

**TC-IM Project 1543:
Calibration guides
for accredited laboratories
in EURAMET member countries**

28th TC-IM Annual Meeting

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Wolfgang Schmid, PTB (Germany)

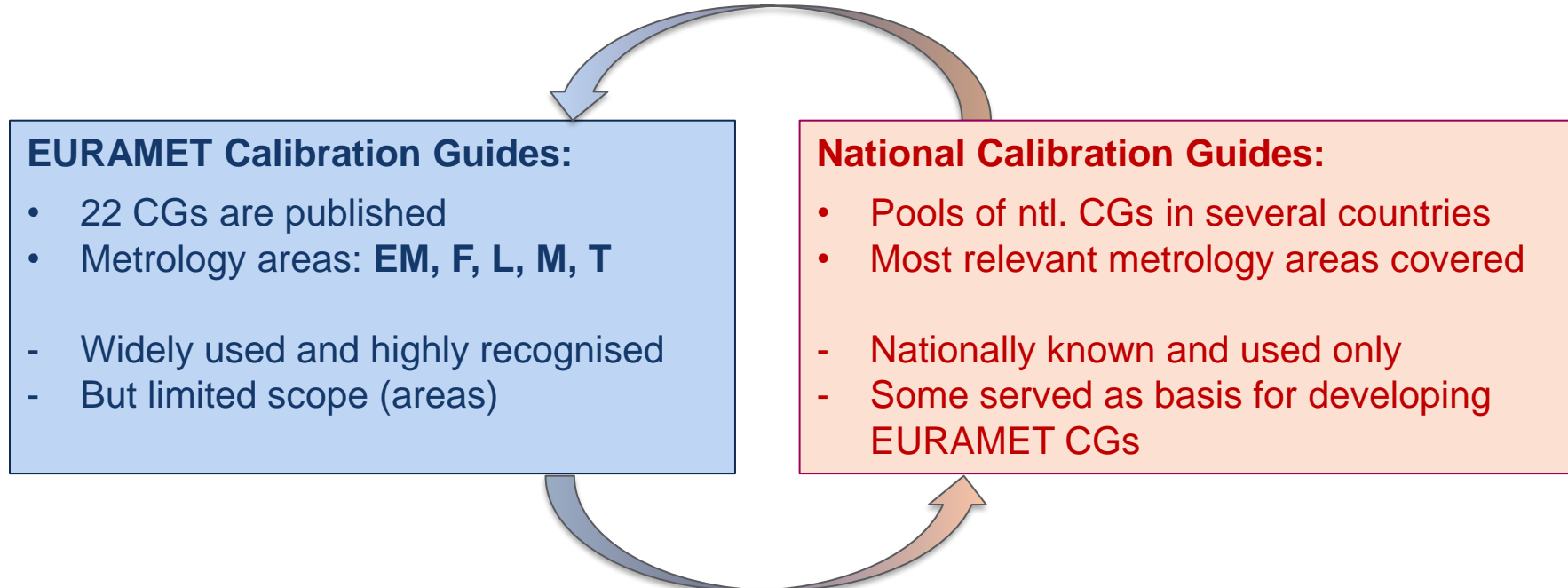
+ Project team (see slide 3)

Calibration Guides for accredited labs in EURAMET member countries



The use of harmonised and validated calibration guidelines ...

- increases the reliability of services provided by calibration laboratories in EURAMET member countries
- facilitates the accreditation process for these laboratories:
using a method described in a regional or national standard avoids validation of the method by the laboratory itself



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Calibration Guides for accredited laboratories in EURAMET member countries

Project Description

The use of harmonised and validated calibration guidelines increases the reliability of services provided by calibration laboratories in EURAMET member countries. Furthermore, it facilitates the accreditation process for these laboratories as by the use of a method described in a regional or national standard a validation of the method by the laboratory itself is not required.

