

DEAR FRIENDS, DEAR COLLEAGUES,

The IMEKO year started very excitingly.

There are some significant changes! In the very first days of January, the election of our incoming president took place. The first article is about her. Since January, IMEKO has a new Technical Committee, TC26, called "Metrology for Cultural Heritage". This new committee and its Officers are further introduced in this issue. We are only in February, but the event calendar is quite full! Nine Technical Committees are in the advanced stages of their conference organising, and there is still more to come. On publishing, The Editor-in-Chief of our new Elsevier-affiliated journal introduces Measurement: Digitalisation. Acta IMEKO completed publishing the latest issue of 2024. IMEKO is active in the Bureau International des Poids et Mesures, BIPM initiative, of the Joint Statement of Intent on Digital Transformation in the international scientific and quality infrastructure. We have news about the latest developments and IMEKO's role in the upcoming events related to this group's activities at BIPM. The following article also involves BIPM, the anniversary celebration of the 150 years of the Metre Convention BIPM organises and, in honour of it, the poster call with news concerning the Confederation. In this issue, Maro Electronic from our industrial contacts introduces ScalesNet. Lastly, we have 36 new members joining our Technical Committees! Welcome to IMEKO!

On 13 January 2025, the General Council gathered to meet the three distinguished candidates for the position of the incoming President-Elect, who is also the Chairperson of the Technical Board. The presentations were impressive, and the votes proved, in an extremely tight race, that all three scientists, namely Mrs Barbara Goldstein, Prof. Elisabeth Costa Monteiro and Prof. Eric Benoit, were excellent candidates. IMEKO thanks each of the candidates for their dedication and work!

INTRODUCING MRS BARBARA GOLDSTEIN



Dear colleagues,

I am delighted and honoured to serve as your incoming President-Elect! I look forward to working with the IMEKO leadership team to promote the great work that IMEKO does, to expand and diversify our participation, to grow into new areas such as Metrology for Cultural Heritage, and to build bridges between IMEKO and the broader international metrology community. For those who may not know me, I currently serve as Associate Director of the Physical Measurement Laboratory of NIST.

In this role, I lead our [NIST on a Chip](#) research program, which is setting a new direction for measurement dissemination through a suite of quantum-based, fit-for-purpose sensors and standards. I am helping to launch a new international collaboration called NMI-Q to lay the scientific foundation for future quantum technology standards. For the last four years, I have served as the inaugural chair of TC25 – Quantum Measurement and Quantum Information.

Thank you for putting your trust in me, and I'm excited to support you in the years to come! Please don't hesitate to contact me with your thoughts or suggestions.

Sincerely, Barbara

NEW IMEKO FUNCTIONS



Prof. Elisabeth Costa Monteiro, one of the candidates in the recent elections, is very well known as the Chairperson of TC13, dedicated to "Measurements in Biology and

Medicine" and for her activity in the IMEKO working groups. The Presidential Board nominated her as the Vice President for Development.

(More about her, in the [Newsletter September 2023](#)).



Prof. Eric Benoit, another candidate in the recent elections, has served for a long time as the dedicated Chairperson of the TC7 Measurement Science. He is part

of the working group IMEKO Publications and is active in Acta IMEKO, our online journal. The Presidential Board nominated Prof Benoit as the Vice President for External Relations.

(More about him, in the [Newsletter November 2022](#))

NEW MEMBERS OF THE TECHNICAL COMMITTEES

TC1: Maurício de Campos Porath; Germany, Osman Sibonjic; Bosnia and Herzegovina,

TC3: Azmir Alic; Bosnia and Herzegovina, Kevin Lee Chesnutwood; USA,

TC6: Stefan Röttger; Germany, Rodolfo Saboia L Souza; Brazil,

Henrike Fleischack; Germany,

TC7: Luiz Vicente Gomes Tarelho; Brazil,

TC9: Sonja Schmelter; Germany,

Agne Bertasiene; Lithuania,

Steven Wang; Australia,

TC11: Mirjana Šućur; Bosnia and Herzegovina,

Dragana Naumovic Vukovic; Serbia,

Philibert Zimulinda; Rwanda

TC15: Mohammad Fotouhi; Netherlands

TC16: Sindy Higuera Agudelo; Colombia, Momoko Kojima; Japan,

Daichi Takahara; Japan, Hongbo Wang; China, Li Zhang; China

TC18: Andrea d'Avella; Italy, Ito Takayuki; Japan-France, Nicolas Schweighofer; USA, Matteo Lancini; Italy

