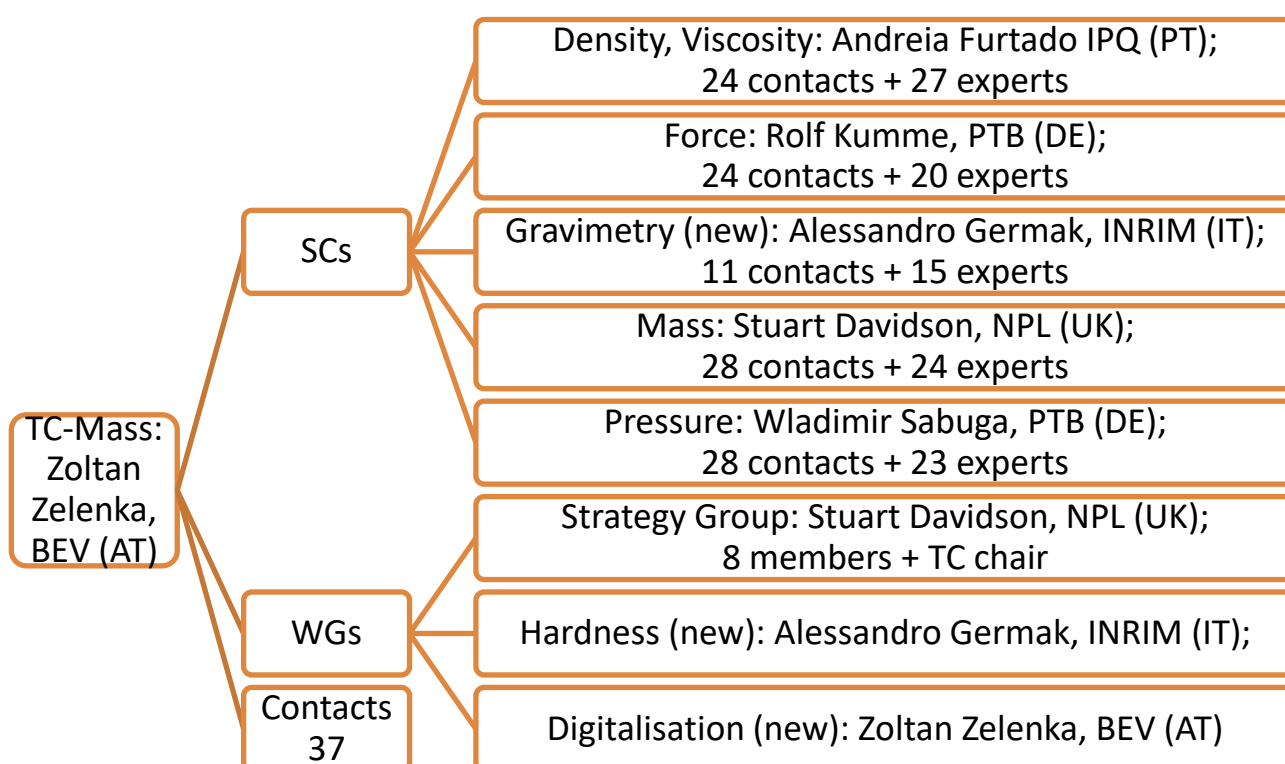


## 1. General Aspects

Overview of the TC.

The TC had its structure improved by establishing new subcommittee and working groups (see below). The Working Group on Strategy has its regular meetings handling most of the issues (CMCs, communication, strategy, ...)



The chair is recommended for re-election by the vast majority of the contact persons.

