

REPORT ON THE QUALITY MANAGEMENT
SYSTEM RE-EVALUATION OF

THE SLOVAK INSTITUTE OF METROLOGY

Slovakia

by

Maroš Kamenský
General Director

and

Kamila Vitkovičová
Quality Manager

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1 Information on the national metrology system in Slovakia

Up till this date there have been no changes in the system of the national metrological system within the last 5 years. SMU is still the only national metrology institute; no designated organization has been established.

In 2018, a new law on metrology no. 157/2018 from the collection of laws, which is based on the original Act no. 142/2000 from the collection of laws on metrology, taking over the basic principles set out in it. The Act regulates the competence of state administration bodies in the field of metrology, legal measuring units and their use, classification and use of measuring instruments, national standards and supervision of national standards, certified reference materials, requirements for specified measuring instruments, method of metrological control of specified and mandatory calibrated measuring instruments and entities, which can perform metrological control, official measurement, consumer packaging, the activity of entrepreneurs who assemble and repair specified meters and who pack or import consumer packaging, metrological supervision, imposition of fines and relations with foreign countries. The law fully accepts the requirements arising from international and European documents, which are placed on measuring instruments, metrological services, consumer packaging and metrology as such.

The new metrology law is intended to achieve a higher degree of alignment with comparable mechanisms in other countries and to take preventive action to protect consumers from products or services that could endanger their lives, health, safety or property.

The competence and obligation of the Slovak Metrology Institute (hereinafter referred to as the "SMÚ") to carry out the development of national standards has been supplemented, which will achieve the correction of procedural and legal shortcomings that have not yet been addressed in the Act on Metrology. The legal regulation of the development of national standards responds to the requirements of application practice and its aim is to harmonize and unify the tasks of the SMU in practice in the field of science, research and development with a focus on the development of national standards; as well as strengthening and actively supporting the position of the SMU as a national metrological institution, which will at the same time contribute to better competitiveness within the domestic environment and at the international level. The regulation will contribute to the completion of the scientific, technical and technological platform and research area in the interest of improving the fulfilment of the tasks of the national metrological institution of the Slovak Republic; to improve the conditions and strengthen research, technological development and innovation in order to increase the effectiveness of the development of the system of national standards - by direct application and use of the obtained results in metrological practice and responding to the stimuli and needs of metrological practice. Motivation for the development of a system of national standards with the aim of using and applying metrology in current and other areas, as well as strengthening the position of SMU as a research institution in international research cooperation in metrology and active participation in international projects within the EU. The development of a system of national standards will make it possible to cover the solution of many technical problems, including the necessary need to automate many activities, taking into account scientific, technical and technological progress.

Following the approval of the new Act on Metrology, new implementing regulations were adopted - Decrees of the Office for Standardization, Metrology and Testing of the Slovak Republic.

Also in 2018, a new law on conformity assessment and on making a specified product available on the market was approved, Act no. 56/2018 from the collection of laws.

The Act continues to comprehensively regulate the obligations of individual economic operators in this area, specifies procedural provisions concerning the authorization of conformity assessment bodies and procedural provisions governing the notification of authorized persons to the European Commission, European Union Member States and States parties to the Agreement on the European Economic Area. The Act further specifies the performance of supervision over compliance with the obligations of the manufacturer, authorized representative of the manufacturer, importer and distributor and provides for sanctions for violation of the provisions of this Act and the technical regulation in the field of conformity assessment. The law specifies the activities of supervisory authorities and the exercise of supervision. The aim of the legislation is to maintain the framework law in the field of conformity assessment of products and making certain products available on the market, which contains the basic principles of the New Legislative Framework of the European Union for the conditions of the Slovak Republic, harmonize all common requirements, notifications and rules for making certain products available on the market.

Metrological legislation within Slovak Republic

The legal regulation of metrology in the Slovak Republic consists of:

- A. Regulations transposing the "old approach" legislation of the European Communities and also including legislation for the non-harmonized area:
 - 1. Act no. 157/2018 From the collection of laws on Metrology and on Amendments to Certain Acts, as amended by Act no. 198/2020 From the collection of laws,
 - 2. Decree of the Office for Standardization, Metrology and Testing of the Slovak Republic no. 173/2018 From the collection of laws on legal measuring units as amended by Decree no. 432/2019 From the collection of laws,
 - 3. Decree of the Office for Standardization, Metrology and Testing of the Slovak Republic no. 188/2018 From the collection of laws on consumer packaging, on a bottle as a measuring container, on requirements for checking the quantity of a product in a consumer package and on requirements for checking the actual volume of a bottle as a measuring container, as amended by Decree no. 433/2019 From the collection of laws,
 - 4. Decree of the Office for Standardization, Metrology and testing of the Slovak Republic no. 161/2019 from the collection of laws on measuring instruments and metrological control.
- B. Regulations transposing New Approach legislation - New Legislative Framework of the European Union:
 - 1. Act no. 56/2018 From the collection of laws on conformity assessment of a product, making a designated product available on the market and amending certain laws,
 - 2. Regulation of the Government of the Slovak Republic no. 126/2016 From the collection of laws on making available scales with non-automatic activity on the market as amended by Government Regulation of the Slovak Republic no. 330/2019 From the collection of laws,

3. Regulation of the Government of the Slovak Republic no. 145/2016 From the collection of laws on making measuring instruments available on the market, as amended by Government Regulation of the Slovak Republic no. 328/2019 From the collection of laws

2 Presentation of the QMS of SMU

2.1 Quality policy

The SMU quality policy is based on the Meter Convention, the Act on Metrology and the Product Conformity Assessment Act. The SMU quality policy is approved by the Director General of the Institute, and proposals for its change may be submitted by all employees of the Institute.

The Quality Policy of January 28, 2021, which was approved by the Director General of the Institute, currently applies. During the period under review, the Quality Policy was revised on:

- 25. March 2016
- 10. May 2017
- 1. October 2019
- 9. June 2020
- 1. October 2020.

Up to date SMU quality policy with indicated changes:

- SMÚ is governed by the Concept of the State Policy of Technical Standardization, Metrology, Quality, Conformity Assessment and Accreditation for the years 2021 to 2024.
 - Change consists in the adoption of the newest Concept of the State Policy
- The permanent responsibility of top management for the quality of work performed and the involvement of all employees in the quality management system is a guarantee of the future of SMÚ as a top scientific research institution, accepted at home and abroad.
 - Without any change
- The quality management system is applied to all activities that are performed in the SMU. In the professional field, it is mainly work with national standards, the provision of a wide range of metrological services, the performance of the functions of a public administration body and the activities of a notified body. All activities are performed to meet current and future customer needs.
 - Without any change
- Develop and maintain standards so that they are internationally accepted in accordance with the CIPM MRA agreement and that the institute provides customers with services at an appropriate level with internationally accepted certificates.
 - Without any change

- Fulfilling the tasks set by legislative and other documents as well as meeting customer requirements is the primary goal of SMU employees. To achieve this goal, SMÚ performs a wide range of metrological and other activities (for example, calibrations, expertise, conformity assessment of measuring instruments, comparative measurements, comprehensive metrological services, education, etc.) in the Slovak Republic and abroad.
 - Without any change
- Intensively participate in scientific research activities, funded from national and international sources, especially APVV and within the European Metrology Program for Research and Innovation (EMPIR). The ability of SMÚ to perform research and development is officially confirmed by the certificate of the Ministry of Education, Youth and Sports of the Slovak Republic.
 - Without any change
- Provide education in metrology, quality and testing at the highest professional level, especially through courses accredited by the Ministry of Education, Youth and Sports of the Slovak Republic and expand it according to the requirements of potential participants.
 - The change consisted in including the testing laboratory as it was successfully accredited in December 2016
- Work closely with other national metrology institutes, institutions, organizations and associations in the field of metrology, in particular BIPM, EURAMET, COOMET, OIML and WELMEC.
 - Without any change
- The goal of the top management of SMÚ is employee satisfaction. High quality vocational education and involvement of young workers in research projects is a perspective for the development of metrology in the Slovak Republic.
 - Without any change
- The active approach to work, expertise and creativity of all employees is a guarantee of improving the quality management system of the SMU. Employees are loyal to the SMU policy, on the other hand SMU respects its employees.
 - Without any change
- Collaborate with suppliers who meet the requirements for the quality of goods and services.
 - Without any change
- Maintain the quality management system of the SMU in accordance with EN ISO 9001, EN ISO / IEC 17065, maintain the performance of calibration services and testing activities in accordance with EN ISO / IEC 17025 and maintain the production and certification of reference materials in accordance with EN ISO 17034. quality management is governed by the following principles: (žiadne dátumi, a iso guide 34 iso 17034)
 - The change consisted in including the testing laboratory as it was successfully accredited in December 2016. Another change consisted in removing the dates of

the standards to avoid the need of formal changes and the ISO guide 34 was replaced by ISO 17 034 standard.

- minimum deficiencies in the provision of metrological services, a satisfied customer and a satisfied employee,
- the quality of internationally recognized standards ensures the competitiveness of SMU on the domestic and foreign markets,
- continuous self-assessment and third party evaluation is a guarantee of functionality and improvement of the quality management system.

2.2 Structure of SMU

Evolution of the organisation structure can be found in the Annex O.

SMU management:

Position	Person assigned to the position
General Director:	Mgr. Roman Kováč (since October 2016 till 30. 09.2020) Ing. Maroš Kamenský, MBA (from 01. 10 2020 till present)
Deputy General Director:	Ing. Dušan Butaš (since January, 2017 up to 14.3.2021 Mgr. Tomáš Just (since April, 2021)
Director Office of the General Director	Currently vacant position
Director of Metrology Division	RNDr. Matej Krivošík (since July 2015 till July 11. 2018) Ing. Tomáš Peták, PhD. (since July 12, 2018 till April 26. 2020) Ing. Štefan Gašparík (from 27. 04. 2020 till present)
Director of Certification Division	Ing. Emanuel Godál (since June 2013 till 22.3.2020) Ing. Viliam Mazúr (from 23.3.2020 till present)
Director Division of Economy	Ing. Eva Šímková (since July, 2013 - until December, 2016) Ing. Katarina Valenteova (since Feb, 2017 till December 2017) Ing. Andrej Kriváň, PhD., MBA (since January 1, 2018 till present)
Quality Manager	Ing. Karol Mikula (since November, 2013 up to 31.3.2019) Ing. Kamila Vitkovičová (since July 1, 2019 till present)

Heads of Division and Departments of SMU:

Division	Head of Division	Department	Head of Department
Division of Metrology	Ing. Tomáš Peták, PhD. Ing. Štefan Gašparík	Department of Ionizing Radiation	RNDr. Jarmila Slučiak, PhD.
		Department of Mass and Geometrical Quantities	Ing. Dušan Trochta
		Department of Flow and Pressure	Ing. Miroslav Chytil
		Department of Chemistry	Ing. Zuzana Ďurišová, PhD.
		Department of Electricity and Time	Ing. Štefan Gašparík
		Department of Thermometry, Photometry and Radiometry	Ing. Milan Ioan Maniur, PhD. (till 14.05.2020) Ing. Peter Pavlásek, PhD. (from 15.05.2020 till present)
		Department of Testing Laboratory	Ing. Štefan Makovník

Metrological operations are carried out by the Division of Metrology. This division consists of 7 departments, each department has its own representative for quality. The Quality Representatives, together with the SMU Quality Manager, form the QMS Board in order to perform QMS-related tasks (appointed by the Director General):

1	Representative for quality and Quality Manager of Slovak Institute of Metrology, Certifying Body, Metrological Laboratories and Testing Laboratory	Ing. Kamila Vitkovičová
2	Member of the Council – Deputy for Quality Dept. chemistry	Ing. Zuzana Hanková
3	Member of the Council – representative for the quality of the flow and pressure department	Ing. Patrik Vávrovič
4	Member of the Council – representative for the quality of the electricity and time department	Ing. Štefan Gašparík
5	Member of the Council – representative for the quality department of thermometry, photometry and radiometry	Ing. Milan Ioan Maniur, PhD.
6	Member of the Council – representative for the quality of the separation of mass and geometric quantities	Ing. Dušan Trochta
7	Member of the Council – representative for the quality of the ionizing radiation department	RNDr. Jarmila Slučiak, PhD.

2.3 QMS structure

SMU has its processes divided into four basic groups. Each process has a designated person responsible for the process. The structure of the processes is as follows:

1. Managerial (organizational management, QMS review, human resources management, financial management, internal communication)
2. Support (metrology, purchasing, documentation and records management, infrastructure management)
3. Main (order management, projects (science and research), type approval of the meter, verification of competence in the field of metrology, authorization, registration, provision of educational services)
4. Continuous improvement (risk and opportunity management, quality audits, nonconforming work management)

The SMU documentation is divided according to the source into:

- A. internal documentation,
- B. external documentation.

Internal documentation is divided into 3 levels:

Level 1: SMU quality policy, SMU quality manual and quality manuals of individual organizational units,

Level 2: procedural guidelines, organizational guidelines, decisions, orders (governing documents),

Level 3: working procedures, instructions, forms and templates, records.

SMU quality policy, SMU quality manual, ML and SL quality manual, COCV quality manual, forms and models are managed by MK. The quality manuals of the metrology departments, work procedures, instructions and records are managed by an authorized employee of the relevant organizational unit where they were prepared (quality representative).

External documentation consists of:

- laws, regulations, decrees,
- harmonized standards.

The management of external documentation applies only to technical standards and is managed by the Ministry of Culture or an authorized employee of the relevant organizational unit (quality representative).

1. Quality manuals:
 - SMU quality manual
 - according to ISO 9001: 2015
 - Manual of quality of metrological laboratories according to ISO / IEC 17025: 2017
 - Quality manual for ionizing radiation separation according to ISO / IEC 17025: 2017
 - Quality manual for the separation of mass and geometrical quantities according to ISO / IEC 17025: 2017
 - Manual of quality laboratories for pressure, vacuum, sound pressure, flow and flow of liquids and gases
 - Quality manual of the chemical department according to ISO / IEC 17025: 2017 and ISO 17034: 2016
 - Handbook of quality of electricity and time separation according to ISO / IEC 17025: 2017
 - Quality manual of the department of thermometry, photometry and radiometry according to ISO / IEC 17025: 2017
 - Quality manual of the testing laboratory department according to ISO / IEC 17025: 2017
 - Quality manual of the Certification Body for product certification according to ISO / IEC 17065: 2012
2. Internal Directives

Internal directives are related to all tasks of SMU and they are divided into the following categories:

- General directives of the SMU management,
 - Directives having the expert metrological character,
 - Directives aimed at the economy,
 - Directives for regulating the running of SMU,
 - Directives for regulating the human resources,
 - Directives having the legal character.
3. Work procedures for calibration and testing specify the operation for executing the calibration and testing tasks.
 4. Instruction has generally describe the procedures for ensuring the individual tasks and a process assurance of quality within a single organizational unit.
 5. Forms, records on measurement are related to individual particular tasks.

All documents related to QMS are also available to employees on the institute's intranet website.

2.4 Integrated management system

The SMU has implemented and maintains a quality management system in accordance with the international standard EN ISO 9001: 2015 issued by the certification authority - ELBACERT Kremnica. The certification authority ELBACERT Kremnica performed a recertification audit at SMU on 14 and 15 May 2020. The audit confirms that the quality management system is implemented and maintained. The quality management system is fully functional and is applied to the scope of SMU activities. A new quality management system certificate has been issued (Annex 1)

SMU has one accredited department of the Department of Metrology, the department of testing laboratory. From 22 to 24 July 2020, the Slovak National Accreditation Service (SNAS) performed control supervision as well as a complete assessment of the transition to the ISO / IEC 17025: 2017 standard. After removing the identified non-conformities (4), the SNAS stated that the testing laboratory department complied with the requirements of the ISO / IEC 17025: 2017 standard and issued it an accreditation certificate (Annex 3).

SMU has a Certification Body for Product Certification accredited in accordance with the ISO / IEC 17065: 2012 SNAS standard and authorized (notified body) by the Slovak Office for Standardization, Metrology and Testing (Annex 2). At the beginning of March, an on-site assessment was carried out by SNAS as well as by ÚNMS SR. The re-accreditation process is still on-going.

2.5 Quality related to research activities

As SMU is the national metrology institute in Slovakia, having the exclusive position within the Slovak metrology system, the research is one of main tasks of the SMU. Therefore substantial and continuous attention must be paid to its quality. The Scientific Board of SMU is a supreme advisory board of the General Director, dealing with different tasks related to research and scientific activities at SMU:

- concept of metrology development in Slovakia,
- suggestions for measurement standards prepared for declaration as a national standard and revision of national standards,
- system for expert guarantee and review of national and reference measurement standards of other institutes than SMU,

- trends of metrological research and the SMU participation in a research and scientific EU program, international metrological organizations, national and international grant institutions,
- results of important research and investment projects ,grants and tasks solved in SMU,
- cooperation of metrological institutions with the other scientific-research institutes, academic sphere and industry in the Slovak Republic,
- introduction of results of metrological research into a practice,
- participation of SMU at providing the international equivalence of national measurement standards and the other standards and at the international cooperation in metrology,
- further standpoints to basic tasks of SMU, resulting from the function of SMU as a national metrology institute of the Slovak Republic,
- legislation dealing with metrology, organisation of scientific-research and educational activities in the Slovak Republic.

