

ASSESSMENT OF TECHNICAL HARMONISATION AND CONFORMITY IN THE GLOBAL MARKET

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Abstract. The effects of globalization are increasingly felt all over the world. The world is becoming more homogeneous, since different kinds of products can be offered to a wider range of customers. One of the essential preconditions for free movement of goods between states and unions of states is harmonisation of their technical requirements. The EU has determined requirements for goods in order to avoid any damage they could create for human health, life and environment. Thus, the importance of conformity assessment grows along with increase of trade volumes between states. The conformity assessment sphere is characterised by guaranteed product safety: product compliance with certain requirements is certified. The article aims to evaluate technical harmonization of product requirements, conformity assessment system, to analyse its development and changes before and after Latvia's accession to the EU single market. The research reflects the relationship between the conformity assessment system, its elements and economic development. Main research methods are analysis and comparison. Research restriction—product conformity assessment. In the results of the research, the authors conclude that the conformity assessment system, which consists of several elements: accreditation, standardization, metrology, is a precondition for successful integration in the global market.

JEL classification: D18, F19, M11.

Keywords: conformity assessment system, technical harmonization, product, globalization.

Reikšminiai žodžiai: atitikties įvertinimo sistema, techninis derinimas, produktas, globalizacija.

1. Introduction

The role of globalization in ensuring national economic and social stability is becoming increasingly important. Trade cooperation promotes economic development. Therefore there is a striving to provide equal opportunities for all states and unions of states are formed in order to ensure equal trading conditions.

The European Union (EU) has established specific requirements for goods in order to eliminate any possibilities of causing harm to human health, life and environment. Therefore, within the EU, technical harmonization is created and the conformity assessment process is unified. These requirements are extended to goods that are put on the EU market by other states. A similar market principle works in other states and unions of states.

With the growth of mutual trade volumes between states, the importance of conformity assessment also increases. Conformity assessment is a precondition for imports of goods to the particular state; it ensures that products meet the necessary requirements accepted in the given region. This sphere is “invisible” because the general public and most of the entrepreneurs—unless they are directly involved in conformity assessment—have no comprehensive picture of the principles, preconditions and set of elements of the sphere.

The goal of the article is to evaluate technical harmonization of product requirements, conformity assessment system, to analyse its development and changes before and after Latvia’s accession to the EU single market.

The research is significant because it reflects the relationship between conformity assessment system, its elements and economic development. Main research methods are analysis and comparison of methods used in the field of public utilities services. Research restriction—product conformity assessment.

In the result of the research, the authors conclude that the conformity assessment system, which consists of several elements—accreditation, standardization, metrology—is a precondition for successful integration in the global market.

2. Characteristics of the globalization process

Different views on the beginning of the globalization process can be found both in the Western world and in the European sociocultural context. Nowadays the concept of “globalization” is one of the most common and, at the same time, one of the most controversial terms in the processes taking place all over the world. The term “globalization” can be defined in various ways: for Robertson, globalization is “the compression of the world and the intensification of consciousness of the world as a whole” (Robertson, 1992); Amartya Sen defined it as “the intensification of the process of interaction involving trade, migration and dissemination of knowledge that has shaped the progress of the world over millennia” (Gerber, 2002); Rosted’s view is that “globalization represents the rapid increase in economic interrelationships worldwide—how these are affecting movements of capital, investment strategies and migration” (Rorsted, 2010). As can be seen from the comparison, definitions of “globalization” vary widely. The authors believe that here it is important to know what kind of process is described by the term “globalization.”

In literature, various ways of how globalization can influence entrepreneurship are described. Several authors believe that globalization promotes business development because companies can offer their products and services on a much larger scale (De

Haan, 2002). Others emphasize that it hinders the development of business because of increasing competition and the fact that the largest companies are constantly increasing their market share (Farazmand, 2009). From the point of view of the authors, globalization is a driving force of the desire of entrepreneurs for the maximization of profit, which can be promoted by extending their operations into new markets. Entrepreneurs need to identify requirements for goods and find opportunities that will allow them to offer their goods and services on an ever larger scale.

