



HARIDUS- JA
TEADUSMINISTERIUM

Annual analysis summary 2016





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Current situation

Areas in which the development has been good or very good

- 1) The share of **adults** (aged 25–64) **with no professional or vocational training** was under 30% in 2015, which is one of the goals of the National Reform Plan “Estonia 2020”. A more ambitious 2020 goal of 25% in the Lifelong Learning Strategy has been set and further efforts are needed to achieve it.
- 2) Early in 2016 OECD published a report¹ on low-performing students and the reasons for poor performance, based on PISA 2012. **In Estonia, the share of low-performing students (below the baseline level) aged 15 is the smallest in both Europe and the world.** The proof of the uniform strength of Estonian schools lies in the fact that the difference in the shares of low-performing lower secondary students in rural and city schools is the smallest compared with other PISA countries. The results of PISA 2015 will be published in December 2016.
- 3) **Teachers' salaries have increased more than 40% over the last 5 years:** the average gross monthly salary of a municipal school teacher has increased from just under €800 in 2011 to €1,135 in 2015. **The growth has been more rapid than the Estonian average:** while in 2011 the average pay for a teacher was 95% of the national average, in 2015 it was 107%. Increasing teachers' pay continues to be a national strategic objective. By 2020 the aim is to achieve that the average salary of teachers is equal to or higher than the average salary of an employed higher education graduate, i.e. 120% of the average national wage.
- 4) Another target is to have **the share of labour costs in the education-related costs of the government sector at the level of 60% by 2020.** In 2014, the labour costs were at their highest in the past five years – 68%, reflecting an increase in teachers' salaries and the results of the school network reform, i.e. savings in the costs of managing underused buildings.
- 5) The **share of 30–34-year-olds with higher education** has increased and reached 45% in 2015. The target for 2020 is 40% for both Estonia and Europe.
- 6) **The share of higher education graduates in STEM (science, technology, engineering, and mathematics)** has been over 24% in the past three years, which is close to the 25% set as a goal for 2020.
- 7) **The attractiveness of Estonia as a target country has increased among foreign students.** The number of foreign students has more than doubled over the past five years (from 1,573 in the academic year 2011/12 to 3,476 in 2015/16); now, foreign students comprise as much as 6.8% of the total student body.
- 8) **The unemployment rate among 15–24-year old young people has significantly dropped, from 22% to 13%, in the past five years (2011 – 2015).** The target for 2020 is 10%.
- 9) The indicators for measuring results of youth work have experienced positive development over the past five years: **participation of young people in youth work**, i.e. the number of young people

¹ Low-Performing Students - Why They Fall Behind and How To Help Them; http://www.oecd-ilibrary.org/education/low-performing-students_9789264250246-en



participating in hobby education and the work of youth centres and the like is showing a positive trend. It was 37% in 2010, 49% in 2015 and the target for 2020 is 60%.

- 10) The satisfaction of young people with youth work was first measured in 2015; the average satisfaction rate was 86% for all activities (the share of those satisfied or very satisfied with youth work) while **91% and 64% of young people are satisfied or very satisfied, respectively, with hobby education activities in particular.**
- 11) A number of indicators in the field of research show the **excellence of Estonian researchers.** Last year, Estonian researchers were highly successful in applying for international grants for their research projects. **One and a half times more (more precisely 157%) research funds than the European average per inhabitant were obtained within the EU Framework Programme for Research and Innovation Horizon 2020.** Publishing activity that demonstrates the activity of researchers and a high level of research has shown an upward trend (1,551 publications in 2014), following an increase by 100 to 200 articles in a year. This offers hope that the targets for 2020 (1,600 articles per one million inhabitants) will be met. In the past five years, the number of high-level publications per one million population has been above the EU28 average in Estonia.
- 12) In the last four years, **the share of high-tech exports has accounted for 14% of total export** (in 2014 – 16.3%) and in 2014 we surpassed the EU average as well as our own target for 2020 – 15%. The share of high and medium-high-tech sectors in total employment has grown from 6.9% to 7.6% in the past five years (2015) with the goal for 2020 set at 9%. The contribution of science to the economy is indirectly demonstrated by the level of productivity of business entities per employee (% of the EU average), which in the past five years has been about 74%, but is still below the 2020 target of 80%.
- 13) **Estonia's ranking in the scoreboard of the EU Innovation Union** is stable – for the past five years we have ranked 13th or 14th; the goal for 2020 is to rank 10th.
- 14) Activities in the area of languages are divided into four dimensions: a) Estonian as mother tongue; b) Estonian outside Estonia; c) Estonian as second language; and d) foreign languages (multilingualism) in Estonia. Indicators for Estonian as mother tongue are either stable or showing a positive trend; for example, the results of examinations for both lower and upper secondary school leaving certificates have steadily improved over the past 7 or 8 years. A repeated survey on the Estonian language proficiency among higher education students in Estonia², conducted by the University of Tartu in 2015, concluded, inter alia, that the level of Estonian language proficiency among higher education students has not changed over the past five years.
- 15) As regards **the development of Estonian outside Estonia**, the numbers of both students learning Estonian at foreign universities (950 in academic year 2015/16) and children learning Estonian outside Estonia (3,300) as well as the number of general education institutions and Sunday schools, kindergartens, playgroups and language courses offering Estonian language learning in foreign countries (70) have all increased in the past five years. The number of foreign higher education institutions offering Estonian language courses has remained the same (35).
- 16) Of the examinees for the upper secondary school leaving certificate, 53.4% achieved at least level B2 at state examinations in **foreign languages**, which is an improvement of 4 percentage points