The official recognition of SMU capability to perform scientific activities was acknowledged by the Slovak Ministry for Education in 2010.

SMU received an official document, signed by the Minister that confirms the capability of SMU to perform scientific and research activities (see Annex 5).

According to current legislation in Slovakia, such document is needed for applying for internal grants as well as for applying for grants based on structural funds program.

Table of projects:

No.	EMRP / EMPIR project	Projects timeline	Involved employees
1	SIB51 GraphOhm - Metrology quantum resistance based on graphene	01.06.2013 - 31.05.2016	Gašparík, Slučiak
2	ENG52 SmartGrid II – Measuring instruments for stability and quality of smart grids	01.06.2014 - 31.05.2017	Gašparík, Slučiak
3	ENG54 Biogas – Metrology for Biofuels	01.06.2014 - 31.05.2017	Vaľkova Chytil
4	ENG61 FutureGrid – Unconventional voltage and current sensors for future electricity networks	01.06.2014 - 31.05.2017	Gašparík Slučiak
5	ENG63 GridSens – Metrology network of sensors to determine the properties of the power supply	01.06.2014 - 31.05.2017	Gašparík Slučiak
6	ENV58 – RMG MeteoMet2 – Metrology for essential climate variables	1.12.2016 – 31.5.2017	Pavlásek
7	16RPT03 inTENSE – Developing research capabilities for traceable intraocular pressure measurements	1.6.2017 – 31.5.2020	Chytil Fíra Pavlásek
8	17RPT01 DOSEtrace – Research capabilities for radiation protection dosimeters	1.6.2018 – 31.11.2021	Sandtner Blahušíak

9	15SIB02-RMG4 InK2 – Implementing the new kelvin 2	1.2.2019 – 31.5.2019	Pavlásek
10	18RPT02 adOSSIG - Developing an infrastructure for improved and harmonised metrological checks of blood-pressure measurements in Europe	1.6.2019 - 31.5.2022	Chytil Fíra Pavlásek Snopko Kysel'
11	18SIB02 Real-K - Realising the redefined kelvin	1.9.2019 - 31.3.2023	Pavlásek Kopunec
12	16ENV10 MetroRADON - Metrology for radon monitoring	1.6.2019 - 31.5.2020	Slučiak Blahušiak
13	19SIP03 CRS - Climate reference station for WMO	1.11.2020 - 31.10.2023	Pavlašek Maniur

Workers of SMU are active in BIPM, EURAMET, COOMET and WELMEC:

International organization	Organizational unit	Abbreviation	SMU representative
EURAMET	Ionising Radiation	TC-IR	Krivošík
EURAMET	Thermometry	TC-T	Pavlásek
EURAMET	Humidity	TC-T	Ďurišová
EURAMET	SUBCOMMITTEES: Gas analysis	TC -MC	Vaľková
EURAMET	Metrology in Chemistry	TC-MC	Máriássy
EURAMET	SUBCOMMITTEES: Inorganic Analysis	TC-MC	Máriássy
EURAMET	SUBCOMMITTEES: Electrochemical Analysis	TC-MC	Máriássy
EURAMET	Photometry and Radiometry	TC-PR	Krempaský
EURAMET	Time and Frequency	TC-TF	Slučiak
EURAMET	Flow	TC-F	Mazúr
EURAMET	SUBCOMMITTEES: Liquid flow	TC-F	Mazúr
EURAMET	SUBCOMMITTEES: Volume	TC-F	Mazúr
EURAMET	Gas flow	TC-F	Vavrovič
EURAMET	Quality	TC-Q	Pavlásek
EURAMET	Interdisciplinary Metrology	TC-IM	Ďuriš
EURAMET	Mass and Related Quantities	TC-M	Snopko
EURAMET	SC Pressure	TC-M	Chytil
EURAMET	SUBCOMMITTEES: Density and Viscosity	TC-M	Trochta

EURAMET	SUBCOMMITTEES: Mass	TC-M	Snopko
EURAMET	EMPIR Committee	EMPIR	Pavlásek
EURAMET	BoD Working Groups Capacity Building	BOD-WGCB	Butaš
EURAMET	Electricity and Magnetism	TC-EM	Slučiak
EURAMET	Length	TC-L	Fíra
EURAMET	General Assembly	GA Delegate	Kamenský
EURAMET	General Assembly	GA Alternate	Butaš
EURAMET	EMPIR Committee	Deputy	Dolinská
BIPM	Consultative Committee for Amount of Substance: Metrology in Chemistry and Biology	CCQM	Máriássy
BIPM	CCQM Working Group on Electrochemical Analysis	EAWG CCQM	Máriássy
BIPM	CCQM Working Group on Inorganic Analysis	IAWG CCQM	Máriássy
BIPM	CCQM Working Group on Gas Analysis	GAWG CCQM	Valřková
BIPM	Consultative Committee for Thermometry	CCT	Pavlásek
BIPM	CCT Task Group for Guides on Thermometry (CCT-TG- GoTh)	CCT-TG-GoTh	Pavlásek
BIPM	CCT Task Group for Environment (CCT TG-Env)	CCT TG-Env	Pavlásek
BIPM	Consultative Committee for Units, Working Group on Angles and dimensionless quantities in the SI	CCU WGADQ	Máriássy
BIPM	Consultative Committee for Length	CCL	Fíra
BIPM	CCRI-II Measurement of radionuclides	CCRI-II	Krivošík
BIPM	CCM: Consultative Committee for Mass and Related Quantities	CCM	Snopko
BIPM	CCM Working Group on the Dissemination of the kilogram	CCM WGD-kg	Snopko
BIPM	CCM Working Group on Pressure and Vacuum	CCM WGPV	Chytil
BIPM	CCM Working Group on Density and Viscosity	CCM WGDV	Trochta
BIPM	CCRI-I x- and gamma rays, charged particles	CCRI-I	Sandtner
BIPM	CCRI-III Neutron measurements	CCRI-III	Blahušiak
BIPM	Consultative Committee for Photometry and Radiometry	CCPR	Krempaský
BIPM	General Assembly	GA	Kamenský
COOMET	Committee Member	COOMET Committee	Kamenský
COOMET	General Metrology	TC 1.1	Fíra
COOMET	Electricity and Magnetism	TC 1.3	Dressler
COOMET	Flow Measurement	TC 1.4	Makovník
COOMET	Length and Angle	TC 1.5	Fíra

COOMET	Mass and Related Quantities	TC 1.6	Snopko
COOMET	Mass	SC 1.6.1	Snopko
COOMET	Pressure	SC 1.6.3	Chytil
COOMET	Density and Viscosity	SC 1.6.5	Trochta
COOMET	Photometry and Radiometry	TC 1.7	Krempaský
COOMET	Physical Chemistry	TC 1.8	Vaľková
COOMET	Ionising Radiation and Radioactivity	TC 1.9	Krivošík
COOMET	Thermometry and Thermal Physics	TC 1.10	Đuriš
COOMET	Time and Frequency	TC 1.11	Slučiak
COOMET	Reference Materials	TC 1.12	Đurišová
COOMET	Legal Metrology	TC 2	Godál
COOMET	Quality Forum Technical Committee"	TC 3.1	Godál
ICRM	Liquid scintillation counting Working Group	LSC WG	Krivošík
ICRM	General meeting	GM	Krivošík
DUNAMET	Annual meeting	GA	Kamenský
WELMEC	Software	WG 7	Godál
WELMEC	Water and Heat Meters	WG 13	Mazúr
OIML	Medical measuring instruments	TC 18	Pavlásek

Participation of SMU employees in the Peer Review:

NNI under peer review	Field under review	DATE	Peer reviewer
GUM, Poland	Thermometry	11.-12.12.2019	Pavlásek
GUM, Poland	Density	4.12.2019	Trochta
GUM, Poland	Static volume	4.12.2019	Trochta
GUM, Poland	Electricity	6.-7.12.2017	Dressler, Slučiak
GUM, Poland	Viscosity	23.11.2017	Trochta
GUM, Poland	Breath Analyzers	20.-21.7.2017	Vaľková
CMI, Czech Republic	Quality	22.-23.3.2017	Mikula
CMI, Czech Republic	Ionizing Radiation	22.– 23.3.2017	Ometáková (Slučiak), Durný, Švec
GUM, Poland	Quality	29.-30.11.2016	Mikula, Mazúr
GUM, Poland	Electricity	29.-30.11.2016	Gašparík, Slučiak

On-site visits by peers as specified by EURAMET TC-Q (2016-2020):

Identification of external audit action	Dates	Name of auditor(s) with university titles	Affiliation(s)	Qualifications	Result summary
Peer review visit aimed at length	February 22, 2016	RNDr. Petr Balling, PhD. Ing. Jana Meistrová	CMI Czech Republic CMI Czech Republic	Head of Department of laser metrology (length) - TE for length Quality manager CMI	Peer review visit aimed at length
Peer review visit aimed at Ionizing Radiation	February 14 - 15, 2017	Ing. Jana Sochorová, Ing. Vladimír Sochor	CMI Czech Republic	Metrologists of Department of primary metrology of ionizing radiation	
Peer review visit aimed at Quality management system	February 14 - 15, 2017	Ing. Jindřich Šabata	CMI Czech Republic	Quality Manager of CMI	
Peer review visit aimed at Pressure	April 5, 2017	Ing. Zdeněk Krajíček, PhD.	CMI Czech Republic	Head of Department of primary metrology of pressure, vacuum and low mass flow	
Peer review visit aimed at Temperature	November 14, 2017	Dr., Ing. Radek Strnad, PhD., Ing. Martin Šindelář	CMI Czech Republic	Department of primary metrology of thermo-technical quantities	
Peer review visit aimed at Gas analysis laboratories	November 14, 2017	Ing. Ján Beránek	CMI Czech Republic	Department of primary metrology of gas mixture and certification of reference materials	
Peer review	11.1.2019	p. Miroslava Benková	CMI Czech	Auditor	

visit water flow			Republic		Quality system currently used at SMU is adequate for the demonstration of conformity with the requirements originating from CIPM-MRA.
Peer review visit gas flow	28.1.2019	Mr. Tomáš Valenta	CMI Czech Republic	Auditor	Quality system currently used at SMU is adequate for the demonstration of conformity with the requirements originating from CIPM-MRA.
Peer review visit – virtual Implementation of ISO 17034:2016 standard	18.9.2020	Kai Stoll Malke Silvie Hoffmanova Tamara Đekić Enver Sadıkoğlu	Chair of EURAMET TC-Q TC-Q Secretary Quality manager of DMDM and TC-Q contact person Quality manager of EURAMET and TC-Q contact person	Auditors	Quality system of the institute is adequate

Summary of found non-conformities during peer reviews conducted at SMU:

Year	2016	2017	2018	2019	2020
Total number of non-conformities	12	15	2	0	1

Participation in ILCs/PTs in the reported period (2016-2020):

Type of ILC/PT	Field/subfield	Pilot lab or provider of ILC/PT	Identification of ILC/PT	Parameters/range of measurements	Status	Evaluation criterion	Result
Year 2016							
Key comparison	Amount of Substance, Electrochemist	PTB, Germany	CCQM-K36.2014	Electrolytic conductivity	In progress		

	ry						
Key comparison	Amount of Substance, Gases	NIM	CCQM-K101	Amount-of-substance fraction of Oxygen	Final report	1.3	SMU reported uncertainty slightly underestimated
Key comparison	Amount of Substance, Gases	VSL, Netherlands	CCQM-K112	Composition of Biogas	Draft A		
Supplementary comparison	Amount of Substance, Gases	SMU	EURAMET.QM-S10/1274	Automotive gases	Final report	0.15(CO), 0.26(CO ₂), 0.26(C ₃ H ₈)	satisfactory
Key comparison	Thermometry	LNE-INM (France)/PTB (Germany)	EURAMET.T-K9	Regional key comparison: ITS-90 SPRT Calibration from the Ar TP to the Zn FP	In progress		
Key comparison	Ionizing Radiation, Section II (Measurement of Radionuclides)	NIST, USA	CCRI(II)-K2.Ge-68	Activity concentration of the same Ge-68 chloride solution	In progress		
Supplementary comparison	Mass	NPL (UK)	EURAMET Project No. 1310 KCDB: EURAMET.M.M-S9	(100...500) µg.	Report in progress		
Comparison	Mass	MIRS (Slovenia)	EURAMET Project No. 1350	200 g, 20 g, 2 g,	Report in progress		
Comparison	Mass / Volume	Istituto Nazionale di Ricerca Metrologica (INRIM), Italy	EURAMET.M.F F-K4.1.2016	20 L	Report in progress		
Year 2017							
Key comparison	Amount of Substance, Electrochemistry	PTB, Germany	CCQM-K36.2016	Electrolytic conductivity	Final report	0,22 (0,5S/m) -0,65 (5mS/m)	OK
Key comparison	Amount of Substance, Inorganics	NIM, China	CCQM-K34.2016	Amount content of acid in solid potassium hydrogen phthalate	Report in progress		
Key comparison	Amount of Substance, Electrochemistry	NIST, USA	CCQM-K18.2016	pH at a nominal value of 10	Report in progress		
Key comparison	Amount of Substance, Gases	VSL, Netherlands	CCQM-K112	Composition of Biogas	Draft A		
Key comparison	Thermometry	LNE-INM (France)/PTB	EURAMET.T-K9	Regional key comparison:	Report in progress		

		B (Germany)		ITS-90 SPRT Calibration from the Ar TP to the Zn FP			
Key comparison	Ionizing Radiation, Section II (Measurement of Radionuclides)	NIST, USA	CCRI(II)-K2.Ge- 68	Activity concentratio n of the same Ge-68 chloride solution	Draft B in progress		
Supplementa ry comparison	Mass	NPL (UK)	EURAMET Project No. 1310 KCDB: EURAMET.M. M-S9	(100...500) µg.	Report in progress		
Comparison	Mass	MIRS (Slovenia)	EURAMET Project No. 1350	200 g, 20 g, 2 g,	Report in progress		
Comparison	Mass / Volume	Istituto Nazionale di Ricerca Metrologic a (INRIM), Italy	EURAMET.M.F F-K4.1.2016	20 L	Report in progress		
Bilateral comparison	Flow	CMI and SMU	CMI-SMU- 2017	(0,006 až 270) m ³ /h	Final report	≤ 1	OK
Year 2018							
Key comparison	Amount of Substance, Inorganics	NIM, China	CCQM- K34.2016	Amount content of acid in solid potassium hydrogen phthalate	Final Report	En=0,26	OK
Key comparison	Amount of Substance, Electrochemis try	NIST, USA	CCQM- K18.2016	pH at a nominal value of 10	Final Report	En=- 0,39	OK
Pilot study	Amount of Substance, Electrochemis try	SMU, SVK	CCQM-P93	Preparative pilot study for phosphate pH CRMs	Report in progress		
Key comparison	Amount of Substance, Gases	VSL, Netherland s	CCQM-K112	Composition of Biogas	Draft B		
Key comparison	Amount of Substance, Gases	BIPM	CCQM- K74.2018	Nitrogen dioxide	Report in progress		
Key comparison	Amount of Substance, Gases	VSL, Netherland s	CCQM-K118	Natural gas	Report in progress		
Key comparison	Thermometry	LNE-INM (France)/PT B (Germany)	EURAMET.T- K9	Regional key comparison: ITS-90 SPRT Calibration from the Ar TP to the Zn FP	Report in progress		

