

## PECULIARITIES OF ADMINISTRATIVE LEGAL REGULATION OF METROLOGY

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**Abstract.** *The main aim of this research is to analyse the peculiarities of legal regulation of metrology and the problems arising in this area. The content of the article is divided into two parts. The first part of the article analyses the concept of metrology, reveals the relation between fundamental and legal metrology and accentuates problems of metrology as well as repressive means applied in the metrological procedure. The second part analyses the European Union as well as national legislation regulating the implementation of metrology in Lithuania and peculiarities of harmonisation of national law with the European Union legislation.*

**Keywords:** *metrology, legal metrology, legal regulation, requirements of the Europe Union.*

### Introduction

In a globalising world, where economic cooperation is getting more intense and exchange of goods and services becomes increasingly widespread, the need for credible measuring results becomes evident almost in all areas of human activity, as they aim to protect consumers against inaccurate and false measurement outcomes. Therefore, the

authorities engaged in legal regulation in the area of metrology should emphasise the ways to ensure suretyship of measurement traceability, harmonise Lithuania's actions in the field of metrology with those of the other EU Member States; facilitate business establishment and development procedures as well as reduce the State intervention into manufacturing and use of measuring instruments.

After Lithuania joined the European Union on 1 May 2004 it had to comply with the EU *Acquis Communautaire*, thus on 22 June 2006 the Seimas of the Republic of Lithuania adopted the Law Amending the Law of the Republic of Lithuania on Metrology. With the adoption of the Law on Metrology, Lithuania has committed that its laboratories must comply with the requirements set forth for testing laboratory or supervisory authority that entered into force on 1 January 2012. There is still much room for improvement in Lithuania in the area of legal regulation of metrology in order to implement these provisions and the alternating relevant legislation of the European Union.

Executive branch authorities are the ones responsible for regulation of the list of measuring instrument groups attributed to legal metrology and time intervals between verifications. These authorities provide a detailed list of measuring instrument groups, however, it should be noted that the very same measuring instruments can be used both in legal and non-legal metrology. This area faces real challenges, when a new measuring instrument appears that is attributable to legal metrology, but is not listed anywhere, as well as with the occurrence of disputes and violations while implementing metrological requirements in practice.

There are many foreign scientists having analysed metrology issues, such as G. M. S. de Silva<sup>1</sup>, Jay L. Bucher<sup>2</sup>, C. Robert Pennella<sup>3</sup>, P. Kelly<sup>4</sup>, A.K. Bewoor, V.A. Kulkarni<sup>5</sup>, T. Pfeifer<sup>6</sup>. In their publications the authors generally focused on basic metrology for ISO 9000 certification, quality systems, metrology concepts, measurement standards, fundamentals of production metrology. The author of this article draws the attention to the relation between fundamental and legal metrology, the European Union and national legislation regulating implementation of metrology in Lithuania.

The *aim of this research* is to analyse the peculiarities of legal regulation of metrology and the problems arising in this area.

*Problems of the research:*

1. to analyse the concept of metrology and to reveal the relation between fundamental and legal metrology;
2. to analyse both the European Union and national legislation regulating implementation of metrology in Lithuania.

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1 Silva de, G. M. S. *Basic Metrology for ISO 9000 Certification*. Taylor & Francis, 2012.

2 Bucher, J. L. *The Metrology Handbook*. Second Edition. ASQ Quality Press, 2012.

3 Pennella, C. R. *Managing the Metrology System*. Third Edition. Asq Press, 2004.

4 Kelly, P. *Metrology*. BiblioLife, 2009.

5 Bewoor, A. K.; Kulkarni, V. A. *Metrology & Measurement*. Tata McGraw-Hill Education, 2009.

6 Pfeifer, T. *Production Metrology*. Oldenbourg Verlag, 2002.

*Subject of the research* – requirements of metrology and peculiarities of implementation of their legal regulation.

*Methodology of the research:*

*Method of document analysis* was employed in order to acquire information by examining scholarly literature resources and different legislation regulating metrology procedures.

