

THE DEVELOPMENT OF NANOTECHNOLOGIES  
AND ADVANCED MATERIALS INDUSTRY IN  
SCIENCE AND ENTREPRENEURSHIP: LEGAL INDICATORS.  
A CASE STUDY OF LATVIA (PART FOUR)S. Geipele<sup>1</sup>, E. Pudzis<sup>1</sup>, J. Uzulens<sup>1</sup>, I. Geipele<sup>1</sup>, N. Zeltins<sup>2</sup><sup>1</sup>Institute of Civil Engineering and Real Estate Economics,  
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The present scientific paper is the fourth part and continuation of the in-depth scientific study of the developed system of engineering economic indicators, where the authors obtain results from the scientific research presented in a series of works on the development of the nanotechnologies and advanced materials industry in science and entrepreneurship in Latvia. Part Four determines the essential legal indicators of the development of nano-field at the macro, micro, and meso development levels of the economic environment in Latvia. The paper provides the interaction of new identified indicators of nano-field in terms of further scientific and practical activities. Latvia is analysed in comparison with other countries in the world.

**Keywords:** *advanced materials, development of science, economic environment level, engineering economic indicator system, legal indicators, nanotechnologies*

## 1. INTRODUCTION

What does one need to find a job or to start a business, especially if that job or business is in the private sector? Many things are needed, but well-functioning markets – that are properly regulated so that distortions are minimised – are crucial. Governments play a pivotal role in establishing these well-functioning markets through regulation. A properly functioning tax system is also a key. Where the burden of tax administration is heavy – making it difficult to comply with tax obligations – firms will have an incentive to avoid paying all taxes due or may opt for informality, thereby eroding the tax base [1]. Leveraging the opportunities of the Fourth Industrial

Revolution will require not only businesses willing and able to innovate, but also sound institutions, both public and private; basic infrastructure, health, and education; macroeconomic stability; and well-functioning labour, financial, and human capital markets. Governments in emerging countries are facing tighter constraints as a result of lower revenues from commodity sectors, and still struggle with the burden of corruption and unfinished work on basic fundamentals of competitiveness such as pro-growth institutions and infrastructure [2].

Switzerland possesses one of the world's most fertile innovation ecosystems, combining a very conducive policy environment and infrastructure, academic excellence, an unmatched capacity to attract the best talent, and large multinationals that are often leaders in their sector. Singapore's public institutions (2nd behind Finland) are transparent and highly efficient (1st on public-sector performance). Finland can count on its first-class, efficient, and transparent institutions and its high-quality education system. Finland is also well positioned in terms of innovation, with its capacity to innovate supported by the excellent availability of scientists and engineers and a high degree of collaboration between universities and industry. Competitiveness of the UK economy has, up to now, rested on highly efficient goods and labour markets; business processes are highly sophisticated and supported by a high level of digital readiness by both businesses and consumers [2].

Businesses are organisations established by law that perform their activity in accordance with a large number of laws operating at the national and international level. The legal framework heavily impacts business activities and performance. The legal environment is closely connected even with the court activity [3]. Professor D. Acemoglu and Professor J. Robinson [4] conclusively show that it is man-made political and economic institutions that underlie economic success (or lack of it). Professors also point out that in successful economies the economic growth is beneficial to wider layers of society rather than just relatively small elite groups of influential people. The authors have identified "the successfully developed nations" in which political and economic institutions are "inclusive" and "the failed ones" in which they are "extractive".

Thus, it can be concluded that stable national economy, favourable political environment, competitive business, intensive cooperation between the academy and business, secure social environment and other factors are governed by the regulatory environment implemented by the state – the rule of law, which enables the government to promote, restrict and hinder the development of the national economy. The era of new technologies and digital revolution requires an appropriate, predictable, stable and well-regulated regulatory environment. Thus, the topicality of the theme is related to the identification, evaluation and comparison of legal indicators at macro, micro, and meso development levels in Latvia and other countries in order to reveal problems and find solutions to further development of the nano-field in Latvia from the perspective of the regulatory environment.