TC19: Stefan Röttger; Germany, Olav Wernhahn; Germany, Dunja Đukić; Serbia

TC20: Niranjana Sahoo; India, George Milushev; Bulgaria, Fraddy D'Souza; India, Mircea Nicolae Pop; Romania

TC23: Katarina Hafner-Vuk; Bosnia and Herzegovina

TC24: Admer Rey Dablio; Philippines

TC25: Leopoldo Angrisani; Italy

Welcome to IMEKO!

INTRODUCING SCALESNET FROM MARO ELECTRONIC

ScalesNet - The Software solution for mass laboratories

Traceability to national standards for all calibrated objects is the most important demand for quality assurance in metrology. Furthermore, a careful collection of all data arising during the measurement process is the irrevocable foundation for a precise uncertainty calculation and, therefore a precise measurement result to determine both conventional mass and true mass. This includes not only the values from the comparators and the measurement itself but also the environmental conditions as well as the uncertainty values of the reference weight.

The goal of digitalisation in mass calibration

Whenever talking about digitalisation in mass calibration, the main goal should be the reduction or exclusion of errors. Many of these errors are caused by humans and, therefore, avoidable. In addition to uncertainty factors that can only be avoided to a certain extent, such as different loading and replacement times when operating on manual comparators, there are also errors that are absolutely avoidable, such as typing or typographical errors when manually transferring measurement results. Furthermore, a financial incentive can't be denied based on the significantly increased productivity and reduced personnel costs by automating the processes within the laboratory. Nevertheless, reducing errors, Traceability, and proper data storage without any contradictions or duplications should be the main goals. This also includes a proper history of all former results to determine the drift of both the weighing equipment and the reference and test weights.

Also, a history of all climate stations is crucial for an adequate long-term record.

History of MARO Elektronik



Maro Elektronik was founded on 1 April 1988 in Bretzenheim, Germany. The company started as a software and hardware

development company for individual solutions in the industry. As such, the founder and CEO of Maro Elektronik, Mr. Robert Matzinger, was invited to visit the weights and measures office in Bad Kreuznach. Seeing the workflow within the lab being completely manual, where the operator wrote down by hand the values shown on the display of the comparator and then went to the climate stations doing the same for the climate values, Mr. Matzinger suggested improving this workflow by collecting the values automatically.

The idea of ScalesNet was born, and the development of it started in 1997. ScalesNet was developed to run on a microcontroller as its platform in the early stages. Still, the abilities of a microcontroller-based system quickly became insufficient. From then on, ScalesNet has become a modular server client program running on PCs and, in the future, on tablets. In Addition to ScalesNet, Maro Elektronik also offers sFPPK software for Prepacking-Examination to help authorities control prepacked products by weight and volume.

INTRODUCING SCALESNET



The company is undergoing a structural change during which Mr. Matzinger will gradually withdraw from day-to-day business, and the handover to his successor, Ms. Lisa Busser, as future CEO and owner is being prepared.

General benefits of ScalesNet

All comparators and robotic systems from well-known manufacturers (Sartorius, Mettler Toledo, Radwag, ...) can be connected to ScalesNet. So, if there are comparators of different manufacturers within the lab with ScalesNet, there is only one software necessary to operate on all of them. It follows that a job that requires execution on different comparators is also executable across manufacturers, and the results are still managed centrally in one database. In addition to a general server-client infrastructure, the administrative part and the execution of the measurement itself are separated within the software, which offers the opportunity to perform a preprocessing outside of the calibration lab.

DCC-Digital Calibration Certificate

ScalesNet by MARO Elektronik is officially a partner of the PTB that will implement the DCC within an already existing software. Within this process, the developing team of ScalesNet is giving feedback about the practicability and missing information of the design pattern created by the PTB back to the DCC-Team of the PTB. The focus is not only on the technical correctness but, above all, on the fact that a wide variety of software developers can recreate the DCC as easily as possible.