²<http://dspace.ut.ee/bitstream/handle/10062/49689/Funktsionaalse%20keeleoskuse%20uuring.pdf?sequence=1&isAllowed=y>



since a year ago and close to the 2020 target of 56%. While teaching the first foreign language at a general education school is compulsory only from year three, a trend in recent years indicates that more than 10% of students are taught at least one foreign language from year one and over a third from year two. **Estonia teaches more foreign languages than other EU member states. According to Eurostat, the average number of foreign languages taught at the basic school level in 2014 was 1.6 in the EU and 2.0 in Estonia.** In 2014, each Estonian upper secondary student was taught an average of 2.3 foreign languages; ahead of us were only Malta with 2.5, Luxembourg with 3.0 and Finland with 3.0 foreign languages.

Areas that require more attention

- 1) **The share of 4–7-year-old (school-age) children in early childhood education remains at 90%**, and there is still work to be done to achieve the 2020 target of 95%.
- 2) **The share of early leavers from education and training is approximately 11%** (according to Eurostat, based on the Estonian Labour Force Survey). The target of the Lifelong Learning Strategy is to have less than 9% of such youth by 2020. According to the Estonian Education Information System (EHIS), however, about 20% of young people fail to complete secondary education within 7 years of finishing basic school and Estonia is the only OECD country where the share of secondary education graduates is decreasing in younger age groups.
- 3) Despite an increase in teachers' pay, **the attractiveness of the teaching profession** and indicators related to teacher training (share of young teachers, gender pattern, and entry into teacher training) have not improved.
- 4) **The distribution of basic school graduates between vocational and general secondary education** has shown little change in the past ten years. The goal for 2020 is to have the ratio of 35 to 65; however, in the past five years, 26-28% and 72-74% of basic school graduates chose vocational education and general secondary education, respectively.
- 5) **Students' drop out rates from VET and higher education** are still very high. 51% of students drop out of Bachelor's studies, which is the highest indicator of its kind in any Member State of the OECD. In secondary VET, the drop out rate (during the first year of studies) has decreased from 26.2 in 2012 to 24.7 in 2015. However, it is far below the 2020 target (less than 20%).
- 6) **Serious efforts are needed to increase the participation of 25–64-year-old adults in lifelong learning.** Recent years have shown that achieving the target set for 2020 in the lifelong learning strategy (20%) might be more difficult than expected as the participation rate has remained at approximately 12% over the past five years. In 2015, 12.4% of adults participated in lifelong training.
- 7) While the share of students completing basic education at a Russian-medium school and having achieved **at least level B1 proficiency in Estonian (%)** has increased as compared with 2011 (56% in 2011; 64% in 2015), reaching the target for 2020 (90%) is not realistic in the light of limited progress. Based on the Integration Monitoring indicators of 2011 and 2015, it can be said that **non-Estonians' self-reported Estonian language proficiency has not changed.**
- 8) As regards research, **the level of R&D investments and private sector contribution are a major concern.** In 2014, the level of R&D investments was 1.44% of the GDP, which is the lowest in the past five years, while the 2020 target is 3%. While public spending on R&D has remained stable in



the past three years, its share in the GDP has decreased from 0.9% to 0.8% (in 2014) due to an increase in the GDP. The goal for 2020 is for the private sector R&D spending to comprise at least two thirds, i.e. 67%, of the total R&D spending; in 2014, private spending on R&D was 43.5%. Moreover, R&D commissioned from the public sector by the business sector remains low, representing just 3.8% of the R&D volume of the public sector, i.e. it is nearly two times below the 2020 target and two to three times lower than the respective indicator in the OECD and EU countries.