The authors would like to point out that not only companies that produce and market products have a significant role in the process of globalization. The community that chooses, purchases and consumes these products is also important. The need for the product, its safety, quality and substitution, as well as the society's needs and expectations about the desired features and cultural characteristics of the product, determine whether and to what extent the product will be demanded in the global market.

It is believed that globalization opens up new opportunities for countries to develop, to promote employment and increase their exports, to attract additional foreign funding. Within the framework of globalization and regional integration, the national concept of openness in the sphere of trading is implemented and various types of economic zones are set up. One such example is the EU, which shows that localization of a particular territory and uniform product requirements are a significant part of globalization.

3. Technical harmonization of product requirements

In order to implement free movement of goods in the EU single market, trade barriers are eliminated, mutual recognition is ensured and technical harmonization is organized. The decision on the need for technical harmonization in the EU institutions and Member States was reached on the basis of particular examples in practice, because it was concluded that without a coherent approach to product requirements it is not possible to create a single market.

Technical harmonization refers to the replacement of national regulations, which can be different in some situations, by a Community rule that would be binding for all Member States. (McGee et al, 2011). European Community law (*acquis communautaire*) is a set of all the existing regulations, binding for all Member States, it has become a legal instrument for implementing EU policy, and the principle of technical harmonization is being realized through it.

To ensure realization of this principle, in 1985 a resolution on the *New Approach* was laid down (Council Resolution, 1985). Its main idea was to define general regulatory standards for larger groups of products, while more specific rules were assigned to conformity assessment bodies (Gehring et al, 2008). In accordance with the *New Approach*, only essential product requirements, such as protection of health, life and safety, will still be subject to legislation. Detailed technical specifications are included in international standards (Burrows, 2011). In order to assess the potential risks and identify common essential requirements, products must be sufficiently homogeneous.

At the same time, producers are given a free choice to apply both widely known methods and their own validated methods in product manufacturing.

In order to enhance technical harmonization, in 1989 a resolution was passed on the *Global Approach* to conformity assessment. (Council Resolution, 1989; European Commission, 2000). Its main idea is to minimize the number of products subject to conformity assessment. The *Global Approach* is mainly focused on developing a framework for conformity assessment: establishing a common policy and structure; relying on the competence of conformity assessment bodies and transparency of the performed operations; ensuring the credibility of conformity assessment. The most significant innovation by the *Global Approach* was introduction of a modular approach, which subdivided conformity assessment into a number of operations (modules). These modules are classified according to the stage of development of the product, the type of assessment involved and the parties carrying out the assessment (European Commission, 2000). The modular approach offers the possibility of applying various activities within the framework of conformity assessment process in accordance with the manufacturer's competence and potential degree of hazards created by the product.

The authors wish to point out that the *New Approach* and the *Global Approach* are unified sets of principles and regulations aimed at ensuring a high level of security while facilitating free movement of goods and giving entrepreneurs a certain freedom of choice. It is achieved by creating a homogenous, transparent and reliable conformity assessment system which ensures and provides the necessary confidence on product compliance with the requirements, and, at the same time, contributes to the development of the EU. Within the framework of these approaches, product requirements are met before they are placed on the market. To show the product's compliance with the requirements, it is labelled with CE mark.

Thus, with the implementation of the principle of technical harmonization for product requirements, not only technical barriers to trade are reduced, but also company development, competitiveness and efficiency are enhanced. The authors believe that within the framework of technical harmonization it is easier for entrepreneurs to organize their activities, because technical norms and requirements in the particular region are unified. Consequently, the products can be offered to a wider range of potential customers.

