

# Annual report 2019

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# Foreword

## **2019 was a good year for Statistics Estonia and statistics users**

The mission of Statistics Estonia is to provide reliable and objective information about Estonia. Our main objective is to offer important information to various stakeholders and contribute to a high-quality public debate. In 2019, Statistics Estonia worked to ensure that our data would help the state and its people to make good and wise decisions and improve the life in Estonia. We tried to reduce the administrative burden associated with collecting and processing data. The volume of real time data mining increased.

One of the indicators of our reliability is compliance with the release calendar, which in 2019 was 98.76%. Publishing our material in the media shows the confidence of the press in Statistics Estonia, which clearly increased in 2019 – there were a total of 8,080 media mentions. Our website and new online environments attract increasing attention and the satisfaction of our clients has also increased. In 2019, our websites were visited 1.3 million times. We repeatedly saw that successful communication has to take into account the needs of the target groups more than before. Statistics Estonia also reviewed its questionnaires in 2019, abandoned some of them and was able to reduce the administrative burden of enterprises by 16,600 hours. We were unable to introduce all the changes aimed at improving the satisfaction of the data providers in 2019 and shall therefore focus on this even more in 2020.

In 2019, the second pilot census of the population and housing census took place. The results confirmed that Estonia is ready for a register-based census, as all the mandatory census variables required by the European Union are available in good-quality registers. Preparations for the population and housing census with the census moment on 31.12.2021 shall continue in 2020.

Other important developments in statistics included the entry into force of the framework regulation on European social statistics, which ensures better comparability of social statistics indicators across the European Union. Also the framework regulation on business statistics was adopted, which will introduce significant changes to Estonian business statistics from 2022.

Since the approval of the amendments to the Official Statistics Act at the beginning of 2019, Statistics Estonia is also responsible for data governance in Estonia. In 2019, preparatory work was carried out for developing the main principles of data governance, incl. compiling data descriptions and guidelines for data quality. The development of these principles shall continue throughout 2020.

In 2019, Statistics Estonia diversified its channels for interacting with statistics users and took considerable steps towards making the collected data more visible.

In 2019, changes were made in the organisation to achieve our objectives faster and more successfully. Statistics Estonia became more family-friendly – we encouraged working from home, distance working and flexible working time. Our efforts were awarded in autumn with a Family-Friendly Employer golden label. At year-end, renewal of the visual identity of Statistics Estonia started, lasting until the beginning of 2021. The new look supports our goal to be more open, modern and offer people more data faster and in more convenient formats.

I believe that the transforming organisation is able to achieve its ambitious goals and we can say on our 100th birthday that we are the best statistical office in Europe.

**Mart Mägi**

Director General of Statistics Estonia

## Fulfilment of the 2019 statistical programme

In the statistical programme for 2019–2023, there were 152 statistical activities listed for 2019, the total cost of which was 8.7 million euros. The largest activity was preparing for the 2021 Register-Based Population and Housing Census (REGREL), the total cost of which was 0.86 million euros. In 2019, there were 128 statistical activities classified under main statistics carried out every year, 8 cyclical statistical activities, 5 non-regular statistical activities, 3 development activities, 4 statistical analysis activities and 4 statistical registers.

The fulfilment of the 2019 statistical programme was successful – all the planned activities were performed. There were a total of 880 releases (739 statistical database objects, 140 news releases, 1 publication). The produced statistics are made available to users first in the statistical database and then through other products. Users are informed about the produced statistics via the release calendar. In 2019, there were 11 deviations from the release calendar, which constitutes 1.24% of the total number of releases (See Table 1). The main reason for the deviations was the delayed receipt of data and extended period of data processing. A more detailed overview of the statistical programme can be found in the Annex.

**Table 1. Deviations from the release calendar, 2015–2019**

Year	Statistical database	News releases	Statistical publications	Total	Share in total number of releases, %
2015	18	2	1	21	2.1
2016	22	1	2	25	2.5
2017	19	0	3	22	2.3
2018	3	1	1	5	0.5
2019	9	1	1	11	0.2

### Census preparations

The census moment of the next population and housing census is 31 December 2021. All the census data must be reported as at the census moment, regardless of the time and means of data collection. The data will be collected at the beginning of 2022.

It became clear by the end of 2019 that the 2021 Population and Housing Census will be conducted using the combined method. This means using data available in state databases, i.e. registers, and the data that are not available in registers will be collected from people. Estonian registers are of good quality but they lack data on self-reported information (additional characteristics): religious affiliation, existence of health problems and their impact on a person's normal activities, knowledge of foreign languages. There is also a lack of accurate data on the difference between the actual and registered place of residence, which results from inaccurate place of residence data in the population register.

