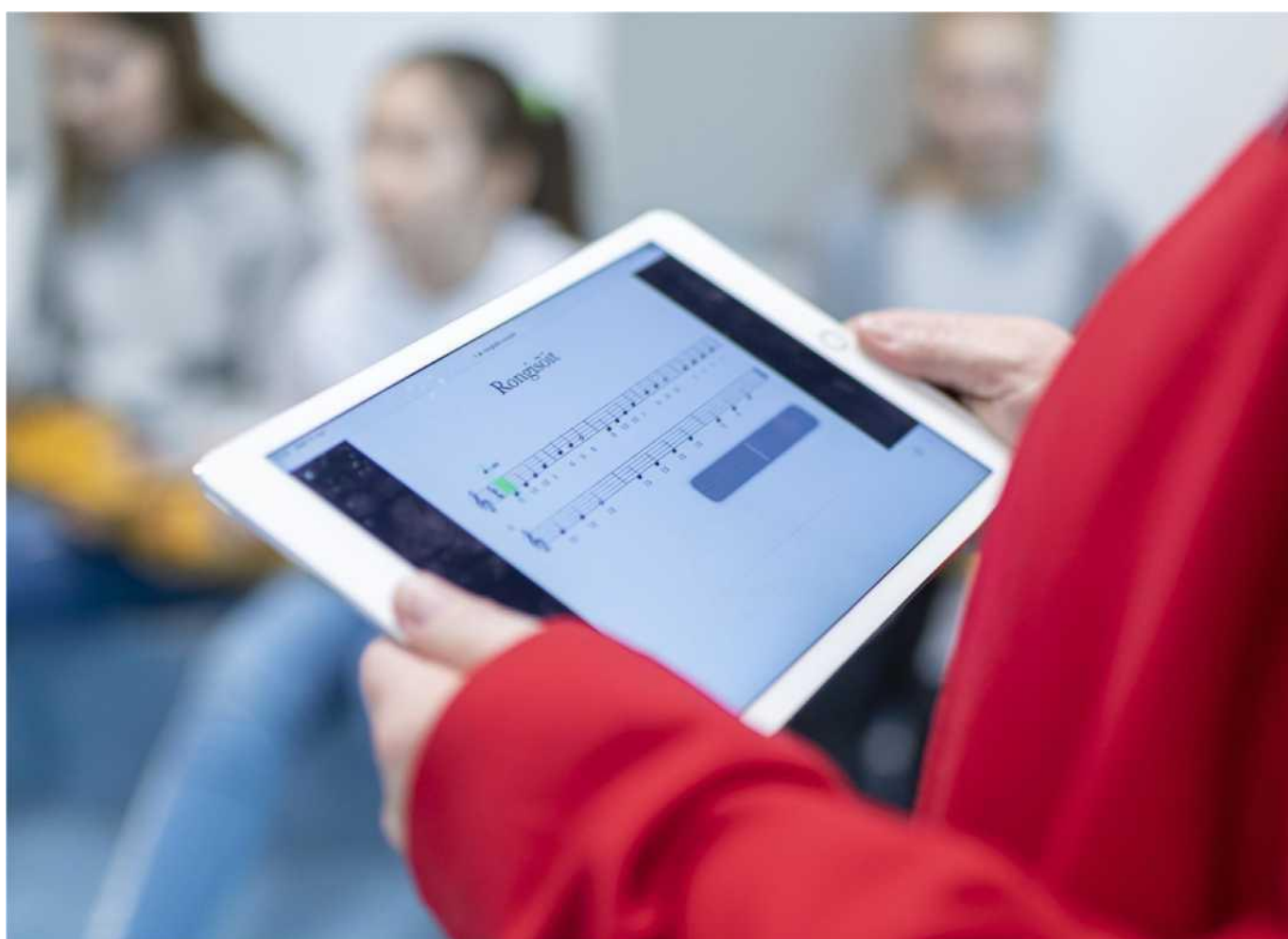




MINISTRY OF EDUCATION
AND RESEARCH

Summary of the Ministry of Education and Research's **2019 Annual Report**

An overview of the progress of the Estonian Lifelong Learning Strategy, the Youth Field Development Plan, the "Knowledge-based Estonia" Strategy, and the Development Plan of the Estonian Language and Archiving Programme



Prepared by: The Analysis Department of the Ministry of Education and Research. The performance field reports are based on an analysis of the execution of the Ministry of Education and Research's development plans and programmes for 2019, which can be found in full on the Ministry's website under 2020 studies: <https://www.hm.ee/et/tegevused/uuringud-ja-statistika-0>

References: The Ministry of Education and Research (2020). The Summary of the Ministry of Education and Research's annual report for 2019. Tartu: Ministry of Education and Research.

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The Ministry of Education and Research is a government agency whose main task is ensuring the efficient and proper development of educational, research, youth, and language policies, and high-quality and competitive research and development activities.

The ministry's mission **is to create possibilities for lifelong learning and development for everyone**. We design education, research, youth, and language policies to ensure that Estonia is a favourable environment for the creation, acquisition, and use of knowledge, and where people are able and willing to learn throughout their lives. Our aim is for **people to be responsible for their learning, to be creative, entrepreneurial and open to innovation, and to contribute to the creation of a cohesive and democratic society**.

The governance area of the Ministry of Education and Research contributes to achieving the aims of the Government of the Republic in four performance areas: **education; research; Estonian language and mindset; and state governance**. We are responsible for implementing the following strategies:

The Estonian Lifelong Learning Strategy 2020
Knowledge-based Estonia 2014–2020
The Youth Field Development Plan 2014–2020
The Development Plan of the Estonian
Language 2011–2017 (2020)

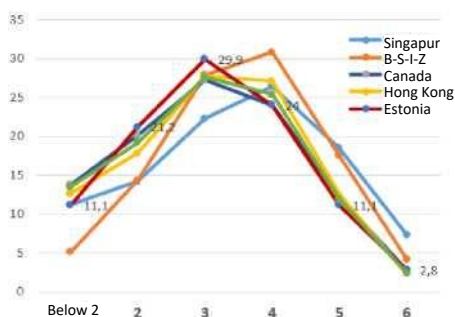
We contribute to the area of state governance through archiving activities.

The general goal of the Lifelong Learning Strategy:

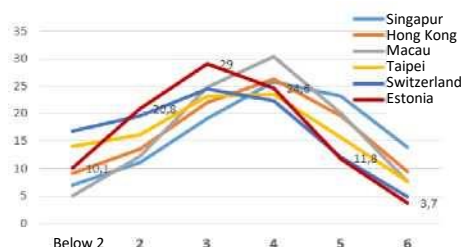
learning opportunities that are tailored to people's needs and capabilities are provided for everyone in Estonia throughout their lives, in order to ensure opportunities for dignified self-actualization in society, work and family life.

Top performers in international comparison

The share of students with top-level skills is a one key indicator of the strategy. Top performers can demonstrate a high level of analytical ability, critical and creative thinking, and a high degree of autonomy in novel situations. The PISA study results are used to calculate the percentage of top performers. The study has six achievement levels, with difficult tasks corresponding to levels 5 and 6.



Share of students by the achievement level in reading. PISA 2018



Achievement level in mathematics. PISA 2018

Top-level skills create cultural, social, and economic value. For Estonia as a small country, a high proportion of people with top-level skills is vital. One of the tasks of the education system is to discover talented people and contribute to their development.

EDUCATION

General assessment

There are **10 key indicators** that have been set to measure the general aim of the Lifelong Learning Strategy. **For eight of the 10 key indicators, we have made progress towards the set goals.** It is too early to assess the changes for one specific indicator (satisfaction with lifelong learning).

The employment and salaries for graduates of both higher education and vocational education indicate an upward trend in recent years. This shows an actual labour market need for specialists with professional skills. The involvement of adults in lifelong learning is increasing, and learners with lower levels of education are becoming more and more involved in learning. The share of people without professional or vocational education decreased by 2.5 percent.

In 2019, the results of the PISA test performed the year prior were published, reaffirming the high level of basic education in Estonia. In the PISA 2018 ranking of European countries, Estonia's 15-year olds placed first in reading, mathematics, and sciences. Our students are ranked fifth in the world for reading, eighth in mathematics, and fourth in sciences.

A major challenge is the further increase teacher average salaries compared to national average. The average gross monthly salary for teachers in general education schools has been 12% higher than the Estonian average gross monthly salary and has increased faster than the Estonian average salary.

	2014	2019	Target level 2020
Share of adults (aged 25–64) without professional or vocational education	29.5	27	25
Rate of adults participating in lifelong learning	11.6	20.1	20
Share of non-studying people aged 18–24 with lower education levels	12	9.8	9
Rate of employment of people aged 20–34 that graduated 1–3 years ago	80.9	83.3	82
Share of people aged 16–74 with digital competences	76	90	95
PISA reading skill top performers	8.4	13.9	15.4
PISA mathematics skill top performers	14.6	15.5	17
PISA science literacy skill top performers	12.8	12.2	13.7
Teacher's average salaries compared to national average	98	112	120

The figure indicates movement towards the key indicators of the Lifelong Learning Strategy in 2019, or as of the last measured year (the results of the 2018 PISA test were released in December 2019).

The Lifelong Learning Strategy has set **five strategic goals**:

1. Change in approach to learning:

4/7 – we have moved in a positive direction, compared to 2014, in four target indicators out of seven: drop-out rate from basic school, interruption of studies in general and vocational education, and the share of students with low-level math literacy have decreased. However, a slight increase in the number of students with lower skill levels in reading and sciences is a worrying trend.

2. Competent and motivated teachers and school leaders:

3/3 – the share of young teachers and male teachers has slightly increased compared to 2014, as well as competition for teacher training places.

3. Responsiveness of lifelong learning opportunities to labour market needs:

2/4 – the share of STEM graduates and the short-term mobility of university students has increased in higher education, while the share of those opting for vocational education after basic school and the popularity of vocational secondary education among students at the secondary education level have decreased.

4. Digital focus in lifelong learning:

most target indicators cannot be measured. In 2019, the level of digital skills of basic school graduates was assessed. Based on digital skills level test, 83 percent of students' skills were either average or above that.

5. Equal opportunities and increased participation in lifelong learning:

4/6 – participation in pre-school education and the share of people with higher education has increased and the indicators of used space and educational cost efficiency have improved, but Estonian as a second language skill at the end of basic school remains a concern.

Good or very good development:

- children's participation in pre-school education is high, the share of participants in language immersion in pre-school children's institutions has increased year by year; pre-school teacher training programme is one of the most popular among applicants;
- drop-out rates from daytime studies in general education schools are relatively low;
- Estonia's primary education is of high performance and also guarantees equality – Estonian primary school students have the highest skills in all three areas studied in international comparison: mathematics, reading, and sciences;
- after the transition of instruction in upper secondary schools to Estonian, secondary school graduates' Estonian language skills have improved;
- basic school graduates have good basic ICT skills;
- the increase in teachers' salaries in Estonia has been one of the fastest among OECD countries and continues to be the country's strategic goal. The competition for teacher training places has remained close to the average, and in 2019 it increased slightly above the average of all curricula due to the popularity of pre-school teacher training and class teacher training;
- employment and salaries for graduates of both higher education and vocational education indicate an upward trend, which also shows an actual labour market need for specialists with professional skills;
- over the last three years, the share of people participating in lifelong learning has rapidly increased and the growth is faster among people with lower education levels;
- the number of STEM graduates is increasing and the fastest growth rate is in the ICT field;
- both the number and share of foreign students have increased, especially in master's studies.

More attention needs to be paid to the following:

- the share of non-studying young people aged 18–24 with a low level of education is still high; the increase in the share of people without secondary education in younger age groups and gender gaps in learning pathways after basic school (the share of non-studying women with a low level of education is *approx.* 7%, the respective indicator for men is *approx.* 13%) are worrying;
- a slight increase in the proportion of basic school students with low skills compared to the 2015 PISA test and significant differences between the results of learners in Estonian and Russian and girls and boys indicate a worrying trend;
- rates of interruption of studies in vocational and higher education, as well as in distance general education, are still high;
- a minor positive change in the proportion of young teachers took place in recent years (from 10.3% in 2014 to 10.8% in 2019), but the attractiveness of teaching and the payment of a competitive salary still pose a challenge;
- the Estonian language skills of students with a native language other than Estonian have not improved at the expected pace by the end of the basic school. Access to support services for children with other native languages and language skills of teachers remain a problem;
- the number of students varies unequally across different geographical areas and, thus, it is necessary to continue reforming the school network. Over the past decade, the number of basic school students has increased only in Harjumaa and Tartumaa counties, and has decreased most notably in Hiiumaa, Jõgevamaa, Võrumaa and Põlvamaa counties.