- 9) Another challenging target in the area of research is **the number of PhD graduates** which has remained between 175 and 250 in the past five years (208 graduates in 2015) – still far below the 2020 target of 300 PhD graduates per year. The problem here is that people do not feel the need for a PhD. Just 1% of tertiary educated respondents to the PIAAC survey said that their current job required doctorate level education. This was also confirmed by an analysis of the effectiveness of PhD programmes (Eamets et al. 2014³) according to which a future career was not a significant incentive when embarking on a doctorate. One of the drivers that will enhance the effectiveness of PhD programmes may be the fact that the number and share of foreign PhD candidates has grown exponentially in the past five years: In 2015, foreign doctoral students comprised 12% of all PhD candidates.
- 10) **In 2014, the government expenditure on education, expressed as a share of the GDP, was one of the lowest of the last decade at 5.6%**, which is below the target set in the Government of the Republic Action Plan (between 6% and 7% of GDP). While the level of expenditure has been stable in recent years, its share continues to decrease for the fifth consecutive year.

Developments in academic year 2016/17

A digital focus in lifelong learning

Focus is on developing digital competences of students

Early this year, experts developed a digital competence model and agreed on the digital skills required from children and youth of different age groups. Based on that model, all lower and upper secondary school students are required to take an evaluation (tests) on digital competences in the academic year 2017/18.

The test will provide feedback to students, schools and authorities on the skills and knowledge of young people, allowing better planning of the teaching process. A pilot test will be carried out in a couple of dozen schools already next spring.

By 2020 all basic school graduates should have sufficient digital skills to function successfully in today's society.

³ Eamets, R., Tamm, K., Tamm-Klaos, D., Aksen, M., Kärner, A., Kindisko, E. (2014). Study of the effectiveness of doctoral programmes in Estonia. Final report of study 2.4. Tartu: Ministry of Education and Research.



From 2018, upper secondary education can be completed in Estonia by e-learning

This autumn, the Ministry of Education and Research is planning to commission e-solutions for all compulsory courses in the national upper secondary curriculum and for up to five elective courses. The e-courses will be available in 2018. The solutions will be tested at at least three upper secondary schools and one vocational school, preceded by teacher training. Based on the results of the test, it is planned to introduce e-learning, covering the curriculum entirely or in part, in at least one state upper secondary school.

Continued development of digital learning materials

High quality e-learning materials will be available to students and teachers through the user-friendly digital learning portal www.e-koolikott.ee (e-Schoolbag). The portal will be a 'one-stop shop' for all e-learning materials. Teachers can upload to the 'e-Schoolbag' their own teaching aids, combine the existing ones or create sets of learning resources. All teaching materials can be shared with students and other teachers or made publicly available. Portal users can also rate the uploaded materials.

The mapping of digital learning resources indicates that there is a shortage of e-learning materials for Russian, Estonian as a second language, art, technology and PE. The government will commission the missing digital learning materials and add to the e-Schoolbag portal for use free of charge.

Schools will receive support to start using digital solutions

From September, owners of basic schools can request support for the purchase of digital equipment and computers for teachers.

The Ministry of Education and Research, in cooperation with the Ministry of Economic Affairs and Communications, will update the network connections of schools. First schools will receive an updated intranet connection already during this academic year.

General education and early childhood education

Estonian schools will introduce five school holiday periods starting from academic year 2017/18

A fifth holiday will be added to spring term to balance the workload of students and teachers in a more healthy and learning-friendly way.

In the current system of four holidays, spring quarters are 10 to 15 days longer than autumn quarters which exacerbates the effect of 'spring weariness' in students and teachers. Changing the longstanding system of national school holidays, i.e. adding a fifth holiday to the spring semester, will help to distribute the workload of students and teachers more evenly.

Feedback from schools that have already tried out the new system has been overwhelmingly positive. School owners, i.e. local governments, will still have the opportunity to establish the dates of holidays at their discretion, but based on a proposal from the school heads and with the



agreement of the board of trustees. The requirement is that a school must have at least four holidays with a total duration of at least 12 weeks plus a summer holiday of at least eight consecutive weeks.