At present it is still undecided how to obtain data for additional characteristics and whether the combined method will be a combination of a register-based census and sample surveys or a combination of a register-based census and a standard census.

Statistics Estonia will decide on the census method in 2020.

### New digital services

Since April 2019, people visiting Statistics Estonia's website are being served by our **virtual assistant Iti**, who can answer the typical questions of statistics users and data providers. Whenever Iti does not know an answer, it refers the person with a question to a customer service specialist. The customer service continues to be available by phone and e-mail.

In June 2019, Statistics Estonia visualised Estonia's trade flows via the **foreign trade application (data.stat.ee)**. The application provides information on the country's main export and import partners and the exported and imported articles. The size and proportion of the visualised trade flows make it easier to grasp the share of the article or its value in the trade of Estonia, selected countries or chapter.

In October, Statistics Estonia launched the web application **Tree of Truth (tamm.stat.ee)**, developed in cooperation with the Government Office. The application gives a clear, honest and objective picture of how our country is doing by comparing the current standings of more than 135 indicators set out in "The Government Action Plan 2019–2023", "Estonia 2020" programme and the Estonian National Strategy on Sustainable Development "Sustainable Estonia 21". The indicators are shown on 15 branches of activity and the results on green, yellow or red leaves. Green leaves indicate that the goal has been met or that we are on schedule, yellow leaves indicate a slight and red leaves a considerable gap from the expected results.

In November 2019, Statistics Estonia launched an interactive **dashboard application (shiny.stat.ee)** in cooperation with the Ministry of Social Affairs, which gives a clear overview of labour policy indicators. The application mostly uses the data of the Estonian Labour Force Survey and various databases, allowing the user to interactively visualise data, create time series for monitoring purposes and monitor the changes in the main indicators over time.

Since the end of August until the end of 2019, Statistics Estonia developed in cooperation with professional association a tool for making management decisions – **Dashboards**, available since February 2020 at **juhtimislaud.stat.ee**. Although the dashboards were launched in 2020, we consider the application an important step of 2019 for making our statistics easier to use. The application is a tool for public authorities, enterprises, journalists and everyone else for making informed and data-based decisions. The dashboards can be customised to create overviews of indicators of interest, which can be monitored for developments and used for making informed decisions.

## Administrative burden of respondents

Two indicators are used in Statistics Estonia to assess the reporting burden: the number of questionnaires per enterprise and time spent on completing and submitting questionnaires. These indicators are calculated per enterprise.

For the production of statistics, we mostly use database data and reuse the already collected data. Data are collected from enterprises only if they cannot be obtained from other sources. If possible, we use sample surveys in the case of small-scale enterprises, i.e. we do not collect data from all the enterprises in the target group.

In 2019, database data was used to partly or fully perform two thirds of statistical activities. In order to reduce the administrative burden of enterprises, Statistics Estonia actively looks for alternative data sources and possibilities for reducing sample sizes.

### **Statistical activities affecting the administrative burden of enterprises in 2019**

In 2019, data for 63 statistical activities were collected from enterprises with 111 questionnaires. Every year, Statistics Estonia stops collecting data with questionnaires for some statistical activities, switching solely to database data.

In 2019, data collection with five questionnaires was stopped for four statistical activities:

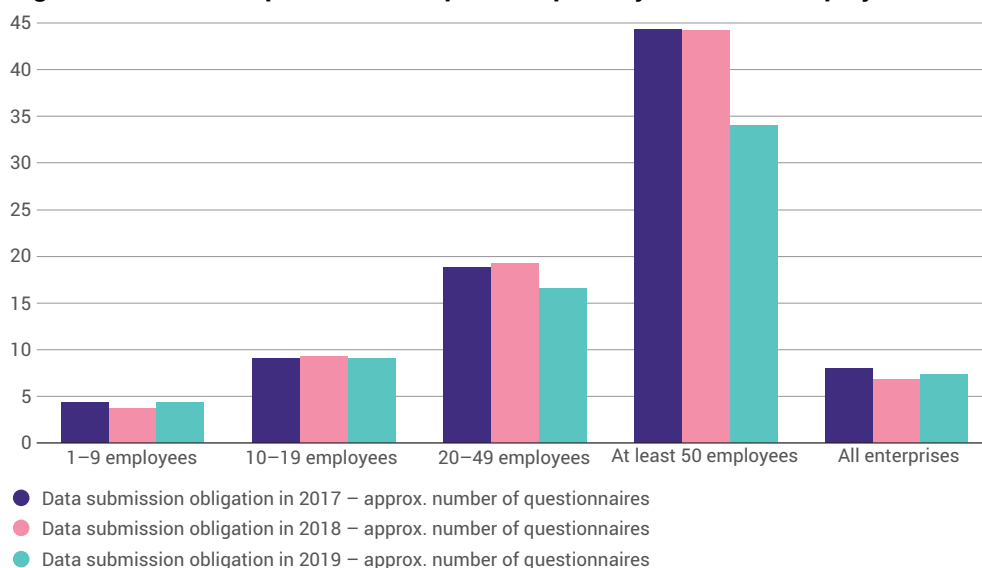
- questionnaire for business start-ups for the statistical activity “Business Register for Statistical Purposes” (sample size 17,000 enterprises);
- questionnaires “Livestock farming. Poultry. Quarter” and “Livestock farming. Pigs. Quarter” for the statistical activity “Livestock farming and meat production”;
- questionnaire “Music. Quarter” for the statistical activity “Music”;
- questionnaire “Stocks of agricultural products. Grape wine” for the statistical activity “Supply balance sheets of agricultural products”.

