



Šiauliai city strategy for economic development and attracting investment

Final report

For Šiauliai City Municipality Administration

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Summary

Šiauliai city strategy for economic development and attracting investment will be a part of city's strategic development plans. This strategy envisages the implementation of measures that allow timely adaptation to change in the local and international situation and ensure city's success in the competitive environment.

Strategy development process consists of 3 stages. **Target of the strategy** – to evaluate the economic status of Šiauliai city, competitiveness at the local and international level, distinguish the economic development priorities, vision, missions, development scenario of the city and prepare the plan of actions and measures of the strategy.



After evaluating current situation of Šiauliai city, it was established that conditions for business and infrastructure are evaluated the best compared to the other factors. The conditions for business development are favorable, because municipality is open to business, supports it, there is small real estate and land taxes, also in the city there are 2 established economic zones – Šiauliai Industrial Park and Free economic zone, where companies can settle on preferential terms, but the potential of Free economic zone is not exhausted, investments are not paid off, the first companies have only signed contracts and the industrial park has paid off. Šiauliai city is located on the international corridors and highways, the city is accessible by rail and has an airport.

The labor force potential rating of the city is average due to the fact that the number of labor force has decreased faster than in other analyzed cities (Panevėžys and Klaipėda), but the proportion of people of working age remains the highest. The economic potential in Šiauliai is estimated to be average, as the growth of GDP and Lithuanian exports exceeds both the Lithuanian average and Panevėžys and Klaipėda indicators, but foreign direct investment and material investments are growing slower. R&D funding, the number of R&D workers are declining, there are not enough doctoral students, companies devote not insufficient money to cooperation with the university and applied research. This limits the potential for innovation in the city.

After analyzing Šiauliai city economic specialization according to the local coefficient (LQ), the economic of Šiauliai is based on low value added sectors (logistics, textile, furniture manufacturing, rubber and plastic manufacturing, metal, paper manufacturing sectors and others). High value added sectors such as programming or vehicle manufacturing, have small market share.

The dominance of low value added production is also reflected in the structure of exports. In Europe, these branches also generate low added value and cannot guarantee high salaries. The last decade analysis of indicators has shown that added value and salaries are growing fastest in high and medium

high technologies, which include smart manufacturing and creative industries. Worldwide, companies are moving to countries where labor is cheaper. Formerly attractive to investors, China is also becoming too expensive. Entrepreneurs are looking to other continents, including Europe and America, but these continents will not be able to compete only on the lowest price criterion. However, Eastern Europe is rarely seen as a cheap labor force region, and it will be more difficult to attract investors.

An interview with Lithuanian and foreign investors in Šiauliai city revealed that the main factor limiting economic development in Šiauliai city is the lack of quality human resources and all companies face this problem. According to the investors, the educational institutions do not prepare the future employees well enough, therefore all the companies train their newcomers themselves. According to the majority of investors, the city of Šiauliai was chosen for the investment due to cheap labor, low taxes and convenient geographical location. An interview results showed that in Šiauliai there is a shortage of industrial premises. The most important thing in Šiauliai is to provide more skilled workers and residents. Investors cooperation with higher education institutions is hampered by the lack of researchers and their lack of experience in carrying out such projects. Not every foreign investor pays higher than average wage, so it is important to consider which sector of business is attracted.

For Šiauliai city we are offering 3 development alternatives:

1. continue supporting only traditional industry;
2. radically transform economy by putting all the resources into new generation business (IT, robotics, etc.) and pay money to attract professionals from all over the world;
3. combine first two scenarios and seek for gradual economic transformation by supporting traditional companies, but at the same time invest in human capital and young people to be able to transform economy in the future (although more resources should be devoted to the latter than to traditional industries).

Considering the resources of Šiauliai city and the trends of the world, the city is most favored by gradual industrial transformation (3rd scenario).

The analysis of foreign cities has shown that every city has a low added value as a problem and aims to restructure the economy. To solve this problem cities create start-up incubators, provide a wide range of free services for business, also knowledge is shared between professionals and new employees, establish creative industries and competence centers. Cities practise has shown that universities help students to commercialize the created products. It should be noted that urban development depends on central government decisions and the ability of municipal administrations to significantly change the situation is limited.

In order to implement the vision, we formulated targets, for which 4 groups will be responsible – education institutions, business support institutions, business and Šiauliai city municipality administration. In order to successfully implement the strategy, the main directions are highlighted: promotion of entrepreneurship, business innovation raising, promotion of creative society and increasing the attractiveness of the city. Goals and Objectives of Šiauliai economic development strategy:

1st goal. Strengthen and increase the potential of human resources

- 1.1. Improve the quality of education and adapt to market needs;
- 1.2. Increase the attractiveness of STEAM sciences;
- 1.3. Promote vocational guidance and qualification;
- 1.4. Attracting emigrants and new residents;

1.5. Promote the active participation of older people in the labor market.

2nd goal. Improve urban living and working environment and infrastructure

2.1. Improving communication infrastructure;

2.2. Create and update public spaces;

2.3. Improve working environment and work conditions.

3rd goal. Promote business innovation, creative industries and efficiency

3.1. Encourage cooperation between business, education and public institutions to create innovation;

3.2. Promote entrepreneurship and facilitate business

3.3. Attract investments;

3.4. Creating spaces for the development of creative industries;

3.5. Increase business efficiency.

4th goal. To strengthen the identity and positive image of Šiauliai city

4.1. To increase the inclusion of Šiauliai city society;

4.2. Strengthen city identity;

4.3. Execute an image marketing program.

5th goal. Actively participate in shaping the country's economic-regional policy

5.1. Representing Šiauliai nationwide;

5.2. Represent Šiauliai at regional level.

In order to achieve the targets and objectives, we prepared Šiauliai city economic development and attracting investment strategy action and measures plan. The plan provides for the organizational structure of strategy implementation and management, criteria for evaluation of results and monitoring of the strategy.

1st stage of the Strategy

1 Analysis of current situation and international competitiveness of Šiauliai city

1.1 Current situation analysis of Šiauliai city

1.1.1 Legal / political factors

Šiauliai City Municipality provides business support and encourages the development of small business. In Šiauliai city there is a free economic zone (FEZ) and an industrial park and they offer tax incentives (see Figure 1).

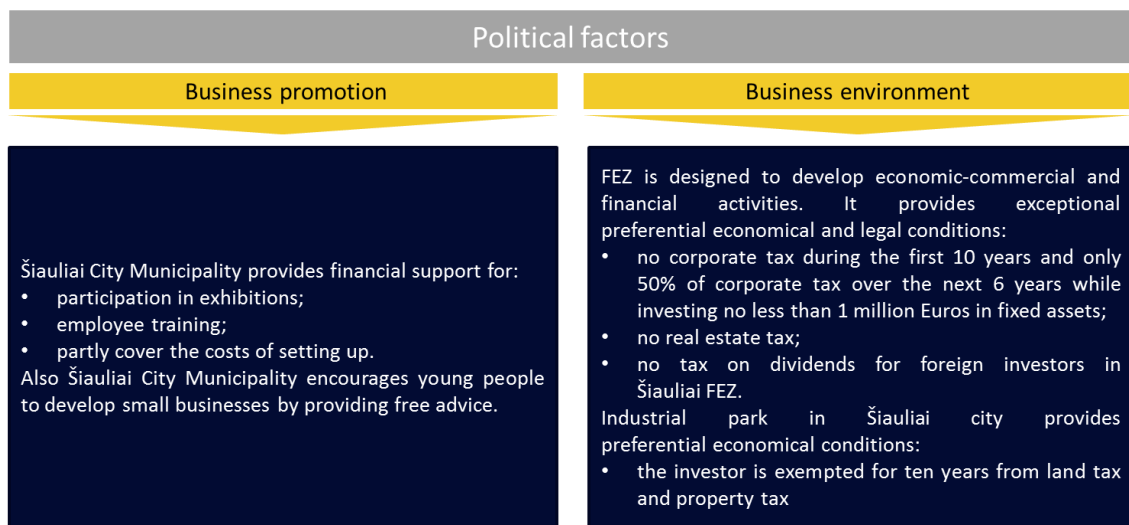


Figure 1. Political factors
Source: prepared by the Executing agency

The strategy analysis of the strategy documents includes the strategic plans of Šiauliai City Municipality, the strategies of Šiauliai university and Šiauliai State College, the regional guidelines of Lithuania 2017–2027 and air transport strategies. The documents analyzed in the strategy are presented in Figure 2.



Figure 2. Analysis of strategic documents
Source: prepared by the Executing agency

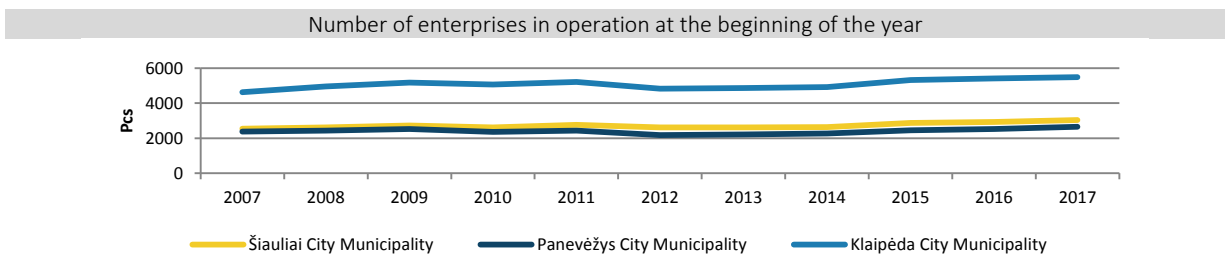
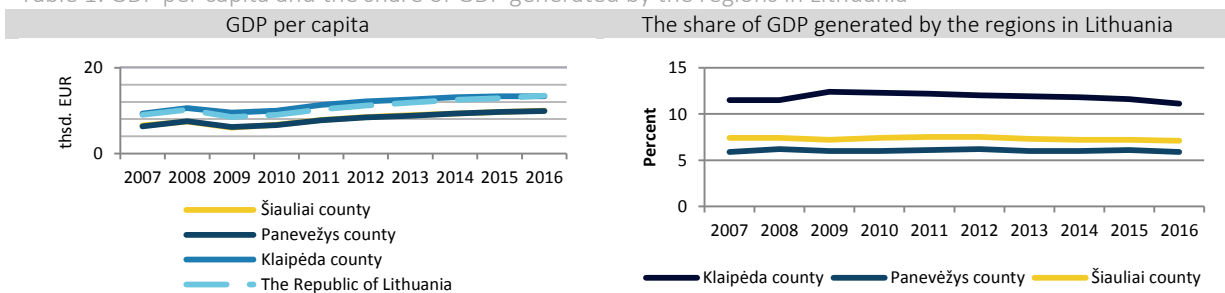
1.1.2 Economic factors

This chapter analyzes the economic indicators comparing Šiauliai city with the Panevėžys city, Klaipėda city and the average of Lithuania. If statistics are not provided at city level, we present regional data. Indicators are analyzed in the period of 2007–2017. However, due to a lack of data in a given year, this period may vary.

Gross domestic product

GDP per capita and exports in Šiauliai county are growing (21% and 46% respectively), but the share of GDP generated by Šiauliai city in Lithuania is decreasing – others regions are growing faster. The Number of enterprises in operation at the beginning of the year in the city is increasing: the level of entrepreneurship is growing and it is not different from the average of Lithuania (in the first half of 2018, there were 33.7 companies per 1000 inhabitants).

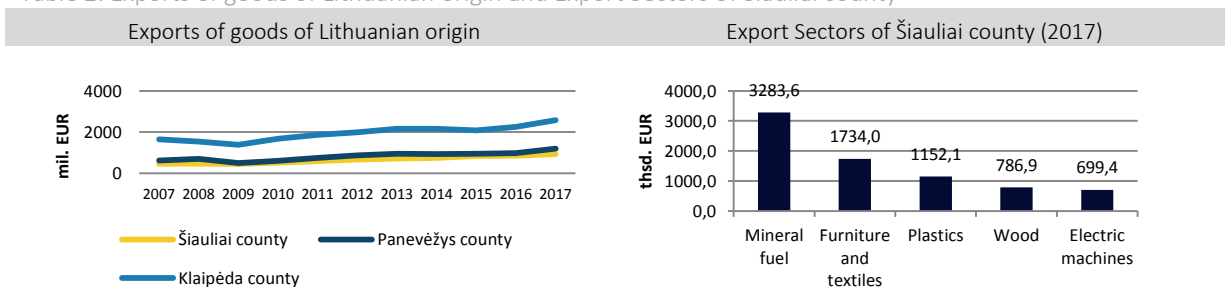
Table 1. GDP per capita and the share of GDP generated by the regions in Lithuania



Source: LSD

In the 2007–2017 period exports of goods of Lithuanian origin in Šiauliai county significantly increased to 921.7 million Eur. Although exports of goods of Lithuanian origin grew in the county in the analyzed year, it still was lower than in other analysed counties. Šiauliai county exports consist of low value added sectors where the main competitive factor in the future will be the price.

Table 2. Exports of goods of Lithuanian origin and Export Sectors of Šiauliai county

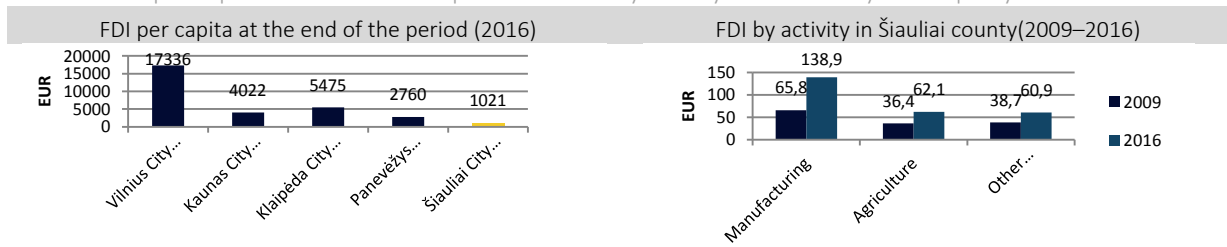


Source: LSD

In the period of 2007–2016 FDI in Šiauliai county increased by 29.6%. In terms of economic activity, manufacturing and agriculture account for the largest share of FDI in Šiauliai county. FDI in other

economic activities is extremely low. Although Šiauliai City is the fourth city in terms of population in the country, the indicators of FDI per capita are the lowest compared to other cities. This is mainly due to a lack of human resources.

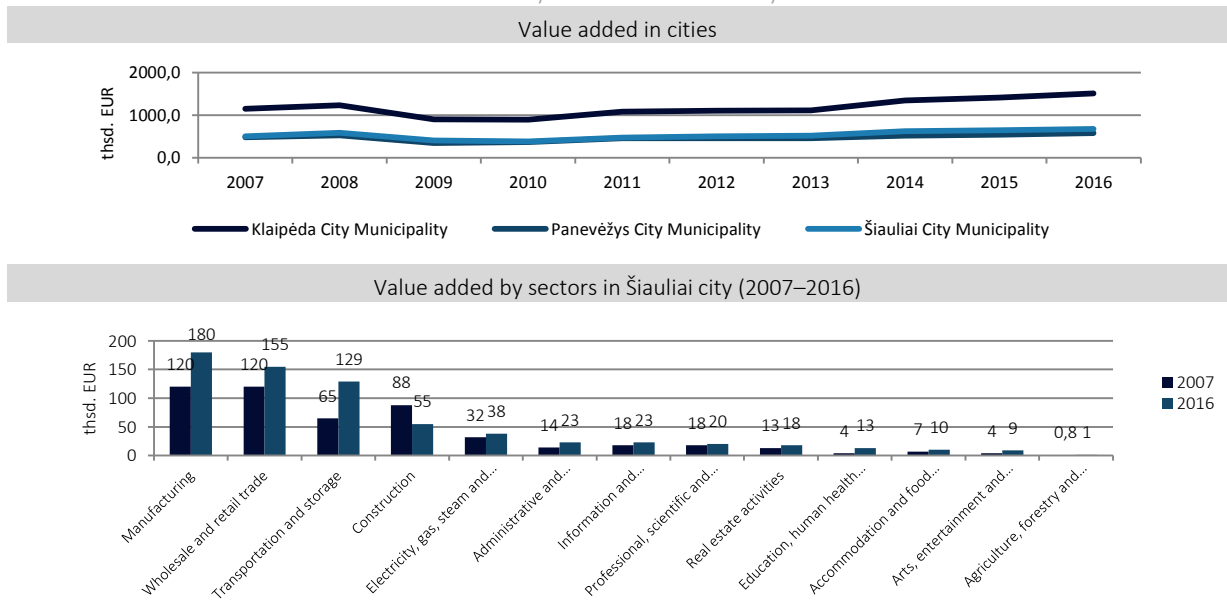
Table 3. FDI per capita at the end of the period and FDI by activity in Šiauliai City Municipality



Source: LSD

Since 2010 value added in all cities is consistently increasing. Three sectors in Šiauliai city (manufacturing, wholesale, retail trade and transport) create the highest value added. Manufacturing creates 16.9 percent more value added than trade and repair. Other activities create several times less value, so the economy of Šiauliai is based on three named sectors.

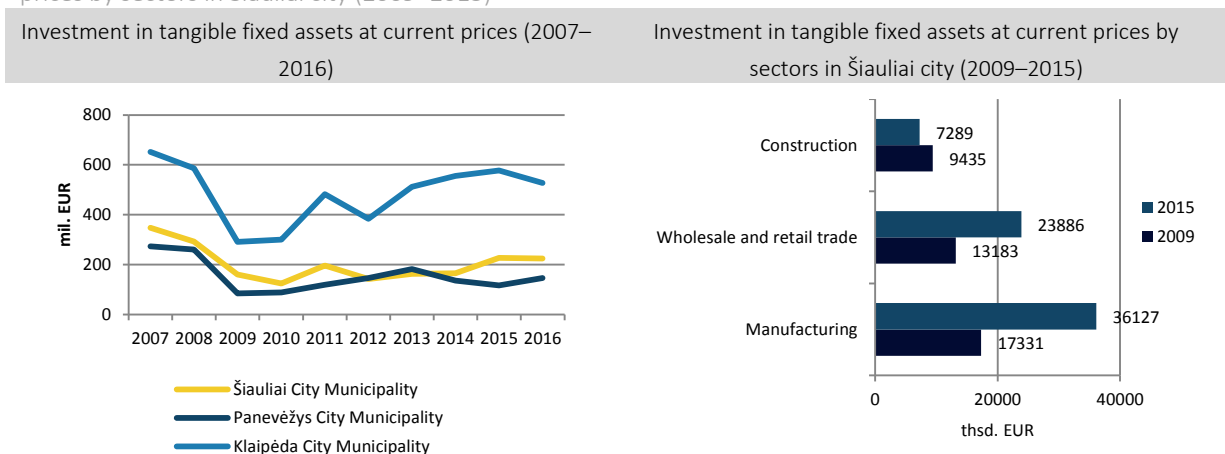
Table 4. Value added in cities and value added by sectors in Šiauliai city



Source: LSD

In all compared cities investment in tangible fixed assets did not return to pre-crisis level. In Šiauliai city investment in tangible fixed assets grew in wholesale and retail trade and manufacturing sectors (81% and 108% respectively). The construction sector did not recover after the housing bubble.