To evaluate the impact of legal indicators on the development of nanotechnologies and advanced materials industry in science and entrepreneurship and the efficiency of the regulatory environment in Latvia, the authors have identified and analysed the following indicators in Latvia and, for comparison purposes, in other countries, where data are available: Starting a Business: procedures, time, cost, paid

– in minimum capital; Legal Certainty Index; Index of Regulatory Quality; Duration of Patent Laundering; Administrative Burden in the Field of Patents; Intensity of Standard Implementation; Tax Rates; Length of the Proceedings and the Degree of Protection of Intellectual Property.

The **aim** of the research is to identify the legal indicators at the macro, micro, and meso development levels, evaluate them at the level of Latvia and compare them with the indicators of other countries if applicable to the nano-field in science and entrepreneurship.

To reach the aim of the research – to analyse the legal indicators characterising the level of development of the nano-field in quantitative terms in Latvia, the following research **methods** have been used: statistical, logical, data processing and comparative analysis, the study of the primary and secondary sources of the scientific literature, induction and deduction, scientific overview of theoretical aspects of the issue under consideration, as well as the study of a set of indicators.

The **results** of the research can be used to improve the efficiency of the regulatory environment and promote better regulation of practice development in Latvia, which directly affects the development of local business as well as the development of science in the nano-field.

## 2. RESULTS AND DISCUSSION

### *Assessment of the Legal Indicators*

Continuing the study on the legal indicators included in the system of engineering economic indicators for the assessment of the development of nanotechnologies and advanced materials industries, the authors do not group legal indicators separately by macro, micro and meso development levels of the economic environment. Thus, the authors identify the most important legal indicators for the development and use of the nano-field, evaluate them at the Latvian level and compare them with the indicators of other countries, where possible, and assume that the proposed legal indicators, their scope and influence are applicable to all three levels: macro, micro and meso, substantiating these proposals in the subsequent sections of the paper.

In the group of legal indicators, the authors put forward indicators that characterise the legal environment – Starting a Business: procedures, time, cost, paid – in minimum capital; Legal Certainty Index and Index of Regulatory Quality, which characterise the effectiveness of the regulatory environment and their effects are implemented both globally and in the specific national economy – at the national level, and directly affect the business environment – micro level. These indicators are closely related to the political indicators – Sustainable Governance Indicators and the Level of Government Bureaucracy, which will be examined in the subsequent section of the present paper.

The World Bank's Doing Business survey (Regions: Europe & Central Asia, Middle East & North Africa, Latin America & Caribbean, OECD high income, South Asia, Sub-Saharan Africa, East Asia & Pacific) ranked Latvia 21st among 190 coun-

tries in the category of Starting a Business by June 2017, while the neighbouring Estonia showed a much better performance (12th place) in this discipline. At the European level, Georgia (4th place), Ireland (8th place), Kosovo (10th place), Sweden (13th place), the UK (14th place), Belgium (16th place), Norway (19th place) and the Netherlands (20th place) showed better performance than Latvia. It is interesting to note that for starting a business, New Zealand has the smallest number of procedures required (1) and the shortest time to fulfil them (0.5 days). Slovenia has the lowest cost (0.0) and Australia, Colombia and 112 other economies have no paid-in minimum capital requirement. In turn, in the category of Ease of Doing Business, Latvia ranked 19th, indicating the ease of doing business, and over time the regulatory environment for local businesses had changed in the national economy. According to the Ease of Doing Business Rank, neighbouring Lithuania ranked 16th, while Estonia – 12th [5]. The results of this indicator in Latvia are closely related to the Tax Rate indicator, which perfectly reflects Latvia's performance in this discipline and the degree of rating in the subsequent sections of the present study. Despite the moderate performance of this rating, Latvia has the potential to create an attractive business environment, as in recent years, business regulatory reforms have been implemented in Latvia, provided that business regulatory framework will be easy-to-use, effective and more accessible. Government support and business-enhancing legal framework are important prerequisites for both the overall economic growth and the development of the nano-field in Latvia.