In addition to regular statistical activities, cyclical statistical activities “Innovation” (sample size 1,980) and “Structure of earnings survey” (sample size 9,998) and non-regular statistical activity “Fleet-based economic and social indicators” (sample size 154) were carried out in 2019.

The number of enterprises in questionnaire samples decreased in 2019 compared to 2018. However, the number of enterprises increased considerably for the collection of data with the questionnaire “Economic activity. Quarter” – by 998 enterprises per quarter. The number of enterprises required to submit the questionnaire in a quarter was 11,600.

### **Number of questionnaires per enterprise**

In 2018, the average number of questionnaires an enterprise was required to submit per year was 6.8. In 2019, the burden increased to 7.4.

**Figure 1. Number of questionnaires per enterprise by number of employees, 2017–2019**

The number of questionnaires per enterprise can be reduced by reducing and coordinating samples in the group of enterprises with 1–9 and 10–19 employees and by replacing surveys with alternative data sources, which affects the administrative burden of all enterprises in all size groups.

## Time spent on questionnaire completion and submission

Statistics Estonia assesses the time spent on questionnaire completion and submission based on the information collected from enterprises. At the end of each questionnaire is a table “Time spent on completing the questionnaire”, where the respondent can indicate the time that was spent on the completion and submission of the questionnaire in hours and minutes. This information is asked once a year.

Year after year, less time is spent on data submission.

**Table 2. Average time in minutes spent on questionnaire completion and submission by questionnaire completion frequency, 2012–2019**

Questionnaire completion frequency	Year							
	2012	2013	2014	2015	2016	2017	2018	2019
1–2 times a year	120	116	125	136	104	97	90	126
4 times a year	34	33	36	35	40	35	44	47
12 times a year	79	71	73	73	77	62	59	40
Average	73	70	70	73	70	60	60	55

In total, Estonian enterprises, institutions and organisations spent 30,924 working days on submitting data to Statistics Estonia in 2019. The average time spent on filling in a questionnaire was 55 minutes.

## Reducing the administrative burden of enterprises

- Implementing the machine-based data collection “Reporting 3.0”
- Introducing additional big data and administrative data sources
- Ensuring the application of the once-only principle for data collection
- Making maximum use of database data for producing statistics
- Cross-using the data collected from enterprises with questionnaires: making maximum use of the data for performing other statistical activities
- Reducing data collection with questionnaires
- Making questionnaires easier to understand and complete for data providers

## Users' satisfaction with official statistics

Statistics Estonia has joined the "Survey on the reliability of institutions" of the market research enterprise Turu-uuringute AS. Once a quarter, 1,000 randomly sampled people in Estonia are asked the question "In your opinion, how reliable are the following institutions?". Every quarter, the survey covers 26 or 27 institutions, whose average reliability in 2019 was 66%.

The Rescue Board, the Emergency Response Centre and the Police and Border Guard Board continue as the most reliable institutions. An average of 62% of residents considered Statistics Estonia to be reliable (+1% compared to the year before). The share was biggest among younger people aged 29 and less, residents of bigger cities and Northern Estonia and people with higher education. The share of those who consider Statistics Estonia reliable is below average in rural areas and in Western Estonia. Persons aged over 64 and pensioners were most often unable to give an assessment of Statistics Estonia. In 2019, Statistics Estonia was 17th among the institutions rated for reliability. Our goal is to reach the top five.

