software tools. These laboratories are, in turn, required to benchmark services with National Metrology Institutions (NMIs) reliant on mass standards that can introduce calibration errors. Also, NMIs in some developing nations lack sufficient calibration expertise to ensure accurate mass measurements. These institutions also bear additional costs by needing to outsource those services.

The project will facilitate cooperation leading to improved calibration capabilities at participating, less-developed, NMIs. It will also produce draft EURAMET calibration guidance applicable to the new definition of the kilogram, backed by software, training tools and maintenance methods. As a result, participating NMIs in emerging EURAMET countries will be empowered to launch high-quality, cost-effective, calibration services. In due course, European weighing instrument producers will gain access to more capable calibration services. This will provide opportunities for upgraded research activities for which mass measurement accuracy is critical, and for more optimised production processes that can further advance Europe’s industrial competitiveness.