*A comparative method* was used in order to compare the meaning and content of different concepts.

*A historical method* was used in order to reveal the evolution of metrology procedures in Lithuania.

*A generalisation method* was used in order to draw the conclusions at the end of the article.

## 1. Analysis of the Metrology Concept

It is essential for everyone to equally understand the concepts used while transferring information and seeking for the unity of measurements. Metrology is different than any other science, since many subject-matters are regulated on the basis of mutual agreement, such as measurement units, methods for assessment of inaccuracies, etc. For that reason, terms of metrology are standardised both on national and international level, particularly under current circumstances where industrial goods, appliances, foodstuff, chemical materials, gas or oil are carried among countries easily and promptly and where complex industrial equipment or domestic appliances are assembled from components manufactured in several countries located in different continents. Naturally, such a system is functional only in the case where all manufacturers are following the same standards. Technically, the validity of the standards is guaranteed by measurements that have to be standardised themselves, i.e., the global unity of measurements has to be implemented. In essence, the global system ensuring the unity of physical measurements was established during the last century. Meanwhile, the chemical measurement system is at its very early stage of development. In order to become a part of this system, each country must have a functional metrological system.

Metrology [from Greek *metron* - measure + *logia* - science, theory] includes everything related to measurements in general, all theoretical and practical, scientific, legal and other aspects of measurement.<sup>7</sup> Therefore, metrology is a science about measurements, measurement methods and tools intended to achieve their unity and the required measurement accuracy. The main problems of metrology include determination of measurement units, theory and methods, establishment of measurement and supervisory tools, ensuring uniformity and unambiguousness of measurements, establishment of inaccuracy assessment methods as well as transferring the standard measurement units to the working standards. In the Law Amending the Law of the

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<sup>7</sup> *International Vocabulary of Metrology* [interactive]. Bureau International des Poids et Mesures [accessed on 25-05-2012]. <<http://www.bipm.org/en/publications/guides/vim.html>>.

Republic of Lithuania on Metrology, metrology is also defined as a measurement science that includes all theoretical and practical aspects of measurement, independent of the uncertainty of measurements, and the scientific and technical areas where the measurements are carried out.<sup>8</sup>

Metrology is grouped into three categories according to the difference in the level of complexity and accuracy:

1. Scientific metrology is related to organisation and development of measurement standards as well as their maintenance (top level).
2. Industrial metrology must ensure adequate functionality of measurement instruments used in the industry, manufacturing and testing procedures.
3. Legal metrology analyses measurement accuracy when it affects the fairness of economic transactions as well as health and labour safety relations.<sup>9</sup>

*Fundamental metrology* has not been defined at international level. However, in certain areas it determines the top level accuracy. Thus, fundamental metrology can be defined as scientific metrology supplemented with the parts of legal and industrial metrology that require scientific competence.<sup>10</sup>

Scientific metrology is a part of metrology that ensures quality and adequacy of measurement employed in direct national regulation and commercial relationship. Legal metrology tackles linkage/traceability problems, faces the risk of misuse of instrument and secret or accidental influence on the measuring instrument. In most cases, these measurements are managed by law and national regulation, which also harmonizes the terms of use and requirements for measuring instruments on both national and international level.<sup>11</sup> Therefore, the best way to understand the difference between metrology and legal metrology is to consider their different interlinking stages. Measurement science is an all-embracing procedure. The accuracy of many instruments, such as weighing scales used in stores, is calibrated through national measurement adequacy systems that are adjusted in accordance with the national metrology laboratories; meanwhile national standards are calibrated in accordance with international measurement standards. Thereby, the consistency/stability of global level measurements is ensured in order to regard all the measures as a unified system.<sup>12</sup>

It could be said that legal metrology takes care of the measurements directly related to consumers and the main goal of metrology is to combine different measurement chains and calibration. Legal metrology minds the accuracy of measurements that may directly affect consumers, seeks to protect the consumer, such as the store owner who's weighing scales and other measurement instruments have not been calibrated or are unusable. The essence of national metrology regulation is to incorporate metrology

8 Amendment of the Law of the Republic of Lithuania on Metrology. *Official Gazette*. 2006, No. 77-2966.

9 *Metrology in Short* [interactive]. The project of EUROMET No. 595 [accessed on 26-05-2012]. <ftp://ip-77-221-84-123.kava.lt/Knygos/Ivairus/Metrologija%20trumpai%201.pdf>.