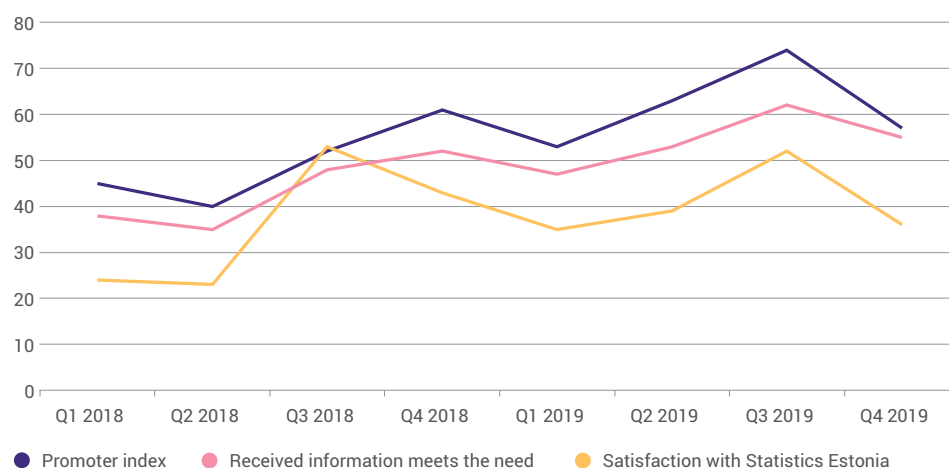
In 2019, Statistics Estonia asked nearly 17,000 data providers for feedback and suggestions about eSTAT and our questionnaires. We received nearly 2,500 replies (response rate 15%) about more than 50 questionnaires. Satisfaction was examined using the promoter index methodology, which is based on the presumption that whenever people recommend someone or something to their friends or acquaintances, they assume responsibility for the quality of the recommended object. The result of the promoter index may range from -100 to 100. "Excellent" ranges from 100 to 60, "very good" from 59 to 20, "good" from 19 to 0, "satisfactory" from -1 to -40, "poor" from -41 to -70 and "very poor" from -71 to -100. The general promoter index for eSTAT remained at the level of 2018 at -39, which can be considered a result bordering "satisfactory" and "poor".

The positive aspects of submitting data according to the data providers are that data submission is quick, convenient and easy, the questionnaires have been pre-filled and the accuracy of submitted data can be checked immediately. The eSTAT environment is not recommended because it is not considered user-friendly, the questionnaires which have to be filled in seem complex and there is also a commonly held view that data submission is annoying and time-consuming. The data providers do not want to submit the same data twice.

Statistics Estonia also asks the users who have submitted requests or orders for information about their satisfaction with our services. Assessments are given on a scale of 1 to 10 to three questions. To calculate the results, we use the promoter index methodology, where the share of respondents who gave negative evaluations (< 7) is deducted from the share of respondents who gave positive evaluations (9, 10).

User satisfaction has constantly increased: in 2018, the satisfaction index was +45 and in 2019, it was +55. Statistics Estonia's promoter index increased from +50 in 2018 to +60 in 2019. Both indicators are satisfactory. The users of statistics value the speed, accuracy, comprehensiveness and content of the response and the consultants' contribution and suggestions. The users are not satisfied if they cannot find the data they are looking for, Statistics Estonia does not have the data or the data are out-dated.

**Figure 2. Users' assessment of Statistics Estonia's activities, 2018–2019**

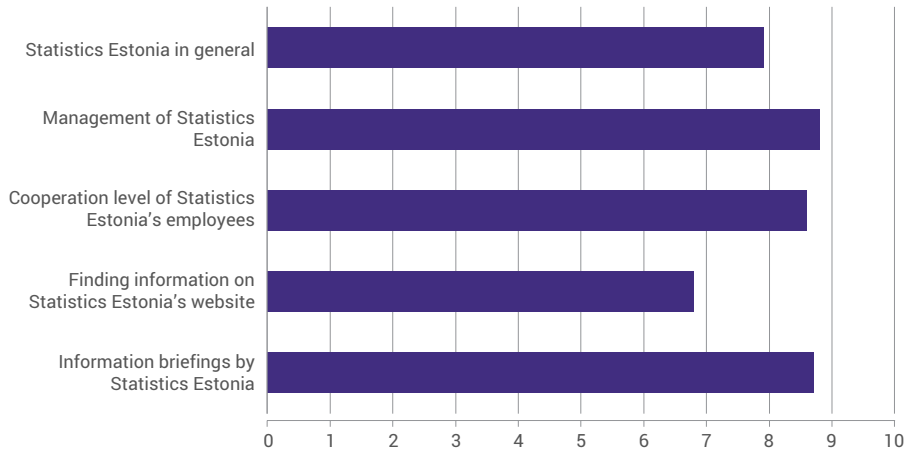




## Survey of ministries

In December 2019, a user survey was conducted in ministries and institutions to find out their satisfaction with official statistics, Statistics Estonia, our products and services and new applications. We also asked what information they lack the most and about their expectations to Statistics Estonia. The invitation to participate was sent to nearly 400 persons who had had contact with Statistics Estonia in the previous 12 months. We received 98 replies. The average satisfaction with Statistics Estonia was 7.9 points on a ten-point scale.