4. Conformity assessment system

One of the main prerequisites for product release in the EU market is ensuring that substantive and technical product requirements are met. Requirement is the need or expectation that is stated, generally implied or obligatory (LVS EN ISO 9000, 2006). In the EU, specific requirements are imposed on products that in any way may affect human health, life and environment. For example, such goods as toys, lifts, measuring instruments, medical devices, construction products etc. are subject to regulations.

In order to assess whether the substantive and technical product requirements are met, the product conformity assessment is carried out. Conformity assessment is

a process demonstrating whether specified requirements, relating to a product, process, service, system, person or body, have been fulfilled (Decision No.768/2008/EC; Regulation No.765/2008; LVS EN ISO/IEC 17000, 2005). This is a consistent process in which to perform a specific action (e.g., to identify the binding laws and regulations, to label the product with the CE mark, etc.).

The conformity assessment system consists of three elements: accreditation, standardization and metrology (see Figure 1).

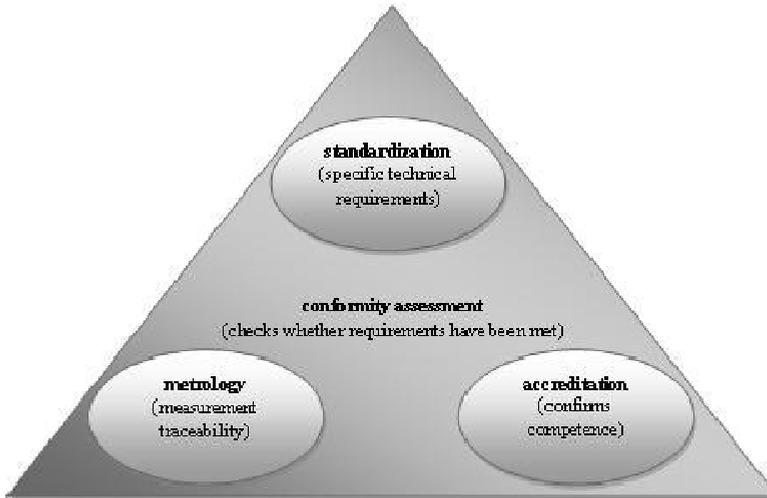


Fig. 1. Conformity assessment system

4.1 Accreditation

Accreditation shall mean an attestation by a national accreditation body that a conformity assessment body meets the requirements set by harmonised standards and, where applicable, any additional requirements, including those set out in relevant sectoral schemes, to carry out a specific conformity assessment activity (Regulation No.765/2008).

The goal of accreditation is to ensure that a conformity assessment issued by an institution accredited in one state is recognized in other states and unions of states without performing repeated conformity assessment. Accreditation of conformity assessment bodies in the EU and worldwide is of major significance within the framework of globalization since it provides the following opportunities:

- 1) reducing technical barriers to trade and promoting free movement of goods within a particular state, union of states or between states;
- 2) promoting fair competition between product manufacturers and service providers;
- 3) assuring the competence, independence, impartiality and integrity of conformity assessment bodies.

4.2 Standardization

Standardization is a set of actions aimed at establishing general principles that can be applicable many times for solving existing or prospective challenges and thereby create the conditions for optimal orderliness in a particular area (Standardization law, 1998).

Nowadays, the most common element and prerequisite for foreign trade is international standards. Within the framework of international and regional standardization bodies (e.g. the International Electrotechnical Commission, European Committees for Standardization etc.) these standards are jointly developed by industry experts of national Member States, encompassing technological innovations and solutions, as well as business performance improvement initiatives and requirements for national market and business protection. Entrepreneurship without daily application of standards is no longer possible. Standards are becoming “the new guns in global competition” (Egan, 2002).

The most significant benefit from requirement standardization is development of the product and service requirements in accordance with the intended purpose, elimination of technical barriers to trade and promotion of technological development and cooperation.

Within the framework of the *New Approach*, the concept of “harmonized standard” has been introduced. The applicable standards include technical specifications, such as product requirement detail and technological solutions.

4.3 Metrology

Metrology is the science of measurement and its application (JCGM, 2012).