From this autumn, Estonian children living in Brussels have an opportunity to receive general education in Estonian

This autumn, the European School of Brussels IV in Laeken will add a new language section – Estonian – and provide education to 4-6-year old children in Estonian. This is the first time Estonian children living abroad can receive general education in their mother tongue.

The government supports schools in developing children's exercise habits

With the support of the Ministry, the Mobility Lab of the University of Tartu launched a programme aimed at making active mobility and exercise a normal part of both classes and breaks; it also plans to develop modern mobility science. The aim is to ensure that Estonian children and young people take moderate exercise for at least 60 minutes every day.

The programme is being piloted in ten schools this year with a view to continuing next year, involving a larger number of schools. Under the programme, schools will create fitness trails or make their gyms available for use during breaks. The programme will also look at ways of reducing students' sitting time during classes and breaks. All solutions promoting mobility will be gathered into an ideas bank.

The children who exercise more learn more easily and are less tired at the end of a school day than those who spend more time sitting. Only 20% of Estonian children exercise sufficiently. Studies have also shown that from the age of five to adulthood the level of physical activity decreases by 4.5% per year.

Kindergartens and childcare facilities will be governed by a single piece of legislation

By the end of this year, the Ministry will submit a draft legislation for approval, under which early childhood education and childcare will form a uniformly regulated single system covering childcare facilities and kindergartens, irrespective of the form of ownership. According to the draft legislation, the care and education of children of pre-school age will be comprehensive: as children get older the share of early childhood education increases and that of childcare decreases.

According to the draft legislation, local governments are required to provide – either through municipal facilities or private sector facilities – equal opportunities for all children between the ages of 18 months and 7 years to attend childcare facilities and have access to early childhood education if their parents so wish. All children should have access to early childhood education in kindergartens starting from the age of three.



The Ministry will update the concept of inclusive education

The Ministry will start updating the concept of inclusive education, taking into account the needs of the Estonian education system and international trends. The aim is to agree, in cooperation with stakeholders, on actions supporting the implementation of the principles of inclusive education in general and vocational education.

According to the concept of inclusive education, students with special educational needs should form an integral part of the student body of a mainstream school, be included in the learning process to the best of their abilities and provided adequate support to succeed both academically and socially.

The inclusion of students with special educational needs means ensuring the relevant learning environment, support systems as well as teaching adapted to their individual needs and abilities.

Improvement of learning conditions for children with special needs continues

This academic year, the Government will continue to run 18 special schools for children with special educational needs and to improve the learning conditions for such children.

This will be done by involving European funds for which specific conditions have been established. The ground is also being prepared for an agreement with Pärnu Town to establish in Pärnu a state school for children with special needs; a suitable location for a new school building in Harju County is also being sought;

Development of the concept of multicultural education

This academic year, we expect to complete the development of the concept of a multicultural school, describing different types of multicultural schools. The concept is prepared as guidance material to schools and teachers working with children of different cultural backgrounds. A multicultural school should pay particular attention to creating an inclusive learning environment, culturally aware organisation of teaching, inclusion of the local community, and non-formal learning.

An increasing number of Estonian schools have students of different cultural backgrounds. There are about 400 children of new migrants or returnees in Estonian schools plus children of refugees and also exchange students. Nowadays, teaching children of different cultural backgrounds is a reality, for which each school and teacher should be prepared.

Five schools will adopt the concept this academic year - they will describe their cultural specifics, take stock of the existing competences and identify those which need further improvement. If necessary, training, guidance and other types of support will be provided to piloting schools by the Ministry of Education and Research and Foundation Innove. The experience gathered during the pilot year will be used to develop the best practice for multicultural schools.



The Government will support teaching Estonian as a second language and foreign language learning

Foreign language teachers and students training to become foreign language teachers will have an opportunity to sit internationally recognised language tests at levels C1 and C2 (proficiency levels) free of charge. The bigger the number of teachers who have passed an international test, the higher the quality of teaching.

Next academic year, the Government is planning to support Estonian as a second language and foreign language learning by vocational and university students in order to improve their career opportunities and mobility on the labour market. In order to improve the performance of people with insufficient state language skills on the labour market, they will be provided with language practicing and traineeship opportunities in regions where the need for this is greatest.