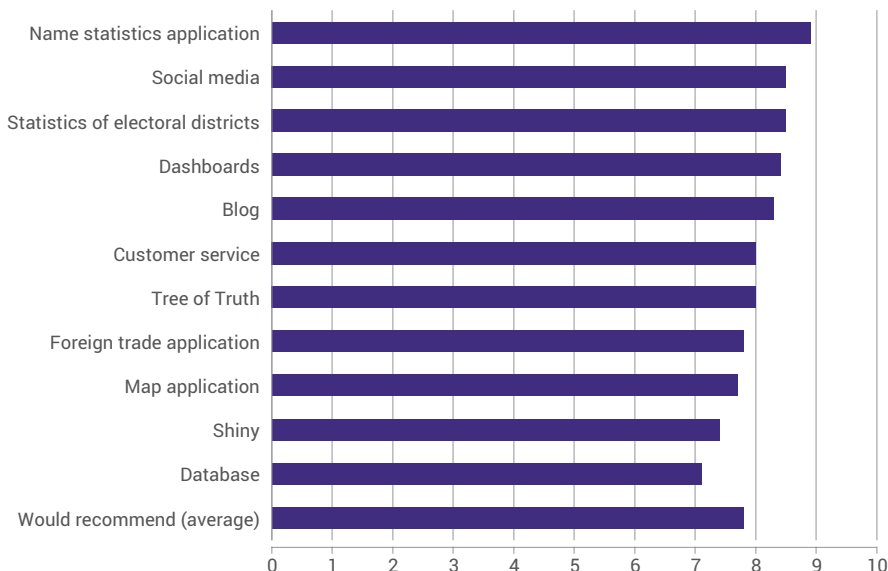
**Figure 3. Satisfaction with Statistics Estonia\*, 2019**



\* Assessment on a ten-point scale: 1 = not at all satisfied, 10 = very satisfied

Satisfaction with Statistics Estonia's products and services was generally high. The users were least satisfied with the map application and the database and most satisfied with the name statistics application and the dashboards.

**Figure 4. Satisfaction with Statistics Estonia's products and services\*, 2019**



\* Assessment on a ten-point scale: 1 = not at all satisfied, 10 = very satisfied

The users mostly lack more detailed information about different domains and Estonian regions, explanations about some indicators and relationships between domains.

The users expect visualisations, to access and compare data quickly and conveniently, and modern solutions such as the Tree of Truth and dashboards. They would like to have a tool for processing and comparing datasets, to download the source data of database tables along with metadata. They want to be sure that Statistics Estonia's data is of high quality.

# New statistical activities in 2020–2024

## Changes in statistical activities in 2020–2024

There are no changes in main statistics, statistical registers, statistical analysis or statistical developments in 2020–2024. The main changes concern cyclical statistical activities (See Table 3).

**Table 3. Changes in cyclical statistical activities, 2020–2024 (in euros)**

	2020	2021	2022	2023	2024
Total	1 090 100	460 000	475 400	602 500	539 100
Time Use Survey	137 200	70 000	0	0	0
European Health Interview Survey	18 200	0	0	0	0
Innovation in enterprises	18 600	28 400	18 600	28 400	28 400
Participation in culture	195 000	0	14 000	195 000	14 000
Household Budget Survey	396 000	50 000	30 000	124 000	396 000
Agricultural small units	5 600	0	0	0	0
Agricultural census	123 800	35 000	0	0	0
Use of pesticides	7 800	7 800	0	0	0
Continuing Vocational Training Survey (enterprise survey)	70 000	5 600	0	0	0
Adult Education Survey (household survey)	0	70 000	400 000	154 400	0
Labour costs	8 100	56 000	0	0	0
Working Life Survey	9 100	137 200	2 700	0	0
Structure of earnings survey	100 700	0	10 100	100 700	100 700

## New statistical activities in 2020

- The aim of the statistical activity “Continuing Vocational Training Survey (enterprise survey)” is to provide information on the training policy of enterprises: whether the enterprise offers training for its employees, who receives training, how training is organised, the size of the training budget, how training results are assessed, where the enterprises find information about training, etc. The statistical activity is conducted every five years. The new round of data collection takes place in 2021 and the results will be published in 2022. The statistical activity is carried out under a European Union regulation.
- With the statistical activity “Working Life Survey”, statistical data will be collected about labour relations and the working life in general. The survey covers the organisation of work, working and rest time, labour relations, employee involvement, collective employment, occupational health and safety, remuneration, career prospects in the enterprise, job satisfaction and work values. The statistical activity is commissioned nationally and is performed every five years. The main representative of public interest is the Ministry of Social Affairs. The data are collected in 2021 and the results will be published in 2022 the latest.
- The cyclical statistical activity “Labour costs” is conducted every four years. The aim of the activity is to inform about the average labour costs of employers per employee and hour worked by main economic activity. This information is the basis for labour taxes. The survey is carried out in the European Union countries under a European Union regulation on the basis of a harmonised methodology, which ensures international comparability of the data. The data are collected in 2021 for 2020 and the results will be published in 2022.