Legal certainty represents the qualitative value of a legal system resulting from demands “in terms of the quality of standards and the quality of the interpretation judges give them” [6]. Nowadays nobody would deny that legal certainty is a *sine qua non* condition for a democratic society or a state governed by the rule of law [7]. Legal certainty assumes the accessibility of the applicable law, its predictability due to the hierarchy of norms and predefined competencies of lawmakers and judges and reasonable stability over time and, lastly, a certain balance between economic interests and the parties concerned [8].

It is interesting to note that Estonia occupied 14th place among 113 countries in the World Justice Project Rule of Law Index last year. The index ranks countries based on a general score ranging from zero to one. Denmark scored the highest marks at 0.89 points. Estonia's score was 0.79, both Finland and Sweden scored 0.87, while Russia's score was 0.45. The index does not rank Latvia and Lithuania [9]. Taking into account the findings, the authors suggest that Latvia should also assess Legal Certainty and thus participate in the Rule of Law Index in the world ranking of countries, since it is based on the following important factors: Constraints of government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil and criminal justice [10]. The Legal Certainty Index, therefore, points to the quality, certainty and security of the national legal environment, as well as the security of the investment environment. Its significance in the given study is also related to the economic function of the legal regulation – the fulfilment of economic activity, its performance and promotion.

As far as the Index of Regulatory Quality is concerned, in 2016, Latvia ranked 31st (1.08 points) among 193 countries, while neighbouring Estonia ranked 15th (1.70 points) and Lithuania – 29th (1.14 points). According to the methodology of

this index, -2.5 corresponds to weak and 2.5 corresponds to strong [11]. The given indicator demonstrates the promotion and support of the development of the business sector, based on the government's ability to develop and implement a strong policy and a clear and understandable regulatory framework. Thus, this indicator is closely related to the previous indicators – Starting a Business and Legal Certainty, and all three indicators are attributable to macro, micro and meso development levels of the economic environment. If the state administration provides a legally stable, regulated and socially responsible environment to local and foreign businessmen as well as the society as a whole, Latvia's economic growth will be reflected in the economic indicators and the overall improvement of the welfare level of the society. In the situation in Latvia, the following weaknesses are observed: a variable fiscal policy, incomplete division of responsibilities in certain sectors (e.g., industry, construction and services) and incomplete legal system, in which there is a long legal process that is analysed in the subsequent sections of the paper, including in Latvia; shortcomings in the social legal field are also identified – there is a high level of shadow economy in several sectors, and the social responsibility of entrepreneurs has not reached a sufficient level of development yet.

For the assessment of the development of nanotechnologies and advanced materials industry, the authors have included the Duration of Patent Laundering as an indicator characterising the legal environment in the nano-field, which is an important indicator of any developed economy, as using directly patent shares, PCT patent applications and license and patent revenues from abroad it is possible to identify performance of a particular country in the advanced technology fields and the economic innovative output. Publication of an application for a patent after 18 months from the date of application is a globally recognised practice, which means that such a deadline has been established not only in Latvia but also in the European Patent Organisation (EPO) for European patent applications and Patent Cooperation Treaty (PCT) for international patent applications [12]–[14]. The same applies to the Lithuanian and Estonian patent systems [15], [16] as well as the Eurasian Patent Application [17]. Consequently, the disclosure of a patent application is a very important step in the procedure – the invention becomes known to the public. It should be noted that there is also the accelerated publication of a patent application – less than 18 months in accordance with the rules of the law; however, this practice is used in rare cases where, for example, an entrepreneur is willing to launch an invention product as soon as possible, to sell a patent or to sell a license, and all activities take place with the authorisation of professional patent offices to prevent unexpected losses. The time of the legalisation of a patent can be used for corrections and editing after a formal examination (for polishing the text), for the search of financing sources or a partner for international patenting or for launching the invention (the Latvian patent as any other patent has territorial protection, i.e., it operates only in the territory of Latvia), for decision-making whether to continue the patenting procedure, for example, after the additional ordered search results of patents. Figure 1 demonstrates the proportion of patents, designs, registration certificates and trademark registration certificates issued by the Patent Office of the Republic of Latvia in 1936 and 2016.

