

# **STRENGTHENING SKILLS ANTICIPATION AND MATCHING IN ESTONIA**

Capitalising on OSKA's potential  
to realise national ambitions



# Strengthening skills anticipation and matching in Estonia

Capitalising on OSKA's  
potential to realise  
national ambitions

Please cite this publication as:

Cedefop (2020). *Strengthening skills anticipation and matching in Estonia: capitalising on OSKA's potential to realise national ambitions*.

Luxembourg: Publications Office of the European Union.

<http://data.europa.eu/doi/10.2801/12542>

A great deal of additional information on the European Union is available on the Internet.

It can be accessed through the Europa server (<http://europa.eu>).

Luxembourg:

Publications Office of the European Union, 2020

© Cedefop, 2020 Except otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes made are indicated. For any use or reproduction of photos or other material that is not owned by Cedefop, permission must be sought directly from the copyright holders.

This publication contains UK data and analysis based on research conducted before the United Kingdom's exit from the European Union on 31 January 2020. EU averages or other statistical parameters including the UK reflect the situation in the European Union before 31 January 2020 and should not be considered as representative of the situation in the EU thereafter. In this context 'EU-28' refers to the 28 EU Member States prior to 31 January 2020.

PRINT

ISBN: 978-92-896-3040-5

doi:10.2801/102068

TI-04-20-191-EN-C

PDF

ISBN: 978-92-896-3041-2

doi:10.2801/12542

TI-04-20-191-EN-N

*Designed by Missing Element Prague*

*Printed in the European Union*

The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training, skills and qualifications. We provide information, research, analyses and evidence on vocational education and training, skills and qualifications for policy-making in the EU Member States.

Cedefop was originally established in 1975 by Council Regulation (EEC) No 337/75. This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a Union Agency with a renewed mandate.

Europe 123, 570 01 Thessaloniki (Pylea), GREECE  
Postal address: Cedefop service post, 570 01 Thermi, GREECE  
Tel. +30 2310490111, Fax +30 2310490020  
Email: [info@cedefop.europa.eu](mailto:info@cedefop.europa.eu)  
[www.cedefop.europa.eu](http://www.cedefop.europa.eu)

Jürgen Siebel, *Executive Director*  
Barbara Dorn, *Chair of the Management Board*

# Foreword

In a rapidly changing world of work, reliable information on current and future labour market trends and skill needs is critical. Skills governance refers to the involvement of key stakeholders in the generation, dissemination and use of such labour market and skills intelligence, in order to support employers, citizens, education and training providers, and other stakeholders in making informed choices. A central feature of successful skills governance is consensual dialogue among key stakeholders to bridge the worlds of education and work.

As part of its support to the EU skills agenda and strategy, Cedefop started in 2016 to provide direct support to Member States to strengthen their skills intelligence policies and systems. A first round of Skills governance country reviews has recently been concluded in four countries: Greece, Slovakia, Bulgaria and Estonia.

These reviews have sought to identify country-specific challenges and provide informed policy support to the government, in close alignment with national policy priorities and interacting with key national bodies and stakeholders. The reviews have employed a tailor-made methodology and analytical framework to analyse the governance of skills anticipation and matching in the national context, and to identify possible development opportunities for the near future.

This report summarises the key insights and lessons of the review of the Estonian skills anticipation and matching system. The review focused on the national skills anticipation system OSKA (<sup>(1)</sup>). Operating since 2015, in a relatively short time OSKA has been able to establish a good reputation for providing robust labour market and skills intelligence. The key challenge for the coming years is to develop the system further, building on its early successes. Maintaining momentum sustainably requires managing the high expectations many stakeholders have regarding OSKA's future development.

The analysis in this report, and the national policy roadmap drafted in close consultation and agreement with national stakeholders, provides meaningful

---

(<sup>1</sup>) Oskuste arendamise koordineerimisüsteem, OSKA (System of labour market monitoring and future skills forecasting).

direction as to which actions should be prioritised to make the most of OSKA's potential in the medium term. Concrete actions and preparation to address these priorities had already started while Cedefop's review was nearing completion, focusing on expanding OSKA's reach. Longer-term ambitions are closely linked to the aims of the 2021-35 Education and research strategy, which is currently being developed and emphasises the strategic value of labour market and skills intelligence in a range of policy domains. Future development will help reinforce OSKA's role as a compass supporting long-term national strategic aims.

**Jürgen Siebel**

*Executive Director*

**Antonio Ranieri**

*Head of department for skills  
and labour market*

## Acknowledgements

This publication was produced by Cedefop, Department for skills and labour market, under the supervision of Pascaline Descy and Antonio Ranieri (heads of department). Jasper van Loo, Cedefop expert, was responsible for the publication and research conducted from January 2018 to November 2019 under the framework contract No 2016-FWC7/AO/DSL/KPOUL-JVLOO/skills-governance/005/16.

Cedefop is grateful for the support of Alena Zukersteinova and Ioannis Katsikis (Cedefop) and Xenia Danos, who were part of the team at earlier stages of the project.

Cedefop would like to acknowledge Economix, Panteia and Cambridge Econometrics, the research team who conducted preliminary analysis and drafted their findings under project team Fondazione Giacomo Brodolini. The publication was peer-reviewed by Konstantinos Pouliakas, Cedefop expert.

Special thanks are also due to Terence Hogarth (senior advisor, Fondazione Giacomo Brodolini), the associated national experts Merli Aksen and Uku Varblane, as well as to all members of the Estonian national steering committee, the national and regional stakeholders interviewed, participants in the online opinion survey, the Ministry of Education and Research of the Republic of Estonia, the Estonian Qualifications Authority and the Estonian Unemployment Insurance Fund for their cooperation throughout the duration of the review.



# Contents

Foreword	4
Executive summary	12
<b>1. Estonia: matching skills in a changing world</b>	<b>20</b>
1.1. The need for labour market and skills intelligence	20
1.2. Key skills challenges facing Estonia	22
1.3. Society, economy and employment	22
1.4. Skill supply, demand and mismatches	25
1.5. Future skill needs	30
1.6. The skills system in Estonia	33
1.7. Conclusion	35
<b>2. Reviewing skills governance in Estonia</b>	<b>36</b>
2.1. Conceptualising skills governance	36
2.2. Analysing skills governance in Estonia	39
<b>3. Skills governance in Estonia: state of play and challenges</b>	<b>43</b>
3.1. Introduction	43
3.2. OSKA: legal framework, funding and operation	44
3.3. Management and control arrangements	46
3.4. Dissemination and feedback	50
3.5. The sustainability of the skills anticipation system	53
3.6. Conclusion: successes and challenges	54
<b>4. Exploring options for further development</b>	<b>57</b>
4.1. Introduction	57
4.2. Achieving balanced participation within the skills anticipation system	58
4.3. Data and methodology	60
4.4. Use and dissemination of OSKA findings	63
4.5. OSKA and occupational standards	65
4.6. OSKA strategic development and future direction	68
4.7. Summary of the stakeholder perspective	70