Table 5. Investment in tangible fixed assets at current prices and Investment in tangible fixed assets at current prices by sectors in Šiauliai city (2009–2015)



Source: LSD

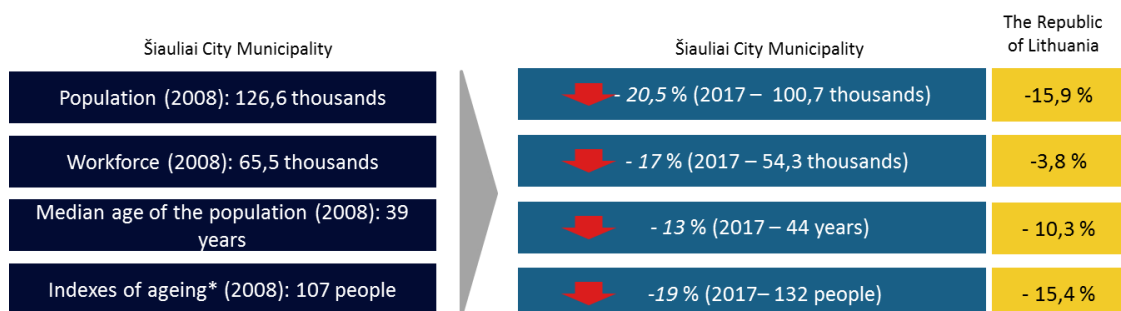
Municipal Performance Index

- According to LLRI Municipal Performance Index, Šiauliai City Municipality ranked 4 out of 6 the major municipalities (Vilnius City, Kaunas City, Klaipėda City, Šiauliai City, Panevėžys City, Alytus City).
- According to LLRI Municipal Performance Index indicators – municipal management, municipality for an investor, municipality for a resident, Šiauliai City Municipality the best rated in the group of management indicators.
- The tax environment and the efficiency of the municipal administration are sufficient, but this is not enough to attract foreign investments.

1.1.3 Social factors

Demography

The demographic indicators of Šiauliai city are deteriorating faster than the Lithuanian average. Decreasing workforce is largely driven by one of the lowest unemployment rates in Lithuania.



*Index of ageing is the population aged 65 and older per 100 children aged under 15.

Figure 3. Demographic ratios
Source: prepared by the Executing agency

In the period of 2007–2017 Šiauliai city maintained a similar or lower unemployment rate than the Lithuanian average. Since 2017 unemployment rates in Klaipėda and Šiauliai city equaled and reached 5.5%. Unemployment trends in Panevėžys city show a decline (see Figure 4).

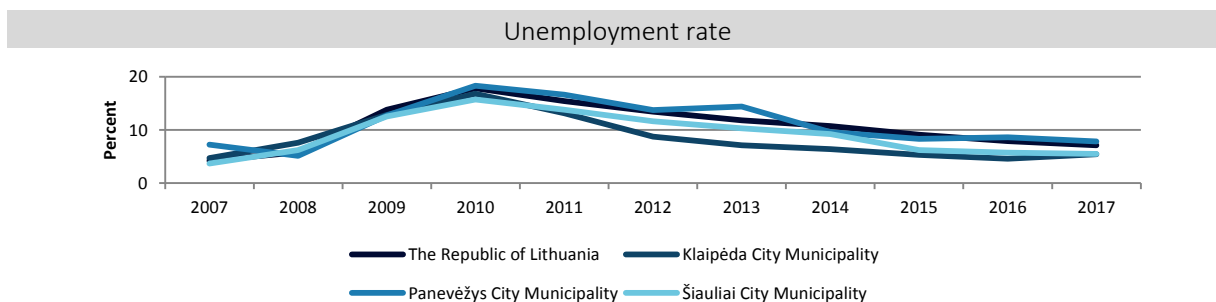
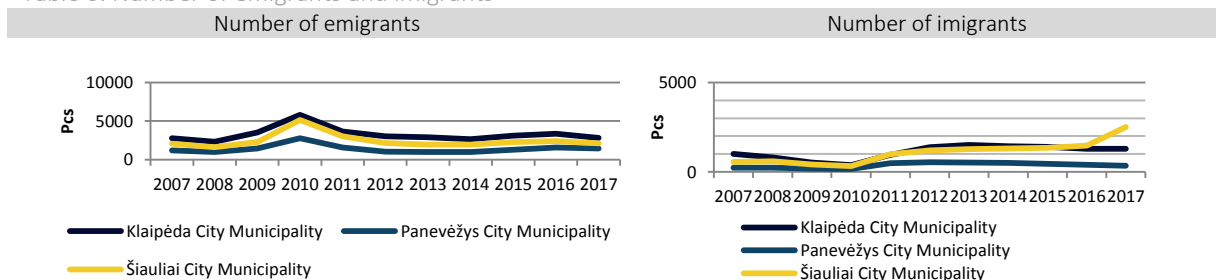


Figure 4. Unemployment rate

Source: prepared by the Executing agency based on LSD

Although emigration trends in all cities are similar, Šiauliai city stands out in the 2009–2011 period. In 2010 in Šiauliai city the scale of emigration reached a peak and came closer to Klaipėda city, although the population of Klaipėda city is half as large. After 2011 the gap returned to a pre-crisis level. In 2016 the number of emigrants increased because of the „Brexit“, which means that more emigrants declared their place of residence in the UK, so there was no real change that year. In the period 2012–2017 from Šiauliai emigrates a similar part of population each year – about 2 thousands people.

Table 6. Number of emigrants and immigrants



Source: LSD

In 2016 more immigrants came to Šiauliai city than to other cities. In 2017 the number of immigrants exceeds the number of emigrants, so when we are looking at the emigration / immigration ratio, it was the first year when the balance changed to the incoming half.

Education

In Šiauliai city Šiauliai University prepares employees for the public sector and some of the Šiauliai State College's most popular programs are unattractive to the labor market (see Figure 5).

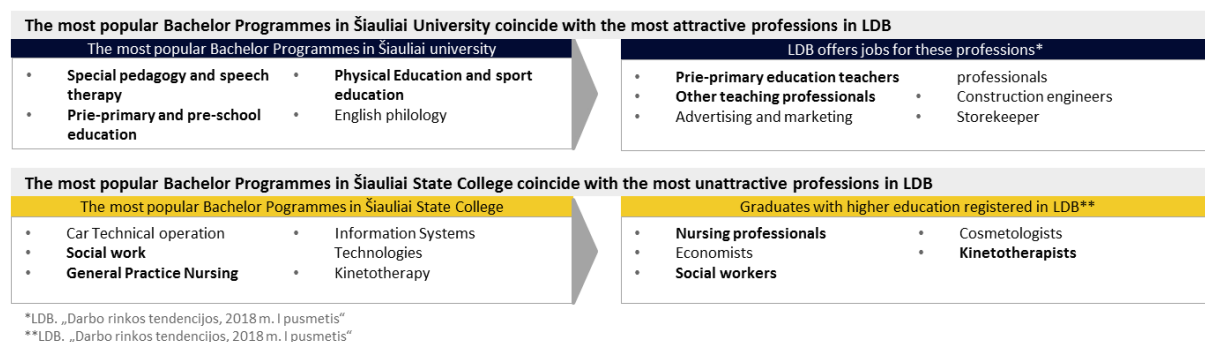


Figure 5. The most popular programmes in Šiauliai University and Šiauliai State College

Source: prepared by the Executing agency

The most needed employees in Šiauliai county are qualified and non-qualified workers, although the supply of the latter exceeds the demand (in the Labour Exchange registered 3495 vacancies for non-qualified workers and these workers are 5644).

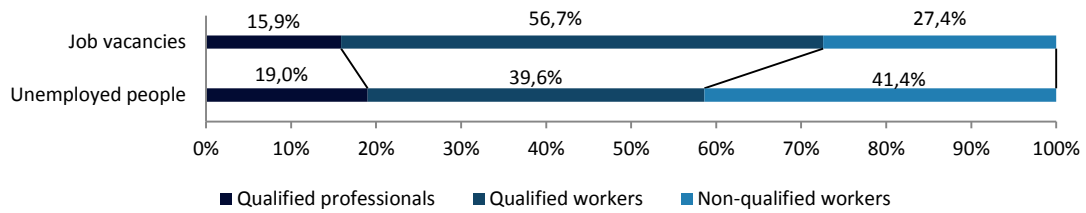


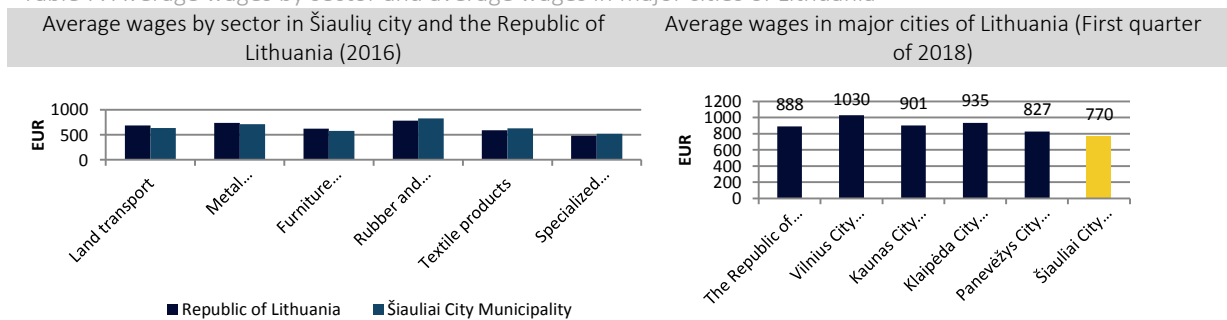
Figure 6. The ratio of unemployed people and job vacancies in Šiauliai county
 Source: prepared by the Executing agency based on Šiauliai labour exchange

Entrepreneurs searching of non-qualified workers theoretically can choose what they want to hire, but according to the interviews, these people either do not want to work and sometimes think that the conditions of the company are not good enough (for example, wages or the specificity of labour). Entrepreneurs argue that the lack of qualified professionals is not a problem for them.

Income

The average salary in Šiauliai city is 13% lower than the Lithuanian average and the lowest among the largest cities in Lithuania (see Table 7).

Table 7. Average wages by sector and average wages in major cities of Lithuania



Source: prepared by the Executing agency

In rubber and plastic products, textile products and specialized construction activities average salaries are higher than the Lithuanian average. The wages of the other activities are below the Lithuanian average. One of the possible reasons for low wages is that most of Šiauliai residents work in low value added sectors.

1.1.4 Technological factors

R&D in education

- Among the cooperation projects by business and Šiauliai university, the most significant contracts concluded with “Baltik vairas“. Each year in the period 2011–2017 the funds allocated by „Baltik vairas“ were the highest. For example, in 2013 „Baltik vairas“ has spent 53 thousands EUR for the projects, when other business projects were valued less than 3 thousands EUR.
- Projects implemented by Šiauliai State College dominated by business processes

- that facilitate business optimization, such as the creation of websites or databases.
- In 2017 Šiauliai City Municipality administration initiated and financed STEAM and INOSTART programmes, which stimulate cooperation between vocational education students, high education students and business, by promoting information technology, engineering and innovation in these areas.
- Šiauliai University's scientific equipment is outdated, so without business support in Šiauliai city innovation cannot develop.

Accessibility and urban development

- In Šiauliai city both external and internal connections are convenient – residents can easily and quickly reach all destinations.
- Šiauliai is located in the area of international corridors and highways, which allows Šiauliai city to travel and trade with the surrounding foreign countries through developed road infrastructure.
- Šiauliai city airport specializes in business cargo transportation, which can potentially contribute to economic development.
- The opportunities and capabilities of the railways are not utilized. Due to the demographic situation, the number of bus routes has to be reduced. In order to achieve sustainable mobility targets, public transport can be better utilized by making it more attractive.

1.1.5 Potential analysis

The potential assessment was made according to the multi-criteria assessment method. For the assessment different criterias consisting of sub-criterias were chosen. The sub-criteria selected on the basis of World Bank recommendations¹, expert method, PEST analysis and SWOT analysis. The scores are rated from 1 to 3 points by relevance and according to the current situation, and then these scores are multiplied. The potential assessment indicators are presented in Annex 2. Numerical indicators were compared to Klaipėda city, Panevėžys city and Lithuania average:

- 1 point is awarded when Šiauliai city / county indicator is lower than the Lithuanian average and at least one of the analyzed cities;
- 2 points are awarded when the indicator of Šiauliai city / county is better than the average of Lithuania or better than both analyzed cities;
- 3 points are awarded when the indicator of Šiauliai city / county is better than the average of Lithuania and at least one of the analyzed cities.

The results of the potential assessment are the following (see Figure 7).

Economic potential		
3 (very good – 27-33 points)	2 (good – 19-26 points)	1 (poor – 11-18 points)
	21 points	
Business conditions		
3 (very good – 20-24 points)	2 (good – 14-19 points)	1 (poor – 8-13 points)
20 points		
Infrastructure		
3 (very good – 24-30 points)	2 (good 17-23 points)	1 (poor – 10-16 points)
29 points		
Labor force		
3 (very good – 27-33 points)	2 (good – 19-26 points)	1 (poor – 11-18 points)
	20 points	
Studies and R&D		
3 (very good – 27-33 points)	2 (good – 19-26 points)	1 (poor – 11-18 points)
		12 points

Figure 7. The results of the potential assessment

Source: prepared by the Executing agency

In Šiauliai city a sufficient infrastructure and business conditions are provided in order to develop highly qualified industries, which do not require innovations. Šiauliai county is not receiving FDI due to lack of human resources. In the absence of cooperation between education institutions and business, innovation

¹ „Cities Alliance“ „Understanding Your Local Economy“, 2007. Access through internet: http://www.citiesalliance.org/sites/citiesalliance.org/files/CA_Docs/resources/led/full-led-guide.pdf

is not created, also productivity cannot increase. That identified shortcomings are most significant for business development, because the other conditions are favorable. Industry and logistics remain the most promising economic sectors, but their successful development requires scientific and business cooperation, both in terms of human resources and in finding innovative technological solutions.

1.1.6 Current situation analysis of Šiauliai city, SWOT analysis

Table 8 provides an assessment of the current situation in Šiauliai city and county using SWOT analysis.

Table 8. SWOT analysis

STRENGTHS	WEAKNESSES
<ol style="list-style-type: none"> 1. Economic activity in Šiauliai city is increasing: total GDP, GDP per capita, number of enterprises, export of Lithuanian origin in Šiauliai city are growing; 2. Small Tax Areas: FEZ and Industrial Park; 3. The lowest property tax rates in major cities; 4. Urban infrastructure is well developed, the city can be reached by different types of transport; 5. The number of highly educated professionals in the city is increasing; 6. Low unemployment rate. 	<ol style="list-style-type: none"> 1. GDP per capita is below the Lithuanian average and growing more slowly; 2. The level of investment in tangible assets is lower than the average of Lithuania; 3. FDI is lower than in Panevėžys and Klaipėda cities and growing at the slowest pace; 4. The number of labor force is decreasing, society is aging faster than the Lithuanian average; 5. Domestic consumption is limited by low wages; 6. A lack of collaboration between education and business institutions; 7. A small number of doctoral students at the university, R&D personnel in the higher education and government sectors are decreasing; 8. University does not prepare highly qualified specialists (bachelors) for industry; 9. University equipment is not suitable for technological research.
OPPORTUNITIES	THREATS
<ol style="list-style-type: none"> 1. Logistics centers and exporting industries can further develop because of well developed transport infrastructure; 2. There could be more technology specialists in Šiauliai city with the merger of Šiauliai University and Vilnius University; 3. The development directions identified in the development plan could attract FDI; 4. Attract emigrants; 5. Develop R&D at the university; 6. Change the economic structure from low value added to high value added. 	<ol style="list-style-type: none"> 1. Rising wages will no longer allow business to compete with cheap labor; 2. Due to the falling number of residents, maintenance of the infrastructure will become more expensive; 3. Business development will be hampered by employees shortages; 4. Business productivity will grow slowly without research; 5. Due to a low number of students, higher education institutions can be closed down.

Source: prepared by the Executing agency

1.2 Economic activity analysis

1.2.1 Evaluation of Šiauliai city economic activity branches

- The evaluation of economic activity branches was carried out on the basis of the study „Lithuanian Economic Territories economic activity branches” (2018) supplemented by Enterprise Lithuania. This study helped to eliminate the economic branches where Šiauliai city is not recommended to specialize. This narrows the field of investigation and identifies specific economic activities that require additional data collection.
- Due to the discussions of economic activity branches in Šiauliai county, some sectors are also included in graphics.
- The IT sector has been selected for its rapid growth and low dependence from location on the world.

Specialization branches calculated according to the LQ and the value added at factor cost in different activities in Lithuania. The LQ calculated using the formula:

$$LQ = \frac{\frac{E_{ij}}{E_j}}{\frac{E_{in}}{E_n}}$$

In this formula: E_{ij} – employment in sector „i“ in the city „j“; E_j – total employment in the city „j“; E_{in} – employment in industry „i“ in the national economy; E_n – total employment in the national economy. The specialization in a particular branch determined when the LQ coefficient is at least 1,25. The size of the balls indicates the number of employees in the branch.