More than 200 kindergarten and general education teachers in Ida-Viru County will be provided free Estonian language courses at levels B2 and C1 to prepare them for the required qualification tests.

Support will be given to cooperation projects of different educational institutions concerning the state language and foreign languages in order to improve language skills, support integration and promote educational choices.

New state upper secondary schools will be opened in three counties

This academic year, state upper secondary schools will be opened in Hiiu, Põlva and Valga counties. This means that the network of state upper secondary schools will cover the whole of South-Estonia. As of September this year, a total of 12 state upper secondary schools have been opened in cooperation with municipalities. As a next step, state upper secondary school buildings will be constructed in Viimsi, Rapla and Paide; preparations for the design have already started. The start of construction is scheduled for 2017 and should be completed by 1 September 2018. Plans for new state upper secondary schools in Kohtla-Järve and Narva as well as in Harku, Rae and Saue Rural Municipalities are in the pipeline.

The launching of state upper secondary schools creates prerequisites for the reorganisation of the school network in local governments, providing assurance that high-quality and diversified upper secondary education are accessible in all counties.

Local governments are supported in the reorganisation of the school network

The Government will support local governments in reducing the costs related to the primary and lower secondary school infrastructure and in modernising the learning environment in order to bring the number of schools in line with the decreasing number of pupils and to reduce infrastructure costs. Local governments are eligible for support to refurbish an existing school building, to build and furnish a new one or to demolish completely or partially an old building. More than 46 million euros were made available to local governments in the first application round of the ongoing action for the reorganisation of the network of primary and lower secondary schools.



The first round of applications was open to the local governments that had decided to discontinue the provision of upper secondary education in certain schools or agreed to establish a state upper secondary school. The application round attracted 34 proposals; successful projects will be announced in October this year.

The second application round for support for investment projects concerning primary and lower secondary school buildings is scheduled for the first half of 2017. It is open to local governments that need to invest, as a part of the reorganisation of the school network, in the buildings used by primary and lower secondary schools in order to optimise their use. Such investment support may be necessary, for example, where several schools are merged or the provision of certain levels of education has been discontinued.

Vocational education

Apprenticeship training will be introduced to vocational secondary education

This academic year, apprenticeship will be introduced to vocational secondary education; the students who have successfully completed their programme will receive a certificate attesting to the level of secondary education.

At least two thirds of the apprenticeship training, i.e. on-the-job training, will be carried out in a placement company under the supervision of a professional supervisor provided by the company. This is the fastest and easiest way for a student to obtain qualification and employment. Apprenticeship, which is a natural element of a modern company's activity, enables the company to train both potential new employees and existing ones. A company that contributes to a new generation of the workforce also has a better reputation among potential candidates.

More than 900 vocational students participated in the apprenticeship programme last spring. The target for 2020 is to create at least 8,000 apprenticeships.

Year 2017 is the Year of Skills

Year 2017, which has been declared the Year of Skills, aims at developing a mind-set that practical skills are valuable and will always be useful. The Year of Skills focuses on opportunities to learn and upgrade skills.

The aim is to encourage young people to make educational choices which provide practical skills and adults to upgrade their skills and learn new skills.

Higher education

More stable funding for higher education institutions

The Ministry is preparing to amend the funding system of higher education institutions in order to improve the stability of funding. A new component – baseline funding – will be introduced to the



higher education funding model, while specifying the weights of other components, including performance funding.

Performance funding will be divided between higher education institutions based on quality indicators and the performance under the administrative agreement signed with each institution. After the implementation of the proposed amendment, performance indicators will be directly linked to the higher education objectives, such as employment rates of graduates, the number of graduates pursuing further studies, student mobility and the share of graduates who have completed their studies within the nominal length of study.

Continued support to the internationalisation of research and higher education

New application rounds will be announced under the research internationalisation programme Mobilitas+ and higher education internationalisation programme Dora+ with the aim of improving the international visibility of Estonian researchers, research institutions and companies. Estonia's competitiveness depends on the extent to which the attractiveness of Estonia as a target country for study and research is increased and on the number of mobility opportunities that can be provided to the citizens.

Wider choice of entrepreneurial education training courses for teachers, academic staff and entrepreneurs

Entrepreneurial education programme will continue this academic year, providing up to 300 teachers, academic staff and entrepreneurs with training. The training programme initiated last spring will be supplemented by a number of new and longer training courses.