In our opinion, this is the only way a global standard can be achieved by keeping the entry barrier as low as possible while ensuring technical correctness and completeness. At the current stage of development, ScalesNet is already able to generate a DCC that validates against the PTB scheme based on a real calibration. Reading the DCC back into ScalesNet is already partially possible. The complete import of a DCC is currently still under development. Our stated goal is to automatically import as much data as possible from a given DCC into ScalesNet and reduce the necessary human intervention as much as possible for DCCs created by ScalesNet and for DCCs created by any other software.

Robotic systems

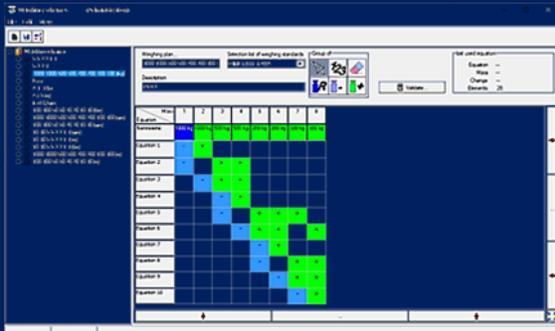
It is possible to define different magazines for every robot with predefined reference weights in predefined places to reduce repeatable work. Therefore, once defined, it is possible to load the predefined magazine and only place the test weights for the current job, as you can see in the following picture where the positions a1, a2, and a3 had been predefined in the selected magazine.



INTRODUCING SCALESNET

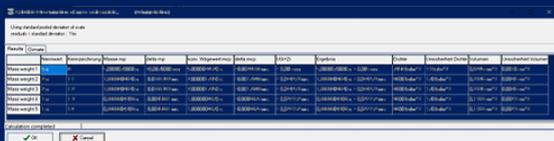
Dissemination

Dissemination is an additional module for ScalesNet.



The picture above shows the menu for editing and creating weighting schemes. There are some typical weighing schemes that are predefined, but the user has full control over editing them or creating new ones that fit their needs. After any modification, the integrated check function is recommended to validate the new schema. Obviously, it is way more comfortable to perform dissemination on a robot. Still, it is, of course, also possible on a manual comparator.

After completing the dissemination, a list of complete results will be shown, including the corresponding uncertainties shown in the next picture.



Uncertainty calculation

The uncertainty calculation is the heart of every measurement in metrology. It doesn't matter how precise the measurement is if there is an error in the calculation afterwards.

ScalesNet returns the results of all uncertainty calculations for all measurements. All used formulas within the calculation can be seen by the user. Many users have already checked the uncertainty calculation in ScalesNet for both the normal measurement and the dissemination. Nevertheless, every user is welcome to check the calculations themselves. The developing team of ScalesNet will support every user doing this if there are open questions or ambiguities in the documentation. Repeated checking of the calculations by independent laboratories significantly reduces the probability of errors. This is one of the great advantages when the software or an Excel spreadsheet is not only developed locally for a single laboratory but is used globally and, therefore, checked by users worldwide.

Comparator	Climate devices	Max.perm. errors	Supplements	Results	Memo
Nominal value		DeltaMcT	DeltaMT		
1 kg		+0.1046 mg	+0.1042 mg		
		mcT	MT		
		1,00000010500 kg	1,00000010400 kg		
T-Test...		Uncertainty			
		calculated			
		UmcT	UmT		
		0,17150848 mg	1,07501217 mg		
Open report...					
Appraisal factors - 1,60 mg / + 1,60 mg					
$ \Delta m_{cT} + \text{perm.}U(m_{cT}) \leq \text{MPE}$		OK			
$ \Delta m_{cT} + U(m_{cT}) < \text{MPE}$		OK			
$U(m_{cT}) \leq \text{perm.}U(m_{cT})$		OK			
$s(\Delta m_w) < s_{p \text{ used}} * 1,2$		OK			
$\Delta m_{cT} \leq \text{MPE}$		OK			

This picture shows the results of a measurement, including the appraisal factors and if they have been passed.

