ASSOTIC
Associazione Italiana degli Organismi per la Valutazione della Conformità

eurolab

Certified Reference Materials – trends, challenges & opportunities

Organised alongside the IMEKO Joint Conference TC8-TC11-TC24

Wednesday, 17 September 2025, 10:00 - 13:00 CEST
Venue: Politecnico di Torino, Torino, Italy
Language: English & Italian

Introduction

Certified Reference Materials (CRMs) play a critical role for laboratory analyses and tests by providing standardized and traceable benchmarks to ensure the reliability, accuracy, and consistency of measurements and analytical results. They are used in the calibration of instruments, in the validation of analytical methods and in the quality control of analytical results. By using CRMs, laboratories ensure the reliability of their data, build trust with clients, and comply with industry and regulatory standards. However, their use comes with various challenges important to consider:

- Availability: despite the recognized importance of MRs, in several cases laboratories find it difficult to procure CRMs, especially for the niche or specialised applications. Such limited supply may hinder laboratories' services.
- Costs: high-quality CRMs can be very expensive, while, in other cases, their cost is disproportionate to the analytical purpose. Limited budget can limit the number and types of CRMs that laboratories can purchase, which may lead to difficulties in validating and calibrating equipment effectively.
- Stability and shelf life: Special conditions have to be met in the CRMs storage in order to maintain their quality and integrity, thus proper training in the CRMs handling is of key importance.
- Regulatory compliance: Laboratories must implement various regulatory demands and standards that are at the basis of CRMs usage, while they need to be always up to date with the revised changes and updates in order to remain compliant.
- Inter-Laboratory variability: Laboratories can use various tools, practices, methods that might impact the results while using the same CRMs which can lead to variability in the results, thus impacting the inter-laboratory comparisons across different labs.

The Seminar aims to offer an overview of the current context, trends and critical issues encountered, with the intent to further enhance the dialog among the different "actors": producers, research institutions, laboratories, accreditation bodies while sharing best practices and supporting the laboratories in effectively integrating GRMs in their quality assurance processes, thus enhancing their results credibility and reliability.

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Seminar Program

10:00 – 10:20: **Welcome & EUROLAB/ASSOTIC Introduction**
Paolo Moscatti, ASSOTIC Vice-President
Laura Martin, EUROLAB Secretary General

10:20 – 10:45 **Certified Reference Materials: everyday challenges in a testing laboratory**
Filippo Venturi
Technical Director of Food and Food Contact Materials departments at pH Labs by TÜV SÜD

10:45 – 11:10 **Selection and use of Reference Materials in analytical laboratories: challenges being addressed in the revision of the Eurachem Guide**
Marina Patriarca
Chair of the EURACHEM/CITAC Working Group on Reference Materials

11:10 – 11:35 **Accreditation of Reference Material Producers (RMP)**
Iris Cagnasso
ACCREDIA – Technical Officer of the Calibration Laboratories Department

11:35 – 12:00 **Certified Reference Materials Manufacturer: Does It Meet Market Needs?**
Francesca Giuffredi
CHEMIFARM Srl – Accredited CRM Producer

12.00-12.20 **One for all, all for one: The experience of two different strategies in preparing standards inside ARPAE Emilia Romagna laboratory**
Marco Prete
ARPAE - Regional Agency for Prevention, Environment and Energy of Emilia-Romagna

12:25 – 12:55 **Q&A**

12:55 – 13:00 **Conclusions**
Vincenzo Patti
ASSOTIC President