## 2. Projects

Nr	Start day	Title and type of the project.	NMI	Development, notes
285	30.11.1993	<a href="#">Calibration of precision force measuring devices and transfer standards of the capacities up to 16,5 MN</a>	PTB	ongoing, traceability
286	30.11.1993	<a href="#">Traceability in force measurement at national laboratory level in range up to 2 MN</a>	PTB	ongoing, traceability
1441	01.06.2017	<a href="#">Calibration guides for force and torque traceability</a>	NPL	completed
1536	21.09.2021	<a href="#">Finalisation of the draft Calibration Guideline on the Calibration of Automatic Catchweighing Instruments</a>	MIRS	Completed

Nr	Start day	Title and type of the project.	NMI	Development, notes
1570	01.12.2022	<a href="#">Revision of EURAMET Calibration Guides No. 3 (Calibration of Pressure Balances) and No. 17 (Guidelines on the Calibration of Electromechanical and Mechanical Manometers)</a>	PTB	New Project

### 3. Comparisons

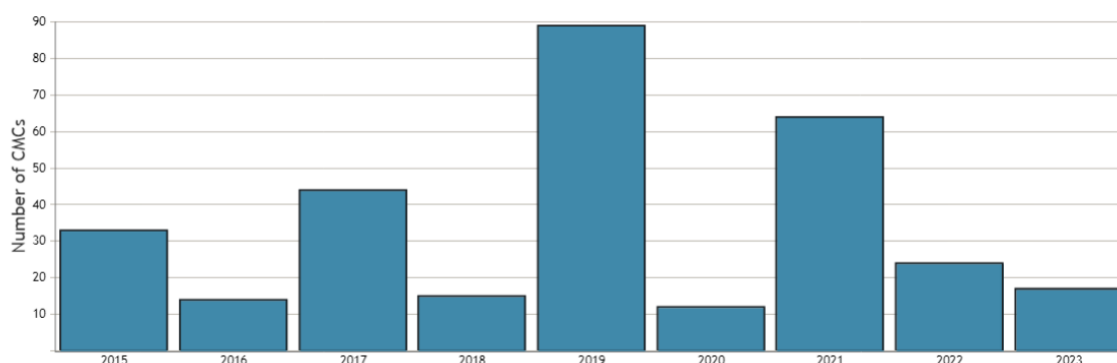
Nr	Start day	Title and type of the project.	NMI	Development, notes
505	01.01.2000	<a href="#">Comparison of force standards from 500 kN to 4 MN</a>	PTB	Draft B
1207	02.11.2011	<a href="#">Bilateral comparison to determine the effective area of the piston cylinder unit by cross-floating</a>	MIKE S	Suggested to conclude
1262	01.12.2012	<a href="#">Determination of Forces (tension and compression) from 5 N up to 250 kN with two new Dead Weight Machines developed and realised by BEV</a>	BEV	Draft B, agreed final in progress
1304	15.09.2014	<a href="#">Comparison of torque standards from 0,1 N·m at 50 N·m</a>	LNE	The measurements have been completed
1375	01.09.2015	<a href="#">Bilateral comparison in high gauge pressure 250 MPa</a>	GUM	Draft B is in progress.
1411	01.09.2016	<a href="#">Dynamic high pressure comparison</a>	MIKE S	Concluded
1416	15.03.2017	<a href="#">Bilateral study comparison in the high vacuum range from 5E-7 Pa to 9E-4 Pa.</a>	CMI	Progress Report 2023-03-13
1428	01.09.2018	<a href="#">Comparison of torque standards from 100 N·m to 5000 N·m</a>	LNE	The start of the measurements is postponed.
1440	01.04.2018	<a href="#">KC Density of liquids</a>	BEV	in progress
1494	01.09.2019	<a href="#">Key Comparison of National Pressure Standards in the Range 1 Pa to 15 kPa of Absolute and Gauge Pressure</a>	PTB	Draft A in progress
1496	02.03.2020	<a href="#">Calibration of high resolution hydrometers</a>	INRI M	completed
1522	01.02.2021	<a href="#">Key comparison on density determination of liquids by hydrostatic weighing</a>	BEV	in progress
1523	01.02.2021	<a href="#">Key comparison on density determination of liquids using oscillation type density meters</a>	BEV	in progress
1529	01.04.2021	<a href="#">Supplementary Comparison of torque standards from 10 N·m to 500 N·m</a>	PTB	Draft A report
1532	02.11.2020	<a href="#">Key comparison of stainless steel multiples and sub-multiples of the kilogram</a>	UME	Many new participants, measurements end in 2023
1549	21.03.2022	<a href="#">Bilateral supplementary comparison in gas media (absolute mode) in the range from 10 kPa to 200 kPa</a>	MIRS /IMT/ LMT	New Project