10 *Ibid*.

11 *Metrology and Legal Metrology* [interactive]. Bureau International des Poids et Mesures [accessed on 26-05-2012]. <[http://www.bipm.org/en/convention/wmd/2004/legal\\_metrology.html](http://www.bipm.org/en/convention/wmd/2004/legal_metrology.html)>.

12 *Metrology and Legal Metrology*, *supra* note 11.

directly into national or international law through executive branch authorities and the aim of such regulation is to ensure the protection of consumers. While analysing the legal metrology it can be stated that the main problems of metrological suretyship in the Republic of Lithuania are to protect against the consequences of false measurement all natural and legal persons as well as the Lithuanian branches of companies established in the European Union Member States or other signatory states of the European Economic Area; to remove the obstacles for the free movement of goods in relation to the production and sales of measuring instruments as well as usage of measuring units; to apply effective supervision for measuring instruments and the quantity of goods; to facilitate economic development; to encourage the development of economy, science and high-technology as well as to seek for the international recognition of measurement results and metrological suretyship of the Republic of Lithuania.<sup>13</sup> Meanwhile metrologists working in the State metrology services seek to ensure SI<sup>14</sup> compatibility and approaches metrology in a broader context, i.e., on a highest science-oriented level. It usually means studies and research of the main definitions and fundamental scientific constants, such as research of the properties of the speed of light and atoms. Thereby, national representation of measurement units used within the country, such as meter, second or volt, is ensured.

Legal metrology originates from the need of fair trade. The main purpose of legal metrology is to protect people against consequences of false measurements in such areas as official and commercial transactions, working environment and health and labour safety.<sup>15</sup> Thus, legislation provides the requirements for measuring instruments, measurement and testing methods, including pre-packaging. According to the Law Amending the Law of the Republic of Lithuania on Metrology, legal metrology is defined as an area of metrology related to measurements, measuring units, measuring vessels and methods and its activity is regulated by the requirements set forth in laws and other legislation and is carried out by competent authorities.<sup>16</sup> The Law also provides for the right of consumers to acquire credible information about measurement results, given that it may be related to health protection, environmental protection, labour safety and commercial settlements in accordance with the procedure set forth by the laws of the Republic of Lithuania.<sup>17</sup> Therefore, a conclusion may be drawn that the main purpose of the legislators in the Republic of Lithuania is the protection of consumer rights.

Globally, the instruments used have to comply with national legal requirements drawn up for the aforementioned areas. Preventive measures are taken prior to the marketing of measuring instruments, i.e. approval of instrument patterns and testing. Manufacturers guarantee that pattern approval is carried out by a competent authority (in most of the countries it is done by an influential institution), given that the pattern complies with the relevant legal requirements. Mass-produced measuring instruments control that each one of them complies with all the requirements set forth for the verification

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13 Amendment of the Law of the Republic of Lithuania on Metrology. *Official Gazette*. 2006, No. 77-2966.

14 *The International System of Units (SI) – and the “New SI”* [interactive]. Bureau International des Poids et Mesures [accessed on 26-05-2012]. <<http://www.bipm.org/en/si/>>.

15 *Metrology in Short*, *supra* note 9.