On the basis of the measurements made, conformity assessment bodies can assess product compliance with the relevant requirements. It is important to choose a sufficiently precise measuring tool, as well as to determine the credibility level of measurement. Thus, the measurements taken should be both efficient and useful. Measurement accuracy is also important in trade because the selling price is calculated on the basis of the product measurements. Therefore, to ensure reliable conformity assessment, the measurements taken should be accurate, precise and reliable.

The authors believe that one of the prerequisites for successful business in the global market is the ability to recognize the significance of conformity assessment elements and to use the opportunities provided (for example, by engaging in developing standards for products, by complying with international standards, by selecting the most appropriate of conformity assessment modules, by attracting foreign companies to EU notified bodies, by selecting appropriate measuring tools to ensure measurement accuracy, precision and reliability, etc.).

5. Conformity assessment advantages in the global market

Within the framework of globalization, the national concept of openness to trade and regional integration is implemented. Various kinds of economic zones are organ-

ised, such as the EU, European Economic Area (EEA), etc. Within the framework of one economic zone, economic cooperation is organized and market protection is ensured. In order to ensure mutual economic cooperation, the following aspects are of utmost importance:

- removal of barriers to foreign trade (Lloyd, 2010; De Vries, 2010);
- free movement of capital and labour (Preble, 2010);
- unification and standardization of production (Wiersema et al, 2008);
- trans-nationalization of production (Jones, 2009);
- extension of activities and impact of international economic, trade and financial organizations (Meardi, 2012).

Each state or union of states has defined specific principles for organising conformity assessment system. To ensure mutual recognition of these systems, international organizations have been established to unite national organizations in a particular area (such as International Organization for Standardization, European Cooperation for Accreditation, International Bureau of Weights and Measures etc.). Along with globalization, the role of conformity assessment increases because it is a prerequisite for putting goods on the market and free movement within the market.

An important step in promoting harmonization of international standards was the EU's decision on the *New approach*, which stated that the directives contain essential requirements only. The standards are not mandatory, but the producer has an obligation to prove that the product conforms to the essential requirements and the producer can choose the way to ensure it (Rausand et al, 2009). This approach not only gives producers the freedom of choice, but also offers specific internationally recognized solutions and establishes the significance of standards in rising competitiveness.

Trade in the non-harmonized sector is based on the principle of mutual recognition. In accordance with this principle, goods which are legally manufactured and marketed in one Member State may move freely throughout the EU (Costinot, 2008). This principle may also be applicable to non-EU countries under signed agreements (e.g. EU mutual recognition agreements were signed with: USA (1999), Japan (2001), Turkey (2006), etc.).

6. Changes in the conformity assessment system after Latvia's accession to the EU

Latvia's accession to the EU on 1 May 2004 resulted in significant changes in the economic, social and political spheres. Joining the EU single market paved the way for expansion and development of Latvian entrepreneurs. At the same time, they had to develop their competitiveness in the conditions of increased competition. Thus, Latvia's accession to the EU can be regarded as a kind of globalization.

To assess the impact of foreign trade, globalization and localization on the economy, the authors have examined import and export volumes in Latvia from different regions. As can be seen from Figure 2, after joining the EU in 2004, Latvia's imports grew rapidly (on an average of 1.5 to 2 million EUR annually). Also, exports from Latvia

grew by an average of 710 000 to 1 100 000 EUR. Import and export volumes decreased slightly in 2008 and dropped sharply in 2009 under the impact of the global economic crisis. This confirms the fact that after joining the EU, the national market within the EU single market was opened to foreign entrepreneurs and also Latvian entrepreneurs had the opportunity to offer their products more widely and easily in other national markets.

