An analytical report on monitoring indicators for the achievement of the objectives of the Smart Specialisation Strategy in the planning region of Riga under the "EmpInno Monitor S3" project of "The Interreg Baltic Sea Region Programme 2014-2020", ID. No. T/RPR/2020/EmpInno Monitor S3-25

The commissioning party:

Riga Planning Region
Reg. No 90002222018
Zigfrida Annas Meierovica boulevard 18
Riga, LV-1050

Performer:

"D-0"
Reg. No 40103176940
Vairoga street 39-3,
Riga, LV-1039

Riga, 2021

Content

Introduction

"EmpInno Monitor S3" – EmpInno Monitoring Smart Specialisation Strategies is the project of The Interreg Baltic Sea Region Programme 2014-2020. This corresponds to priority axis no. 1: "Capacity for innovation", specific objective 1.2. "Enhance growth opportunities based on increased capacity of innovation actors to apply smart specialisation approach".

According to the functions specified in the Regional Development Law, the planning region of Riga provides planning and monitoring the development of the region within the scope of its competence. Its priority actions include the development, implementation and development monitoring of planning documents at regional level, coordination of cooperation with local authorities in the region, and the promotion of entrepreneurship.

To increase awareness of the region and to characterise its development processes in a concentrated way and to promote its visibility, it is intended to develop, maintain and re-establish a platform that collects information on the economic potential and development processes of the area.

In view of the objectives of the EmpInno Monitor S3 project, it is also intended to ensure monitoring of indicators for the achievement of the objectives of the Smart Specialisation Strategy in the planning region of Riga by gathering and analysing information on the economic potential of the region area and development processes in the region.

The activities carried out in the project are also closely linked to the successful implementation of the Smart Specialisation Strategy at regional level, since the speed and quality of implementation depends on the capacity of innovation intermediaries to use the RIS3 approach in their activities. The specialised areas of the Smart Specialisation Strategy within the meaning of this task are the areas identified in the Latvian Smart Specialisation Strategy: knowledge-intensive bioeconomy (1), biomedical, medical technologies, biotechnologies (2), information and communication technologies (3), smart energy (4) and smart materials, technologies and engineering systems (5).

The analytical report was developed by "D-0", the report is based on the available statistical and cartographical material, which describes the socio-economic change processes in the Riga planning region in the context of the priority areas covered by the Latvian Smart Specialisation Strategy.

1. Characterization of population in a dynamic context

Population characteristics were analyzed in the context of the Central Statistical Bureau's data[1] on population density (number and changes between 2014 and 2019), population ages (number changes from 2014 to 2019), population migration in counties and regional development centres from 2016 to 2019.

The total population in the planning region of Riga in 2019 was 1 003 203 inhabitants, accounting for 52.25% of the total population in Latvia in 2019. In 2019, the largest proportion of the population (73.83%) in the planning region of Riga was compiled by the number of inhabitants in the national and regional development centres – Riga, Jurmala, Tukums, Ogre, Sigulda, Limbazi. When assessing the population distribution by municipality, the largest population in 2019, excluding Riga, was in Jurmala – 49 325 inhabitants and 32 997 inhabitants in Ogre. In 2019, the smallest number was observed in the counties of Jaunpils and Seja - 2178 and 2128 inhabitants. In general, it can be concluded that the distribution of population by municipality is significantly different in the planning region of Riga, mainly due to the large majority of the population in Riga.

Similarly, population density varies significantly between municipalities and populated areas in the region. The highest population density in 2019 was in Riga – over 2000 people per km^2, followed by Olaine and Ogre with over 1,500 people per km^2. The lowest population density was in Staicele and Ainazi counties – 2 people per km^2 and 3 people per km^2. In 2019, the highest population density was in Jurmala (554 people per km^2). Similarly, the population density in 2019 was high in Salaspils, 227 people per km^2 and Stopini – 211 people per km^2, also in the Marupe county, reaching 199 people per km^2. On the other hand, the lowest population density in the counties was in Aloja – 7 people per km^2, 9 people per km^2 in the county of Seja, both Kegums and Jaunpils had only 11 people per km^2. The average population density in 2019 in the planning region of Riga was 96 people per km^2, which was significantly more than average in Latvia (31 people per km^2).

The total population in the planning region of Riga tends to decrease slightly – by 0.7% between 2014 and 2019, but the rate of population reduction is not as rapid as the overall rate in Latvia, which has decreased by 4.1% during this period. In 17 municipalities the population has decreased, with the highest rate of population reduction in Kandava (-11.6%). In 13 municipalities, the population has remained at its previous level or increased, with the highest population growth observed in Carnikava, where the population increased by 28.7% between 2014 and 2019. Similarly, a positive increase in population is observed in the Adazi county, Babite county, Baldone county, Garkalne county, Kekava county, Marupe county, Ropazi county, Salaspils county, Saulkrasti county, Sigulda county, Stopini county. Negative population changes were observed in Aloja county, Engure county, Incukalns county, Jaunpils county, Kandava county, Krimulda county, Kegums county, Lielvarde county, Limbazi county, Malpils county, Ogre county, Olaine county, Salacgriva county, Seja county, Tukums county. According to the data, there is a strong tendency to increase the population in areas close to Riga, thereby confirming the increasing willingness of the population to live in Pieriga (designation for the territory of Latvia, which is located in the immediate vicinity of the capital Riga and is geographically and historically connected with it).