Nr	Start day	Title and type of the project.	NMI	Development, notes
1550	21.03.2022	<a href="#">Bilateral supplementary comparison in gas media (gauge mode) in the range from 0.1 MPa to 3.5 MPa</a>	MIRS /IMT/ LMT	New Project
1555	10.06.2022	<a href="#">EURAMET supplementary comparison of mass standards 20 kg</a>	BEV	New Project
1556	22.05.2022	<a href="#">Pilot study comparison for the realisation of the mass scale</a>	IMBiH	New Project
1566	24.08.2022	<a href="#">Bilateral key comparison in gas media (gauge mode) in the range 15 kPa to 175 kPa</a>	RISE	New Project
1580	27.02.2023	<a href="#">EURAMET key comparison in gas media from 0.3 mPa to 1 Pa (absolute mode)</a>	INRI M	New Project

#### 4. CMCs

Some new CMC reviewers.

Interestingly, the number of approved CMCs by TC-M are higher in every second year. It can be partly explained with the changes in the realisation of the kilogram, and of the consensus value.



#### 5. Activities of the Subcommittees

##### SC Force

Comparisons:

- EURAMET.M.F-K3 – TCM project 505
  - 500 kN, 1 MN, Pilot PTB, 16 laboratories, measurements 2013-2021
  - Draft B report, August 2022
- EURAMET.M.F-S2 – TCM project 1262
  - 5 N to 250 kN, Supplementary force comparison, BEV (Pilot) & PTB, Draft B stage
- EURAMET.M.T-S4, EURAMET.M.T-S5, EURAMET.M.T-S6 – TCM projects 1304, 1428, and 1529
- Supplementary torque comparisons, LNE & PTB, details of progress in **Fehler!**  
**Verweisquelle konnte nicht gefunden werden.**

Two major EMPIR projects related to force and torque measurements have progressed throughout the year:

- 18SIB08 (ComTraForce) investigates and develops advanced models and procedures for the traceability of force measurement for continuous and dynamic forces, in particular in respect to material testing machines. This project was completed in February 2023 with the final reports currently in preparation.
- 19ENG08 (WindEFCY) investigates and develops traceable methods for the efficiency determination of wind turbines. In this interdisciplinary project the mechanical power measurement is investigated traceable to the torque and rotational speed measurement. The electrical power measurement is traceable to voltage and current measurement to improve the efficiency determination of wind turbines on test benches.

A Calibration Guide on Uncertainty of Torque Measurements is to be developed, led by PTB, with input from CEM, CMI, INRIM, LNE, and NPL. A EURAMET project has not yet been registered.

## **SC-Mass**

Project 1556 a pilot study comparison for the realisation of the mass scale is being run as part of the EMPIR 19RPT02 RealMass project in order to evaluate the performance of participants in undertaking calibration by subdivision. Reference labs for the comparison will be BEV, INRIM and CMI. 10 weights of values between 1 kg and 1 gram will be circulated and the comparison is due for completion in July 2023.

Project 1555 a supplementary comparison of mass standards 20 kg (EURAMET.M.M-S11) has been taken over from COOMET and BEV is now piloting. There are 11 participants ILNAS, Luxembourg, SMD, Belgium IPQ, Portugal, SMU, Slovakia, BIM, Bulgaria, LNMCC, Latvia, DMDM, Serbia, NIM-MD, Moldova, NSC IM, Ukraine and SASO-NMCC, Saudi Arabia (from GULFMET). The measurements are underway, and the target completion date is March 2023.

Project 1536 production of Calibration Guideline on the Calibration of Automatic Catch-weighing Instruments has been completed. The aim of the guide is to improve characterisation and evaluation of Automatic Catch-weighing Instruments. The final draft of the guide was circulated to TC-M contact persons and Mass sub-committee members for comment. No objections to publication of the guide were raised at the Mass SC meeting and the publication of the guide was agreed at the TC-M Contact Persons' meeting in September 2022.