1. Changed approach to learning

The Lifelong Learning Strategy considers it a significant issue that the approach to learning adopted in theory and confirmed in documents, and the valuing and identification of different types of talents and special needs have not become an integral part of the learning process.

The aim is to apply an approach to learning that supports the individual and social development of students and develops their creativity and enthusiasm at all educational levels and in all segments.

The following programmes contribute simultaneously to achieving this aim: "Competent and motivated teachers and school leadership", the vocational education programme, the higher education programme and the general education programme.

When planning activities, it is assumed that a learner-focused approach and more problem-based learning methods could mitigate a high drop-out rate (especially among male students) and encourage the acquisition of general skills at all levels and types of education.

Future perspective:

Looking at developments in the world, and taking into account current policy choices, the further movement towards learner-focused and collaborative learning and teaching must be continued, according to experts. The education system is expected to empower each individual and develop its own capabilities to ensure a level playing field for all for achieving self-actualization and to cope in different roles in society and the labour market.

Indicators:

Share of students with lower skill levels:

- functional reading – 11.1%
- mathematical literacy – 10.2%
- science literacy – 8.8%
- drop-out rate from basic school – 0.3%
- drop-out rate from general upper secondary school – 1.2%
- rate of the interruption of studies in vocational secondary education – 23.4%
- drop-out rate from vocational secondary education – 10.6%
- rate of the interruption of studies in higher education institutions – 21.0%

Good or very good development:

- increase in the openness of and readiness for cooperation of educational institutions – the community's expectations are being considered more, and different methods are being applied to ensure a physically and mentally safe learning space for students;
- the topics of ensuring students' well-being, capacity-building and equal learning opportunities in schools have received a great deal of attention - for the students in need of support, the state budget contribution to local governments and owners of private general education schools was significantly increased in 2018;
- satisfaction surveys show that most students feel good at school and think that school is interesting. School satisfaction is highest among youngest learners and lowest among students from Grade 8;
- vocational secondary education students are satisfied with their education, and adults in vocational training also have a high level of appreciation for the school-related satisfaction.

More attention needs to be paid to the following:

- satisfaction surveys point to a continuing need to prevent school bullying, to ensure better physical activity opportunities at school, and to pay attention to the meaningfulness of studies and collaborative teaching.
The PISA 2018 study revealed that in terms of the various school climate indicators, students in Russian-language schools are at a disadvantage: they feel a weaker connection to their school, experience more bullying, and feel that cooperation is less valued at school;
- more attention needs to be paid to supporting the implementation of a contemporary approach to learning in schools with a Russian language of instruction and to facilitate their cooperation with the communities surrounding the school;
- it is important to create the conditions for the interconnection of formal and non-formal education and to promote parental education;
- there continue to be differences in the learning outcomes of students of urban and rural areas, and in different counties; the differences are also reflected in the learning pathways. The probability of obtaining a secondary education in basic school is most affected by the progress made in school – a higher average grade means a higher probability of reaching secondary education. Attention must be paid to the quality of knowledge/skills acquisition in basic education and to groups with weaker learning outcomes;
- obstacles to the application of the principle of inclusive education are: the excessive workload of teachers, the lack of specific know-how and the consequent inability to give the necessary attention to pupils with special educational needs. The uneven availability of support specialist services remains a concern. The results of TALIS 2018 show that every third teacher needs further training to teach children with special needs and that more than a third of the school leaders lack the skills needed to develop collaboration between teachers;
- teachers and school leaders are satisfied with their profession and working conditions on the basis of satisfaction surveys, and less satisfied with their salary;
- TALIS 2018 shows that cooperation between teachers is associated with both higher job satisfaction and self-efficiency. The overall culture of our schools encourages cooperation, but the use of a number of important forms of cooperation between teachers, (such as the observation of a colleague's classes and teaching together), has decreased compared to the results in 2013 and 2008.

The mid-term evaluation of the Estonian Lifelong Learning Strategy (2018) also addressed aspects of changing the approach to learning.

It was concluded that, in education, the importance of the topic has been acknowledged by the various parties, but **there is as yet no common understanding of the direction and ways to change school culture and learning objectives.**

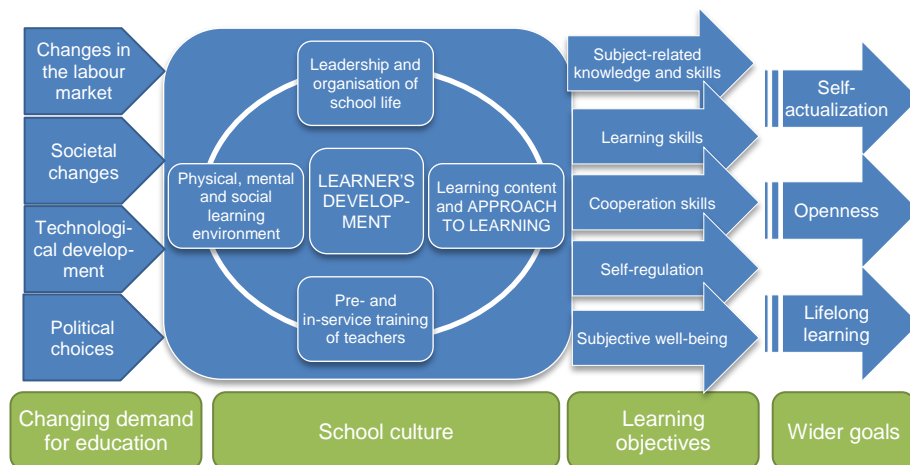
There are a **number of good working practices in Estonian schools, which contribute to the application of the principles of a contemporary approach to learning in school culture and in the learning process.** For example, joint learning events between school teams, which have strengthened the team spirit and developed a culture of learning together, have been effective. The *Edu ja Tegu* entrepreneurship education programme was highlighted, which has encouraged cooperation and contributed to the development of entrepreneurial mindset of students. At the same time, it was pointed out that different programmes and project-based activities compete with each other and could limit the potential impact for the education system as a whole.

The mid-term evaluation recommends to **develop a system of indicators for measuring the application of a contemporary approach to learning, to implement the principles of approach to learning in a systematic and cross-sectoral manner**, to analyse possible changes to the external evaluation system, and to find ways to ensure and develop support teams in schools, including assistant teachers.

In conclusion, the implementation of the contemporary approach to learning also needs attention during the new development plan period.

In 2017, the Ministry of Education and Research and universities in Tartu and Tallinn, developed **a framework for a new approach to learning with the aim of offering, above all, a background structure and support system for educational institutions** and their partners to help understand their activities in the implementation of a contemporary approach to learning.

From 2017, nationwide satisfaction surveys have been implemented to measure aspects of the changes in the approach to learning. These surveys make it possible to monitor how students feel about their involvement in the learning process and the extent to which they find themselves receiving feedback that supports development. In 2019, the results of the PISA test performed in the previous year and Part 1 of the results of the TALIS study were published. In addition to the knowledge and skills of young people, PISA also examines a number of impact factors for achieving learning outcomes, including factors of subjective well-being. TALIS is an international teaching and learning survey conducted by the OECD that collects data on learning environments and teachers' working conditions.



See the framework: www.hm.ee/opikasitus

Significant actions and decisions in 2019:

- activities were continued for implementing a contemporary approach to learning, including support for teachers' collaborative networks and learning communities, the renewal and presentation of the competence model for school heads, the follow-up programmes of school heads, cooperation projects between universities and schools, and the joint learning of school teams for the implementation of educational innovations;
- in the period of 2014–2019, teachers participated in in-service training on nearly 22,000 occasions and the heads of educational institutions on 3,700 occasions;
- there is still strong interest in the programmes and networks aimed at increasing the student focus of school culture and the well-being of students, including the *Huvitav Kool* initiative (interesting school), which as of 2019 has included more than 340 schools. In 2019, stage 1 of the *Huvitav Kool* activities ended, reflecting society's expectations for schools and education, and making Estonian schools interesting to the student, teacher, parent, education supporters, and friends, and giving a clear message from the state and the public that school will and must be interesting, that the development of the natural curiosity of the student is primary, and that a school must act creatively;
- the network of schools calling for more physical activity expanded: by the end of 2019, 78 schools have joined the network, i.e. 30 more schools than 2018;
- the implementation of the concept of a bullying-free education continued: in 2019, more than 90% of kindergartens and most schools focussed on security and implemented value education programmes;
- regional counselling teams are operating in every county, making recommendations to support the development of the student, to organise training and education, and to implement support services;
- in the period of 2014–2019, a total of 44,500 children or young people received education counselling services in the Rajaleidja centres; in 2019, nearly 9,500 new cases were started, i.e. over 1,000 cases more than a year earlier. Over the course of the year, approximately 18,400 adults (parents, teachers, and other educational workers) also participated in the counselling. Provision of the online learning advisor service continued, and prevention activities such as thematic seminars and information events and 169 group counselling activities were organised.

2. Competent and Motivated Teachers and School Leadership

Good or very good development:

- teachers' salaries have increased by nearly 70% in the last six years. While the average gross monthly salary of teachers in general education schools in 2013 was 930 euros, in 2019 it was 1,576 euros and accounted for 112% of the average salary in Estonia for the same year. The salary of teachers in vocational training establishments came close to the average salary of teachers in general education schools (1,513 euros);
- in 2019, local governments raised the salary of kindergarten teachers to 96% of the minimum wage for teachers in a general education school, i.e. to 1,204 euros, thereby fulfilling the objective that by 2019, the salary of kindergarten teachers should be at least 90% of the schoolteacher's minimum, i.e. EUR 1,125 per month;
- the number and proportion of young teachers has remained almost unchanged: In the 2019/2020 school year, the number of young teachers in Estonian general education schools is 1,714 or 10.8% of all teachers. The competition for teacher training places was higher in 2019 than the average competition for all places of study;
- TALIS 2018 shows that the perceived appreciation of the teaching profession among teachers and school leaders has risen compared to 2013. Teachers under the age of 35 are more aware of the value of the teaching profession.

More attention needs to be paid to the following:

- alongside securing salary growth, the big challenge is ensuring a stable and uniformly professional teaching staff across the country. Although the total number of teachers has increased in the last five years, there are still not enough teachers for all subjects in some places, such as teachers of sciences and mathematics;
- the problems are caused by the uneven distribution of workloads in different schools and regions. On average, 34% of teachers, including 43% in general education schools, 56% in vocational training institutions and 14% in pre-school children's institutions, work part-time. The workload indicators for teachers in rural areas and smaller schools are clearly lower: while in schools with more than 60 pupils, 58% of teachers teaching in the third grade work full-time, the proportion of teachers working full-time in smaller schools is significantly lower (23% and 29% respectively in schools with <30 and 30–60 pupils);
- the low level of professional stability of younger teachers is a cause for concern: a large proportion of teacher training graduates will not be employed as teachers or will be employed for a short period of time. TALIS 2018 shows that 41% of teachers under the age of 35 want to continue in the profession for only up to five years;
- the problem of keeping the salaries of teachers in higher education competitive has not been solved permanently.

Significant actions in 2019:

- in order to ensure the increase in teachers' pay, support for school owners was increased;
- in the framework of the agenda for valuing and increasing the attractiveness of the teaching profession, an extensive promotion of the teaching profession among youth and those making a career change was carried out, additionally, the third group of the Education Future Makers programme and fourth group of the Teacher – Spokesman for Education programme started;
- the disbursement of teacher training scholarships and start-up support for teachers and induction year for beginning teachers of vocational training continued;
- new projects for the development of competence centres at the University of Tartu and the University of Tallinn were started, the cooperation of universities will develop e.g. the *eDidaktikum* and learning analytics solutions and digital pedagogy;
- new professional standards, with a greater focus on inclusive education and digital pedagogy, were confirmed. The new professional standards for teachers, senior teachers, and master teachers entered into force from 1 January 2020.

The Lifelong Learning Strategy outlines a number of key issues, namely the unattractiveness of the teaching profession, which explains why schools lack both young, and male teachers, the weak competition for teacher training programmes, why those who have completed teacher education do not start working in schools.