<b>5. Developing consensus for change</b>	73
5.1. Introduction	73
5.2. Dissemination	75
5.3. Technical and methodological innovation	80
5.4. Identifying actions and planning next steps	84
5.4.1. Target groups	84
5.4.2. Dissemination	85
5.4.3. Methodological improvements	85
5.4.4. Views on implementing the actions	86
5.5. Conclusion	88
<b>6. Use of OSKA information in guidance</b>	90
6.1 Introduction	90
6.2. LMSI use	91
6.3. Experience of using OSKA	95
6.4. Summary	100
<b>7. Strengthening skills governance: OSKA development roadmap</b>	102
7.1. Introduction	102
7.2. Actions	103
7.2.1. Identifying groups to focus directly beyond those currently targeted	103
7.2.2. Developing the means to disseminate LMSI directly and effectively to additional groups	105
7.2.3. Methodological innovations	106
7.3. Implementation plan	108
7.4. Ambitions and goals beyond the roadmap	110
<b>8. Conclusion</b>	114
Acronyms/Abbreviations	117
References	118
Annex 1. Study timeline	124
Annex 2. Methodology	125

## Figures

1. Methodological steps of Cedefop’s skills governance review	13
2. Strengthening OSKA – main outcomes of stakeholder consultation	15
3. Real GDP growth 1995-2018: Estonia and Europe	23
4. Unemployment rates 1997-2018: Estonia and Europe	24
5. Unemployment and job vacancy rates in the EU and its Member States, 2018	25
6. Occupational structure of employment in Estonia, 2008 and 2018	26
7. Occupational structure of employment in Estonia and EU compared, 2018	26
8. Percentage of tertiary graduates employed in occupations other than managerial, professional and associate professions in the EU, 2011 and 2018	29
9. Projected job openings in Estonia in 2018-30	31
10. Performance of Estonia’s skills system, ESI score for 2018	34
11. Cedefop’s classification of a skills anticipation system	38
12. Steps of Cedefop’s skills governance review	40
13. OSKA management and control system	47
14. Schematic outline of the OSKA approach to determining skill demand	50
15. The role and scope of OSKA	55
16. Consensus-building exercise rounds	74
17. Prioritisation of OSKA development areas	75
18. Support for activities to strengthen dissemination of OSKA findings	76
19. Priorities for improving the dissemination of OSKA findings	76
20. Groups in need of targeted dissemination	78
21. Feedback mechanisms to ensure user needs are being met	80
22. Prioritisation of technological and methodological innovations in OSKA	81
23. Support for technological and methodological innovations in OSKA	81
24. Organisations and experts to be included in a foresight pilot	83
25. Desired periodicity of updating information	83
26. Main stakeholders and other groups to take a role in implementing actions	87
27. Types of LMSI career counsellors use	92
28. Purpose of using LMSI	93
29. LMSI sources used	94
30. Top rated LMSI sources	95
31. Counsellors’ views on labour market information	96

32. Overall satisfaction with OSKA's information provision and analyses	97
33. Views on the quality and coverage of OSKA information	99
34. Use of OSKA information	99
35. Suggestions for further improvement	101
36. Estonia. Building on OSKA's successes: implementing the roadmap	113

## Boxes

1. Cedefop's reviews on the governance of skills anticipation and matching	37
2. Priorities defined by the NSC	41
3. Development of the career guidance system 2008-14	91
4. Workshop on advanced skills anticipation methods	108
A1. Sections and issues of Cedefop's skills governance questionnaire	125
A2. Stakeholder interview protocol	126

## Tables

1. Analytical framework used in the Estonian skills governance review	14
2. Roadmap component parts and associated actions	18
3. Analytical framework used in the Estonian skills governance review	41
4. Timetable for sectoral analyses 2016 to 2020	51
5. Principal conclusions and recommendations provided by stakeholders	71
6. Information channels or tools beyond website or portal considered important	78
7. LMSI considered essential for different target groups (*)	79
8. Comparison of OSKA with other sources (% of responses)	98
9. Roadmap component parts and associated actions	103
10. Implementation of the roadmap	109
A1. Summary of stakeholder consultation	127
A2. CBE process and issues	128
A3. Participation in the CBE by round	129

## Disclaimer

This report was prepared as part of Cedefop's ongoing thematic project *Governance of EU skills anticipation and matching systems: in-depth country reviews*. The Estonian review was initiated following a letter sent to Cedefop on behalf of the Deputy Secretary General for General and Vocational Education Mr Mart Laidmets, dated 23 December 2017 Protocol No 3.1-3.2/6532, formally requesting support in assessing and strengthening the skills anticipation and matching system in Estonia.

The programme was governed by a 'Terms of collaboration' agreement signed by both parties at the start of the review, which clearly stipulated that all programme outputs and processes were subject to the scrutiny of an appointed national steering committee, and all implementing actions suggested as part of the review are the responsibility of the national government.

# Executive summary

## Introduction

Although the impact of the 2008 global economic crisis on output and employment in Estonia was substantial, the economy has recovered well. From 2010 onwards, the situation has steadily improved, with most recent economic and labour market indicators revealing that the economy is doing well and the labour force is working at almost full capacity. As a result, employers are increasingly experiencing difficulties in filling jobs. This stems in part from demographic trends: similar to many other European Union (EU) Member States, Estonia has an ageing population. Until recently, the country has experienced a net outflow of working age people to other parts of Europe. Structural change, with employment increasingly concentrated in knowledge-intensive, high-tech industries, is reshaping the demand for skills and contributing to rapid skills obsolescence: Estonia has the highest percentage of employees who think that some of their skills will become outdated over the next five years in the EU. There is also evidence of skill surpluses, notably with respect to the share of tertiary education graduates employed in relatively low-skilled jobs. For many years, tertiary education has been a more popular choice among secondary education graduates, more so than vocational education.

Against the backdrop of these skills matching challenges, the Estonian government has requested Cedefop to review the current skills anticipation system and to provide support and guidance to strengthen it in the future.

## Reviewing skills governance in Estonia

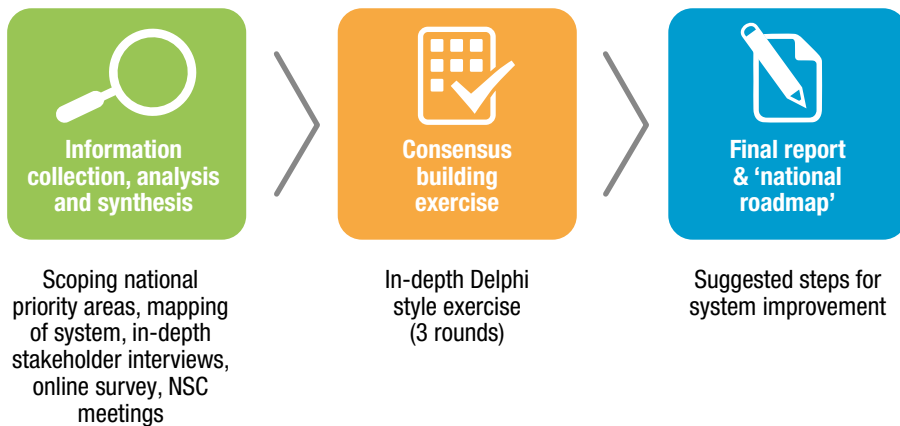
This report contains the findings of Cedefop's thematic country review on the governance of skills anticipation and matching – also referred to as skills governance – in Estonia, conducted in 2018 and 2019. Skills anticipation in Estonia does not have a long history. Until 2015 it was primarily based on the annual employment forecast produced by the Ministry of Economic Affairs

and Communications. Over recent years Estonia has invested substantially in reforming its skills anticipation process principally through the System of labour market monitoring and future skills forecasting (OSKA) (*Oskuste arendamise koordineerimisüsteem*).