EURAMET calibration guides are widely used within this community, but they only cover a limited range of calibration services. In many countries NMIs are supporting calibration laboratories by developing additional guides at a national level, however the mechanisms and specific issues, needs and opportunities for further support by the EURAMET TCs are not generally known to the EURAMET community. A cross-country cooperation in the development of calibration guides is only happening in a very few cases and is at an initial stage.

General Objective:

Support the development and provision of calibration guidelines in EURAMET member countries, and possibly beyond, by cooperation between national providers of guidelines and EURAMET TCs.

Specific Objectives:

- Understand the mechanisms in EURAMET member countries by which the NMIs provide technical support to the accredited calibration laboratories of their countries, in particular in the development of calibration guides.

SUBJECTS

Interdisciplinary Metrology (IM)

COORDINATOR

Wolfgang Schmid (PTB)

COORDINATING INSTITUTE

PTB (Germany)

PARTICIPATING PARTNERS

BEV (Austria) Robert Edelmeier

CEM (Spain) Dolores del Campo

MIRS (Slovenia) Matej Grum

Metrosert (Estonia) Lauri Lillepea

NPL (United Kingdom) Robert Gunn

SMD (Belgium) Miruna Dobre

Julien Villemin-Toledo

Jutta Bender

INFORMATION

REG. NO.
1543

COLLABORATION TYPE
Consultation

STATUS
in progress

STARTING
2021-06-01

PROPOSED COMPLETION
2023-12-31

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Specific Objectives:

- Understand the mechanisms in EURAMET member countries by which the **NMIs provide technical support to the accredited calibration laboratories** of their countries, in particular in the development of calibration guides. *Achieved*
- Get an overview on **calibration guides in EURAMET member countries:** existing guides/new guides under development/need for new guides *Achieved (partially)*
- Analyse the possibilities for **cooperation between national initiatives and EURAMET TCs** in development and provision of calibration guides. *Open*
- Identify **stakeholder organisations;** possibilities and benefits of cooperation. *Initiated*
- **Harmonisation of the structure of calibration guides,** to facilitate their use in different EURAMET member countries. *Initiated*
- **Achieve NABs recognition** of validated EURAMET calibration guides for the accreditation of calibration laboratories. *Open*
- Establish a European pool of calibration guidelines. *Initiated*

Activities / status



	Work Package	Who	Status
1	Questionnaire to EURAMET members (Delegates)	WoS, all	Survey was carried out, 26 responses Results were presented at TC-IM 03/2022 -> see progress report on website
2	Questionnaire to / discussion with TCs with published CalGuides	DoC, all	Survey was carried out, 14 responses Results were presented at TC-IM 03/2022 -> see progress report on website
3	Cooperation with stakeholder organisations: <ul style="list-style-type: none"> Identify stakeholders Existing guides? 	RoG, all	Overview on stakeholders prepared
4	Discussion with EA on “validated” EURAMET CalGuides, address NAB’s		later
5	Prepare guidance for EURAMET Calibration Guides Role and cooperation of TCs and JRPs in the development of new CalGuides	JuV, MiD	A first draft version was developed by the Secretariat. Elements like “new guides” and “periodic revision of guides” are still missing
6	Mechanism for enhancing the pool of validated EURAMET CalGuides		later
7	Repository of CalGuides on EURAMET website		Started

National organisation / forum / platform collectively representing the accredited calibration labs?