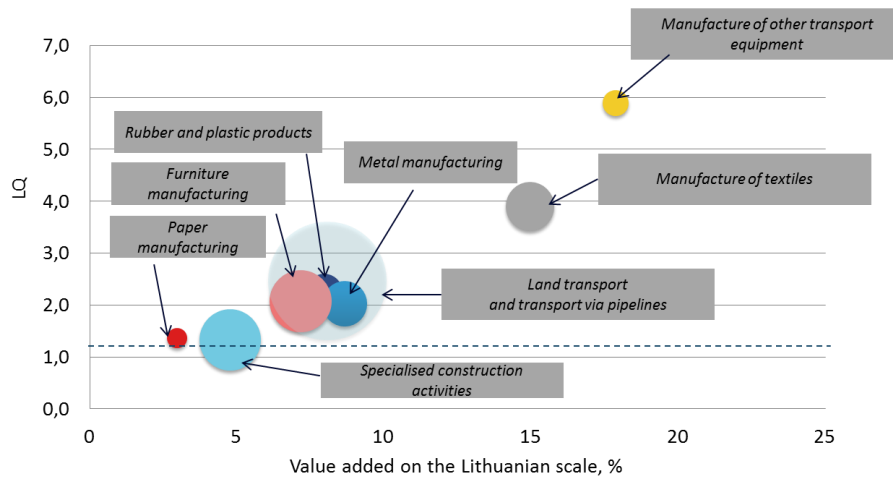


Figure 8. Šiauliai city economic activity branches

Source: prepared by the Executing agency based on LSD

The most specialized branch in Šiauliai city was the manufacture of other transport equipment. This branch generates high added value by producing final products in the premium segment using modern technologies. The high level of specialization concerned manufacture of textiles sector, which produces and exports final products. The LQ coefficient for computer, electronic and optical products was 1.23 and this branch has almost reached the level of specialization. It should be clarified that mentioned excluded sectors in Lithuania created the lowest value added compared to the sectors depicted in the graph.

The growth of the economic activity branches of Šiauliai city evaluated by looking at the growth of value added and wages of each sector analyzed in the 2007–2016 period.

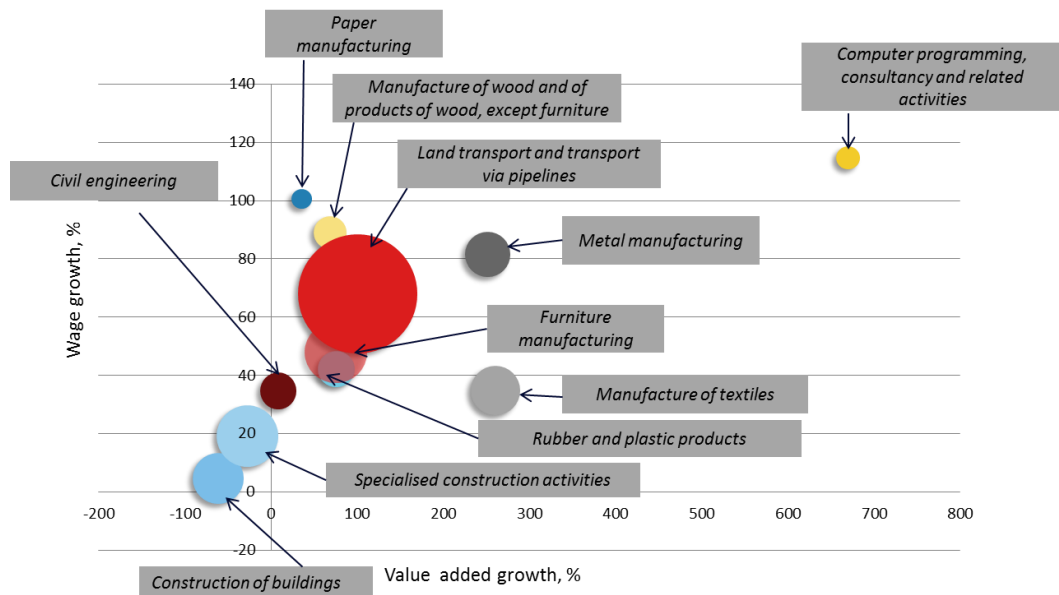


Figure 9. Growth of economic activity branches of Šiauliai city

Source: prepared by the Executing agency based on LSD

This figure reflects current trends and shows growth of potential sectors without changing the situation. There are 2 sectors: computer programming, consultancy and related activities and manufacture of textiles. The programming sector generates only a small part (0.9%) of value added in Lithuania, but it is likely that this sector will grow rapidly if there is no shortage of human capital. The manufacture of textiles sector is increasing efficiency and generating higher added value, but wages are growing slower than those of similar growth sectors.

1.2.2 World trends

Trends in Central, Eastern and Western Europe

Sectors are divided into high–technology, medium–high technology, medium–low technology and low–technology sectors.² Annex 4 shows which sectors belong to each of these groups.

² Glossary: High-tech classification of manufacturing industries. Access through internet: https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:High-tech_classification_of_manufacturing_industries

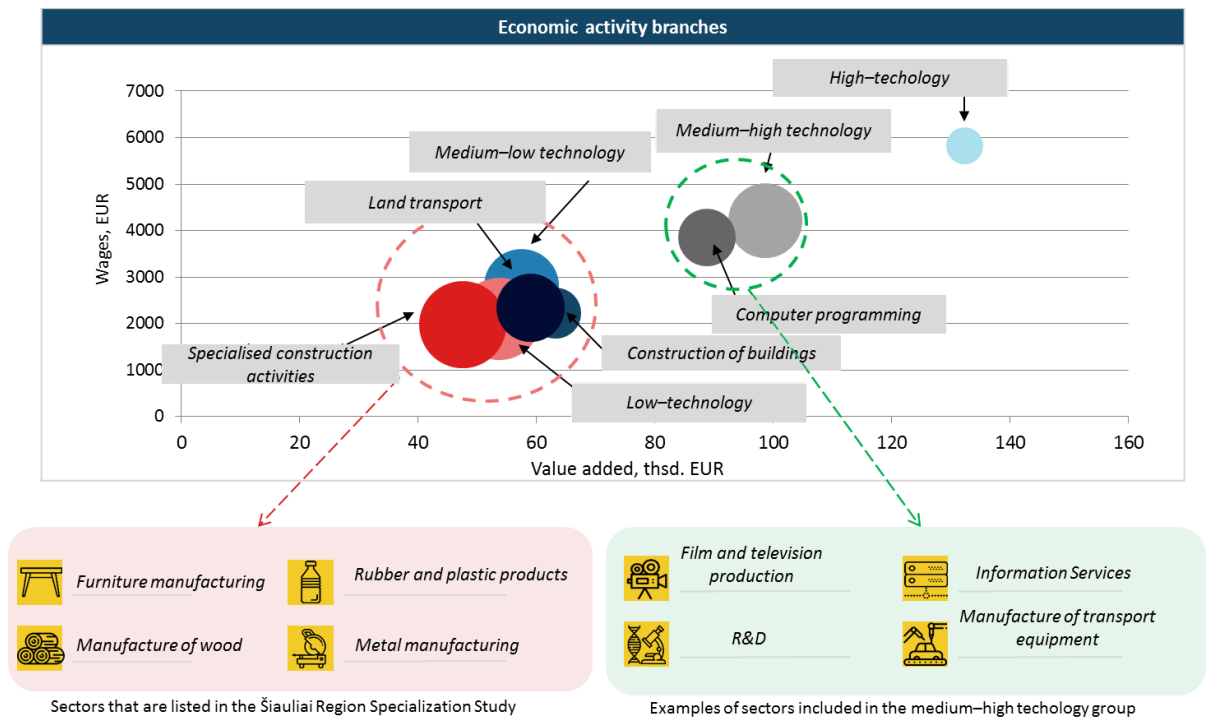


Figure 10. Economic activity branches
Source: prepared by the Executing agency

The biggest breakthrough in Šiauliai city could not be achieved by increasing the productivity of its branches of specialization, but by shifting to medium-high technology.

1.2.3 Peculiarities of specific economic activity branches

The analysis of the selected economic activity branches showed that new manufacturing processes, materials and technologies will affect the manufacturing sectors. Figure 11 identifies global technological change factors that reveal the potential of the current specialization sectors in Šiauliai. For other manufacturing sectors (manufacture of wood, paper manufacturing), breakthrough technologies are not provided (see Figure 11).

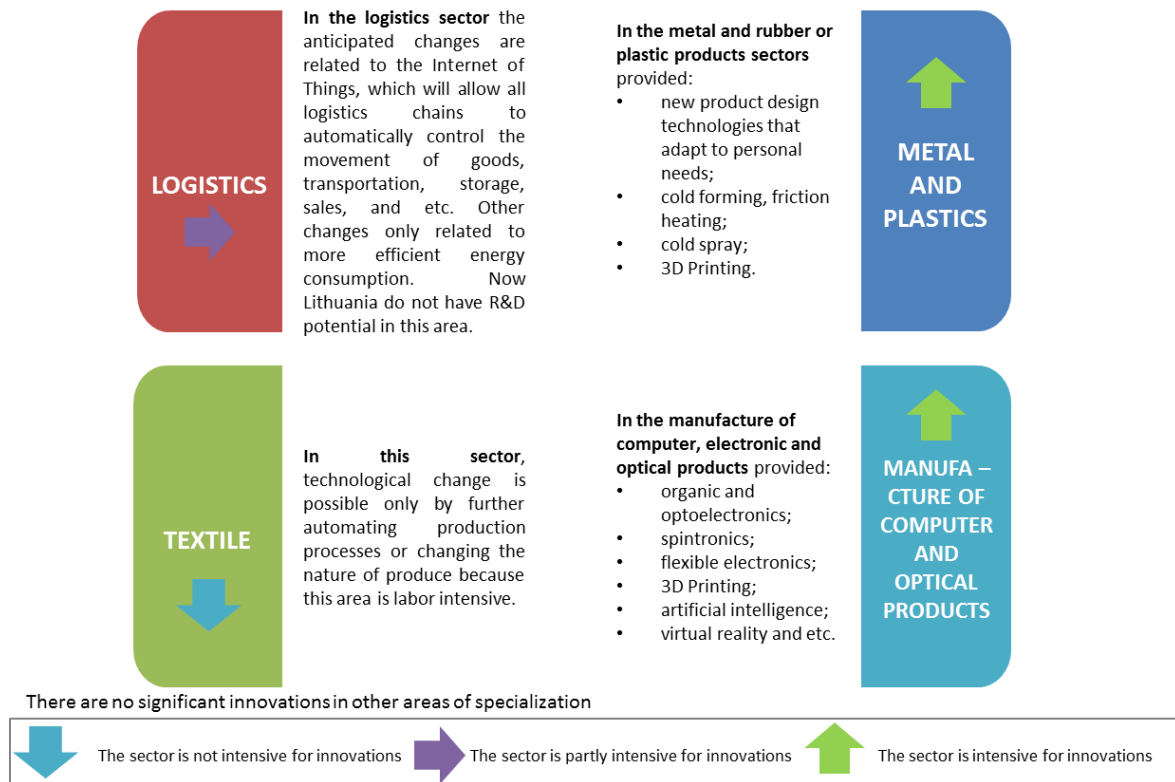


Figure 11. Global technological change factors
 Source: prepared by the Executing agency

2 Competitiveness of Šiauliai city / attractiveness to potential investors

2.1 Indicators of Šiauliai attractiveness for business and investors

On the basis of Šiauliai City potential assessment (Section 1.1.5), “Global Cities Investment Monitor 2018”³ and “fDi European Cities and Regions of the Future 2018/19”⁴ indicators have been selected, which are important for investors (see Table 9). Other indicators are also included in the table, which are listed by foreign investors during the interview⁵ as important for locating investments. It is important for entrepreneurs to invest in a city, which is expanding, becoming more active economically, and prepares sufficient number of specialists. Business conditions, which are formed both at the municipal and state level, are important for investors – the amount of the taxes, incentives, consulting assistance, speed of decision making. Location is also important, as well as the ability to transport goods.

Table 9. Indicators relevant to investors

Economic potential	Business conditions	Infrastructure	Human capital	Education institutions and business cooperation
Municipality / County: 1. GDP growth; 2. GDP per capita; 3. Unemployment rate; 4. Number of enterprises and their growth; 5. Distribution of employees by sector.	Municipality / County: 1. Municipal business support; 2. Business consultancy; 3. Average wage; 4. Tax level (corporate tax, personal income tax, FEZ, Industrial Park); 5. Rent of premises. State: 6. Construction permits; 7. The time required for business establishment; 8. „Doing business“ index.	Municipality / County: 1. Distance to the nearest airport; 2. Number of trunk roads; 3. Number of railway tracks; 4. Distance to port; 5. Prepared production areas. State: 6. Internet Speed.	Municipality / County: 1. Labour force; 2. Number of professionals with higher education; 3. Number of students; 4. Number of professionals, who speak foreign languages (especially in English).	Municipality / County: 1. Higher education institutions; 2. R&D personnel in the higher education and government sectors; 3. R&D expenditure in the higher education and government sectors.

Source: prepared by the Executing agency

“Invest Lithuania” insights

The main problems identified in dealing with investors:

- lack of internationality, difficult to organize meetings and find English-speaking professionals (both human resource consultants, municipality level and local business);
- compared to other FEZ in Lithuania, Šiauliai FEZ seems unattractive due to its hillyness;
- higher education institutions do not have engineering programmes.

The situation is changing because in recent years infrastructure problems have been better tackled. Šiauliai State College launched a program coordination with foreign investors.

³ Greater Paris Investment Agency „Global cities investment monitor 2018“. Access through internet: <https://gp-investment-agency.com/wp-content/uploads/2018/07/Global-Cities-Investment-Monitor-2018-web.pdf>

⁴ „fDi European Cities and Regions of the Future 2018/19“. Access through internet: <https://www.fdiintelligence.com/content/download/70975/2026055/file/fDi%20European%20Cities%20and%20Regions%20of%20the%20Future%202018:19.pdf>

⁵ Interviews was conducted on 26 October to 6 November with 7 foreign companies directors (all companies listed in Table 2.2, Table 12, except company "DIAB").

It is necessary for municipality to have one stop shop services for potential investors with English-speaking professionals.

In Šiauliai city the supply of workers, who can speak in foreign languages is low. Especially for those, who speak a language other than English, Scandinavian.

In Šiauliai city, the most important thing is to strengthen the educational ecosystem and provide the appropriate workforce. More specifically is to improve vocational training, develop a high-quality electronics and mechanics programme, encourage students to choose these study programmes, encourage students to study in Šiauliai higher education institutions and attract talent.⁶

Interviews with managers of 11 Lithuanian and foreign companies in Šiauliai city were conducted while devising the strategy (see Figure 12).

Human resources	Investment environment	Education and business cooperation
<ul style="list-style-type: none"> Lack of engineers, production managers, welders, etc. Educational institutions do not prepare well enough future employees, therefore all companies train newcomers both inside and outside the company. The cost of human resources is approaching in Western countries. All entrepreneurs emphasize the importance of taking care of attracting people. 	<ul style="list-style-type: none"> Šiauliai city was chosen for the investment due to cheap labor, low taxes and convenient geographical location. Currently, there is a lack of industrial premises, which are important for investors. Investors responded positively to the services provided by the municipal administration, and decisions are taken fast enough. There are almost no external barriers from other institutions 	<ul style="list-style-type: none"> More than half of investors companies do not cooperate with education institutions. Companies, which collaborate with education institutions organize excursions for pupils and teachers, run joint projects with higher education institutions, and accept apprentices from vocational schools. Investors identify that cooperation with higher education institutions is hindered by a lack of human resources. Investors note that Šiauliai university need to have engineering and technology education programmes.
Infrastructure		
<ul style="list-style-type: none"> Investors note that the logistic situation in Šiauliai city is convenient, easy to transport goods, but there is a lack of suitable public transport infrastructure, extension of Pročiūnai street to the bypass, extension of Radviliškis street through the railway crossing, reconstruction of Aerouostas street, there is a lack of access around the city by connecting the A12 and A9 highways. The speed of construction of roads and water supply is very slow and the absence of engineering networks (sewerage, water supply) in Šiauliai residential districts create a negative image of the infrastructure of residential areas for foreign investors. 		

Figure 12. Problems identified by investors
Source: prepared by the Executing agency

2.2 Analysis of foreign direct investments into Šiauliai city economic effectiveness

In 2017 foreign companies operating in Šiauliai city employed about 2200 employees. These companies generated 150–275 million turnover and this is about 6–7 % of all the turnover of Šiauliai city. Of the 9 analyzed companies 5 companies paid a higher wages compared to the Šiauliai city average wage (Annex 5 provides an analysis of foreign companies in Šiauliai city).

“ROL Lithuania”, “Formula – Air” and “DIAB” pay the highest salaries in Šiauliai city. These companies invest millions of euros in technological innovation.

Out of 1700 “SoDra” designated companies in Šiauliai city, in 2017 50% of companies paid salaries ranging from 100 to 450 EUR. This might be because in these small companies employees are working part-time jobs.

Wages paid by companies depend on their economic activity, therefore foreign investors will not necessarily pay higher salaries than the city average.

⁶ On 27 February 2019 "Invest Lithuania" information provided by the Project Executy

2.3 Economic development

There are 3 scenarios for economic development (see Figure 13):

1 Traditional industrial development	2 Economy transformation into new generation business	3 Gradual industrial transformation
Continue to specialize in traditional manufacturing and logistics. For this purpose, cooperation with vocational schools should be strengthened and industry should contribute in advance to preparing professionals. These activities are not intensive to R&D, which is favorable to the current situation in Šiauliai city. However, such properties characterized by the cities of developing countries, which in the long period will not be able to compete with Šiauliai city.	Focusing on R&D intensive industries – high and medium high technologies. The most intensive R&D sectors are manufacturing of medical and optical devices, semiconductor and electronics production. In order to implement this scenario, the direction of the city should change significantly: the shift from labor to a high value added, capital and R&D based economy.	Gradual industrial transformation over 10–15 years. The traditional industry is still developing, but at the same time is planned for the long term in preparing infrastructure and human resources for science, R&D, high technology. In this scenario, ŠVI and similar institutions play a crucial role and help young people to develop innovative ideas. Differentiation of aid, business advice and more attention should be given to high value added businesses rather than to other traditional industries or trade.