Key comparison	Ionizing Radiation, Section II (Measurement of Radionuclides)	NIST, USA	CCRI(II)-K2.Ge-68	Activity concentration of the same Ge-68 chloride solution	Draft B in progress		
Supplementary comparison	Ionizing Radiation, Section II (Measurement of Radionuclides)	NMIJ, Japan	CCRI(II)-S13	Cs-134 and Cs-137 in wheat flour	Draft A in progress		
Supplementary comparison	Ionizing Radiation, Section II (Measurement of Radionuclides)	FTMC, Lithuania	EURAMET Reg. No. 1437	comparison of the radionuclide calibrators (F-18, Ga-67, Tc-99m, In-111, I-123, I-125, I-131, Cs-137 and Tl-201)	Draft B in progress		
Supplementary comparison	Mass	NPL (UK)	EURAMET Project No. 1310 KCDB: EURAMET.M.M-S9	(100...500) µg.	Report in progress		
Comparison	Mass	MIRS (Slovenia)	EURAMET Project No. 1350	200 g, 20 g, 2 g,	Report in progress		
Comparison	Mass / Volume	Istituto Nazionale di Ricerca Metrologica (INRIM), Italy	EURAMET.M.F F-K4.1.2016	20 L	Draft A	En=-0,46	OK
Year 2019							
EURAMET comparison	Ionising Radiation	LNE-LNHB	EURAMET Project No. 1475 Rn-222	Volumic activity of Rn-222 gas	Report in progress, draft B	-	-
Multilateral ILC	Ionising Radiation	BFS	MetroRADON Task.2	Volumic activity of Rn-222 gas	Report in progress	-	-
Multilateral ILC	Ionising Radiation	SÚRO, ČR	NRPI(SÚRO) 222Rn	NRPI(SÚRO) 222Rn	Report Publication in progress	-	-
EURAMET supplementary comparison	Ionizing Radiation	RC Polatom, Otwock+EN EA	CCRI(II)-K2.Fe-55.2019 Comparison	Activity per mass of Fe-55	Protocol complete	-	-
EURAMET comparison	Ionizing Radiation	IMBiH	DOseTrace	Radiation protection dosimeters, Hp(10), Hp(3) and Hp(0,07), N40, N100, N200, S-Cs, S-Co	Measurement complete, evaluation in progress	-	-
EURAMET supplementary comparison	Ionizing Radiation	PTB	CCRI(III)-S1	Calibration of Ambient Dose	Measurements in progress	-	-

comparison				Equivalent (Rate) Meters in ISO Reference Fields ^{252}Cf , ^{239}Pu -Be, ^{241}Am -Be			
EURAMET comparison	Thermometry	SMU-BEV	REG. NO. 1429	SPRT calibrated in triple point of Hg	completed	-	passed
EURAMET key comparison	Electricity and Magnetism	VSL – PTB – NPL – LNE	EURAMET EM-K5	50/60 Hz Power, RMS Voltage – 120V, 240V RMS Current – 5A Power factor – 1; 0.5i; 0,5c; 0i; 0c Frequency – 53Hz	Measurements made	-	-
Year 2020							
EURAMET comparison	Ionising Radiation	LNE-LNHB	EURAMET Project No. 1475 Rn-222	Volumic activity of Rn-222 gas	Report in progress, draft B	-	-
PT	Ionising Radiation	BFS	MetroRADON Task.2	Volumic activity of Rn-222 gas	Protokol complet	-	-
Multilateral ILC	Ionising Radiation	SÚRO, ČR	NRPI(SÚRO) 222Rn	NRPI(SÚRO) 222Rn	Report Publication in progress	-	-
EURAMET key comparison	Ionizing Radiation	RC Polatom, Otwock+EN EA	CCRI(II)-K2.Fe-55.2019 Comparison	Activity per mass of Fe-55	Report in progress, draft B	-	-
EURAMET comparison	Ionizing Radiation	IMBiH	DOseTrace	Radiation protection dosimeters, Hp(10), Hp(3) and Hp(0,07), N40, N100, N200, S-Cs, S-Co	Measurement complete, evaluation in progress	-	-
EURAMET supplementary comparison	Ionizing Radiation	PTB	CCRI(III)-S1	Calibration of Ambient Dose Equivalent (Rate) Meters in ISO Reference Fields ^{252}Cf , ^{239}Pu -Be, ^{241}Am -Be	Measurement complete, evaluation in progress	-	-
EURAMET key comparison	Electricity and Magnetism	VSL – PTB – NPL – LNE	EURAMET EM-K5	50/60 Hz Power, RMS Voltage – 120V, 240V RMS Current – 5A Power factor – 1; 0.5i; 0,5c;	Measurements made	-	-

				O _i ; O _c Frequency – 53Hz			
BIPM key comparison	Chemistry	BIPM	CCQM-K74.2018	NO ₂ in nitrogen	Draft A	-	-
BIPM key comparison	Chemistry	VSL	CCQM-K112	Biogas	Completed	En	passed
BIPM key comparison	Chemistry	NMI	CCQM-K118a	Natural gas, hydrogen, helium	Draft A	-	-
BIPM key comparison	Chemistry	NMIJ-VNIIFTRI	CCQM-K19-2018	pH of borate buffer	Measurement complete, evaluation in progress	-	-
EURAMET Research	Thermometry	INRIM (Italy)	REG. NO. 1459	Air Temperature Metrology - ATM	Measurement complete, evaluation in progress	-	-
EURAMET key comparison	Mass and Related Quantities (M)	BEV	REG. NO. 1440 (REGISTERED IN KCDB CCM.D-K5)	KC Density of liquids	in progress		
EURAMET key comparison	Time and Frequency	GUM-SIQ	EURAMET_TF_S1	Time interval for delay generators	Measurements made	-	-

3 Information on the QMS development and ISO/IEC 17 025 implementation

List of quality manuals:

Label	Name	Date of introduction	Date of last changes
PK SMU	SMU quality manual according to ISO 9001: 2015, edition 3	23.4.2020	10.08.2020
PK ML	Quality manual for metrological laboratories according to ISO / IEC 17025: 2017 and relevant articles of ISO 17034: 2016, edition 5 - common requirements for all laboratories of the metrology department	25.11.2019	01.10.2020 10.08.2020
PK 610	Ionizing Radiation Separation Quality Manual according to ISO / IEC 17025: 2017, Edition 4	27.11.2019	-
PK 620	Quality manual for the separation of mass and geometrical quantities according to ISO / IEC 17025: 2017, edition 2	30.11.2019	-
PK 630	Quality Manual of Pressure, Vacuum, Sound Pressure, Flow and Liquid and Gas Laboratories Laboratories according to ISO / IEC 17025: 2017, Edition 4	20.11.2019	25.01.2021
PK 640	Chemistry Department Quality Manual according to ISO / IEC 17025: 2017 and ISO 17034: 2016, edition 3	30.11.2019	14.01.2021 17.09.2020 18.03.2020
PK 650	Electricity and time separation quality manual according to ISO / IEC 17025: 2017, edition 3	29.11.2019	-
PK 660	Quality Manual of the Thermometry, Photometry and Radiometry Department according to ISO / IEC 17025: 2017, Edition 3	30.11.2019	09.07.2020 26.05.2020
PK SL	Testing Laboratory Quality Manual according to ISO / IEC 17025: 2017, Edition 5	27.11.2019	10.08.2020 22.06.2020
PK COCV	Quality manual of the Certification Body for product		-

3.1 Table of content of the quality manual

The SMU quality manual according to the ISO 9001 standard consists of the following 10 parts:

- I. List of annexes
- II. Amendment sheet
- 1 Purpose
- 2 Terms and abbreviations
- 3 Company introduction
- 4 Organization context
- 5 Leadership
- 6 Planning
- 7 Support
- 8 Product realization
- 9 Performance evaluation
- 10 Improving

Contents of the Quality Manual of Metrological Laboratories - ISO / IEC 17025: 2017 and ISO 17034: 2016

- I. List of annexes
- II. Amendment sheet
- III. Links
1. Introduction
2. Purpose and purpose of the Quality Manual
3. Terms, definitions and abbreviations used
4. General requirements
 - 4.1 Impartiality
 - 4.2 Confidentiality
5. Structure requirements
6. Resource requirements
 - 6.1 General
 - 6.2 Workers
 - 6.3 Premises and environmental conditions
 - 6.4 Equipment
 - 6.5 Metrological traceability
 - 6.6 Externally provided products and services
7. Process requirements
 - 7.1 Review of requirements, tenders and contracts
 - 7.2 Selection, verification and validation of methods
 - 7.3. Sampling
 - 7.4 Handling of test and calibration objects
 - 7.5 Technical records
 - 7.6 Evaluation of measurement uncertainty
 - 7.7 Ensuring the validity of results
 - 7.8 Reporting of results
 - 7.9 Complaints
 - 7.10 Inconsistent work
 - 7.11 Data management and information management

8. Management system requirements - option B

3.2 Annual report and the QMS development

Metrological workplaces of SMU perform some activities that are not provided by any other organization in the Slovak Republic. The success of metrological laboratories is conditioned by the continuity of standards, international comparisons as well as the correct application of unit transfer. In the area of certified reference materials (CRM), we have a priority position as a certification body in the Slovak Republic and a CRM manufacturer for calibration purposes, thanks to a clear strategy to ensure their continuity.

One of the most important problems in the last five years was the reduction in the number of employees due to the planned change in the legal form of SMU from a contributory organization to a non-profit organization, which was eventually stopped. This significantly increased the number of disagreements concerning the substitutability of workers, and reduced the inflow of funds for the maintenance of premises and environmental conditions.

In the period from 2018 to 2020, the number of employees gradually increased from 57 to 31 December 2016 to 71 to 31 December 2020 and the increasing trend continues in 2021. After the adoption of the Action Plan for the Development of Slovak Metrology for the period 2020 to 2024 by the Slovak Government it will be possible to draw funds from the state budget.

Overview of contributions from the state budget for development:

Year 2016	560 000 EUR
Year 2017	300 000 EUR
Year 2018	800 000 EUR
Year 2019	800 000 EUR
Year 2020	1 380 000 EUR

In 2020, the problem of air conditioning began to be solved. In order to avoid partial solutions for repair, resp. replacement of some selected - non-functional parts of air-conditioning equipment in laboratories, we have developed a comprehensive document - energy audit of technological equipment (air conditioning, heating, electrical equipment) providing the required conditions for measurements. It is an evaluation of the operation of a 32-year-old facility, which needs to be modernized in its entirety, resp. completely replaced. We received an energy audit in December 2020 and a public procurement process is currently being carried out for the processor of project documentation for the modernization of air conditioning. If we have project documentation available, we will use these projects as tender documents for the selection of a supplier of air conditioning modernization in building "H", where most of the laboratories are located. Subsequently, further stages of modernization can be started.

Together with quality employees of the SMU, there is room to move the Institute significantly forward.

In the coming period, we will therefore focus on the following key areas:

- enhancement of science and fundamental metrology,
- maintenance and development of national standards,
- modernization, automation and overall technological shift of the Institute,
- efficient provision of quality metrological services to customers,
- participation in Slovak and international projects,
- acquisition and development of motivated and talented employees,
- more intensive communication with existing and potential customers and partners, as well as with other relevant entities.

3.3 List of general and administrative procedures

The SMU has an integrated management system in place (see section 2.4 of this report).

Current documents are published on the intanet page of the institute.

List of General Directors Decisions - General and amendments to the RGR from SMUs intranet system:

label	Name of the GR decision	Active since
RGR 07/2021	Zrušenie Ostatných etalónov	15. 04. 2021
RGR 06/2021	Prehľad úloh SMÚ na rok 2021	01. 04. 2021
RGR 05/2021	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Systém manažérstva kvality	26. 03. 2021
RGR 04/2021	Podpisovanie CRM	05. 02. 2021
RGR 03/2021	Systém manažérstva kvality	04. 02. 2021
RGR 02/2021	Prehľad úloh SMÚ na rok 2021	01. 01. 2021
RGR 01/2021	Rozhodnutie o určení počtu funkčných miest SMÚ	16. 01. 2021
RGR 35/2020	Trvalé upustenie od vymáhania pohľadávky štátu	17. 12. 2020
RGR 34/2020	Podmienky čerpania dovolenky zamestnancov SMÚ	26. 11. 2020
RGR 33/2020	Dodatok č. 2 k rozhodnutiu generálneho riaditeľa – Systém manažérstva kvality	25. 11. 2020
RGR 32/2020	Rozhodnutie zamestnávateľa o organizačnej zmene	01. 12. 2020
RGR 31/2020	Úprava Cenníka metrologických služieb	11. 11. 2020
RGR 30/2020	Schválenie cenníka metrologických služieb	02. 11. 2020
RGR 29/2020	Oceňovacia komisia SMÚ	04. 11. 2020
RGR 28/2020	Cenník služieb odboru certifikácie	02. 12. 2020
RGR 27/2020	Zrušenie Organizačnej smernice OS - 12	30. 10. 2020

RGR 26/2020	Inventarizácia majetku, záväzkov, a rozdielu majetku a záväzkov v Slovenskom metrologickom ústave	24. 10. 2020
RGR 25/2020	Prehľad úloh SMÚ na rok 2020	01. 10. 2020
RGR 24/2020	DODATOK č. 1 k ŠTATÚTU SLOVENSKEHO METROLOGICKÉHO ÚSTAVU	20. 10. 2020
RGR 23/2020	Dodatok č. 2 k Rozhodnutiu generálneho riaditeľa k bezpečnostným opatreniam v nadväznosti na Opatrenia Úradu verejného zdravotníctva Slovenskej republiky pri ohrození verejného zdravia OLP/6850/2020 a OLP/6911/2020 zo dňa 28. 8. 2020 z dôvodu vyhlásenia mimoriadnej situácie na území Slovenskej republiky vládou Slovenskej republiky uznesením vlády SR č. 111 z 11.3.2020 a pandémie ochorenia COVID-19	15. 09. 2020
RGR 22/2020	Cenník služieb odboru certifikácie	15. 09. 2020
RGR 21/2020	Odborná komisia ústavu	10. 09. 2020
RGR 20/2020	Prehľad úloh SMÚ na rok 2020	01. 09. 2020
RGR 19/2020	Rozhodnutie generálneho riaditeľa k bezpečnostným opatreniam v nadväznosti na Opatrenia Úradu verejného zdravotníctva Slovenskej republiky pri ohrození verejného zdravia OLP/6850/2020 a OLP/6911/2020 zo dňa 28. 8. 2020 z dôvodu vyhlásenia mimoriadnej situácie na území Slovenskej republiky vládou Slovenskej republiky uznesením vlády SR č. 111 z 11.3.2020 a pandémie ochorenia COVID-19	01. 09. 2020
RGR 18/2020	Plán revízie a aktualizácie riadenej dokumentácie - smerníc na rok 2020	10. 08. 2020
RGR 17/2020	Prehľad úloh SMÚ na rok 2020	01. 06. 2020
RGR 16/2020	Dodatok č. 2 k rozhodnutiu generálneho riaditeľa – Monitorovací výbor projektov	05. 06. 2020
RGR 15/2020	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Systém manažérstva kvality	04. 06. 2020
RGR 14/2020	Prehľad úloh SMÚ na rok 2020	15. 05. 2020
RGR 13/2020	Cenník služieb odboru certifikácie	01. 06. 2020
RGR 12/2020	Prehľad úloh SMÚ na rok 2020	01. 05. 2020
RGR 11/2020	Podmienky čerpania dovolenky zamestnancov SMÚ	08. 04. 2020
RGR 10/2020	Prehľad úloh SMÚ na rok 2020	01. 04. 2020
RGR 09/2020	Odmeňovanie členov audítorského tímu za výkon interných auditov v SMÚ	01. 04. 2020
RGR 08/2020	Rozhodnutie generálneho riaditeľa k hygienickým a bezpečnostným opatreniam v nadväznosti na nariadenia Vlády SR a prijatými opatreniami hlavného hygienika SR v súvislosti so šírením choroby COVID-19 pre oblasť poskytovania interných a externých metrologických služieb	31. 03. 2020
RGR 08/2020-dodatok 1	Dodatok č. 1 k RGR/08/2020	15. 05. 2020
RGR 07/2020	Dodatok č. 2 k rozhodnutiu generálneho riaditeľa – Výbor certifikačného orgánu na certifikáciu výrobkov	01. 04. 2020
RGR 06/2020	Systém manažérstva kvality	16. 03. 2020
RGR 05/2020	Rozhodnutie o schválení a vydaní Organizačného poriadku Slovenského metrologického ústavu a novej Organizačnej štruktúry	01. 04. 2020
RGR 04/2020	Schválenie cenníka metrologických služieb SMÚ	01. 03. 2020
RGR 03/2020	Cenník služieb odboru certifikácie	01. 02. 2020
RGR 01/2020	Prehľad úloh SMÚ na rok 2020	01. 01. 2020
RGR 23/2019	Čistenie pracovných odevov	01. 01. 2020