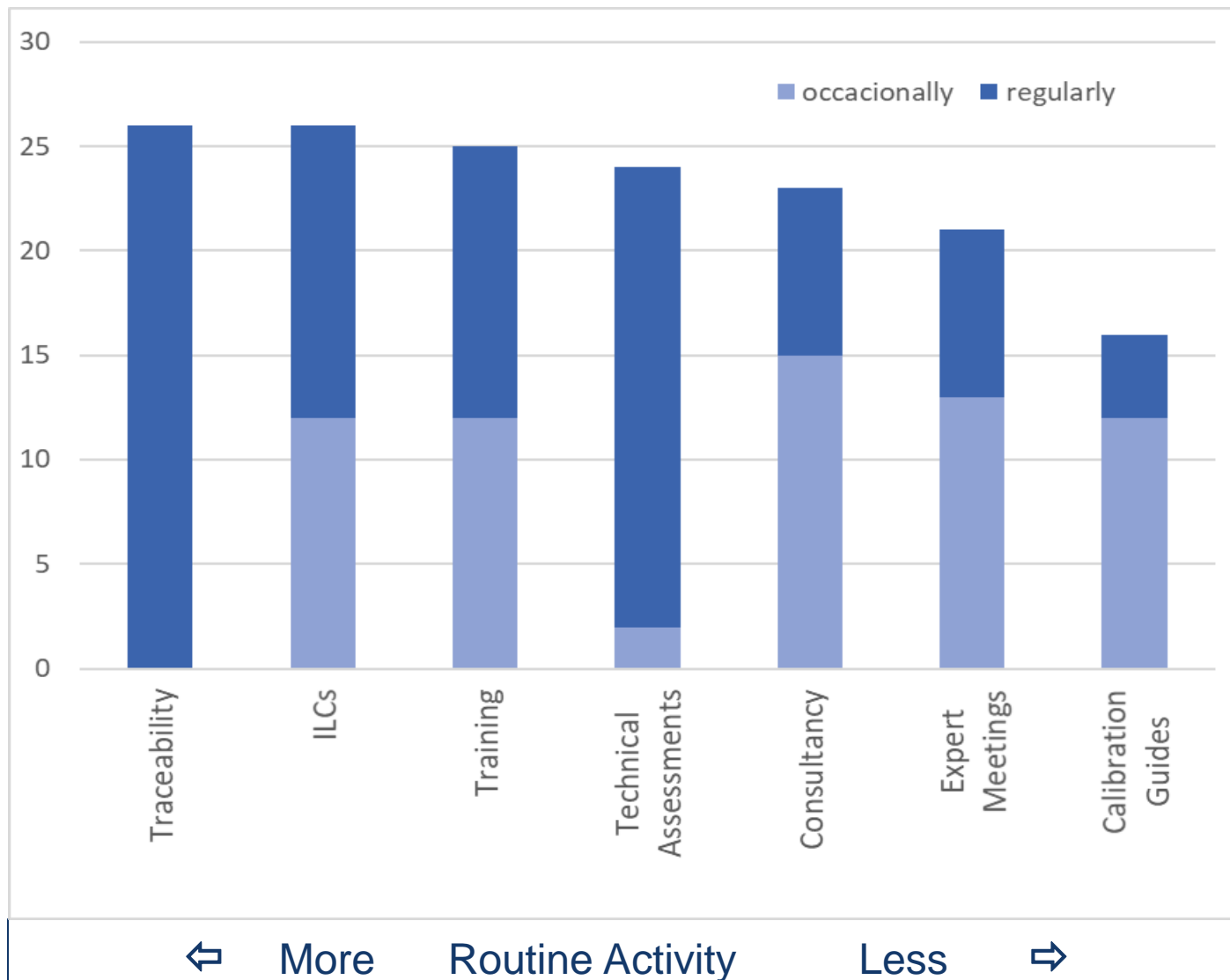


Organisation	# Countries
Specific organisation	5
EUROLAB-national	9
National Accreditation Body	6
none	6

- In 5 countries there is a specific organization to coordinate the cooperation of accredited CalLabs
- In several countries the NAB or EUROLAB-ntl has a dedicated committee to support ACLs

		Specific organisation	
CZ	CKS	Czech Calibration Association	www.cks-brno.cz
DE	DKD	Deutscher Kalibrier-Dienst	www.ptb.de/cms/metrologische-dienstleistungen/dkd.html
HU	ASZEK	Akkreditált Szervezetek Klasztere	https://aszek.hu
IT	ALA	Associazione Laboratori Accreditati <i>and other organisations</i>	www.alaonline.it
UK	BMTA	British Measurement and Testing Association	www.bmta.co.uk

Kind of support which the NMI/DI is giving to accredited calibration laboratories?