A business ideas development programme, i.e. preliminary incubation, will be carried out in three locations: the IdeaLab of the University of Tartu; Mektory, the Innovation and Business Centre of the Tallinn University of Technology; and Tallinn University. Application rounds will be opened to enhance cooperation between schools, local communities and companies in the provision of entrepreneurial training.

The activities form a part of the entrepreneurial education programme launched last year with the aim of systematic promotion of entrepreneurial competences in general, vocational and higher education. In addition, work is progressing on developing a methodology and teaching materials, creating opportunities for practical training and supporting the programmes of student companies.

An application round for supporting cooperation between employers and educational institutions in developing a work placement system

In the forthcoming academic year, vocational and higher education institutions will have an opportunity to apply for support for training placement supervisors provided by employers, for the inclusion of practitioners in teaching, for traineeships of academic staff in companies, for expanding the placement network, etc.



The University of Tartu and Tallinn University will provide training for placement supervisors and coordinators.

The students of educational institutions located in Ida-Viru County and those enrolled in a programme belonging to the group of health care and medical programmes will have their travel and accommodation costs reimbursed if the placement is conducted outside their home county.

Adult education

OSKA provides information on which skills are needed in the metal and machinery sector and in social work

This autumn, surveys will be available on sectoral needs for labour and skills in the metal and machinery sector and in social work. The surveys provide an overview of the key professions and skills required in the labour market in order to improve the labour market relevance of education and training.

Similar reports on the health sector and chemical, rubber, plastics and construction materials industries as well as on the energy and mining sectors will be available in early 2017.

OSKA is a coordination system for forecasting labour market needs and for the development of skills. The first sectoral reports on labour and skills requirements in the ICT and accounting sectors and in the forestry and timber industry are already available.

The new Adult Education Act increases transparency on the training market

Starting from this academic year, the providers of continuing education and training have an obligation to maintain a website to provide constantly updated information on their activities: curricula, learning conditions and training providers. From March onwards, they are also required to make their performance indicators available to all interested parties. Such information enables prospective learners and entities commissioning training to make the best informed choice.

For learners to be able to claim reimbursement of income tax paid on education, to be granted study leave or to receive support from the public sector, the provider of the continuing education and training must be registered in the Estonian Education Information System (EHIS).

This autumn, free professional training courses will be available to more than 6,500 people

The Ministry of Education and Research has prepared a new order for state-commissioned adult education and training to provide free trainings to more than 6,500 people across Estonia. It includes 506 free courses provided by vocational schools and institutions of professional higher education providing vocational training.

The participation rates of adults in lifelong learning has started to increase; however, people with lower education continue to be passive when it comes to professional development. The



programmes are targeted at those adults whose employability and success on the labour market will be significantly increased by the knowledge and skills acquired on the courses.

Some 34,300 adults will be able to improve their professional skills on free courses between 2016 and 2018.

Sixteen projects across Estonia aimed at returning adults to education received support

The Ministry of Education and Research encourages adults to return to education – the aim is to bring adults who have dropped out of basic or upper secondary school back to school and to give them an opportunity to complete their education.

The projects, which received a total of more than 2.6 million euros, offer training on learning skills and additional or bridge courses on different subjects to adults returning to education; student counselling and individual guidance also play an important role.

Since the objective is to make learning as flexible as possible, e-learning options and childcare services are also available.

More than 40,000 people aged between 25 and 39 have left school before completing secondary education.

Research

The development of research and higher education infrastructure continues

The activities under the ASTRA programme (development programme for universities and research institutions) have been launched; under the programme, seven research and school buildings will be constructed or refurbished. These include the main building of the Estonian Academy of Arts, the concert halls complex of the Estonian Academy of Music and Theatre, the IT centre of the University of Tartu and the campus of the Estonian Academy of Security Sciences.

The construction or refurbishing of those buildings is closely linked to the development of the content of research and higher education, such as supporting PhD schools, internationalisation of higher education, updating of laboratories and equipment, cooperation in the field of business and improved placement opportunities.

A new measure aimed at the popularisation of science is launched

A new science popularisation measure, Teeme+, which has been launched this autumn, aims to raise students' interest in science, engineering and technology (SET). The measure supports a series of events and major events offering young people knowledge and practical activities related to SET. The support is intended for the establishment and running of science clubs and for the purchase of the necessary teaching materials as well as for training supervisors.