RGR 22/2019	Štatút Slovenského metrologického ústavu	20. 12. 2019
RGR 21/2019	Protikorupčný program SMÚ	18. 12. 2019
RGR 20/2019	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Systém manažérstva kvality	12. 12. 2019
RGR 19/2019	Vstup do areálu SMÚ	13. 11. 2019
RGR 18/2019	Inventarizácia majetku, záväzkov, a rozdielu majetku a záväzkov v Slovenskom metrologickom ústave	12. 11. 2019
RGR 17/2019	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Výbor certifikačného orgánu na certifikáciu výrobkov	01. 11. 2019
RGR 16/2019	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Monitorovací výbor projektov	01. 11. 2019
RGR 15/2019	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Investičná komisia	01. 11. 2019
RGR 14/2019	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Likvidačná komisia	01. 11. 2019
RGR 12/2019	Podmienky čerpania dovolenky zamestnancov SMÚ	15. 10. 2019
RGR 11/2019	Prehľad úloh SMÚ na rok 2019	01. 09. 2019
RGR 10/2019	Systém manažérstva kvality	01. 09. 2019
RGR 09/2019	Plán revízie riadenej dokumentácie na rok 2019	09. 08. 2019
RGR 08/2019	Prehľad úloh SMÚ na rok 2019	01. 07. 2019
RGR 07/2019	Podmienky dočerpania dovoleniek zamestnancov SMÚ za rok 2018	01. 07. 2019
RGR 06/2019	Uznesenie vlády SR č. 810/1996 – úloha C.5	01. 05. 2019
RGR 05/2019	Vedecká rada SMÚ	15. 04. 2019
RGR 04/2019	Aktivačná komisia	01. 02. 2019
RGR 03/2019	Trvalé upustenie od vymáhania pohľadávky štátu	01. 03. 2019
RGR 02/2019	Dodržiavanie Zákona č. 357/2015 Z. z. o finančnej kontrole	01. 02. 2019
RGR 01/2019	Prehľad úloh SMÚ na rok 2019	01. 01. 2019
RGR 18/2018	Dodatok č. 2 k rozhodnutiu generálneho riaditeľa – Škodová komisia	01. 12. 2018
RGR 17/2018	Systém manažérstva kvality	03. 12. 2018
RGR 16/2018	Inventarizácia majetku, záväzkov, a rozdielu majetku a záväzkov v Slovenskom metrologickom ústave	21. 11. 2018
RGR 15/2018	Podmienky čerpania dovolenky zamestnancov SMÚ	21. 11. 2018
RGR 14/2018	Rozhodnutie o určení počtu funkčných miest SMU	01. 10. 2018
RGR 13/2018	Rozhodnutie o schválení a vydaní Organizačného poriadku Slovenského metrologického ústavu a novej Organizačnej štruktúry	01. 10. 2018
RGR 12/2018	Prehľad úloh SMU na rok 2018	01. 09. 2018
RGR 11/2018	Rozhodnutie o určení počtu funkčných miest SMU	01. 09. 2018
RGR 10/2018	Prehľad úloh SMU na rok 2018	01. 08. 2018
RGR 07/2018	Podmienky dočerpania dovoleniek zamestnancov SMÚ za rok 2017	26. 06. 2018
RGR/04/2018	Prehľad úloh SMU na rok 2018	01. 02. 2018
RGR/02/2018	Rozhodnutie o určení počtu funkčných miest SMU	01. 02. 2018
RGR/01/2018	Rozhodnutie o schválení a vydaní Organizačného poriadku Slovenského metrologického ústavu a novej Organizačnej štruktúry	01. 02. 2018
RGR/17/2017	Prehľad úloh SMU na rok 2018	01. 01. 2018
RGR/16/2017	Rozhodnutie o určení počtu funkčných miest SMU	01. 01. 2018
RGR/12/2017	Rozhodnutie o schválení a vydaní Organizačného poriadku Slovenského metrologického ústavu a novej Organizačnej štruktúry	02. 10. 2017
RGR/11/2017	Rozhodnutie o zmene pracovnej pozície	01. 10. 2017

RGR/10/2017	Rozhodnutie o určení počtu funkčných miest SMU	01. 09. 2017
RGR/06/2017	Dočasná prebytočnosť majetku štátu	31. 05. 2017
RGR/05/2017	Výbor certifikačného orgánu na certifikáciu výrobkov	29. 05. 2017
RGR/30/2016	Príspevok zamestnávateľa na DDS	01. 01. 2017
RGR/28/2016	Používanie automatizovaného systému správy registratúry WinASU	01. 01. 2017
RGR/27/2016	Odpisový plán dlhodobého majetku v správe SMU na rok 2017	01. 01. 2017
RGR/26/2016	Dodatok č. 1 k rozhodnutiu generálneho riaditeľa – Škodová komisia	03. 11. 2016
RGR/24/2016	Rozhodnutie, ktorým sa upravuje správa kľúčov od laboratórnych, vyhodnocovacích a kancelárskych priestorov SMÚ	17. 08. 2016
RGR/21/2016	Pracovnú skupinu za účelom plnenia úloh vyplývajúcich zo schváleného projektu APVV-15-0295 Pokročilé štatistické s výpočtové metódy pre meranie a metrologiu	04. 08. 2016
RGR/20/2016	Pracovnú skupinu za účelom plnenia úloh vyplývajúcich zo schváleného projektu APVV-15-0017 Vývoj národného etalónu Rn-222 a zabezpečenie etalonáže Rn-222 na Slovensku	04. 08. 2016
RGR/19/2016	Zriadenie pracovnej skupiny za účelom vypracovania dokumentu Komplexný prehľad o stave národných etalónov a ostatných etalónov	01. 08. 2016
RGR/17/2016	Pozastavenie činnosti Národného etalónu neutrónov NE 016/98 a výkonu metrologických služieb súvisiacich s Národným etalónom neutrónov NE 016/98	28. 07. 2016
RGR/15/2016	Rozhodnutie o zastavení všetkých činností súvisiacich s uchovávaním a rozvojom národných etalónov a ostatných etalónov	01. 07. 2016
RGR/14/2016	Rozhodnutie o utlmení činnosti národných etalónov	01. 07. 2016
RGR/07/2016	Zrušenie Rozhodnutia generálneho riaditeľa	15. 04. 2016
RGR/04/2016	Zriadenie pracovnej skupiny k aktualizácii príloh k vyhláske č. 210/2000 Z. z. ÚNMS SR o meradlách a metrologickej kontrole	18. 01. 2016
RGR/03/2016	Používanie elektronického denníka etalónov (EDE)	11. 01. 2016
RGR/15/2015	Prebytočnosť majetku štátu	14. 12. 2015
RGR/11/2015	Pravidlá odmeňovania zamestnancov v rámci zavedenia a aplikácie nového informačného systému.	01. 09. 2015
RGR/07/2015	Úprava dĺžky pracovného času počas mimoriadne teplých dní	17. 07. 2015
RGR/02/2015	Rozhodnutie generálneho riaditeľa pre oblasť referenčných materiálov	19. 01. 2015
RGR/12/2014	Likvidačná komisia	01. 07. 2014
RGR/37/2013	Pravidlá o bezpečnosti a ochrane zdravia pri práci	04. 11. 2013
RGR/28/2013	Škodová komisia	10. 10. 2013
RGR/22/2013	Postup vykonávania kontroly požívania alkoholických nápojov a iných omamných alebo psychotropných látok	23. 08. 2013
RGR/18/2013	Konzumácia a skladovanie jedál a nápojov v priestoroch laboratórií SMU	24. 07. 2013
RGR/12/2013	Monitorovací výbor projektov	22. 07. 2013
RGR/05/2013	Požiarň štátút	15. 02. 2013
RGR/04/2013	Určenie postupov pri vzniku úrazu a nebezpečnej udalosti	15. 02. 2013
RGR/03/2013	Oponentúry výskumných úloh	13. 02. 2013
RGR/14/2011	Investičná komisia	13. 05. 2011
RGR/04/2011	Komisia SMU na posudzovanie vedeckej kvalifikácie zamestnancov	25. 03. 2011
RGR/13/2010	Stravovacia komisia	01. 12. 2010

List of Quality manuals from SMUs intranet system:

PK 9001	Príručka kvality SMU (ISO 9001:2015), vydanie 3, zmena 1	23. 04. 2020	zmena 10. 08. 2020
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PK ML	Príručka kvality metrologických laboratórií (ISO/IEC 17025), vydanie 5, zmena 2	25. 11. 2019	zmena 01. 10. 2020
PK SL	Príručka kvality Oddelenia skúšobného laboratória (ISO/IEC 17025), vydanie 5, zmena 2	27. 11. 2019	zmena 10. 08.2020
PK_COCV	Príručka kvality Certifikačného orgánu na certifikáciu výrobkov, vydanie 9	21. 12. 2020	
PK 610	Príručka kvality Oddelenia ionizujúceho žiarenia (ISO/IEC 17025), vydanie 4	27. 11. 2019	
PK 620	Príručka kvality Oddelenia hmotnosti a geometrických veličín (ISO/IEC 17025), vydanie 2	30. 11. 2019	
PK 630	Príručka kvality Oddelenia prietoku a tlaku (ISO/IEC 17025), vydanie 4, zmena 1	20. 11. 2019	zmena 25.01.2021
PK 640	Príručka kvality Oddelenia chémie (ISO/IEC 17025 a ISO 17034), vydanie 3, zmena 2	30. 11. 2019	zmena 25.01.2021
PK 650	Príručka kvality Oddelenia elektriny a času (ISO/IEC 17025), vydanie 3	29. 11. 2019	
PK 660	Príručka kvality Oddelenia termometrie, fotometrie a rádiometrie (ISO/IEC 17025), vydanie 3, zmena 2	30. 11. 2019	zmena 09.07.2020

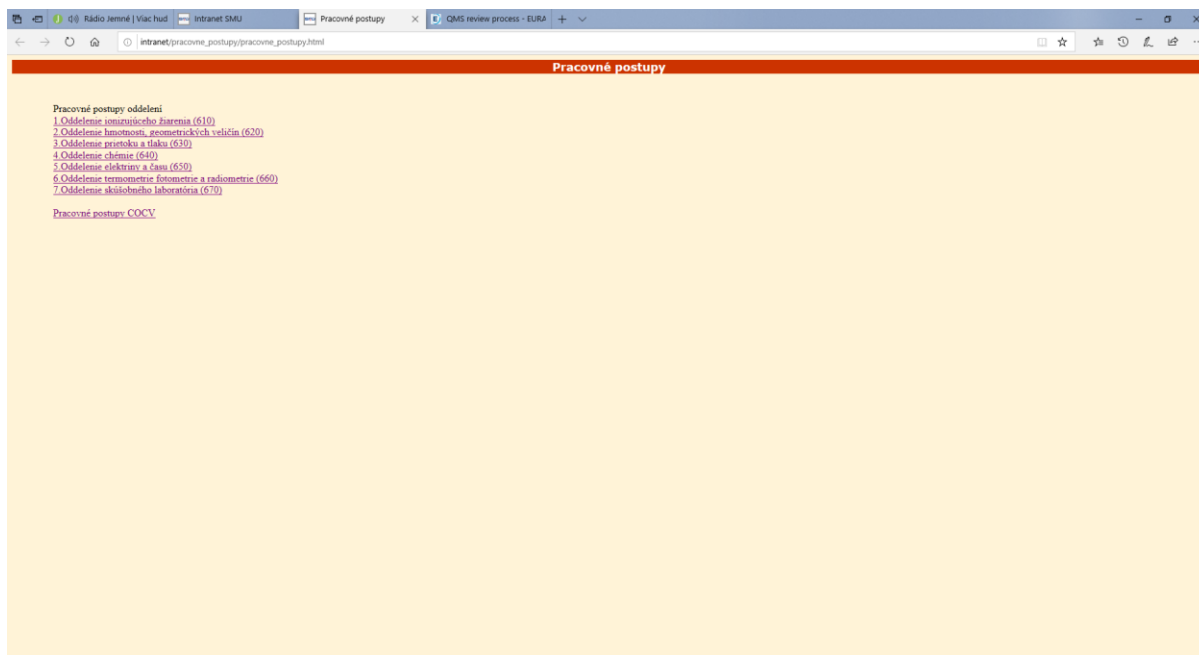
List of guidelines from SMUs intranet:

Label	Name of guideline	Date of introduction	Last change
OS - 01	Národné etalóny a ostatné etalóny, v. 03	08. 11. 2016	
OS - 02	Zásady uchovávanía a používania etalónov	12. 05. 2014	
OS - 03	Dohľad nad meradlami	21. 12. 2017	
OS - 04	Používanie služobných motorových vozidiel zamestnancami SMU vydanie 02	03. 04. 2018	
OS - 05	Prevádzka a údržba budov, strojov, prístrojov a zariadení	13. 05. 2014	
OS - 06	Likvidácia odpadu	12. 05. 2014	
OS - 07	Organizácia a riadenie procesu čistoty a hygieny priestorov	13. 05. 2014	
OS - 08	Laboratórny poriadok, vydanie 2	01. 04. 2021	
OS - 09	Domový poriadok a ochrana majetku	15. 05. 2014	
OS - 10	Užívateľský režim klimatizačného zariadenia	15. 05. 2014	
OS - 11	Pečiatky, vydanie 2	25. 10. 2019	
OS - 13	Práca s toxickými a veľmi toxickými látkami, vydanie č. 2	01. 10. 2020	
OS - 14	Certifikáty a dokumenty vydávané SMÚ, vydanie č. 4, zmena 2	18. 07. 2018	15. 07. 2020
OS - 15	Vybavovanie žiadostí o sprístupnenie informácií, vydanie 2	25. 10. 2019	
OS - 16	Vybavovanie sťažností a petícií, vydanie 2	01. 06. 2020	
OS - 17	Dohody o prácach vykonávaných mimo pracovného pomeru, vydanie 2	01. 01. 2020	
OS - 18	Uznávanie zahraničných CRM a certifikácia RM, vydanie 2, zmena 2	20. 12. 2018	24. 06. 2020
OS - 19	Uznanie prvotného overenia určených meradiel	28. 10. 2014	
OS - 20	Tvorba a použitie rezerv, vydanie č. 2	01. 10. 2020	
OS - 21	Verejné obstarávanie, vydanie č. 4.	07. 10. 2019	
OS - 22	Poskytovanie cestovných náhrad, vydanie č. 3	01. 12. 2020	
OS - 23	Vnútorňý systém vybavovania podnetov o protispoločenskej činnosti, vydanie č. 2	24. 10. 2019	
OS - 24	Hospodarenie s drahými kovmi, vydanie 01	26. 10. 2015	
OS - 25	O výkone základnej finančnej kontroly a administratívnej finančnej kontroly v SMÚ, vydanie č. 3	01. 12. 2020	
OS - 26	Správa majetku štátu, vydanie č. 2	15. 12. 2017	
OS - 27	Registratúrny poriadok a registratúrny plán, vydanie č. 2, zmena č. 1	01. 01. 2020	06. 10. 2020

OS - 28	Záznamy o meraní, vydanie 1, zmena 2	29. 03. 2017	22. 09. 2020
OS - 29	Zásady tvorby a použitia sociálneho fondu, vydanie č. 1	15. 12. 2017	
OS - 30	Obeh účtovných dokladov, vydanie č. 2	01. 12. 2020	
OS - 31	Používanie platobných kariet v podmienkach SMU, vydanie č. 1	25. 04. 2018	
OS - 32	Smernica pre pridelovanie osobných ochranných pracovných prostriedkov, čistiaciach, umývacích a ochranných prostriedkov a ochranných nápojov v SMÚ, vydanie č. 1	17. 07. 2018	
OS - 33	Smernica pre používanie služobných telekomunikačných zariadení a mobilného internetu, vydanie 01	01. 10. 2018	
OS - 34	Inventarizácia v podmienkach SMÚ, vydanie 1	21. 10. 2020	
OS - 35	Ochrana osobných údajov v podmienkach SMÚ, vydanie 01	01. 12. 2020	
OS - 36	Riadenie dát a manažment informácií, vydanie 01	01. 12. 2019	
OS - 37	Pracovný poriadok, vydanie 01	01. 01. 2020	
OS - 39	Hospodárenie s finančnými prostriedkami na reprezentačné a propagačné účely, vydanie č. 1	02. 01. 2020	
OS - 40	Poskytovanie príspevkov na rekreáciu, vydanie č. 1	01. 11. 2020	
OS - 41	Bezpečnostné predpisy pre prácu s kvapalnými plynmi, vydanie č. 1	01. 11. 2020	
OS - 42	Tvorba a použitie opravných položiek	01. 10. 2020	
OS - 43	Výkon práce v režime home office, vyd 1	21. 01. 2021	
PS - 01	Riadenie organizácie, vydanie č. 2	10. 02. 2020	
PS - 02	Preskúmanie manažmentom, vydanie č. 2	10. 02. 2020	
PS - 03	Riadenie ľudských zdrojov, vydanie č. 3	01. 01. 2020	10. 03. 2020
PS - 04	Finančné riadenie, vydanie č. 2	24. 09. 2020	
PS - 05	Interná komunikácia, vydanie č. 2	12. 02. 2020	
PS - 06	Riadenie zákazky, vydanie č. 4	01. 02. 2020	
PS - 07	Plánovanie a riadenie externých projektov, vydanie č. 2	05. 12. 2019	
PS - 08	Schvaľovanie typu meradla	05. 05. 2014	23. 09. 2019
PS - 09	Overovanie spôsobilosti, vydanie č. 2	31. 01. 2019	
PS - 11	Autorizácia, vydanie č. 3	15. 03. 2021	
PS - 12	Poskytovanie vzdelávacích služieb, vydanie č. 5, zmena 2	16. 01. 2019	24. 04. 2020
PS - 13	Metrológia	15. 05. 2014	
PS - 14	Nakupovanie, vydanie č. 3	16. 01. 2020	09. 06. 2020
PS - 15	Riadenie dokumentácie a záznamov, vydanie 3, zmena 1	01. 05. 2020	10. 08. 2020
PS - 16	Riadenie infraštruktúry	15. 05. 2014	
PS - 17	Riadenie rizík	10. 06. 2020	
PS - 18	Audity kvality, vydanie č.2, zmena 1	01. 07. 2020	01. 09. 2020
PS - 19	Riadenie nezhodnej práce, vydanie č.2, zmena 1	01. 07. 2020	01. 09. 2020
PS - 20	Registrácia	09. 05. 2019	
	Manipulačno - prevádzkový poriadok pre nakladanie s nebezpečnými odpadmi	19. 09. 2013	
	Havarijný plán pre nakladanie s nebezpečnými odpadmi	19. 09. 2013	

3.4 List of technical procedures

All current work procedures are published on the SMU intranet website, so they are available to individual employees at any time.