A multifaceted research design was used (Figure 1) with a view to developing OSKA further, to strengthen skills governance in Estonia. A scoping exercise helped stakeholders identify three priorities to guide the review:

- (a) mapping strategic directions for the OSKA system;
- (b) reshaping the methods used;
- (c) communicating the results with more impact.

Figure 1. **Methodological steps of Cedefop’s skills governance review**



Source: Cedefop skills governance country reviews.

A background report (internal working document), based on desk research, summarised the situation with respect to the mismatch between the demand for and supply of skills. It took stock of the main challenges, analysed the institutional arena (key actors involved in the skills anticipation and matching system) and reflected on prior studies and other evidence. To shape the analysis, the review priorities were mapped to Cedefop's skills governance analytical framework (Table 1) to identify all factors that need to be considered if improvements to OSKA are to be made.

**Table 1. Analytical framework used in the Estonian skills governance review**

	Organisation	Resources	Stakeholders	Use of information
Foundations	Legal and institutional framework	Funding and human resources	Cooperation arrangements	Feedback mechanisms
Processes	Management and control	Data, methods and expertise	Feedback and validation	Customisation and dissemination
Sustainability	Vision and strategy	Stability	Integration of stakeholder needs	Reputation

*Source:* Cedefop skills governance country reviews.

A set of key issues that need to be addressed was constructed for each cell in the framework. This was the basis for designing the questionnaire used for in-depth face-to-face interviews with policy-makers, academics and social partners to understand their perspectives on the current operation of OSKA. Telephone interviews were carried out with chairs and vice-chairs of the professional councils and their Estonian Qualifications Authority (EQA) coordinators to understand how OSKA could better meet their needs. Careers counsellors were surveyed online to gain insight into the value they derived from the information OSKA provides.

The interviews were used to select the issues to be addressed in a consensus-building exercise (CBE). The CBE sought, in three rounds, to identify actions which need to be implemented over the short to medium term to develop OSKA further, and to reach agreement on these. Participants in the CBE were those charged with responsibility for skills anticipation and/or governance in ministries, agencies, and social partners. The outcomes of the CBE shaped the roadmap for the future development of OSKA.

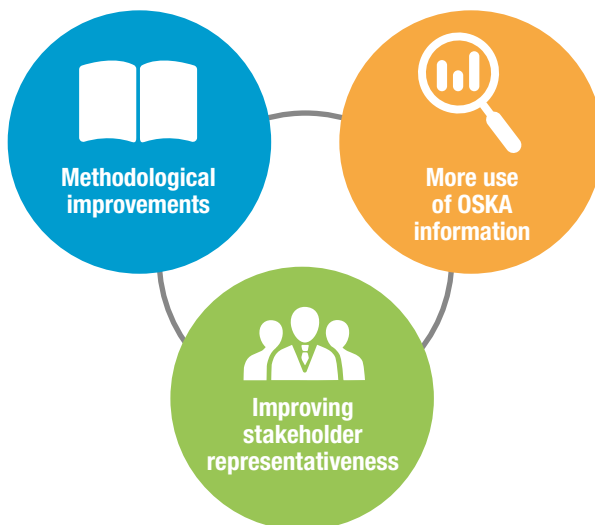
## Key findings

There was consensus that OSKA provided information which is highly valued. Overall, stakeholders were of the view that if OSKA were not to continue, a vital resource will have been lost. Having established itself over a short space of time, they also expected OSKA to continue to develop apace. To



develop OSKA further, stakeholders emphasised the need to strengthen its methodology, to promote greater use of the information it produces, and to improve stakeholder representativeness (Figure 2).

Figure 2. **Strengthening OSKA – main outcomes of stakeholder consultation**



Source: Cedefop skills governance country review.

The suggested methodological improvements included:

- (a) the validation of OSKA results against different data sets and, where possible, integration of additional data sets into OSKA with less reliance on interview (qualitative) data. However, some stakeholders saw the mix of qualitative and quantitative data used in OSKA as one of its key advantages;
- (b) for OSKA to have an economy-wide rather than sectoral focus;
- (c) developing the methodology so that it can better integrate trends such as those relating to migration, technological change, and globalisation;
- (d) given the sectoral focus of OSKA, there was also interest in being able to take into account inter-sectoral labour flows.

The desired methodological improvements might partly be seen as a prerequisite to greater use of OSKA's outputs in decision-making. If OSKA produces information and indicators which directly meet potential user group needs, more use will be made of the system. In many respects this relates to deciding who should be the target audiences for OSKA information. Stakeholders had high ambitions; success will require management of expectations and coordination and cooperation to organise and allocate responsibilities sustainably. When interviewed in 2018, stakeholders wanted to see:

- (a) policy-makers make more use of OSKA's outputs and for OSKA's recommendations to have more of a policy focus (e.g. in relation to migration). At the time, they also signalled that not much was known about how OSKA's analyses were being used in practice <sup>(?)</sup>;
- (b) more efforts to reach OSKA target audiences. Besides meeting information needs of policy-makers in government ministries and agencies, in their view, OSKA could do more to reach learners (pupils and students), workers/employees, careers guidance counsellors, employers;
- (c) key bottlenecks in the supply and demand for skills to be clearly identified. Related to this is the interest of stakeholders in OSKA being able to popularise certain fields of study, guiding people towards education and training in subjects or fields with a relatively high labour market demand;
- (d) how OSKA's outputs might be made better use of by professional councils in the development of occupational standards (OS). This was considered to warrant further investigation.

If OSKA is to influence the design of OS, the skills intelligence it produces may well need to be made more relevant to the drafting of those standards. There is also likely to be a need to raise awareness of the contribution OSKA can make in this respect. OSKA's analyses could also be used to build more of a future skills orientation into the OS.

Some stakeholders saw a need to improve the representativeness of stakeholders within OSKA. A wider group might be co-opted (by rotation if the group becomes overly large) so that it is more representative of the Estonian economy (especially regarding SMEs). If the OSKA team and its experts view current stakeholder representation arrangements as

---

<sup>(?)</sup> A report on the implementation of OSKA's recommendations published in 2019 addresses this knowledge gap. See Section 3.5.

sufficiently balanced, this must be more readily communicated to those who might feel excluded.

## Building consensus on a roadmap for further development

The CBE sought to identify a limited number of areas to guide OSKA's further development in the short to medium term and to reach consensus on the type of changes that need to be made. It proved relatively easy to obtain a high degree of consensus around three key development priorities:

- (a) clearly identify the additional groups OSKA should be directly targeting beyond policy-makers and experts. This particularly applies to young people and their parents, to help them make informed decisions about fields to study so that skill supply is better matched to demand. By starting dissemination of key OSKA findings to young people and their parents via the Estonian education portal <sup>(3)</sup> in mid-2019, significant progress is already being made. Other potential groups as focus for dissemination activities include people in employment, schools and those responsible for developing OS;
- (b) developing more targeted dissemination so that the target groups can be effectively reached and their decision-making influenced;
- (c) improving the methodology used by OSKA so that it better integrates major trends affecting the future demand for labour and skills. This is particularly relevant for technological, demographic and globalisation trends. An interest in skills/technology foresight was identified.