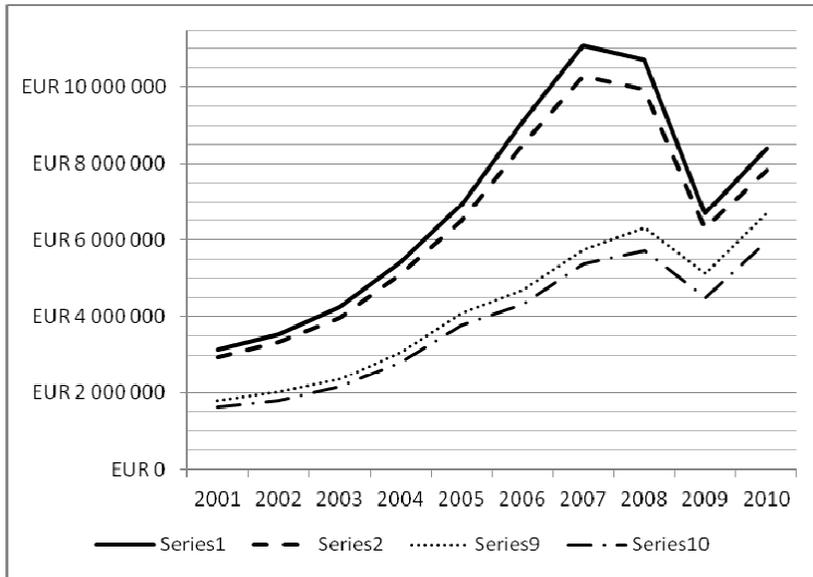


Fig. 2. Import and export in Latvia (in EUR) (CSB, 2012)

The biggest Latvian foreign trade co-operation area for both imports and exports is Europe. Overall, the largest import volumes come from: Lithuania (17.1%), Germany (11.5%), Russia (10%) and, for example, from China (2.6%) (ratio expressed as a percentage of the total import EUR 2010) (CSB, 2012). At the same time the authors want to draw attention to the fact that for importers who are non-EU Member States, the actual volumes of imports may be higher. On product entry into an EU Member State (import), it can later be put to use in any other EU Member State. In this case the state of origin of the product will not appear anywhere as the exporter.

To assess the impact of globalization on conformity assessment systems, within the framework of research, the authors looked at it in detail from various aspects of the elements of conformity assessment system. It was concluded that after Latvia's accession to the EU, the following changes were made in the national conformity assessment system: revised tasks for national accreditation, standardization and metrology institutions, specified requirements for conformity assessment bodies, changes in membership of national institutions in international organizations, active involvement in adaptation of international and regional standards, informing EU institutions on standardization processes.

For example, examination of adaptation of international and regional standards in the status of national standards (see Figure 3) reveals that major work on this matter was performed before Latvia's accession to the EU. After accession, the number of adapted standards fluctuates from 1500 to 1700 standards per year. Most of them are standards of international standardization organizations.

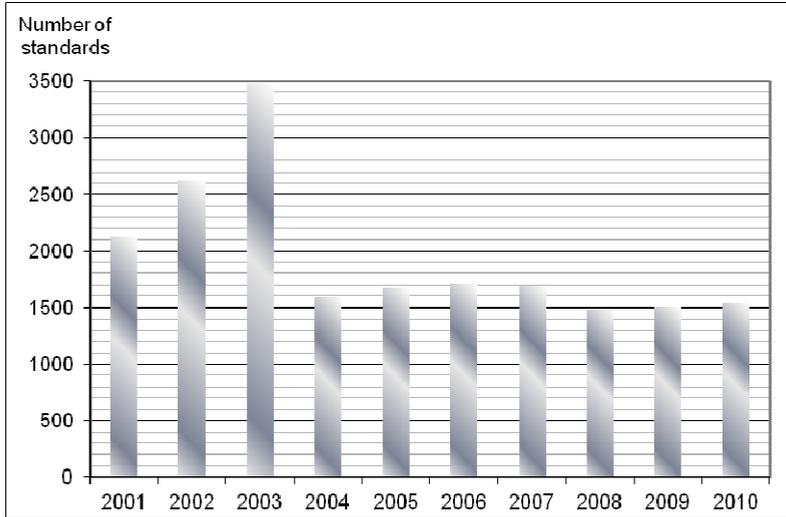


Fig. 3. The number of standards adopted in the status of Latvian national standards