INTRODUCING SCALESNET

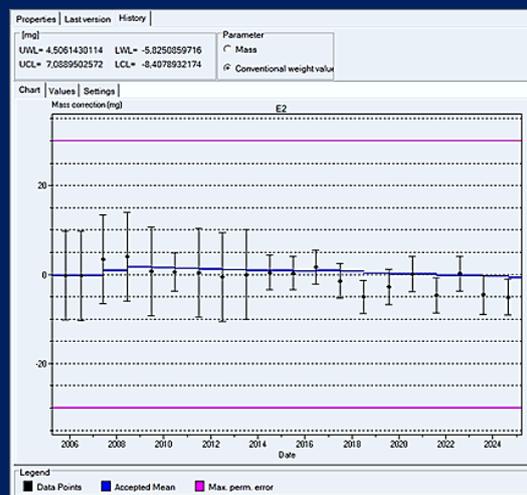
Of course, there is also an extended report containing all relevant information (customer, work order, test weight, reference weight, every measurement with corresponding climate values, extended uncertainty calculation with intermediate steps, ...) for this measurement.

Calibration Certificate

After completing the calibration process and checking the results, the final certificate can be generated as DCC as well as PDF and several other file types. With DCC, the format is predetermined by the underlying XML schema. When generating the certificate as a PDF, there is a large selection of data with which the certificate template can be created and filled according to the individual wishes of the laboratory.

History

ScalesNet stores all the data it collects about the various measuring and testing equipment and customer weights. For example, long-term statements about the drift of climatic conditions in the laboratory can be derived from this. The same applies to test equipment such as reference weights. Here, the gradual deterioration of the weight can be observed and controlled, enabling the laboratory to make an individual and well-founded assessment of the usability of the reference weight in the desired class. The same is also possible for customer weights. Being able to see the long-term development of your own equipment and being able to make derivable estimates for the future is an important cornerstone of quality assurance in the laboratory. The following picture shows the test weight history from 2006 until now.



If you have any special requirements, the team at ScalesNet is always willing to discuss opportunities to fulfil your wishes. In addition, the ScalesNet team offers fast support. Many of the previously mentioned functionalities are independent modules. This means that if a laboratory does not use robots or conduct dissemination, it does not pay for it. You only pay what you need.

Contact us for more information:



Written by Ms Lisa Busser

IMEKO'S NEW TECHNICAL COMMITTEE, TC26 METROLOGY FOR CULTURAL HERITAGE

Dear Friends, Colleagues,

A new Technical Committee, the TC 26, was established recently. It is dedicated to "Metrology for Cultural Heritage".

The Technical Committee was conceived as a meeting place aimed at promoting interdisciplinary work between researchers from different scientific sectors and showing and sharing the latest innovations in the field of measurements applied to cultural heritage. It wants to be an opportunity for intersectional exchange between researchers and professionals from public structures such as museums, galleries, libraries, archives and small and medium-sized enterprises.

Due to the scientific complexity of the topic that requires, in most cases, continuous comparison and teamwork between sectors of both the hard sciences and the humanities, the interdisciplinary approach we want to give to the TC is highly encouraged.

Cultural Heritage metrology is a new discipline that could strengthen the reliability of analytical data by introducing metrological concepts in Cultural Heritage measurements and enhancing the metrological capability of the professional pool (especially of young investigators) since the academic systems in the Cultural Heritage areas lack adequate metrological training and teaching.

For the first three years, the purposes of TC26 include but are not limited to the following:

- Promotion of the international exchange of scientific and metrological information and opinions concerning instrumentation, sensor measurement methods and techniques for cultural heritage, even with special workshops devoted to the current scopes.
- Promotion of intersectoral exchange between researchers belonging to different scientific sectors.
- Discuss the current state and further development of the measurement for cultural heritage, including sampling,

handling, and key concepts such as destructive and invasive and their measurement, etc.

- Dissemination of measurement principles and techniques that could be useful in this topic aiming to promote the standardisation of processes and methods for analysing cultural heritage.
- Develop guidelines and standards that are useful in this research field.
- Definition of paths that can promote the introduction and the diffusion of the concept of accuracy and uncertainty within the topic's context.
- Development improvement of current instrumentation.

Expected results:

- Articulation of the paths that aim to the realisation and dissemination of standards;
- Recommendations for Integration of the international metrology infrastructure to accommodate Cultural Heritage standards;
- A forum for the metrology community, industry and academia to facilitate the exchange of ideas and the discussion of difficulties and limitations inherent to the analysis of cultural heritage, sampling, mobility of the equipment, handling of fragile materials, etc.
- Developing benchmarks and modes of intercomparison for Cultural Heritage technologies.
- Promote the dialogue with industry as an essential partner for the development of new and specialised instrumentation and to promote the diffusion of possible defined guidelines.
- Promote the dialogue with industry as an essential partner for the development of new and specialised instrumentation and to promote the diffusion of possible defined guidelines.