Insights obtained from the first two rounds of the CBE provided the basis for developing an initial draft of the roadmap. In the third round, participants were asked to validate the priorities and suggested actions; they unanimously agreed to the development priorities. A roadmap for change was developed on the basis of responses collected in all three CBE rounds (Table 2).

---

<sup>(3)</sup> <https://haridusportaal.edu.ee/>

Table 2. Roadmap component parts and associated actions

Additional focal groups	Dissemination	Methods
Action 1: identify the additional groups that will be prioritised as key focus	Action 4: Work with representatives of groups to identify how LMSI should be disseminated	Action 7: assess how indicators/analysis need to be developed to meet any additional requirements of groups
Action 2: identify representatives of key groups who can be co-opted into the governance of OSKA	Action 5: Learn from good practice in other countries to identify how LMSI can be communicated effectively	Action 8: assess how wider economic and societal trends can be incorporated within OSKA
Action 3: Identify the LMSI to be developed and communicated to key groups	Action 6: Establish evaluation and feedback mechanisms into the dissemination and use of LMSI	Action 9: Set up a skills/technology foresight pilot to gauge how this can be used to improve OSKA forecasts

Source: Cedefop skills governance country review.

## Final word

The actions outlined above are considered central to the shared ambition for OSKA. In line with the need to manage expectations, the actions balance feasibility and ambition and have been specified in such a way that they can be implemented over the short to medium term. While Cedefop's review was under way in 2018 and 2019, OSKA was developing at speed and steps have been taken towards implementing proposed actions in the roadmap. Whenever this is the case, the suggestions in the roadmap need to be seen in a different light. Their primary purpose will not be to encourage actors to start taking action but to provide more insight on organising and interlinking them, so they form a consistent whole.

Implementing the actions in the roadmap is not necessarily the end of the road. It became apparent in the course of the review that various stakeholders had wider ambitions for OSKA: governance arrangements, awareness raising, broadening policy scope and other methodological advances (such as using administrative data and big data analysis).

Working documents drafted to support the development of the 2021-35 Education and research strategy (which forms part of the Estonia 2035 strategy) emphasise the need for learning opportunities to be

learner-centred, future-oriented and matching labour market needs. They also demonstrate the perceived value of effective skills anticipation and governance in a rapidly changing world: for citizens to make sense of emerging skill needs and to be aware of options to address them, and for policy-makers to take evidence-informed decisions in areas such as education and training, labour market, migration and competitiveness. Many of the challenges and opportunities the strategy documents refer to were also mentioned by stakeholders in Cedefop's skills governance review. Future development of OSKA following the roadmap developed as part of the review, and the longer-term ambitions that were collected and analysed, can support realising the aims of the strategy.

## CHAPTER 1.

# Estonia: matching skills in a changing world

## 1.1. The need for labour market and skills intelligence

The European economy is grappling with many challenges: digitalisation, particularly the fourth industrial revolution and artificial intelligence (AI); globalisation; ageing societies; migration; climate change; and overall low productivity growth. Jobs market responses appear to be gripped by uncertainty. Technological change, in particular, in its various guises appears to be constantly on the verge of transforming the world of work, if not eradicating it (Frey and Osborne, 2017). Older certainties such as globalisation are also beginning to feel more tentative as some countries are reverting to protectionist trade policy. Although more recent analyses of how AI, robotics and new digital technologies are likely to affect employment in Europe suggest an impact rather more limited than initially suggested (Nedelkoska and Quintini, 2018; Pouliakas, 2018), even piecemeal change can accumulate over time. Displacement effects associated with technological change can often be concentrated in specific sectors or locations, affecting vulnerable population groups such as the lower-skilled.

What the above imply is the need for employment and skills systems – and the policy-makers embedded within them – to be informed, prepared and agile with respect to changes they might need to anticipate and accommodate. To date, most EU Member States, including Estonia, have responded to the challenges posed by different drivers of skill demand by seeking to increase skill supply, notably through raising educational attainment. This has been, for most, a reasonable response to projections of future skill demand shifting towards more highly skilled economic activities (Cedefop, 2018a). At the same time, concerns have mounted about the extent to which this strategy is sufficiently meeting Europe's skill needs. A wide range of evidence suggests many workers' skills are not well matched to their jobs (Cedefop, 2010; Pouliakas, 2014; Lessaer et al., 2015).

While some skill mismatch may be temporary (Sicherman, 1991), evidence has mounted that it exhibits a high degree of persistence (Mavromaras and McGuinness, 2012; Meroni and Vera-Toscano, 2017). The rush to widen access to higher education significantly, without accompanying investment in the productive capacity of economies, can come at a cost of qualifications inflation (Delaney et al., 2019). Individuals who become stuck in jobs for which they are manifestly overeducated face hefty economic and social costs – they are paid less and gain less satisfaction from their work – compared with their counterparts who were able to find a job matching their skills (McGuinness et al., 2017 and 2018; Cedefop, 2018b). Aggregating workforce mismatches in Europe shows skill mismatch has a significant macroeconomic cost. Cedefop’s European skills and jobs survey (ESJS) suggests skill mismatch translates to an EU-wide annual productivity loss of about 2.14%, around EUR 0.8 for every hour worked (EESC, 2018).

In many respects the root cause of mismatch is that too much of Europe’s education and training is supply-driven. Vocational education and training (VET) providers deliver what they have the capacity to deliver or face poorly designed incentives; the consumers of that education and training – learners (and families) – are not sufficiently informed about which programmes and skills have a favourable return in the labour market. Education and training systems need to anticipate labour market developments better and, where necessary, consider reforms such as amending existing curricula and learning outcomes or designing new programmes. International evidence suggests this is not straightforward. ETF-Cedefop-ILO (2016); the ILO (McGuinness et al., 2017) and the OECD (2016) have pointed towards the problems that ineffective skills anticipation and skill mismatch pose to many Western economies.

For many Member States the challenge is to devise skills governance structures and practices that encompass labour market and skills information and intelligence (LMSI), to balance skill supply with current and emerging skill demand <sup>(4)</sup>. There is long-held recognition in the economics and policy discourse that the efficacy of matching people to jobs – both now and in the future – is dependent upon the availability and use of LMSI (European Commission New Skills Agenda, 2016).

---

<sup>(4)</sup> Labour market and skills intelligence is concerned with those activities that yield information about the current and future demand for, and supply of, skills, and the extent to which they are in likely to be in equilibrium.

## 1.2. Key skills challenges facing Estonia

As explained in later chapters, the VET system in Estonia has faced pressures over the recent past as it has had to come to terms with challenges including demographic shifts (in particular the emigration of many Estonians), technological change, and a mismatch between the demand for, and supply of, skills (Cedefop, 2017b).