Numbers of work procedures of individual departments of the metrology department:

Department of Ionizing Radiation	21
Department of mass and geometric quantities	13
Flow and pressure department	31
Department of Chemistry	32 + 2 guides
Electricity and time department	23
Department of Thermometry, Photometry and Radiometry	17
Testing laboratory department	9
Certification body for product certification	13

3.5 Table of cross-reference

The cross-reference tables are in Annexes 8 and 9.

3.6 Implementaiton of new requirements of ISO/IEC 17 025

No	Action	Date
1.	Training on the ISO/IEC 17025:2017 requirements for internal auditors (training new internal auditors and retraining current internal auditors)	May, 2018 November, 2018 (Other continuously as required)
2.	Workshop on the ISO/IEC 17025:2017 requirements (all SMU employees)	March - October, 2018
3.	Workshop on Risk and Opportunities Approach (The Slovak Office of Standards, Metrology and Testing (UNMS SR))	December 2017
4.	ISO 17034: 2016 training (staff of chemistry department)	December, 2018

5.	ISO 17034: 2016 training (retraining of current senior internal auditors)	December, 2018 April, 2020
6.	Release of the Quality Manual for Metrology Laboratories (QMML) according to EN ISO / IEC 17025: 2017	November, 2019
7.	Release of QMML annexes (Quality manuals according to ISO / IEC 17025: 2017 for ionizing radiation department, mass and length department, chemistry department (also includes ISO 17034: 2016), electricity and time department, thermometry, department of photometry and radiometry, testing laboratory department	November, 2019
8.	Update of the Quality Manual for QMS of the Slovak Institute of Metrology in accordance to the ISO 9001: 2015 standard – certification body ELBACERT Recertification of the quality system according to the ISO 9001 standard	April, 2020 May, 2020
9.	CRM - Update of the working procedures	November, 2019
10.	Realisation of internal audits according to ISO 17034: 2016. Realized in connection to the standard ISO/IEC 17025:2005.	November, 2019
11.	Release of the new OS-36 Data Management and Information Management Directive	December, 2019
12.	Realisation of internal audits according to ISO 17034: 2016. Realized in connection to the standard ISO/IEC 17025:2017	May, 2020
13.	Management review with focus on the new ISO 17034: 2016 standard implementation. Realized in connection to the standard ISO/IEC 17025:2017	May, 2020
14.	Update of internal directive OS-18 on Recognition of Foreign Certified Reference Materials	August, 2019 June, 2020
15.	Release of a new version of Directive PS-06 Contract Management	January, 2020
16.	Release of an update of work instruction I 02/640 on Planning and preparation of certified reference materials	April, 2020
17.	Updating of the Directive OS-16 Complaints and petitions	May, 2020
18.	Update of the working procedures	December, 2020
19.	Realisation of internal audits according to ISO/IEC 17025: 2017	May - December 2020
20.	Management review with focus on the new ISO/IEC 17025:2017 standard transition	May, 2020 December, 2020
21.	Release of a new internal directive and updating of the risk catalogue	June, 2020 December 2020
22.	Additional assessment of testing laboratory by Slovak National Accreditation Body (SNAS) according to ISO/IEC 17025: 2017	July, 2020
23.	Issuance of an accreditation certificate to a testing laboratory	October, 2020
24.	Statement of the management of the metrology department on the completion of the implementation of ISO / IEC 17025: 2017	December, 2020

4 QMS and covered calibration measurement capabilities

SMU declares some of its services as CMC (<http://www.smu.sk>).

All services corresponding to the CMC that have been submitted to the sub-fields of the EURAMET groups (although their admission is still being negotiated) are covered by the SMU QMS. The QMS also applies to services that do not comply with the CMC.

The following table shows the number of SMU records to CMCs according to individual metrological fields.

History of CMC entries of Slovak Institute of Metrology Bratislava.																															
	2011			2012			2013			2014			2015			2016			2017			2018			2019			2020			SUMMARY
	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	new	modified/rea approved	withdrawn	Active CMCs entries.			
Acoustics, Ultrasound, Vibration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
Electricity and Magnetism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41			
Length	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	2	-	3	2	-	-	-	-	-	-	-	18			
Mass and related quantities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47			
Photometry and Radiometry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11			
Ionizing Radiation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76			
Thermometry	-	-	-	3	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82			
Time and Frequency	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16			
Chemistry	7	7	6	-	-	-	11	35	-	-	-	-	14	-	4	-	-	-	-	-	-	-	-	-	-	-	1	10	88		
Total:	7	7	6	-	3	1	-	18	76	-	-	-	-	1	14	-	6	6	-	3	2	-	-	-	-	-	-	379			

SMU entries in the CMC can be found in the BCDM KCDB database, which is available at <http://bipm.org/kcdb/>. The participation of SMU in key and supplementary (interlaboratory) comparisons can be found at the same address.

Fields covered by the QMS (Y/N):

Fields and relevant EURAMET Technical committees		2016	2017	2018	2019	2020
TC-AUV	Acoustics, Ultrasound and Vibration	Y	Y	Y	Y	Y
TC-EM	Electricity and Magnetism	Y	Y	Y	Y	Y
TC-F	Flow	Y	Y	Y	Y	Y
TC-IR	Ionising Radiation	Y	Y	Y	Y	Y
TC-L	Length	Y	Y	Y	Y	Y
TC-M	Mass and Related Quantities	Y	Y	Y	Y	Y
TC-MC	Metrology in Chemistry	Y	Y	Y	Y	Y
	Metrology in Chemistry (CRM)	Y	Y	Y	Y	Y
TC-PR	Photometry and Radiometry	Y	Y	Y	Y	Y
TC-T	Thermometry	Y	Y	Y	Y	Y
TC-TF	Time and Frequency	Y	Y	Y	Y	Y

CMC status in year 2016	
Area	Specific CMC
Chemistry	<p>New CMCs (2 - Amount of substance, Inorganic solutions (I-10-24, I-10-25 - Approved on June 28, 2016)</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
Length	New CMCs – Nothing

	<p>Modified CMCs (precision line scale: line spacing L –interferometry, optical microscope, changed to interferometry, optical microscope, camera. Range was changed from (0.05 - 1000) mm to (0.01 - 200) mm)</p> <p>Deleted CMCs (precision line scale: line spacing L – mechanical comparison to line scale, interferometry-optical microscope, photoelectric microscope, i.e. 3 rows)</p> <p>Greyed out CMCs (gauge blocks: central length L – interferometry and mechanical comparison, i.e. 2 rows)</p>
All other areas	<p>New CMCs – Nothing</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
CMC status in year 2017	
All areas	<p>New CMCs – Nothing</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
CMC status in year 2018	
All areas	<p>New CMCs – Nothing</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
CMC status in year 2019	
Photometry and Radiometry	<p>New CMC (Spectral Regular Transmittance – in the range from 250 nm to 635 nm. This CMC claim is based on the COOMET Supplementary Comparison – COOMET.PR-S5 (COOMET Project 429/CU/08), a Draft B was approved on the COOMET TC-PR meeting in 2019.)</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
Chemistry	<p>New CMC (High purity chemicals – tris with a mass fraction from 99.8 % to 100 %. This CMC claim is based on the results in comparisons where acid-base titrations were used specifically CCQM-K73, CCQM-K34 and CCQM-K34.2016)</p> <p>Modified CMC (High purity chemicals – potassium dichromate with a mass fraction from 99.9 % to 100 %. This CMC claim is based on the results of CCQM-K96.)</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
All other areas	<p>New CMCs – Nothing</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
CMC status in year 2020	

Photometry and Radiometry	<p>New CMC (Spectral Regular Transmittance – in the range from 250 nm to 635 nm. This CMC claim is based on the COOMET Supplementary Comparison – COOMET.PR-S5 (COOMET Project 429/CU/08), a Draft B was approved on the COOMET TC-PR meeting in 2019. In 2020 during an annual COOMET TC meeting (TC 1.7 "Photometry and Radiometry") it was presented that due to the supplementary nature of the comparison it will not be possible to claim CMCs in this specific field)</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
Chemistry	<p>New CMC (High purity chemicals – tris with a mass fraction from 99.8 % to 100 %. This CMC claim is based on the results in comparisons where acid-base titrations were used specifically CCQM-K73, CCQM-K34 and CCQM-K34.2016.)</p> <p>Modified CMC (High purity chemicals – potassium dichromate with a mass fraction from 99.9 % to 100 %. This CMC claim is based on results of CCQM-K96. Gases – propane in N₂, SO₂ in N₂, CO₂ in N₂, CO in N₂, automotive gases. These CMCs claims are based on results of comparisons CCQM-K51, CCQM-K52, EURAMET.QM-S4, EURAMET.QM-S10, COOMET.QM-K76 and CCQM-K71.)</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>
All other areas	<p>New CMCs – Nothing</p> <p>Modified CMCs – Nothing</p> <p>Deleted CMCs – Nothing</p> <p>Greyed out CMCs – Nothing</p>

5 QMS life

5.1 Continuous improvement

Unification of information systems used in SMU into one so that information about technical equipment, services provided is located in one place. The administrative process of processing the customer's request is kept in one IS, which shortened the average time for processing the request.

To streamline the risk management process, a new guideline for risk management and review has been developed (PS-17 Risk Management). Furthermore, supplier evaluation has been introduced as one of the inputs to be reviewed by management.

Due to the adoption of new legislation in the field of metrology in the Slovak Republic, the need arose to revise the documentation (especially procedural and organizational guidelines). Therefore, as part of the improvement of processes in 2019 and in 2020, a plan for the revision of this documentation was prepared. After identifying the need to update a document, it is then included in the update process. During 2019, we updated and issued more than 50 managed documents, in 2020 it was more than 80 (they do not include the update of technical workflows, most of which have also been updated).

5.2 Service to the customer (monitoring of customer satisfaction and feedback measures)

Procedural Guideline PS-06 Order Management has been updated to describe order management procedures in line with the implementation of a single information system. It regulates the first contact with the customer, preparation of price offers, registration of orders, receipt of meters, registration of meters, storage of meters before and after metrological service, processing of delivery notes, delivery of meters, processing of certificates, conditions of subcontracting and other activities.

Communication with customers is done in person, by phone, e-mail and in writing. The customer also obtains information from the SMU website. Questionnaires were used to obtain feedback from customers, which are sent together with calibration / verification certificates and are also available in electronic form on the SMU website or are regularly sent to the most important customers.

Customer satisfaction with the provided metrological services is evaluated according to the answers in the questionnaires and is evaluated within the review by management. To monitor customer satisfaction in electronic form, SMU has introduced an electronic form via its website (<http://www.smu.sk/metrologicke-sluzby/>).

In order to shorten the time in the order management process, all available IS functionalities are used, the dates of order acceptance, type of meter, required service, issuance of delivery note, certificate as well as the invoicing date are recorded in it.

5.3 Complains

The handling of complaints of personal and legal entities is performed according to OS-16 Complaints and petitions. This procedure is in accordance with the legal system of the Slovak Republic. A new edition of the directive was approved in May 2020.

Based on the finding that in previous years, complaints, non-legal complaints were not reported to the complaints, petitions and other complaints management officer, the Director-General instructed that such complaints be reported and recorded for 2020, which was done. The inspection revealed their solution in a timely manner, to a sufficient extent and in cooperation with the customer. An analysis of this process is currently under way and, based on its outcome, adequate measures will be taken to improve this process.

5.4 Non-conformity work

To make the management of nonconforming work more efficient, the PS-19 Nonconforming Work Management Directive has been revised, the Non-conformance Record form has been improved, providing space for analysing the causes and extent of detected accidents, taking corrective action, monitoring their implementation and effectiveness, and recommending the inclusion of a detected deviation (this is not a disagreement but a non-compliance that does not affect quality) between the risks.

The MK SMU also introduced records of non-conforming work found during internal or external audits, in the management of the order, in the process, in the performance of professional activities, which is updated at regular intervals. This will provide a mechanism to monitor the required corrective action.

5.5 Internal audits

To make the performance of internal audits more efficient, the PS-18 Quality Audits Directive as well as the relevant forms has been revised. Specific requirements for the lead auditor, auditor and technical expert were set, the procedure for performing internal audits, documenting information, criteria for evaluating auditors and other, minor changes were specified.

The program of internal audits shall be approved at the latest at the beginning of the calendar year so that there is sufficient time for their implementation, it shall be approved by the Director General.

The draft program of internal audits is prepared by the quality manager of SMU in cooperation with the quality representatives of individual departments of the metrology department, who together form the QMS Board. All departments of the metrology department are audited every year according to the requirements of the ISO / IEC 17025 and ISO 9001 standards (the chemistry department also according to ISO 17034). Each internal audit consists of a horizontal and vertical audit and an assessment of the performance of the calibration (testing) activity.

All auditors are educated, they participated in training according to ISO 19011, ISO / IEC 17025, ISO / IEC 17065, ISO 17034 and ISO 9001 standards. MK SMU introduced a register of internal auditors with a record of completed training. In 2020, most internal auditors again participated in training on the ISO 19011 standard, and selected auditors were retrained on the ISO / IEC 17025, ISO 17034, ISO / IEC 17065 and ISO 9001 standards.

Summary of internal audit results across all departments:

Year	Number of major findings	Number of non-conformities	Number of deviations	Number of recommendations
2016	0	51	30	15
2017	0	48	29	14
2018	0	35	36	13
2019	0	28	22	7
2020	0	39	18	18

5.6 Management review

The management review takes place every year, usually by the end of May, after the formal end of last year and an economic evaluation.

Guideline PS-02 Management Review was updated in February 2020, specifying what information the report for management review must include. It was also defined which information must be included in the record of the management review, that the results of the review must be communicated to the SMU staff via the intranet. The "Management Review" tab has been created on the intranet, which already contains a record of the review for 2019 as well as an overview of the measures taken from the review.

6 Further information on ISO 17034 implementation for reference materials (CRMs)

6.1 Implementation of ISO 17034

A virtual peer review of the implementation of ISO 17034 took place on 18.09.2020 (see Annex ...). The peer review team identified 1 disagreement, 3 recommendations, 7 opportunities for improvement. One of the recommendations is to carry out a further peer review in the field of RM production in order to check compliance with the requirements of the ISO 17034: 2016 standard.

Team conclusion: After reviewing the additional documentation provided and after discussing with the representatives of the SMU during the mutual review, it can be stated that the SMU has implemented all the necessary requirements of the ISO 17034: 2016 standard.

6.2 Subcontracting within ISO 17034

In the case of characterization and monitoring of CRM density and viscosity, the chemistry department uses the services of the mass and geometries department, which has the staff, premises, equipment, systems and support services needed to manage and perform these activities.