According to the information shown in Fig. 1, the proportion of patents (inventions) and certificates issued to industrial designs in 1936 is much higher than in

2016, which is related to the rapid development of the industry at that time, while the proportion of certificates issued today on trademarks compared to 1936 is greater [18].

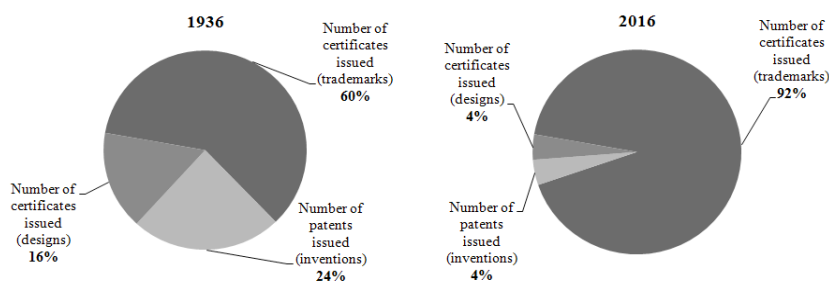


Fig. 1. Proportion of patents, design registration certificates and trademark registration certificates issued by the Patent Office of the Republic of Latvia in 1936 and 2016 [18].

The role of the patent system in business as well as in science means technological innovation, competition and investment, as well as dissemination of information, promotion of commercialisation and technology transfer. A factor to be improved in the future is better cooperation among patent offices, higher education and science institutions, thus promoting the importance of patents in Latvia as well as establishing more productive cooperation between science institutions and the private sector in order to promote and introduce commercialisation of inventions in the national economy.

It is also important to be aware of the administrative burden in the field of patents. The Latvian patent system can be assessed as simple because it operates according to the principle of the registration system [19], and it is associated with relatively low costs [20]. Nowadays, patenting abroad or in more than one country has become a good practice since the economy has become global. The choice of the patent procedure abroad is determined by the potential market for the patented invention, the “level of readiness” of the invention and the availability of finance. When patenting abroad, it is necessary to carefully examine the laws of a particular country, choose a representative from the respective country, and take into account that the patenting procedure takes place in the national language of the respective country. The legal consequences of a particular state’s approval of a patent should also be known. The costs associated with patenting abroad and maintenance fees vary from country to country [21]. The patent procedure in Latvia takes place relatively quickly, without mandatory patent search, written opinion and patentability expertise – only formal and substantive examinations take place, which show that the administrative burden is not identified in the field of patents in Latvia.

According to the assessment of patents, both indicators identified relate to the global, national and entrepreneurial levels.

The development of the national economy in research and innovation also depends on indicators such as the intensity of standard implementation, tax rates, the length of proceedings and the degree of protection of intellectual property, the scope of which is attributed to the development of economic environment at macro, meso and micro levels. Consequently, the objective of national policy is to continuously and regularly analyse problems and obstacles in the legal environment, reduce them

and provide as quickly as possible solutions to problems that affect the development of the business environment in the context of legal aspects of the high-technology and medium-high-tech industry and the development of the field of science in general by recognising examples of international and research-based good practice.