Developing effective policy responses to digitisation, and its employment and skills impacts, is particularly relevant for Estonia. As an enthusiastic adopter of digital technology in government and society, the country has been dubbed one of the digital front runners in Europe (McKinsey and Company, 2017). This suggests a burgeoning demand for often hard-to-find hi-tech skills. While skill supply is relatively strong, the low share of initial VET in upper secondary education is seen as contributing to skills mismatch.

In recent years Estonia has made great strides in strengthening skills governance with the establishment of OSKA. OSKA was developed, with support from the European Social Fund (ESF) (2015 to 2020), to provide Estonia with the means to identify its labour and skill needs for the next 10 years. It has adopted a multifaceted approach combining quantitative data, including that obtained from skills forecasting, with that furnished by sectoral experts, to provide assessments for the labour market as a whole alongside those which focus on a particular sector.

Over a relatively short time OSKA has been able to deliver LMSI which has become valued by a wide range of stakeholders. Expectations of what it can deliver in the future are high. To understand these expectations better, and to set the stage for the analysis in the remainder of this report, this chapter outlines issues, trends and challenges relevant to skills anticipation and matching. It provides an overview of broader economic and employment perspectives, and reviews current trends in skill supply and demand in the country. This provides the background which informs the approach taken for the skills governance review carried out by Cedefop in 2018 and 2019, which is presented in Chapter 2.

## 1.3. Society, economy and employment

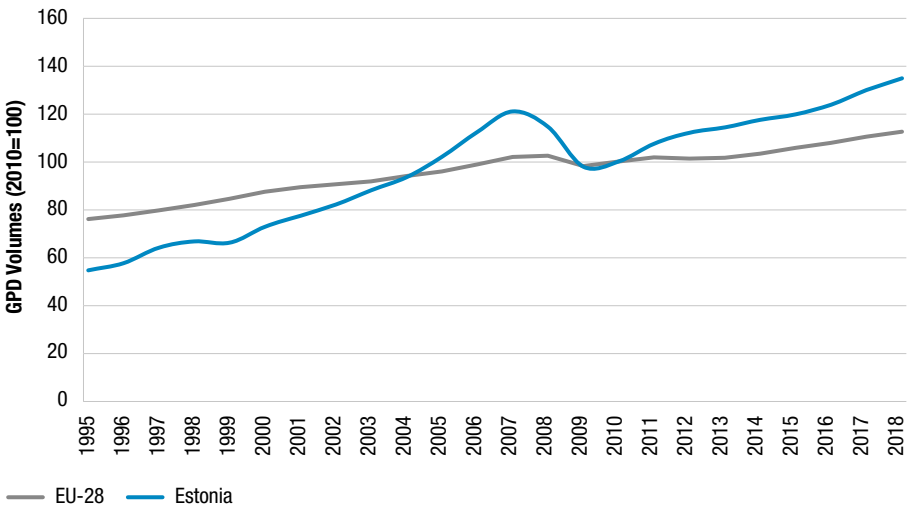
By way of context it is worth emphasising the great leaps forward Estonia has made since the collapse of the Soviet bloc. The improvement in



wellbeing registered by the Human Development Index – a composite indicator which covers health, education, and wealth – has been one of the highest in Europe over the past 25 years (Tammaru et al., 2017). In terms of progress in education and health, Estonia compares favourably with other fast-developing countries. The upward trend in income inequality linked to the fast pace of development has reversed in 2015 and income inequality as measured by the Gini coefficient was below the EU-28 average in 2018 <sup>(5)</sup>.

Estonia’s small and open economy is sensitive to economic shocks and global trends. The economy experienced a period of prolonged growth before and after the country joined the EU in 2004 (Figure 3). It then experienced a relatively steep decline in the wake of the global economic and financial crisis. From 2010 onwards the economy has, once again, grown relatively fast. The unemployment rate has fallen sharply in the post-crisis period (Figure 4).

Figure 3. **Real GDP growth 1995-2018: Estonia and Europe**

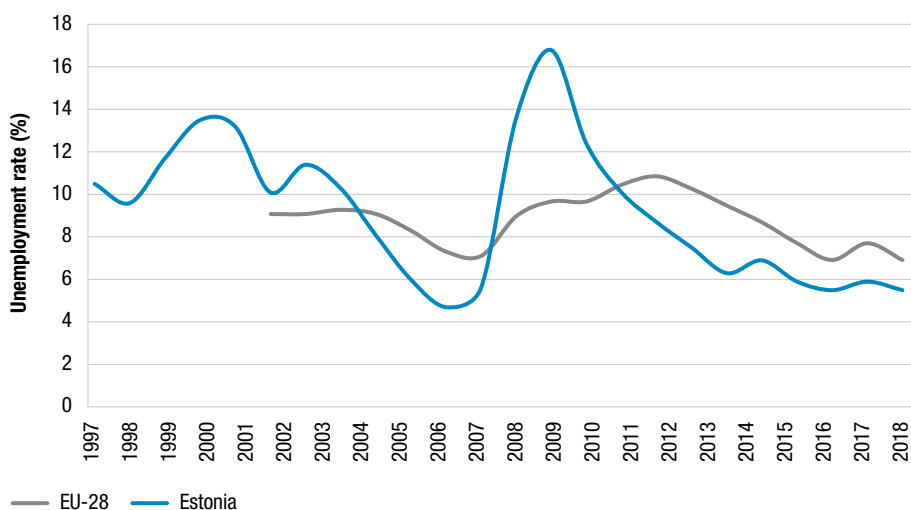


Source: Eurostat GDP and main components (output, expenditure and income) [nama\_10\_gdp].

<sup>(5)</sup> Eurostat data browser: <https://ec.europa.eu/eurostat/databrowser/view/tessi190/default/table?lang=en>

Recent changes show that the economy and the labour market have performed well. During the crisis years, unemployment increased dramatically. The unemployment rate was 4.6% in 2007, jumped to 13.5% in 2009 and peaked at 16.7%<sup>(6)</sup>. After 2010, it dropped steadily to reach 6.2% in 2015. In recent years it has been constantly declining, reaching 5.4% in 2018 and 3.9% in the third quarter of 2019. Those with lower levels of educational attainment are most likely to be unemployed but – as can be expected in times with low overall unemployment – it is also apparent that around a third of the unemployed have tertiary level educational attainment. This is an issue which is returned to below in Section 1.4.