7 List of annexes

Annex 0 – SMUs organisational structure

Annex 1 – Certificate EN ISO 9001:2015

Annex 2 – Certificate according to the ISO/IEC 17065:2012

Annex 3 – Certificate according to the ISO/IEC 17025:2017

Annex 4 – Decision on authorization under the Conformity Assessment Act

Annex 5 – Certificate of competence to carry out research and development

Annex 6 – Green certificate - ecological waste management

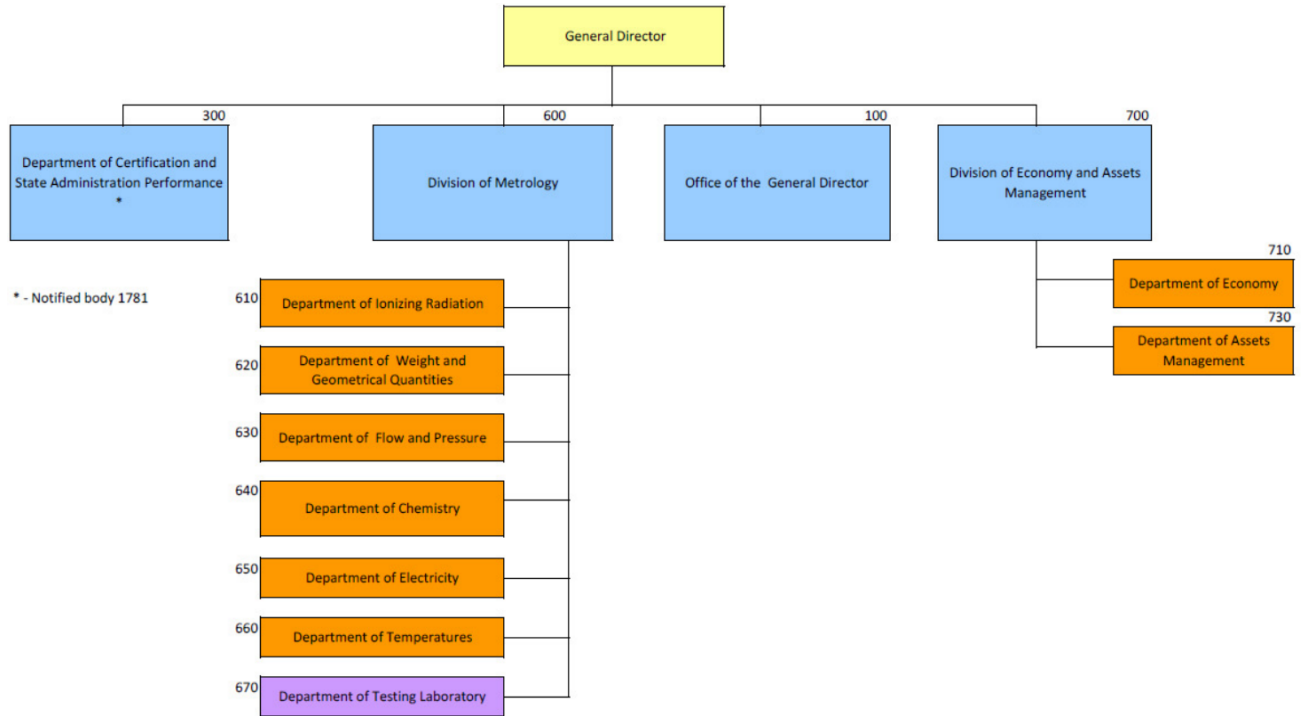
Annex 7 – Peer Review Report – ISO 17034

Annex 8 – Table of cross references ISO/IEC 17025

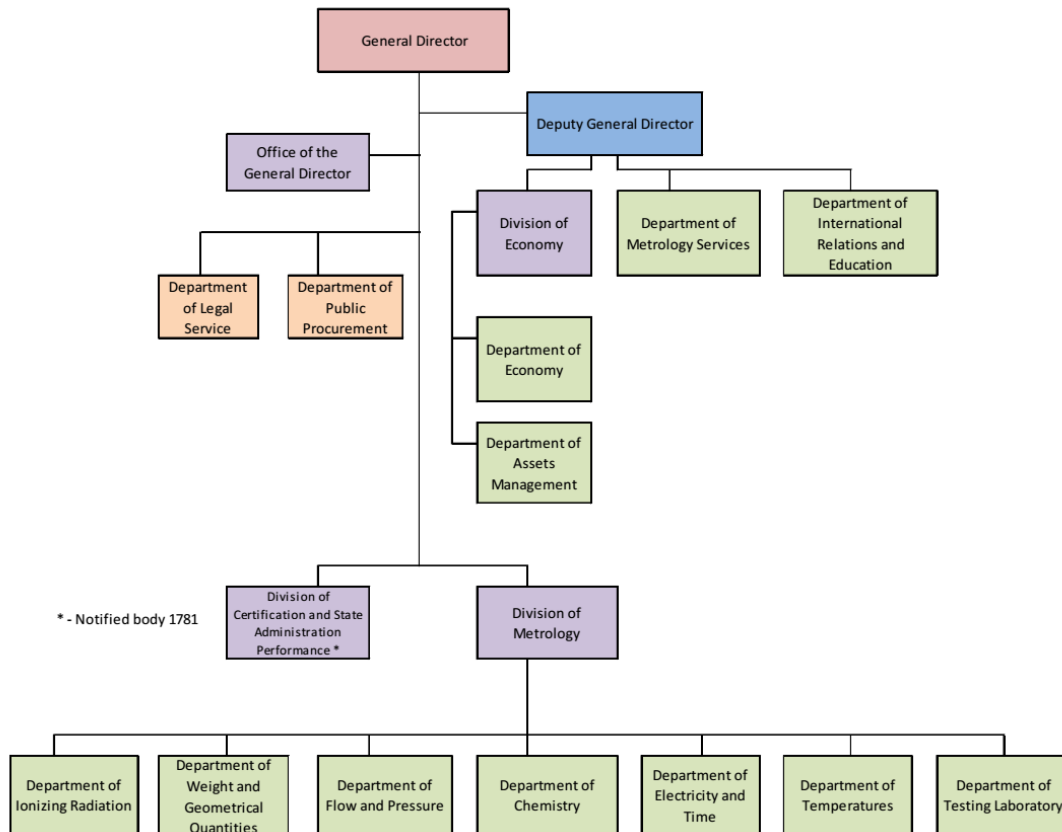
Annex 9 – Table of cross references ISO 17034

Annex 0 – SMUs organisational structure

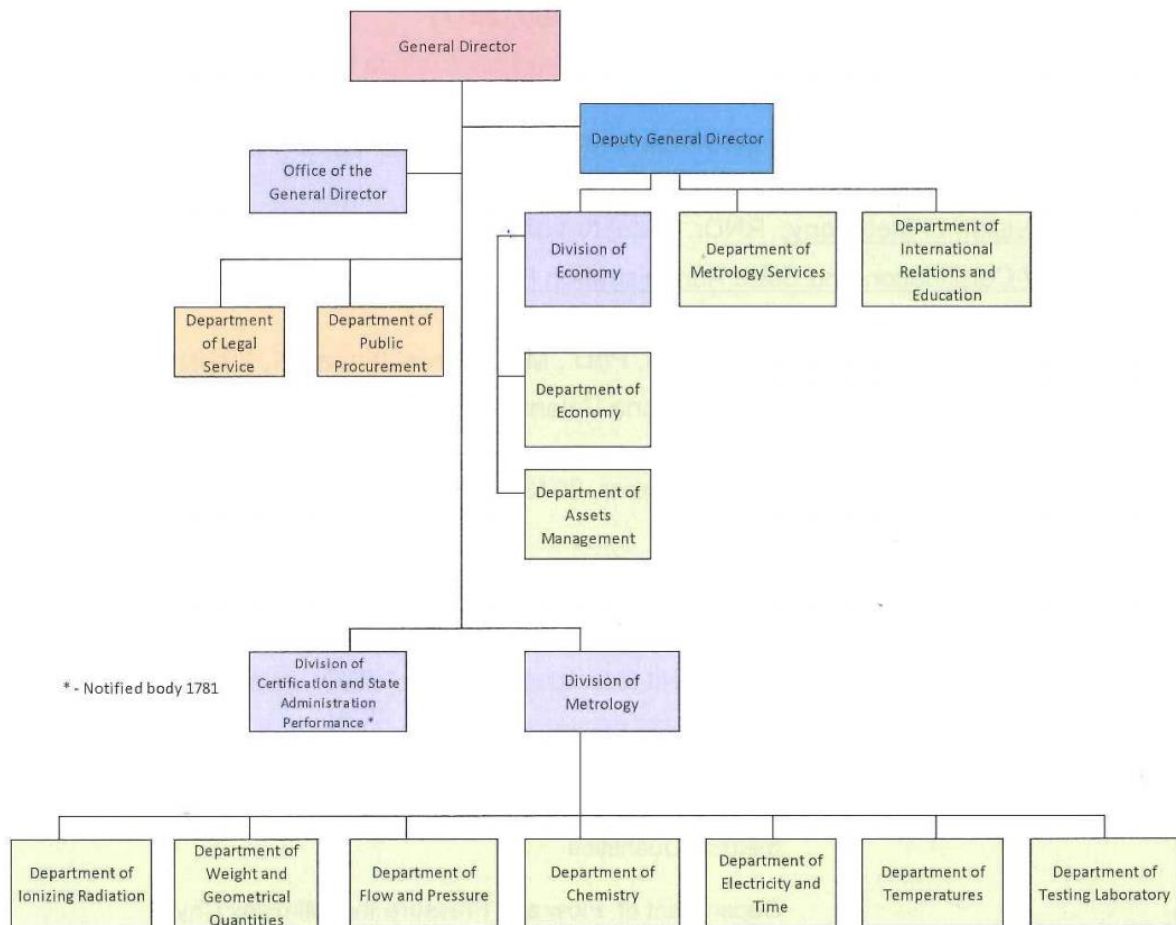
SMUs organisation structure since 2016



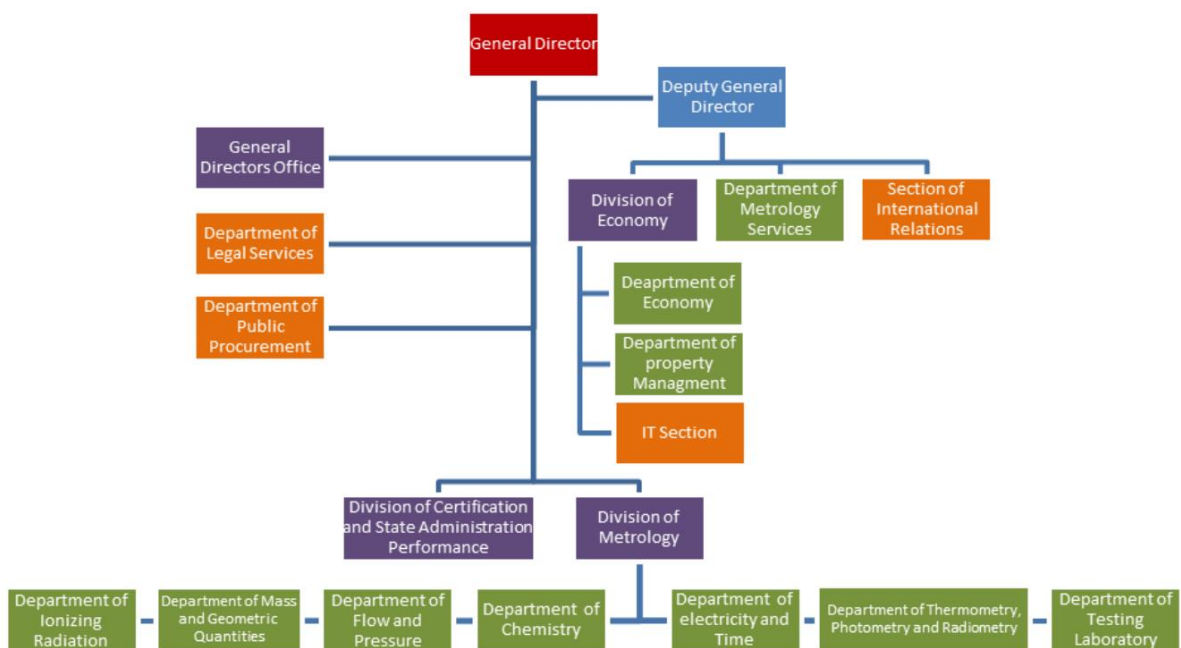
SMUs organisation structure since 2017



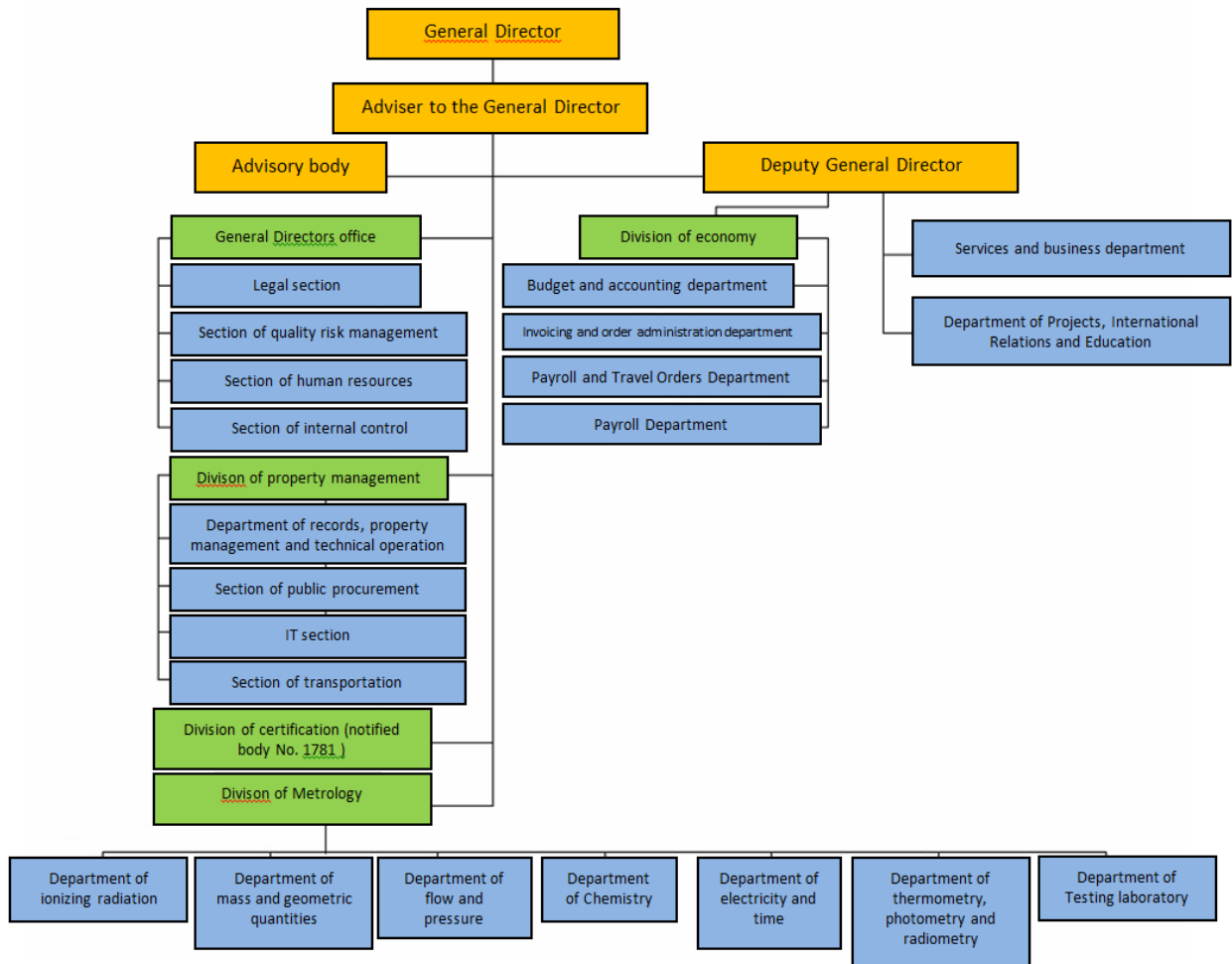
SMUs organisation structure since 2018



SMUs organisation structure since 2019



SMUs organisation structure since 2020



Annex 1 – Certificate EN ISO 9001:2015

eELBACERT, akciová spoločnosť
Československej armády 264 /58, 967 01 Kremnica



CERTIFICATE

Certification body ELBACERT, joint-stock company
certifies by this, that company

Slovenský metrologický ústav

Karloveská 63
842 55 Bratislava

has implemented and maintained
a Quality Management System
in accordance with requirements of standard

STN EN ISO 9001:2016/ EN ISO 9001:2015

for the scope :

Maintenance, development and international comparison of the national standards of the SR and the traceability given to these standards (calibration, verification, metrology assessments). Coordination of procedures of national standards approval and certification of reference material. Type approvals and verification of legally controlled measuring instruments, performance of official measurements, verifications competence in metrology, assessment of the fulfilment of professional assumptions on authorisation and registration. Education in metrology, quality and testing. Certification, conformity assessment, metrological control and testing of measuring instruments.

The certificate is granted on the basis of audit no.: AC-99-2020.

The certificate remains in force on the basis of the positive outcome of annual supervisory audits.

ELBACERT, joint stock company, Československej armády 264/58, 967 01 Kremnica, Slovakia
The company is incorporated in the Companies Register of the District Court Banská Bystrica, Section: Sa, File No. 791/S, www.elbacer.eu

Certificate Issue Date: May 19, 2020
Certificate validity within: May 18, 2023
Certification No: 202087



Mr. Marek Krajčov
Certification body director

Annex 2 – Certificate according to the ISO/IEC 17065:2012



SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA
Karloveská 63, 840 00 Bratislava 4, Slovenská republika

**OSVEDČENIE
O AKREDITÁCII**

č. P-035

Slovenská národná akreditačná služba na základe rozhodnutia
č. 101/6126/2016/2 zo dňa 30.06.2016 osvedčuje, že

**Slovenský metrologický ústav
Certifikačný orgán na certifikáciu výrobkov**

Karloveská 63, 842 55 Bratislava
IČO: 30 810 701

je spôsobilý podľa požiadaviek **ISO/IEC 17065: 2012** vykonávať certifikáciu vodomero, plynomerov a prepočítavačov objemu plynu; elektromerov; meračov tepla; meracích zostáv na kontinuálne a dynamické meranie množstva kvapalín okrem vody; materializovaných nádob – výčapné nádoby; váh s neautomatickou činnosťou v rozsahu akreditovaných činností uvedených v prílohe tohto osvedčenia. Príloha tvorí neoddeliteľnú súčasť osvedčenia o akreditácii.

Akreditácia udelená dňa 30.06.2016 platí do 30.06.2021.

Bratislava 30.06.2016




Mgr. Martin **S e n č á k**
riaditeľ

SNAS je signatárom EA MLA a IAF MLA v predmetnej oblasti akreditácie.