Standards provide individuals, businesses and all kinds of organisations with a common basis for mutual understanding. They are especially useful for communication, measurement, commerce and manufacturing. Standards make trade easier by ensuring compatibility and interoperability of components, products and services. They bring benefits to businesses and consumers in terms of reducing costs, enhancing performance and improving safety [22]. According to publicly available information, 99 % of all companies in Europe are small and medium-sized enterprises [23], which shows that while many company representatives are involved in standardisation activities, this is still insufficient, since in many cases there is a lack of awareness of the impact of standards on the business and the benefits of involvement in standardisation processes at the national, European and international levels. European Standardisation Organisations such as CEN and CENELEC in cooperation with the Small Business Standards have developed an interactive e-learning tool that will help entrepreneurs, representatives of small and medium-sized enterprises and stakeholders gain a wider understanding of standards and standardisation [24], as well as the European Standardisation Strategy up to 2020 [25] has been developed. The authors note that the standard is a document that is based on a combination of scientific and production experience and the promotion of the overall public good. Thus, in order to promote the development of nanotechnologies and advanced materials industry in terms of legal indicators, standard implementation means international experience, involvement of all multi-actors, focus on innovation and interdisciplinarity, such as, for example, the simplification and standardisation of contracts in the industrial, construction and service sectors as much as possible – standard contracts with a narrow interpretation, which would improve the indicator of the length of proceedings.

According to the Global Competitiveness Report 2014–2015, bureaucracy, tax regulations and limited access to finance impede Latvian businesses [26]; these findings were revealed using a survey, in which, from a list of 16 factors, Latvian business leaders selected the three most problematic ones for doing business. In turn, in the Global Competitiveness Report 2016–2017, respondents indicated the three most problematic factors for doing business: tax rates, inefficient government bureaucracy and tax regulations. According to the report, Latvia ranked 64th in the pillar “Institutions” among 138 countries in the world, where the lowest indicator in this pillar was achieved in the effectiveness of the legal framework (116th place), favouritism in decisions of government officials – the 99th place, public trust in politicians – the 95th place. For comparison purposes, neighbouring Lithuania in the pillar “Institutions” ranked 51st and Estonia – 23rd [2]. Consequently, it can be concluded that Latvia’s performance, in the pillar of this report and its sub-indicators, is low and this is still a major issue that negatively affects competitiveness and overall economic growth.

According to the European Commission Staff Working Document “Country Report Latvia 2017” [27] on fiscal policy and taxation, investment is affected by

uncertainty and the temporary trough in EU funding. The investment environment is weakened by uncertainty stemming from both the external situation and domestic economic policies. Inequality remains high and affects the labour market. The tax-benefit system in Latvia is less effective at reducing inequality than in other EU countries. The high tax wedge on low wages discourages formal employment. Weaknesses in providing public services affect the quality of the workforce in terms of education, skills and health. The tax and benefit system remains less effective in reducing income inequalities than the EU average. Taxes and benefits bring income inequalities down by 14 points of the Gini coefficient in Latvia against 21 points in the EU average. This situation is due to both the very limited progressivity of the tax system and the limited social protection system. The shadow economy is a structural constraint on the development of the Latvian economy. It is estimated to be as high as 21 % of GDP [28]. Underreported business income, unregistered companies and envelope wages are widespread practices. They directly affect the development potential and borrowing capacity of such companies and households. Since tax rates are an important indicator for both the private and public person in order to achieve sustainable development of entrepreneurship, research and the economy as a whole, as well as for any member of society, the authors conclude that, in light of the issue identified, the Latvian government should set a tax regulating – stimulating function (positive impact of economic processes, activities, demand and supply, price formation, setting differentiated tax rates and incentives, as well as reviewing tax collection and distribution processes), rather than the fiscal function of the tax, a charging function, as it is known by the theory of economics and management science.