16 Amendment of the Law of the Republic of Lithuania on Metrology. *Official Gazette*. 2006, No. 77-2966.

17 *Ibid.*

procedure. Inspection and periodical testing is provided for the instruments used in order to guarantee that the measuring instruments comply with the legal requirements. Such legal requirements, including usage requirements, differ according to the country, depending on national laws and regulations. Measurement instrument has to be used in accordance with the user instructions and technical service requirements prepared by the manufacturer. Documents within Lithuania have to be submitted in Lithuanian. In legal metrology, the standard operational conditions of measuring instruments as defined by the manufacturer are ensured by the person legally assigned to install the measuring instrument in the way that it would serve its purpose. Measuring instruments that have not been assessed for conformity with the metrological requirements can be used for personal purposes only and in the areas of activity not attributed to the legal metrology. Such measurement instruments for sale have to be calibrated on the request of customers.<sup>18</sup>

Repressive measures are also employed in the metrology procedure. Market supervision is a repressive measure in order to reveal any illegal operation with a measuring instrument. The standards used for such inspection and testing have to be linked with both national and international standards. According to Article 12 of the Law Amending the Law of the Republic of Lithuania on Metrology it can be stated that placement of measurement instruments on the market is regulated in a mandatory manner. Measurement instruments placed on the market and intended for the use in legal metrology must have marks and/or labels and/or required licenses (certificates) that comply with the requirements of the Law, technical regulations and other legislation as well as carry the verification as to the performed assessment of conformity. When a measuring instrument is too small or too sensitive for it to attach marks and/or labels, the latter have to be on the package (if available) and on the covering documents. State Metrology Service sets forth the terms and procedures for the verification of certificates and labels for the measuring instruments issued in countries non-members of the European Union and allows placing these measuring instruments on the market given that they do not fall within the area of application of technical regulations, which define the terms of placement on the market. It is prohibited to prevent measuring instruments that comply with the requirements of the Law, technical regulations and other legislation, from placement on the market and their commissioning. It is prohibited to demonstrate measuring instruments that fail to comply with the requirements of legal metrology in trade fairs, exhibitions, presentations, given that they contain a visible label with a clearly designated non-compliance with the requirements and the information that they cannot be placed on the market and/or commissioned till the implementation of the legal metrology requirements.<sup>19</sup> Legal and natural persons placing measuring instruments on the market, installing and using measuring instruments subject to legal metrological regulations are held responsible for the timely execution of metrological verification set forth by the technical regulations and other legislation.<sup>20</sup>

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18 Amendment of the Law of the Republic of Lithuania on Metrology. *Official Gazette*. 2006, No. 77-2966.

19 *Ibid.*

20 *Ibid.*

Therefore, metrology and legal metrology take care of different accuracy levels, yet both of them address similar problems. Both metrology and legal metrology ensure the conformity of national measurement standards with the international ones in order to unify differences in measurement practiced by various countries all over the world. Besides, legislators and executive branch authorities seek to ensure that the measurement system regulated within the country is accepted in other countries, which would either reduce or eliminate rejection of calibration.

## 2. Peculiarities of Legal Regulation for Metrology in the European Union and Lithuania

Regulation of legal metrology in the European Union and its harmonisation is based on Directive 71/316/EEC of 26 July 1971, which includes the requirements for all categories of measuring instruments, and also on other Directives that have been issued since 1971 and covers individual categories of measuring instruments. Measuring instruments that have been officially provided with the pattern approval of the European Economic Area and for which initial verification of the European Economic Area has been carried out can be placed on the market and used in all of the Member States without carrying out additional testing and pattern approval.<sup>21</sup> While seeking for free movement of goods in the separated European Union market, a new conception of technical harmonisation and standardisation, including metrology, was established by decision of the European Council in 2004. It is set forth that all the Directives are mandatory for all the Member States and allow avoiding possible deviation in individual states. The main purpose of Directive 2004/22/EC concerning harmonisation of measuring instruments is to remove technical barriers in trade, while regulating trade and use of such measuring instruments as water meters, gas meters, electrical energy meters and measuring transformers, heat meters, measuring systems for liquids except water, automatic weighing scales, taximeters, measurement systems for material measures and dimensions, odour analyser and combustion gas analyser.<sup>22</sup> These measuring instruments have met the main requirements. The manufacturer is obliged to determine technical details and refer to the harmonised standards of the European Union. Application of standards helps blending in the market, i.e., when measuring instruments comply with these standards, a presumption can be drawn that they will also comply with the requirements of Directives.<sup>23</sup> According to Directive 2004/22/EC, the mandatory legal supervision of measuring instruments is carried out by each Member State individually. The requirements applied for the instruments after their introduction for use have not been harmonised under this Directive, therefore the repeated verifications, inspections

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21 Council Directive 71/316/EEC of 26 July 1971 on the approximation of the laws of the Member States relating to common provisions for both measuring instruments and methods of metrological control.