IMEKO'S NEW TECHNICAL COMMITTEE, TC26 METROLOGY FOR CULTURAL HERITAGE

Related other IMEKO TCs to the scope of TC26

TC1 Education and Training in Measurement and Instrumentation,

TC3 - Measurement of Force, Mass and Torque,

TC4 - Measurement of Electrical Quantities,

TC7 - Measurement Science,

TC8 - Traceability in Metrology,

TC10 - Measurement for Diagnostics, Optimization and Control,

TC12 - Temperature and Thermal Measurements,

TC16 - Pressure and Vacuum Measurement.

A Short Introduction of the TC 26 Officers

The Chairperson is Fabio Leccese (Italy)



Dr Fabio Leccese is an Associate Professor in the Electric and Electronic Measurements scientific area and Head of the homonymous laboratory at the Science Department of the "Università degli Studi

Roma Tre" in Rome, Italy, where he carries out research on the metrological implications of innovative integrated systems and on high-accuracy metrology chains with particular regard to Cultural Heritage.

The Vice-Chairperson is Andreas Karydas (Greece)



Dr Andreas Karydas holds a degree in Physics from the University of Athens and a PhD in Analytical Applications of Nuclear Techniques from the National Technical

University of Athens (1994).

He is currently a Director of Research at the Institute of Nuclear and Particle Physics (INPP) at the National Center for Scientific Research "Demokritos" and leads the X-ray Fluorescence (XRF) Laboratory.

His research focuses on two key areas:

1. The experimental study of fundamental interactions between X-rays and matter and
2. The development of analytical methodologies and interdisciplinary applications of XRF techniques. His work strongly emphasises cultural heritage studies, particularly in ancient gold technology and polychromy.

The Scientific Secretary is Radu Adrian Munteanu (Romania).

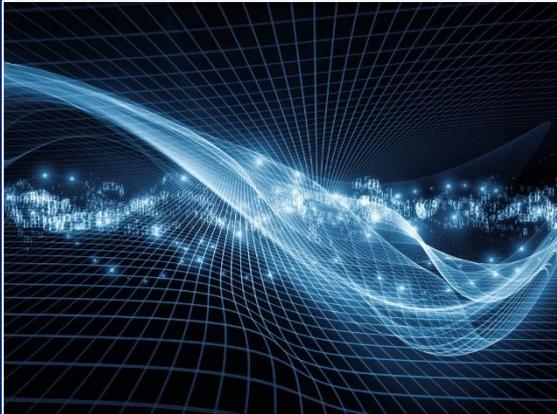


Dr Radu Adrian Munteanu holds a Bachelor's Degree in Electrical Engineering, a Master's in Metrology and Instrumentation and a PhD in Electrical Engineering synchronous detection techniques and applications. He is currently a Professor at

the Faculty of Electrical Engineering, Department of Electrotechnics and Measurements, and a member of the Energy Transition Group inside the Energy Transition Research Center EnTReC, Technical University of Cluj-Napoca. The research directions he is currently involved in include Electrical and Electronic Measurements and Sensors, RAMS (Reliability Availability Maintainability and Safety), Home Automation and Data Acquisition and also Cultural Heritage studies - soil resistivity measurement and investigation of ancient roads, preservation of cultural heritage in the context of energy transition and climate change.

Written by the TC26 Chairperson, Dr Fabio Leccese

IMEKOS NEW ROLE IN DIGITAL TRASFORMATION AND JSI HUB



Digital transformation in metrology has made an essential step in March 2024.

Fostering digitalisation in measurement science and quality infrastructure has been an important task for IMEKO for quite some time now.

IMEKO is one of the founding members of the "Joint Statement of Intent" (JSI), now called JSI Hub, to foster the SI Digital Framework and the digital transformation of scientific and quality infrastructure. Meanwhile, the JSI has been signed by 10 international organisations.