Figure 13. Economic Development Scenarios
Source: prepared by the Executing agency

2.4 Expected indicators

“Financial Times” annual publication “fDi European Cities and Regions of the Future 2018/19” presents Europe's future cities, which are selected on the basis of several indicators. On the basis of the evaluation criteria of this publication, we selected the key indicators that should be taken into account when measuring the development progress of Šiauliai city until 2024 and 2034. The indicators were selected according to their relevance to Šiauliai city, the simplicity of data collection.

Table 10. Indicators of economic development of Šiauliai city

Indicators	The current value of the indicator	Expected value (2024)	Expected value (2034)
Indicators are monitored on an urban scale			
Resident population	100,4 thds. (2018 July 1)	100 thds.	120 thds.
Unemployment rate	4,9%	Up to 6%	Up to 6%
FDI	139,12 million Eur (2017)	200 million Eur	400 million Eur
Average earnings (before taxes)	769,5 Eur (First quarter of 2018)	1100 Eur	1500 Eur
Number of tourists accommodated in accommodation establishments	53,1 thds. (2018)	75 thds.	100 thds.
Number of enterprises	3009 (2019)	3400	4000
Median age of the population	44 years (2018)	45 years	45 years
Net migration	-56 (2018)	0	20 thds.
Indicators are monitored at regional level			
Exports of goods of Lithuanian origin	921,7 million Eur (2017)	1300 million Eur	1800 million Eur
Regional GDP	3082,3 million Eur (2017)	3700 million Eur	6000 million Eur
Proportion of employees of innovative enterprises, compared to employees*	65,9% (2016)	70%	80%
Registered unemployed, percentage from working age population, %	29% (2017)	20%	15%

Source: prepared by the Executing agency

*Innovative companies are companies that adapt new or improved technologies, ideas and methods to market new or upgraded existing products (goods or services) by introducing new or improved production (service), operational, marketing processes to improve performance of the company (definition of LSD).

3 Analysis of foreign cities

The success of a city or region largely depends on a competitive economy. Although the business conditions of all cities are different, it is useful to understand the business growth trends of different cities when comparing urban performance.

Analyzed cities:



Tartu (Estonia)



Odense (Denmark)



Maribor (Slovenia)



Nitra (Slovakia)

3.1 Analysis of Tartu city



Strategic development of entrepreneurship

The example of Tartu shows that the promotion of entrepreneurship in the city depends on the creation of active and open-minded city leaders, efficiently operating administrative bodies, the creation and promotion of business support platforms between business, government and science institutions. It is important to create tools for long-term dialogue between local government, science, education institutions and business, in order to increase the competitiveness of the city.

Economic development and specialization

In Estonia, smart specialization is organized and coordinated at national level. At the urban level, the areas of specialization are not distinguished, but more attention is given to tourism and the creative industries. The development of these sectors is promoted by various support mechanisms and activities (often carried out by the city authorities).

In spite of inconsistent development in specific sectors, several high-value added areas in Tartu had grown: research activities, IT, beverage production, printing and machinery manufacturing. The first two activities in the service sector depend on the university and the

development centers in the city. Beverage production and printing are the traditional successful sectors in Tartu, but they do not have any exceptional business environment or location conditions. The success of the metal manufacturing sector is determined by the historical background and accumulated knowledge and skills.

3.2 Analysis of Odense city



Strategic development of entrepreneurship

In addition to central government management, regional authorities, including the city government, form a favorable entrepreneurial environment for Odense specialization and urban development. A favorable business environment policy provides good conditions for business innovation, promotes market openness, competitive and dynamic business, a culture of intelligent risk-taking and creative activity. Such a policy encourages the mobilization of private financial resources to finance innovation through the strengthening of efficient financial markets.

High-technology industry is supported through established R&D institutions such as the Danish Drone Center or "Start-up" communities. Research and Knowledge Park contributes to the development of high value-added services.

Cooperation is promoted through international alliances with foreign clusters. Particular attention shall be paid to robotics sector, through its funding and advice, through the development of one of Europe's best clusters. The city government allocates funding to business needs. Enterprises, which create the largest number of jobs receive the largest funding.

Economic development and specialization

In Odense is dominated a service sector, which employs most of the city's population. Particular attention shall be paid to robotics sector, which helps to develop other industries. The successful specialization of Odense city has three important factors highlighted by the city government:

1. regular and long-term strategic development and management of the local business environment;
2. strategic development has a close connection with process of urban renewal;
3. education is strategically linked to business needs.

3.3 Analysis of Maribor city



Strategic development of entrepreneurship

Maribor practise demonstrates consistent work at national level to create effective business support institutions at regional and urban level. The structure and functions of business support institutions are determined by law, therefore counties and cities receive equal assistance in improving the business environment, and this creates opportunities for local specialization.

In addition to business support institutions, a large part of financial support for local business is provided through state level programs. Factors, which limited city's development, are limited access to knowledge (such as research, patents,

standards, etc.) and networks (business communities and networks) failure to understand and manage innovation. Also in Maribor city is lack of entrepreneurial culture.

Economic development and specialization

Statistical regions economic specialization is determined at national level. Maribor belongs to the Drava statistical region, which specializes in the automotive, tourism, wood and water industries.

3.4 Analysis of Nitra city



Strategic development of entrepreneurship

Small and medium-sized businesses are promoted in the city for which the city government are responsible. City government has also set up a Competence Center, which helps promote applied research between business and education institutions. City government consider that relatively inexpensive workforce is one of the factors of attractiveness for investors. Regional development agencies also contribute to the economic development of the city, and public agencies contribute to attracting FDI.

Economic development and specialization

Economy of Nitra city is based on the services and industry sectors, and economic development is linked to the knowledge economy. Innovation is driven by universities, private and public research institutions and R&D companies. Nitra city focuses on increasing economic efficiency, research, innovation and foreign investment. In Nitra city industrial clusters are created, incubation services are provided, and the Competence Center is established, in order to strengthen cooperation between the priority sectors and encourage start-ups to create business. The Slovak Republic Investment and Trade Development Agency is responsible for attracting FDI to the city.

4 Marketing measures of awareness raising

4.1 Analysis of Lithuanian marketing agencies

Vilnius, Klaipėda and Kaunas Marketing Agencies have similar functions – they are not limited to marketing, but are actively preparing analyzes for business development, providing consultations, preparing information publications not only for foreign citizens, but also for Lithuanians.



Go Vilnius is taking care of the marketing and presentation of Vilnius to investors. The agency provides information on city entertainment, helps to choose housing, kindergarten, explains health care, migration system and so on. All the necessary information on city tourism can be obtained from any of the three tourist information centers⁷. In addition to carrying out the services for tourists and attracting them, Go Vilnius contributes to business promotion activities.



The Klaipėda Economic Development Agency has been restructured after developing the Klaipėda Economic Development Strategy (currently referred to as Klaipėda iD). According to the strategy, new responsibilities of the agency are attraction and marketing of investments, when before that, business incubation and creative industries were the main responsibilities.



Kaunas IN established by Kaunas City Municipality is responsible for the development of tourism, international marketing and development of the city business⁸. The agency presents the city to potential investors, organizes tours, book hotels, provides tourist information. In order to attract investors, the agency collects and publicizes relevant information on the investment environment, key sectors for entrepreneurs, presents the city's strengths, and collaborates with research institutions to tailor study content to business needs.

4.2 Awareness raising channels and marketing measures of Šiauliai city

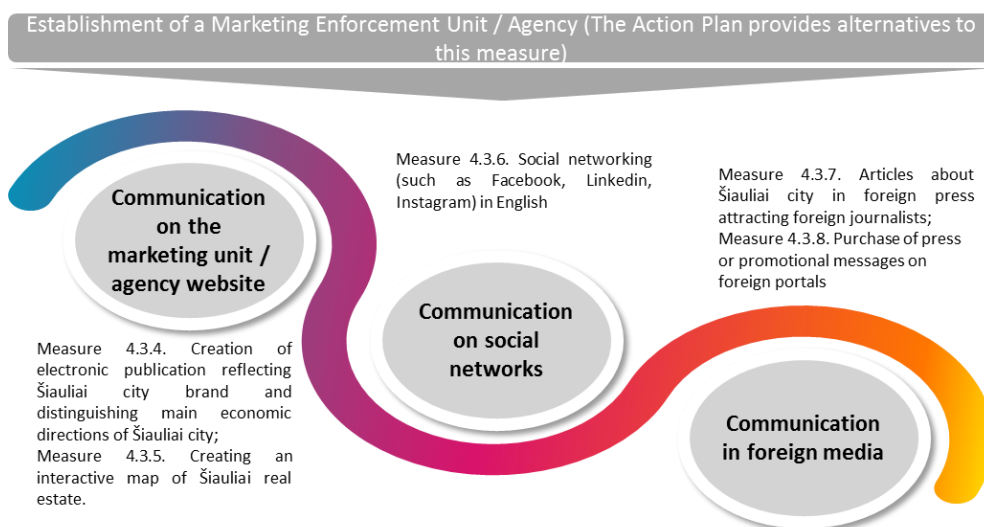


Figure 14. Šiauliai City visibility improving channels and city image marketing tools
Source: prepared by Executing agency

⁷ Go Vilnius. Access through internet: <http://www.govilnius.lt/lt/about-us/>

⁸ Kaunas IN. Access through internet: <http://visit.kaunas.lt/lt/apie-mus/>

2nd stage of the Strategy

5 Economic development priorities of Šiauliai city

5.1 Competitiveness of Šiauliai city

5.1.1 Application of good practices of foreign countries in Šiauliai city

After analyzing the experience of foreign countries (Tartu, Odense, Maribor and Nitra) (Chapter 3), the main lessons have been identified which should be taken into account when developing the action plan.

- The various development goals and successful measures that are used in different cities depend to a large extent on complex horizontal and vertical policies. Isolated measures and activities usually do not give the desired effect.
- All case studies demonstrated that economic restructuring should be made in accordance with urban spatial planning and renewal. This is often more important tool for city governments to contribute and fill its strategic goals than the assistance-like activities in business environment. Another challenge is the establishment of industrial parks.
- There is a need to guarantee the diversity of business activities in the city. Usually it means that traditional, dominant industry sectors should not to be eliminated or marginalized from city's economy structure but to find ways to re-structure big industrial companies into SME-s. It often means that these companies should specialize on more knowledge-based production, minimize subcontracting and put more focus on export markets.
- Skilled specialists and workforce are important for all business sectors. The key measures are to develop, together with national authorities, the vocational education in correspondence with the needs of local economy and to encourage closer cooperation between business sector and universities. However, this might not be enough that to guarantee the influx and stay of skilled workers. In most cases, the important factor beside education driver is the safe and quality living environment and effective social infrastructure in the city.
- The development of the city's living environment is also basic factor in attracting foreign investment. Attraction of investment is a key part of the local development strategies. Usually the cities have different institutional approaches of how to do that. Special regional and local institutions or city offices can be responsible for activities related to the raising of foreign investments in the city. However, their attraction strategies and techniques are generally quite similar in a sense that in addition to general investments they have some special business focus. All try to get investments into tourism sector, some put their focus on traditional production and service business and others aim at to magnetize investors interested in specific, usually high-tech and IT business sectors.
- In addition, some cities have also bigger financial support from national budget and some cities have more effective and systematic measures provided by national or regional level than others. The cities usually do not have big resources allocated to the activities related to the attraction of investment.
- Foreign investments tend to be mobile. Some cities has implemented measures related to tax incentives. However, it should mention that such measures are often policy-sensitive. They can have some effect to attract investors but there is difficult to guarantee that such measures are there in long period. As a result, the foreign investment may move to more favorable locations.
- Specialization in certain business sectors, as the cases demonstrate, is not driven by city authorities. Usually this process is predominatly driven by entrepreneurs and supported by city

governments. Knowledge intensive sectors tend to be often prioritized because of the existence of (tech) universities in the city. They provide potential highly qualified labor force for certain sectors. Also, the important factor is success in export markets. The prioritized sectors tend to be often highly export-oriented. Especially because all these cities are located in countries that do not have very big domestic market and the businesses in question have often relatively big foreign share.

- It is important that there is a separate unit in the city government that is tasked with improving the city's business environment, coordinating co-operation between enterprises, academic and research institutes schools and other educational institutions, as well as mapping the needs of stakeholders, developing and implementing measures.
- For all cities, it became evident that the city level provides very limited access to direct payments for the development of entrepreneurship.
- Optimal structure and tasks of business support organizations is also important. An example of Maribor's example, in which the support structures of entrepreneurship and their tasks are systematically defined in the national level legislation.

5.1.2 Competitiveness strengthening actions

After analyzing the application of foreign good practice in Šiauliai city, 3 competitiveness enhancement actions are distinguished – promotion of innovations, creative industry and business incubation.

Promoting innovation. Both the maintenance of traditional role of industry in the economy and the sudden breakthrough of the city require innovation. They are most often developed in cooperation between business and higher education institutions. Innovation parks are being developed, university or colleges prepare the necessary specialists to work with high technology. The business contributes to the development of study programs, finances the acquisition of technical equipment or allows students to use it in enterprises. Joint business and science meetings should be held, sharing knowledge on the latest technologies and solutions, organizing international conferences.

Creative industries. Creating innovations is hardly imaginable without utilising the creative potential of urban residents. Creative industries include architecture, music, film making, design services, marketing, public relations, video games, and more. In order to increase the visibility of business in the world as well as create a recognizable brand and a product of unique design, the process inevitably requires collaboration with people who know how to develop products. Not only does this sector enhance the competitiveness of local businesses, but it also makes the city a more attractive place because of the entertainment and art. Tartu strengthens its creative potential through the Tartu Creative Industries Center. It offers:

- offices for rent;
- legal and economic advice;
- training on design, product development, etc.;
- exhibitions of works.

Business incubation. In each foreign city analysed, business incubation institutions have been established, where young businesses can develop more easily. The City of Tartu Authority has contributed to the establishment of an Incubation Service Center that provides support to companies with higher value-added services. Two private incubation centers for starters have been established as well. The Startup Odense website reviews all the start-up news in the city and offers suggestions on where entrepreneurs

can get help. Incubators are often not only the responsibility of the city authorities, but also cooperate with higher education institutions (or even set up at the university), business clusters, vocational schools, public institutions, banks, and other incubators. The Maribor incubator helps commercialize products, provides advice on their intellectual property protection, and offers mentors.

5.2 Economic development scenario of the city, vision and missions

Šiauliai city stakeholders have chosen a gradual industrial transformation scenario combining traditional industry experience and developing a high value-added manufacturing and service sectors.

Gradual industrial transformation

Closer cooperation between industry and vocational schools and colleges to ensure the training of professionals, needed in market. In parallel, various measures are being taken to **attract high-tech professionals** to help transform the industry and train young people with ideas on technological business development.

Investments of Šiauliai City Municipality Administration in the establishment of production premises and equipment for start-up business. In cooperation with industry clusters and educational institutions, conferences, meetings for sharing experiences are organized. Business ideas developed in higher education institutions are commercialized in the incubator

Traditional industry is developed further, but at the same time it is being **prepared for long-term transformation**, preparing infrastructure and human resources for science, R&D, high-tech development

By changing the structure of Šiauliai industry and growing demand for individual brands, **companies of creative industries are developing in the city**. They take care of corporate public relations, marketing, create web sites, and help create product design.

Business enterprises of Šiauliai city offer better conditions for IT professionals from other big cities to come and work in Šiauliai. **Šiauliai Business Incubator provides advice on intellectual property issues to developers** who want to launch their products on the market.

Incentive factors:	Limiting factors:
The promotion of a developed traditional industry no longer requires special intervention by the municipal administration, therefore it can focus on new areas. Due to the operation of business associations in the city, there is a potential to cluster and share the latest trends in industry and technology innovations both with each other and with new entrepreneurs. Higher education institutions can also develop new programs and contribute to the training of the necessary specialists.	Preparing new, viable businesses to prepare for economic restructuring and entrepreneurship education will require skilled professionals. Therefore Šiauliai should attract capable specialists to Šiauliai Business Incubator or other centers of competences who would have experience in creating innovations. Large financial resources are required to equip laboratories.

The vision and missions of the selected scenario for the different target groups are shown below (see Figure 15).

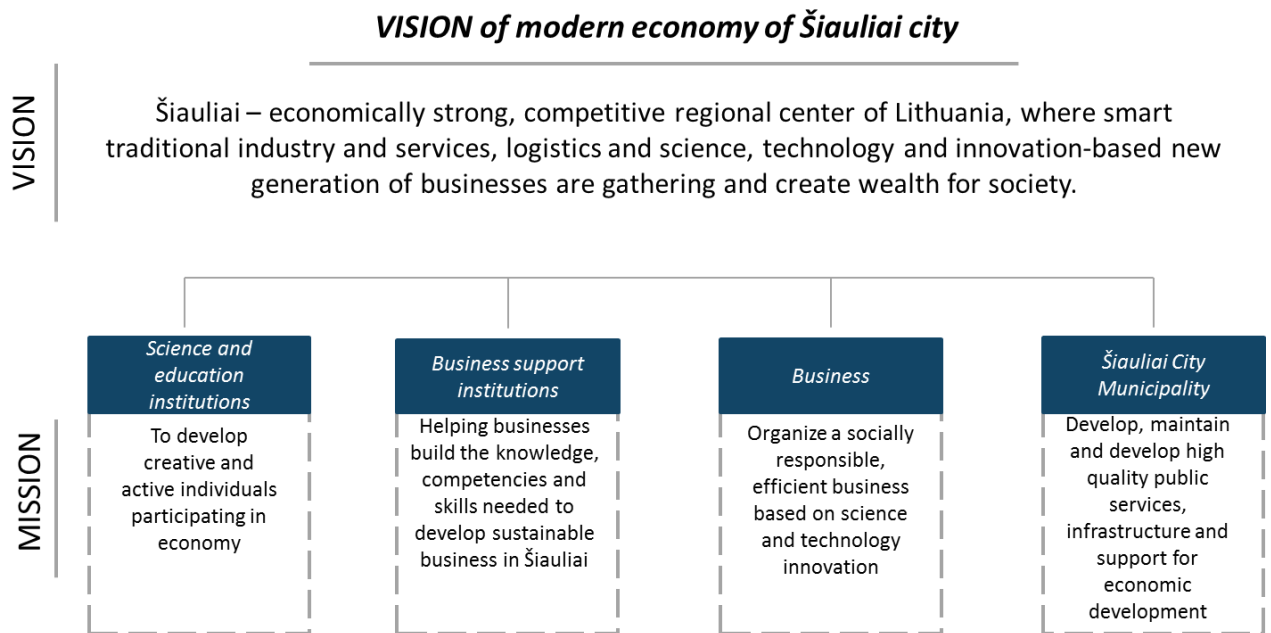


Figure 15. Vision of Šiauliai modern economy and missions for target groups

Source: prepared by Executing agency

Vision of modern economy of Šiauliai city – Šiauliai – economically strong, competitive regional center of Lithuania, where smart traditional industry and services, logistics and science, technology and innovation-based new generation of businesses are gathering and create wealth for society. Missions for different target groups – science and education institutions, business support institutions, business and Šiauliai City Municipality are formed for the implementation of this vision.