- The statistical activity “Agricultural small units” is carried out every ten years. The activity is required for getting data on crop and animal production in Estonia as a whole as the agricultural production statistics cover only larger units. Based on the results of the activity, surveys conducted every year are revised. The data continue to be collected through the Household Budget Survey. The statistical activity is carried out under a European Union regulation. The data are collected in 2020 and the results will be published in 2021.
- The aim of the non-regular statistical activity “Use of pesticides” is to provide information on the agricultural use of pesticides. The statistical activity is carried out every five years under a European Union regulation on pesticides statistics. The data are collected in 2020 and the results will be published in 2021. The previous survey on pesticide use was conducted in 2015.
- In 2021, preparations will start for the 2022 “Adult Education Survey (household survey)”. This is part of an international Eurostat survey and is carried out at the same time in all European Union countries on the basis of a harmonised methodology. The survey is carried out every six years. The aim of the survey is to find out what residents think about the situation in adult education, how many people participate in the education system as adults, in what fields of further education people participate, what training opportunities are available, how satisfied people are with the adult training system, the motivation for learning, and demand for adult education. The results will be published in 2023.

# ANNEX. Overview of the 2019 statistical programme

## Fulfilment of the statistical programme

Every year, the Government of the Republic approves the list of statistical activities for Statistics Estonia for the following five years in the population, social, economic and environmental domains. In 2019, the statistical activities in the economic domain accounted for the largest share in terms of both number and cost, followed by statistical activities in the social domain. A more detailed overview of the distribution of statistical activities by domain has been given in Table 1.

**Table 1. Statistical activities by domain, 2019**

Domain	Cost		Number	
	euros	%		%
Multidomain statistics	474 000	6	7	5
Environment	378 000	4	12	8
Economy	4 276 000	49	82	54
Population	1 026 000	12	9	6
Social life	2 530 000	29	42	27
Total	8 684 000	100	152	100

Statistical activities arise from European Union legislation or are commissioned internationally or nationally. Table 2 shows that 72% of the statistical activities in 2019 were performed under European Union legislation, 16% were commissioned internationally and 12% nationally. By cost, 87% of the budget is spent on performing statistical activities under European Union legislation.

**Table 2. Statistical activities by demand, 2019**

	Cost		Number	
	euros	%		%
European Union legislation	7 527 000	87	109	72
Commissioned internationally	485 000	5	24	16
Commissioned nationally	672 000	8	19	12
Total	8 684 000	100	152	100

## Larger cyclical statistical activities

In 2019, preparations continued for "Agricultural census", which is carried out every ten years. The statistical activity provides the state and research institutions, entrepreneurs and international organisations with comprehensive and accurate data on agriculture. The results of the census regulated by a European Union regulation under preparation are required in the following policy areas:

- common agricultural policy, incl. direct payments, measures for market organisation and rural development programmes;
- the Water Framework Directive, incl. the Nitrates Directive and Groundwater Directive;
- air-related directives, incl. the National Emissions Ceilings Directive;
- climate change policy (related to the Kyoto Protocol to the UN Framework Convention on Climate Change);
- legislation related to nature protection, Birds and Habitats Directives and other biodiversity policy measures;
- soil policy, incl. soil strategy and the Sewage Sludge Directive;
- legislation in the fields of food safety, plant protection, animal welfare;
- regional policy;
- European Union Action Plan for the Circular Economy.

The data are also required by the European Union Joint Research Centre that uses the information in the research related to developing the above-mentioned policy areas, for developing models, etc. The results of the agricultural census are estimated to be published in 2021–2022.

The four-year period of the “Household Budget Survey” continued. The survey provides information about the consumption of Estonian households and their daily expenditure on food products, consumables, housing and various services, and also about the socio-demographic indicators (employment, education) of household members, their economic situation, living conditions, availability of durable goods and products produced for own final use. Manufacturers and service providers and the general public receive information about what households spend most on and what is consumed the most over the years. The survey allows an in-depth analysis of the expenditure and budget of families in Estonia. This is the only survey in Estonia which looks into the expenditure and consumption of the whole Estonian population. It provides the state with information required for making decisions in the social sphere. The survey has been carried out since 1996 in all European Union countries on the basis of a harmonised methodology. The statistical activity serves as an input for a statistical activity arising from European Union legislation. Preparations for the statistical activity took place in 2018, data are collected and processed in 2019 and 2020 and the data will be published in 2020 and 2021.