The aim is to ensure that the assessment and salaries of teachers/lecturers and school leaders meet the requirements set for these jobs and the results these positions produce.

The prerequisite for increasing the attractiveness of the professions of teacher and educational institution leader is a **decent salary**. The state's aim is to set the average teacher's salary at 120% of the Estonian average salary, i.e. equal to the average salary of a specialist with a higher education.

This aim will be achieved with the help of the "Competent and motivated teachers and school leadership" programme and the general education programme.

Mid-term evaluation of the Strategy recommends to consider and organise a system for monitoring and analysing the need for in-service training, to continue developing the digital skills of teachers, and to complete the development of a self-assessment instrument for teachers and school leaders. The mid-term evaluation concludes that ensuring a competitive salary for teachers and school leaders remains a challenge. Alongside salary growth, the attitudes and the quality of the work of teachers and school leaders and the ability of teachers to cope with innovative learning methods and tools are becoming increasingly important.

Indicators:

Share of teachers aged 30 or younger – 10.8%

Competition for places in teacher training programme – 1.1

Gender ratio of teachers female/male in general education schools – 85.5/14.5

To ensure the sustainable functioning of society, it is important that every individual finds a place in the labour market according to their skills and is able to react to changes in the labour market quickly and flexibly.

The aim is to create high-quality, flexible, and diverse learning opportunities and career services that take the development needs of the job market into account, in order to increase the number of people with professional qualifications across various age groups and regions.

The following programmes contribute simultaneously to achieving this aim:

the general education programme, the school network programme, the labour market and education cooperation programme, the vocational education programme, and the higher education programme.

Future perspective:

compared to today, the jobs, professions and the labour market of the future are much more diverse as a whole. The added new fields, technologies, and specialties require new skills. It will require an individual to be learning throughout his/her whole life and the ability of the education system to respond quickly to a changing need for skills. A smart skills policy creates prerequisites for a extensive growth that takes into account Estonia's specificities and for the development of a balanced and coherent society.

Indicators:

Share of STEM graduates in higher education – 27.9%

Rate of basic school graduates that continue full-time studies in vocational education – 25.7%

Division of upper secondary school students (%) between general upper secondary education and vocational upper secondary education – 73.7/26.3

Students' short-term learning mobility – 3.1%

3. Responsiveness of lifelong learning opportunities to labour market needs

Good or very good development:

- employment rates for graduates in vocational and higher education are high (register-based study): of people who completed vocational or higher education studies in 2017, 78% are employed in 2018. The employment rate of graduates of bachelor's and master's studies is the highest (84%), and the employment rate of graduates of doctoral studies, master's studies and professional higher education is also higher than the average. The employment rate of graduates of vocational secondary education (71%) is somewhat lower than the average. Unemployment of graduates has also decreased for all levels of education in the year after graduation. As a whole, the unemployment rate for graduates in 2017 was 3.3% in 2018;
- forecasts of needs for skills and materials for career advisers provide an opportunity to better link the studies to the needs of the labour market;
- the number of students carrying out apprenticeship-based study is increasing: in the 2019/20 academic year, slightly more than 1900 students were engaged in apprenticeships, which is approximately 8% of all vocational training students. 12.4% of all vocational training graduates passed the vocational examination;
- graduation with the vocational examination is still growing in vocational education. 68.8% of all vocational training graduates passed the vocational examination in the 2018/19 school year;
- a positive trend in recent years has been the rapid rise in adults' participation (25+) in vocational training: in 2019, the proportion of adults in all vocational training students was 41.7%, i.e. approximately 10,000 people;
- it is very positive that, along with the increase in overall participation in lifelong learning, the participation of learners with lower education levels has increased faster than average. While in 2010 the share of this target group was 1.9%, in 2019 it was nearly 5 times higher (9.1%) and increased by 1.8% compared to the previous year (% based on participation in lifelong learning during the last four weeks).

More attention needs to be paid to the following:

- looking at the labour market position and income of graduates in 2005-2017, in 2018, it appears that 14.8% of graduates of higher education and 16.4% of graduates of vocational education do not participate in the Estonian labour market: they are not working, they are not unemployed, they are not engaged in raising a small child, and they are not in the Defence Forces; a quarter of them are abroad according to the population register. By specialty, the greatest number of people "lost" among vocational education graduates are in the fields of manufacturing, construction, personal services, and health, while in higher education it is in the field of social and behavioural sciences, health and in languages and arts;
- among young people, the popularity of vocational training has not significantly increased. The distribution of basic school graduates between vocational and general upper secondary education has not changed in the last ten years. There are important differences in the choices of students across counties, and this trend has remained unchanged for decades. Primary school graduates continue vocational training more than average in Ida-Viru, Valga, Rapla and Pärnu counties;
- in the last ten years, the share of upper secondary school graduates continuing studies in Estonian higher education has decreased by almost 10%, from 61.6% in 2010 to 51.2% in 2019. The lower continuation rate of upper secondary school graduates to higher education results both from their going abroad (including for studies) and from taking up employment;
- on average, 8% fewer young people with Russian as their mother tongue continue in higher education studies than young people with Estonian as their mother tongue;
- graduates of upper secondary schools in bigger cities continue in higher education more often than graduates of upper secondary schools further away from cities;
- the share of those continuing to higher education from a secondary vocational education remains low – an average of 9% of graduates per year.

The mid-term evaluation of the Strategy (2018) looked at a number of measures to link education and the labour market.

The mid-term evaluation underlines that the central activity in achieving the strategic objective has been the development of the OSKA system for monitoring and forecasting labour needs. Both existing activities and the methodological development of OSKA should definitely continue in the new strategy period.

The organisation of post-primary and post-secondary education based on the needs of the labour market, as well as the development of funding principles for adult learning, are considered important.

Although participation in non-formal studies has grown significantly according to the Estonian labour force survey and the largest share of studies is financed by employers and people themselves, the public financing of non-formal education for adults is largely dependent on the EU Structural Funds. There is no alternative financing scheme in the event of a reduction in the financing from the EU Structural Funds.

Internships are an essential element of learning through which it is possible to ensure that learning and labour market needs are met. The mid-term evaluation recommends that the organisation and quality of internships should be given greater attention in the new period, in order to reduce quality differences between educational institutions. It is also important to continue activities that motivate employers to offer internships.

Information and counselling services are essential for designing informed choices. The integration of the career counsellors institution into the Unemployment Insurance Fund has, according to the mid-term evaluation, taken an important step towards the better arrangement of the career counselling service.

The mid-term evaluation points out, inter alia, that instead of expanding the existing activities to raise the reputation of vocational education, the place of vocational education should first be considered both in the Estonian educational landscape and in the context of the learning pathways and, accordingly, activities for the improve of its reputation should be developed.

Significant actions and decisions in 2019:

- a total of 21 sectoral reports have been completed as of the end of 2019. The OSKA 2020 + concept has been drafted, agreed with partners, and presented to the Government's Economic Affairs Committee. The Economic Affairs Committee decided that the Minister of Education and Research, in cooperation with the Minister of Foreign Trade and Information Technology, should incorporate the long-term labour forecast model of the Ministry of Economic Affairs and Communications with OSKA's forecast labour needs system and develop a new methodology based on the two current methodologies;
- apprenticeship options for work-based studies were expanded and the pilot was continued – three higher education institutions apply this type of training (the Estonian Entrepreneurship University of Applied Sciences [EUAS], Tallinn Health Care College, and Tallinn University of Technology). The first results of the pilot project will be revealed in 2021 when the last learners involved in the project will graduate. In 2018, the principles and processes of the quality assessment of work-based learning were developed and tested in five vocational education institutions in 2019;
- as a result of the entrepreneurship education programme, the readiness of schools to teach entrepreneurship has increased – over 400 schools across Estonia have already been enrolled in the entrepreneurship education programme; more than 2,700 teaching specialists participated in in-service training;
- the number of fields for professional competitions is 32, professional championships for 17 fields took place in the framework of the *Noor Meister* 2018 major event, in addition, separate competitions were organised in six fields. In the first half of 2019, the programme series *Noor Meister* (Young Master) was completed and shown on ETV, in a framework in which the competitions took place in nine fields;
- the evaluation of the quality of the internship system continued in order to harmonise the activities related to schools' practices, to identify best practices of working, and problem areas; the training of internship supervisors was also continued; in total, over 6,400 practitioners participated in trainings during the Strategy period;
- in 2019, a total of 14,328 adults acquired new skills in the state-commissioned in-service training courses in vocational training institutions, and 13,400 (93%) of the participants were certified. The priority target groups for the state-commissioned in-service training were adults with no professional education, adults with no secondary education and adults with outdated skills at an age of 50+. Approx. 62% of the participants in the courses were among the target groups listed, i.e. the share of participants aged 50+ increased to a quarter (26%) of all participants. OSKA's recommendations were taken into account in the provision of training. In order to better respond to the training needs set out in the OSKA reports, preparations started in 2019 for the submission of the state-commissioned in-service training order to higher education institutions as well;
- the quality assessment requirements for in-service training were developed and tested in 2019 and a threshold-based assessment of in-service training institutions was started at the end of the year;
- the IT Academy vocational education pilot project was launched. The launch of the pilot programme aims to reduce the shortage of IT experts, to ensure that graduates' skills meet the needs of the labour market and to prepare graduates for further study in the fields of science at university. There is close cooperation with employers and universities, who are involved in teaching, developing the content, and providing internships. Teacher development is also supported and a number of in-service training opportunities and learning materials are created, developed, and adapted, as appropriate;
- in 2019, work on higher education legislation was completed, in order to simplify and streamline higher education regulations and prioritise students and their rights and obligations. The laws of four universities (Tallinn University, the Estonian University of Life Sciences, the Estonian Academy of Music and Theatre, and the Estonian Academy of Arts) were also adopted;
- the first thematic assessment of higher education, which concerned the study and teaching of foreign students, was completed. Foreign students are generally satisfied with the quality of their studies, but problems include: limited contact with local students and an uneven level of knowledge of the English language of teachers and students;
- in order to encourage foreign students to stay in Estonia, administrative agreements concluded for the period of 2019–2021 have set that there are to be at least 6 ECTS credit points of Estonian language and culture in all English-medium curricula.

The Lifelong Learning Strategy highlights the most significant issues in this area as being the fact that nearly a third of Estonia's working-age population lack the minimum digital and ICT skills necessary for work and that students' access to digital infrastructure and digital learning materials are lacking and unevenly provided.

The aim is to use modern digital technology more expediently and proficiently in learning and teaching, to improve the digital skills of the population as a whole, and to ensure access to next-generation digital infrastructure.

The digital focus programme has been established to achieve the digital focus aims.

In 2018, the Information Technology Foundation for Education (HITSA) began monitoring technology trends in education. Each year, a board of experts focuses on the selected technology trends and examines their link to education.

In 2019, the focus was on **gamification, as well as game-based learning, and personalised learning.**

*Technology compass for education:
<https://kompass.hitsa.ee/>*

Future perspective:

According to the future view of Estonian education, concepts of personalised learning and individual learning pathways are also increasingly highlighted, which is discussed, for example, draft Education Strategy 2021-2035

4. Digital focus in lifelong learning

Good or very good development:

- standard-determining tests in digital competences of 2018 and 2019 showed that basic school graduates have good basic skills in ICT – 83 percent of students' skills were either average or above in 2019;
- students' access to computers and smart devices has improved year-on-year in schools. Students like to use a computers in their studies: for basic school students, the computer makes learning more interesting, and for upper secondary school students, computers help with learning at the appropriate pace, place, and time.
- the results of the EU Kids Online survey published at the beginning of 2019 confirm that the internet has become an important part of the learning process for children – both at school and at home, children use the internet to repeat or exercise their lessons and to do writing work, as well as to communicate with and obtain information from their peers;
- in 2018, in the framework of the mid-term evaluation, teachers' computing skills and problem-solving skills in technology-rich environment were measured in a technology-rich environment using the PIAAC-online tool and the results were compared with the PIAAC study in 2011. The problem-solving skills of teachers have improved significantly and the proportion of teachers with lower skill levels has decreased. Teachers themselves have also estimated that their digital skills have improved over the last three years thanks to in-service trainings.