Annex 3 – Certificate according to the ISO/IEC 17025:2017

 **SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA**
Karloveská 63, 840 00 Bratislava 4, Slovenská republika

**OSVEDČENIE
O AKREDITÁCII**

č. S-374

Slovenská národná akreditačná služba na základe rozhodnutia
č. 101/8886/2020/1 zo dňa 07.10.2020 osvedčuje, že

Slovenský metrologický ústav
Oddelenie skúšobného laboratória
Karloveská 63, 842 55 Bratislava
IČO: 30 810 701

je spôsobilé vykonávať skúšanie vodomerov, plynomerov, prepočítavačov objemu plynu, elektromerov, prietokomerných členov meračov tepla, meracích zostáv na kontinuálne meranie a dynamické meranie množstva kvapalín okrem vody, materializovaných mier a váh s neautomatickou činnosťou podľa rozsahu akreditácie uvedeného v prílohe tohto osvedčenia. Príloha tvorí neoddeliteľnú súčasť osvedčenia o akreditácii.

Spôsobilosť vykonávať akreditované činnosti nestranne a dôveryhodne akreditovaná osoba preukazuje plnením požiadaviek normy ISO/IEC 17025: 2017.

Akreditácia udelená dňa 07.10.2020 platí do 07.12.2021.

Bratislava 07.10.2020

 
Mgr. Martin Senčák
riaditeľ

SNAS je signatárom EA MLA a ILAC MRA v predmetnej oblasti akreditácie.

Annex 4 – Decision on authorization under the Conformity Assessment Act



ROZHODNUTIE

č. 2016/800/012039/03859 zo dňa 22. 12. 2016

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky ako ústredný orgán štátnej správy pre oblasť posudzovania zhody podľa zákona č. 575/2001 Z. z. o organizácii činnosti vlády a organizácii ústrednej štátnej správy v znení neskorších predpisov príslušný podľa ustanovenia § 3 ods. 1 písm. g), § 11 ods. 1, 5 a 8 a § 34 zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov a ako správny orgán príslušný podľa § 1 ods. 2, § 5 a § 46 zákona č. 71/1967 Zb. o správnom konaní (správny poriadok) v znení neskorších predpisov (ďalej len „správny poriadok“)

autorizuje

Slovenský metrologický ústav

SKTC-102, NO 1781

Karľovská 63, 842 55 Bratislava, IČO: 30 810 701

1. na nariadenie vlády Slovenskej republiky č. 126/2016 Z. z. o sprístupňovaní váh s neautomatickou činnosťou na trhu,
2. na nariadenie vlády Slovenskej republiky č. 145/2016 Z. z. o sprístupňovaní meradiel na trhu.

Rozsah autorizácie je uvedený v prílohe, ktorá tvorí neoddeliteľnú súčasť výroku tohto rozhodnutia.

Toto rozhodnutie nadobúda účinnosť a ruší rozhodnutie č. 2016/800/006506/02225 z 12. 07. 2016 dňom nadobudnutia právoplatnosti tohto rozhodnutia.

Platnosť autorizácie je do 30. 06. 2021.

Poučenie:

Podľa § 61 správneho poriadku možno proti tomuto rozhodnutiu podať rozklad do 15 dní odo dňa jeho doručenia na Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, Štefanovičova 3, P.O. BOX 76, 810 05 Bratislava. Toto rozhodnutie je preskúmateľné súdom po vyčerpaní riadnych opravných prostriedkov a nadobudnutí právoplatnosti.


Ing. Ravoj Pavlis
predseda úradu


Príloha

k rozhodnutiu o autorizácii č. 2016/800/012039/03859 zo dňa 22. 12. 2016

Identifikačný kód: 102

Notifikačné číslo: 1781

Právna forma: štátna príspevková organizácia

Štatutárny orgán: Mgr. Roman Kováč, [REDACTED] Bratislava.

Spôsob konania štatutárneho orgánu: Štatutárny orgán koná vo všetkých veciach samostatne.

V mene autorizovanej osoby koná:

Ing. Emanuel Godál, [REDACTED] Piešťany.

Technické predpisy:

1. Nariadenie vlády Slovenskej republiky č. 126/2016 Z. z. o sprístupňovaní váh s neautomatickou činnosťou na trhu.

Rozsah autorizácie podľa:

- § 1 ods. 2 nariadenia vlády v rozsahu osvedčení o akreditácii č. P-035 a č. S-374.

Postupy posudzovania zhody:

- zhoda s typom založená na overení výrobku: modul F podľa prílohy č. 2 bod.4.

2. Nariadenie vlády Slovenskej republiky č. 145/2016 Z. z. o sprístupňovaní meradiel na trhu.

Rozsah autorizácie podľa:

- § 1 ods. 2 písm. a) vodomery podľa prílohy č. 3 (MI-001),
 - § 1 ods. 2 písm. b) plynomery podľa prílohy č. 4 (MI-002),
 - § 1 ods. 2 písm. c) prepočítavače objemu podľa prílohy č. 4 (MI-002),
 - § 1 ods. 2 písm. d) elektromery podľa prílohy č. 5 (MI-003),
 - § 1 ods. 2 písm. e) merače tepla podľa prílohy č. 6 (MI-004) - podzostava prietokomer,
 - § 1 ods. 2 písm. f) meracie zostavy na kontinuálne a dynamické meranie množstva kvapalín okrem vody podľa prílohy č. 7 (MI – 005),
 - § 1 ods. 2 písm. n) výčapné nádoby podľa prílohy č. 10 (MI-008)
- v rozsahu osvedčení o akreditácii č. P-035 a S-374.

Postupy posudzovania zhody pre:

- § 1 ods. 2 písm. a) podľa prílohy č. 3 sú:
 - modul B: EÚ skúška typu podľa prílohy č. 2,
 - modul D: Zhoda s typom založená na zabezpečení kvality výrobného procesu podľa prílohy č. 2,
 - modul F: Zhoda s typom založená na overení výrobku podľa prílohy č. 2,

- modul H1: Zhoda založená na úplnom zabezpečení kvality a preskúmaní návrhu podľa prílohy č. 2,
- § 1 ods. 2 písm. b) podľa prílohy č. 4 sú:
 - modul B: EÚ skúška typu podľa prílohy č. 2,
 - modul D: Zhoda s typom založená na zabezpečení kvality výrobného procesu podľa prílohy č. 2,
 - modul F: Zhoda s typom založená na overení výrobku podľa prílohy č. 2,
 - modul H1: Zhoda založená na úplnom zabezpečení kvality a preskúmaní návrhu podľa prílohy č. 2,
- § 1 ods. 2 písm. c) podľa prílohy č. 4 sú:
 - modul B: EÚ skúška typu podľa prílohy č. 2,
 - modul D: Zhoda s typom založená na zabezpečení kvality výrobného procesu podľa prílohy č. 2,
 - modul F: Zhoda s typom založená na overení výrobku podľa prílohy č. 2,
 - modul H1: Zhoda založená na úplnom zabezpečení kvality a preskúmaní návrhu podľa prílohy č. 2,
- § 1 ods. 2 písm. d) podľa prílohy č. 5 sú:
 - modul B: EÚ skúška typu podľa prílohy č. 2,
 - modul D: Zhoda s typom založená na zabezpečení kvality výrobného procesu podľa prílohy č. 2,
 - modul F: Zhoda s typom založená na overení výrobku podľa prílohy č. 2,
 - modul H1: Zhoda založená na úplnom zabezpečení kvality a preskúmaní návrhu podľa prílohy č. 2,
- § 1 ods. 2 písm. e) podľa prílohy č. 6 sú:
 - modul B: EÚ skúška typu podľa prílohy č. 2,
 - modul D: Zhoda s typom založená na zabezpečení kvality výrobného procesu podľa prílohy č. 2,
 - modul F: Zhoda s typom založená na overení výrobku podľa prílohy č. 2,
- § 1 ods. 2 písm. f) podľa prílohy č. 7 sú:
 - modul B: EÚ skúška typu podľa prílohy č. 2,
 - modul D: Zhoda s typom založená na zabezpečení kvality výrobného procesu podľa prílohy č. 2,
 - modul F: Zhoda s typom založená na overení výrobku podľa prílohy č. 2,
 - modul G: Zhoda založená na overení jednotlivého meradla podľa prílohy č. 2,
- § 1 ods. 2 písm. n) podľa prílohy č. 10 je:
 - modul D1: Zabezpečenie kvality výrobného procesu podľa prílohy č. 2.

Annex 5 – Certificate of competence to carry out research and development



Bratislava 5. októbra 2016
Číslo: 2016-20997/39231:2-26 C0

Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky ako správny orgán príslušný podľa ustanovenia § 26a ods. 11 zákona č. 172/2005 Z. z. o organizácii štátnej podpory výskumu a vývoja a o doplnení zákona č. 575/2001 Z. z. o organizácii činnosti vlády a organizácii ústrednej štátnej správy v znení neskorších predpisov v znení zákona č. 233/2008 Z. z. (ďalej len „zákon“) na základe žiadosti Slovenského metrologického ústavu, so sídlom Karloveská 63, 842 55 Bratislava, IČO 30810701

v y d á v a

pre Slovenský metrologický ústav, Karloveská 63, 842 55 Bratislava, IČO 30810701,
- štátna príspevková organizácia,

OSVEDČENIE O SPÔSOBILOSTI vykonávať výskum a vývoj.

Platnosť osvedčenia je šesť rokov od jeho vydania.

Odôvodnenie:

Keďže sa návrhu účastníka konania vyhovuje v plnom rozsahu, od odôvodnenia sa podľa § 47 ods. 1 zákona č. 71/1967 Zb. o správnom konaní (správny poriadok) v znení neskorších predpisov upúšťa.

Na základe § 26a ods. 16 písm. c) zákona, ak Slovenský metrologický ústav, prestane spĺňať podmienky ustanovené zákonom, Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky odníme osvedčenie o spôsobilosti.

Poučenie:

Proti tomuto rozhodnutiu možno podať v lehote 15 dní odo dňa jeho doručenia rozklad v zmysle § 61 ods. 1 správneho poriadku na Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky. Toto rozhodnutie je preskúmateľné súdom v konaní podľa § 244 a nasl. Občianskeho súdneho poriadku po vyčerpaní riadneho opravného prostriedku.



Peter Plavčan
minister

Rozhodnutie sa zasiela:

1. Slovenský metrologický ústav, Karloveská 63, 842 55 Bratislava
2. Spis

Na vedomie:

Úrad pre normalizáciu, metrologiu a skúšobníctvo SR, Štefanovičova 3, P.O.Box 76, 810 05 Bratislava

Annex 6 – Green certificate - ecological waste management



UDEĽUJE

ZELENÝ CERTIFIKÁT

PRE

Slovenský metrologický ústav,
Bratislava

za zabezpečenie ekologickej recyklácie a spracovania elektroodpadu a prenosných batérií
a akumulátorov v roku 2020, prostredníctvom organizácie zodpovednosti výrobcov
SEWA, a.s., čím bola splnená povinnosť podľa platnej legislatívy v Slovenskej republike.

12. marec 2021

Dátum vystavenia

SEWA, a.s.



www.sewa.sk

Annex 7 – Peer Review Report – ISO 17034

**Template
of the final peer review record**



Document: G-TCQ-TMP-002 Version: 2.0
Approved: TC-Q 2016-12-20

EURAMET Project			TC-Q
Ref. No. / started:	Subject field:	Title:	Participants:
NA			

FINAL PEER REVIEW RECORD

NMI or DI visited: SMU - Slovak Institute of Metrology Note: Peer review was conducted virtually, as previously agreed at TC-Q plenary meeting on 20th July 2020. MS Teams was used as platform for communication. Peer review date: 18 th September 2020		
Visit Start date: /	Visit End date: /	
Names and affiliations of the reviewer(s)		
Name	Affiliation	Signature
Enver Sadıkoğlu	Quality manager of EURAMET and TC-Q contact person	
Tamara Đekić	Quality manager of DMDM and TC-Q contact person	
Assigned responsible person of the visited NMI or DI		
Name	Position	Signature
Dusan Butas	SMU Deputy Director	
Zuzana Ďurišová	Head of Chemistry department	
Michal Máriássy	Deputy of Head of Chemistry department	
Zuzana Hanková	Deputy for Quality	
Programme of the on-site/ virtual visit (e.g. ranges of CMCs specified by Internal NMI Service Identifiers):		
PROGRAMME OF THE ON-SITE VISIT (virtual)		
Date	Friday, 18th September 2020	
Time	Activity Assessed	Assessor/ Representative of assessed organization
09:00	Opening meeting and introduction of participants	Peer review team: Kai Stoll Malke, Chair of EURAMET TC-Q, Silvie Hoffmanova, TC-Q Secretary, Tamara Đekić, Enver Sadıkoğlu Dusan Butas, Zuzana Ďurišová, Michal Máriássy, Zuzana Hanková

EURAMET e.V., Bundesallee 100, 38116 Braunschweig, Germany
 Phone: +49 531 592 1960 Fax: +49 531 592 1969 E-mail: secretariat@euramet.org
www.euramet.org

9:10	Introduction of purpose and objections of the peer review	<u>Peer review team</u>
9:10 to 11:45	Discussion and verification of information on following subjects: <ul style="list-style-type: none"> • Internal/ external audits • Management review • Addressing risks and opportunities • Managing of non-conformities • Customer complaints • Others 	<u>Peer review team:</u> Kai Stoll Malke, Silvie Hoffmanova, Tamara Đekić, Enver Sadıkođlu <u>SMU representatives</u>
11:45 to 12:00	Internal meeting of assessor team	Kai Stoll Malke, Silvie Hoffmanova, Tamara Đekić, Enver Sadıkođlu
12:00 to 12:15	Closure meeting – presenting findings of review	All participants
	- End of peer review -	

Forwarded documentation

	submitted (tick if YES)	accepted / approved (tick if YES)
Quality manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>
List of used procedures	<input checked="" type="checkbox"/>	<input type="checkbox"/>
List of completed comparisons	<input type="checkbox"/>	<input type="checkbox"/>
List of services included in the App. C of the MRA	<input type="checkbox"/>	<input type="checkbox"/>
Reference written standards	<input type="checkbox"/>	<input type="checkbox"/>

Other documentation (comments if necessary)

SMU has presented other relevant documents such as: list of documents, training records and certificates from trainings, internal audit report, management review report, audit findings and list of actions, register of risks and opportunities.

Review findings

1. General

Slovak Institute of Metrology (hereinafter referred to as SMU) is National Metrology Institute of Slovak Republic. SMU is a signatory of CIPM MRA since 14th October 1999, and is a member of EURAMET since 2007. One of the activities of SMU is production of reference materials (hereinafter referred to as RM), and SMU has CMC entries for RM published on the BIPM in KCDB. All CMCs were covered by QMS, meeting requirements of the ISO Guide 34 at the date of their publication.

SMU QMS was initially presented and approved on 2003, first re-evaluation of QMS within EURAMET TC-Q was conducted in 2006, second in 2011, and third in 2016. Conformance to the requirements of ISO/IEC 17025, as well as ISO Guide 34, was demonstrated to EURAMET TC-Q through the annual reports.

Within last evaluation of Annual Report and Gap Analysis Report for the year 2019, by TC-Q Steering Committee, it was noticed that transition to ISO 17034:2016 haven't been finished until the end of 2019.

Since this standard was published in 2016, and a transition period was 3 years, all planned activities in the transition of QMS to the requirements of ISO 17034:2016, should have been completed by the end of 2019. As the activity is not finished by the end of 2019, SMU did not comply with the Resolution 39/3 from the 40th JCRB meeting (March 2018).

Resolution 39/3 from the 40th JCRB meeting

JCRB, noting the publication of ISO/IEC 17025:2017 and ISO 17034:2016, and their importance to the CIPM MRA, decides that the RMOs shall ensure that all NMIs and DIs declaring CMCs within the CIPM MRA shall have demonstrated the conformance of their quality management systems to the above standards (in so much as they are applicable to the CMCs of the NMI or DI), no later than three years after the publication date of the standards.

After reviewing SMU annual reports, the major question regarding transition to ISO 17034:2016 remained opened and required clarifications. At the end of July 2020, TC-Q plenary agreed with the organization of the virtual on-site visit at SMU, attended by both evaluators of Annual Report and Gap Analysis Report (Enver Sadikoglu, Tamara Đekić), TC-Q chair and TC-Q secretary.

Necessary peer review was conducted online, on 18th September 2020, with the main objective to review the status of SMU QMS with respect to transition to requirements of ISO 17034:2016.

This report further presents information regarding topics discussed and information verified during peer review.

2. Main changes within transition to ISO/IEC 17034:2016

SMU representatives explained that the decision on transition to the requirements of ISO 17034:2016 from previous ISO Guide 34:2009, was made by top management and relevant activities have begun in December 2018. Since SMU has already have implemented ISO Guide 34, it was discussed a level of implemented changes within transition, which were considered as small changes.

3. Staff competences

During previous period of time, SMU faced changes in key staff, including a change of quality manager. Ms. Kamila Virkovicova replaced Mr. Karol Mikula on the position of SMU Quality manager in July 2019, and Mr. Dusan Butas, who is Deputy General Director, was appointed as a new EURAMET TC-Q contact person in May 2020.