As far as the indicator of length of proceedings is concerned, it should be noted that, according to the European Commission, among the countries of the European Union Latvia ranks 11th to 13th, thus taking a place in the middle of the ranking. The shortest duration of proceedings is demonstrated in Denmark – one case takes an average of 15 days. In Latvia, this indicator is 180 days, while in Portugal – 810 days [29]. In its turn, the Global Competitiveness Report 2016–2017 puts Latvia's efficiency of legal framework in settling disputes at 116th out of 138 countries [2]. The authors note that the length of proceedings in Latvia is one of the negative factors in business, the reason for which is due to the fact that legal disputes are unreasonable – one of the parties to the dispute retains control over the resources which, by their nature, should be passed on to the other party for the services or work fulfilled. Another problem is a lack of specialists in the courts who understand the specifics of different sectors, which means that often disputes are not resolved by nature, but only by reference to existing legislation. Consequently, experts are invited to the courts for specific dispute issues. Unfortunately, the authors do not have access to public information on statistics on the proportion of expertise in courts. Expertise is known to be a means of proof, but often it merely confirms the arguments of one party, which is considered to be evidence, and in this way, the role of expertise is in fact unnecessary and superfluous, which greatly prolongs the process of proceedings, makes it more expensive and does not produce any new effects in the proceedings.

In the decision-making process on potential investments, investors and entrepreneurs need to be aware of the potential risks of litigation, such as commercial disputes, labour disputes, tax disputes, insolvency disputes, disputes relating to

government procurement and patent infringement etc. Consequently, the efficiency of the legal system in relation to litigation is very important, since, if the length of proceedings exceeds the originally planned time-line, it may cause damage to business. In Latvia, the legal system could be improved not only by the above-mentioned improvements in professionalism, but also by promoting a procedure such as mediation implementation in the system.

As a result, it should be concluded that the future challenges in Latvia are related to the improvement of tax collection and management process, implementation of standardised and standard contracts in various sectors of the economy (industry, construction and services), as well as the establishment of sectoral courts with appropriate experts.

As the last indicator of the identified indicator group, the authors have included the Degree of Protection of Intellectual Property, which is identifiable by the Global Competitiveness Report 2016–2017, according to the pillar “Institutions” within the sub-indicator of Intellectual Property Protection Latvia ranked 63th among 138 countries. The indicator shows to what extent the intellectual property is protected in a particular country. For comparison purposes, in the sub-indicator of Intellectual Property Protection, neighbouring Lithuania ranked 51st and Estonia – 26th [2]. The above-mentioned position of Latvia in the international rating is confirmed by the identified key issues of protection of intellectual property in line with the Guidelines for the Protection and Enforcement of Intellectual Property Rights 2015–2020 [30] in the following areas:

- a. Improvement of the national regulatory framework for the protection and management of intellectual property rights;
- b. Shortcomings in the sphere of education and information of society and entrepreneurs;
- c. Deficiencies in the field of invention promotion;
- d. Lack of research on intellectual property rights;
- e. Deficiencies in the fight against piracy on the Internet.

In conclusion, the authors have summarised the essential legal indicators of the development of the nano-field. Figure 2 shows the link among legal indicators, their scope and economic environment development levels.

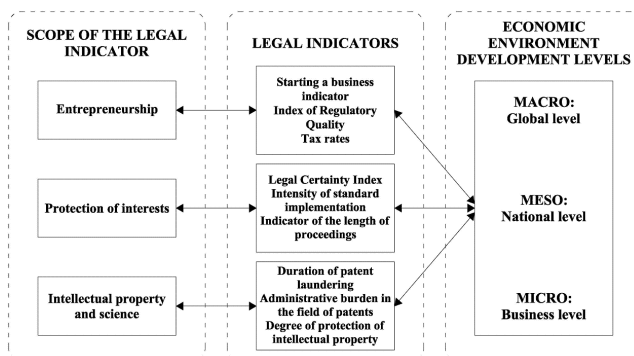


Fig. 2. Link among legal indicators, their scope and economic environment development levels [made by the authors].

The legal and administrative system, which simultaneously involves businesses, governments and other stakeholders, determines the efficiency of national public authorities, affecting both competitiveness and overall economic growth. Thus, a structured dialogue between the public and private sectors, especially for Latvia, which does not depend on political cycles and short-term interests of individual parties, is particularly important in order to identify developed countries' experience and promote real growth programmes.