22 Directive 2004/22/EC of the European Parliament and of the Council of 31 March 2004 on measuring instruments.

23 *Metrology in Short*, *supra* note 9.

and verification validity periods can be defined by the Member States in accordance with their national laws. Consumer protection may vary according to the State, thus the requirements determining the use of measuring instruments depend on national legislation. Member States can also set legal requirements for the measuring instruments that are not listed in Directive 2004/22/EC.

The ratification of technical regulation for measuring instruments,<sup>24</sup> which implemented Directive 2004/22/EC concerning measuring instruments, has led to the amendment of legitimation procedure on measuring instruments regarding the assessment of measurement conformity and the pre-packed products assessment services acquired from legal persons. Directive 2004/22/EC concerning measuring instruments has obliged the Member States to adopt laws and other legislation necessary to comply with the requirements of the Directive. After joining the European Union on 1 May 2004, Lithuania has been subject to the EU *Acquis Communautaire*, as well as to the commitments arising from the Treaty establishing the European Community (Articles 28-30, Articles 153 and 157) as well as from the provisions of Article 1 of the Treaty of Accession of Lithuania relating to the free movement of goods, consumer protection, reinforcement of industry competitiveness, etc. The requirements of this provision, the EU Directive 2004/22/EB and other Directives as well as experience of the EU Member States have encouraged drafting a new version of the Law of the Republic of Lithuania on Metrology, adopted by the Seimas of the Republic of Lithuania on 22 June 2006.<sup>25</sup> After adoption of the Law Amending the Law on Metrology, it was necessary to replace the metrological regulation legislation in force with the new one.

On 5 September 2007 the European Parliament and the Council adopted a Directive establishing the procedures for nominal quantities of pre-packed products and repealing Council Directives 75/106/EEC, 80/232/EEC and amending Council Directive 76/211/EEC. Directive 75/106/EEC of 19 December 1974 on the approximation of the laws of the Member States relating to the making up by volume of certain pre-packaged liquids and Directive 80/232/EEC of 15 January 1980 on the approximation of the laws of the Member States relating to the ranges of nominal quantities and nominal capacities permitted for certain pre-packaged products established that for most products, national nominal quantities are allowed to exist alongside Community nominal quantities. For some products, however, Community nominal quantities are fixed to the exclusion of any national nominal quantities, therefore changes in consumer preferences and innovations in prepacking and retailing at Community and national levels have made it necessary to assess whether existing legislation is still appropriate. The Court of Justice has held in its judgment of 12 October 2000 in Case *Cidrerie Ruwet SA v. Cidre Stassen SA and HP Bulmer* that Member States are precluded from prohibiting the marketing of a pre-package having a nominal volume not included in the Community range, which is lawfully manufactured and marketed in another Member State, unless such a prohibition is designed to meet an overriding requirement relating to consumer protection, applies

24 Order No. V-31 06/03/2006 of Director of the State Metrology Service concerning the approval of technical regulation of the measures. *Official Gazette*. 2006, No. 40-1451.

25 Amendment of the Law of the Republic of Lithuania on Metrology. *Official Gazette*. 2006, No. 77-2966.

without distinction to national and imported products alike, is necessary in order to meet the requirement in question and is proportionate to the objective pursued, and that objective cannot be achieved by measures which are less restrictive of intra-Community trade.<sup>26</sup> An impact assessment, including a wide consultation of all interested stakeholders, has indicated that, in many sectors, free nominal quantities increase the freedom of producers to provide goods according to consumer tastes and enhance competition as regards quality and price on the internal market. In other sectors, however, it is more appropriate, in the interests of consumers and business, to retain mandatory nominal quantities for the time being.<sup>27</sup>