The statistical activity “Time Use Survey”, which lasts four years and is conducted every ten years, continued. The survey provides information about the time use of the Estonian population (paid work, housework, studying, refresher training, free time, etc.) and the difference between the time use of women, men and children. The survey complements national accounts with an estimation of the volume of unpaid work of household members. The survey also enables to get an overview of the time spent on travelling from one location to another, mode of travel (on foot, by car, public transport vehicle, etc.) and places where time is spent. It provides the opportunity to look into the communication in the family as well as between households and generations and assess the well-being and quality of life of Estonian families and children. The results of the survey can be used to plan family, employment, social and transport policies. The survey is commissioned by Eurostat and is carried out in the European Union countries on the basis of a harmonised methodology. The survey comprises four parts: household interview, personal interview, personal diaries and weekly diary. The data are collected in 2019–2020 and the results will be published in 2021.

Another larger statistical activity that continued in 2019 was “Estonian Health Interview Survey”, the aim of which is to assess the health status of the Estonian population, factors affecting it, the use of health services and the changes that have occurred compared to the results of previous surveys. The survey is part of the “European Health Interview Survey”, the aim of which is better compliance with the European Union programmes related to population health, social integration and social protection, prevention of health inequality, and development of policy areas related to healthy ageing. The statistical activity “European Health Interview Survey” is governed by European Union regulations. The first “Estonian Health Interview Survey” was conducted in 2006 under the “European Health Interview Survey” programme and the second was conducted in 2014. The results of the third survey will be published in 2020.

Preparatory work began for the statistical activity “Participation in culture”, carried out every other year. The aim of the statistical activity is to provide information about the cultural participation habits and cultural activities of the population and related social aspects. The statistical activity is commissioned nationally and the main representative of public interest is the Ministry of Culture. The results of the statistical activity will be published in 2020.

## **New statistical activities**

In 2019, the statistical activity “Integration” was added to the list of statistical activities. The aim of the activity is to publish integration statistics of state databases, which reflect the integration of Estonians and the Estonian population with a different mother tongue in employment, social life and education. This information is required by ministries and their cooperation partners. The main representative of public interest is the Ministry of Culture.

## Statistical activities left out from the 2019 list of statistical activities

Eight statistical activities were left out from the 2019 list of statistical activities compared to 2018.

The nationally commissioned statistical activity “Better access to differences in wages and salaries” was left out due to financial reasons.

The following three statistical development projects were stopped:

- The development of the statistical activity “Integrating business statistics (FRIBS) into the European statistical system” was left out due to financial reasons. According to European Statistical System Vision 2020, the changing needs of users require a more rapid response, the administrative burden of respondents needs to be reduced and better coherence between statistics of different domains must be ensured. For this, in 2011, a revision of the legislation governing business and foreign trade statistics and the creation of a new and flexible legislation system were started under the guidance of Eurostat. In 2017, the processing of the Framework Regulation Integrating Business Statistics (FRIBS) began in the European Parliament and the Council and the new regulation took effect at the end of 2019. According to the preliminary schedule, the new requirements should be introduced within two years. As a result, bigger or smaller changes will be made in approximately 20 statistical activities. It is impossible to continue with the necessary development without additional funding.
- Another statistical activity left out was the statistical development project “Testing and piloting the survey on gender-based violence”, carried out in 2018. The aim was to test the questions developed by Eurostat for studying gender-based violence and submit amendments to the questionnaire wording. The statistical activity was commissioned internationally (paragraphs 1 and 2 of Article 11 of the Istanbul Convention) and was financed externally with mandatory own contribution.
- The statistical activity “Model for quantitative assessment of policy impact”, a statistical development project of 2018, was also stopped. In 2018, the first stage of the model was concluded: a dataset of the income and demographic characteristics of the population for 2017 was compiled, which is the basis of the EUROMOD model. The results of the first stage were ready for use in February 2019. Work on the model continues in 2019–2021 under the development project “Real time data mining”.

In 2019, compared to 2018, the list of statistical activities did not include the following cyclical and non-regular statistical activities: module “Health” of the Estonian Social Survey, module “Entrepreneurs and self-employed persons” of the Labour Force Survey, statistical activity “Input-output tables”, compiled every four years for a year, and the nationally commissioned statistical activity “Population projections”, carried out every five years for a year.

## Statistical activities not included in the programme

In addition to statistical activities in the statistical programme, Statistics Estonia performs activities that are not included in the statistical programme but are ordered by statistics users. Everyone interested in statistics can contact Statistics Estonia. If the statistics requested by the user are not yet produced, they can be ordered. Orders can be placed with regard to all statistical domains. Conditions for orders for information have been specified in the service standard published on Statistics Estonia’s website.

In 2019, the revenue from data mining, various surveys and single indicators ordered from Statistics Estonia was 887,400 euros (See Table 3). Most of the statistical activities not included in the programme were small-scale orders for more detailed statistical information than the already published statistics. Compared to 2018, the number of preparations of microdata for research purposes increased.