A contribution from interested parties is required. Each of the target groups in their mission will contribute to the city breakthrough, strengthening of the and specialization and economic restructuring.

CONTRIBUTION OF SCIENTIFIC AND EDUCATIONAL INSTITUTIONS

- Science and education institutions are responsible for training the necessary specialists and educating the younger generation. There is a particular shortage of engineers and managers in engineering sciences in the city, while the best way to learn about the field and develop the necessary competencies is at school. However, this also requires business cooperation with education.
- Educational institutions should allow business representatives to come and introduce students to technology fields, organize excursions to companies or events to promote technology.
- Collaboration between business and educational institutions should lead to early profiling, helping them to understand their needs and talents, students should be introduced to the opportunities for their talent to be used fully in their home town of Šiauliai.
- Individual and informal extracurricular activities could be carried out for the most proactive and talented pupils, which would be supported by the dominant business in Šiauliai, as well as

introducing future career prospects. Education and business should also cooperate at the higher education level.

- Research institutions should have sufficient human and technological resources to conduct business-oriented, applied research.

CONTRIBUTION OF BUSINESS REPRESENTATIVES

- A strong education system and collaboration between educational and scientific institutions and business may help fulfill its mission to deliver an efficient and science and technology-based business. This also requires the interest of the entrepreneurs themselves in global trends and frequent meetings, conferences where enterprises would be sharing the knowledge about latest technology, marketing, employee training, and so on.
- Experience in the development of traditional industry has already been built on the multi-annual experience of the city enterprises and it does not need additional incentives, however, there is a lack of information and skills in developing new generation of technologies or services.
- The most necessary for the traditional specialization of Šiauliai city economic specialization are prepared and motivated specialists, because companies usually have new technologies installed already, but there is not enough knowledge of how to use them – this would be the main condition for the successful development of traditional industry.
- The global trends in this business will be one of the conditions for a company to cluster as well – growing competition from developing countries will force to combine production capabilities and knowledge in order to maintain attractiveness in local and foreign markets.

CONTRIBUTION OF BUSINESS SUPPORT INSTITUTIONS

- Business support organizations have also contributed to the success of the business and the economic breakthrough of the city, the mission of which – to help businesses accumulate the necessary knowledge, competencies and skills to develop sustainable business in Šiauliai. These institutions contribute with their expertise in business creation, marketing, export, help companies analyze their strengths and weaknesses, develop a sustainable business plan, and so on.
- In some cases, business support organizations help companies get together and share knowledge, contribute to the development of the necessary competencies or professionals (eg export managers).
- They also contribute to attracting foreign investors, which can reinforce the specialization of the city, serve as a model for their technology or the culture of work for local businesses.
- As foreign experience has shown, the city's economic specialization is mostly determined by the business itself, not by other target groups, therefore business support organizations do not regulate specialization but contribute to the sustainability, efficiency and competencies of companies.

CONTRIBUTION OF ŠIAULIAI CITY MUNICIPALITY ADMINISTRATION

- Šiauliai City Municipality Administration has a coordinating role in bringing together different interest groups, listening to their needs and helping to ensure the necessary infrastructure.
- Local authorities can influence the specialization of the city through the allocation of resources and priorities, for example, to spend less money on the construction of roads or electricity networks, and more to support educational, scientific initiatives, to contribute to the creation of business incubators, support of foreign professionals or lecturers to share their experiences, etc.
- Direct specialization from government should not be stated, but rather supported and promoted by 'soft' measures. Also, the municipal administration mission includes ensuring a comfortable living environment and social services that guarantee comfort and safety for the workers.

5.3 Targets and objectives

In the strategy of economic development and attracting investment of Šiauliai city, the priorities of economic development are highlighted – promotion of innovative business and development of traditional industry. In order to implement the vision, the goals for which the 4 target groups will be responsible, are formulated.

Table 11. Goals and Objectives of Šiauliai Economic Development Strategy

Goal 1. Strengthen and increase the potential of human resources
1.1. Improve the quality of education and adapt to market needs
1.2. Increase the attractiveness of STEAM sciences
1.3. Promote vocational guidance and qualification
1.4. Attracting emigrants and new residents
1.5. Promote the active participation of older people in the labor market
Goal 2. Improve urban living and working environment and infrastructure
2.1. Improving communication infrastructure
2.2. Create and update public spaces
2.3. Improve working environment and work conditions
Goal 3. Promote business innovation, creative industries and efficiency
3.1. Encourage cooperation between business, education and public institutions to create innovation
3.2. Promote entrepreneurship and facilitate business
3.3. Attract investment
3.4. Creating spaces for the development of creative industries
3.5. Increase business efficiency
Goal 4. To strengthen the identity and positive image of Šiauliai city
4.1. To increase the inclusion of Šiauliai city society
4.2. Strengthen city identity
4.3. Execute an image marketing program
Goal 5. Actively participate in shaping the country's economic-regional policy
5.1. Representing Šiauliai nationwide
5.2. Represent Šiauliai at regional level

Source: prepared by the Executing agency

Stage III of the Strategy sets out a plan of actions and measures to achieve the objectives and targets that have been determined (see Chapter 6).

3rd stage of the Strategy

6 Action and measures plan of Šiauliai city strategy for economic development and attracting investment

6.1 Marketing measures of Šiauliai city and action plan of communication

Šiauliai city is offered to establish a marketing department or agency, the main functions of which will be to strengthen the image of Šiauliai city and to carry out active communication through various channels. The aim of the communication action plan is to identify what actions are needed for the formation, creation and active communication of the image of Šiauliai city.

Target groups

Šiauliai city marketing tools are focused on 5 target groups – Šiauliai city residents, students, foreign investors, professionals and tourists. Formulated marketing suggestions for different target groups are presented in Section 4.2. Measure results should be evaluated by views made by target groups, reactions to online content, contacts made at exhibitions, events, increased number of tourists.

Communication Action Plan

The communication action plan includes 3 stages – formation, creation and active communication of the image of Šiauliai city. The Šiauliai City Municipality division / institution is responsible for the implementation of these stages (alternatives – establishing administration unit, supplementation of SVI functions, purchase of hired services, establishment of independent public institution). In order to strengthen the image of Šiauliai city, to highlight the attractiveness and uniqueness of Šiauliai city, the first step should be to create a stylized new city brand. The communication process is an important stage in the branding process, so the new brand created will have to be represented in the cyberspace – social networks, the agency's website, as well as during various tourism, education and business events. The analysis of marketing agencies in Lithuanian metropolitan areas (section 4.1) has shown that it is important for a marketing agency not only to have its own website, which contains important information for different target groups, but to actively communicate on social networks and foreign media as well (see Figure 16).

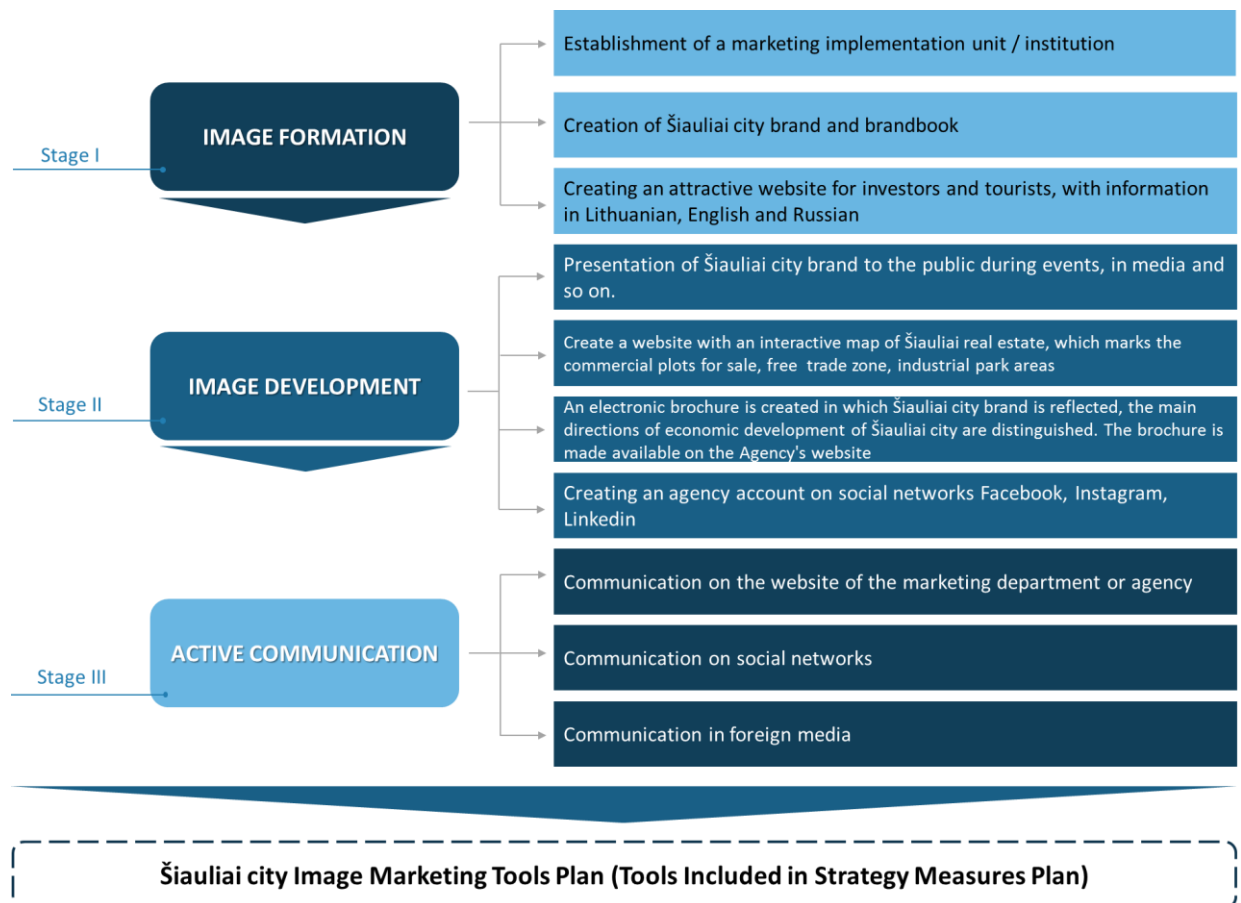


Figure 16. Communication action plan
Source: prepared by the Executing agency

Šiauliai city image marketing tools are included in the Šiauliai City strategy for Economic Development and Investment Attraction Measures Plan, therefore these measures are also included in the monitoring process (monitoring process is provided in Section 6.2).

6.2 Organizational structure of the strategy management and monitoring procedure

Organizational structure of strategy management

Šiauliai Economic Development Group (hereinafter referred to as the ŠEDG) has been created to coordinate and supervise the strategy of economic development and investment attraction of Šiauliai city. In order to ensure the cooperation between the public and the private sector, regular meetings of the group will be held during the implementation of the strategy measures, in which the progress of the strategy plan will be discussed, the financing of the measures will be harmonized, the strategy's or the measure's adjustments will be discussed. Representatives of the ŠEDG elect a chairman with main functions:

- organize regular meetings with all members of the group. Set their time, place, and be the chairman of the meetings;
- organize annual meetings, reviewing the results of strategy's objectives and indicators of measures, updating or adjusting measures.

The Plan of Measures of the Strategy reflects the main directions of economic development and attraction of investments, the implementation of which is the responsibility of 4 main groups - Šiauliai

City Municipality Administration, business support institutions, business enterprises and educational institutions (see Figure 17).

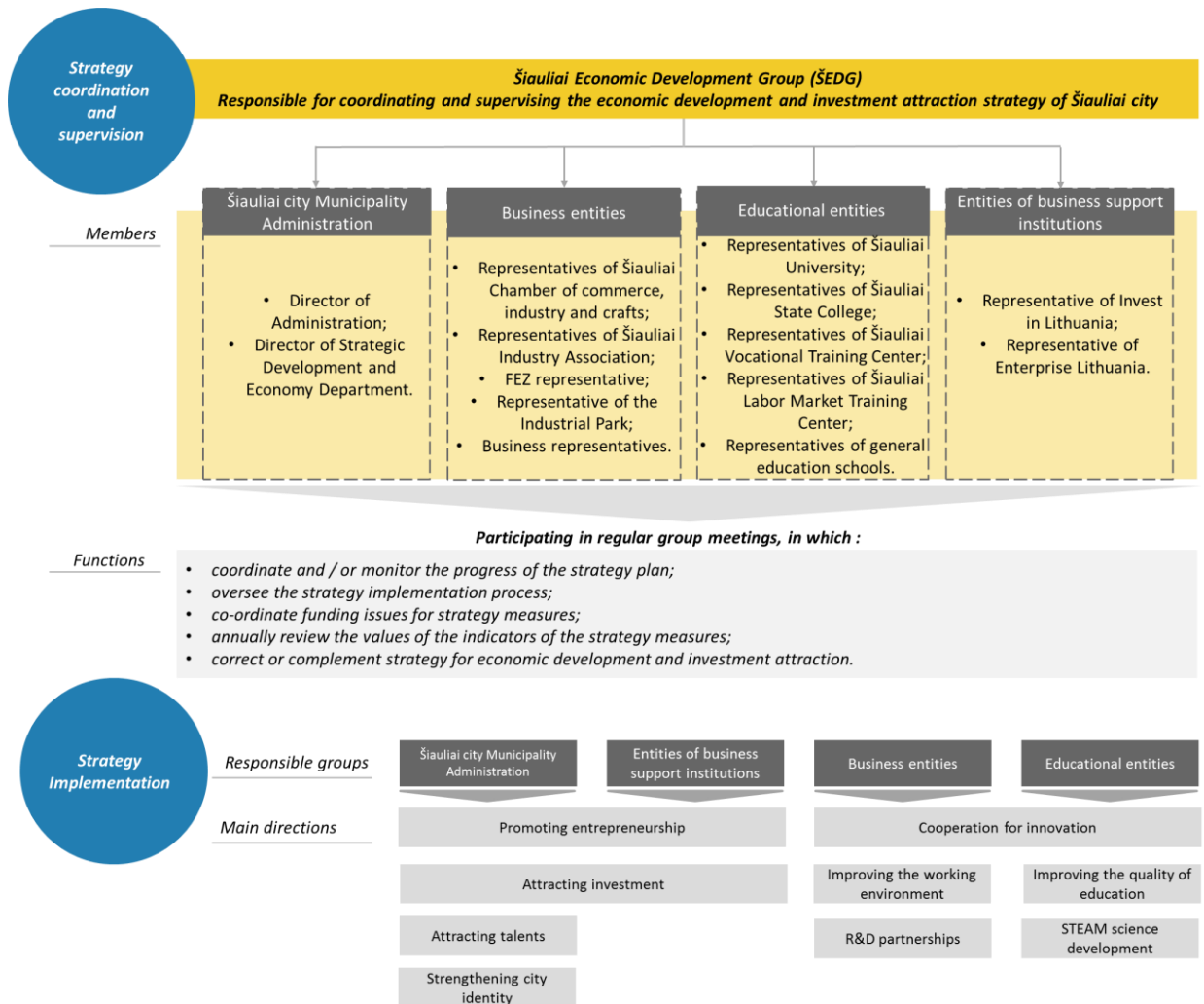


Figure 17. Organizational structure of Šiauliai city economic development and investment attraction management strategy

Source: prepared by the Executing agency

Procedure for monitoring the strategy

Management and monitoring of Šiauliai city strategy for economic development and attracting investment is a continuous recurring cycle that is needed to ensure the smooth implementation of the strategy. Governance and monitoring is the responsibility of the ŠEDG. The main objective of the strategy monitoring is to continuously monitor and compare the results of the implementation of the strategy measures plan, taking into account the desired values of the indicators and adjusting the measures, taking into account the proposals of the interested parties (see Figure 18).