[1]Population, its changes and key indicators of natural movement. Central Statistical Bureau. Available: http://data1.csb.gov.lv/pxweb/lv/iedz/iedz__iedzskaits__ikgad/ISG010.px

On the basis of demographic forecasts made by the University of Latvia, the population in the planning region of Riga and Latvia as a whole will continue to decrease, and the distribution of population ageing will gradually change as the population grows above the working age. The population of Riga planning region is projected to have decreased by 5.61% (979.3 thousand inhabitants) by 2040[2].

In 2019, the proportion of the population of the working age in the planning region of Riga was 61.4%, which is very close to the Latvian indicator (61.3%). In the in the counties the proportion of the population at work age ranged from 58.7% in Engure county to 64.5% in Garkalne county. In the 11 municipalities between 2014 and 2019 the share of the population in the working age has remained at the previous level or increased. The largest increase in the working age population was observed in the Saulkrasti county, where the percentage of the population in the working age increased by 3 percentage points, from 58.8% in 2014 to 61.8% from the total population in 2019. In 19 municipalities, the share of the population in the working age has decreased. The largest decrease in the percentage of the population in the working age during this period was in the Adazi county, where the percentage of the population in the working age decreased by 2.9 percentage points, although the overall population in the Adazi county tends to increase. In the national and regional development centres – Riga, Jurmala, Tukums, Ogre, Sigulda, Limbazi in 2019, the proportion of the population in the working age amounted to between 58.8% in Ogre and 61.4% in Riga, while all development centres tend to decrease number of the working age population.

Internal migration is linked to trends in the urbanisation process and the desire of people to live in a city or in the vicinity of cities, affecting changes in population placement. During the period from 2016 to 2019, the planning regions of Latvia domestic migration balance was 1.1%, the number of people who moved from another Latvian region to the Riga Planning Region was higher than those who left – to the planning region of Riga from another territory of Latvia – 6.6% between 2016 and 2019. During the same period, 5.4% of the residents of planning region of Riga have moved to another territory of Latvia. In 12 counties, migration balances have been negative during this period, with the lowest migration rates in Jaunpils (-4.4%), Kandava (-4.0%) and Salacgriva (-3.5%). In 18 counties, the migration balance has been positive, the highest of which has been found in such counties as Carnikava (28.7%), Saulkrasti (18.0%) and Garkalne (7.2%), as well as Marupe (6.6%), Babite (6.5%). A negative domestic migration balance was observed in national and regional development centres – Tukums, Ogre, Limbazi – between 2016 and 2019, of which the lowest rate was in Limbazi (-2.4%). Meanwhile, a positive domestic migration balance was observed in Riga, Jurmala and Sigulda during this period. The highest domestic migration balance was in Sigulda (2.7%).

From analyzed population characteristics in Riga's planning region, it can be concluded that city of Riga has a strong influence on the overall situation in the region. For example, from the total population of the region, the population of city of Riga is about 63%. The largest changes in the population are observed in the counties of Pieriga – Marupe county, Adazi county, Carnikava county, Babite county, Stopini county, Ropazi county, Saulkrasti county, where the population has increased significantly between 2014 and 2019.

[2] Krišjāne, Z. Krumins, J., Lulle, A., Zvidriņš, P., (2019) *People's Residence in Latvia and Public Recovery Challenges*, LU Academic Supply Available: https://dspace.lu.lv/dspace/handle/7/46705

2. Description of the territorial location of employment in the context of the priority sectors covered by the Latvian Smart Specialisation Strategy

Employment indicators in the planning region of Riga were analysed, both by assessing the total number of jobs and the number of jobs in RIS3 sectors selected on the basis of the specialisation areas identified in the Latvian Smart Specialisation Strategy. When comparing the sectors of the economy identified in the strategy to those identified in the contract, the following sectors of the RIS3 were selected from the NACE catalogue:

1) A (Agriculture, forestry and fishing),
2) B (Mining and quarrying),
3) C (Manufacturing),
4) D (Electricity, gas, steam and air conditioning),
5) E (Water supply; sewerage, waste management and remediation activities),
6) J (Information and communication).

When analyzing the data, the results were included at the letter level of the full sector, prior to the pre-processing of the data, so that the results would not be doubled or tripled. In determining smart specialisation RIS3 industries with high added value, a third quantile was calculated from the total value added indicators at different levels of NACE classifier, resulting in a high added value threshold of EUR 25000.

Using experimental statistics, local jobs were taken into account – not looking at the registered office address but the actual workplace.