Figure 4. **Unemployment rates 1997-2018: Estonia and Europe**

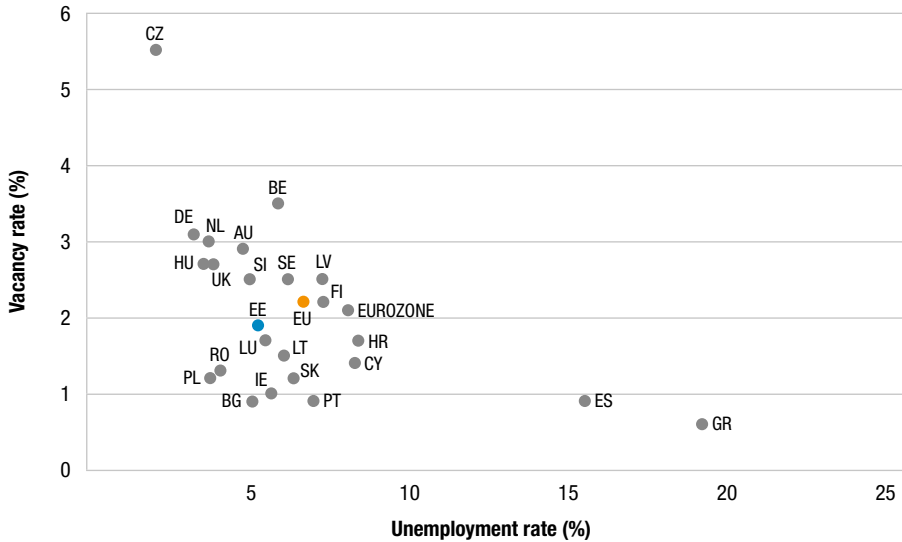


Source: Eurostat unemployment rates by sex, age and nationality (%) [lfsa\_urgan].

With unemployment at record low level there are concerns that the labour market is tightening such that is increasingly difficult to fill jobs. The ratio between unemployment and job vacancy rates in Estonia is more or less the same as in the EU as whole (Figure 5). Even if there is room for improvement in labour and skill supply – for example, with reference to young people, older

<sup>(6)</sup> Eurostat data browser: [https://appsso.eurostat.ec.europa.eu/hui/show.do?dataset=lfsa\\_urgan&lang=en](https://appsso.eurostat.ec.europa.eu/hui/show.do?dataset=lfsa_urgan&lang=en)

Figure 5. **Unemployment and job vacancy rates in the EU and its Member States, 2018**



Source: Eurostat vacancy and unemployment data [jvs\_q\_nace2 and lfsq\_urgan].

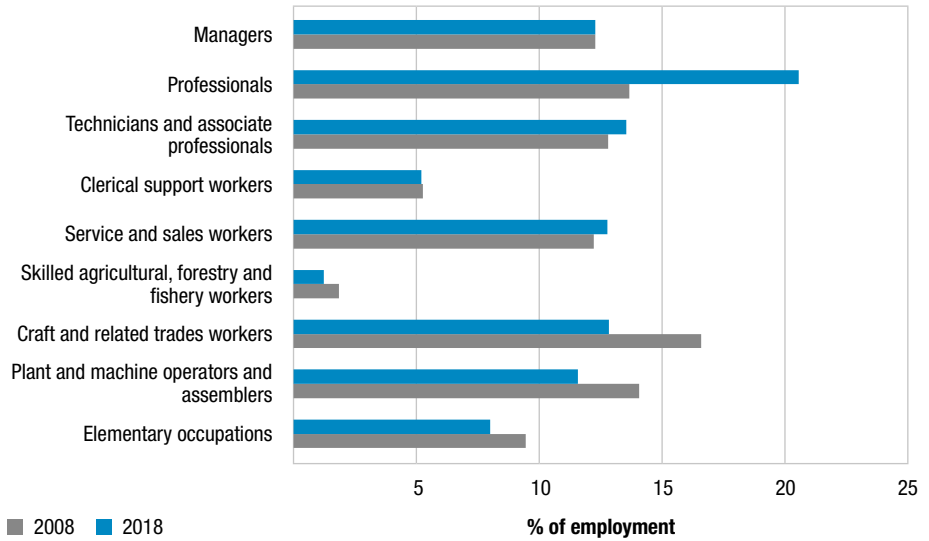
people, those with a reduced working ability, and people who may have given up looking for work – the activity rate of 79.1% (in 2018) makes this quite limited. A key barrier to increasing labour market supply, particularly among older age cohorts, is outdated education. Migration is a potential source of labour and skills and is acknowledged as such in the Labour market 2035 scenarios, the *Estonian human development report 2016-17* (Tammaru et al., 2017), and the Estonian 2035 strategy (Strateegia Eesti 2035) (7).

### 1.4. Skill supply, demand and mismatches

Occupation provides a proxy measure of skill demand. It is apparent that, over time, employment has become more concentrated in relatively high-skilled jobs, particularly in jobs for professionals (Figure 6). Compared with the EU-28 at aggregate level, employment in Estonia is relatively highly

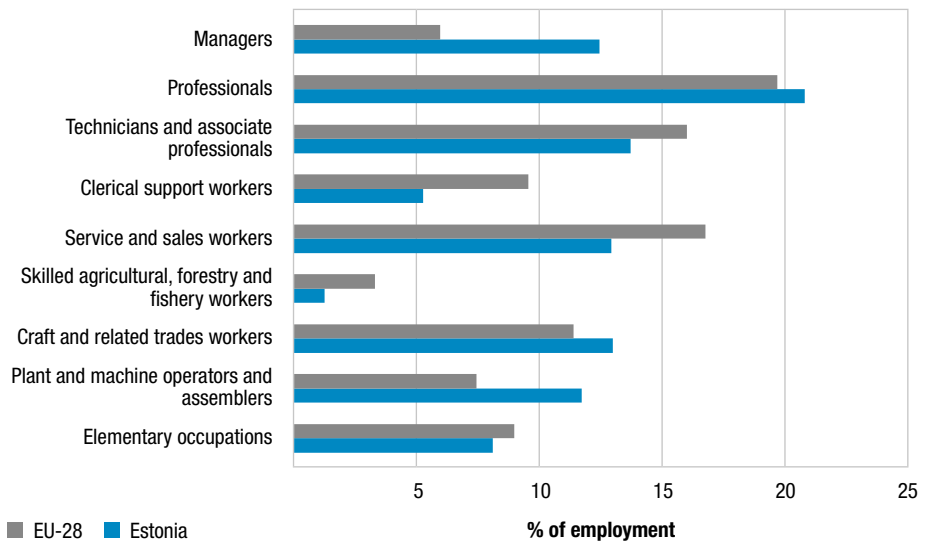
(7) The strategy was under development at the time of writing. [www.riigikantselei.ee/et/valitsuse-toetamine/strateegia-eesti-2035/materjalid](http://www.riigikantselei.ee/et/valitsuse-toetamine/strateegia-eesti-2035/materjalid)

Figure 6. **Occupational structure of employment in Estonia, 2008 and 2018**



Source: Eurostat employment by occupation [ifsa\_eisn2].

Figure 7. **Occupational structure of employment in Estonia and EU compared, 2018**



Source: Eurostat employment by occupation [ifsa\_eisn2].

skilled given the comparatively high share of employment accounted for by managers and professionals (Figure 7).

Not all Estonians fully benefit from welfare gains associated with employment becoming more skilled. Especially for unskilled workers and those living in remote areas higher living standards remain one of the main causes of emigration to Finland and other Member States. But improved levels of wellbeing, along with easing of immigration regulations – especially exemptions to quota – have increased immigration to Estonia, particularly from third countries. In 2015, for the first time in 25 years, the number of people entering Estonia exceeded the number of the people leaving, partly alleviating concerns about tightening labour market conditions (Tammaru et al., 2017).