More attention needs to be paid to the following:

- depending on the age group, 30-50% of students are of the opinion that there is too little or no teaching in schools of the digital skills necessary for learning (searching and communicating on the internet, record-keeping, etc.);
- TALIS 2018 showed that only 30% of teachers felt well prepared for the use of ICT tools in their work, despite the fact that the use of ICT tools has been addressed for years in both pre- and in-service training. More attention needs to be paid to school-based teacher preparedness and the skills for the methodically correct and effective use of digital solutions;
- it is still important to continue activities to ensure that IT learning and more sophisticated IT skills (programming, robotics, etc.) are available for all students and in every kindergarten;
- more attention needs to be paid to the availability of education technology support in all schools and to the comprehensive development of the digital maturity of schools.

Significant actions in 2019:

- in light of the experiences from the test period of the 2018/19 academic year, digital textbooks covering the basic school curriculum were continuously made available to all basic school students, teachers and parents in 2019/20 and 2020/21 primary school were continuously made available to all basic school students, teachers and parents;
- in the curriculum development, the integration of learning outcomes related to digital competences into the all subject syllabi was started;
- new upper secondary school ICT courses were updated and introduced and the renewal of ICT specialties in vocational education was started. In 2019, 95% of general education schools and 69% of kindergartens participated in the *ProgeTiiger* programme supporting the availability of IT education;
- lots of digital learning materials have been developed, including upper secondary school ICT course materials, an Estonian-Russian-Estonian online dictionary environment, diagnostic e-tests, digital assessment tools for self-determination, communication competence, and learning competence. There are about 10,000 digital learning objects in the e-Schoolbag;
- a programme to support the creation of smart digital learning materials was launched;
- the promotion of more practical teaching and interschool cooperation was supported through projects on the organisation of joint use of learning materials (Klass +);
- the IT Academy programme supports the development of new informatics teachers at Tallinn University and the University of Tartu, more than 30 students have started their studies in 2019.

5. Equal opportunities and increased participation in lifelong learning

Estonia must guarantee equal opportunities for every person to obtain a high-quality education that is proportional to their abilities. However, there are a number of social, linguistic, gender-related, economic and regional barriers that set limits to these opportunities.

Goal: Everyone enjoys equal opportunities in regard to lifelong learning.

The following programmes contribute simultaneously to achieving this aim:

the general education programme, the school network programme, the higher education programme and the vocational education programme.

Future perspective:

According to Estonia's 2035 vision, the flexibility of all levels and types of study will be increased and the quality will be harmonised in the Estonian education system. The education system must support rapid retraining and provide (in-service) training for people of all ages.

Indicators:

Share of children from the age of 4 up to school age in pre-school education, incl. 6-year-olds in basic schools – 92.8%

Share of Russian-speaking basic school graduates with Estonian language skills at the B1 level – 62.5%

Share of basic school graduates with a mother tongue other than Estonian whose Estonian is at least the B1 level – 70.5%

Share of people aged 30-34 with tertiary education – 46.2%

Share of labour force costs in government expenditure on general education – 64%

Optimisation of the use of space in the field of education – 3.4 million

Good or very good development:

- according to Eurostat, more than 90% of children aged 4–6 in Estonia are participating in pre-school education, which is slightly below the EU average. Based on data from the Estonian Education Information System, participation in pre-school education has increased over the past five years by 1–2%.
- the share of children studying in Estonian in pre-school education institutions is growing, which will, in the long term, support the achievement of the goal for the acquisition of Estonian language skills by the end of basic school;
- the number of schools with an upper secondary school stage has fallen to 157 (the number being over 200 in 2013). The aim is to reach 100 schools;
- the transition to studies in Estonian, which started 10 years ago, is clearly showing positive results, and attitudes towards it have improved. A large number of Estonian residents are in favour of early education in Estonian.

More attention needs to be paid to the following:

- the share of basic school graduates with a mother tongue other than Estonian with a B1 level in Estonian has not changed, making it impossible to reach a goal (90% B1 by 2020) that was already difficult enough to achieve;
- different topics relating to students with special educational needs still pose a problem, including the communication of information about students' special needs, or legal transgressions and counselling in the case of difficult situations (depression and addiction);
- there is an increasing number of students in need of support being included in regular schools, with between 40% and 60% of teachers thinking that school-based support services are not available;
- there are large gender gaps in education: there are still more men with tertiary education than women who do not study beyond a low level of education, there are significantly fewer men than women in the age group 25–34, and the gap is not reducing;
- the organisation of the school network has been hindered by the local government reform, as the decisions on the restructuring of the school network have been delayed by the accession agreements of local governments and will be taken from 2022.

Significant actions in 2019:

- the development of Estonian as a second language training was continued in the "Professional Estonian teacher in the Russian language group" pilot project, and the "+1 teacher" programme was expanded. The initiatives have received very positive feedback from both kindergartens and parents. In 2019, additional 30 kindergarten groups were added; in 2020, the programme will also be extended to the first classes of a general education school;
- a total of 16 state gymnasiums have been completed and opened (totalling 24 overall). The occupancy rate for state gymnasiums is generally good. The school network is also being organised by region – the interest of local governments in setting up state gymnasiums and organising the school network has proved to be greater than expected;
- by a decision on the allocation of the performance reserve for the Cohesion Policy operational programme, the Government of the Republic allocated additional funds to the school network reorganisation measure, which will result in the additional building of state secondary schools in Ida-Viru and Harju counties from the school network investment measure;
- in 2019, "The organisation of the basic school network for students with special needs in the period 2014–2020" had an investment plan approved to support the improvement of the learning environment of the four schools held by the local government, with approx. 16 million euros;
- the projects that were implemented in order to bring adults with lower educational attainment back into further education and support their participation in learning were continued.

YOUTH FIELD

General assessment

The general aim of the Youth Field Development Plan:

young people have ample opportunities for self-development and self-realisation, supporting the formation of a cohesive and creative society.

The development plan has set **four strategic goals**:

1. Young people have more choices to foster their creative and developmental potential:

the involvement of young people in youth work has grown from 37% to 59.5%, compared to 2010.

2. Young people are at lower risk of exclusion:

both hobby schools and youth centre services are more available to young people than they were in 2014.

3. The participation of youth in decision-making is more supported:

as the total number of local governments has changed the participation opportunities have also changed.

4. The youth field functions more efficiently:

young people's satisfaction with youth work is high – 87%; youth workers' participation in training is 15%.

The general aim of **Youth Field Development Plan 2021– 2035** (under preparation):

the ample opportunities for development, a sense of security and firm support for young people, create an Estonia in which young people want to move forward.

In order to measure the effectiveness of the Youth Field Development Plan, **eight indicators have been set**. When assessing the current situation in the youth field, it is important to bear in mind that the number and share of young people among the population is on the decline. The number of young people living in Estonia in early 2012 was around 303,000, but this figure had dropped to 275,800 by early 2019. **According to forecasts from Statistics Estonia, the share of young people among the total population will continue to decrease until 2020.**

In all indicators of the Youth Field Development Plan, we have moved towards the set targets.

Due to administrative reforms, the number of local governments decreased to 79 and thus the initially agreed indicator of youth participation opportunities is no longer measurable. In the future (from 2018), the targeted level of youth participation opportunities will be measured as a proportion of the total number of local governments. The achievement level of the updated indicator for 2018 was 74.4% and 89.9% for 2019. The table does not include an assessment of the achievement of indicator compared to 2014.

	2014	2019	Target level 2020
Share of non-studying people aged 18-24 with lower education levels	12	9.8	9
Unemployment rate for young people aged 15-24	15	11.1	10
Involvement of young people in youth work	47	59.5	60
Number of young people per hobby school	492	353	400
Number of young people per youth centre	1181	982	1000
Share of organised participation opportunities (number of youth councils and other youth participation councils) of the number of local governments		89.9	89
Satisfaction with youth work of young people that participated in youth work (initial level for 2015)	86.6	87	87
Share of youth workers participating in training per annum	10	17	15

The figure indicates movement towards the key indicators of the Development Plan in 2019, or as of the last measured year.

In 2019, a mid-term evaluation of the implementation of the ESF measure "Supporting youth employment readiness and reducing the impact of poverty through access to youth work services" was carried out at the request of the Ministry of Education and Research. The aim was of assessing the appropriateness, rationality, effectiveness, efficiency and sustainability of the measure and its activities. The mid-term evaluation shows the contribution of the measure to the implementation of the Youth Field Development Plan.

Good or very good development:

Main results of the mid-term evaluation of the ESF measure

“Supporting youth employment readiness and reducing the impact of poverty through access to youth work services”

- activities will increase the employment readiness of young people, help to reduce exclusion and inequalities by providing young people with opportunities for development, motivating them, improving their social skills and promoting networking in support of young people and their families;
- activities of youth measure have increased the availability of youth work, expanded youth activities and improved youth field performance through new forms of cooperation and networking;
- the bottlenecks were that youth work activities could be more representative of the functioning of the labour market, some activities could be available across Estonia, and young people with complex problems would need more support, including psychological assistance, addiction counselling, debt counselling or work with the whole family;
- in conclusion, the mid-term evaluation showed that the activities meet both the objective of the European Commission's Cohesion Policy Funds Operational Programme “Increasing Social Inclusion” and the general and sub-objectives of the Youth Field Development Plan 2014–2020.



Mid-term evaluation was conducted by Civitta Eesti AS
[Link to the report](#)

- the participation of young people in youth work, that is to say, the proportion of young people who took part in hobby education, in camps, in youth work brigade, or in the activities of national youth activity groups receiving annual support, or who have participated in youth councils and active youth activity groups, has increased. In 2010, the respective indicator was 37%, whereas it was 59.5% in 2019, and the goal for 2020 is 60%;
- the availability and quality hobby education and activities in all areas of hobby education have increased thanks to supplementary state support for hobby education and activities. The most new opportunities have been created in the area of general culture, but a positive change has also taken place in STEM – new opportunities have been created and new learning tools have been acquired;
- gratifying work has been done with young people at risk of exclusion – the proportion of young people who are not studying, not working and not participating in training (NEET) has decreased. With the support of ESF, they have been offered comprehensive support services and these have been effective – 66% of young people are out of NEET-young status half a year after leaving the programme.
- the competence of youth workers is improving, the wider awareness of the professional standard and the acquisition of more diverse methodologies have helped youth workers to better fulfil their role.

More attention needs to be paid to the following:

- the number of youth not in employment, education or training (NEETs) was estimated to be 20,700 aged 15–29 in 2019 (almost one tenth of the age group). Regional differences have increased: in Northeast Estonia, the share of NEETs of 15–29-year-olds was 16.4 percent; in Tallinn, in the same age group, only 6.3 percent.
- youth unemployment is also an important factor in the risk of exclusion. Unemployed young people are more likely to become income poor, they have a higher risk of living in households with great deprivation. In 2019, the youth unemployment rate in Estonia was 11.1%, but in the wake of the crisis that started in 2020, the unemployment rate could grow rapidly. We must ensure that, even if the labour market situation deteriorates, every young person is guaranteed a high-quality job offer, the possibility of continuing education, apprenticeship or internship after becoming unemployed or leaving the formal education system.

Significant actions in 2019:

- the new two-year Smart Youth Work Plan was implemented, including the development of a number of smart solutions in youth work, training for youth workers, support for local governments' ability to develop and introduce a smart approach in youth work, a new online solution for youth statistics was launched,
- support was granted for the participation of approximately 2,700 Estonian young people and youth workers in Erasmus+ youth projects abroad and the participation of over 2,200 young and youth workers in projects in Estonia;
- nearly 30,700 young people (including nearly 2,700 young people with fewer opportunities) participated in the camps in the framework of a healing and developing holiday for young people. A total of 25 permanent camps, 59 project camps and two school campsites for children with special educational needs were supported. In the context of the call for proposals of youth work camps “Malevasuvi 2019”, 49 youth work camp organisers were granted support. Approximately 4,200 young people participated in youth work camps;
- in support of youth entrepreneurship and self-initiative, a new call for youth project proposals called “Ideeviiit” was introduced, which supports the implementation of young people's ideas and aims to raise awareness in areas of interest to them;
- approx. 53,800 young people took part in the activities related to the course of action of local government cooperation groups. The activities focused on the development of smart youth work, the local government development programme was started to support the local governments formed following the administrative reform in finding a suitable model for organising youth work and/or assessing the suitability of the model in use;
- the activities related to the inclusion of youth at risk of exclusion and the improvement of employment readiness of young people and the training programme of youth workers were continued.

