# **Annual Report**

2022

| To support the development of statistics, it is necessary to (re)define the role of the organisation, listen to the society, and focus on partnerships | 3  |
|--|----|
| Development plan 2023–2030. Challenges and goals   | 5  |
| 1. Data services   | 7  |
| 1.1 Official statistics  | 7  |
| 1.2 Statistical activities outside the programme   | 11 |
| 1.3 Administrative burden and customer satisfaction  | 13 |
| 2. Data governance   | 20 |
| 2.1 Coordination of data governance on the state level   | 20 |
| 2.2 Cooperation with other institutions to improve their data governance   | 22 |
| 3. Data literacy   | 23 |
| 3.1 Development of digital services  | 23 |
| 3.2 Helping people understand the world better through data  | 24 |
| 3.3 Cooperation in Estonia   | 25 |
| 4. Organisational developments   | 27 |
| 4.1 HR developments  | 27 |
| 4.2 Technological challenges   | 28 |
| 4.3 International cooperation  | 28 |

To support the development of statistics, it is necessary to (re)define the role of the organisation, listen to the society, and focus on partnerships

We serve as the reliable home of national data and give meaning and value to data. We help people understand the world better through data. Our new combined mission and vision statement reflects Statistics Estonia's main responsibilities: ensure the quality of data on the national level and consistently provide relevant, reliable and meaningful information to enable data-based decision-making in both the private and the public sector and in the society as a whole. The accomplishment of our mission and the goals defined in the development plan is supported by Statistics Estonia's three core values: reliability, cooperation, and innovation.

In 2022, we focused on charting our course – we began formulating our new development plan that would reflect the organisation's needs as well as our changing role and tasks considering the fast advance of the data economy in Estonia and the world in general. The Estonian statistical system underwent an international peer review in 2021. As the national statistical authority, Statistics Estonia received 19 recommendations for improvement from the peer review team. In 2022, we created an action plan for implementing the recommendations, and this plan is expected to be approved by the peer review experts in 2023. Compliance with this action plan was also considered when we prepared our development plan for 2023–2030.

The bulk of official statistics are data required by the European Union (accounting for about 81% of the official statistics budget of Estonia). European statistics are regularly revised and harmonised – to ensure faster, more detailed statistics that better reflect social needs. To achieve this, Statistics Estonia must also make efforts to improve its processes, methodologies and information systems. These innovations require additional human, time and financial resources which would be very difficult to secure, as our base budget has already been greatly optimised. Also, digital developments in Europe and globally have heightened the need to consider the role of the European Statistical System in the wider data economy and to expand the range of data sources (incl. private-sector sources). All of this requires a significantly better ability to listen to the society, and better partnerships with relevant stakeholders. The obligation to submit data is prescribed by law. But the general social agreement to exchange data should be based on our reliability and expertise as well as our ability to generate further value from the data. That is why we want to be customer-centric, service-based, and environmentally sustainable. In our pursuit of these goals, we remain independent, open, data-based, with a focus on quality (including timeliness) and efficiency.

One of the indicators used for our reliability is adherence to the release dates. In 2022, we managed to publish 98.2% of the statistics by the predefined deadline. Our reliability among journalists is indicated by the media coverage of the materials that Statistics Estonia has prepared. Last year, there were a total of 8,416 mentions of our statistics in the media. Data have also become more valuable for the public – our web pages were visited nearly 2.2 million times, which is five hundred thousand visits more than in 2021. A large number of the website visits (over 300,000) were related to the 2021 Population and Housing Census.

The 2021 Population and Housing Census used a combined methodology, that is, a registered-based census plus a sample survey. In 2022, we carried out the survey component of the 2021 census and then gradually released the census results, while data collection continued in some domains. The first release was in June 2022 and the final release in mid-December 2022, meaning that the full census dataset was made publicly available within six months.

Statistics Estonia's responsibilities include managing data governance in Estonia. In 2022, we mapped the databases and registers in the government sector. The results show that there is a lot of room for improvement in database quality, but the parties involved understand the importance of data governance and are prepared to face these challenges. Statistics Estonia can contribute by providing counselling and guidelines and by running joint quality improvement projects. In 2022, we launched such projects in roughly a half of the government institutions.

| 1 | ANNUA | L REP | ORT | 2022 |   |
|---|-------|-------|-----|------|---|
|   |       |       |     | 1    | Г |

In 2023, we will continue adapting to a wholly new era, as we strive to be a worthy member of the data economy in Estonia and internationally, and to offer the biggest possible value to the public and within our organisation.

**Urmet Lee** 

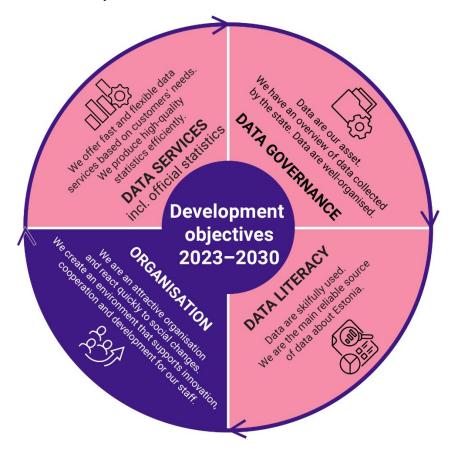
Director General of Statistics Estonia

# Development plan 2023-2030. Challenges and goals

In 2022, we planned the developments within Statistics Estonia in the period 2023–2030. In this process, we carefully identified our partners' and customers' needs, and considered their ideas and suggestions for development of the data domain. We also took into account ongoing developments in the international environment, especially the European Statistical System, and in legislation. The development plan defines three strategic domains that we will focus on, and one general development goal to support the other three.

The three domains prioritised in the development of the organisation are data services (incl. official statistics), data governance, and data literacy. Naturally, it is important to assess the competences and needs of the organisation and our staff, which will be the basis for any developments.

Figure 1. Statistics Estonia's objectives for 2023-2030



To achieve our objectives, we want to ensure synergy between the focal points of the previous and the current development plan. We must fulfil our responsibilities making the most of the limited state resources, while simultaneously ensuring development and effective problem-solving, and monitoring the operational environment and the expectations of our clients and partners. The following table outlines the strategic goals of the new development plan, specifying the focus within each area of responsibility.

Table 1. Comparison of the goals defined in Statistics Estonia's development plan for 2018-2022 and for 2023-2030

| Area of responsibility   | Goal in previous development plan   | Goal in current development plan  |
|--|---|---|
| Production of official and experimental statistics; performance of contract work | Customer-friendly services;<br>increase in efficiency, decrease in<br>administrative burden; earning<br>income from contract work | Customer-centric, service-based management and development; improvement of quality and speed of response (incl. a more proactive approach); revision of the legal framework; complete renewal of production technologies; decrease in administrative burden |
| Coordination of data governance  | Legislative framework for the new responsibility  | Efficient data governance within the organisation; launch of the national centre of excellence for data governance, combined with practical coordination and monitoring   |
| Management of classifications system   | Operating the system  | Developing the system; state-wide counselling and monitoring  |
| Provision of data sharing service  | Legislative framework for the new responsibility  | Creation of a data catalogue, and launch of the information system and service for convenient reuse of data; revision of the legislative framework  |
| Promotion of data literacy   | Creation of new corporate image,<br>new customer applications   | Improvement of the clarity and use of data services; a systematic, consistent system of partnership; provision of data assistance   |

# 1. Data services

#### 1.1 Official statistics

# Fulfilment of the 2022 statistical programme

Each year, the Government of the Republic approves a list of demographic, social, economic and environmental statistical activities for the following five years. In the statistical programme for 2022–2026, there were 65 statistical activities listed, with a total cost of nearly 12.4 million euros. In 2022, there were 61 statistical activities classified under main statistics and carried out annually, including 8 cyclical statistical activities. In addition, data governance and management of the classifications system, and three statistical registers are also listed as statistical activities in the statistical programme for 2022–2026. Differently from previous years, the statistical programme approved in 2022 no longer includes experimental statistics, which now have to be funded as a non-programme activity. Experimental statistics, which are inseparable from the process of statistical development, are discussed in subsection 1.2. Starting with the next statistical programme for 2023–2027, data governance will also no longer be a part of official statistics for the same reasons.