Other information reinforces the point that employment in Estonia is relatively highly skilled. The share of people employed in high-tech industry and knowledge-intensive services (Kutsekoda, 2018) is relatively high and projections indicate an increase in employment requiring high-skilled people (OSKA, 2018) Employment in high-tech and mid-high-tech sectors as a share of total employment increased from 6.7% to 8.3% between 2012 and 2017, with a target of 9% to be reached by 2020 (Ministry of Education and Research, 2019). The OSKA forecast highlights that the number of jobs will increase in the Information and communications technology (ICT) sector/ areas that use ICT skills, such as software development (OSKA, 2018).

At first glance, the supply of skills appears to be relatively strong. The percentage of the population with tertiary education in 2018 is relatively high at 36%, compared with the EU average (29%). But a feature of the skill supply is that initial VET is much less prominent than in other countries, with only about a quarter of students in upper secondary school taking the vocational pathway and the work-based route only beginning to show signs of development (Cedefop, 2017a and b). Most young people prefer to take the academic pathway with direct access to tertiary education (Ministry of Education and Research, 2019). For some, pursuing university education turns out to be a suboptimal choice and some graduates pursue VET afterwards <sup>(8)</sup>. The share of adult learners in VET has grown steadily and was above 40% in the 2019/20 academic year.

---

<sup>(8)</sup> Particularly for arts or humanities graduates who, due to problems entering the labour market, are most likely to have the intention to continue studying (Ministry of Education and Research, 2017).

The distribution of basic school graduates between vocational and general upper secondary education has not changed much in the past 10 years. A survey among Grade 8 and Grade 11 students showed low awareness of VET and low reach of information about its opportunities and benefits. Recently, however, patterns appear to be changing. Enrolment in upper secondary VET in the 2019/20 academic year is up 3%. Also, an increasing number of young people are finding their way into VET three years after completing basic school. Workplace based VET, such as apprenticeships, is being developed and the number of apprentices has been increasing. In the 2017/18 and 2018/19 academic years, slightly over 1 700 students were engaged in apprenticeships (approximately 7% of all VET students) (Ministry of Education and Research, 2019).

The relatively low popularity of VET is seen as one of the factors contributing to skills mismatch. While the workforce is highly qualified and skilled, about one in every five people with tertiary level education is working in jobs not typically associated with that education level (Figure 8) <sup>(9)</sup>. With the share decreasing between 2011 and 2018, and now below the EU average, Estonia takes a middle position with respect to this type of mismatch. The PIAAC study corroborates that many people have more skills than they use in their jobs (Ministry of education and research, 2015).

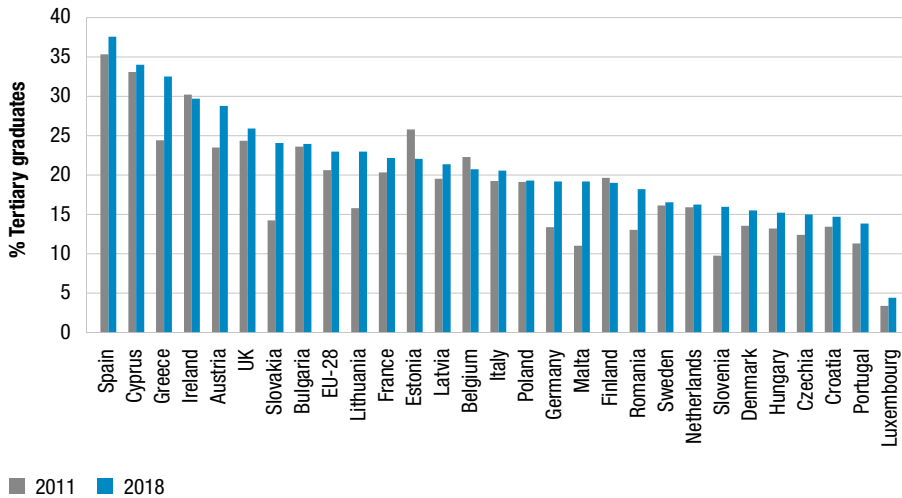
Skills outdated – a driver of skill gaps – is a core concern for the Estonian workforce. The 2014 ESJS found the percentage of people who think that it is likely or very likely that some of their skills will become outdated in the near future is highest in Estonia. It is tempting to think that this might be related to the country being an enthusiastic adopter of digital technologies. Adult learning is expanding to address skills challenges and is guided by OSKA's forecasts. In 2018, 19.7% of adults between 25 and 64 participated in lifelong learning, the share of adult (25+) learners in VET is increasing, more people are taking part in adult education courses, and there is a wide offer of free training courses aimed at low-skilled adults and people whose skills need updating (Ministry of education and research, 2018).

From the employer side there are signs of recruitment difficulties related to labour and skill supply, with 43% of employers reporting that they lacked professionals, specialists and technicians, 35% saying that they lacked

---

<sup>(9)</sup> Analysis based on PIAAC suggests higher overeducation in the older age cohorts, which can be linked to their formal education not necessarily matching workplace requirements and their lower participation in lifelong learning (Ministry of Education and Research, 2015).

Figure 8. **Percentage of tertiary graduates employed in occupations other than managerial, professional and associate professions in the EU, 2011 and 2018**



Source: Eurostat employment by sex, occupation, educational attainment (1 000) [lfsa\_egised].

craft and related trades workers, and 20% reporting that they were short of elementary occupation workers <sup>(10)</sup>. The occupational barometer (the Estonian Unemployment Insurance Fund’s short-term employment forecast) reports an increase in demand for systems analysts, software developers, applications programmers, and software and applications developers across Estonia as a whole, and for elementary occupation workers and craft and related trade workers in some counties <sup>(11)</sup>. In combination, the occupational barometer reflecting short-term fluctuations and the OSKA forecast reflecting medium-term changes reveal relatively high levels of demand for engineers, mechanical engineers, woodwork processors, construction supervisors and managers, and software and application developers (Kutsekoda, 2018).

<sup>(10)</sup> Tööandjad on hädas sobivate töötajate leidmisega. Article of 29.8.2016 (in Estonian). [www.brandem.ee/blogi/tooandjad-hadas-sobivate-tootajate-leidmisega](http://www.brandem.ee/blogi/tooandjad-hadas-sobivate-tootajate-leidmisega)

<sup>(11)</sup> Estonian Unemployment Insurance Fund, occupational barometer table. [www.tootukassa.ee/eng/baromeeter/tabel?period=121&assessmentType=LABOUR\\_DEMAND&mainGroupSelect=MAIN\\_PROFESSION\\_CHOOSSE&professionsSelect=PROFESSIONS\\_ALL&areaSelect=AREAS\\_ALL&mainGroups\[\]=2&mainGroups\[\]=3&mainGroups\[\]=7&mainGroups\[\]=9](http://www.tootukassa.ee/eng/baromeeter/tabel?period=121&assessmentType=LABOUR_DEMAND&mainGroupSelect=MAIN_PROFESSION_CHOOSSE&professionsSelect=PROFESSIONS_ALL&areaSelect=AREAS_ALL&mainGroups[]=2&mainGroups[]=3&mainGroups[]=7&mainGroups[]=9)

Several factors contribute to the many vacant positions that cannot be filled <sup>(12)</sup>. While increased demand for people to work in ICT jobs reflects an increase in demand for ICT skills in general, in construction and manufacturing the reason may be insufficient or outdated skills in the workforce, the movement of the workforce abroad, or linked to cyclical trends. Staff shortfalls persist in some sectors because newly trained specialists do not take up jobs in the areas for which they were trained, due to low wages or poor working conditions. A decline in the number of people choosing programmes in manual trades, such as those related to metalworking and woodworking specialists, is another factor contributing to recruitment difficulties.