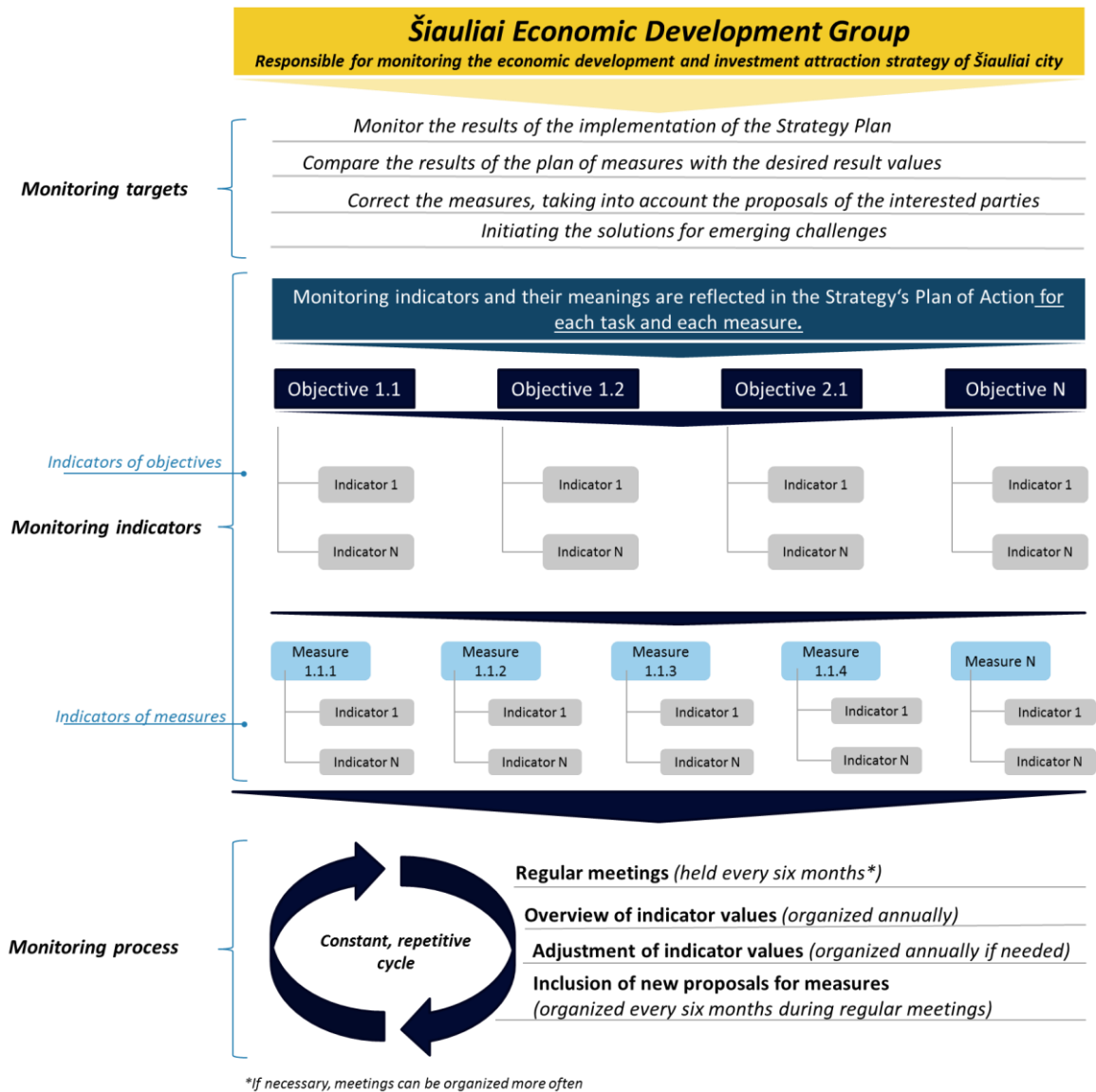


Figure 18. The process of monitoring the economic development and investment attraction strategy of Šiauliai city

Source: prepared by the Executing agency

The monitoring process includes regular meetings of the ŠEDG, review and correction of the results of the indicators and the inclusion of new proposals for adjusting or updating the measures:

- regular meetings by ŠEDG are organized every six months. During the meetings, the members of the group coordinate and make decisions on the progress of the strategy plan and implementation processes, and if necessary, coordinate the financing of the strategy, etc.;
- an overview of the values of objectives and measures indicators should be organized annually to assess whether the desired result has been achieved. There are a total of 29 objective indicators, each measure has separate indicators as well;
- New proposals from interested parties on updating or adjusting measures should also be considered by the ŠEDG, through regular meetings and negotiation every six months.

6.3 Priority groups of measures and measures plan of the strategy

In order to implement the strategy of economic development and attracting investment of Šiauliai, 4 main directions have been identified, which are marked in the vertical axis of the painting – increasing the attractiveness of the city, promoting entrepreneurship, increasing business innovation and promoting creative society. Each of the main directions has different measures groups, which are arranged according to 3 periods – short-term (2–4 years), medium (5–10 years) and long-term (15 years) (the periods are marked in the horizontal axis of the figure). Almost all groups of measures continue until 2034 (see Figure 19).

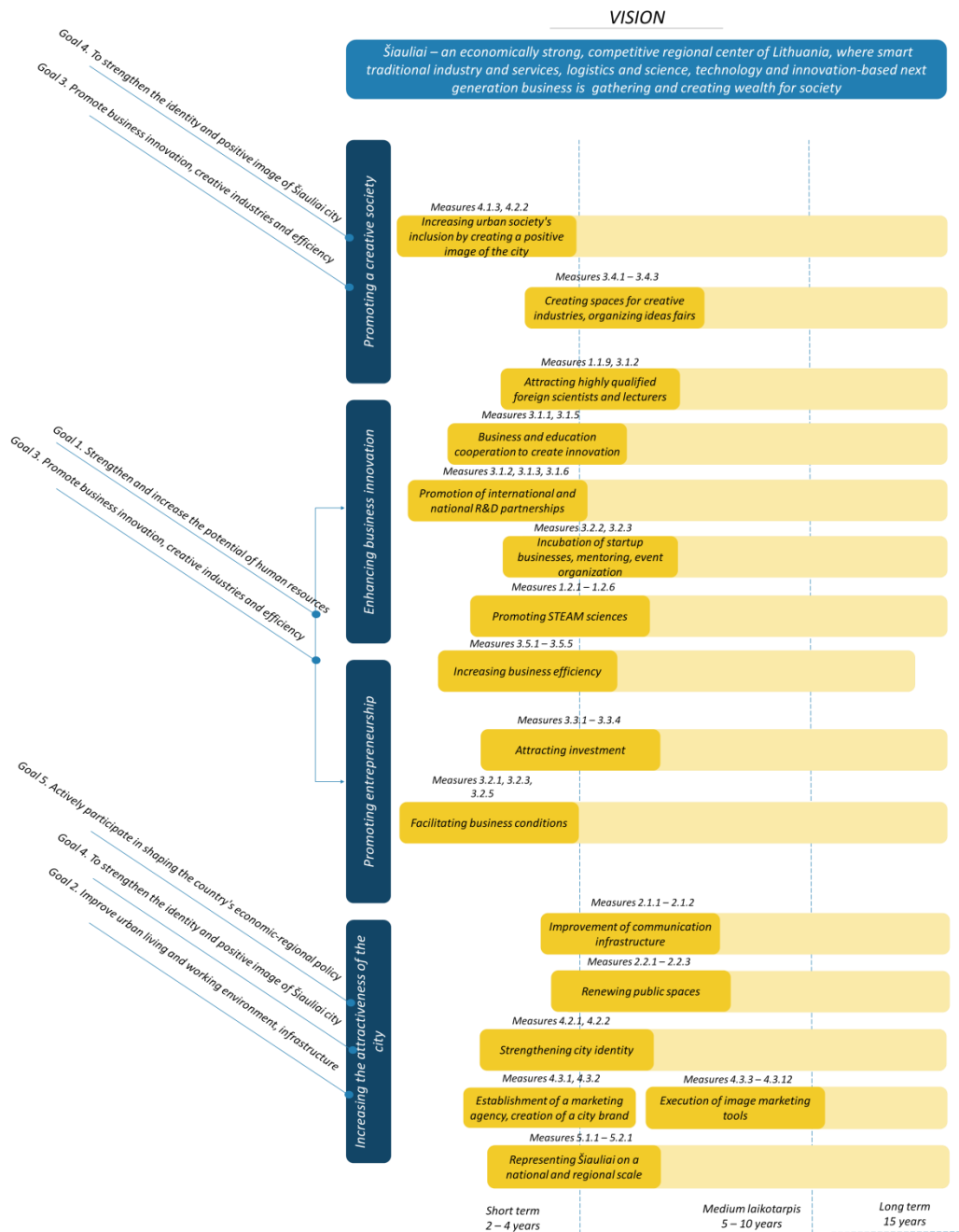


Figure 19. Šiauliai city strategy's for Economic Development and Attracting Investments main directions and tool groups

Source: prepared by the Executing agency

The following is a plan of measures of economic development and attracting investment strategy of Šiauliai city. Business measures are recommended (business owners make business decisions and business development), therefore the authorities responsible for these measures are not specific companies.

No.	Goals, objectives and measures	Indicators	Value of the indicator	Period	Budget, thds. Eur	Sources of funding	Responsible Authority
1. Strengthen and increase the potential of human resources							
1.1	Improve the quality of education and adapt to market needs	Number of students studying in higher education institutions in Šiauliai city, pcs. Number of students of vocational training institutions in Šiauliai city, pcs.	3,637 thds. (2018) 5 thds. (2034) 1,759 thds. (2018) 3 thds. (2034)	2019–2034	1240–2100		
1.1.1	To organize visits of general school students during technology lessons to Šiauliai PRC	Number of organized visits during lessons, pcs.	For each class of general education, 1 lesson to be organized during the school year - 2024 For each class of general education, 2 lessons to be organized during the school year - 2034	2019–2034	-	-	Vocational training institutions, general education schools
1.1.2	Implementation of the Future Engineers Program	Number of pupils attracted by Future engineers Program from Šiauliai city, pcs.	200 pcs every year until 2024 300 pcs every year from 2024 until 2034	2020–2034	-	-	Invest Lithuania

1.1.3	Improvement of information technology, linguistic, professional and personal competencies of existing educators of general education schools, higher education and vocational training institutions	Percentage of teachers who have completed IT courses,%	60% – 2024 100% – 2034	2019–2034	15–20 (for a year)	Šiauliai City Municipality Administration, higher education and vocational training institutions, EU Structural Funds (eg “Development of Formal and Non-Formal Learning Opportunities” and similar instruments), state budget funds, Interreg VA Latvia – Lithuania Programme 2014–2020 (eg Employment and Labor Mobility: “Increasing job opportunities by improving mobility and workforce skills” and similar measures)	General education schools, higher education and vocational training institutions
		Share of teachers who have completed a foreign language course,%	50% – 2024 80% – 2034				
		Percentage of teachers who have received professional and personal competence development certificates,%	100% – 2024				
1.1.4	Collaboration of higher education and vocational training institutions with foreign educational institutions to take over good practice	Number of organized joint projects / activities, pcs (progress rate is calculated for each higher education and vocational training institution)	3 pcs until 2024 10 pcs until 2034	2019–2034	500–1000	Higher education and vocational training institutions, Interreg V-A Latvia-Lithuania Programme 2014-2020 (eg Employment and Labor Mobility: “To increase job opportunities by improving mobility and workforce skills” and similar measures)	Higher education and vocational training institutions

1.1.5	Cooperation between higher education, vocational training institutions and business enterprises for organizing internships in foreign companies	Percentage of students in higher education institutions who have completed their internship abroad,% (progress indicator applied to each higher education institution)	5% of all students until 2024 10% of all students until 2034	2019–2034	700–1000	Erasmus+ Program, EU Structural Funds (eg: "Improving Study Quality" and similar instruments), state budget funds, Interreg VA Latvia - Lithuania Program 2014-2020 (eg Employment and Labor Mobility: "To increase job opportunities by improving mobility and workforce skills" and similar measures)	Higher education and vocational training institutions, business enterprises
		Percentage of VET students who have completed internship abroad,%	5% until 2024 10% until 2034				
1.1.6	Collaboration between higher education, vocational training institutions and business enterprises, attracting business entities for reading lectures	Number of lectures read in higher education institutions, pcs. (progress rate is calculated for each higher education institution)	20 pcs until 2024 60 pcs until 2034	2019–2034	25–80	Businesses, higher education and vocational training institutions, Interreg V-A Latvia-Lithuania Program 2014-2020 (eg Employment and Labor Mobility: "To increase job opportunities by improving mobility and workforce skills" and similar measures)	Higher education and vocational training institutions, business enterprises
		Number of read lectures in VET institutions, pcs.	20 pcs until 2024 60 pcs until 2034				
1.2.	Increase the attractiveness of STEAM sciences	Percentage of young (16-29) unemployed persons from all working age population	3,7% by 2018 Do not exceed 5% by 2034	2019–2034	670–1590		

		Percentage of pupils who chose to take a chemistry exam from all pupils,%	5,1% by 2018 10% by 2034				
		Percentage of pupils who have passed the chemistry exam receiving 86-100 points,%	23,73% by 2018 35% by 2034				
		Percentage of pupils who chose to take an IT exam from all pupils,%	7,7% by 2018 10% by 2034				
		Percentage of pupils who have passed the IT exam receiving 86-100 points,%	39,33% by 2018 50% by 2034				
		Percentage of pupils who chose to take physics exam from all pupils,%	9,7% by 2018 20% by 2034				
		Percentage of pupils who have passed the physics exam receiving 86-100 points,%	2,65% by 2018 10% by 2034				
		Percentage of pupils who chose to take a mathematics exam from all pupils,%	64% by 2018 90% by 2034				

		Percentage of pupils who have passed the mathematics exam receiving 86-100 points,%	7,53% by 2018 20% by 2034				
1.2.1	Joining of the pre-school and general education schools to the STEAM network	Share of pre-school and general education schools joining the STEAM network,%	50% until 2024 100% until 2034	2019–2034	-	-	Pre-school and general education schools
1.2.2	STEAM events and competitions	Number of STEAM events and competitions organized, pcs. Number of participants in events and competitions, pcs. (The progress indicator is calculated by taking into account that each event will involve 100 participants by 2024 and 140 participants from 2024 to 2034)	15 pcs until 2024 45 pcs until 2034 1,5 thds. until 2024 6 thds. until 2034	2019–2034	150–500	Šiauliai city Municipality Administration, business enterprises	General education schools, higher education institutions, Šiauliai PRC

1.2.3	Business-run informational program for general education students to show that engineering specialties are attractive	Number of visits by business representatives to general education in schools, pcs. (progress rate is calculated by organizing one business visit per year in each co-educational school)	175 pcs until 2024 525 pcs until 2034	2019–2034	10–30	Business enterprises	General education schools, businesses, vocational training institutions
		Number of pupil trips to business enterprises, pcs. (progress indicator is calculated by organizing 1 (up to 2024) or 2 (2024 - 2034) pupil trips per year to business enterprises from each general education school)	175 pcs – 2024 525 pcs until 2034				
1.2.4	Establishment of a STEAM center open to society in the premises of Šiauliai Academy	Established STEAM center, pcs.	1 pc – 2021	2020–2021	200–500	EU Structural Funds, Šiauliai City Municipality Administration, Business Companies	Šiauliai Academy, Šiauliai PRC, Education Department of Šiauliai City Municipality Administration

1.2.5	Additional non-formal education basket (for IT, Robotics, Engineering)	Percentage of pupils attending IT, robotics, non-formal engineering education,%	10% of all pupils until 2024 m. 15% of all pupils until 2034	2020–2034 m.	180–280	State budget funds, Šiauliai City Municipality Administration, EU Structural Funds (eg: "Development of Formal and Informal Learning Opportunities" and similar instruments)	Education Department of Šiauliai City Municipality Administration
1.2.6	Selecting motivated students in the field of STEAM by offering them a future career (providing one-time scholarships to motivated students)	Share of motivated students, supported by businesses,% (one-time 200 Eur scholarship)	5% until 2024 10% until 2034	2019–2034	130–280	Business enterprises	General education schools, Šiauliai PRC, business enterprises
1.2.7	Establishment of Robotics / STEAM classes in general education schools	Number of robotics / STEAM classes created, pcs. (progress indicator applied in each general education school)	1 pcs – 2024 (in each general education school)	2019–2024	The budget will depend on the resources required for each school to set up robotics classes, the necessary hardware and maintenance	Šiauliai City Municipality Administration	General Education Schools, Šiauliai City Municipality Administration
1.3.	Promote vocational guidance and qualification	Share of employers satisfied with prepared pupils and students,% (employer surveys)	90% of employers assess positively	2019–2034	6000–13000		
1.3.1	Improve the competences of VET teachers and trainers in the form of internships in business enterprises	Percentage of VET teachers who completed internships in the companies,%	10% yearly until 2024 15% yearly from 2024 until 203	2019–2034	400–1000	Erasmus+, Interreg V-A Latvia-Lithuania Program 2014–2020 (eg: Employment and Labor Mobility: "To increase	Higher education and vocational training institutions

		Percentage of lecturers in higher education institutions (from each higher education institution) who have completed internships in the companies,%	5% yearly until 2024 10% yearly from 2024 until 2034			job opportunities by improving mobility and workforce skills” and similar measures)	
1.3.2	Inclusion of 9-12th grade school pupils in early cognitive internships in enterprises (Included "Day of Shadowing", when pupils watch a professional in a particular field for at least one day)	Percentage of pupils who have participated in early internships,%	10% of all 9–12 grade pupils until 2024 20% of all 9–12 grade pupils until 2034	2019–2034	-	-	General education schools, business enterprises
1.3.3	Continue the Early Vocational Information Project (OPA) for primary school pupils by the Šiauliai Vocational Training Center	Percentage of primary school pupils attending classes,%	20% yearly until 2024 30% yearly from 2024 until 2034	2019–2034	50–100	Šiauliai City Municipality Administration, Šiauliai PRC	Šiauliai PRC
1.3.4	Organize an exhibition "Šiauliai - Career City" (joint forces: ŠU, ŠVK, Šiauliai PRC, gymnasiums, business)	Number of organized exhibitions, pcs. Number of exhibition participats, pcs	4 pcs until 2024 14 pcs until 2034 16 thds. until 2024 86 thds. until 2034	2020–2034	160–560	Šiauliai City Municipality Administration, Business Enterprises, Higher Education and Vocational Training Institutions	General Education Schools, Higher Education and Vocational Training Institutions, Business Companies, Šiauliai City Municipality Administration Education Department

1.3.5	<p>Granting scholarships to the best vocational school students (scholarship is granted once a month) Scholarships should be provided by business.</p>	<p>Number of scholarships paid to the best students, pcs. Amount of scholarships paid, Eur (The progress rate is calculated as 100 best students get 50 Eur a month (until 2024) and 80 Eur a month (2024 - 2034))</p>	<p>500 pcs until 2024 1,5 thds. pcs until 2034 225 thds. Eur until 2024 945 thds. Eur until 2034</p>	2019–2034	225–945	Business enterprises	Vocational training institutions, business enterprises
1.3.6	<p>Promote and publicise practical training of students of VET institutions and workers at the company's workplaces through apprenticeship</p>	<p>Percentage of pupils employed in enterprises after completing apprenticeships,% Number of employees who have improved their qualification through apprenticeship, pcs.</p>	<p>60% until 2024 80% until 2034 500 pcs until 2024 2500 pcs until 2034</p>	2019–2034	200–300	<p>EU Structural Funds (eg: "Promoting and Promoting Practical Skills"; "Apprenticeships and on-the-job training" and similar measures), business enterprises, State Budget Funds</p>	Vocational training institutions, business enterprises
2019–2034							