Steps in 2025

The most IMEKO-relevant news is that Frank Härtig, the Advisory President of IMEKO, will lead JSI for the coming two years.

The first meeting of the Joint Statement of Intent signatories in 2025 took place on 24 January 2025. Frank Härtig, the current Chair of the JSI Hub, presided over the meeting. He thanked the previous National Conference of Standards Laboratories International, NCSLI-President Georgette Macdonald, for her service and welcomed the new President, Jeff Gust.

The focus of the meeting was the preparation of the Forum on Metrology and Digitalisation 2025 of the BIPM, which will occur in Paris.

The schedule of this event is as follows.

The task and working group meetings will be held on Monday and Tuesday, 17-18 February.

On Wednesday, 19 February, a cross-cutting workshop on several topics is planned. On Thursday and Friday, 20-21 February 2025, will be the General Assembly of the Forum MD.

Within the General Assembly of the Forum MD and as part of the liaisons' report, Frank Härtig will present the past and future working period activities for the JSI Hub.

Blair Hall will report on the Traceability Workshop, part of the IMEKO World Congress in Hamburg in 2024. Sascha Eichstädt will report on the digitalisation work of the International Organization of Legal Metrology, OIML and Kazuaki Yamazawa on the corresponding activities of the International Laboratory Accreditation Cooperation, ILAC.

Another focus of the General Assembly is the planned draft of the resolution of the Metre Convention in the field of digitalisation for the General Conference on Weights and Measures / CGPM 2026. The JSI Hub will propose inter alia metrological semantics, assessing sensor networks and data quality & metrics for AI as possible topics.

Last but not least, a Joint Conference of IMEKO and OIML is proposed to be held on 7 October 2025 in Berlin at PTB. Possible topics for workshops/discussions would be the SMART Standards, the Guide to the Expression of Uncertainty in Measurement (GUM) in the Digital Age, the FAIR Principles & the SI Reference Point, and the point as a separator for digital certificates. The next meeting of the JSI Hub will be in this context on 7 October 2025.

For the 150th anniversary celebration at BIPM on 20, 21 and 22 of May 2025, the JSI-Hub submitted a draft for a joint presentational poster of all signatories for the poster section.

Written by Alexander Knaak

150th ANNIVERSARY OF THE METRE CONVENTION - PREPARATIONS



"The year 2025 marks the 150th Anniversary of the Metre Convention.

This anniversary celebrates a century and a half of international collaboration in metrology, highlighting the profound impact of measurements on our past, present and future.

Our theme for the year is:

Measurements for All Times, for All People emphasises metrology's essential role in driving progress and innovation – ensuring fair trade, advancing scientific discovery and addressing global challenges.

Representatives from States, National Metrology Institutes (NMIs) and our international liaison organisations, as well as scientists from NMIs and other metrology professionals, are invited to participate in the celebrations from 20 to 22 May 2025 in Paris and Versailles.

[Programme of 20 May 2025 UNESCO Headquarters, Paris, France.](#)

This day will be the 150th anniversary of the signing of the Metre Convention and, therefore, a special World Metrology Day. Speakers' contributions will span from the history of the BIPM as one of the oldest international organisations in the world to the current challenges in metrology. They will focus on the scientific achievements of 150 years of metrology and the unique international scientific collaboration under the Metre Convention.

[21-22 May 2025 Programme, Palais des Congrès, Versailles, France](#)

This two-day conference is organised in Versailles in conjunction with other events in Paris.

The conference includes presentations from key stakeholders for world metrology and round-table discussions to allow an open exchange of ideas on the topics that relate to the key outcomes of the CIPM's "Strategy for 2030 plus".

21 May: New Opportunities from Horizontal Themes in Metrology

The first day of the conference will include sessions covering the three areas identified by the CIPM as benefitting from new "horizontal" coordination.

22 May: Metrology for Future Science

The second day of the conference will start with an opportunity to explore the options for a future for a new definition of the second in greater detail and will then conclude with a session that highlights exceptional new opportunities for metrology and for new applications for metrology.

The conference will also include an open poster session."

IMEKO responded to the general poster call to celebrate BIPM and the anniversary of the Metre Convention. Posters were to be submitted in 9 categories.

Our submitted abstracts were accepted in the various categories, and we are now in the next stage, where the electronic poster submission deadline is 15 March.