Project 1532, is a comparison of multiples and sub-multiples of the kilogram (EURAMET.M.M-K7) Using 5 kg, 100 g, 10 g, 5 g, and 500 mg standards. UME is the pilot and there are 16 participants including SASO-NMCC, Saudi Arabia from GULFMET. The measurements are underway, and the target completion date is August 2023. Several participants results are overdue so please send to pilot laboratory as soon as possible.

EMPIR project 19RPT02 RealMass - Improvement of the realisation of the mass scale aims to improve the analysis of calibration methods for the realisation and dissemination of the mass scale and development and implementation of calibration methods to realise, improve and maintain mass scale. Mathematical and statistical tools and software solutions have been developed and the production of a EURAMET calibration guide for the realisation of the mass scale is underway. Two papers have been published:

- Improvement of the realisation of the mass scale, Zelenka et al (Acta IMEKO Vol 9, No 5, 2020) [http://dx.doi.org/10.21014/acta\\_imeko.v9i5.928](http://dx.doi.org/10.21014/acta_imeko.v9i5.928)
- Why and how to improve the subdivision technique in mass metrology, Zelenka et al (Measurement: Sensors, Vol. 18, December 2021) <http://dx.doi.org/10.1016/j.measen.2021.100228>

### **SC-Pressure**

Project 1207, a bilateral comparison between MIKES and MCCA to determine the effective area of the piston cylinder unit by cross-floating, is close to be finished. Measurements have been completed, and a draft B report in its 2<sup>nd</sup> version has been prepared. The results of the NMIs are in full agreement within their uncertainties.

Project 1375, a bilateral comparison in high gauge pressure up to 250 MPa, between GUM and CMI, has been finished. Draft B report has been submitted to CCM WG PV, and after its feedback, is under revision.

Project 1411, a pilot study: Dynamic high-pressure comparison, between MIKES and KRISS, is in progress.

Project 1416, a bilateral study comparison in the high vacuum range from  $5 \cdot 10^{-7}$  to  $9 \cdot 10^{-4}$  Pa between CMI and IMT. It was delayed by Covid-19. A possibility of using a brand new ultra-stable ion gauge as a transfer-standard was discussed. The project is planned to be completed in May 2023.

Project 1494, a key comparison of national pressure standards in the range 1 Pa to 15 kPa of absolute and gauge pressure, required a travel of NMIs staff with their standards to CMI, the linking lab, and due to the COVID pandemic has been delayed. The measurements were finished in 2022, a draft A report is in preparation.

Two new projects, 1549 and 1550, bilateral supplementary comparisons in gas media (absolute mode) in the range from 10 kPa to 200 kPa and (gauge mode) in the range from 0.1 MPa to 3.5 MPa, between MIRS and IMT, started in 2022.

Project 1566, a bilateral key comparison in gas media (gauge mode) in the range 15 kPa to 175 kPa between RISE and MIKES, was started in 2022. Measurements have been finished and their results are being evaluated.

Project 1580, a key comparison in gas media from 0.1 mPa to 1 Pa (absolute mode) using SRGs as a transfer standard, started in 2023. The transfer standard is studied by INRiM (pilot) and prepare for sending to next participant. The KC is to be finished in 2024.

Project 1570, Revision of pressure calibration guides EURAMET cg-3 and cg-17, was started in 2022. Revised cg's should address new areas of pressure calibrations such as low positive gauge pressures, negative gauge pressures, digital piston gauges. The project is expected to be finished in 2024.

EMPIR project 18SIB04 QuantumPascal, towards quantum-based realisations of the pascal, started 2019 and is in progress. This project deals with developing photon-based standards which determine the pressure via gas density using the gas law.

EPM project 22IEM04 MQB-Pascal, the follower of 18SIB04 QuantumPascal, entitled "Metrology for quantum-based traceability of the pascal", starts in June 2023.

**SC-Density and Viscosity and Gravimetry** has no SC specific report.

## 6. Participation in EMRP/ EMPIR

The following projects were active in this period.