Support to joint applied research projects of research institutions and companies

Companies have an opportunity to apply for support for conducting applied research projects in cooperation with research institutions. The objective is to create closer links between science and the economy and to increase the relevance of science to society. Support can be applied for both applied research and for product development in the growth areas of smart specialisation.

Regular evaluation of research institutions will take place in 2017

Regular evaluation is carried out every seven years. The exercise includes the evaluation of the performance of each R&D institution in its relevant field of R&D against the internationally recognised criteria. A positive outcome enables the R&D institution to receive baseline funding from the state budget.

At the end of this year, the Ministry, in cooperation with the Estonian Research Council, will complete preparations for the 2017 evaluation. The focus of attention will be on the synchronisation of external evaluation of research and higher education to ensure that both exercises support each other and there is less duplication.

Youth work

The Government will provide more support to hobby education and extracurricular activities of young people

Amendments to the Youth Work Act have been prepared to create an opportunity to provide funding to local governments for hobby education and extracurricular activities of youth. The aim of additional funding is to make hobby education and activities more accessible to youth aged between 7 and 19 and to provide more diverse participation opportunities.

Government funding will supplement the contribution by local governments. Local governments will continue to be responsible for organising and supporting hobby education. Local governments are expected to offer hobby education in at least three areas: culture, sports and SET.

The Government will provide more support to hobby education starting from next September. For this purpose, the National Budgetary Strategy 2017–2020 has set aside 6 million euros in 2017 and 15 million euros per year starting from 2018.

Academic year 2016/17 in figures

- ❖ This year, just over 143,000 children and young people will be studying in general education schools. Initial estimates suggest that this is about three thousand more than the last academic year, yet more than 20,000 fewer than ten years ago.
- ❖ The increase in the number of students concerns primarily larger towns and the suburbs of Tallinn. In most of the remaining local government units, the number of children continues to



decrease or is stabilising. Therefore, cooperation between local governments and the state in reorganising the school network and establishing state upper secondary schools will continue in order to ensure diverse upper secondary education in all counties.

Table: Change in the number of students in years 1, 10 and 12 of mainstream schools. The change in the total number of students, including part-time students, is shown in the table 'Change in the number of students and teachers', under the heading concerning teaching staff.

Number of students in years 1, 10 and 12 (full-time education: Municipal, state and private schools)							
Year	Academic year 2009/10	Academic year 2010/11	Academic year 2011/12	Academic year 2012/13	Academic year 2013/14	Academic year 2014/15	Academic year 2015/16
Year 1 students	12,548	12,648	13,260	13,697	14,152	14,723	15,457
Year 10 students	9,450	9,041	8,566	8,127	7,846	7,406	7,588
Year 12 students	9,673	9,156	8,324	7,810	7,173	6,963	6,781

- ❖ The decreasing number of schoolchildren in the past 15 years has **also affected higher education institutions – the number of university students continues to fall.**

Table: total number of students broken down by levels of higher education, 2010-2015.

Number of higher education students						
Academic year/form of study	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Professional higher education	21,970	20,791	20,233	17,878	15,749	14,235
Bachelor's study	27,461	26,571	24,525	22,661	20,550	18,899
integrated Bachelor's and Master's study	4,122	4,024	3,949	3,731	3,589	3,344
Master's study	12,632	13,170	13,055	12,746	12,423	11,781
Doctoral study	2,928	3,051	3,044	2,982	2,903	2,833
Total	69,113	67,607	64,806	59,998	55,214	51,092

- ❖ While the number of vocational students remains stable, the average age of learners is increasing, i.e. vocational schools attract an increasing number of people who have



completed their education and wish to improve their professional skills or retrain. The share of apprenticeship is also sharply increasing in vocational education. In apprenticeships at least two thirds of training is carried out in placement companies under the supervision of a professional provided by the company.

Change in the number of vocational students in 2010–2016						
Type of study	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Vocational education for persons without basic education ⁴	354	366	421	371	448	816
Vocational education after basic education ⁵	581	655	966	1,005	2,121	4,660
Vocational secondary education ⁶	16,897	15,428	14,152	13,245	12,420	11,700
Vocational education after secondary education ⁷	10,180	10,597	10,633	11,078	10,248	7,731
Total	28,012	27,046	26,172	25,699	25,237	24,907

- ❖ The number of adult learners is increasing. For example, 17.6% of the Estonian population aged between 25 and 64 participated in formal education or in non-formal training in the second quarter of this year. Summary statistics for this year will be available in the first half of next year.