When assessing employment figures in the planning region of Riga, it can be concluded that the largest number of jobs is in Riga, where 478 056 jobs were provided in 2017, of which 15.14% are in RIS3 sectors. In 2017, 61.1% of the total number of jobs in RIS3 industries in Riga were of high added value. In other national and regional development centres – Jurmala, Tukums, Ogre, Sigulda, Limbazi – the number of jobs in 2017 ranged from 3789 jobs in the city of Limbazi to 18 622 jobs in the city of Jurmala. The highest proportion of jobs in RIS3 sectors was in Tukums – 1904 jobs, representing 25,07% of the total number of jobs in Tukums. There was also the highest share of high added-value jobs in RIS3 sectors, where 35.82% of the total number of jobs in Tumkums RIS3 was of high added value in 2017.

The number of jobs in the county division of Riga planning region is very different. In 2017, the largest number of jobs, excluding Riga, was in the Marupe county – total number of jobs – 20674, number of jobs in RIS3 sectors – 2255 (10.91% of the total number of jobs), RIS3 in high value added industries – 890 (4.30% of total number of jobs and 39,47% of the total number of jobs IN RIS3 sectors), Jurmala – total number of jobs – 18622, number of jobs in RIS3 sectors – 1696 (9.11% of the total number of jobs), RIS3 in high added-value sectors – 348 (1.87% of total number of jobs), Kekava county – total number of jobs – 12713, number of jobs in RIS3 sectors – 3034 (23.87% of the total number of jobs), RIS3 in high value added sectors – 1017 (8.99% of the total number of jobs). The highest number of jobs in RIS3 sectors was in Tukums county - 4048 jobs (35.19% of the total number of jobs (11504)), of which 20.31% is of high added value. The total number of jobs in the Ogre county was 12337, of which 24,50% were in smart specialization sectors, while 2.45% of the total jobs were in smart specialization RIS3 sectors with high added value. The lowest total number of jobs was in the county of Seja – 622 jobs and 821 jobs in the county of Jaunpils; however, Jaunpils has a relatively high share of jobs in RIS3 sectors in the total

number of jobs (59.07%). The lowest proportion of jobs in RIS3 sectors in total jobs was in Jurmala (9.11%). Overall, there were 164 474 jobs in Pieriga, of which 24,42% were in RIS3 sectors.

Of the total number of jobs in RIS3 industries in Pieriga, 11.97% were of high added value (2.92% of total natural jobs, compared to Riga 9.25%).

By comparing the share of population, the number of jobs in RIS3 sectors and the number of jobs in RIS3 sectors with high added value, it can be concluded that there are counties where the share of the population in the overall region is higher than the number of jobs in RIS3 sectors and the number of jobs in RIS3 sectors with high added value in the total number of jobs in the region in these sectors. For example, the population of Jurmala accounted for 4.86% of the total population in the planning region of Riga, while the number of jobs in RIS3 sectors with high added value was only 1.51% of the total number in the planning region of Riga. There is an opposite distribution in Tukums as the population accounted for 2.79% of the total population in the region, while the number of jobs in RIS3 sectors with high added value represented 3.60% of the total population in the region. A similar distribution of proportions has also been observed in the Marupe county, the Olaine county and the Stopini county. Moreover, the number of jobs in the RIS3 sectors in the county of Olaine and Stopini represented a relatively high proportion of the total number of jobs in the RIS3 sectors (4.33% and 3.88% respectively).

In order to understand the potential of the labour market in the planning region of Riga, the number and proportion of unemployed people in counties and national and regional development centres were analysed. The average unemployment rate has decreased between 2014 and 2018 in the planning region of Riga. In 2018, the unemployment rate was 4.1% and was significantly lower than the total in Latvia (5.6%). In general, in the planning region of Riga, the unemployment rate in 2018 was in line with natural unemployment. The largest decline in the unemployment rate between 2014 and 2018 was observed in the Limbazi county, where the unemployment rate had fallen by 3.8 percentage points. In both Riga and Jurmala, unemployment rates have increased slightly during this period (by 0.1 percentage points).

In first quarter of 2020, the total number of unemployed people in the planning region of Riga was 22 268, of which 96.3% were in problem groups, disabled people or young people aged 15-24. The largest number of unemployed people was in Riga – 13 421, while 96.4% were in the region as a whole. 62.8% of the total number of unemployed people in Riga was composed by unemployed people with higher or vocational education. The number of unemployed people in other municipalities accounted for 39,73% of the total number of unemployed persons in the planning region of Riga in first quarter of 2020. There was a relatively high number of unemployed people in Jurmala (1226) and Tukums (959). Only 45.1% of the total number of unemployed people in Tukums county was composed by the unemployed with higher or vocational education and the majority was composed by the unemployed with lower or secondary education. A similar distribution of the proportion of unemployed people by level of education was also in Kandava, Jaunpils and Adazi counties, but the largest proportion of unemployed people in counties is composed of unemployed persons with higher or vocational education.