1. SI Units and Fundamental Metrology,
2. The Environment and Climate Change
3. Health and Life Sciences
4. Safe Food and Water
5. Energy
6. Industry and Advanced Manufacturing
7. Digital Transformation, Artificial Intelligence, and Systems Metrology
8. Metrology for Quantum Technologies,
9. New Opportunities for Metrology

The Poster Committee will finally select 9 posters, and the authors will be invited to present their work on 21 May during the live workshops celebrating the anniversary. IMEKO could be among them!

NEWS OF IMEKO JOURNALS: MEASUREMENT DIGITALISATION

Welcome to Measurement: Digitalisation

IMEKO is pleased to introduce "Measurement: Digitalisation," a new scientific journal dedicated to publishing innovative research covering all aspects of the foundations, developments, technologies, methodologies, and applications of digital techniques and digitisation in measurement. This journal becomes a member of the journals sponsored by IMEKO: Measurement, Measurement: Sensors, Measurement: Food, and ACTA IMEKO.

Measurement: Digitalisation focuses on digital transformation, which includes the design and adoption of digital tools to create new or modify existing products, services, and operations in the field of measurement, instrumentation, and sensors.

The Editor-in-Chief, Paolo Carbone, welcomes multidisciplinary contributions around the core domain of digitalisation, which is used to advance the understanding and implementation of measurement systems and digital technologies across a wide range of scientific, industrial, and societal domains. For additional information, refer to the journal website:

[Measurement-Digitalisation](#)



or send comments or proposals to the Editor-in-Chief at

paolo.carbone@unipg.it

ACTA IMEKO

THE LATEST ISSUE

Volume 13
Number 4
Year 2024

IMEKO

of the IMEKO online JOURNAL

ACTA IMEKO

IMEKO - International Measurement Confederation

IS PUBLISHED NOW !

ACTA IMEKO
The IMEKO Online Journal

Dear Readers,

The fourth issue of volume 13 (year 2024) of our open-access online journal Acta IMEKO is now complete and published.

The issue has, in total, 25 research papers - and one comment with reflections on Big Data handling as an additional challenge for metrology in the age of digitalisation. 10 of the 25 papers belong to the General track, covering a wide field of measurements. The other 15 papers are extended versions of contributions to the 2023 IMEKO TC17 International Symposium on Measurement and Control in Robotics (Iasi, ROMANIA, 21 and 22 September 2023) - 4 articles, the 2023 IMEKO TC4 International Conference on the measurement of electrical quantities (Pordenone, ITALY, 20 and 21 September 2023) - 7 articles - and the XXX Italian National Congress on Mechanical and Thermal Measurements - 4

All Acta IMEKO articles are available on the journal's website.

IMEKO EVENTS IN 2025



TC2 PhotoMet 2025, 1-3, September Modena, Italy, will be held in the iconic Motor Valley, an internationally recognised hub of technological excellence and innovation. Known for its concentration of world-class automotive companies, research centres, and engineering expertise, the Motor Valley provides a unique backdrop for exploring the intersection of cutting-edge metrology and real-world industrial applications.

In alignment with its prestigious setting, PhotoMet 2025 will showcase how photonic technologies drive sustainability, digital transformation, and industrial innovation. Networking highlights include a gala dinner and technical visits to leading automotive research and production facilities in the Motor Valley, offering attendees a first-hand look at how cutting-edge measuring systems shape the future of mobility and beyond.

The vibrant program, complemented by interactive exhibitions and demonstrations, ensures that PhotoMet 2025 will be an unmissable gathering for professionals advancing measurement engineering, photonics, and their transformative applications.

For more information, visit: [PhotoMet 2025](#)



TC6, the 2nd IMEKO International Conference on Metrology and Digital Transformation 1-3 September, Benevento Italy, represents an international meeting place in the world of research in the field of metrology for digital transformation involving national and international institutions and academia in a discussion on the state-of-the-art concerning issues that require a joint approach by experts of metrology, measurement and instrumentation and industrial testing, typically professional engineers, and experts in innovation metrology.

Attention is paid to, but not limited to, digital transformation in metrological traceability, pathways to digital transformation, sensor network metrology, digital transformation in legal metrology, digitalisation and the SI, digital infrastructures and technologies, and many more.