- The EMPIR project 17RPT02 “Establishing traceability for liquid density measurements (RhoLiq)” started in May 2018 and finished in April 2022. (Extended)
- The EMPIR project 17IND07 “Development of measurement and calibration techniques for dynamic pressures and temperatures” is completed.
- The EMPIR project 18SIB04 “Towards quantum-based realisations of the pascal” is in progress. (Delayed)
- The EPM project 22IEM04 “Metrology for quantum-based traceability of the pascal” starts 2023.
- The EMPIR project 18SIB08 “Comprehensive traceability for force metrology services” is completed. Final report is in progress.
- The EMPIR project 18SIB08 “Comprehensive traceability for force metrology services (ComTraForce)” is completed. Final report is in progress.
- The EMPIR project 19ENG08 “Traceable mechanical and electrical power measurement for efficiency determination of wind turbines (WinEFCY)” is in progress. (Delayed)
- The EMPIR project 20SIP01 “Developing an ISO Technical Specification ‘Characteristics for a stable ionisation vacuum gauge’” is in progress.

## 7. Capacity Building: Activities of the last year and future needs

The future needs were collected in 2021 and refined in 2022. The training, activities are planned. They organisations are already in progress. The TC-M Working Group on Strategy together with the EURAMET capacity building officer are developing general and focussed training packages in the areas of mass and pressure which are likely to be held at NPL and RISE respectively.

Training requests had been collated and training needs in Basic and Advance Mass metrology will be addressed with a Basic Mass training course to be held at RISE in Sweden, and delivered by RISE and NPL, in June 2023. Advanced training in Mass Metrology will be addressed with secondments to be provided by NPL covering specific aspects of mass metrology as required.

## 8. Meetings

The TC hold the annual meeting in Bôras, Sweden.



	Monday 2022-09-05		Tuesday 2022-09-06		Wednesday 2022-09-07		Thursday 2022-09-08	
Day/time								
9:00			SC Pressure I	SC Gravity	EMN Work-shop I		Contact person meeting I	
10:30	FIKA							
11:00			SC Pressure II	Hardness	EMN Work-shop II	Realmass project meeting	Contact person meeting II	
12:30	Lunch							
13:30	WG Strategy I closed session		SC Force & Torque	SC Density	Digitalisation		Lab tour RISE	
15:00					FIKA			
15:30	WG Strategy II closed session		SC Mass	Guides on liquid density (HW, OD and CRM)	WG Strategy open session		Lab tour RISE	
17:00								
17:30			Welcome reception		Guided tour in Borås			
18:00								
19:00			Welcome reception		Social dinner			

The hybrid meeting was well attended.

Session	Day	Members	In person	Virtually	Comment
WG Strategy closed session	Monday	9	8	0	Closed session
SC Gravity	Tuesday	10	10	15	
SC Pressure	Tuesday	28	30	22	
SC Force & Torque	Tuesday	23	30	24	
SC Mass	Tuesday	27	35	36	
SC Density	Tuesday	23	20	30	
Hardness	Tuesday	-	10	9	Not an official SC or WG (yet)
WG Strategy open session	Wednesday	-	60	33	Open session
EMP Workshop	Wednesday	-	60	37	Open session
Digitalization	Wednesday	-	60	40	Open session
Contact Person Meeting	Thursday	35	49	37	Officially closed session



The presentations are available for the TC-M contacts via the EURAMET website.