Table: The number of adult learners has increased in particular in vocational education.

Adult learners in formal education							
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Distance learners in general education	7,839	7,491	6,879	5,970	5,075	5,279	5,377
Adult learners (25+) in vocational education	4,348	4,767	5,370	6,101	6,770	7,366	7,933

⁴ Vocational education for persons without basic education (ISCED level 2C) = vocational education for persons without basic education + level 2 vocational education + level 3 vocational education.

⁵ Vocational education after basic education (ISCED level 3C) = vocational education after basic education + level 4 pre-training + level 4 continuing vocational education and training.

⁶ Vocational secondary education (ISCED level 3B) = vocational secondary education + level 4 pre-training (vocational secondary education).

⁷ Vocational education after secondary education (ISCED level 4B) = vocational education after secondary education + level 5 pre-training + level 5 continuing vocational education and training.



Adult learners (30+) in higher education	13,827	14,019	14,196	14,062	13,623	13,076	12,611
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Table: Share (%) of 25–64-year-old people who have participated in formal education or training in the last 4 weeks.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Estonia	6.0	6.5	7.0	9.7	10.5	10.9	11.9	12.7	12.5	11.5	12.2
EU average	9.6	9.6	9.4	9.5	9.5	9.3	9.1	9.2	10.7	10.8	10.7

- ❖ As regards general education teaching staff, a big number of part-time teachers remains a challenge. The main reason for this are decisions or omissions related to the school network where the number of students has decreased by nearly 40% compared to the late 1990s. Teachers' salaries, however, continue to rise rapidly.

Table: number of teachers and teaching positions in the academic year 2015/16.

Number of general education teachers	14,409 persons	Number of general education teaching positions	11,820 positions
Number of vocational education teachers	2,255 persons	Number of vocational education teaching positions	1,422 positions
Number of pre-school teachers	8,115 persons	Number of pre-school teaching positions	7,713 positions

Table: average (and minimum) salary of a teacher as compared with the national average wage.

Year	2011	2012	2013	2014	2015	First 5 months of 2016
Average gross salary of a municipal school teacher	€797	€812	€930	€1,025	€1,135	€1,141
Minimum salary of a teacher	€644	€644	€715	€800	€900	€958
Average national gross wage (Statistics Estonia)	€839	€887	€949	€1,005	€1,065	-



Share of the average gross salary of a municipal school teacher in the national average wage	95%	92%	98%	102%	107%	-
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Number of schools

Kindergartens

Estonia had 634 kindergartens in academic year 2015/16. As of 2015, 93.6% of children between the ages of 4 and 7 participated in early childhood education. The participation in early childhood education has remained at the same level in recent years.

General education schools

This academic year, Estonia has 534 general education schools, including

- ❖ 57 primary schools (years 1 to 6);
- ❖ 290 combined primary and lower secondary schools (years 1 to 9);
- ❖ 171 combined primary/lower secondary/upper secondary or upper secondary schools (years 1 to 12 or years 10 to 12),
 - ❖ including 19 upper secondary schools; this number includes nine state upper secondary schools (only years 10 to 12);
- ❖ 16 adult upper secondary schools.

The growth in the number of number of private schools, which surged in recent years, has slowed down by now.

Table: number of private schools and students in 2011-2015.

Year	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Number of private schools	31	34	35	44	46	47 ⁸
Number of full-time private school students	4,149	4,302	4,563	5,096	5,753	6,458

⁸ The number of private school students does not include the students of Keila and Laagri schools which are local government schools and are considered to be municipal schools in terms of funding and enrolment requirements. Also not included is the European School, which is a private school established and maintained by the state to comply with its international commitments, i.e. a special-purpose state school – the owner of the European School is the state (through Foundation Innove). Keila school is fully municipal school starting from 1 September 2016.



Vocational schools

This academic year, 33 vocational schools and five state institutions of professional higher education which also provide vocational education provide vocational formal education.

- ❖ The 33 vocational schools include:
 - ❖ 26 state vocational schools;
 - ❖ 4 private vocational schools;
 - ❖ 3 municipal vocational schools;

Higher education institutions and universities

In academic year 2015/16, higher education is provided by a total of 24 educational institutions, including:

- ❖ 6 public universities;
- ❖ 8 state and 7 private institutions of professional higher education;
- ❖ one private university;
- ❖ 2 vocational education institutions;