Directive 2009/3/EC of the European Parliament and of the Council of 11 March 2009 amended Council Directive 80/181/EEC concerning the approximation indications of the laws of the Member States relating to units of measurement. In order to avoid creating obstacles for Community undertakings exporting to certain third countries that require products to be marked, it is appropriate to maintain the authorisation to use supplementary indications.<sup>28</sup> EU Directive 80/181/EEC supported the smooth functioning of the internal market through the approximation level of measuring units, therefore it was appropriate that the Commission monitored market developments relating to that Directive and its implementation, notably in terms of possible obstacles to the functioning of the internal market and any further harmonisation required to overcome those obstacles.

A new version of the Technical Regulation on Quantity of Pre-packed Products and Supervision of Measurement Vessels<sup>29</sup> entered into force on 11 April 2009, implementing the provisions of Directive 2007/45/EC of the European Parliament and of the Council on nominal quantities for pre-packed products<sup>30</sup>. Its requirements also apply for the goods marked with an “e” symbol (it confirms that the quantity of the product is constantly supervised and corresponds with the one stated on the package or label; permission from a competent authority is required) and non-marked goods, pre-packed up to 50 kg, it determines allowable negative deviations of quantity applied in the Community. This guidance document enhances the requirements for pre-packed goods, therefore the State Metrology Inspectorate also follows the aforementioned regulation while carrying out legal metrological supervision, since it has to perform inspection of the pre-packed product lots at the manufacturer by applying quantity average calculation methodology.

Directive of the European Parliament and of the Council relating to common provisions for both measuring instruments and methods of metrological control was

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26 Case C-3/99, *Cidrerie Ruwet SA v. Cidre Stassen SA and HP Bulmer Ltd.* [2000].

27 *Ibid.*

28 Directive 2009/3/EC of the European Parliament and of the Council of 11 March 2009 amending Council Directive 80/181/EEC on the approximation of the laws of the Member States relating to units of measurement.

29 Order No. V-73 11/9/2008 of Director of the State Metrology Service concerning technical regulation on quantity of pre-packed products and supervision of measurement vessels. *Official Gazette*. 2008, No. 106-4076).

30 Directive 2007/45/EC Of the European Parliament and of the Council of 5 September 2007 laying down rules on nominal quantities for prepacked products.

adopted on 23 April 2009. This Directive has several times essentially amended Council Directive 71/316/EEC of 26 July 1971 on the approximation of the laws of the Member States relating to common provisions for both measuring instruments and methods of metrological control.<sup>31</sup> The Directive provides that in each Member State, mandatory provisions determine the technical characteristics of measuring instruments and the methods of metrological control.<sup>32</sup> Those requirements differed from one Member State to another, therefore those differences hindered trade and could create unequal conditions of competition within the Community. One of the objectives of controls in each Member State is to give assurance to customers that quantities delivered correspond to the price paid. Consequently, the aim of this Directive should not be to abolish those controls but to eliminate differences between rules.<sup>33</sup> The aim is to reduce and remove such obstacles to the functioning of the internal market by initially complementing the valid national provisions and subsequently repealing the provisions, where necessary conditions exist. Compliance with technical requirements is usually confirmed by Member States before measuring instruments are placed on the market or used for the first time, and where appropriate when they are in service, such confirmation being affected in particular by means of pattern approval and verification procedures. In order to achieve free movement of such instruments within the Community, it is also necessary to provide for mutual recognition of controls among the Member States and to establish appropriate EC pattern approval and initial verification procedures for this purpose as well as EC methods of metrological control in accordance with this Directive and with the relevant individual Directives. The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission.

Lithuania has faced some significant challenges back in 2011 due to Commission Directive<sup>34</sup>, which entered into force in 2009. Starting with 1 June 2011, the new permissible inaccuracies close to zero should have been set for dosing devices in petrol filling stations and for the meters of hot and cold potable water, gas, active electrical energy and heat meters in order to avoid misuse of their maximum permissible inaccuracies and systematically favour any of the parties involved in the transaction.<sup>35</sup> In most of the cases the inaccuracies of these measuring instruments are close maximum negative inaccuracy and are unfair in respect of consumers. The Lithuanian Metrology Inspectorate supervises whether measuring instrument users and the companies carrying out verifications of such measuring instruments comply with the requirements of the aforementioned Directive.

