



## KEY MESSAGES AND PROPOSALS FROM PILOTING THE OSKA PROGRAMME

The Estonian Qualifications Authority carried out, in the pilot round of OSKA<sup>1</sup> (June 2015 – March 2016), a survey on the needs for labour and skills in three sectors: information and communication technology (ICT), economic accounting, forestry and timber industry. The survey sought to answer the question of **how should the training provision in each sector be modified to meet the sector's needs for labour and skills over the next 10 years?**

Sectoral expert panels, bringing together experts from trade associations, employers, educational institutions and the public sector, were established in order to analyse the situation in the sectors and make relevant proposals. The expert panels were requested to assess the impact of future trends and Estonia's strategic development objectives in the possible developments in the sectors over the coming decade; to assess how many workers and which skills are required in the Estonian economy; to assess training provisions and formulate training needs in each sector; to make proposals for actions to meet the training needs.

The following key messages for adapting the educational courses on offer to labour market requirements and to increase the competitiveness of the Estonian economy appeared as a common denominator of the sectors:

- 1. Increasing the workforce numbers generating higher added value.** To that end:
  - reduce school dropout rates; both educational institutions and employers should implement more flexible teaching and working arrangements; to offer career services to support learners at all levels of education;
  - offer curricula that take into account future needs and meet the expectations of professionals in order to encourage experienced professionals to continue their education at the next level;
  - schools should attract more foreign students and different parties should find solutions for their successful entry into the Estonian labour market;
  - make, through cooperation between all parties, technical extra-curricular activities available to children and young people and to contribute to entrepreneurship studies (including promoting enterprise) to ensure the existence of a new generation of highly-skilled workers.
- 2. Employers expect formal education and training to prepare workers who are able to see the 'big picture' and can quickly contribute to the workforce.** To that end:
  - link formal education and training more closely to the acquisition of practical skills, active learning methods and practical training;
  - schools should involve more practitioners as teaching staff;
  - employers should be willing to contribute to the popularisation of their respective sectors, to the development of curricula and to in-service training and retraining of their employees.
- 3. Increasing by 2020, by a factor of 1.5, the number of ICT professionals who are able to create and implement innovative technological solutions.** To that end:
  - at least 70% of all students starting studies in the field of ICT should graduate; instead of increasing the number of students admitted it is necessary to support learners to ensure that they complete their studies;
  - improve the ICT skills of professionals in all walks of life to develop their ability to recognise the possible applications of ICT solutions in their respective fields.
- 4. Abolishing clear distinctions between Bachelors-level study curricula and professional higher education curricula.** To that end:

<sup>1</sup> A system of labour market monitoring and future skills forecasting



- introduce corresponding amendments to the Universities Act, the Institutions of Professional Higher Education Act and the Standard of Higher Education;
- create an opportunity for learners to choose between academic or applied courses in their third year of study at the first stage of tertiary education.

### Proposals from the expert panel on ICT

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**MESSAGE 1:** IN ORDER TO MAINTAIN AND INCREASE THE COMPETITIVENESS OF THE ESTONIAN ECONOMY WE NEED 1.5 TIMES MORE ICT PROFESSIONALS THAN WE HAVE TODAY<sup>2</sup>.

**Objective:** To ensure that the number of ICT professionals matches the development needs of Estonia in the ICT sector and in other economic sectors. By 2020, Estonia will need a total of 37,000 ICT professionals.

**Actions required:**

- higher education and vocational education institutions should develop an action plan on reducing the drop-out rate;
- employers should implement working arrangements conducive to learning and completing studies while working;
- the Ministry of Education and Research should ensure labour-market relevant career counselling for all basic school pupils;
- the Government of the Republic should find, in collaboration with social partners, solutions for developing support measures aimed at retraining workers of other fields as ICT professionals;
- schools should attract more foreign students and different parties should find solutions for their successful entry into the Estonian labour market.

**MESSAGE 2:** THE NEED FOR ICT PROFESSIONALS WITH A MASTER'S DEGREE WHO GENERATE HIGHER ADDED VALUE CONTINUES TO INCREASE.

**Objective:** To create flexible learning and working arrangements as well as career services in order to ensure that the number of qualified ICT professionals matches the development needs of the Estonian economy.

**Actions required:**

- higher education institutions should involve more practitioners as teaching staff;
- the Government of the Republic should develop legislative proposals to support flexible forms of working;
- employers should implement working arrangements conducive to learning and completing studies while working;
- higher education institutions should develop an action plan to address the issue of early school leaving;
- all levels of government should contribute to making technical extra-curricular activities available to children and young people.

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<sup>2</sup> Compared with the average of 2011-2013



**MESSAGE 3: THE ICT SECTOR NEEDS PROFESSIONALS WITH HIGHER AND VOCATIONAL EDUCATION WHO HAVE BROAD KNOWLEDGE AND SKILLS – BOTH IN THEIR RESPECTIVE FIELDS AND MULTIDISCIPLINARY KNOWLEDGE AND SKILLS.**

**Objective:** To ensure a sufficient number of professionals who are able to create and implement innovative ICT solutions.

**Actions required:**

- universities should introduce two lines of Bachelor-level studies in the field of ICT: the development of software systems and the development of ICT systems;
- higher education institutions and vocational schools should support the development of the skills of their teaching in using the new opportunities provided by ICT and future technologies;
- higher educational institutions and vocational schools should develop, in collaboration with employers' representatives, solutions to increase the interdisciplinary nature of their curricula;
- universities should place greater value on their teaching staff's effective participation in applied projects.

**MESSAGE 4: HIGHER AND VOCATIONAL EDUCATION MUST PROVIDE BETTER PRACTICAL SKILLS TO ICT PROFESSIONALS.**

**Objective:** To ensure rapid contribution to the workforce by persons who have completed formal education and are entering the labour market.

**Actions required:**

- the curricula of higher educational institutions and vocational schools should use problem-based and project-based teaching more extensively;
- employers should offer real-life project themes (including for final papers) to schools;
- employers should offer internship opportunities to teaching staff;
- the Ministry of Education and Research should develop measures to increase employers' motivation to offer more places for apprenticeships and internships;
- the Bachelor-level studies curricula in the field of ICT should provide for an option between academic and applied courses. Applied courses should offer more practical tasks and practical training, while taking into account the needs and trends of the working world;
- higher education institutions and vocational schools should involve more practitioners as teaching staff;

**MESSAGE 5: ALL SECTORS OF THE ESTONIAN ECONOMY NEED PROFESSIONALS WHO CAN COMMISSION AND IMPLEMENT NEW ICT SOLUTIONS.**

**Objective:** To ensure a sufficient number professionals with field-specific ICT skills.

**Actions required:**

- higher educational institutions and vocational schools should increase the share of teaching sector-specific ICT knowledge and skills in the curricula of all fields of study;
- the providers of in-service training and retraining should develop training programmes on ICT skills for professionals in fields other than ICT;
- the Government of the Republic should develop measures to support the acquisition of sector-specific ICT skills through in-service training and retraining;
- professional standards should be developed further under the guidance of the Ministry of Education and Research to integrate ICT skills into the standards.