When assessing the average duration of unemployment, it can be concluded that this tends to decrease. Between 2018 and 2020, the number of unemployed people with a duration of unemployment of up to 6 months had increased by 19.7 percentage points, so in first quarter of 2020 70.9% of the total number of unemployed people was composed of unemployed people with a duration of unemployment of up to 6 months. The largest increase

was recorded in Riga, Jurmala and Ropazi county, but there was an increase in the proportion of unemployed people in Baldone with an unemployment duration of between 6 and 12 months.

In the planning region of Riga, the average number of unemployed people has decreased significantly from 15 to 24 years between 2014 and 2019 (-46.43%). In 2020, the number of unemployed people aged 15-24 accounted for 13.0% of the total number of unemployed people. The highest proportion of the total number of unemployed people is composed of the unemployed aged 25-54, 72.3% in first quarter of 2020, with an increase of 14.4% between 2018 and 2020. The highest proportion of unemployed people aged between 25 and 54 was in Marupe (84.1%). Overall, in the period 2018-2020, the proportion of unemployed people in the age group of 15 counties increased from 25 to 54, the largest increase in Riga, where it increased by 20.2 percentage points. In 15 counties, the proportion of unemployed people in the age group from 25 to 54 has decreased during this period, with the largest decrease observed in the county of Kegums.

3. Description of the territorial location of the economy and business in the context of the priority sectors covered by the Latvian Smart Specialisation Strategy

3.1. Number and changes of economically active market sector statistical units

Statistics on the number of economically active market sector statistics in the planning region of Riga and the statistics on changes thereof are derived from data available in the Central Statistical Bureau database. Data are collected for 2014 and 2018. Data processing separate data on Riga, Jurmala and twenty-eight counties of the planning region of Riga: Aloja, Adazi, Babite, Baldone, Carnikava, Engure, Garkalne, Ikskile, Incukalns, Jaunpils, Kandava, Krimulda, Kekava, Lielvarde, Limbazi, Malpils, Marupe, Ogre, Olaine, Ropazi, Salacgriva, Salaspils, Saulkrasti, Seja, Sigulda, Stopini and Tukums.

The situation shows that the total number of economically active enterprises tends to grow, with a 13% increase in the region compared to 2014 in 2018. On the other hand, the largest increase in the number of economically active enterprises in the county of Carnikava (46%) and the smallest in the county of Aloja (-17%), which is also the only state in which the total number of active companies has decreased rather than increased.

A further analysis looked at economically active companies in the sector of the smart specialisation economy of RIS3 identified in the previous chapter. In the planning region of Riga, 30% (31 570) of all economically active companies operated in RIS3 sectors. Compared to 2014, this figure has increased by 6865 or ~ 12% (a positive trend in four years, with a total increase of 13% in Latvia). Negative changes in the counties from 2014 to 2018 were in Aloja county (-20%), Kandava county (-4%), relatively low growth in Limbazi county (1%), Salacgriva county (4%) and Krimulda county (8%), but no change has occurred in Jaunpils. In both years, the number of economically active companies in RIS3 sectors was the same, while the number of other counties, as well as Riga and Jurmala, was above 10%. The largest increase in the number of RIS3 sector companies was recorded in the county of Ikskile (63%), in the county of Carnikava (57%) and in Jurmala (55%). Overall, the situation is seen as positive compared to 2014 and 2018, but in the light of the objectives set out in the specific local government development planning documents, a positive number of active companies in RIS3 sectors in those municipalities where it declined in 2018 should be pursued.

RIS3 with high added value were looked at (see section 3.2 below for calculation). From the total number of RIS3 active companies in the planning region of Riga in 2014, companies with high added value represented 46% and 47% in 2018, so there is no significant increase in this division. It is important to point out that in both years the majority (in terms of the region, ~ 80%, in the context of Latvia ~ 61%) of the high added value RIS3 companies are located in Riga, so it is important to talk about increasing the number of high added value companies of other counties in the region in order to reduce monocentric development by time in the region and also at Latvian level, especially by thinking about the fact that the majority of RIS3 sectors (e.g. agriculture, forestry, processing industry) are available directly in rural areas of the counties. In the counties, the largest increase in the number of companies with high value added in RIS3 sectors was in Marupe (158 companies), Ogre (78 companies), but the smallest increase in Jaunpils (-1 company), Aloja county (3 companies), Kandava, Kegums, Malpils counties (5 companies).

The overall situation in the planning region of Riga is divided into two parts – Riga and other counties – because the largest number of companies are located in Riga territory.

However, it is important to aim to promote the increase in the number of other municipal enterprises, since, as mentioned above, it is in these areas that there is great potential for the development of companies with high added value in RIS3 sectors, thereby increasing the level of the economy.

3.2. Key business indicators in 2017

Statistics on key business indicators are derived from the experimental statistics of the Latvian Open Data Portal (data.gov.lv[3]) database. Selected data table – Added value and production value generated by the population employed according to actual residence in statistical regions, republic cities, municipalities, municipalities, parishes, neighbourhoods and densely populated areas (experimental statistics).