The program is designed to raise the interest of a broad group of researchers, operators and decision-makers from the metrology and digital transformation fields by presenting the most innovative solutions in this field from the scientific and technological point of view. In addition to regular papers, many initiatives and opportunities such as special sessions, exhibits, tutorials, demos, student contests, journal papers, and others are planned to enhance your experience with the conference. They will make M4DConf 2025 a vibrant event to meet with people in instrumentation, measurement and digital transformation.

More information is available at: [M4D 2025](#)

IMEKO EVENTS IN 2025



This international conference, 14-17 September, Torino, Italy, aims to gather industry and academic experts, covering topics from Traceability in Metrology TC8, Measurement in Testing Inspection and Certification TC11, and Chemical Measurements TC24.

Considering the broad interdisciplinarity of the three Technical Committees, many topics and metrological issues will be addressed during the conference, including but not limited to certified reference materials, digitalisation in Traceability, digital twins, quality management and conformity assessment in the TIC Sector, chemical and biochemical sensors, gas analysis for climate change and energy transition, chemical metrology.

Three special Sessions will be held: "Gas Analysis for Sustainable Energy and Climate Change Mitigation", "Innovative Networks of Testing and Calibration Laboratories", and "Traceability for Laboratory Medicine."

imekotorino2025



The "Joint International Symposium on Temperature, Humidity, Moisture and Thermal Measurements in Industry and Science" - TEMPMEKO - ISHM 2025 is one of the most important international scientific events held every three years under the auspices of TC12 IMEKO - International Measurement Confederation and CIPM Consultative Committee for Thermometry Working Group Humidity. The Symposium TEMPMEKO - ISHM 2025 will be held 20-24 October in Reims, France.

The conference aims to exchange information and views among international scientific community members, professional metrologists, measurement equipment manufacturers, engineers, and students working in thermometry, humidity, and thermophysical quantities.

Main Topics of the Conference

- Fundamental Aspects and Standards,
- Temperature Measurement Methods and Sensors,
- Humidity and Moisture,
- Thermophysical Quantities and Reference Materials,
- Traceability and Dissemination,
- Application of Humidity, Moisture, and Other Thermal Measurements,
- Temperature and Humidity Measurement for Environment.

More information: [TEMPMEKO - ISHM 2025](http://TEMPMEKO-ISHM2025)

IMEKO EVENTS IN 2025



The 13th International Symposium on Measurement and Quality Control-ISMQC
2nd-5th September 2025, Cluj-Napoca, Romania
Quality and Accuracy in the Age of Data Driven Manufacturing

The 13th International Symposium on Measurement and Quality Control - Quality and Accuracy in the Age of Data-Driven Manufacturing will be held 2 - 5 September 2025, Cluj-Napoca, Romania.

The organiser is IMEKO TC14 - "Measurement of Geometrical Quantities" in association with the Faculty of Industrial Engineering, Robotics, and Production Management, Technical University of Cluj-Napoca.

Topics include Dimensional Metrology in Production, Sensors and Components for Geometrical Quantities, Calibration and Testing Methods for Measurement and Manufacturing Devices (CMMs, Machine Tools, Robotics), Micro- and Nano-Metrology, Surface Texture and its Micro Characteristics, Robotics and Automation in Quality Control etc.

The event's webpage: [ISMQC 2025](#)



8th IMEKOFOODS 2025



The IMEKOFOODS 2025 will be organised for the 8th time by IMEKO TC23 and is the continuation of the successful conference series that started in 2014 in Rome. With the title, "Safety and Traceability of Food in Support of Sustainable Development Goals", the event will be held 22-24 September 2025, Grand Hotel Union, Ljubljana, Slovenia.

[IMEKOFOODS 2025](#)

NEWS ELSEWHERE - CIM 2025

The International Metrology Congress (CIM) returns for its 22nd edition, scheduled from 11 - 14 March 2025, at Eurexpo Lyon, France. This must-attend event in the measurement and metrology sector highlights best industrial practices and applied research on the reliability of measurement data.

Organised by the CFM (CollègeFrançais de Métrologie), the CIM attracts nearly 650 participants from 45 countries annually. The Congress renews its partnership with Global Industrie, the largest industrial exhibition in France, thus consolidating its position as a key event for the sector.