For example, in order to integrate in the international market in the mid-1990s in Latvia conformity assessment system was established and the national accreditation body began its work. When evaluating the accreditation of conformity assessment bodies (see Figure 4), it can be concluded that during the period since 2001, a steady increase in the number of institutions is observed. Relatively slightly more intensive desire of institutions to get accredited was observed in 2002, due to changes in the requirements for the verification of competence of the conformity assessment bodies, i.e. changes made by the Cabinet of Ministers of the Republic of Latvia on authorization for compulsory accreditation of institutions in specific areas.

The national metrology system was established at the end of the 1990s. The credibility of the metrology system and the level of the measurement standards used are prerequisites for ensuring the uniformity of measurements at the national level and traceability of standards to international standards. Between 1998 and 2006, in Latvia, 19 national measurement unit standards for reproduction of various physical quantities were maintained, which indicates a certain degree of stability. Thus, it can be assumed that the initially established system was in accordance with international requirements and no significant changes had to be made when Latvia joined the EU. The changes made had to do with the competence of conformity assessment bodies and the certification process, as well as possible types of conformity assessment procedures.

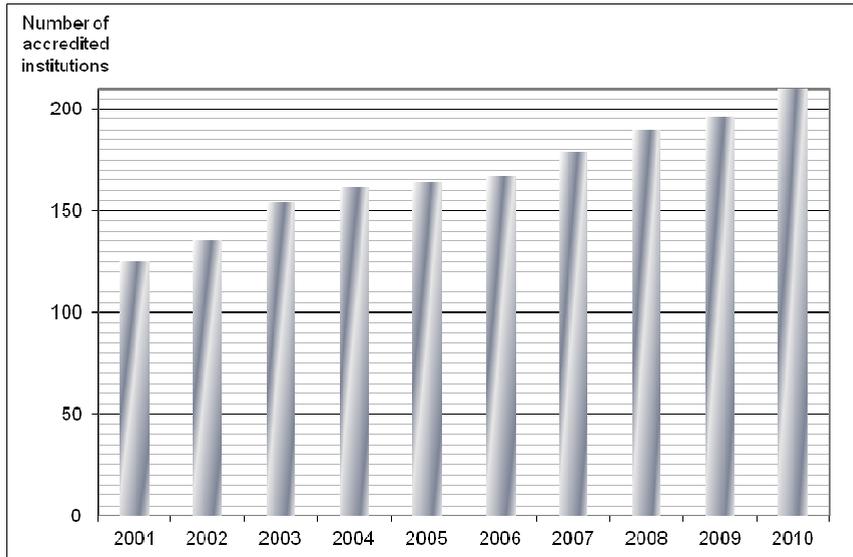


Fig. 4. *The number of accredited conformity assessment bodies in Latvia*

From the above described data analysis, the authors conclude that globalization has a direct impact on conformity assessment. For conformity assessment system to be internationally recognized, before signing international agreements or accession to a union of states, it is essential to put the particular state's conformity assessment system in line with international regulatory requirements.

The authors of the research conclude that Latvia has made efforts in harmonizing conformity assessment system in line with international requirements for accession to the EU. This made it possible for Latvia to enter the EU single market, including participation in free movement of goods. And the authors point to the importance of uniform application of standards, accreditation of conformity assessment bodies and ensuring measurement traceability within the single market, thus facilitating imports and exports. After joining the EU, regular work is done on maintenance of conformity assessment system and development of common international regulations.

7. Conclusions

Globalization includes not only homogeneity and localization of products but also ensures possibility of offering products to new markets. It provides growth opportunities and fosters competition. The extent of globalization is also increasing with technological advancement and the willingness of businesses to expand their operations. To succeed, entrepreneurs should take into regard the fact that regional characteristics are beginning to slowly disappear and the world's global market is converted into one common market. Manufacturing of new products should take into account the widest

possible international regulatory requirements, as that would later make it possible to sell products to a wider range of customers.