In the data processing stage, the data table was supplemented with information about the classification of administrative sites and territorial units to decipher codes to the names of the sites. Thereafter, only territories that are applicable to the planning region of Riga were selected from the data set for Latvia. The total turnover and non-financial investments were calculated using the number of employees, added value, value of production and number of companies in the territories. For more accurate data (in order to ensure that values at different levels are not calculated two or more times), a calculation formula was created which divided the information into the corresponding NACE classifier levels:

1) at letter level;
2) at two-digit level;
3) at three-digit level;
4) at the four-digit level.

Values for the RIS3 sectors described in the previous chapters were selected on an identical basis. For the calculation of the RIS3 sector with a high value added threshold, the value added third quartile was calculated at EUR 25000. The following indicators were analyzed and mapped:

1) added value;
2) the value of production;
3) turnover;
4) non-financial investment.

The overall maps reflect the figures presented in the sectors at letter level, but a further two-digit level is used for a more sophisticated analysis, given that the number of sub-sectors below each sector may vary (for example, the "Manufacturing" sector has a total of twenty-four sub-sectors at two-digit level and the "Agriculture, forestry and fishing" sector – only three).

Added value.

The added value calculations used the data of the Latvian Open Data Portal and the added value for the territories was determined in all sectors, in the sectors identified by RIS3 Smart Specialisation and in the fields identified by RIS3 Smart Specialisation with a high added value calculated on the basis of total values in the third quartile. Riga planning region counties and six cities – Riga, Jurmala, Limbazi, Ogre, Sigulda and Tukums were evaluated.

The total value added in the areas under consideration in 2017 was EUR 9542235,62 thousand, according to the experimental statistics. Of these, only 32% (EUR 79426.67 thousand) comprise RIS3 industries. On the other hand, RIS3 high value added industries accounted for 72% of total value in all RIS3 sectors and 23% of total added value. When

[3]Available: https://data.gov.lv/dati/lv/dataset/vdvv-economic-raditaji-individuals

assessing the overall situation, it can be concluded that a relatively small proportion of the total added value in the region is from RIS3, while a good indicator is that among these RIS3 sectors, the majority of those sectors are those that generate higher added value.

When assessing the distribution of high value-added industries by county, it can be concluded that the situation is different in different counties. Counties with the highest share of added value in RIS3 sectors in total added value are: Jaunpils county (86%), Kegums county (81%), Malpils county (79%) and Incukalns county (73%), while the lowest proportion is the counties of Lielvarde (8%), Marupe and Garkalne (11%), Carnikava county (18%). Among all sectors of RIS3, the largest share of high added value is: Salaspils and Stopini (99%), Olaine counties (91%), Kegums county (87%), including Riga (79%) and Babite (71%). The lowest proportion of RIS3 in high added value industries – Baldone (0%), Limbazi and Aloja (9%), Incukalns (10%), Ikskile (11%).

By dividing the NACE classification into a more detailed cut at two-digit level, the highest added value figures are found in sector 46 "Wholesale trade, except of motor vehicles and motorcycles" and 47 "Retail trade, except of motor vehicles and motorcycles". The first 15 RIS3 industries, according to added value in the planning region of Riga, are:

1) "Wholesale trade, except of motor vehicles and motorcycles" – EUR 1100,77 million (EUR 29,49 thousand per employee);
2) "Retail trade, except of motor vehicles and motorcycles" – EUR 680,80 million (EUR 12,26 thousand per employee);
3) "Warehousing and support activities for transportation" – EUR 577.74 million (EUR 28.83 per employee);
4) "Electricity, gas, steam and air conditioning supply" – EUR 472.15 million (EUR 87.50 per employee);
5) "Land transport and transport via pipelines": EUR 456.16 million (EUR 15,34 thousand per employee);
6) "Computer programming, consultancy and related activities" – EUR 429,19 million (EUR 93.67 per employee);
7) "Telecommunications" – EUR 297.74 million (EUR 64,98 per employee);
8) "Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials" – EUR 280,75 million (EUR 33,04 thousand per employee);
9) "Specialized construction activities" – EUR 234,90 million (EUR 11,75 thousand per employee);
10) "Construction of buildings" – EUR 200,00 million (EUR 13,25 thousand per employee);
11) "Wholesale and retail trade and repair of motor vehicles and motorcycles" – EUR 198,66 million (EUR 14,74 thousand per employee);
12) "Civil engineering" – EUR 180,50 million (EUR 20,52 thousand per employee);
13) "Manufacture of food products": EUR 175.80 million (EUR 16,97 per employee);
14) "Architectural and engineering services; technical inspection and analysis": EUR 126.83 million (EUR 15,19 thousand per employee);
15) "Manufacture of fabricated metal products, except machinery and equipment" – EUR 98.54 million (EUR 17,45 thousand per employee).