RESEARCH

General assessment

The general aim of research and development, and innovation development:

to create favourable conditions for growth in productivity, the standards of living, good education and culture, and the preservation and development of Estonia.

The strategy has set **four strategic goals**:

1. Research in Estonia is of high quality and diverse:

3/3 – compared to 2014, we have seen positive movement in all three indicators set: the amount of publishing activity and defended doctoral theses have increased (decreased in 2019).

2. Research and development (R&D) functions in the interests of Estonia's society and economy:

2/2 – the share of private-sector investments in public-sector RDI and the proportion of the state-financed applied socio-economic research in state budget have increased.

3. R&D makes the structure of the economy more knowledge-intensive:

2/2 – the involvement of the high (and medium-high) technology sectors and export share are increasing.

4. Estonia is active and visible in international RDI cooperation:

2/2 – the sum *per capita* of contracts won in Horizon 2020 and the share of internationally coordinated research in state-funded R&D have increased.

The general aim of **Estonian Research and Development, Innovation and Entrepreneurship Development Plan 2021–2035**: In cooperation, Estonian RDI and entrepreneurship will enhance the well-being of Estonian society and the productivity of the economy by offering competitive and sustainable solutions to the development needs of Estonia and the world. **Knowledge transfer** is an important keyword.

To measure the performance of the Estonian Research, Development and Innovation Strategy, 'Knowledge-based Estonia 2014–2020', four key indicators and nine result indicators have been set.

A number of indicators in the field of research show the excellence of Estonian researchers. Estonia has established a functional and evolving research, development and innovation (RDI) system that is based on quality competition. The participation of researchers in international cooperation is growing, as is publishing activity, which indicates the high level of research and success in Horizon, the EU's research and development (henceforth R&D) framework programme. The number of doctorate graduates has increased compared to the starting year of the Strategy, but has fallen in 2019. The growth is driven by a high number of admissions around 2010, although from 2013, admissions to doctorate studies have decreased and the rate of the interruption of studies is still high. Estonia is becoming an increasingly attractive target country for international researchers, whose numbers have increased in Estonian public research institutions.

The biggest challenges in the field of research are the involvement of companies in research and development and the financing of research. Estonia's specificity is the high level of project-based activities and the large share of foreign sources in research financing, especially in the case of public sector R&D. In recent years, the share of public sector R&D expenditure in GDP has increased, Estonia exceeded the EU average for this indicator in 2018, being seventh in the EU. At the same time, the level of private R&D investment is low and R&D investments are made by a few companies.

None of the four indicators of the overall objective of the strategy (productivity, investments in RDI, etc.), which are closely related to macroeconomic indicators, have seen considerable improvement since 2014 (see Figure below). At the level of the strategic objectives of Estonian RDI development, however, the developments are rather positive (see panel on the left).

The figure indicates movement towards the key indicators of the R&D strategy as of the last measured year (in 2018).

	2014	2018	Target level 2020
R&D investment level of GDP	1.42	1.4	3.0
incl. private sector R&D expenditures of GDP (%)	0.62	0.59	2.0
Productivity of companies per employed person (% of the EU average)	75.4	77.9	80
Place in the European Innovation Scoreboard	13	12	10

In 2019, the evaluation of Estonia's research, development and innovation system was carried out under the European Commission's Horizon 2020 support measure at the request of the Estonian state. The aim of the evaluation was to provide an independent assessment of the performance of the Estonian Research, Development and Innovation (RDI) system and to provide practical recommendations to enhance the efficiency and impact of the RDI system. The evaluation provides an important input for the preparation of the new strategy and policy options for Estonian RDI. The assessment was prepared by internationally recognised RDI experts, under the leadership of professor Marja Makarow.

Recommendations for the evaluation of the Estonian RDI system:

- Estonia must make a political commitment to meet the RDI financing target of 1% of GDP and recognise the importance of RDI in securing the development of the country;
- Estonia needs to develop clear thematic RDI preferences, taking into account global challenges and smart specialisation strategies;
- an innovation agency needs to be founded, an agency that supports the RDI activities and the capacity of enterprises to implement it;
- there is a need to strengthen knowledge transfer intermediaries, i.e. organisations that help to bring research results in reach of businesses and find suitable knowledge-based solutions for businesses;
- it is necessary to modernise and “profile” universities so that they can better adapt to the needs of society in terms of both knowledge transfer services and providing higher education.

Good or very good development:

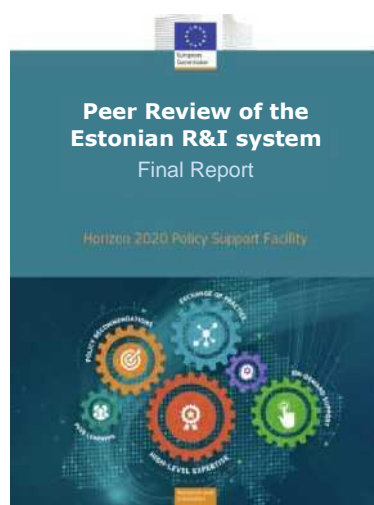
- publishing activity shows a high level of research, and that the activity of scientists has increased, significantly exceeding the EU average. (1,603 high-level articles per million inhabitants in 2018);
- Estonia stands out in terms of the volume of contracts won in the EU R&D framework programme, Horizon 2020. On the basis of the last indicator, we exceed the EU28 average by 1.5 times.
- the innovation capacity of enterprises has risen substantially in 2018, which is characterised by the “productivity of enterprises per person employed”, and according to which we are constantly on an upward trend, approaching the EU average. In 2018, we achieved the target set as an indicator (76%). Estonia’s position improved by five places in the EU innovation table, and only one place separates us from the target for 2018;
- as a result of the work of the network of scientific advisors, the awareness and activity of ministries has increased in the planning of the R&D activities.

More attention needs to be paid to the following:

- despite the rapid rise in the level of science, it has not been possible to achieve sufficient synergies between scientific and economic development. Private R&D investments have not risen, but have fallen slightly (from 0.60% to 0.59%). In terms of the private sector RTD investments, Estonia is twice below the average of the EU28;
- more attention must be paid to increasing the attractiveness of academic careers, including doctoral studies. The number of admissions in doctoral studies in the 2019/20 academic year has fallen. For a long time, the share of foreign students in doctorate studies has increased, but foreign doctoral students have not entered the Estonian labour market as eagerly as Estonian students after graduation;
- research work results do not find enough application in entrepreneurship. There is a lack of the motivation and ability for the cooperation between universities and enterprises. Scientific disciplines are often not linked to the needs of society, due to which the social benefits of RDI are lower than its potential. The number of staff and engineers with the R&D experience and knowledge outside the academic sector is low, doctoral studies prepare students for academic careers and do not provide the knowledge and skills needed in the private sector.
- the development of the international competitiveness of the business environment has slowed down. The income level and place of the Estonian economy in international value chains is low.

Significant actions and decisions in 2019:

- in 2019, the budget for institutional and personal research grants increased from 39.4 million to 40.2 million euros. It is positive that the restructuring of the core R&D instrument system has resulted in a competition-based and baseline funding ratio of 51: 49 by 2019, which is almost at the level of 50:50 set by the government;
- from 2019, support is given to development advisers taking up work in professional associations. The aim is to increase the knowledge of the need for R&D, research and development activities, in Estonia, the opportunities for its implementation and the potential impact on economic growth in the associations and in the enterprises belonging to them. Development advisers will become important links between enterprises and R&D institutions.
- as a new activity, a measure called the “Implementation of the IT Academy science support measure” was launched in 2019, aimed at growing the state-of-the-art ICT R&D capability in Estonia, and implementing it in the interests of Estonian society and economy. Preparations were launched for the start of “Support for R&D in the field of resource enhancement” action, which will focus on the studies for the better enhancement of mineral resources, wood, and food.



The mid-term evaluation was conducted by the European Commission

[Link to the report](#)

LANGUAGE

General assessment

The general aim of the Development Plan of the Estonian Language:

to ensure the functioning of Estonian as the state language in all areas of life, the teaching of Estonian, the study, development and protection of Estonian and, through all of this, the preservation of the Estonian language over time.

Four strategic directions have been selected:

1. To support the sustainable development of the Estonian language among speakers of Estonian as a native language:

3/4 – we have seen progress in three of the four indicators set: there have been improvements in the average results of the upper secondary school exam in Estonian as a first language and also in the share of top results. The share of students with low skills has decreased. The number of inquiries made to language advice services has decreased.

2. To improve the options to learn Estonian abroad:

the participation of Estonians living abroad in Estonian language learning and language events has increased compared to the previous years.

3. To improve and expand the Estonian skills of Estonian residents with other native tongues:

3/4 – we have seen progress in three of the four indicators: the share of those who passed the Estonian language proficiency test at levels B1 and B2 has increased; the share of those who have passed the level C1 exam of the people who sat the exam has decreased

4. To increase motivation among people in Estonia to study different languages:

In 2019, 63.8% of young people who passed the foreign language state examination achieved at least a B2 level.

The government of the Republic of Estonia decided to extend the Development Plan of the Estonian Language 2011–2017 until 2020. On October 22, the Riigikogu adopted a decision proposing that the government draw up a development plan for the field of Estonian language 2021–2035 to strengthen the vitality, development, and learning of the Estonian language. In 2019, the Ministry continued to plan and implement language policy for the period of 2011–2017 (extended until 2020) on the basis of a prepared development plan, and the same will be done in 2020.

The objectives of the language field are multi-level and interdependent: the consolidation of the use of the Estonian language in all areas of life, the expansion of the Estonian language user population, and the provision of good Estonian language skills and good language use are closely linked; appreciation of the Estonian language and its distinctive features and the improvement of the foreign language skills of Estonian citizens. In the long term, a language with one million of speakers may not be sustainable without further development and organisation. Estonian as a language of instruction helps to integrate the entire population of Estonia, and indirectly those who are out of the education system. The knowledge of foreign languages by Estonian citizens opens new channels of information to them, opportunities for self-realisation, and better opportunities in the labour market. The value of multilingualism also benefits both Estonian society and the economy.

To measure the effectiveness of the Development Plan of the Estonian language, three key indicators and ten result indicators in four areas have been set in the language programme. We have made progress in 10 of the 13 indicators of the language programme, and all key indicators have moved in a positive direction (see figure below). Although the number of inquiries made to language advice services is decreasing, in reality this can also be interpreted as a positive trend (as awareness of language cultivation sources has increased and, thanks to e-language advice, answers are easier to find than before, thus, the contacts to language advice are decreasing).

	2016	2019	Target level 2020
<i>Attitudes of the target group and stakeholders towards the Estonian language</i> Percentage of the participants in the survey who agree with the claim that the Estonian language is:			
... an integral part of Estonian culture	93	-	82
... needed to live and work in Estonia	90	-	81
... part of being Estonian	89	-	80
<i>Estonian as the native language of young people who have acquired upper secondary education:</i>			
... average score of the final exam in points (max 100)	64	63.7	64
... proportion of students who have received 80 points or more in the final examination	18.8	20.9	20
... proportion of students who have received 20 points or less in the final examination	0.57	0.19	0.26
Knowledge and use of electronic sources of language and language maintenance sources (number of inquiries) (<i>initial level for 2017</i>)	8,516	7,659	
The participation of Estonians living abroad in Estonian language learning and language events in Estonia and abroad	3,736	4,046	4,400
Share of those who passed the Estonian language proficiency examination of the people who sat the examination	55.7	57.4	55
Proportion of those who passed the B1-level Estonian language exam	67.6	69.2	63
Proportion of those who passed the B2-level Estonian language exam	39.7	41.5	38.6
Proportion of those who passed the C1-level Estonian language exam	35.6	26.2	33
Share (%) of young people who passed the foreign language state examination that have achieved at least a B2-level in the foreign language state examination	49	63.8	72

The figure indicates movement towards the targets of the language field as of the last measured year compared to 2016. Annex 2 to the report provides a comparison of the indicators for 2019 with 2014.

An audit carried out by the National Audit Office in 2019 entitled **“Organisation and public funding of the Estonian language training for adults”** points out the following:

- the organisation of state-funded Estonian language training for adults is fragmented;
- the number of trainings does not correspond to the need;
- there is an acute shortage of qualified teachers;
- the financing of trainings depends heavily on external resources.