National pool of Calibration Guides existing?



Country	CZ	DE	ES	FR	UK
# Guides	14 (?)	30	77	40	15

5b) Which guides are typically used for the accreditation of calibration labs, if there is no national pool of guides?

Guides	Countries
EURAMET CGs	BA, BE, BG, CH, DK, EE, GR, ME, PL, RS, TR
OIML recommendations	BA, BE, DK, MK, PL
International standards (sometimes adopted)	EE, ME, PL, PT, SE
Own internal procedures	EE, HU, PL, PT
Guides from other countries (DE, US, UK, ...)	EE, ME, RS
ILAC	BG, PL
EUROLAB guides & cookbooks	CH

EURACHEM
was not mentioned

Follow-up from WP1 & WP2



Information on national calibration guides will be provided on EURAMET website

- new page, similar to pages on calibration and technical guides
- sorted by metrology areas
- NMIs provide a document with list of titles in English, for upload
- links to national pages

Calibration Guides for Thermometry

Reference	Title (original)	Title (english)	Edition	Available in
DKD-R 5-1	Kalibrierung von Widerstandsthermometern	<i>Calibration of Resistance Thermometers</i>	09/2018	de, ru
DKD-R 5-3	Kalibrierung von Thermoelementen	<i>Calibration of thermocouples</i>	09/2018	de
DKD-R 5-4	Kalibrierung von Temperatur-Blockkalibratoren	<i>Calibration of temperature block calibrators</i>	09/2018	de, es
DKD-R 5-5	Kalibrierung von Temperaturanzeigergeräten und -simulatoren durch elektrische Simulation und Messung	<i>Calibration of temperature-indicating devices and simulators by electrical simulation and measurement</i>	09/2018	de
DKD-R 5-6	Bestimmung von Thermometerkennlinien	<i>Determination of thermometer characteristics</i>	09/2018	de, en
DKD-R 5-7	Kalibrierung von Klimaschränken	<i>Calibration of climatic chambers</i>	09/2018	de
DKD-R 5-8	Kalibrierung von Hygrometern zur direkten Erfassung der relativen Feuchte	<i>Calibration of hygrometers for the direct measurement of relative humidity</i>	02/2019	de, en, es

Example:
Pool of CGs of Germany in Thermometry

Optional:
Add abstracts in English language

Link to DKD: <https://www.ptb.de/cms/en/metrological-services/dkd/publications.html>

Last update: Feb. 2023

Stakeholder Organisations



- | | | |
|---|--|--|
| <ul style="list-style-type: none"> • EA • WELMEC • EUROLAB • EUROCAL • EURACHEM • OIML • ILAC • IAF | <ul style="list-style-type: none"> • IRMM • WELMEC • NCSLi • CECIP
European Weighing Industry Association • EOQ
European Organisation for Quality | <p>RMOs</p> <ul style="list-style-type: none"> • APMP • AFRIMETS • COOMET • GULFMET • SIM <p>NABs (of Europe)</p> |
|---|--|--|

Options for cooperation	Status
Development of joint guides	1) TC-T had started developing CGs with COOMET ; stopped due to political situation 2) CG-18 was published as SIM guide in 2009; negotiations on joint version were complicate
Reference on EURAMET website to guides of stakeholder organisations	3) TC-MC recommends use of EURACHEM guides 4) Links to national CGs in EURAMET member countries; in preparation
Stakeholders recommending EURAMET guides	5) Link to EURAMET CGs on EA website: hard to find 6) BoD has started high-level consultations with EUROLAB ; cooperation on guidance documents included

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**Thanks for
your attention**

wolfgang.schmid@ptb.de