The NACE two-digit cut also looks at Riga and Pieriga – a key feature for both areas is that, when calculating the first 15 sectors with the highest value and dividing it by the total value, these 15 main sectors account for ~ 66-76% of the total value. The total added value in Riga in 2017 was EUR 7072.37 million, while in Pieriga EUR 2229,06 million. The first 15 industries by highest added value in Riga are:

1) "Retail trade, except of motor vehicles and motorcycles" – EUR 907.84 million (EUR 30,73 thousand per employee);
2) "Wholesale trade, except of motor vehicles and motorcycles" – EUR 514,47 million (EUR 12,38 thousand per employee);
3) "Warehousing and support activities for transportation" – EUR 420,90 million (EUR 29,62 thousand per employee);
4) "Computer programming, consultancy and related activities" – EUR 381.86 million (EUR 29,63 thousand per employee);
5) "Electricity, gas, steam and air conditioning supply" – EUR 335.77 million (EUR 90,19 thousand per employee);
6) "Land transport and transport via pipelines" – EUR 328.43 million (EUR 15,43 thousand per employee);
7) "Telecommunications": EUR 290,32 million (EUR 67.99 thousand per employee);
8) "Specialized construction activities" – EUR 181.83 million (EUR 12,37 thousand per employee);
9) "Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials" – EUR 181.33 million (EUR 56.56 thousand per employee);
10) "Information service activities": EUR 163,93 million (EUR 21,58 thousand per employee);
11) "Construction of buildings": EUR 157.44 million (EUR 14,20 thousand per employee);
12) "Wholesale and retail trade and repair of motor vehicles and motorcycles" – EUR 156.11 million (EUR 15,08 thousand per employee);
13) "Civil engineering" – EUR 139.77 million (EUR 21,30 thousand per employee);
14) "Architectural and engineering services; technical inspection and analysis": EUR 111.32 million (EUR 15,58 thousand per employee);
15) "Manufacture of food products": EUR 85.54 million (EUR 16,88 thousand per employee).

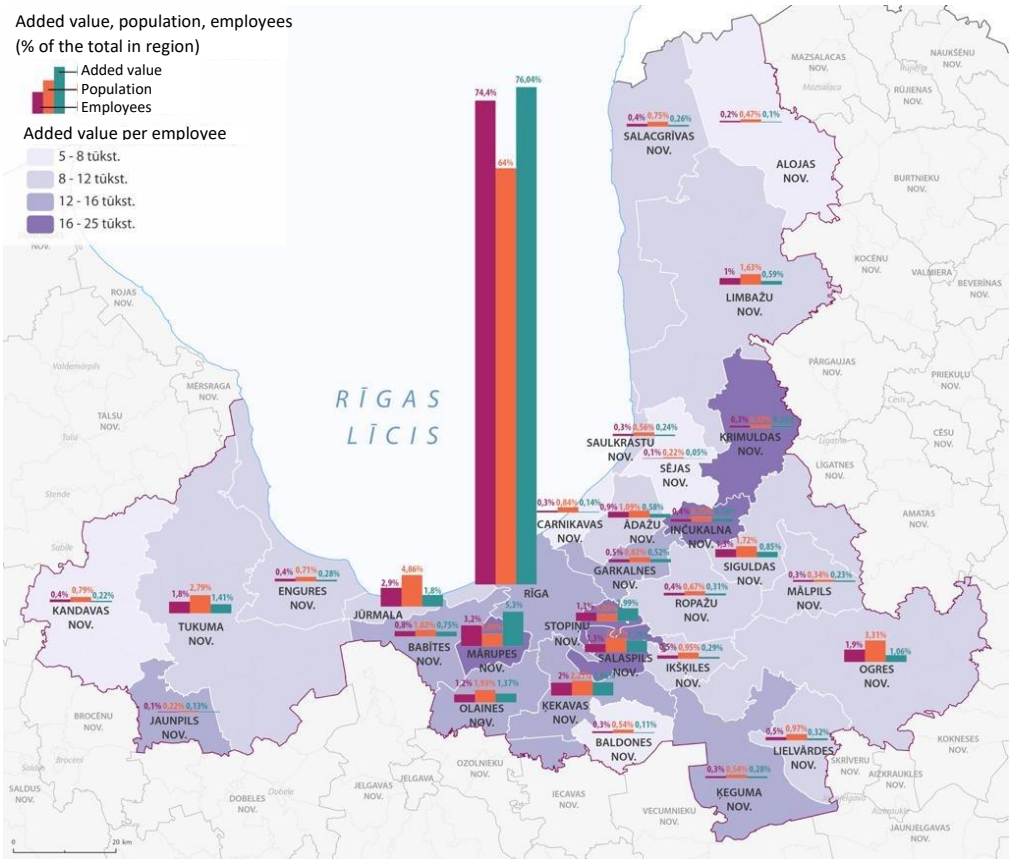
The first 15 sectors by added value in Pieriga, are as follows:

1) "Wholesale trade, except of motor vehicles and motorcycles" – EUR 192.88 million (EUR 24,79 thousand per employee);
2) "Retail trade, except of motor vehicles and motorcycles" – EUR 166.32 million (EUR 11,90 thousand per employee);
3) "Warehousing and support activities for transportation" – EUR 156.84 million (EUR 26.88 per employee);
4) "Electricity, gas, steam and air conditioning supply" – EUR 136.38 million (EUR 81.52 thousand per employee);
5) "Land transport and transport via pipelines": EUR 127.72 million (EUR 15,10 thousand per employee);
6) "Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials" – EUR 98,84 million (EUR 18,75 thousand per employee);
7) "Manufacture of food products": EUR 90,26 million (EUR 17,06 per employee);
8) "Air transport": EUR 85.11 million (EUR 54,87 per employee);
9) "Crop and animal production, hunting and related service activities" – EUR 71.28 million (EUR 11.22 thousand per employee);
10) "Manufacture of other non-metallic mineral products": EUR 55,90 million (EUR 36,80 thousand per employee);

11) "Specialized construction activities": EUR 53.07 million (EUR 10,03 thousand per employee);
12) "Manufacture of fabricated metal products, except machinery and equipment" – EUR 46.79 million (EUR 19,52 thousand per employee);
13) "Wholesale and retail trade and repair of motor vehicles and motorcycles" – EUR 42.56 million (EUR 19.04 per employee);
14) "Construction of buildings": EUR 42.56 million (EUR 10,60 thousand per employee);
15) "Civil engineering – €40.72 million (€18.22 thousand per employee).

When assessing areas in more detail, the counties' section reveals that the share of these first 15 sectors in total added value ranges on average from 75% to 85%, essentially leaving the specialisation of each county. At the two-digit level of the sector, the most common value added is those sectors such as "Wholesale trade, except of motor vehicles and motorcycles", "Retail trade, except of motor vehicles and motorcycles", including "Crop and animal production, hunting and related service activities" and "Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials". It can be concluded from these results that it is essential to assess the strengths of each county individually, rather than looking at the region as a whole, since specialisation may vary according to location, population and other advantages in each area.

Comparing the values of Riga and Pieriga is approximately 3 times the added value, but there is a slightly higher share of RIS3 industries in total value (38% in Pieriga, 30% in Riga). In Figure 1, it is possible to see the added value per employee, as well as the proportion of the total population, the number of employees and the added value of each municipality of Riga planning region.



1. figure. Percentage distribution of population, number of employees and added value from total values in areas of the planning region of Riga

Value of production.

The value of production is the volume of production or services provided, including stock changes and capitalised production (fixed assets and intangible investments produced by their own forces), minus goods and services purchased for resale. In fact, the data collection shows a similar percentage of results as turnover data, since both of these values are similar in theory and calculations.

The total value of production in the region in 2017 was EUR 24271933.96 thousand, according to experimental statistics. Of this value, approximately 33% (EUR 7913515.85 thousand) is represented by the value of production in the sectors defined by RIS3. 64% of the total value of production in RIS3 industries consists of high value added industries.

In 2017, the largest percentage of production value in RIS3 sectors was in Jaunpils (85%), Malpils (83%), Incukalns (76%), Kegums counties (74%), while the smallest – in Marupe county (10%), Garkalne county (15%) and in Jurmala (18%).

Turnover.

The total turnover and its breakdown by area was calculated using the value of the production and the number of units. The total turnover in the region's businesses amounts to EUR 44672.08 million in 2017. 19% of the total turnover consists of turnover in RIS3 companies, while 66% of turnover between RIS3 is directly in high added value companies.

In the counties, the largest turnover in RIS3 sectors from the total turnover of the territory is in the counties of Jaunpils (78%), Malpils (71%), Incukalns (67%), while the lowest in Marupe and Garkalne (7%), Carnikava and in Jurmala (12%). The largest turnover was in Riga (34076.00 million euro), Marupe (2265.20 million euro), Kekava county (943.58 million euro) and Stopini county (917.59 million euro), while the lowest in Seja county (18.07 million), Jaunpils county (31.77 million EUR), in the county of Aloja (EUR 35.19 million).

Comparing Riga and Pieriga figures, it is noted that the total turnover in Riga is approximately 3.6 times higher than in Pieriga (€9509.38 million), but it is important to highlight the fact that in Pieriga, 27% of the total turnover is in RIS3 sector companies while only 17% in Riga.

Non-financial investment.

Total non-financial investments in the areas of the Riga planning region in 2017 totalled €4480073.00 thousand, of which 17.5% (€787446.00) was directly in RIS3 smart specialisation industries. The largest investments were in Riga (3137183 thousand euro), Marupe county (188080.00 thousand euro), Jurmala (131987.00 thousand euro), but smaller – Seja (4290.00 thousand euro), Jaunpils (5045.00 thousand euro) and Aloja counties (10658.00 EUR).

The largest share of non-financial investment in RIS3 of total value was in the county of Jaunpils (63%), county of Malpils (55%), while the lowest in Marupe county (6%) and Jurmala (9%).