### 3. CONCLUSION

1. In the framework of the development of the engineering economic indicator system, the legal indicators have been identified and evaluated at the macro, micro, and meso development levels of economic environment; they have been compared at the national and international levels if applicable in the nano-field in science and entrepreneurship.
2. The efficiency of the regulatory environment in the field of nanotechnologies and nanoscience can be assessed using the following indicators: Starting a Business Indicator; Legal Certainty Index; Index of Regulatory Quality; Duration of Patent Laundering; Administrative Burden in the Field of Patents; Intensity of Standard Implementation; Tax Rates; Length of the Proceedings and the Degree of Protection of Intellectual Property, the scope, impact and effects of which are simultaneously fulfilled at the macro, micro, and meso development levels of the economic environment in a particular economy. When assessing these indicators and comparing them with the indicators of other countries, it can be concluded that in the regulatory environment of Latvia there are many problems, which as a consequence manifest themselves in the factors hindering development of entrepreneurship, efficiency of public institutions, failure to formulate a dialogue between the public and private sectors, as well as economic growth in general.
3. The importance and efficiency of standards in Latvia are not entirely clear, but their development and implementation in accordance with a particular business sector would solve many issues of the legal environment analysed in the present study.
4. It is essential to stabilise the tax system in Latvia and be able to determine its changes for a period of at least five years in order to promote investment protection and safety of investment attraction, increase competitiveness and productivity, promote innovation development, support commercialisation and technology transfer.
5. The length of proceedings in Latvia is one of the negative factors in business, the reason for which is due to the fact that legal disputes are unreasonable – one of the parties to the dispute retains control over the resources which, by their nature, should be passed on to the other party for the services or work fulfilled. Another problem is a lack of specialists in the courts who understand the specifics of different sectors, which means

that often disputes are not resolved by nature, but only by reference to existing legislation.

6. An important factor in the future development of the state administration system is the long-term thinking and decision-making that will have a positive impact on the development of various sectors and a legally responsible and stable regulatory environment.

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NANOTEHNOLOĢIJU UN VIEDO MATERIĀLU INDUSTRIJAS ATTĪSTĪBA  
ZINĀTNES UN UZŅĒMĒJDARBĪBAS JOMĀS: TIESISKIE RĀDĪTĀJI.  
LATVIJAS PIEREDZE (CETURTĀ DAĻA)

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K o p s a v i l k u m s

Dotais zinātniskais pētījums ir turpinājums jau trijiem npublicētajiem pētījumiem par inženierekonomisko rādītāju sistēmas grupu izpēti, šajā daļā veltot uzmanību tiesisko rādītāju izpētei nanotehnoloģiju un viedo materiālu industrijas attīstības līmeņa noteikšanai un paaugstināšanai zinātnē un uzņēmējdarbības jomā Latvijā.

Stabilas valsts tautsaimniecības, labvēlīgas politiskās vides, konkurētspējīgas uzņēmējdarbības, intensīvas sadarbības starp akadēmiskās un biznesa vides, drošas sociālās vides u.c. faktoru pamatā būtiska ir valsts realizētā normatīvā vide – tiesiskums, ar kuras instrumentiem valdība var veicināt, ierobežot un kavēt valsts tautsaimniecības attīstību. Jauno tehnoloģiju un digitalizācijas revolūcijas laikmetā ir nepieciešama atbilstoša, prognozējama, stabila un sakārtota normatīvā vide.

Dotajā pētījumā tiesiskie rādītāji novērtēti gan Latvijas līmenī, gan salīdzināti ar citu valstu rādītājiem, kur tas iespējams, un attiecināti uz makro, mezo un mikro ekonomiskās vides attīstības līmeņiem vienlaicīgi, atšķirībā no iepriekšējām pētījumu daļām, pamatojot izvirzīto tiesisko rādītāju darbības jomu un ietekmi. Pētījuma rezultāti liecina par identificēto un novērtēto tiesisko rādītāju aktualitāti un potenciālu, ja tiks rasti risinājumi izpētītajām problēmām turpmākai nano jomas attīstībai Latvijā no normatīvas vides darbības efektivitātes viedokļa.

26.04.2018.