According to the recommendations of the National Audit Office, the topic of training in the Estonian language for adults as a second language is set to be one of the priorities of the Development Plan for the Field of Estonian Language 2021-2035. The development plan to be drawn up will agree on the objectives, activities and indicators of the field.

When planning language activities, it is important to distinguish between activities aimed at achieving the language skill level (refresher trainings of the Estonian language) and language activities carried out for other purposes, and to ensure a balance in the use of resources.

The Ministry of Education and Research declared 2019 as the Year of the Estonian Language to celebrate the **100th anniversary of the official language**.

Various events were organised to draw attention to the fact that the Estonian language is not self-evident - it must be actively and skilfully used, and its status and development recognised and supported.

Good or very good development:

- the results of the Estonian language final examination have improved over time, in both upper secondary school and basic school. In recent years, the share of those achieving 80 points and more in the state examination for Estonian as a mother tongue has also increased, and the proportion of graduates scoring less than 20 points has decreased;
- the share of non-Estonians who can speak Estonian has gradually increased. According to the Estonian labour force survey, the share of non-Estonians who know Estonian and whose domestic language is not Estonian is 70%. There are 18.5% or approximately 59,000 non-Estonians with knowledge of their language of origin alone;
- the number of children living abroad and learning the Estonian language has almost doubled in the last eight years, and the number of general education and Sunday schools, associations, kindergartens, and language courses teaching Estonian abroad has also increased considerably;
- being multilingual is valued in Estonia. Knowledge of several foreign languages is advantageous in the labour market. Approximately 40% of all children start learning a foreign language earlier than expected.

More attention needs to be paid to the following:

- significant migration away from and back to Estonia requires increased attention to offering the teaching of Estonian as a first language and a second language in Estonia and abroad. Maintaining language skills abroad and offering language support to those who return is key if we want to make it as easy as possible for children with multinational backgrounds to grow up as Estonians;
- although the share of non-Estonians who speak Estonian has increased in the last 10 years overall, it has remained at more or less the same level in recent years. The foreign language skills of this group also need attention. In the youngest group surveyed (ages 16–24), only 4% of Estonian-speakers have no English language skills, compared to more than one in four (27%) among Russian-speakers;
- In the 2019/20 academic year, the total number of teachers in general, vocational, and pre-school education institutions whose Estonian language skills did not meet the requirements is around 1,000;
- at the first cycle of higher education it is possible to study almost entirely in Estonian in all curricula groups, but there are fields at the second cycle of higher education in public universities where the number of curricula in Estonian has decreased.

Significant actions and decisions in 2019:

- the national programme “Estonian Language and Culture in the Digital Age 2019-2027” was launched. The new programme plays an important role in ensuring the development and vitality of the Estonian language and culture in the digital space. The programme supports the implementation of a digital dimension in the research and development of the Estonian language and culture, and encourages interdisciplinary cooperation.
- the *Sõnaveeb* dictionary portal was completed - a language portal that aggregates word collections and databases so that users can obtain any necessary language information in one place, and a new term management environment called Ekilex that facilitates professional terminology work, collaboration between terminologists, experts and terminology committees, and the submission of and response to term requests;
- the number of users of language technology tools has risen significantly. With the support of the language technology programme, a number of end-user environments - a speech recognition portal, a real-time call machine translation platform, and a machine translation environment - were completed in 2019, enabling the translation between a number of language pairs;
- from 2019, it will be possible to apply for a professional qualification certificate of language editor, the first formal language editor's professional examination was already carried out;
- B2- and C1-level Estonian language training for education workers in Ida-Virumaa County has continued, and support will be provided for local government language learning projects;
- to increase the motivation to learn the different languages of Estonian residents, the CertiLingua programme continued to be implemented in Estonian schools. In 2019, a fourth school joined the Estonian CertiLingua Schools Network, the programme is still open to new applicants. The programme values the B2 level of language skills in two foreign languages, the participation in integrated subject-and-language studies and the development of intercultural communication skills.

The aim of the programme:

the sustainable preservation and use of the documentary memory of society and proving citizens' rights.

Significant actions:

- the most important task of the period was to gather digital information and expand access to the archived matter. The storage volume of the digital archive grew by 60%, reaching almost one and a half petabytes. The growth is mainly driven by digitisation;
- in mass digitisation projects, work under the management of the National Archives has begun on digitising the document heritage of 14 memory institutions. Public procurement for the implementation of digitisation projects for chronicle films and photonegatives is underway;
- in August 2019, a design contract for the reconstruction of the National Library building was signed. As part of the design work that will be completed in March 2021, the National Archives, as a partner of the library, has the responsibility to plan the resettlement of the three entities located in Tallinn to the street wing of the Endla building.

NATIONAL ARCHIVES

General assessment

All of the programme aims for 2019 were achieved:

- the number of institutions that have submitted digital archival documents to the National Archives has increased (from five in 2014 to 15 in 2019);
- the share of records kept in the required vaults in the National Archives has grown (from 58% in 2014 to 89% in 2019);
- access to records online has improved significantly: to a total of 20.9 million images (compared to 13.4 million in 2014)

Good or very good development:

- the transfer of digital archival documents to the National Archives has been somewhat stepped up, but a breakthrough has not yet arrived in this regard. This will also prevent future forecasts of the measuring instrument from being specified.
- the share of archival records maintained in proper repositories already rose sharply at the end of 2016 thanks to the introduction of the National Archives' new main building, Noora. With the relocation of the archival records, the indicator of the measuring instrument has grown slightly. According to the forecasts, this will remain the same until the introduction of the National Archives Tallinn Centre.
- the online availability of archival records was consistent with the forecasts. With regard to future plans, the National Archives will still be more modest, as cultural heritage mass digitisation projects, which will need resources to be carried out, will remain in the same period (and are already in progress).

Key activity indicators for 2019

- more than 5,700 people participated in archival pedagogical activities;
- eight scientific publications had been published by the National Archives at the end of 2019;
- the total number of web sessions reached 1.5 million in 20

- Statistics concerning all schools and learning: students, graduates, applicants, students interrupting their studies, teachers, teaching staff per study level, education type, school, age, gender, etc.;
- efficiency and effectiveness indicators and strategy indicators;
- ability to compare schools based on different indicators: background data, learning environment, results, etc.;
- ability to compare statistical reports and to compare educational indicators.



The Haridussilm portal gathers its data from the Estonian Educational Information System (EHIS) as well as from Statistics Estonia, Eurostat, the Thomson Reuters Web of Science database, and elsewhere. Time series since 2005, and regular data updating. We have a wide-ranging user community, from parents and school directors to analysts and journalists.



MINISTRY OF EDUCATION
AND RESEARCH

ANNEX 1. IMPLEMENTATION OF THE BUDGETS OF THE PROGRAMMES FOR THE STRATEGIES IN 2019				
Programme	Measure	Budget for 2019, thousand euros*	Execution for 2019, thousand euros*	Execution, % ***
Competent and motivated teachers and school leadership.	Measure 1. Development of a further education system for teachers and education managers, including the development of competence centres at Tallinn University and the University of Tartu that are responsible for teacher training and the development of educational sciences	3 270	3 913	120%
	Measure 2. Increasing/valuing the attractiveness of the professions of teacher and educational institution's leader	600	347	58%
	Total	3 870	4 260	110%
Digital focus programme	Measure 1. Integration of digital culture to the teaching process	2 063	1 501	73%
	Measure 2. Creating prerequisites for the integration of digital culture to the teaching process	11 552	11 282	98%
	Total	13 615	12 783	94%
Programme for the closer association between the labour market and learning	Measure 1. Linking learning to labour market needs	9 814	12 260	125%
	Total	9 814	12 260	125%
School network programme	Measure 1. Organising the school network	66 039	53 354	81%
	Total	66 039	53 354	81%
General education programme	Measure 1. Securing the quality of general education	9 826	9 616	98%
	Measure 2. Ensuring equal opportunities and reducing drop-out in general education	16 527	15 167	92%
	Measure 3. Securing access to general education	416 143	417 195	100%
	Total	442 496	441 978	100%
Vocational education programme	Measure 1. Increase in the participation in studies and better compliance of graduates with labour market needs	93 913	94 431	101%
	Total	93 913	94 431	101%
Higher education programme	Measure 1. Equal opportunities for higher education and the introduction of a changed approach to learning	187 323	184 740	99%
	Measure 2. Bringing higher education into compliance with the needs of the modern labour market	4 031	4 031	100%
	Measure 3. Promoting the international competitiveness of higher education	3 185	3 532	111%
	Total	194 539	192 303	99%
Adult education programme	Measure 1. Bringing adults with an interrupted education back into formal education and creating the preconditions for them to stay in their studies and obtain a level of education.	2 589	1 929	75%
	Measure 2. Increasing access to non-formal training and improving the quality of training	8 614	7 347	85%
	Measure 3. Development of the vocational system and the creation and support of a number of forms of cooperation in adult education, implementing the lifelong learning vision	1 448	1 217	84%
	Total	12 651	10 493	83%
Youth field programme	Measure 1. Increasing opportunities for the development of youth creativity, self-initiative, and joint action	2 282	2 487	109%
	Measure 2. Increasing the inclusion of young people and improving youth employability	21 301	19 926	94%
	Measure 3. Supporting the active participation of young people in the community and decisions	862	862	100%
	Measure 4. Ensuring the development of quality youth policies and youth work	2 228	2 368	106%
	Total	26 673	25 643	96%
Research and development activities and innovation programme	Measure 1. Ensuring a high level and diversity of science	134 909	132 955	99%
	Measure 2. Increasing the social and economic benefits of RDI	9 271	9 227	100%
	Measure 3. RDI, which modifies the economic structure, and is based on smart specialisation	16 441	10 587	64%
	Measure 4. Increasing Estonia's inclusion and visibility in international RDI cooperation	10 749	11 761	109%
	Total	171 370	164 530	96%
Language programme	Measure 1. Ensuring the sustainability of the Estonian language	3 279	3 281	100%
	Measure 2. Creation of opportunities for learning the Estonian language in expatriate Estonian communities and foreign higher education institutions	1 261	1 272	101%
	Measure 3. Securing teaching Estonian as a second language and supporting learning	279	329	118%
	Measure 4. Support for foreign language skills and multilingualism	127	124	98%
	Total	4 946	5 006	101%
Archiving programme	Measure 1. Sustainable preservation, use of the documentary memory of society, and proof of citizens' rights	8 746	9 073	104%
	Total	8 746	9 073	104%
* the 2019 state budget with the amendment, the funds transferred in 2018 and received from the reserve of the Government of the Republic. In the State Budget Act, the education grants of the local governments are recorded in the budget of the Government of the Republic, while in this table, these are included in the budget of the programmes.				
** Accrual costs. All economic transactions are recorded as accrual costs when they occur, regardless of the time of payment for the transactions.				
*** Execution in 2019 by more than 100% means a result of the over-execution of structural instruments and own revenue.				