In 2022, the biggest share of statistical activities – both in terms of number and cost – were carried out in the domain of economy, followed by the social life domain. Table 2 gives a more detailed overview of the distribution of statistical activities by domain.

Table 2. Statistical activities by domain, 2022

| Domain   | Number |     | Cost              |     |
|--|--------|-----|-------------------|-----|
|  | number | %   | thousand<br>euros | %   |
| Main statistics  | 61     | 94  | 11,172            | 90  |
| Environment  | 4      | 6   | 402               | 3   |
| Economy  | 40     | 62  | 5,644             | 46  |
| Population   | 3      | 5   | 2,518             | 20  |
| Social life  | 12     | 18  | 2,500             | 20  |
| Multi-domain statistics                                      | 2      | 3   | 108               | 1   |
| Statistical registers  | 3      | 5   | 1,153             | 9   |
| Data governance and management of the classifications system | 1      | 2   | 40                | 0   |
| Total  | 65     | 100 | 12,365            | 100 |

Statistical activities are carried out on the basis of European Union legislation or commissioned nationally (primarily for strategic plans, international statistical requirements). Table 3 shows that, in 2022, 74% of statistical activities were based on European Union legislation, accounting for 81% of the total cost.

Table 3. Statistical activities by type of demand, 2022

|   | Cost              |     | Number |     |
|---|-------------------|-----|--------|-----|
|   | thousand<br>euros | %   | number | %   |
| Statistics required for assessing the policies of the European Union (incl. Estonia)* | 10,062            | 81  | 48     | 74  |
| Statistics only required nationally (in addition to European statistics)              | 2,304             | 19  | 17     | 26  |
| Total   | 12,366            | 100 | 65     | 100 |

<sup>\*</sup>The European statistics must refer to Estonia as a whole (NUTS 1 level); where possible, Statistics Estonia produces mandatory statistics also in more detail by county/region, to meet national needs and to better describe social phenomena.

There were a total of 945 planned releases in the release calendar: 816 statistical database items and 129 news releases. The produced statistics are made available to users first in the statistical database and then through other products, such as on the stat.ee website or on dashboards. Users are informed about planned releases via the release calendar on the stat.ee website, which serves as our commitment to publish the data on the date specified in the calendar. The target for share of deviations from the release calendar is <3%. In 2022, there were 17 deviations from the release calendar, which represents 1.8% of the total number of releases (see Table 4). The main reasons for the deviations were the delayed receipt of data and increased volume of data processing.

Table 4. Deviations from release calendar, 2018–2022

| Year | Statistical<br>database | News releases | Statistical publications <sup>1</sup> | Total | Share in total<br>number of<br>releases, % |
|------|-------------------------|---------------|---------------------------------------|-------|--|
| 2018 | 3                       | 1             | 1                                     | 5     | 0.5  |
| 2019 | 9                       | 1             | 1                                     | 11    | 0.2  |
| 2020 | 21                      | 0             | 0                                     | 21    | 2.4  |
| 2021 | 9                       | 0             | -                                     | 9     | 1.03                                       |
| 2022 | 15                      | 2             | -                                     | 17    | 1.8  |

## Changes in statistical activities in 2022-2026

The composition of official statistics in 2022 remained broadly unchanged compared with 2021. In 2022, the composition of the harmonised mandatory statistics of the European Union was amended and updated, to better align the output with the recent changes in the social and economic environment and with current environmental and energy policies. In other words, Europe needs more accurate data in order to assess the effectiveness of green transition activities, digitisation, and changes in economic and working life. In 2022, the European Commission shared the proposed amendment to the Regulation on environmental economic accounts. The proposal introduces three new environmental account modules starting from 2025: forest accounts, ecosystem accounts, and environmental subsidies and similar transfers accounts. Changes in the EU legislation on population, health and labour market statistics are also panned for the coming years.

The main changes in statistical activities in 2022 were related to methodological changes arising from legislation and efforts to reduce the administrative burden of data providers.

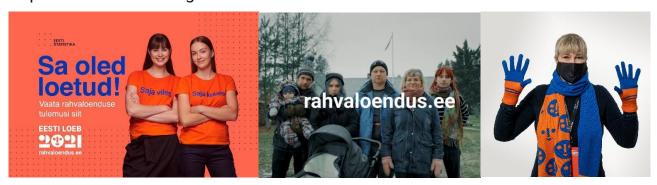
<sup>&</sup>lt;sup>1</sup> Since 2020, Statistics Estonia does not release any statistical publications.

The biggest development in official statistics launched in 2022 was the reorganisation of macro-economic statistics, which entails methodological revisions (incl. addition of data sources) as well as technological updates. This project was financed from the Technical Support Instrument in 2022 but will also receive funding from the state budget starting from 2023.

The biggest methodological changes and developments result from the requirements of various sectoral policies agreed in the European Union.

- In connection with the new framework regulation (EU) No 2019/2152 on European business statistics, the
  methodology and output indicators of 8 statistical activities were reviewed. The changes will apply
  according to the adoption of the implementing provisions of the said framework regulation and the
  deadlines for implementation established in these.
- Under the statistical activity on wages and salaries, Statistics Estonia prepared for the use of register data
  to calculate average wages specifically, data from the consolidated database of the Tax and Customs
  Board combining the employment register and tax declaration data (form TSD: declaration of income and
  social tax, unemployment insurance premiums and contributions to mandatory funded pension). The data
  were previously published according to the Estonian Classification of Economic Activities (EMTAK), by
  county. The data are now planned to be published in more detail according to two-digit EMTAK codes, by
  occupation and by county.
- Under the government finance statistical activity, two new data categories were added to Statistics
  Estonia's economic statistics after the implementation of the SDDS+ (Special Data Dissemination Standard
  Plus) standard. In accordance with the requirements of the statistics committee of the European Central
  Bank, it is obligatory for Statistics Estonia to collect and submit, in cooperation with Eesti Pank,
  supplementary statistics on loan and deposit liabilities.
- Statistics Estonia continued to improve and update energy statistics in cooperation with the
  representatives of public interest. The importance of updating energy statistics has been highlighted on
  multiple occasions by the Ministry of Economic Affairs and Communications and by the Ministry of the
  Environment. Further developments in this area depend directly on additional resources. No funds were
  allocated for this purpose in the 2022 budget.