In line with the economic globalization and removal of technical barriers to trade, the role of standards and conformity assessment has become very crucial. It is now one of the prerequisites for foreign trade. To successfully organize international trade, first it is necessary to organize and unify the requirements for products and processes as well as to ensure that conformity assessment systems and the issued certificates of conformity will be mutually recognized. When joining the global market, an important prerequisite is timely adjustment of the conformity assessment system and its elements in accordance with international standards during the pre-accession period, as can be observed in the example with Latvia. Proof of interconnection between the global international market and conformity assessment system is the rapid growth in exports and imports after joining the EU.

One of the prerequisites for successful entrepreneurship in the global market is the ability to recognize the significance of conformity assessment elements and being able to use the opportunities provided. For example, engaging in development of standards for products is one example of how entrepreneurs can enter the global market and at the same time expand their knowledge and protect their interests as far as possible.

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TECHNINIS DERINIMAS IR ATITIKTIES ĮVERTINIMAS PASAULINĖJE RINKOJE

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Santrauka. Globalizacijos poveikis visame pasaulyje juntamas vis labiau. Pasaulis tampa vienodesnis, kadangi įvairūs produktai gali būti siūdomi plačiam klientų ratui. Prekybinis bendradarbiavimas skatina ekonominę plėtrą. Todėl siekiama šalims ir visų šalių sudarytoms sąjungoms užtikrinti vienodas prekybos sąlygas. Viena esminių sąlygų laisvam prekių judėjimui tarp šalių ir jų sąjungų yra techninių reikalavimų prekėms suderinimas. ES nustatė reikalavimus prekėms, siekiant užkirsti kelią pavojams, kuriuos jos gali sukelti žmonių sveikatai, gyvybei ar aplinkai. Taigi, atitikties įvertinimo svarba didėja kartu su didėjančiomis prekybos apimtėmis tarp šalių. Europos Sąjungoje techninio derinimo procesai ir produkto atitikties įvertinimas yra glaudžiai susiję. Atitikties įvertinimo veiklos grindžiamos trimis elementais: akreditacija,

standartizacija ir metrologija. Ši sritis karakterizuojama užtikrinta produkto sauga: produkto atitiktis tam tikriems reikalavimams yra patvirtinama sertifikatu. Didėjant prekybos apimtims tarp šalių, taip pat auga atitikties įvertinimo svarba. Atitikties įvertinimas yra prekių importo į tam tikrą šalį sąlyga; jis užtikrina, kad produktai atitinka tame regione nustatytus reikalavimus. Tuo pat metu ji yra „nematoma“, kadangi plačioji visuomenė ir dauguma įmonių – nepaisant to, kad jos tiesiogiai įtraukiamos į atitikties įvertinimą – neturi išsamaus vaizdo apie šios srities principus, sąlygas ir sudėtinius elementus.

Šio darbo tikslas yra įvertinti produktų reikalavimų techninį derinimą, atitikties įvertinimo sistemą, paanalizuoti jos raidą bei kaitą iki Latvijos įsitraukimo į bendrąją ES rinką. Kaip tyrimo rezultatą autoriai pateikia išvadą, kad atitikties įvertinimo sistema, kurią sudaro keletas elementų: akreditacija, standartizacija, metrologija, yra sėkmingos integracijos į pasaulinę rinką sąlyga. Teorinių studijų pagrindu autoriai pateikia išvadą, kad tema yra reikšminga, kadangi ji atspindi santykį tarp atitikties įvertinimo sistemos, jos elementų ir ekonominės plėtros.

Pagrindiniai mokslinio tyrimo būdai yra metodų, taikomų komunalinių paslaugų sektoriuje, analizė ir palyginimas. Tyrimo sritis – produkto atitikties įvertinimas.

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