#### DOCUMENT(S)

[TCM\\_01\\_Zelenka\\_TCChairReport\\_20220905.pdf](#) (upload: 2022-10-11)  
[TCM\\_02\\_Davidson\\_WGS\\_20220908.pdf](#) (upload: 2022-10-11)  
[TCM\\_03\\_Furtado\\_SC\\_D\\_V\\_20220907.pdf](#) (upload: 2022-10-11)  
[TCM\\_05\\_Sabuga\\_SC\\_Press\\_20220907.pdf](#) (upload: 2022-10-11)  
[TCM\\_06\\_Davidson\\_SC\\_Mass\\_20220907.pdf](#) (upload: 2022-10-11)  
[TCM\\_07\\_Germak\\_SC\\_Grav\\_20220907.pdf](#) (upload: 2022-10-11)  
[TCM\\_08\\_Germak\\_WG\\_Hard\\_20220907.pdf](#) (upload: 2022-10-11)  
[TCM\\_09\\_Fang\\_BIPM-update\\_20220907.pdf](#) (upload: 2022-10-18)  
[TCM\\_10\\_1\\_Merimaa\\_Toledo\\_EURAMET-News\\_20220907.pdf](#) (upload: 2022-10-11)  
[TCM\\_10\\_2\\_Tanasco\\_EURAMET-Capacitybuilding\\_20220907.pdf](#) (upload: 2022-10-11)  
[TCM\\_11\\_Zelenka\\_Digital\\_20220908.pdf](#) (upload: 2022-10-11)  
[TCM\\_12\\_Zelenka\\_Communication\\_20220908.pdf](#) (upload: 2022-10-11)

#### DOCUMENT(S) SC PRESSURE

[CP\\_Meeting\\_Sabuga\\_SC\\_pressure\\_meeting\\_report20220908.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_0\\_0\\_Sabuga\\_Agenda\\_20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_1\\_1\\_Sabuga\\_Minutes\\_2021.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_1\\_2\\_Jousten\\_CCM\\_WG\\_PV\\_update20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_2\\_1\\_Sabuga\\_Project\\_1494\\_FPG\\_KC\\_20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_2\\_2\\_Sabuga\\_Need\\_for\\_comparisons-Update2022.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_2\\_3\\_Mari\\_SRG\\_comparison\\_abs\\_mode\\_0.0001Pa-1Pa\\_20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_2\\_4\\_Sabuga\\_EURAMET\\_CMCS\\_Pdfff20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_3\\_1\\_Rubin\\_QuantumPascal20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_3\\_2\\_Prazak\\_Eye-tonometry20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_3\\_3\\_Prazak\\_1GPa\\_Standard20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_3\\_4\\_Tonkonogovas\\_Pressure\\_metrology\\_in\\_Lithuania20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_3\\_5\\_Grgec-Bermanec\\_IMEKO-2022.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_3\\_6\\_Sabuga\\_Pressure\\_roadmap20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_Press\\_4\\_1\\_Durgut\\_New\\_cooperation-in-research\\_project20220906.pdf](#) (upload: 2022-10-18)

#### DOCUMENT(S) SC FORCE

[SC\\_Force\\_0\\_Kumme\\_Agenda\\_20220831.pdf](#) (upload: 2023-01-25)  
[SC\\_Force\\_1\\_1\\_Kumme\\_CCM-WGFT-Report\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Force\\_1\\_3\\_Bulent\\_infoCCM-F-K1\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Force\\_2\\_2\\_Knott\\_cg4\\_Force\\_Uncertainty\\_Guide\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Force\\_2\\_3\\_Schlegel\\_CalibGuide\\_Torque\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Force\\_3\\_1a\\_Kumme\\_ReportEMPIRpr-ComTraForce\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Force\\_3\\_1b\\_Knott\\_reportEMPIRpr-ComTraForce\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Force\\_3\\_2\\_Weidinger\\_EMPIR\\_Project\\_WindEFCY\\_20220831.pdf](#) (upload: 2023-01-25)

#### DOCUMENT(S) SC MASS

[SC\\_Mass\\_0\\_0\\_Stuart\\_Agenda-v1.0\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_2\\_1\\_Alsich\\_EURAMETproject1556\\_Pilot\\_Study\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_2\\_2\\_Kolozinska\\_project1555\\_20kgSupplComp\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_2\\_3\\_Grum\\_Project\\_1536CalibGuide-AWI\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_2\\_4\\_Korutlu\\_project1532-EURAMET.M.M-K7\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_3\\_Juda\\_report19RPT02-Realmass\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_7\\_1\\_Eskobar\\_NewCalibrMethod-microbalance\\_20220905.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_7\\_2\\_Malengo\\_CMC\\_assessment\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_7\\_3\\_Stock\\_results\\_CCM.M-K8.2021\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_9\\_0\\_Stuart\\_Minutes\\_V1.0\\_20220906.pdf](#) (upload: 2023-01-25)  
[SC\\_Mass\\_0\\_0\\_Stuart\\_Agenda-v1.1\\_20220906.pdf](#) (upload: 2023-01-25)