# Population and Housing Census



2022 was the culmination of the most recent population census, which we had begun to prepare for already during the previous census. The 2021 Population and Housing Census (PHC) used a combined methodology: a registered-based census combined with a sample survey. For the first time, Estonia compiled the entire required body of information, which all European Union Member States must collect in a population census under the coordination of Eurostat, using data obtained from registers. The survey component was used to collect some self-reported information from respondents, which is not available in registers but is necessary for national purposes. The collection of data from registers began on 1 January 2022; the collection of census data from registers lasted until the middle of August. The PHC sample survey began on 28 December 2021

and continued in January 2022. The e-census questionnaire was accessible to everyone (not just the sampled respondents) until the end of January – the census questionnaire was very brief this time and did not take long to complete; it was very user-friendly as respondents could fill it on their phone or computer. The sample survey continued in February with phone interviews, to collect responses from people who lived at the mandatory sample addresses but had not answered the online questionnaire. In total, the census questionnaire was completed online for 573,914 persons, and an additional 20,987 questionnaires were completed using phone interviewing.

Questionnaires completed online Questionnaires completed during phone interviews

The collection of data from registers went as planned; there were no major issues with data retrieval, processing or analysis. The sample survey was also completed within the planned period despite several hindrances (There has been a significant decline in people's interest and willingness to answer questionnaires, because they expect that the state already has the necessary data and, before answering, they want to know what exactly their data will be used for. Due to the ongoing coronavirus pandemic, interviewers could not make home visits and only contacted respondents by phone. Poor weather conditions prevented interviewers from travelling to remote addresses in order to identify non-residential premises. Last but not least, there was an energy crisis and the society was shocked by the outbreak of war in Ukraine at the end of February, which dominated all over the media.).

For the interview stage of the census, we recruited about 150 temporary interviewers (in addition to the 40 interviewers permanently employed by Statistics Estonia) and 7 supervisors, as well as 19 customer support consultants (in addition to existing consultants) and 15 data processors. Before the beginning of the sample survey, Statistics Estonia sent notification letters to all the sampled addresses to inform potential respondents. 90% of the posted letters were delivered/received, which is a very good result. Additionally, email notifications were sent to all residents of Estonia – 92% of these emails were successfully delivered. Residents of the mandatory sample addresses received a notification and two reminders; all other residents received a notification and one reminder. In total, 1,877,754 letters were sent. A dedicated census hotline was opened during the sample survey period. During this time, Statistics Estonia was contacted on 10,575 occasions either by phone or by email. During the phone interviewing stage, the number of incoming calls and emails (764 in total) declined considerably, as expected.

Total number of letters
sent

Sent

10,575

Number of inbound calls/emails during the sample survey

The survey stage was preceded by an information campaign, and communication continued throughout the survey period with TV and radio advertising, outdoor banners and advertising in digital and print media channels (combined with additional activities such as handing out flyers at shopping centres, in-store announcements, sharing information on social media, using influencers). At the start of the census period, on 28 December 2021, we held a press briefing which resulted in 22 proactive articles, press releases, advice stories. Between 26 December 2021 and 31 May 2022, the media coverage about the census totalled about 500 instances. The perspectives varied, from encouraging people to participate in the e-census to explaining the methodology and purpose of the census; the media also covered security issues, and questions about census interviewers and the intermediate results. The census results were published gradually from June, while data collection continued, and the final release was in mid-December. All census data were published within a 6-month period. All information about the census can be found on the dedicated website www.rahvaloendus.ee, and information in Estonian is also published on the Facebook and Instagram pages

of the PHC. In the period 1 June 2022 – 25 January 2023, the census media coverage totalled 958 articles, reports and mentions. In the same period, Statistics Estonia as a whole had 5,576 media mentions, meaning that almost one in five was census-related.

| 5,576                                   | 958                          |
|---|------------------------------|
| Total mentions of<br>Statistics Estonia | Total mentions of the census |

# 1.2 Statistical activities outside 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 request data from Statistics Estonia. If the statistics requested by the user are not in the database, they can be ordered. Orders can be placed for statistics in any statistical domain.

In 2022, the revenue from data mining, various surveys, methodological developments and individual indicators ordered from Statistics Estonia was 2.02 million euros (see Table 5). Compared with 2021 (0.98 million euros), the total value of contract work increased by roughly 100%. The largest projects outside the statistical programme were various surveys, such as the international survey of adult competencies and surveys on elderly people. Most of the non-programme activities were smaller orders to get more detailed statistical information than publicly available. Statistical activities may be funded from the state budget (e.g. real-time economy project), by the customer (e.g. SHARE survey), or by a grant (e.g. the youth monitoring project).

Statistics Estonia has produced the indicators of the long-term government strategy "Estonia 2035". 2022 was the last year when this was done under commission contracts concluded with ministries, as from 2023 onwards the production of the indicators of "Estonia 2035" is part of official statistics funded from the state budget.

Table 5. Non-programme statistical activities and revenue earned, 2022

| Non-programme activity   | Cost<br>(thousand<br>euros) |
|--|-----------------------------|
| Programme for the International Assessment of Adult Competencies (PIAAC) | 777                         |
| Survey on Health, Ageing and Retirement in Europe (SHARE)                | 387                         |
| Real-time economy project  | 214                         |
| Business viability index service   | 203                         |
| Contract work with hourly pricing  | 105                         |
| Household Finance and Consumption Survey                                 | 65                          |
| Early warning service for enterprises                                    | 61                          |
| Use of confidential data   | 52                          |
| Data collection for the ESF  | 29                          |
| European Social Survey   | 22                          |
| Employment indicators  | 18                          |
| Youth monitoring project   | 14                          |
| Gender pay gap web application   | 13                          |
| Additional questions in "Information technology in households" survey    | 10                          |
| Other contract work  | 47                          |
| Total  | 2,017                       |

#### 1.3 Administrative burden and customer satisfaction

# Respondents

Administrative burden of respondents

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

In the production of statistics, we mostly use data available in registers and databases and reuse data we have already collected. Data are collected from enterprises only if they cannot be obtained from other sources. If possible, we use sample surveys for small enterprises and do not collect data from the whole target group.

Two thirds of statistical activities in 2022 were either entirely or partially based on the data of state databases. In order to reduce the administrative burden of enterprises, Statistics Estonia actively looks for alternative data sources and possibilities for reducing sample sizes.

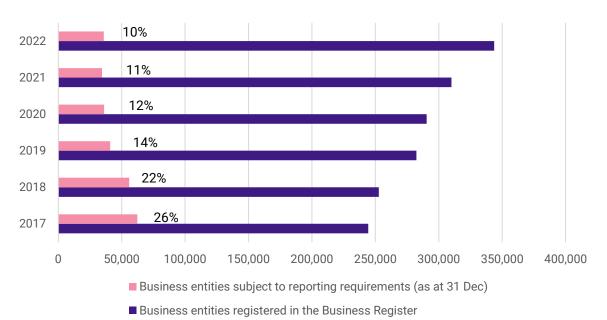
Statistical activities affecting the administrative burden of enterprises in 2022

In 2022, Statistics Estonia used 105 questionnaires to collect data from enterprises for 50 statistical activities.

Each year, there are some statistical activities for which we can stop using questionnaires and switch to register data. In 2022, we stopped using questionnaires for collecting data on milk and goats' milk and products thereof, required for annual livestock farming statistics.

Last year, data were not collected for the Labour Force Survey, the Innovation Survey, "Continuing vocational training survey", "Structure of earnings" and "Labour costs" surveys. These are cyclical activities, meaning that data are collected at fixed intervals (but not annually).