**Table 3. Non-programme orders and incurred income, 2019**

Ordered work	Cost, euros
Real time data mining	450 000
Survey on Health, Ageing and Retirement in Europe (SHARE 7th and 8th wave)	103 530
Programme for the International Assessment of Adult Competencies (PIAAC)	59 140
Conducting of the European Social Survey	47 455
Employment indicators	38 220
Orders for information based on hourly cost	31 830
Collection of fleet-based economic and social indicators	30 210
Local government service levels	29 920
European Social Fund data harvesting	26 140
Using microdata collected for statistical purposes for research	22 500
Youth data reusing project	16 230
Analysis for determining the digitisation level of Estonian enterprises	16 000
Household Finance and Consumption Survey	5 580
Survey on satisfaction with local government services	3 680
Narrowing the gender pay gap	2 900
Automatic transmission of state's mobility information	1 940
Processing and publishing forest and water statistics	1 230
Calculating weights for the price index of regular services	740
Integration monitoring	195
Total	887 440

## Larger statistical activities not included in the programme

### Real time data mining

The aim of the data mining project is to increase in cooperation with researchers and the private sector the use of real time data for making management decisions which support economic development. Projected and real time data models require combining and visualising the data of different domains. Statistics Estonia has at its disposal the datasets of different registers and databases. It is important to use economic datasets in real time (at least in the case of monthly datasets) – this way better and more considered management decisions can be made. For this, tools and methodology for visualising real time data must be developed.

With this project, conditions for analysing real time data will be created and the use of real time data by entrepreneurs will be tested. The project includes developing a framework for enterprises for using public sector data to test business models and support business decisions. Also the competitiveness of the economy in the field of using big data will improve. Based on the data, the general government sector can make more substantiated economic policy decisions and provide better services.

The project will run until 2021. The main activity in 2019 was getting an overview of datasets in order to be technologically ready for the first pilot studies. First, real time data was planned to be used in the pilot studies to support the EUROMOD economic forecasting model of the Ministry of Social Affairs, Ministry of Economic Affairs and Communications and Ministry of Finance. Instead of sample survey data, EUROMOD uses the data on the income and subsidies of the whole population. Additionally, technological readiness will be established for data exchange, storing and processing big data. A team of data scientists has started work. The statistical activity was commissioned by the Ministry of Economic Affairs and Communications.

## **Survey on Health, Ageing and Retirement in Europe (SHARE)**

SHARE is a longitudinal survey with permanent respondents, used in Europe to collect data about the health, ageing and retirement from the labour market of persons aged over 50. The survey is conducted simultaneously in 28 Member States and focuses on the individual ageing process and contributing factors. SHARE data are for Estonia and other Member States the evidence-based basis for policy-making and assessment in the fields of the labour market, pensions, health and welfare.

In Estonia, the the fifth survey wave commenced in October 2019. The survey is conducted by Statistics Estonia and is coordinated by the Estonian Institute for Population Studies of Tallinn University in cooperation with the National Institute for Health Development and institutes of Tallinn University, the University of Tartu and Tallinn University of Technology. The survey runs until the summer of 2020. The survey wave is financed by the European Commission, Tallinn University Research Fund, the development fund of the School of Governance, Law and Society, and the research fund of the Estonian Institute for Population Studies.

## **Programme for the International Assessment of Adult Competencies (PIAAC)**

In cooperation between the Ministry of Education and Research and Statistics Estonia, the Programme for the International Assessment of Adult Competencies (PIAAC) will be conducted for the second time in Estonia. PIAAC is the most large-scale survey of adult competencies ever conducted in the world. The survey is used to collect information on the skills required in the modern society, such as reading, searching for information, computer and IT use, but also on education and work experience.

The survey is commissioned by the Organisation for Economic Co-operation and Development (OECD) and is coordinated by and internation consortium. Survey participants include 33 mostly OECD countries, incl. Australia, Japan, Canada, South Korea, Chile, New Zealand, Russia and most European Union countries.

The results of the survey provide the politicians and educationalists with invaluable information on the skills and experience of the adult population in Estonia. This information is used to compare the skills, educational and training opportunities of the population of the participating countries and the competitiveness of the countries in the knowledge-based economy. It is also important to know how the skills of the adult population in Estonia develop and how much the skill level depends on formal education, work experience, training and home environment. On the basis of the results, decisions in the field of education, training and working life for improving the skills of the working-age population will be made. The survey is an important basis for developing educational and labour market policies in Estonia.

The PIAAC pilot survey will take place from 1 April until 30 June 2020 and the main survey from August 2021 until March 2022. The preliminary results will be published at the end of 2023.