#### DOCUMENT(S) SC DENSITY AND VISCOSITY

[SC\\_DV\\_0\\_Agenda\\_20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_DV\\_0\\_Zelenka\\_SC\\_20220906\\_NOT\\_final.pdf](#) (upload: 2022-10-18)  
[SC\\_DV\\_1\\_Eppers\\_CCM.D.K1.2023\\_20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_DV\\_3\\_Malengo\\_EURAMET.M.D-K4.2020\\_1496\\_20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_DV\\_4\\_Prochaska\\_EURAMET\\_1522\\_1523\\_1440\\_CCM.D-K5\\_20220906.pdf](#) (upload: 2022-10-18)  
[SC\\_DV\\_5\\_Lenard\\_Pilot\\_study\\_on\\_surface\\_tension\\_of\\_liquids\\_20220906.pdf](#) (upload: 2022-10-18)

#### DOCUMENT(S) WG DIGITALISATION

[WG\\_Digit\\_0\\_Agenda\\_Zelenka\\_20220907.pdf](#) (upload: 2022-10-18)  
[WG\\_Digit\\_1\\_M4D\\_Wright\\_20220907.pdf](#) (upload: 2022-10-18)  
[WG\\_Digit\\_2\\_DigitisationDCCupdate\\_Schoenhals\\_20220907.pdf](#) (upload: 2022-10-18)  
[WG\\_Digit\\_3\\_DCC-Mass-Standard\\_Foyer\\_20220907.pdf](#) (upload: 2022-10-18)

#### DOCUMENT(S) SC GRAVIMETRY

[Gravimetry.Alex.Germak.pdf](#) (upload: 2023-01-26)

#### DOCUMENT(S) WORKING GROUP HARDNESS

[European\\_Partnership\\_on\\_Metrology\\_2022\\_-\\_Research\\_Potential\\_Topic\\_RPT\\_....pdf](#) (upload: 2023-01-26)  
[Hardness.Alex.Grmak.pdf](#) (upload: 2023-01-26)  
[SRT-n11.pdf](#) (upload: 2023-01-26)  
[cg-16.pdf](#) (upload: 2023-01-26)

## 9. Issues

The Chair of SC-Force is not available for a longer time, tasks were partly delayed. Andy Knott provides help. TC WG-S decided to solve the situation before the TC-M Annual Meeting.

## 10. Strategic Planning

The calibration guides have been revisited. The list of the guides to be updated is under the section outlook for 2022/2023.

The TC-M will improve sharing information via SharePoint and newsletters.

The organisation of the trainings, generally capacity building is planned to be improved.



TC-M has collected the interested experts in Digitalisation within our TC. According to the decision that will be made at our next annual meeting, this group can be transformed into an official working group.

Working with other RMO is favourable.

Our TC as [CCM](#) too is cooperating with [IMEKO TC3](#) and [TC16](#) mainly by using the [publication possibilities](#) and [conferences](#) provided by [IMEKO](#).

## 11. Outlook for 2023/2024

The annual meeting will be organized in Brussel by SMD in hybrid way.

Working Group on Strategy continues its started activities to coordinate and improve the work in the TC and provide training and guidance as required by the TC-M members.

The KTCB activities are under planning and several activities will be carried out during coming the period.

TC-M is planning update the following guides:

- No. 3 | Calibration of Pressure Balances | TC-M | Version 1.0, 03/2011
  - No. 14 | Guidelines on the Calibration of Static Torque Measuring Devices | TC-M | Version 2.0, 03/2011
  - No. 16 | Guidelines on the Estimation of Uncertainty in Hardness Measurements | TC-M | Version 2.0, 03/2011
- Under the scope of rhoLiq Project, three draft guides are to be revised and accepted as EURAMET Guidelines.