Figure 2. Number of business entities subject to reporting requirements and their proportion among business entities registered in the Business Register



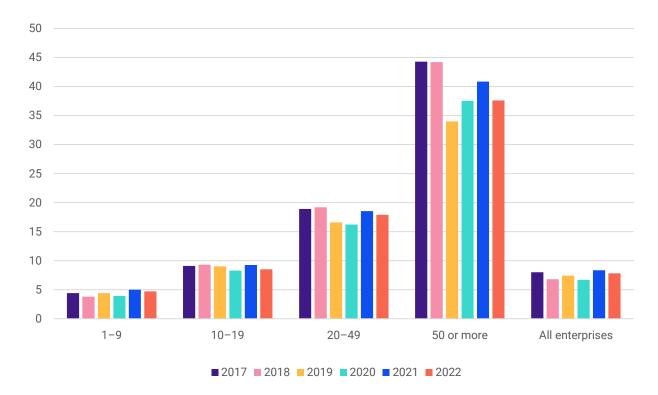
Over the last six years, the number of entities included in surveys (i.e. surveyed by Statistics Estonia) has fallen by about 42%. This has been managed despite the fact that the number of entities registered in the Business Register has risen by about 30%. One in four registered enterprises had reporting obligations in 2017, compared to just one in ten in 2022.

The number of enterprises in questionnaire samples in 2022 was bigger than in 2021, but the number of questionnaires per enterprise was a little lower. Sample size increased for the statistical activity "Energy consumption and production", since energy production data must be reported by all energy-producing units. More entities operating solar farms were added to the sample. The drastic rise in the number of solar energy producers resulted from the support scheme for increasing national renewable energy production. Starting from 2023, we can use Elering's data on solar farms and the sample size will be reduced again. The sample size of the annual structural business survey (EKOMAR) decreased by 34%. The number of enterprises in this sample could be reduced owing to the increased use of modelling in statistics production. Modelling is used primarily to minimise the administrative burden, as it helps to reduce the amount of information collected with questionnaires.

#### Number of questionnaires per enterprise

In 2022, the average reporting burden of enterprises was 7.8 questionnaires per year, which is slightly smaller than the year before (8.3 in 2021).

Figure 3. Number of mandatory questionnaires per enterprise by number of employees, 2017–2022



The number of questionnaires per enterprise can be reduced by decreasing sample sizes as well as by adopting alternative data sources. These steps affect the administrative burden of enterprises in all size groups.

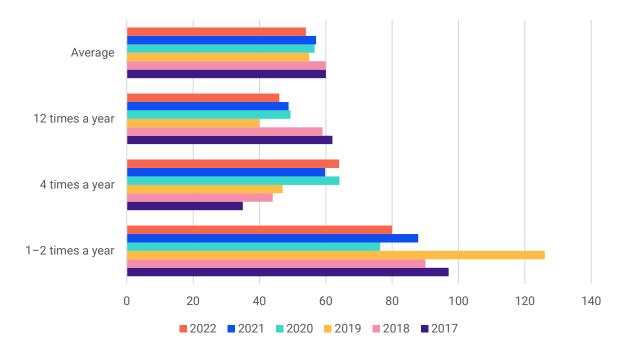
Time spent on questionnaire completion and submission

Statistics Estonia assesses the time spent on questionnaire completion and submission based on the information collected from enterprises. Each questionnaire ends with the section "Time spent on filling out the questionnaire" with a table where the respondent can indicate the time – hours and minutes – spent on the completion and submission of the questionnaire. This information is asked once a year.

The time spent on completion decreased, for example, for EKOMAR questionnaires, as enterprises were no longer required to fill in the table on local kind-of-activity units. These data are obtained from state registers (the employment register of the Tax and Customs Board; income and social tax declaration data (form TSD)). Statistics Estonia also launched an innovative notification system that alerts data providers by email when the EKOMAR questionnaire has been prefilled with annual report data. With this system, users no longer have to log in to check whether the questionnaire has already been prefilled or not.

In 2022, Estonian enterprises, institutions and organisations spent a total of 26,693 working days on submitting data to Statistics Estonia, with an average of 54 minutes per questionnaire. Compared with 2017, the average time spent on questionnaires in total has decreased by 10%.

Figure 4. Average time in minutes spent on questionnaire completion and submission by questionnaire completion frequency, 2017–2022



Reducing the administrative burden of enterprises

To reduce the administrative burden, we continue to do the following:

- develop the solution for automatic submission of data on wages and salaries and labour force (Reporting 3.0 project);
- upgrade our data collection service, incl. the electronic data submission environment;

- look for information in databases, in public and private sector information systems, and on websites, with the aim of reusing existing data and reducing data collection with questionnaires;
- · apply the once-only principle in data collection;
- make maximum use of data collected from enterprises with questionnaires when performing other statistical activities;
- use model-based estimation to obtain missing information and thereby decrease sample sizes and/or frequency of data collection;
- make questionnaires easier to understand and to complete for data providers.

#### Satisfaction

Two customer segments – data providers and users of statistics – are asked for feedback to assess satisfaction. The group of data providers comprises enterprises, public sector institutions and private individuals who submit data to Statistics Estonia by answering questionnaires. Users of statistics refer to all enterprises, institutions and individuals who have submitted a request for information to Statistics Estonia or have ordered a dataset as contract work.

To determine the level of satisfaction, we have used the promoter index methodology (NPS – Net Promoter Score)<sup>2</sup>. Last year, we decided that there was the need and the possibility to change the way we request feedback from respondents – we now ask respondents to rate the questionnaire on a five-point scale at the end of the questionnaire. After testing the new methodology, it was decided to implement it fully in 2023. Respondents are more motivated to give feedback immediately after submitting data, as evidenced by the better feedback response rate with the new approach. We combined the two methodologies, making sure that a respondent was only asked for feedback on one occasion.

#### Enterprises and institutions

In 2022, Statistics Estonia asked<sup>3</sup> more than 19,000 data providers for feedback and suggestions concerning eSTAT, questionnaires and customer service (using the NPS methodology).

We received approximately 1,800 answers (response rate 9.1%) about 62 different questionnaires. The promoter index score rose significantly in all three categories and was over 22, which corresponds to 'very good' – in 2022, the promoter index was 22.6 for eSTAT, 22.9 for questionnaires and 46.3 for customer support<sup>4</sup>.

According to the feedback, data providers like that the questionnaires are prefilled, that it is easy to upload and edit the reports, and that the questionnaire structure is stable. Customer support is highly rated, with respondents mentioning constructive assistance, the competence of customer support, and good cooperation.

The dissatisfaction of data providers is caused by the high administrative burden. They suggest combining questionnaires on the same topic. Users consider the design of the eSTAT data collection application cumbersome. Navigation in the application is difficult and there is not a good overview of the questionnaire in progress. There were also suggestions for offering extended deadlines for data submission.

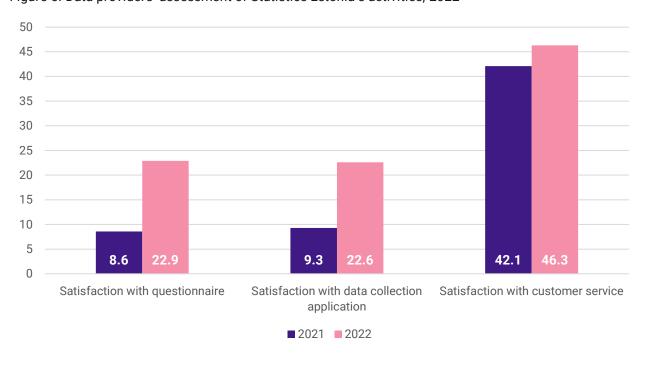
<sup>&</sup>lt;sup>2</sup> Assessments on a scale from 1 to 10 are given to three questions. The promoter index score may range from –100 to 100. "Excellent" ranges from 100 to 60, "very good" from 59 to 20, "good" from 19 to 0, "satisfactory" from –1 to –40, "poor" from –41 to –70 and "very poor" from –71 to –100.