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31 Directive 2009/34/EC of the European Parliament and of the Council of 23 April 2009 relating to common provisions for both measuring instruments and methods of metrological control.

32 *Ibid.*

33 *Ibid.*

34 Commission Directive 2009/137/EC of 10 November 2009 amending Directive 2004/22/EC of the European Parliament and of the Council on measuring instruments in respect of exploitation of the maximum permissible errors, as regards the instrument-specific annexes MI-001 to MI-005.

35 *Ibid.*

## Conclusions

1. Metrology and legal metrology take care of different accuracy levels, yet both of them address similar problems. Both metrology and legal metrology ensure the conformity of national measurement standards with the international ones in order to unify differences in measurement practiced by various countries all over the world.

2. Legislators and executive branch authorities seek to ensure that the measurement system regulated within the country is accepted in other countries, which would either reduce or eliminate rejection of calibration.

3. While harmonising the European Union legislation, Lithuania has committed to remove technical barriers in trade, apply standards that help blending in the market, support smooth functioning of the market by establishing approximation level of measuring units, enhance requirements for the pre-packed goods, safeguard consumer interests by ensuring that the quantities delivered match the paid amount and acknowledge verifications carried out in the Member State as well as the metrological control methods applied by the European Community.

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## METROLOGIJOS ADMINISTRACINIO TEISINIO REGULIAVIMO YPATUMAI

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**Santrauka.** Straipsnyje keliamas tikslas – išanalizuoti metrologijos teisinio reguliavimo ypatumus bei kylančias problemas šioje srityje. Straipsnį sudaro dvi dalys. Pirmoje straipsnio dalyje analizuojama metrologijos samprata, atskleidžiamas fundamentalios bei teisinės metrologijos santykis, nurodomi metrologijos uždaviniai bei represinės priemonės, taikomos metrologijos procese. Kitoje dalyje analizuojami Europos Sąjungos bei nacionaliniai teisės aktai, reglamentuojantys metrologijos įgyvendinimą Lietuvoje, ir jų harmonizavimo su Europos Sąjungos teisės aktais nacionalinėje teisėje ypatumai.

*Atlikęs tyrimą, autorius suformulavo šias išvadas:*

1. Metrologija ir teisinė metrologija rūpinasi skirtingais tikslumo lygiais, tačiau abi sprendžia panašias problemas. Tiek metrologija, tiek teisinė metrologija užtikrina nacionalinių matavimo standartų atitiktį tarptautiniams standartams, taip siekiant suvienodinti įvairių pasaulio valstybių matavimo skirtumus.

2. Įstatymų leidėjai ir vykdomosios valdžios institucijos siekia užtikrinti, kad šalyje sureguliuota matavimo sistema būtų priimta kitose valstybėse, o tai sumažintų ar išvis eliminuotų kalibravimo nepriėmimą ar tiesiog matavimai taptų kliūtimi prekybai tarp valstybių.

3. Lietuva, siekdama suderinti nacionalinius aktus su Europos Sąjungos teisės aktais, įsipareigojo pašalinti techninius barjerus prekyboje; taikyti standartus, kurie padeda jungtis į rinką; remti sklandų vidaus rinkos veikimą nustatant matavimo vienetų suderinimo lygį; sugriežtinti reikalavimus visoms fasuotoms prekėms; užtikrinti vartotojų interesus, kad pristatomi kiekiai atitiktų sumokėtą pinigų sumą; pripažinti valstybėse narėse vykdomas patikras bei Europos Bendrijos metrologinės kontrolės būdus.

**Reikšminiai žodžiai:** metrologija, teisinė metrologija, teisinis reguliavimas, Europos Sąjungos reikalavimai.

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