Comparing the figures of Riga and Pieriga, it appears that Pieriga has an investment rate of approximately 2.7 times lower (1165820.00 thousand euro) than in Riga, but, like turnover, the share of the RIS3 sectors in Pieriga is higher – 22% of the total value while in Riga it is less than – 16%.

Overall indicators show that Riga plays a key role in promoting business indicators in the planning region of Riga (and also throughout Latvia). If we look at the distribution of population, number of employees and value added in the municipalities, it can be seen that in approximately 64% of the total population lives in Riga (in 2017). In Riga there are employed slightly more than 74% of the total employed people in the region, as well as in Riga 76% of the total region's added value is made.

4. Recommendations for the implementation of monitoring of the achievement of the objectives of the Latvian Smart Specialisation Strategy in the Riga Planning Region

Latvia's Smart Specialisation Strategy (RIS3) is a strategy for transforming the economy towards higher added value, productivity creation and more efficient use of resources. RIS3 aims to increase innovation capacity as well as to create an innovation system that promotes and supports technological progress in the economy. Five areas of smart specialisation are currently identified: knowledge-intensive bioeconomy (1), smart energy (2), information and communication technologies (3), biomedical, medical technology, biotechnologies (4), smart materials, technologies and engineering systems (5). Five RIS3 challenges have been identified, mainly based on capacity building, digitisation, technology-intensive, higher added value and export-potential products and services and inclusion at higher levels of global value chains.

Based on the objectives and objectives set out in the Smart Specialisation Strategy, it is essential to highlight the benefits of each area. In view of the strategy for smart specialisation developed by the Ministry of Education and Science and the sectors identified therein, it can be concluded that any of the sectors identified by the NACE classifier can be attributed to RIS3 specialisation and each of the sectors may include companies working with higher added value. It is necessary to look for ways to define smart specialisation more precisely: one of the criteria used in this analysis is the creation of high added value, but other criteria such as investments in research and development can be used in the future.

In order to achieve the objectives of Latvia's smart strategy, it is possible to move more and more companies in the future towards an innovative company that is directly in line with the RIS3 smart specialisation strategy, as this indicator is most valued in NACE 2.0 sectors B – "Mining and quarrying", C – "manufactory", D – "Electricity, gas, steam and air conditioning supply". H — "Transportation and storage", J — "Information and communication", K — "Financial and insurance activities". In the public area, innovation is the most commonly understood to be the creation of new products or technologies, but RIS3 points out that different non-technological innovations, mainly related to the introduction of new organisational, communication and management practices, play an equally important role. Data on innovation in companies are used to assess the number of innovative companies, their share of active companies, the number of innovative companies by activity, the turnover of innovative companies and the number of workers, the number and share of innovative companies by type of innovation, and the overall innovation spending, improving these indicators would help the region to achieve the objectives of smart specialisation goals. Although statistics are currently not updated according to recent years, it is worth keeping track of data from the Central Statistical Bureau on business innovation.

It is important to significantly improve the availability of data in the future, as the data analysed in the current situation is available with time lag. One way to address such a problem is to supplement the reports of the State Revenue Service with information in which a specific employee works in a local type of work unit, as it allows data to be analyzed in real time. The analysis of such, more accurate data allows conclusions to be drawn and proposals and solutions to be put forward for an appropriate and up-to-date situation, rather than with a shift that gives results in a more timely manner.

In general, it can be concluded that the main points for achieving the objectives of the Smart Specialisation Strategy are:

1) Seeking a solution to define the smart specialisation of the region as a whole and for each of its counties, based on added value, investment, innovation or other criteria;
2) Address the problem of time lag at Latvian level – make it possible to analyse the data in real time.

To improve the monitoring of the indicators of achieving the goals of the smart specialization strategy in the Riga planning region, the following recommendations can be made:

- Define more precisely the criteria for businesses working in smart specialisation: explore the specific sectors in more detail (NACE classifier three-digit and four-digit levels) and select those most relevant to the basic idea and specific directions of smart specialisation;
- Follow the absolute (total volume) and relative (volume per employee) dynamics of business indicators (employees, turnover, added-value, investments, research and development expenditure) in specific sectors;
- Conduct surveys of companies working in smart specialization industries to understand how companies rate the business environment and how the planning region and municipalities can improve it;
- Contribute to the establishment of a real-time database in regional municipalities where the following information on regional municipalities would be available:
  - Data from SRS databases on the number of employees, turnover, taxes paid, etc.;
  - Territories for business expansion, their infrastructure and spare capacity;
  - Data on availability and forecasts of human resources, including demographic forecasts.

In order to contribute to the achievement of the objectives of the Smart Specialisation Strategy in the planning region of Riga, it is recommended that the Region initiate a discussion with regional municipalities, public authorities (Ministry of Economy, Finance, Environmental Protection and Regional Development), business non-governmental organisations (Latvian Chamber of Commerce and Industry, Employers' Confederation of Latvia) on mechanisms for promoting entrepreneurship (e.g. changes to the tax system, financial instruments) in regional municipalities.