<sup>&</sup>lt;sup>3</sup> The following questions are asked: "In your opinion, how easy was it to fill in the questionnaire?"; "In your opinion, how easy was it to use eSTAT?"; "If you contacted customer support, were you satisfied?".

<sup>&</sup>lt;sup>4</sup> The Net Promoter Score (NPS) ranges from -100 (all unsatisfied) to +100 (all promoters). A positive NPS above 0 is considered good and a NPS of 50+ is considered excellent.

17

Figure 5. Data providers' assessment of Statistics Estonia's activities, 2022



#### Individuals

We also used the NPS methodology to get feedback from respondents of social surveys about their satisfaction with Statistics Estonia's surveys in general and with the interviewers' work. This feedback was collected from respondents participating in 8 personal surveys, including the Population and Housing Census (PHC) sample survey. Statistics Estonia asked nearly 80,000 respondents for feedback and received 7,055 responses. This means that we received feedback from about 9% of the respondents who filled in personal survey questionnaires.

Respondents' general satisfaction with Statistics Estonia's surveys was measured based on their answer to the question "How would you rate your satisfaction with Statistics Estonia's surveys in general?". In 2022, the overall satisfaction score among survey respondents was 39, which is a very good result. There was a marked difference – 9 points – between the satisfaction scores of PHC respondents (46) and respondents of other surveys (37). PHC respondents were very satisfied that the census questionnaire was easy to understand and short. Other social survey questionnaires are longer and take more time to complete, which explains the lower satisfaction score. Based on mode of data collection, a lower rating was given by respondents who answered Statistics Estonia's questionnaires online – 27. Respondents complained that the data submission application is inconvenient, and the questionnaires are long.

Respondents' satisfaction with interviewers was measured based on their answer to the question "How would you rate your satisfaction with the interviewer's work, including communication skills, behaviour and quality of explanations?". The overall satisfaction with interviewers among all respondents was 76, which is a very good result. Respondents who gave feedback praised the interviewers for their professionalism, ability to explain and convince and to maintain their composure. The satisfaction with interviewers' work also differed significantly among PHC respondents (64) and respondents of other surveys (82).

#### Change in the collection of feedback in 2022

We wanted to update the way we collect feedback from data providers, and in the second half of 2022 we tested a new methodology for getting feedback about questionnaires. We added the questions at the end of the questionnaire, asking respondents to answer on a 5-point Likert scale.

In 2022, we used the new approach to collect feedback about all the monthly and quarterly questionnaires of enterprise surveys (53 questionnaires). In this period, 21,201 questionnaires were confirmed and submitted, and feedback was given for 34% of these questionnaires (6,520 times).

Figure 6. Amount of feedback received, 2022 and 2021

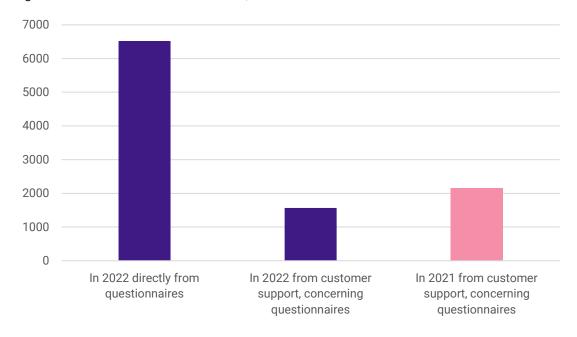
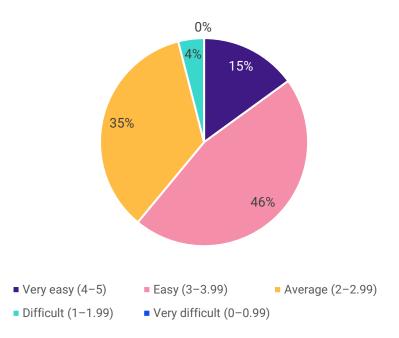


Figure 7. The average rating (on a 5-point Likert scale) in response to the question "How easy was it to fill in the questionnaire?" was 3.77, which corresponds to 'easy' on our scale.



19

Some changes have already been made in the questionnaires for 2023.

- Instructions have been added in the information table to make it easier to fill in the questionnaire.
- Submission deadlines have been revised.
- More fields have been prefilled.
- · Wording has been improved.
- · The amount of checks has been reduced.
- Input for the use of administrative sources has been provided.

The new feedback collection approach was tested with one social survey. The results were positive enough to decide that, in 2023, we will use this method for all personal surveys.

#### Data users

Customer satisfaction with official statistics

In 2022, Statistics Estonia asked 957 users of statistics for feedback and suggestions about requests for information, completed contract work and customer service. Customers were invited to respond to the following questions: "How satisfied are you with the response / to what degree did the result of the contract work meet your needs?"; "How satisfied are you with customer service?"; "How likely is it that you would recommend Statistics Estonia to a colleague or friend?".

We received 206 answers (response rate 22%). In 2022, Statistics Estonia's promoter index was 75.6 (in 2021 it was 72.2). The index for satisfaction with the response to requests for information or orders was 72.1, and the customer support satisfaction index was 81.3.

The users of statistics found our customer support to be fast, convenient and professional. When it comes to the response received from Statistics Estonia, customers are satisfied with the efforts to identify their needs, and with the level of detail and relevance of the information received. The users are not satisfied if the data they are looking for have not been published. It was also noted that it is relatively difficult to find the necessary data on Statistics Estonia's website or in the statistical database, and this should be made easier.

#### Public trust

Statistics Estonia participates in the survey on the reliability of public institutions conducted by the market research enterprise Turu-uuringute AS. Once a quarter, about 1,000 randomly sampled persons in Estonia are asked the question "In your opinion, how reliable are the following institutions?". Every quarter, the survey covers 26 or 27 institutions. In 2022, Statistics Estonia's highest rank in the reliability survey was 12th. The Rescue Board, the Emergency Response Centre and the Police and Border Guard Board are considered the most reliable institutions. The same institutions have ranked at the top for years, with occasional changes in their order.

# 2. Data governance

# 2.1 Coordination of data governance on the state level

Statistics Estonia coordinates state data governance in cooperation with partners, notably the Ministry of Economic Affairs and Communications, and the Information System Authority.

Ministries and state institutions see data governance as a key element of the digital society reform as it ensures better public digital services. Institutions are increasingly realising that the data in their possession are a tremendous asset enabling them to make changes, but only if the data domain is also reformed. Data play a vital role in the national long-term development strategy "Estonia 2035" – by ensuring better state governance through increased data exchange (i.e. data reuse) and through the use of survey and statistical data in policy-making. Data governance holds an important position in the "Estonian Digital Society Development Plan 2030". Statistics Estonia plays a central role in the achievement of two goals defined in the plan, concerning data-based governance and data reuse:

- decision-making based on first-rate data, which relies on data discoverability, data quality and speed of access, to offer analytical support to decision-makers and to strengthen processes;
- an up-to-date and comprehensive overview of data on the level of registers and datasets; data can
  also be semantically linked; the once-only principle is applied in data collection, and the collected
  data are reused.