1.3.7	<p>Retraining and learning trips for long-term employees to increase employee work performance by creating higher added value</p> <p>This measure encourages staff loyalty and opens up better career opportunities for less skilled workers. The study trip (the longest duration of 3 months) should be co-financed by local government and business.</p>	Percentage of employees who have benefited from learning trips, %	5% of all workers until 2024 10% of all workers until 2034	2019–2034	5000–10000	Business enterprises, EU Structural Funds (eg "Competitions LT" and similar tools)	Business enterprises
1.3.8	To publicize and promote opportunities for continuing vocational training in Šiauliai PRC	Number of events in which Šiauliai PRC participated, pcs.	10 pcs until 2024 30 pcs until 2034	2019–2034	50–150	Šiauliai PRC	Šiauliai PRC, business enterprises
1.3.9	Create a suitable base for purposeful and quality provision of vocational guidance services in general education schools	Description of procedure for organization of vocational guidance activities in schools created, pcs. (progress indicator applied in each general education school)	35 pcs – 2021	2020–2021	The budget will depend on the resources that will be needed for each school to set up monitoring, indicator systems, and descriptions of	Šiauliai City Municipality Administration	General Education Schools, Šiauliai City Municipality Administration

		A system for student career planning and career tracking developed, pcs.	35 pcs – 2021		order		
		A system of indicators for measurable professional guidance activities developed, pcs.	35 pcs – 2021				
1.3.10	Obligatory career lessons, recurring 1 time a week introduced in each general education school	Number of career lessons completed (progress indicator applied to each general education institution)	36 pcs – 2021	2020–2021	-	-	General Education Schools, Šiauliai City Municipality Administration
		The number of organized lessons that provide information about market professionals and specialists that are lacking (progress indicator applied to each general education institution)	1 pc – 2021				
1.4.	Attracting emigrants and new residents	Net migration, pcs.	-419 (2017) 20 thds. (2034)	2019–2034	870–2070		
1.4.1	Establishment of a post that maintains relations	Established post, pcs.	1 pc – 2020	2020–2034	270	Šiauliai City Municipality Administration	Šiauliai city Tourism Information Center

	with emigrants and serves returning residents and foreigners in Šiauliai City Municipality and ensuring its activities	Number of contacts, pcs. (progress rate is calculated by adding 500 contacts annually)	2 thds. until 2024 7 thds. until 2034				
		Share of returning residents and aliens that have been served,%	80% until 2024 100% until 2034				
1.4.2	Financial incentive for incoming demanded professionals⁹ (One-time payment covering the cost of renting a place to live for the year)	Number of highly qualified professionals who have received one-time payments, pcs.	500 pcs until 2024 1,5 thds. until 2034	2019–2034	600–1800	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Economy and Investment Division, business enterprises
1.5.	Promote the active participation of older people in the labor market	Number of unemployed persons over 50 years old, pcs.	1664,7 people (2019) No more than 1000 people (2034)	2019–2034	110–260		
1.5.1	Effective dissemination of information on opportunities for older people to participate in the labor market	Number of information campaigns organized, pcs.	20 pcs until 2024 60 pcs until 2034	2019–2034	30–60	Šiauliai City Municipality Administration	Šiauliai Third Age University, Šiauliai City Municipality Administration Education Department, Employment Service
1.5.2	Helping individuals to integrate into the labor market through	Institutions cooperating with Employment Service, pcs.	5 pcs until 2024 20 pcs until 2034	2019–2034	80 – 200	EU Structural Funds (eg "54+" and similar measures), V-A Latvia-Lithuania Program 2014–	Non-Governmental Organizations, Employment Service

⁹ Regular meetings will be made annually at the regular meetings of Šiauliai city municipality and business representatives to decide about the public and private sectors needs.

	cooperation with NGO's	Percentage of people returning to the labor market with the help of NGOs from all unemployed,%	10% until 2024 30% until 2034			2020 (Social inclusion: "To improve accessibility and efficiency of social services" and similar measures)	
2. Improve urban living and working environment and infrastructure							
2.1	Improving communication infrastructure	Average transport time Vilnius – Šiauliai	2.20 hours – 2030	2019–2030 m.	220000–221000		
2.1.1	Šiauliai city highway (four lanes) road is scheduled, designed and built ¹⁰	Construction of a four-lane road	4 lane highway built in 2030	2024–2030	220043	State Budget Funds	City Economy and Environment Division of Šiauliai City Municipality Administration
2.1.2	P. Motiekaičio street extension to road A9 ¹¹	P. Motiekaičio street is extended	Extended P. Motiekaičio street to road A9 – 2023	2022–2023	440	Šiauliai City Municipality Administration	City Economy and Environment Division of Šiauliai City Municipality Administration
2.2.	Create and update public spaces	Number of updated or newly created objects, pcs.	3 pcs (2034)		300–1000		
2.2.1	Reconstruction of Zubovai palace and usage of park	Number of events held in Zubovai palace, pcs.	10 pcs until 2024 60 pcs until 2034	2020–2034	200–500	Šiauliai Academy, EU Structural Funds (eg "Update Municipal	Šiauliai Academy

¹⁰ The budgets are set only on a preliminary basis, technical projects and solutions are needed

¹¹ The budgets are set only on a preliminary basis, technical projects and solutions are needed

		Reconstruction project prepared	1 pc – 2022			Cultural Heritage Objects", "Update Public and Private Cultural Heritage", "Complex Development of Large Cities" and similar measures)	
2.2.2	Establishment of a gaming park / amusement park	A gaming park / amusement park is established, pcs.	1 pc – 2021	2020–2021	The cost of installing a park will depend on the business model of the business entity and the type of park (Budget is not foreseen as the measure is planned to implement the PPP principle)	Business enterprises, EU Structural Funds (eg Integrated Complex Development of Large Cities and similar measures)	Business enterprises
2.2.3	Usage of the Resurrection Square	Number of events organized, pcs. (progress rate is calculated by organising 3 events per year)	9 pcs until 2024 39 pcs until 2034	2021–2034	100–500	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Building and Renovation Division
2.3	Improve working environment and work conditions	Average wages in the city, Eur	827,2 Eur (2018 IV quarter) 1500 Eur (2034)	2019–2034	290–520		

2.3.1	Municipality's Best Employer Nomination for the Year (assessing criteria such as socially responsible business, etc.)	The Best Employer of the Year award is set up, pcs.	5 pcs until 2024 15 pcs until 2034	2019–2034	-	-	Šiauliai City Municipality Administration Economy and Investment Division, business enterprises
2.3.2	Attract a network of hotels through public-private partnerships	At least one international hotel in Šiauliai is build (at least 4 stars)	1 pcs – 2025	2021–2025	(Budget is not expected, efforts to attract hotel network are included in activities of Šiauliai City Municipality Marketing Department or Agency)	Šiauliai City Municipality Administration	Unit / authorities responsible for marketing
2.3.3	Establishing children's rooms in large companies	Proportion of enterprises equipped with children's rooms,% (from all major companies)	30% until 2024 60% until 2034	2019–2034	100–200	Business enterprises	Business enterprises
2.3.4	To finance after-school activities in primary education	Percentage of primary education children participating in extracurricular activities	30% until 2024 50% until 2034	2019–2034	190–320	Šiauliai City Municipality Administration	Primary education institutions

3. Promote business innovation, creative industries and efficiency

3.1	Encourage cooperation between business, education and public institutions to create innovation	The share of patents registered in Šiauliai city from the total number of patents in Lithuania, %.	20% (2034)	2019–2034	3670–8500		
		Share of investments of Šiauliai city business enterprises in R&D from the total Lithuanian business investment in R&D, %.	20% (2034)				
3.1.1	Collaboration between scientists and students in international and national research and experimental development projects	Number of joint projects of researchers and students, pcs. (progress rate is calculated for each higher education institution)	3 pcs until 2024 6 pcs until 2034	2019–2034	300–600	EU Structural Funds (eg: "Developing the scientific excellence of researchers, other researchers and students through practical research activities" and similar measures)	Higher education institutions

3.1.2	<p>Innovation vouchers The government financially supports small and medium-sized businesses by helping them acquire knowledge-based services from science, research institutions, universities, that help to implement innovative solutions in production, create new materials and products in companies. It also helps to establish links between business and science institutions.</p>	Number of companies using innovation vouchers, pcs.	100 pcs until 2024 300 pcs until 2034	2019–2034	2000 – 6000	EU Structural Funds (eg "Innochecks" and similar measures)	Business enterprises (responsible for application)
3.1.3	Local business' workers traineeships in foreign R&D centers and companies	Number of trainees sent out, pcs.	25 pcs until 2024 75 pcs until 2034	2019–2034	370 – 400	Business enterprises, EU Structural Funds (eg "Inostraineeship" and similar measures)	Business enterprises
3.1.4	Promotion of international R&D partnerships between enterprises	Number of international agreements concluded between enterprises, pcs.	15 pcs until 2024 45 pcs until 2034	2019–2034	300 – 500	Business enterprises, EU Structural Funds (eg InnoConnect and similar measures)	Business enterprises

3.1.5	Encouraging cluster development by providing advice, informing about up-to-date practices, financing marketing tools	Number of new clusters, pcs.	1 pc until 2024 3 pcs until 2034	2019–2034	700 – 1000	EU Structural Funds (eg Business Cluster LT, Inocluster LT and similar measures)	Business Lithuania, enterprises, associated business structures
3.2	Promote entrepreneurship and facilitate business	Number of economic entities operating at the beginning of the year, pcs.	4,051 thds. (2019) 5 thds. (2034)	2019–2034	2200–3500		
3.2.1	Providing Šiauliai City Municipality services to business based on one-stop shop principle	Number of business representatives using one-stop shop services, pcs.	250 pcs until 2024 1 thds. until 2034	2019–2034	-	-	Šiauliai City Municipality Administration Department of Economics and Investment
3.2.2	Continue the mentoring of Startup businesses, attract Startup Lithuania events to Šiauliai city	Number of startups consulted, pcs.	15 pcs until 2024 45 pcs until 2034	2019–2034	300–500	Šiauliai City Municipality Administration, Business Companies, EU Structural Funds (eg Business Consultant LT and similar measures), Interreg VA Latvia-Lithuania Program 2014–2020 (eg Employment and Labor Mobility: To create employment opportunities through entrepreneurship support and similar measures)	Šiauliai Business Incubator
		Number of successful businesses for at least one year, pcs.	3 pcs until 2024 9 pcs until 2034				
		Number of events organized, pcs.	5 pcs until 2024 25 pcs until 2034				

3.2.3	Applying tax reliefs (municipal taxes - land tax, real estate tax) to business, if the salary paid exceeds Šiauliai average wage level by at least 25%.	Average salary of employees working in companies benefiting from reliefs, Eur	1430 Eur – 2024 1950 Eur – 2034	2019–2034	1000–2000	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Department of Economics and Investment
3.2.4	„Spin-off“ of business created in higher education	Number of business ideas born and implemented in higher education units, pcs.	2 pcs until 2024 4 pcs until 2034	2019–2034	-	-	Šiauliai Academy, Šiauliai State College
3.2.5	Continue to provide support for business start-ups by city authorities	Number of newly registered small and medium-sized enterprises, pcs.	900 pcs until 2024 3000 pcs until 2034	2019 – 2034	900–1000	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Department of Economics and Investment
Number of natural persons performing individual activity, pcs.		3 thds. until 2024 10 thds. until 2034					
Number of implemented entrepreneurship promotion projects, pcs. (progress indicator is calculated by organizing 7 trainings per year)		35 pcs until 2024 105 pcs until 2034					

3.2.6	Establishment of a list of potential export markets of associated business structures (in cooperation with Business Lithuania)	List of potential export markets, pcs.	4 pcs until 2024 14 pcs until 2034	2020–2034	-	-	Associated Business Structures, Business Lithuania
3.3	Attract investment ¹²	Investment in tangible fixed assets, Eur	244.8 million Eur (2017) 500 million Eur (2034)	2019–2034	1250–3090		
		Foreign direct investment, Eur	139.1 million Eur (2017) 400 million Eur (2034)				
3.3.1	Renewal of a detailed city plan (spatial planning for industry development)	Updated city detailed plan, pcs.	1 pc – 2021	2020–2021	40–50	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Department of Architecture, Urbanism and Heritage Protection
3.3.2	Application of the Built to suit principle in the FEZ area	Number of projects, pcs.	2 pcs until 2024 4 pcs until 2034	2019–2034	1000–2000	FEZ operator	FEZ operator
		Number of people employed in FEZ investors enterprises, pcs.	1 thds. until 2024 3 thds. until 2034				
3.3.3	Creating kindergarten groups conducting education in English	Number of English language groups, pcs.	1 pc until 2024 4 pcs until 2034	2019–2034	200–1000	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Education Department, preschool and general education institutions
		Number of children attending English groups, pcs.	20 pcs until 2024 80 pcs until 2034				

¹² All measures provided in the plan indirectly contribute to this objective.

3.3.4	Improve the English language skills of Šiauliai City Municipality employees	Share of municipal employees who speak English at B2 level,%	50% – 2024 80% – 2034	2019–2034	10 – 40	Šiauliai City Municipality Administration, EU Structural Funds (eg: “Promotion of Personnel Management in State and Municipal Institutions, Promotion Initiatives” and similar measures), State Budget Funds	General Affairs Division of Šiauliai City Municipality Administration
3.4	Creating spaces for the development of creative industries	Number of creative industries involved in creative activities in the city, pcs.	200 pcs – 2034	2019–2034	1200–3600		
3.4.1	Adapt existing unused spaces to creative industries	Number of previously unused spaces being used, pcs.	1 pc until 2024 3 pcs until 2034	2019–2034	The budget is not foreseen because the measure is planned to be implemented by the PPP principle	Šiauliai City Municipality Administration, business enterprises	Šiauliai City Municipality Administration Department of Economics and Investment
3.4.2	Creating a creative industries (industrial design) center to achieve collaboration between manufacturers and representatives of creative industries	A center of creative industries is created	1 pc – 2022	2020–2022	1000 – 3000	Šiauliai City Municipality Administration, EU Structural Funds (eg "Design LT" and similar measures), business enterprises	Construction and renovation department of Šiauliai City Municipality Administration, business enterprises

3.4.3	Organizing ideas fairs at the center of creative industries (industrial design) (regular meetings of business representatives and young people in search of innovative solutions. This could be similar to the hackathon principle)	Number of regular events, pcs.	8 pcs until 2024 48 pcs until 2034	2022–2034	200–600	Business enterprises	Business support organizations, business enterprises, higher education institutions
3.5	Increase business efficiency	One-man value added per year in Šiauliai city, Eur	13776,9 Eur – 2016 20000 Eur – 2034	2019–2034	66700–176000		
3.5.1	Informing business (members of associated business structures) about the benefits of modern management methods	Number of seminars organized by associated business structures presenting modern management methods, their application and benefits, pcs. (progress rate is calculated by organizing 2 seminars per year)	8 pcs until 2024 28 pcs until 2034	2020–2034	-	-	Associated business structures
		The share of companies having modern management methods in Šiauliai city, %.	15% – 2024 30% – 2034				

3.5.2	Informing local businesses about opportunities to apply for funding from various EU and other funds	Number of approved companies' applications, pcs.	250 pcs until 2024 750 pcs until 2034	2019–2034	-	-	Šiauliai Business Incubator, Business Lithuania, associated business structures
3.5.3	Renewal of energy infrastructure of industrial enterprises operating their buildings	Proportion of industrial enterprises renewing their energy infrastructure,%	20% – 2024 60% – 2034	2020–2034	17000–52000	EU Structural Funds (eg "Renewable Energy for Industry LT+" and similar measures)	Business enterprises
3.5.4	Industrial enterprise automation	Share of industrial enterprises with fully automated production lines,%	20% – 2024 50% – 2034	2020–2034	49700–124000	EU Structural Funds (eg "Industrial Digitization LT" and similar measures)	Business enterprises
3.5.5	Searching for new raw material markets	Number of new raw material markets / countries, pcs. (progress indicator applied to each business enterprise)	1 pc until 2024 3 pcs until 2034	2020–2034	-	-	Business enterprises

4. To strengthen the identity and positive image of Šiauliai city

4.1	To increase the inclusion of Šiauliai city society	Share of Šiauliai city residents that are satisfied with municipal administration services,% (surveys are being conveyed of residents' satisfaction with municipal administrative services)	80% – 2034	2019–2034	-		
4.1.1	To improve the service provided for the population and the quality and availability of the services by digitizing the process of issuing permits and licenses	Reduction of the document issuing time,%	10% until 2024 30% until 2034	2019–2034	-	-	General Affairs Division of Šiauliai City Municipality Administration
4.1.2	Establishment of the nomination of the most active resident of Šiauliai	The most active resident of Šiauliai nomination is established	5 pcs until 2024 15 pcs until 2034	2019–2034	-	-	General Affairs Division of Šiauliai City Municipality Administration
4.1.3	Installing a telephone trust line in the municipality	The municipality has a trust line installed	1 pc – 2020	2019–2020	-	-	General Affairs Division of Šiauliai City Municipality Administration
		Share of investigated problem cases (from all reports),%	70% until 2024 100% until 2034	2020–2034			

4.2	Strengthen city identity	People feeling proud of being a resident of Šiauliai from city of the Šiauliai population,% (population satisfaction surveys are carried out)	90% – 2034	2019–2034	30 – 40		
4.2.1	Distinguish the strongest areas (attributes), that identify the city	An image marketing strategy is developed, pcs.	1 pc – 2021	2020–2021	20	Šiauliai City Municipality Administration	Department of Strategic Planning and Finance of Šiauliai City Municipality Administration
4.2.2	Encourage the development of tools that emphasize the uniqueness of the city by involving the representatives of the creative industries (Šiauliai is a sun city, a sun sign should appear on city buildings)	Number of city identity creation initiatives, pcs.	10 pcs until 2024 30 pcs until 2034	2019–2034	10 – 20	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Department of Architecture, Urbanism and Heritage Protection
4.3	Execute an image marketing program	Number of tourists in accommodation establishments, pcs.	53,089 thds. (2018) 100 thds. (2034)	2019–2034	290–700		