Chemistry department is represented by employees involved in activities of production of reference materials: RNDr. Zuzana Ďurišová, PhD, head of Chemistry department, Ing. Michal Máriássy, CSc., deputy of Head of Chemistry department, Ing. Zuzana Hanková, responsible for quality in Chemistry department.

SMU provided training records in the Chemistry Department, regarding RM activities. Two internal trainings were conducted with reference to ISO 17034:2016, first in December 2018 for eight employees, and second, in April 2020 for four employees. Training was provided by Mr. Michal Máriássy, who is a TC-MC contact person, with years of experience within the activities in the Chemistry Department of SMU. He regularly participates in peer reviews and internal audits. As evidence, the following records were provided:

- List of conducted trainings (*Evidencia vzdelávania - výňatok za roky 2018 a 2020*)
- List of attendees of internal trainings (*F05-PS03 Prezenčná listina*)
- Training certificates according to ISO 17034:2016 and ISO 19011:2018 (*Osvedočenie o absolvovaní kurzu, for: Ms. Jarmila Slučiak*)

Besides a staff change, representatives of SMU pointed out a potential problem of lack of staff within Chemistry Department, which was recognized as high-level risk.

4. Internal audits

Internal audits according to requirements of ISO 17034:2016 were conducted in 2018 and 2020. In December 2019, another internal audit was conducted within Chemistry department, with focus on ISO 17025:2005 requirements in connection with the ISO 17034:2016. Internal audit in 2020 was conducted in May 2020 by Ms. Jarmila Slučiak (competence is proven by provided training records). Following records regarding internal audits in 2020 were provided and discussed:

- Program of internal audit (*Harmonogram auditu, 12.05.2020*)
- Findings of internal audit (*Záznam z interného auditu, 25.05.2020*)
- Audit report (*Správa z interného auditu, 02.06.2020.*)
- List of all findings from internal audit (*Záznam z interného auditu, 14.12.2018.*) from 14th December 2018, last revision of 20th May 2020).

During internal audit in 2020, one finding was detected (regarding content of the certificate), and the Audit Report states that there are no findings that could have a negative impact on the functioning of QMS. There were no observations regarding findings detected in previous internal audit. List of all findings from internal audit (14th December 2018), which was shown as documentary evidence during peer review, was reviewed last time on 20th May 2020, but without complete information regarding resolving of all findings and further management of non-conformities.

5. Management review

Management review was conducted on 28th of May 2020 (*Správa pre preskúmanie manažmentom za rok 2019, from 28th of May*). Report consists detailed information on SMU QMS, and covers all requirements of management review according to ISO/IEC 17025. It also consists information regarding a number of issued certificates for RMs, and statement of Head of Chemistry department, where several problems were pointed out (e.g. lack of personnel, technical, spatial and financial security). Those problems were addressed as major risks, with defining necessary actions.

Management review report consists information regarding transition to ISO 17034:2016, where it is stated that transition is still ongoing. During peer review, information about conclusions of management review report, and annual reports provided to TC-Q were discussed. It was identified that some inconsistency in the information reported to TC-Q with statements from management review report exists.

6. Addressing risks and opportunities

As a new philosophy, risks based thinking is implemented in the existing system, in accordance with the ISO 9001 and ISO/IEC 17025 standard. Addressing risks regarding laboratory activities (including RM production) was planned to be finished in 2019, but it was postponed to the summer of 2020, when a new procedure was adopted (*OS-17 Risk management, issue from 10th June 2020*). Register of risks and opportunities was provided for the Chemistry department- RM (*Katalóg rizík SMU - výňatok - certifikácia RM*). There are 15 identified risks (8 of them are low-level risk, 5 of them are middle-level and 2 high-level risks. The first risk of high level was identified regarding lack of personnel, with defined deadline for taking actions – 31st December 2020 with the responsibility of top management to deal with. The other one was identified regarding the inadequate air-conditioning system, with defined actions in responsibility of the General Director, and planned activity with respect to the risk is ongoing.

7. Managing of non-conformities

Managing of nonconformities is in accordance with procedure PS 19 *Riadenie nezhodnej práce*. Comparing to the previous version of procedure (until July 2020), improvements were made regarding mechanism of managing of non-conformities, in terms of responsibilities - each department is responsible for managing of their non-conformities. Provided list of findings from internal audits could have more detailed information regarding managing of detected non-conformities.

8. Dealing with customer complaints

Handling of customer complaints is in accordance with the procedure PS 16 *Riadenie infraštruktúry*. Although mechanism is implemented, there were no customer complaints until the date of the peer review. SMU receives, register, investigate and handle appeals according to the public Act which applies to all public administration bodies as well as SMU. Taking into account provided services and a number of issued certificates (1312 issued RM certificates in 2019), as well as the results of the customer satisfaction survey, the improvement of mechanism for collecting and recording customer complaints of a different kind (not only appeals) should be considered by SMU.

9. Managing of documented information

List of provided documented information consists of all SMU QMS documentation. Documents are classified in three groups: 1st – organizational level (codes> SM-x, OS-x), 2nd – process level (codes PS-x), 3rd – quality manual (PK-x). The List consists information regarding first, and every other revision of each document, during years. Also, a separate list of documents for Chemistry department was provided (*Zoznam pracovných postupov, 17.09.2020.*)

Conclusion:

After reviewing additionally provided documentation, and in discussion with SMU representatives during the peer review, it could be stated that SMU has implemented all necessary requirements of ISO 17034:2016. One part of the transition was finished at the end of 2019, while the other part was finished in summer 2020. Mechanisms are in place for major of the processes, but there are still points that could be improved. A list of findings from peer review is provided in the next session, where all of them are classified in three categories: non-conformity, recommendations and opportunities for further improvement. As the objective of the peer review was to check the current status of SMU QMS with regard to transition to the requirements of ISO 17034:2016 standard, and actually this was proved during peer review; issue on evaluation of findings presented in this report was delegated to SMU. In case of any planned and implemented actions, they will not be checked by peer review team. It is assumed that SMU will deal with all findings according to internal procedures within quality management system. However, TC-Q could monitor the status of findings from the peer review during evaluation of Annual Report of SMU for the year 2020.

Summary of findings

Finding Number	Description of Finding	Category of Finding
1.	To conduct additional peer review in the field of production of RM, with aim to check conformance with the requirements of ISO 17034:2016 standard.	R
2.	Mechanism for keeping a training records could be improved as different records are maintained in different places.	OI
3.	List of findings from internal audits should be updated regularly according to defined procedure.	R
4.	Information regarding ISO 17034:2016 inputs could be presented in Management review report in explicit way.	OI
5.	Mechanism for internal communication could be improved describing tools used for communication in relevant documents within QMS and keeping records in systematic way.	OI
6.	Implemented methodology for addressing risks could be improved in the view of better definition of deadlines for implementation of actions. In addition, addressing opportunities should be presented in procedure in detail, as well as implemented in systematic way.	OI
7.	There could be improvement of mechanism for managing of non-conformities.	OI

Finding Number	Description of Finding	Category of Finding
8.	Implemented methodology for handling of customer complaints could be improved by collecting and recording customer complaints of different kind. Currently only appeals are considered by SMU as required by Slovakian legislation.	OI
9.	Template for Certificate could be improved by adding information about document version.	OI
10.	Based on documentary evidence provided during peer review it is concluded, that status of non-conformities and corrective actions with respect to non-conformities are not updated systematically. This somehow could correlate with the efficiency of management of non-conformities, especially the mechanism for follow up of required corrective actions.	NC
11.	Lack of awareness about internal policies and procedures of TC-Q has been identified. This was identified through the whole process of evaluation of Annual Report and Gap Analysis Report, as well as during communication between evaluators and TC-Q Secretary with SMU contact person. Training on the TC-Q policies and procedures would be helpful.	R

The following categories are used to classify the observation:

- NC : Non-conformity
- OI : Opportunity for improvement
- R : Recommendation

Adequacy of metrology institute's quality system and its implementation to demonstrate the conformity with the requirements of CIPM-MRA.

- YES, Quality system of the institute is adequate
- NO, Adequacy of the Institute's quality system was not recognized

Agreed actions taken to correct no-conformities and deadlines

Action No.	Subject matter	Deadline	Requested document (if applicable)



An explanation of any significant differences of opinion (*free text*)

Representative of institute visited:

Quality manager	Name: Ing. Kamila Vitkovičová	Signature:	Date:
Assigned responsible person	Name: Ing. Dušan Butaš	Signature:	Date:

Annex 8 – Table of cross references ISO/IEC 17025

EURAMET/TC-Quality
G-TCQ-TMP-004-
Table_of_cross_references_17025_16-01-2020

Name of the NMI or designated institute: Slovak Institute of Metrology



- Please fill the table below with the **QMS documents reference** or **QM clauses** as appropriate.
- When a requirement is not documented fill the column "**To issue**" (if/when required by the standard)

ISO 17025:2017 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
Requirements					
4 GENERAL REQUIREMENTS					
<ul style="list-style-type: none"> Impartiality Confidentiality Self-Commitment 		<ul style="list-style-type: none"> Quality manual for metrological laboratories, (PK ML) point. 4.1; PK ML, point. 4.2; statement of the general director of SMU, statements of employees of individual departments 			
5 STRUCTURAL REQUIREMENTS					

Date:

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- Please fill the table below with the QMS documents reference or QM clauses as appropriate.
- When a requirement is not documented fill the column "To issue" (if/when required by the standard)

ISO 17025:2017 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
<ul style="list-style-type: none"> Legal entity Responsibility Range of activities Organisation and Structure Documentation Responsibilities, authorities and resources for Management <u>Communication and Integrity</u> 		<ul style="list-style-type: none"> PK ML, point 5.1 PK ML point 5.2, statement of the management of the metrology department PK ML, point. 5.3 in general, the scope of activities is contained in the PK of the individual departments of the metrology department Decision of the Director - General RGR/05/2020 on approval of the organizational structure of SMU; PK ML, point 5.5 a); PK individual departments indicate their internal structure PK ML, point 5.5 c) - intranet PK ML, point 5.5 b) a PK individual metrology departments PK ML, point 5.7 			
6 RESOURCE REQUIREMENTS					

Date:

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- Please fill the table below with the QMS documents reference or QM clauses as appropriate.
- When a requirement is not documented fill the column "To issue" (if/when required by the standard)

ISO 17025:2017 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
<ul style="list-style-type: none"> Personnel Facilities and environmental conditions Equipment Metrological Traceability Externally provided products and services 		<ul style="list-style-type: none"> PK ML, point 6.2; PK individual departments; PS-03 Human resource Management; PS-12 Provision of educational services PK ML, point 6.3; technical working procedures; OS-08 Laboratory rules; Fire status PK ML, point 6.4; OS-02 Principles of using and storing standards; OS-03 Surveillance of meters; IS SPIN Meters tab – internal measurement devices PK ML, point 6.5; IS SPIN Meters tab – internal measurement devices; OS-02 Principles of using and storing standards PK ML point 6.6; PS-06 Order management; PS-14 Acquisition; OS-21 Procurement 			
7 PROCESS REQUIREMENTS					

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EURAMET/TC-Quality

G-TCQ-TMP-004-

Table_of_cross_references_17025_16-01-2020

Name of the NMI or designated institute: Slovak Institute of Metrology

- Please fill the table below with the QMS documents reference or QM clauses as appropriate.

- When a requirement is not documented fill the column "To issue" (if/when required by the standard)



ISO 17025:2017 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
<ul style="list-style-type: none"> Review of Requests, Tenders and Contracts Selection, verification and validation of methods Sampling Handling of Test and Calibration Items Technical Records Evaluation of Measurement Uncertainty Ensuring the validity of results Reporting of Results Complaints Nonconforming work Control of data and information management 		<ul style="list-style-type: none"> PK ML, point. 7.1; PS-06 Order management; PS-05 Internal communication; PK ML point. 7.2; OS-36 Data management and information management; PK ML point. 7.3 PK ML point. 7.4; PS-06 Order management; OS-08 Laboratory rules; PK ML point. 7.5; OS-28 Measurement records; OS-27 Registry order and registry plan; PK ML point. 7.6; individual work procedures; PK ML point. 7.7; PK ML point. 7.8; OS-14 Certificates and documents issued by SMU; PS-06 Order management; PK ML point. 7.9; OS-16 Handling of complaints and petitions; PK ML point. 7.10; PS-19 Management of nonconforming work; PK ML point. 7.11; OS-36 Data management and information management 			
8 MANAGEMENT SYSTEM REQUIREMENTS					
<ul style="list-style-type: none"> Documentation 		PK ML, section. 8 – option B;			

Date:

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ISO 17025:2017 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
<ul style="list-style-type: none"> Control of management system documents Control of records Actions to address risks and opportunities Improvement Corrective actions Internal audits Management reviews 		certified quality system according to ISO 9001 <ul style="list-style-type: none"> PK SMU point. 7.5; PS-15 Documentation and records management; quality policy, quality objectives; Declaration of General Director; management statement; access to documents INTRANET PS-15 Documentation and records management; OS-28 Measurement records; OS-14 Certificates and documents issued SMU; PS-17 Risk management; PK SMU point. 7.10; PS-19 Management of nonconforming work; PS-18 Quality audits; PS-02 Management review 			

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Annex 9 – Table of cross references ISO 17034

EURAMET/TC-Quality

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Table_of_cross_references_17034_16-01-2020

Name of the NMI or designated institute: **Slovak Institute of Metrology**

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ISO 17034:2016 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
Requirements					
4 GENERAL REQUIREMENTS					
<ul style="list-style-type: none"> • Impartiality • Confidentiality • Self Commitment 		<ul style="list-style-type: none"> • PK chemistry department, point. 4.1 • PK chemistry department, point. 4.2 • Chemistry Department Management Statement; statement of the staff of the chemistry department 			
5 STRUCTURAL REQUIREMENTS					
<ul style="list-style-type: none"> • Legal entity • Responsibility • Range of activities • Organisation and Structure • Documentation • Responsibilities, authorities and resources for Management • <u>Communication and Integrity</u> 		<ul style="list-style-type: none"> • PK ML, point. 5.1 • PK ML point. 5.2, statement of the management of the metrology department • PK chemistry department, Appendix 2 • PK chemistry department, section 5 			
6 RESOURCE REQUIREMENTS					

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Table_of_cross_references_17034_16-01-2020

Name of the NMI or designated institute: Slovak Institute of Metrology

- Please fill the table below with the QMS documents reference or QM clauses as appropriate.

- When a requirement is not documented fill the column "To issue" (if/when required by the standard)



ISO 17034:2016 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
<ul style="list-style-type: none"> Personnel Subcontracting Provision of equipment, services and supplies Facilities and environmental conditions 		<ul style="list-style-type: none"> PK chemistry department, point. 6.2 PK ML point. 6.6 PS-14 Acquisition OS-21 Procurement PS-06 Order management PK ML, čl. 6.3; technical working procedures OS-08 Laboratory rules; Fire status 			
7 PROCESS REQUIREMENTS					

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 - When a requirement is not documented fill the column "To issue" (if/when required by the standard)

ISO 17034:2016 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
<ul style="list-style-type: none"> • Production planning • Production control • Material handling and storage • Material processing • Measurement procedure • Measuring equipment • Data integrity and evaluation • Metrological traceability of certified values • Assessment of homogeneity • Assessment and monitoring of stability • Characterization • Assignment of property values and their uncertainties • RM documents and labels • Distribution service • Control of quality and technical records • Management of non-conforming work • Complaints 		<ul style="list-style-type: none"> • Instruction I 01/640 Receipt and expenditure of CRM • Instruction I 02/640 CRM planning and preparation; relevant working procedures • Appropriate work guide • Instruction I 02/640 CRM planning and preparation • PS-06 Order Management • PK ML point. 7.5; OS-28 Measurement records, OS-27 Registry order and registry plan • PK ML point. 7.10; PS-19 Nonconforming Work Management • PK ML point. 7.9; OS-16 Handling of complaints and petitions in SMU 			
8 MANAGEMENT SYSTEM REQUIREMENTS					
<ul style="list-style-type: none"> • Documentation • Control of management system documents • Control of records • Actions to address risks and opportunities • Improvement • Corrective actions • Internal audits 		<ul style="list-style-type: none"> • PK ML, section. 8 - option B; certified quality system according to ISO 9001 • PK SMU point. 7.5; • PS-15 Documentation and records management; SMU quality policy, SMU quality objectives; Statement by DG; management statement; access to INTRANET documents 			

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 - When a requirement is not documented fill the column "To issue" (if/when required by the standard)

ISO 17034:2016 Requirement	Q.M. clause	Procedures / Instructions	To be issued		Remarks
			Deadline	Responsible	
<ul style="list-style-type: none"> Management reviews 		<ul style="list-style-type: none"> OS-28 Measurement Records; OS-14 Certificates and documents issued by SMU; PS-17 Risk Management PK SMU point. 7.10; PS-19 Nonconforming Work Management; PS-18 Quality Audits; PS-02 Management Review 			

Date:

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