The importance of data was demonstrated daily during the COVID-19 pandemic. The European Union set up the Recovery and Resilience Facility (RRF) to mitigate the negative impact of the coronavirus crisis and to prepare for future challenges. At the end of 2021, the European Commission approved the decisions of the Government of the Republic of Estonia for use of the Recovery and Resilience Facility funding. The digital society component involves the establishment and development of a centre of excellence for data governance and open data, to achieve the following targets:

- raise the quality of the data managed and collected by the state;
- improve the availability of data for decision-making;
- improve the quality and availability of open data, and increase the reuse of data.

At the end of 2021 and in early 2022, we conducted a data governance survey to obtain an overview of the internal activities of the controllers and processors of databases registered in the administration system (RIHA) of the state information system. 44 authorities along with their 344 databases participated in the survey. According to RIHA records, there were 817 databases being used or being set up by constitutional institutions, the Government Office, ministries or state institutions, inspectorates or other supervisory authorities. After excluding standard solutions (incl. document management systems) and databases that are actually services, there were 344 items left that could be categorised as databases. In reality, we managed to confirm the existence of just 216 databases. For 158 of these, we were able to thoroughly interview the database owner.



The survey provided Statistics Estonia with a valuable basis for coordinating data governance, which we did not have before. We gained an overview of individual institutions and databases which allows us to plan further actions. The biggest problems identified:

- The state has no comprehensive overview of the data actually available in databases.
- The organisations also do not have a full grasp of the parts that make a whole, or of the necessary steps to organise the data they have.
- Institutions require guidance as well as tools.

At the same time, the institutions, including the top management in many cases, are aware of the importance of this domain and look for solutions. Basically, they expect coordination. In the area of data governance, the public sector faces several challenges, defined in the RRF plan as follows:

- The data stored and collected within the public sector must be (re-)used for more informed decisions
  in policy formation and for improved services, incl. the provision of integrated and predictable
  services. For the introduction of applications based on artificial intelligence, the underlying data must
  be of a high quality.
- However, the data quality is often inadequate, because the organisation, competence and practices
  of data governance are poor and inconsistent across institutions. Often, there is also not a good
  enough overview for data (re-)use.
- There is too much inefficiency in data governance. For example, the public sector includes over 1,200 databases, resulting in data duplication and duplicate submission of the same data (from the user's point of view).
- Another challenge is the limited, unsystematic availability of open data, which should be a functional,
  permanent part of good data governance. The situation has improved but there is a long way to go to
  make the most of open data as a digital economy/society. Here, again, the main reason is lack of
  competence. With already existing open data, the challenge is to expand their (re-)use for new
  services and measures.

The data governance reform will be carried out over four years. In 2022, a competence centre for data governance was launched at Statistics Estonia. The centre is tasked with the following: developing the requirements of data governance and the system of classifications; providing guidance and counselling about data governance (incl. implementation of data governance principles in other institutions; training); maintaining an overview of data collected by the state; managing improvement initiatives and support functions for data quality and open data (incl. helping other institutions to carry out auditing and training in the area of data quality); establishment of data repositories. In 2022, the focus was on data description and data quality.

Another priority in the coordination of data governance is the provision of the necessary ICT tools in cooperation with the Ministry of Economic Affairs and Communications and the Information System Authority. The current state data directory (RIHA<sup>5</sup>) has not offered much additional value to institutions. The RIHAKE application was developed to provide organisations with a data governance tool interfaced with RIHA. RIHAKE is a tool where an institution can describe its databases in the data dictionary, improve data clarity by creating a business glossary of relevant terms, keep the data overview and descriptions up to date, and submit descriptions to RIHAKE. This will lead to an up-to-date and clear overview of the data available in state registers and databases. The first version of the application was released in April 2022.

In summer 2022, the Ministry of Economic Affairs and Communications presented its vision for developing a single data portal based on RIHA and the Estonian open data portal. Agreement to apply a common standard is the key to this development. This standard was prepared in cooperation with the Ministry of Economic

<sup>&</sup>lt;sup>5</sup> RIHA, administration system of the state information system; https://www.riha.ee/

22

Affairs and Communications.<sup>6</sup> Applications and interfaces (incl. the official portal for European data) follow a compatible standard that makes data easier to be found.

Imposition of legal requirements on data governance was continued. The Government regulation "Principles for Managing Services and Governing Information" prescribes detailed requirements for data governance and stipulates that authorities must implement a process for monitoring and managing data quality. The regulation applies to databases only, but the data quality process will make authorities pay attention to other datasets as well, in addition to databases. Implementation of these requirements is on the agenda in 2023.

The EU also adopted new legislation in 2022 that concerns data governance. The regulation on European data governance (Data Governance Act) was adopted on 30 May 2022, establishing data re-use and data intermediation services (data sharing services in Estonia) across Europe. There is also a proposed regulation on data use (Data Act) which further regulates data sharing and availability, including private sector data and exceptional data needs.

## 2.2 Cooperation with other institutions to improve their data governance

A priority in 2022 was helping other institutions to describe their databases. A total of 147 data description projects were carried out – each database or dataset was described by creating its data dictionary or business glossary. We had cooperation projects with 19 organisations, which represents about a half of all government agencies. Statistics Estonia's data were also described.

Compilation of data dictionaries and business glossaries. Different data governance tasks within an institution are interconnected: data description with data quality, data quality with business rules, business rules with services. And a comprehensive overview is essential. The focus in 2022 was on detailed data description. Estonia is otherwise a strong digital society, but data description has been inconsistent and has often been a supplementary task in IT developments. While semantic web technologies are well-developed, their use has been limited in business and IT applications. In our search for an effective solution, we prioritised getting a semantic overview of data. This is achieved by helping institutions in the creation of their data dictionaries and business glossaries. RIHAKE includes the functionality for creating and managing dictionaries, for a standardised description.

Creation of controlled vocabularies. In 2022, we also focused on challenges related to dataset vocabularies, as we tagged 675 data tables of Statistics Estonia with keywords in the open data portal. Befining the vocabulary (i.e. the keywords) facilitates data searching. Our process was guided by the Estonian Subject Thesaurus available in the Estonian open data portal. We realised that this universal controlled vocabulary used mainly by libraries needs to be supplemented in some areas to be used for dataset tagging.

Improvement of data quality. As we work together with other institutions in the management of data quality, we have had issues with the software to be used when implementing the data quality model. For institutions, data quality is related to data description. But, while a data description tool is available (RIHAKE), the data quality tool will be developed in 2023–2024. Attention must also be paid to the quality of data description (metadata) – better metadata in an open data portal or an in-house portal will increase the reliability and use of the institution's datasets. The data quality requirements arising from the regulation "Principles for Managing Services and Governing Information" and the recommended guidelines need regular review to ensure their practicality.

<sup>&</sup>lt;sup>6</sup> Data description standard (in Estonian), May 2022, https://www.stat.ee/sites/default/files/2022-06/AH\_juhis\_andmekirjeldus\_standard\_2.0.pdf

<sup>&</sup>lt;sup>7</sup> Regulation of the Government of the Republic of 22 May 2022, https://www.riigiteataja.ee/en/eli/507072017004/consolide

<sup>&</sup>lt;sup>8</sup> https://avaandmed.eesti.ee/information-holders/statistikaamet

<sup>9</sup> Revision (22 May 2022) of Regulation No 88 of the Government of the Republic, https://www.riigiteataja.ee/akt/131052017007?leiaKehtiv

<sup>10</sup> Regulation No 88 of the Government of the Republic of 25 May 2017, https://www.riigiteataja.ee/en/eli/507072017004/consolide

# 3. Data literacy

Our goal is to promote the ability to use data and to be the main reliable source for data about Estonia.