ANNEX 2. EXECUTION OF MEASURING INSTRUMENTS OF THE STRATEGY PROGRAMMES IN 2019 IN THE YEAR (1)	2014	2019	Target level 2020
1. The Lifelong Learning Strategy programme Competent and motivated teachers and school leadership 2019-2022			
Share of non-studying people aged 18–24 with lower education levels, incl. men & women	12/ 16,0/ 7.9	9.8/12.7/6.9	<9
Average salaries of teachers from municipal schools compared to national average (%)	102	112	120
Share of students with top-level skills (achieved 5th and 6th level at PISA survey) (%): functional reading skills/ mathematical literacy/ science literacy	PISA 2015: 11.1/ 14.2/ 13.5	PISA 2018: 13.9/ 15.5/ 12.2	not to be measured
Measure 1. Development of a further education system for teachers and education managers, including the development of competence centres at Tallinn University and the University of Tartu responsible for teacher training and the development of educational sciences			
Share of the students with low level skills (achieved below 2nd level at PISA survey) (%): functional reading skills/ mathematical literacy/ science literacy	PISA 2015: 10.7/ 11.2/ 8.7	PISA 2018: 11.1/ 10.2/ 8.8	not to be measured
Rate of drop-out from basic school in the third stage of regular full-time attendance (%)	0.5 (13/14)	0.3	<1
The share of school leavers in upper secondary school (drop-out rates in the first academic year) (%)	1.1 (13/14)	1.2%	<0.8
The share of school leavers in vocational education institutions (in the vocational upper secondary education level first academic year) (%)	25.6 (13/14)	23.4	<20
Proportion of teachers and heads of educational institutions who participated in training (at least 30h) who received a qualification at the end of the training (%)	-	97	97
Measure 2. Increasing/valuing the attractiveness of the professions of teacher and educational institution's leader			
Share (%) of teachers aged 30 or younger in general education schools	10,3	10,8	12,5
Competition for places in teacher training programme	0.9 (2016)	1,1	is increased
Gender ratio of teachers female/male in general education schools	85.8 (14.2)	85,5/14,5	75/25
Proportion of teachers (%) who find that the profession valued in society (TALIS)	13.7 (2013)	26.4 (2018)	not to be measured
2. The Lifelong Learning Strategy digital focus programme 2019–2022			
The share (%) of graduates majoring in STEM (science, technology, engineering, and mathematics) in higher education	26,4	27,9	29
Share of people aged 16–74 with digital competences (%)	76	90	95
Percentage of learners at different levels of education using a computer or other personal digital tool (%) in their education	33 (2012)	46 (G); 35 (P) (2018)	100
Percentage of primary school graduates who have proven to have basic ICT skills (%)		83	100
Measure 1. Integration of digital culture to the teaching process			
Share of 8th grade students, from all 8th grade students, studying in schools with digital support (%)	33 (2011)	82 (2018)	100
Measure 2. Creating prerequisites for the integration of digital culture to the teaching process			
Number of areas in which innovative teaching materials have been developed	0	11	12
Share of vocational education teachers using digital solutions (%)	68	-	90
Share of general education teachers using digital solutions (%)	58 (2012)	64 (2018)	90
3. The Lifelong Learning Strategy programme for closer association between labour market and learning 2019–2022			
Share of adults (25–64) without special and professional education (%) (new ISCED)	29,5	27	25
Rate of employment of people aged 20-34 who graduated 1–3 years ago (%)	80,9	83,3	82
Measure 1. Linking learning to labour market needs			
Number of councils created and operating (sectoral councils and the Coordination Council) (OSKA)	3+1 (2015)	23+1	20+1
Overview of labour market skills analysis submitted by the Coordination Council to the Government of the Republic (OSKA)	0	3	4
Number of educational institutions participating in the entrepreneurship learning programme to introduce the business module (The <i>Edu ja Tegu</i> programme)	0	409	370
Share of educational institutions participating in the programme that have introduced the business module (%) (The <i>Edu ja Tegu</i> programme)	0	69	-
Number of specialists teaching in the refreshment training of entrepreneurship studies (The <i>Edu ja Tegu</i> programme)	0	2766	2900
Number of accreditations (rating units) for the curricula groups of vocational training institutions and applied higher education	0	146	270
Number of professional competition specialties (Development of professional and higher education tailored to labour market needs, hereinafter: PRÕM)	31	32	30
Number of mentors participating in internship guidance training (PRÕM)	0	6449	5350
Development of internship system in vocational and higher education: Share of educational institutions participating in the programme of all relevant educational institutions (%) (PRÕM)	0	90	90
Number of participants in job-based studies (apprenticeship) (PRÕM)	0	4985	7200
Number of enterprises participating in job-based studies (PRÕM)	0	954	330
Rate of successful graduates from apprenticeships (%) (PRÕM)	0	54,4	75
Number of participants in additional language training (PRÕM)	0	3265	2500
Number of participants in activities (open round of language learning)	0	1346	500
Survey-analyses carried out	1	6	8
Number of reports mapping skills, education and labour market relationships	8	9	10
4. The Lifelong Learning Strategy School network programme 2019–2022			
Share of labour force costs in government expenditure on general education (%) /incl. share of labour force costs of teachers in government expenditure on general education (%)	67/46	64/44 (2018)	60/ 50
Number of schools with an upper secondary level (pcs)	183	157	~100
Optimisation of the use of space in the field of education (m2)	3.5 mln	3.4 mln (2017)	decreases
Share of students with enhanced and special support included in standard education (%)	27	-	under construction
Measure 1. Organising school network			
Number of state upper secondary schools (pcs)	5	16	17
Modernised state and municipal vocational training institutions (pcs)	17	-	24
Modernised surface of general education schools (m2)	-	71 346	84 000
Number of schools receiving support for the integration of SEN students	0	14	60
Square metres per student on sites supported by the organisation of the general education network (m2)	-	7,8	11,5

The colours indicate the comparison of the 2019 achievement level with the 2019 target level. **Green** – achievement level meets or exceeds the target level, **red** – achievement level is below the target level, **black** – no target level was set.

ANNEX 2. EXECUTION OF MEASURING INSTRUMENTS OF THE STRATEGY PROGRAMMES IN 2019 IN THE YEAR (2)	2014	2019	Target level 2020
5. The Lifelong Learning Strategy General education programme 2019–2022			
Satisfaction of the different parties with the learning environment and organisation: share of students who are satisfied more than average with school in 4th grade/8th grade/11th grade (%)		85.3/ 64.2/ 70.8	increases
Share of students in need of additional support measures and conditions in standard education who receive general support (%)	94	-	100
Share of students with enhanced and special support included in standard education	27	-	under construction
Measure 1. Securing the quality of general education			
Share of general education schools involved in the activities of the <i>Huvitav Kool</i> (%)	5	65	90
Share of schools with daytime learning implementing security and value development programmes (%)	24	-	85
Share of pre-school education institutions with daytime learning implementing security and value development programmes (%)	57	90,7	95
Measure 2. Securing equal opportunities in general education			
Share of children from the age of four, and up to school age, in pre-school education, incl. 6-year-olds in basic schools (%)	91,7	92.8 (2018)	95
Number of children and students who received study advice services	3329	44540	47500
Percentage of specialists meeting the qualification requirements set out in the service standards of the Rajaleidja centres (%)	-	96	85
Share of basic school graduates with a mother tongue other than Estonian whose Estonian is at least B1 level (%)	67,0	70,5	90
Share of Russian-speaking basic school graduates with Estonian language skills at the B1 level (%)	63,2	62,5	90
Average performance of the final examination of the basic school and the state exam of the upper secondary school as the second language of the Estonian language (SA Innove statistics Basic school/Upper secondary school)	67/72	69/75	75/75
Share of upper secondary school graduates with a mother tongue other than Estonian whose Estonian is at least C1 level (%)	17.1 (2015)	12	30
Share of students with top-level skills (PISA level 5 and 6) in a school with a different language of instruction from the Estonian language compared to an Estonian school: - Sciences: school with a different language of instruction from Estonian / Estonian school; - Reading skills: school with a different language of instruction from Estonian / Estonian school.	PISA 2015: 5.8/15.7; 5.4 (12.5)	PISA 2018: 5.3/14.6 5.7/16.7	not to be measured
Difference (%) between the share of young people aged 18 to 24 years who do not study, with a low level of education, with Estonian as a native language and a native language other than Estonian – with Estonian as a native language / a native language other than Estonian	12.4/9.0	10.2/9.0	no difference
Measure 3. Securing access to general education			
Drop-out rate in basic school in the third stage of regular full-time attendance (%): total/men/women	0.5/0.6/ 0.3	0.3/0.4/0.2	keep the level
The share of school leavers in upper secondary school (drop-out rates at the 1st academic year of upper secondary school) (%)	1,1	1,2%	<1
Average salaries of teachers of municipal schools compared to national average (%)	102	112	120
6. The Lifelong Learning Strategy Vocational education programme 2019–2022			
Share of non-studying people aged 18–24 with lower education levels (%)	12	9,8	<9
The share of school leavers in vocational education institutions (in the vocational upper secondary education level first academic year) (%)	25,6	23,4	<20
Share of adults (25–64) without special and professional education (%)	29,5	27	25
Rate of adults participating in lifelong learning (%)	11,6	20,2	20
Share of students who obtained secondary education four years after the completion of basic school	78	80,7	82
Measure 1. Increase in participation in studies and better compliance of graduates with labour market needs			
Rate of employment of people aged 20-34 who completed vocational education 1-3 years ago (%)	79,6	86,2	>80
Satisfaction of the participants in the vocational education system with the functioning of vocational training (satisfaction of students with studies/satisfaction of teachers with work) (%)	-	90/81 (2018)	under development
7. The Lifelong Learning Strategy Higher education programme 2019–2022			
Share of people with tertiary education aged 30-34 (%)	43,2	46,2	40
Measure 1. Equal opportunities for higher education and the introduction of a changed approach to learning			
Rate of employment for people aged 20-34 who completed studies in tertiary education 1–3 years ago (%)	86,7	87,5	≥88
Number of curricula open for the admission to higher education	734	660	≥690
Drop-out rate in higher education studies (at the start of higher education studies) (%)	23	21	<15
The number of doctoral theses defended	213	235	300
Measure 2. Bringing higher education into compliance with the needs of the modern labour market			
The share (%) of graduates majoring in STEM (science, technology, engineering, and mathematics) in higher education	26,4	27,9	29
Number of graduates of the IT field of study per year	469	718	800
Measure 3. Promoting the international competitiveness of higher education			
Students' short-term mobility (learning mobility) (%)	1.4 (2015)	3,1	10
Share of matriculated foreign students studying in Estonia (%)	5,2	12,2	>10
8. The Lifelong Learning Strategy Adult education programme 2019–2022			
Share of adults (25–64) without special and professional education (%)	29,5	27	25
Rate of adults participating in lifelong learning (%)	11,6	20,1	20
Measure 1. Bringing adults who have interrupted education back to formal education and creating the preconditions for them to stay in their studies and get a level of education.			
Number of students in distance general education studies	5279	5579	≥5075
Drop-out rate in distance general education (% of all learners)	37	32	30
25+ learners in vocational education (% of all learners)	29,2	41,7	33
Measure 2. Increasing access to non-formal training and improving the quality of training			
Participation rate in lifelong learning for adults with a low level of education, aged 25 to 64 years (%)	3,2	9,1	>6,5
Measure 3. Development of the vocational system and the creation and support of forms of cooperation in adult education implementing the lifelong learning vision			
Satisfaction of the adult education and professional system participants with the functioning of lifelong learning, including the adult education system and the vocational system	-	-	increases
9. Youth field programme 2019–2022			
Share of non-studying people aged 18–24 with lower education levels (%)	12	9,8	<9
Satisfaction with youth work of young people that participated in youth work (%)	86.6 (2015)	87	87
Youth unemployment rate (aged 15–24 years)	15	11,1	10
Measure 1. Increasing opportunities for the development of youth creativity, self-initiative and joint action			
Involvement of young people in youth work (% of total number of young people)	47	59,9	60
Involvement of young people in youth work in local governments with a majority of non-Estonians in comparison with the Estonian average (%)	31 (2015)	48	45
Measure 2. Increasing the inclusion of young people and improving youth employability			
Number of young people per hobby school	492	353	400
Number of young people per youth centre	1181	982	1000
Measure 3. Supporting the active participation of young people in the community and decisions			
Share of organised participation opportunities (number of youth councils and other youth participation councils) of the total number of local governments (%)	-	89,9	89
Measure 4. Ensuring the development of quality youth policies and youth work			
Percentage of youth workers who raised competences as a result of training by year (%)	10	17	15