4.3.1	Establishment of a marketing execution unit / institution (alternatives - establishment of an administrative unit, supplementation of the functions of Šiauliai Business Incubator, purchase of outsourced services, establishment of an independent public body) to communicate daily in cyberspace and be responsible for the marketing program	Unit / institution responsible for marketing execution is established (alternatives - establishment of administrative unit, supplementation of functions of Šiauliai Business Incubator, purchase of outsourced services, establishment of independent public body)	1 pc – 2020	2019–2020	120–250 (Budget is calculated for 5 marketing expert salary expenses)	Šiauliai City Municipality Administration	Šiauliai City Municipality Administration Department of Economics and Investment
4.3.2	Creation and consistent and unified use of the Šiauliai city brand and brandbook	Brand and brandbook created	1 pc – 2019	2019	10 – 20	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency

4.3.3	Creating an attractive website to provide information for investors in Lithuanian, English and Russian (the current website of Šiauliai City Municipality is unattractive in its appearance and presentation of information, the notes have errors, the statistics have not been updated for a long time, etc.)	Website created, pcs.	1 pc – 2020	2020	1	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
4.3.4	Creation of electronic publication reflecting Šiauliai city brand and distinguishing main economic directions of Šiauliai city	Created electronic publication, pcs.	1 pc – 2020	2020	(120 - 250 thsd. Eur per year is already allocated for maintenance of the agency, therefore the price of these services is not calculated separately)	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency

4.3.5	Creating an interactive map of Šiauliai real estate, which marks the commercial plots for sale, the FEZ territories and the Industrial Park	Created interactive map of real estate in Šiauliai, pcs.	1 pc – 2020	2020	(120-250 thsd. Eur per year is already allocated for maintenance of the agency, therefore the price of these services is not calculated separately)	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
4.3.6	Social networking (such as Facebook, LinkedIn, Instagram) in English	Number of English posts posted on Facebook, pcs.	600 pcs until 2024 1,8 thsd. until 2034	2020–2034	(120-250 thsd. Eur per year is already allocated for maintenance of the agency, therefore the price of these services is not calculated separately)	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
		Number of Facebook followers on social site, pcs.	15 thsd. until 2024 40 thsd. until 2034	2020–2034			
		Number of English posts posted on the LinkedIn, pcs.	240 pcs until 2024 720 pcs until 2034	2020–2034			
		Number of followers of LinkedIn social site, pcs.	1 thsd. until 2024 3 thsd. until 2034	2020–2034			
		Number of English posts posted on the social site Instagram, pcs.	900 pcs until 2024 2,7 thsd. until 2034	2020–2034			
		Number of Instagram social site followers, pcs.	5 thsd. until 2024 15 thsd. until 2034	2020–2034			

4.3.7	Articles about Šiauliai city in foreign press attracting foreign journalists	Number of foreign bloggers and journalists arriving, pcs.	15 pcs until 2024 45 pcs until 2034	2020–2034	10–20	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
4.3.8	Purchase of press or promotional messages on foreign portals	Number of promotional or press releases published on foreign portals, pcs.	15 pcs until 2024 45 pcs until 2034	2020–2034	30–90	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
4.3.9	Participation in national and international exhibitions on business, studies and tourism	Number of exhibitions in which Šiauliai city representatives participated, pcs.	15 pcs until 2024 25 pcs until 2034	2020–2034	30–50	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
4.3.10	Submitting applications for organisation of international business events	Number of applications submitted, pcs.	10 pcs until 2024 30 pcs until 2034	2020–2034	50–150	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
		Number of organized international events, pcs.	5 pcs until 2024 15 pcs until 2034	2020–2034			
4.3.11	Preparation, translation and publication of informational publications in foreign languages	Number of published informational publications, pcs.	32 pcs until 2024 120 pcs until 2034	2020–2034	40–120	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency

4.3.1 2	Collaborate with the Lithuanian Marketing Association (LIMA) to prepare seminars, etc. relevant to marketing, communication	Number of joint projects with LIMA, pcs.	15 pcs until 2024 45 pcs until 2034	2020–2034	(120-250 thsd. Eur per year is already allocated for maintenance of the agency, therefore the price of these services is not calculated separately)	Šiauliai City Municipality Administration	Šiauliai City Municipality Marketing Department or Agency
5. Actively participate in shaping the country's economic-regional policy							
5.1 ¹³	Representing Šiauliai nationwide	GDP per capita in comparison with the national average,%	77,1% (2017) 110% (2034)	2019–2034	-		
5.1.1	Involvement of Šiauliai educational institutions in the activities of associated structures / networks	Number of networks / structures in which Šiauliai educational institutions are involved, pcs.	5 pcs until 2024 15 pcs until 2034	2019–2034	-	Educational institutions	Educational institutions
5.1.2	To make proposals to the Parliament and the Government of the Republic of Lithuania on legislation related to regional development	Number of initiated changes to laws, pcs.	5 pcs until 2024 15 pcs until 2034	2019–2034	-	-	Šiauliai City Municipality Administration Law Division
5.2	Represent Šiauliai at regional level	GDP per capita in comparison with the national average,%	77,1% (2017) 110% (2034)	2019–2034	-		

¹³ The achievement of Objectives 5.1 and 5.2 is measured by the same indicator.

5.2.1	<p>To continue the activities of the Regional Development Council, complementing the functions.</p> <p>The main objectives of the Council are:</p> <ul style="list-style-type: none"> a) negotiations on joint development projects; b) development of new cooperation projects; c) monitoring the development of the region and cities. 	<p>Number of regular meetings, pcs.</p>	<p>36 pcs until 2024 180 pcs until 2034</p>	<p>2019–2034</p>	<p>-</p>	<p>-</p>	<p>Initiative working group that has been formed</p>
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Annex 1. Abbreviations and definitions

Executing agency	Smart Continent LT UAB
FDI	Foreign Direct Investment
FEZ	Free Economic Zone
GDP	Gross Domestic Product
LLRI	Lithuanian Free Market Institute
LQ	Location Quotient
LSD	Lithuanian Department of Statistics
PEST	Political, Economic, Social and Technological factors method
R&D	Research and development
STEAM	Science, Technology, Engineering, Arts, Mathematics
Strategy / Project	Šiauliai city economic development and attracting investment strategy
SWOT	Strengths, weaknesses, opportunities, threats
ŠEDG	Šiauliai economic development group

Abbreviations for the Classification of Economic Activities:

Manufacturing	Mining, quarrying and manufacturing
Textile	Manufacture of textiles
Wholesale and retail trade	Wholesale and retail trade; repair of motor vehicles and motorcycle
Logistics	Transportation and storage
Recreational activity	Arts, entertainment and recreation
Scientific activities	Professional, scientific and technical activities
Social activities	Education, health and social work and other social service activities
Land transport	Land transport and transport via pipelines
Manufacture of wood	Manufacture of wood and of products of wood and cork, except furniture
Paper manufacturing	Manufacture of pulp, paper and paper products
Metal manufacturing	Manufacture of basic metals and fabricated metal products, except machinery and equipment
Computer programming	Computer programming, consultancy and related activities

Annex 2. Indicators of potential analysis

Economic potential	Business conditions	Infrastructure	Labor force	Studies and R&D
<ol style="list-style-type: none"> 1. GDP; 2. Exports of goods of Lithuanian origin; 3. Investment in tangible fixed assets ; 4. Number of enterprises; 5. FDI; 6. Unemployment rate. 	<ol style="list-style-type: none"> 1. Municipal business support; 2. Bank lending; 3. Average wage; 4. FEZ; 5. City economic development strategy; 6. Land and property taxes. 	<ol style="list-style-type: none"> 1. City accessibility by highway; 2. City accessibility by rail; 3. Airport; 4. Urban area; 5. Location of traction centers. 	<ol style="list-style-type: none"> 1. Labor force 2. The share of the workforce in the total population; 3. Number of specialists trained in higher education institutions in Šiauliai city; 4. Number of qualified professionals. 	<ol style="list-style-type: none"> 1. Number of doctoral students at the University; 2. R&D personnel; 3. Academic university equipment adaptation to perform scientific research; 4. R&D expenditure

Annex 3. PEST analysis

Factors	Positive	Negative
Legal and political	<ul style="list-style-type: none"> • Compared to Klaipėda and Panevėžys, the lowest real estate tax rates. • The most of the preferences in Šiauliai city, are applied to business compared to Panevėžys and Klaipėda cities. • The support provided by Šiauliai City Municipality is the widest among the cities analysed, covering the setting-up costs, the cost of purchasing equipment and offers free advice on starting a business, managing it, etc. • In the Šiauliai city there is a FEZ and an industrial park, that offers tax benefits. • The industrial park attracted 11 companies, whose investments have already paid off to Šiauliai City Municipality. • At least one of the goals in Šiauliai city and region strategic documents is related to business development and creation of higher added value. • The goals set in the strategic documents of Šiauliai University and Šiauliai State College are related to the strengthening of scientific and business cooperation. • In the Guidelines for Lithuanian Regional Policy 2017 - 2027 it is planned to increase the financial autonomy of municipalities to establish competence centers that will help municipalities to collect important information. 	<ul style="list-style-type: none"> • The number of young people wishing to develop technological businesses in Šiauliai city is increasing, but there is no available production infrastructure. • So far, Šiauliai FEZ has no existing companies. • The profit benefit provided by Šiauliai FEZ is lower than that of Klaipėda and Panevėžys FEZ.
Economic	<ul style="list-style-type: none"> • The economic activity of Šiauliai city is increasing: since 2009 until 2016 GDP increased more than in Klaipėda and Panevėžys (42%), the number of active enterprises increased by one fifth, and exports of Lithuanian origin increased twice in the region. • In the period of 2009-2016 Investment in tangible fixed assets increased by 60%. Investment in tangible fixed assets is growing fastest in manufacturing, wholesale and retail. • The number of enterprises for 1000 people in Šiauliai city corresponds to the average of Lithuania (29.7 	<ul style="list-style-type: none"> • The share of GDP generated by Šiauliai region in Lithuania is decreasing. • The export of Šiauliai region is limited to European countries, so the full potential is not used. • Šiauliai region exports less production than Panevėžys and Klaipėda regions. • Šiauliai region exports are based on low value-added manufacturing - furniture and textile production. • Investment in tangible fixed assets in Šiauliai still has not restored to the pre-crisis level of 2007. • FDI in Šiauliai did not increase in the

	<p>enterprises) and exceeds the indicator of Panevėžys.</p> <ul style="list-style-type: none"> • Business efficiency is increasing as more and more added value is create – from 2009 until 2016 added value increased by about 70%. • Šiauliai ranked first among the largest cities in terms of management efficiency according to the index of municipalities established by the Lithuanian Free Market Institute. 	<p>period of 2007–2015 and only since 2016 there was a noticeable increase in FDI. The level of FDI compared to the Lithuanian average and other cities analyzed is the lowest.</p> <ul style="list-style-type: none"> • Although in the analysed period the balance between registered and deregistered companies was positive, from 2012 onwards the difference was decreasing and the balance became worse than in the cities of Klaipėda and Panevėžys. • There are more companies with 250–499 employees in Šiauliai city than in Panevėžys and Klaipėda, but in terms of income these companies create relatively small turnover. • Compared to Panevėžys and Klaipėda, Šiauliai city manufacturing and mining sectors generate less turnover, although these are the main branches of Šiauliai specialization. • According to the added value created by one employee, Šiauliai city lags behind both the Lithuanian average and the cities of Panevėžys and Klaipėda.
Social	<ul style="list-style-type: none"> • In Šiauliai city, the unemployment rate is lower than the Lithuanian average and the unemployment rate in Panevėžys city, and it reached 5.5%. • Since 2007 until 2017 per capita immigrants number in Šiauliai was the largest compared to Klaipėda and Panevėžys. • Compared to the Lithuanian average and high schools of the cities analyzed, the highest proportion of graduates working in highly qualified jobs in 12 months after graduation was in Šiauliai University. • The pedagogical programs implemented by Šiauliai University address the problem of lacking specialists in the public sector. • Vocational schools collaborate with enterprises from Šiauliai city that employ students. • 80% of graduates from Šiauliai Vocational Schools are working according to their speciality. 	<ul style="list-style-type: none"> • The population of Šiauliai is getting older, and due to emigration, the city is losing people of working age and young people faster than the Lithuanian average and Klaipėda city, which partly determines low unemployment rates. • The share of the population under 35 years in Šiauliai city is smaller than the Lithuanian average and Klaipėda city. • Emigration in Šiauliai remains constant and does not decrease, about 2 thousand people are emigrating every year. • The number of students entering Šiauliai University and Šiauliai State College is decreasing (decreased by 71% and 19% respectively between 2007 and 2017). • Šiauliai University's Bachelor's programs in engineering are unattractive to students. • Graduates from Šiauliai State College receive the lowest salaries in 12 months after graduation compared to graduates of higher

		<p>education institutions in other cities.</p> <ul style="list-style-type: none"> • The salaries of high school graduates in Šiauliai city are below the average in Lithuania. • In comparison with the cities of Panevėžys and Klaipėda and the average of Lithuania, the city of Šiauliai has less professional, scientific and technical activity. • The problem of Šiauliai region entrepreneurs is the lack of skilled workers and unwillingness to work from unskilled workers. • Compared to the Lithuanian average and Klaipėda region, there are 8% fewer people with higher education (32.3%) in Šiauliai city. Šiauliai also has the highest share population, that have completed no higher than basic education (9.1%). • In the I quarter of 2018 the salaries in Šiauliai city were 13% lower than the Lithuanian average, Šiauliai city also lags behind Klaipėda and Panevėžys cities. • The income per capita in Šiauliai region is the lowest in comparison with other cities analyzed and with the Lithuanian average. • Regarding the population in Šiauliai city, the number of social benefit recipients is higher than in Klaipėda city. This shows that the gap between the average salary in Šiauliai and the size of the allowance is lower than in the city of Klaipėda, therefore providing less incentives to work. • The supply of unskilled workers is higher than demand, but the business says they are facing a shortage of skilled professionals and workers.
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Technological	<ul style="list-style-type: none"> • After the merger of Šiauliai University with VU, engineering and information technology educational directions will be strengthened. • ŠU and Šiauliai State College cooperate in R&D activities with budget institutions and business. • In 2017 Šiauliai City Municipality Administration Initiated and started financing two business and science cooperation programs STEAM and INOSTART that could increase innovation potential in Šiauliai. • Over the last 10 years, business cooperation with higher education has been intended to facilitate business processes by creating databases or conducting surveys. • Šiauliai city is reached by various means of transport – air, rail, road, by local and long distance routes. • There is an airport adapted for military use and cargo transportation in Šiauliai city. • Šiauliai is located in the area of international corridors and highways. • Number of foreign tourists in Šiauliai increased three times from 2012 to 2016. 	<ul style="list-style-type: none"> • In the period of 2007–2017 the share of R&D staff and funding in higher education and the government sector in Šiauliai region has decreased by half. • The number of ŠU doctoral students is 3 times lower than the average in other Lithuanian universities. • ŠU technology science equipment is outdated, not suitable for applied research. • Collaboration between science and business institutions in developing innovative, competitive products is poor. Only Baltik vairas is involved in joint projects, while the funds of other companies are usually less than 3 thds. Eur. • Unevenly distributed attraction areas, people living in the southeast have to travel longer distances. • The number of people using public transport is decreasing and the number of people buying cars is increasing.
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Source: prepared by the Executing agency

Annex 4. Sectors groups by innovation

High technology
Manufacture of basic pharmaceutical products and pharmaceutical preparations
Manufacture of computer, electronic and optical products
Manufacture of air and spacecraft and related machinery
Medium–high technology
Manufacture of chemicals and chemical products
Manufacture of weapons and ammunition
Manufacture of electrical equipment
Manufacture of machinery and equipment n.e.c.
Manufacture of motor vehicles, trailers and semi-trailers
Manufacture of other transport equipment
Manufacture of medical and dental instruments and supplies
Medium–low technology
Reproduction of recorded media
Manufacture of coke and refined petroleum products
Manufacture of rubber and plastic products
Manufacture of other non-metallic mineral products
Manufacture of basic metals
Manufacture of fabricated metal products, except machinery and equipment
Building of ships and boats
Repair and installation of machinery and equipment
Low technology
Manufacture of food products
Manufacture of beverages
Manufacture of tobacco products
Manufacture of textiles
Manufacture of wearing apparel
Manufacture of leather and related products
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
Manufacture of paper and paper products
Printing and reproduction of recorded media excluding Reproduction of recorded media
Manufacture of furniture
Other manufacturing excluding Manufacture of medical and dental instruments and supplies

Annex 5. Foreign companies in Šiauliai city

	Average number of employees in Šiauliai (2017)	The branch of economic activity	The comparison of average salary in 2017 with the average branch salary in Lithuania	Comparison of average salary in 2017 with average salary in Šiauliai (739 Eur)	Turnover (2017)
Hampidjan Baltic	357	Manufacture of cordage, rope, twine and netting	682 Eur (for 3 months the average is the same, and the remaining time it is larger than in 60% of companies)	-8 %	10-20 mil.
Bigso	170	Manufacture of other articles of paper and paperboard	771 Eur (salaries are higher than in 55-75% of companies)	+4 %	20-30 mil.
NMF grupė "Artlux"	432	Manufacture of electric lighting equipment	646 Eur (coincides with the average)	-14 %	30-50 mil.
NMF grupė "Frilux"	155	Manufacture of plastic products	713 Eur (above average, higher salaries than in 75% of the companies)	-4 %	10-20 mil.
ROL Lithuania	419	Forging, pressing, stamping and roll forming of metal; powder metallurgy	1021 Eur (above average, salary is higher than in 90-95% of the companies)	+38 %	50-100 mil.
DIAB	215	Manufacture of other plastic products	968 Eur (above average, salary is higher than in 80-95% of the companies)	+31 %	5-10 mil.
Formula-Air	35	Manufacture of non-domestic cooling and ventilation equipment	1199 Eur (above average, salary is higher than in 75-95% of the companies)	+62 %	3-5 mil.
Vonin Lithuania	94	Manufacture of cordage, rope, twine and netting	487 Eur (lower than average, salaries are lowest in this sector or exceed no more than 25% of the companies)	-34,1 %	5-10 mil.
RGE Baltic	166	Manufacture of other plastic products	798 Eur (above average, salaries are higher than in 75% of the companies)	+8 %	20-30 mil.

Source: prepared by Executing agency, based on vz.lt and SoDra open corporate data