## 3.1 Development of digital services

In 2022, we continued to upgrade our applications and focused on improvements in usability. We improved Statistics Estonia's main website and launched the new classifications portal. We made a lot of preparations, the results of which could be seen from the first days of 2023.

Since 2017, visitors of Statistics Estonia's website can request data via pop-up chat. Our chatbot Iti was able to answer the most frequently asked questions. In 2022, we decided to join the Bürokratt interoperable network of chatbots operated on public sector websites. Bürokratt allows users to get information from a virtual assistant through voice-based interaction. There are additional developments planned in the near future to offer even better services to our customers every day, regardless of the time of day. This will allow customer support specialists to focus on more complex questions and requests. Over the last year, we prepared the training materials. By the end of 2022, Bürokratt had been trained in 40 most common topics and, since the start of 2023, people searching for data or wanting to submit data can get help from Bürokratt on Statistics Estonia's website and in the database.

In 2022, Statistics Estonia also made preparations for having a single public database in the future. For this purpose, several internal processes were revised. By the end of the year, we had completed all the preparations to allow us to fully phase out the old database at andmebaas.stat.ee this year (only foreign trade data were still released in that database in 2022).

#### Environment for re-use of data for research

In 2022, Statistics Estonia began to develop a new information system in order to offer data sharing services, as it is required to do by law.

The new information system is an environment for the re-use of datasets for research. It will integrate data sharing for analysis and services for researchers.

In August 2022, we put the project out to tender, and analysis with the developer began in November. Stage 1 developments will be finished by the beginning of 2024, and they include:

- user interface with data directory. The search module is based on Statistics Estonia's data directory, which consists of metadata mirrored from the meta-information system (Colectica) through automatic data exchange. This data directory is indexed and allows full text search, it can be browsed and filtered by agreed criteria;
- access module which distinguishes authorised users and public view, based on user role. The search function is in the public view. Requests for data and analysis of individual data require a contractual agreement;
- process for requesting datasets and for delivering requested data (excl. preparation of datasets);
- · process for managing institutions and users connected with a request or contract;
- analysis of dataset preparation, research execution, and the secure environment for access to and analysis of microdata used for research and for the research outcomes;
- storage of input data and results: where and how are the data saved, who has access after the end of the project, what is the data destruction and preservation policy.

# 3.2 Helping people understand the world better through data

Statistics Estonia's main responsibility is to release the official statistics we produce via digital services. But, to ensure the biggest possible benefit, the published data need analysis or further processing. By promoting data literacy, we can increase the value gained from data. Data and statistics help to make good, informed decisions. In Section 1.1 Official statistics, we mentioned data items published in accordance with the release calendar, including 129 mandatory news releases. From the perspective of data literacy, in 2022, we published 257 data stories, including 144 news releases, 57 news articles and 56 blog posts. We also gave 179 interviews. The growing public need for data is evidenced by the number of media inquiries that we answered – 448 in 2022 (295 in 2021). By the end of the year, our social media channels had over 50,000 followers.

Based on users' requests, we organise training and briefing sessions to show which data and which applications (for external users) are available. In 2022, we conducted 9 user seminars for schools, universities and public institutions.

We took part in the <u>data and media literacy week</u> and organised several events and communication activities to encourage young people to develop their data literacy skills. We held a video seminar in cooperation with the Teeviit youth information portal and an online class with the "Tagasi kooli" team. We shared videos on social media featuring well-known people (doctor and health care manager Arkadi Popov, TV journalist Anna Pihl, Veriff's product manager Liisi Soots) who shared how they use data daily and how they make the data work for them. The European and World Statistics Day is celebrated on 20 October, with national statistical institutes organising various activities to promote data literacy. On the <u>European Statistics Days</u> in 2022, we invited schools across Estonia to take part in a lesson where we shared information about data in general and interesting facts about the population of Estonia, gave tips for finding and using data for schoolwork, and held a quiz and a small competition. The second part of the day, organised together with the Central Statistical Bureau of Latvia, was open to anyone interested.

Statistics Estonia has awarded the young statistician's prize named after Albert Pullerits since 2011. The prize is given to a student whose Bachelor's or Master's thesis in the area of population, social life, economy or the environment applies or develops a statistical method. In 2022, the young statistician's prize was awarded to Kadi Kilgi for her Master's thesis "Predicting Hospitalization Risk Among Patients With Chronic Diseases" defended at the University of Tartu.



Kadi Kilgi

The competition "Andmepärl" has been introduced to recognise outstanding presentations of data, as a way to promote use and interpretation of data. "Andmepärl 2022" had two competition categories: best data story and best infographics. The best data story in 2022 was "The Role of Screening in Cancer Diagnosis", created by Ksenia Niglas from the Estonian Health Insurance Fund. It offered the first data-based confirmation that screening programmes in Estonia have had a significant impact on early detection of cancer. The 10-year

survival rate is better for patients with breast cancer or cervical cancer that was discovered during screening. The best infographic in 2022 was the crime statistics website, created by the Ministry of Justice (analysis team of the Criminal Policy Department) in cooperation with the DaDa creative agency. It is a unique website, with no counterparts in Estonia or nearby countries, which presents the many facets of crime using simple and clear visuals and graphs and provides explanations and insight.



Statistics Estonia also contributes to the development of statistical knowledge in Estonia and internationally. In 2022, we introduced the index methodology developed by Statistics Estonia for the population census: a residency index and a location index were used to check and revise register data, using a large number of other registers and data sources.

## 3.3 Cooperation in Estonia

One way to develop data literacy is to inform our partners – including public-sector institutions, business associations, and research organisations – about the services and possibilities provided by Statistics Estonia. Having a better idea of our activities, capabilities and services will enable our partners to identify opportunities for cooperation and to make better use of the value we offer for their own and for public benefit. A key objective in 2022 was still improved cooperation with our main partners in the official statistics domain.

We continued cooperation with the working group for official statistics which was set up in 2021 with the aim to explain what we do and to get feedback. The working group, which includes experts from ministries and the Government Office, met three times last year. At the meetings, we focused on determining the data needs of our partners as input for the official statistical programme and for our development plan, but we also discussed our plans, principles and work organisation (incl. for contract work).

These meetings were also used to inform about new European legislation in the field of statistics, and to express our opinions about proposed legislation in the EU and Estonia. In 2022, the European Commission requested Member States' input for the future-proofing of European statistics and the statistical system, to prepare amendments to Regulation (EC) No 223/2009 on European statistics. The aim is to revise the role and duties of national statistical institutes in the data ecosystem, to facilitate the use of new data sources (incl. private data sources), and to improve data exchange between countries. We collected feedback from both ministries and business associations, and formulated the Government's position in response to the Commission's inquiry. It will be a good basis for formulating Estonia's opinion on the draft Regulation on European statistics to be published by the European Commission in April 2023.

In spring 2022, we conducted a satisfaction survey to help us prepare Statistics Estonia's development plan for 2023–2030. The survey and focus group interviews were carried out to determine the data needs and satisfaction with our services among the target group that included public-sector policy-makers, private-sector business associations, research organisations, and media companies (see the results in Table 6).