ANNEX 2. EXECUTION OF MEASURING INSTRUMENTS OF THE STRATEGY PROGRAMMES IN 2019 IN THE YEAR (3)	2014	2019	Target level 2020
10. Research and development activities and innovation programme 2019–2022			
RD investment level, % of GDP	1,42	1.4 (2018)	3,0
incl. level of private sector's RD investment, % of GDP	0,62	059 (2018)	2,0
Productivity of enterprises per employee in the EU-27 average (%)	75,4	77.9 (2018)	80,0
Place in the European Innovation Scoreboard	13	12 (2018)	10
Measure 1. Ensuring a high level of science and diversity			
The number of doctoral theses defended	213	235	300
10% share of the Estonian high-level articles among the most quoted research articles in the world (%)	8,1	10 (2018)	11
Number of high-level articles per million inhabitants	1 566	1.603 (2018)	1 600
Measure 2. Increasing the social and economic benefits of RDI			
Share of privately funded public RD expenditure (%)	3,8	5.8 (2018)	7
Share of expenditure on socio-economic applications (excluding academic studies) of planned RD appropriations in the state budget (%)	-	40 (2018)	40
Measure 3. RDI, which modifies the economic structure, based on smart specialisation			
Share of high-tech products and services in exports (%)	16,3	-	15
Share of employment in high-tech and high-medium tech sectors in total employment (%)	7	8.4 (2018)	9
Measure 4. Increasing Estonia's inclusion and visibility in international RDI cooperation			
Estonia's success in the EU's RD framework programme, Horizon 2020: volume of contracts won per capita, % of the EU average, with the EU = 100 (%)	85	148 (2018)	100
Share of internationally coordinated research in state-funded RD (%)	2,2	1.43 (2018)	3
11. Language programme 2019–2022			
Percentage of the participants in the survey who agree with the claim that the Estonian language is an integral part of Estonian culture (%)	93 (2016)	-	82
Percentage of the participants in the survey who agree with the claim that the Estonian language is needed to live and work in Estonia (%)	90 (2016)	-	81
Percentage of the participants in the survey who agree with the claim that the Estonian language is a part of being Estonian (%)	89 (2016)	-	80
Measure 1. Ensuring the sustainability of the Estonian language			
Average result of the final examination of Estonian as the native language of young people who have acquired upper secondary education in points (max 100)	62	63,7	≥64
% of young people who have acquired upper secondary education and received 80 or more points in the final examination of Estonian as the native language	18	20,9	20
% of young people who have acquired upper secondary education and received 20 or less points in the final examination of Estonian as the native language	0,3	0,19	0,26
Knowledge and use of electronic language and language cultivation sources (number of inquiries)	8516 (2017)	7659	-
Measure 2. Creation of opportunities for learning Estonian language in expatriate Estonian communities and foreign higher education institutions			
The participation of Estonians living abroad in Estonian language learning and language events in Estonia and abroad (no. of people per annum)	3413	4046	4400
Measure 3. Securing teaching Estonian as a second language and supporting learning			
Share of those who passed the Estonian language proficiency examination (levels A2-C1) of the people who sat the examination (%)	51,5	57,4	55
Share of those who passed the B1-level Estonian language exam of the people who sat the examination (%)	61,8	69,2	63
Share of those who passed the B2-level Estonian language exam of the people who sat the examination (%)	38,2	41,5	38,6
Share of those who passed the C1-level Estonian language exam of the people who sat the examination (%)	30,1	26,2	33
Measure 4. Support for foreign language skills and multilingualism			
Share (%) of young people who have achieved at least a B2-level in the foreign language state examination	49,1	63,8	72
13. Archiving programme 2019–2022			
Number of organisations that have transferred their digital archives to the National Archives.	5	15	to be specified
The share of records kept in the required vaults in the National Archives (%)	58	89	89
Availability of archival records online, in millions of images	13,4	20,9	21
Measure 1. Sustainable preservation, use of the documentary memory of society and proof of citizens' rights			
Number of participants in archival pedagogical activities (people per year)	-	5789	5000
Number of visits to the National Archives virtual research hall (million times)	1.1 (2015)	1,5	1,2
Number of the National Archives scientific publications (per year)	9 (2015)	8	7

Annex 3. Impact of the Covid-19 crisis on the further implementation of strategies and programmes

From 16 March 2020, all Estonian educational institutions (except kindergartens), hobby activities, extracurricular education, and open youth centres were transferred to **distance learning**.

Face-to-face teaching may be partially restored from May 15th. The opening and working arrangements of kindergarten and childcare will be decided by the owner.

The ways of learning, the nature of teaching, and the rhythm of work have changed with distance learning.

The emergency situation and distance learning have **triggered and accelerated a number of processes** in the Estonian educational sphere, such as e-learning and the use of digital tools.

The focus has shifted towards **digital skills and the learner's self-regulation capacity**.

The experience gained will help in the future **to design individual learning pathways** and to diversify daily studies.

In the future perspective of Estonian education, **concepts of personalised learning and individual learning pathways** are more clearly highlighted, which have been discussed in the draft development plan for the Estonian education sector 2021–2035.

This Annual Report was prepared in spring 2020 on the basis of data from 2019 on the implementation of the strategies and programmes. Therefore, the results do not yet reflect the effects of the crisis that started in March 2020. It is not yet possible to assess the final effects of the crisis and the crisis measures implemented in the final phase of the Annual Report, but it is clear that the crisis will have a significant impact on the implementation of sectoral strategies in 2020. The following highlights some key impacts and factors identified by mid-May that may affect the implementation of the strategies and the results of 2020.

- **Although distance learning has changed the workload of schools, pupils, and parents, all participants have coped quite well with the emergency situation.** Estonia has been in a better position than many other countries, as the use of digital tools in teaching is customary in many schools and there are a number of learning materials and learning environments that support it.
- **The digital skills of students, teachers, and parents have improved. The use of various e-environments** (e.g. eKool, Stuudium, HITSA Moodle, E-School Bag, Tahvel, Opiq, Foxcademy) **increased greatly.** At times, the environments were not ready for such a large number of users. **In some of the students' homes, there was a lack of adequate internet or computer access.**
- **During the distance learning period some students were excluded from studies for various reasons,** there were problems with the re-evaluation and re-organisation of teachers' workload and the heavy workload of mentoring for parents. Distance learning brought along more individual mentoring, feedback, and support to both teachers and support specialists, also in order to maintain learning motivation. The Rajaleidja centres offering education counselling, organised counselling by video or telephone.
- **The urgent need to support e-learning as a matter of urgency gave an important boost to cooperation between different sectors and actors.** The experience gained has brought together people and organisations from the private, public, and third sectors, and created the preconditions for stronger cooperation in the future. Information was gathered quickly, and different e-environments and solutions were created and developed to support learning and youth work in virtual environments or to help enrich the school holidays. In cooperation, the project "a PC for every school child" was initiated, educational solutions for e-home learning were integrated, online seminars and weekly live-school lessons were organised, Facebook advisory groups were launched, students were invited to participate in the programme **Substantial holiday**, and a website **#õpimekodus (we learn at home)** was created to support adult training.
- **Communication, cooperation between school, home and owner, and the open exchange of information have played an important role in the success of distance learning.** The willingness of teachers and the ability to ask for feedback on their activities have become more important than before. This will help achieve the most effective solutions for all concerned. For young people, a significant contribution was provided by youth workers, who, in addition to virtual youth activities, helped young people in learning, and listened to their fears and concerns.
- To offer flexible options for school graduation, **the terms for graduation were temporarily amended for the academic year 2019/2020** – there are no basic school graduation exams, upper secondary school examinations were made optional and can also be completed at the beginning of the next academic year. Despite comprehensive support, it may be possible that **learning during the emergency situation and the changes in graduation terms may affect the future number of graduates of various levels of study in the future.** The impact can be multifaceted – during recessions, the number of students in vocational and higher education has always increased.
- **In order to collect evidence-based data on the impact of the digital focus programme on education and to get answers to the question of how to study most effectively using information technology, a "DigiEffect" study was initiated.** As part of the study, education researchers from the University of Tartu will look at the use of digital learning tools and content, and analyse how learning by digital means is influenced by a children's personality, mental capacity, and school and home environment. In order to determine the immediate impact of the distancing period on the organisation of learning, a study has been launched with the support of the RITA programme, in collaboration with the Ministry of Education and Research and the University of Tallinn, to help map and understand the challenges, good practices and development needs of distance learning.

Practical examples of rapid crisis response:

In cooperation with the Ministry of Social Affairs, the Unemployment Insurance Fund, and the Health Board, **e-trainings for training auxiliary care workers** were developed and launched in schools to alleviate the emergency labour needs of the welfare institutions. The state-commissioned education was supplemented with courses to train 250 people. Four courses have now been completed and the institutions are ready to continue.

The special hackathon **“Hack the Crisis: Youth”** took place aimed at young people, which allowed young people to contribute to solving the emergency situation, and gain new experiences and contacts.

A number of **campaigns with a positive message were launched for young people, and adults dealing with young people** in Estonian and Russian, such as #püsinkodus (I stay at home), because #mekõikvastutame (we are all responsible).

The Information Centre of the Native Language Teaching of the University of Tallinn organised **the traditional information day for native language teachers** as a web seminar, “Estonian language and literature in e-learning” (75 participants).

Support measures to alleviate the crisis from the additional budget:

An amount of 15 million euros to cover the unavoidable costs of **the owners of private general education schools, childcare facilities, kindergartens and hobby schools, and for the providers of hobby activities**.

An amount of 4 million euros for the support of **research and development related to coronavirus**. Part of this is intended to set up a third-degree bio-laboratory at the University of Tartu's transplant medicine centre, i.e. a laboratory suitable for coronavirus studies.

- **In the emergency situation, the social role and weight of researchers increased** - in order to better understand the crisis, assess the spread of the virus, and mitigate its impact, the involvement of researchers was essential. In order to advise the government, a COVID-19 control **scientific council** was set up. Under the leadership of the University of Tartu and the approval of the government, a **monitoring system** for the spread of virus was launched.
- With the coordination of the Estonian Research Council, the brainstorming of COVID-19 and research topics related to its impact was initiated, of which the first studies approved by the Scientific and Development Board are already scheduled to be launched at the end of May. The studies will analyse the impact of the virus on the security of supply in different parts of the country or the mental health situation of the population to the socio-economic changes associated with the virus. In addition to these studies with significant socio-economic impact and creating long-term strategic solutions, it is intended to finance **research in urgent need of intervention on the issues of national importance** from the RITA programme. In this way, it is planned to analyse the awareness of people in crisis situations, and the functioning of the country's foreign policy in crisis situations, etc., in addition to the organisation and impact of distance learning. A thematic application round for the development of research-based products and services to support the control of the spread of the virus and the mitigation of the effects of the virus is being prepared from the resources of the state budget.
- All **general education schools**, including **schools for children with special educational needs**, used distance learning. Children receiving enhanced and special support have also needed personal tasks and individual guidance during distance learning. Specific terms of the learning, including the organisation of assessment, were decided by individual schools. The Rajaleidja Centres advised all teachers who asked for help in arranging distance learning for children with special needs.
- In vocational education, the studies took place as distance learning. The organisation of vocational training is very flexible, with both admissions and school graduation taking place all year round. It has been possible to continue internships and job-based learning, or apprenticeships, during the situation of emergency if the employer, the school, the student and, in the case of a minor, the parent agreed to do so. It was recommended to postpone the internship or practical work wherever possible and to focus on theoretical learning (e.g. by changing the order of modules in the operational programme). However, practical training in schools stopped and for many students the duration of learning would be extended.
- In higher education institutions, studies were also carried out in the form of distance learning, and the recommendation was to make the most of distance learning until the end of the academic year. More precise terms for organising the studies must be established by each higher education institution individually. In the specialties and subjects where distance learning is not possible, the necessary seminars and traineeships will be organised, where possible, before the beginning of the new academic year. Research and development continued in the universities and research institutions.
- **In-service trainings** were postponed or e-learning opportunities were used to organise them. As a result of the emergency situation, a fifth of the state-commissioned education courses for the whole of the 2020 in-service trainings available were not completed in March. Although schools were optimistic about continuing with virtual face-to-face teaching, about one-tenth of the half-completed courses were actually launched (due to the increased burden on teachers for proficiency training). The practical nature of the courses and the need to use internships prevented the re-organisation of studies to e-learning? The vast majority of adult learners coped well with the new conditions, although there were problems with insufficient internet access and a lack of computers in learners' homes. Older learners have needed more support.
- **In the language field**, the interest in learning the Estonian language grew spontaneously - new users were added to e-environments and the amount of homework sent to teachers through them increased. “*Keelekliik*” (0-A2 level) for beginners and “*Keeletee*” (B1 level) for advanced learners can be passed on the basis of both Russian and English, and each person can develop their language skills on their own, free of charge. In foreign language studies, as in other areas, teachers have used e-learning tools to the extent possible.
- **Youth work, including educational and hobby activities, continued during the emergency situation, but at a distance**. Both the umbrella and representative organisations of the youth field and the vast majority of their members organised their activities, and young people were also offered exciting youth activities, in the new circumstances. The Estonian Centre for Youth Work created a special page entitled “Emergency situation for the youth field”, bringing together news and support materials, and where the players in the field could share experience. Youth information portal *Teeviit* actively provided young people with the necessary information, including instructions and tutorials, as well as ideas on how to spend free time in accordance with the requirements of the emergency situation.