Table 6. Expectations of our partners and data users

| Area                           | Expectation  |
|--------------------------------|--|
| Data governance                | Making data easier to find; having a well-organised system of classifications and metadata; explaining possible differences                                  |
| Data analysis                  | Competent support offered to analysts; ensuring the capability to carry out contract work; centralised statistics production                                 |
| Data sharing                   | A central, user-friendly system where data can be searched for and easily accessed   |
| Data quality and service speed | Consistency of time series; access to real-time data; better metadata; availability of more detailed data in certain domains                                 |
| Cost of services               | Clear pricing policy; following the principle whereby official statistics would be free of charge and output data would be free of charge for data providers |

Our partners' needs are reflected in Statistics Estonia's development plan for 2023–2030 (adopted in early 2023) as well as in the accompanying action plan. In 2022, we built our legal competences, in order to effectively contribute in the early stages of the development of policies concerning data and statistics (incl. proposed legislation). The action plan accompanying the development plan includes actions that will considerably increase satisfaction among data providers in the next few years (e.g. introduction of new administrative and private data sources; development of real-time economic data; development of customer environments).

# 4. Organisational developments

The purpose of our organisation is to ensure data quality nationally and to consistently provide relevant, reliable and meaningful information. The achievement of these goals is supported by Statistics Estonia's three core values, which have been defined and updated considering the entire organisation, with input from all employees.



2022 was a busy year for Statistics Estonia with many changes, as the newly appointed Director General adjusted the management structure and principles according to his vision. There were several changes in the top management: two Deputy Director Generals were replaced as well as the heads of both statistics departments and the Head of Personnel and Support Services. At the same time, we were preparing the new development plan together with the action plan. It was also a period of adjustment to a post-pandemic management culture, since employees now prefer to work from home more than before. As a result, we reduced the office space in our Tallinn premises by nearly a half. Changes in organisational management will continue in 2023, as we focus on implementing the principles of service-based management and a customercentric approach in data services.

## 4.1 HR developments

The majority (85%) of Statistics Estonia's budget is used for wages, which means that people are, quite literally, our core asset and what our success relies on. In 2022, we had an average of 350 employees, with the average age of 48 years. 80% of the staff were women. Most of our employees are based in the Tallinn office, but we also have smaller offices in Tartu and Viljandi. 50% of our employees have a Master's degree, 23% have a Bachelor's degree, and 3% have a doctorate degree.

| 50%                                 | 23%                                   | 3%                                |
|-------------------------------------|---------------------------------------|-----------------------------------|
| Employees with a<br>Master's degree | Employees with a<br>Bachelor's degree | Employees with a doctorate degree |

The 2022 report on wages and salaries in ministries and their areas of government, in constitutional institutions and in the Government Office indicated that Statistics Estonia's wage rates had become less competitive year on year and that the wages at Statistics Estonia were over 10% lower than for comparable positions in other institutions and agencies. The lower level of wages has been one of the main reasons for the high labour turnover (19% in 2022). To bridge the gap in wages, we adopted two broad-based wage restructuring packages. The full effect of these measures will become clear in 2023, since wages and salaries have also been raised in other government institutions.

95% of Statistics Estonia's employees participated in training courses last year. The main focus was on inhouse training and briefings organised by Statistics Estonia's employees. Training related to Statistics Estonia's main activities accounted for 52% of all training activities. Training related to digital competencies, computer skills and IT accounted for 13% of all training activities. In addition to local training options, employees also attended training provided through the European Statistical Training Program (ESTP). Statistics Estonia's employees participated in 18 ESTP training courses. The average volume of training per employee was 20 class hours in 2022.

# 4.2 Technological challenges

Today, national statistical institutes are, in essence, IT "companies", since virtually all of their work processes are based on information technology in one way or another. The management of information technology at Statistics Estonia is complicated by the fact that our IT systems, developments and budget are managed in cooperation with the Information Technology Centre (RMIT) of the Ministry of Finance. The IT budget for Statistics Estonia is handled by RMIT. Statistics Estonia's work processes are supported by 60 different applications. As of early 2022, 19 of these were outdated software applications (legacy software) that use obsolete technologies (see Figure 8). By the end of 2022, we had carried out developments to replace 3 of these (or to offer these functionalities elsewhere).

Figure 8. Overview of Statistics Estonia's applications



Legacy applications are spread across the production system of Statistics Estonia, with some outdated technology used in every part of the process. In the annual IT budget, we plan funds for ensuring security patching and maintenance of the legacy software, until the applications can be replaced.

# 4.3 International cooperation

Statistics Estonia has defined the following aims for international cooperation: design and develop comparable statistics based on a range of sources; develop data governance and data science; explore and adopt innovative methods. A separate strategic area of international cooperation involves sharing Estonia's experience with data governance and know-how about register-based statistics methodologies with the

international community. There were again more opportunities for international interaction in 2022. For that reason, in 2022, we provided in-house training to employees whose job involves international cooperation, to refresh their knowledge about the decision-making processes in the European Union and to ensure that we can provide input to shape policies in the earliest possible stage as well as adapt our own statistics faster to changing requirements.

In 2022, we represented Estonia's interests within the European Statistical System by attending about 60 meetings of different Eurostat working groups for heads of statistical domains, various experts, or technical developers. These working groups develop statistics and prepare proposals for EU legislation; they are hubs of domain-specific knowledge. The Director General represents Estonia in the European Statistical System Committee (ESSC) which met in Luxembourg in February and May 2022 and in Oslo in October. Statistics Estonia also attended the DGINS conference on innovation in Oslo where the challenges related to the adoption of new (private) data sources were discussed, including the required legal basis and gaining public support for such data use.

Statistics Estonia's employees participated in the Working Party on Statistics of the Council of the European Union to represent Estonia in the discussion of proposed legislation (regulation on statistics on agricultural input and output, regulation on environmental accounts). We also attended high-level statistics meetings during the French presidency (in Lyon in April) and during the presidency of the Czech Republic (in Prague in September).

UN and OECD statistics system. The 53rd session of the UN Statistical Commission was held virtually in 2022. The session approves the reports completed by various statistics working groups over the year. In June, the plenary session of the Conference of European Statisticians (CES) organised by the UN Economic Committee for Europe (UNECE) was held in Geneva. The CES works in parallel with the OECD Committee on Statistics and Statistical Policy (CSSP). The conclusions of the OECD working groups are an important source of information for us, regarding the changes in the statistical system amid the fast-developing data economy. In 2022, Statistics Estonia's employees participated in the OECD working groups for national accounts, financial statistics, foreign trade in goods and services statistics, and research and technology.

The Baltic cooperation plan is usually approved by the steering group consisting of the Directors General of the Baltic national statistical authorities and their deputies. In 2022, the steering group met in Oslo during the DGINS Conference and approved the action plan for 2022/2023, including the virtual meeting in January on quality and questionnaires, and the foreign trade meeting in Tallinn in May.

We again had visitors who came to learn from our experience and share their own. Due to changes in the top management of Statistics Estonia, it was necessary to catch up with our contacts at the Baltic and Nordic statistical authorities. We provided training about register-based statistics to delegations from the national statistical authorities of the United Arab Emirates, Iraq and India, and to public servants involved in the digitisation of state services. In the field of data governance, we started to build deeper cooperation with the Swiss Federal Statistical Office.