As a whole, employment of people who have completed higher education and vocational education studies has increased over the years (Ministry of Education and Research (2019), with relatively good returns for those with higher levels of education. The *Success in the labour market* study revealed that the employment rate for 2016 vocational education graduates was 77% in 2017, while the unemployment rate was 6%. The corresponding rates for people who completed higher education studies were 82 and 2%.

Wages have grown in all sectors, but relative wage differences between sectors – despite having decreased – remain significant, which seems partly to reflect difficulties in skill supply keeping pace with demand. For example, the average gross monthly wage in the ICT sector reached over EUR 2 000 in 2017 (Kutsekoda, 2018), whereas the average gross monthly wage in accommodation and catering remained below EUR 1 000. There are, however, signs that the changing demand for skills is shaping supply side responses. In recent years there has been a rapid rise in adult (25+) learners in vocational training (in 2018, the number exceeded 9 000); as noted, there has been a decline in the percentage of tertiary graduates working in relatively low-skilled jobs (Figure 8).

## 1.5. Future skill needs

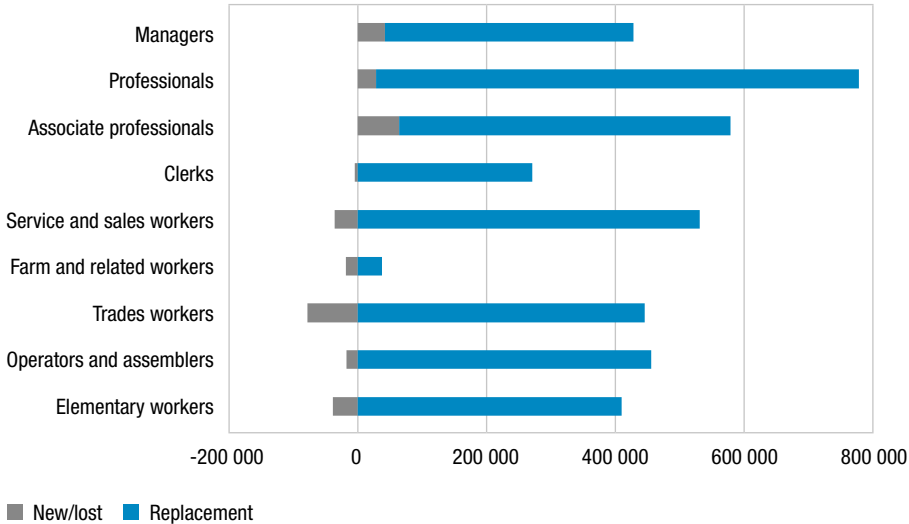
Cedefop's skill forecast for Estonia projects around 373 000 job openings between 2018 and 2030. A distinction is made between job openings

---

<sup>(12)</sup> Estonian Unemployment Insurance Fund, shortage of programmers, cooks, lorry drivers. Article of 9.7.2018. <https://news.err.ee/845307/estonian-unemployment-fund-shortage-of-programmers-cooks-lorry-drivers>; and Kutsekoda (2018).



Figure 9. Projected job openings in Estonia in 2018-30



Source: Cedefop skills forecast [www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/skills-forecast](http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/skills-forecast).

resulting from the creation of new jobs (or the loss of existing ones) and the need to replace existing workers who will leave an occupation because of retirement or another reason (Figure 9). The need to replace staff outstrips by far that arising from the overall change in the number of people employed in an occupation. This implies that, even in occupations such as skilled trades workers, for which employment is forecast to decline, there will be many job openings, mainly because of retirement and occupational mobility.

Various changes underlying employment trends may well gain further traction in the future. Along with more high-skilled employment, atypical work has been increasing in recent years and the share of people engaged in virtual or platform work has been rising (Chung, 2018). Technological change has accelerated this trend and may well continue to do so. These developments create new job opportunities, but also result in groups of employees with less access to traditional employment rights and benefits, including access to training (Holts, 2018). There are also concerns that some jobs will become increasingly at risk of being substituted by automation. Analysis has shown that as much as 27% of current jobs could be affected (McKinsey and Company, 2017), though it is perhaps more likely that elements of jobs, rather

than jobs in their entirety, will be automated. Such trends will transform jobs and require training to develop new digital, transversal and other skills.

In thinking of what the future holds in store for employment and skill demand in Estonia, the Foresight Centre developed the Labour Market 2035 scenarios – linked to the Estonia 2035 strategy – to stimulate debate on the future development of the labour market and economy. It constructed four scenarios:

- (a) the ‘new work world’, where automation will result in the loss of routine jobs such that low-skilled workers may experience greater difficulties finding work in the future. Together with negative attitudes and a restrictive approach to labour migration, this will create a shortage of talent leading to limited professional development opportunities for both high- and low-skilled workers;
- (b) the ‘global village of nomads’, where automation is postponed over the short-term because of the plentiful supply of low-skilled migrant workers which halts wage growth among low- and medium-skilled workers. This lasts only so long, with digitalisation and automation eventually emerging resulting in the disappearance of many low-skilled jobs. It results in an unemployment crisis where those who have lost their jobs will have to look for job and income opportunities elsewhere;
- (c) a ‘self-reliant Estonia’, where the main impact of technological change is that of job creation. With a restricted approach to labour migration this results in a shortage of talent. Automation does not bring about a major increase in unemployment because employees and employers are highly motivated to invest in (re-)training. The motivation to train stems from skill shortages and jobs becoming more complicated/skilled;
- (d) ‘talent HUB Tallinn’, where the main impact of technological change is job creation, but with a liberal approach to labour migration and rapid development of technologically innovative businesses (start-ups) and a high-skilled labour force concentrated in Tallinn. Constant training is a natural part of working life and there will be increased opportunities for short-term and project-based jobs. Rapid developments in technology will create high labour demand but also more frequent interruptions in employment and income: there will be more temporary and short-term jobs and more platform working.

While Cedefop skill forecasts reveal that employment and skill demand is likely to be strong over the medium-term, the scenarios set out nevertheless

point to a number of challenges which will affect skill demand. Not least of these is being able to monitor the direction of technological change and ensure that the skills system keeps pace with it. As Section 1.6. demonstrates, the skills system is currently well placed to do so.

## 1.6. The skills system in Estonia

A plausible explanation for the trends observed in Estonia is that the economy has developed at a pace which has outstripped the capacity of the skills system to keep up. There is indicative evidence that the preference of learners to take the general rather than vocational route through upper-secondary education has exacerbated the extent of skill mismatches, as has the tendency for young Estonians to leave the country to work elsewhere in the EU.

Cedefop's European skills index (ESI) (Cedefop, 2019) <sup>(13)</sup> provides insight into the comparative performance of national skills systems by providing separate scores for three individual pillars of a country's skills system as follows:

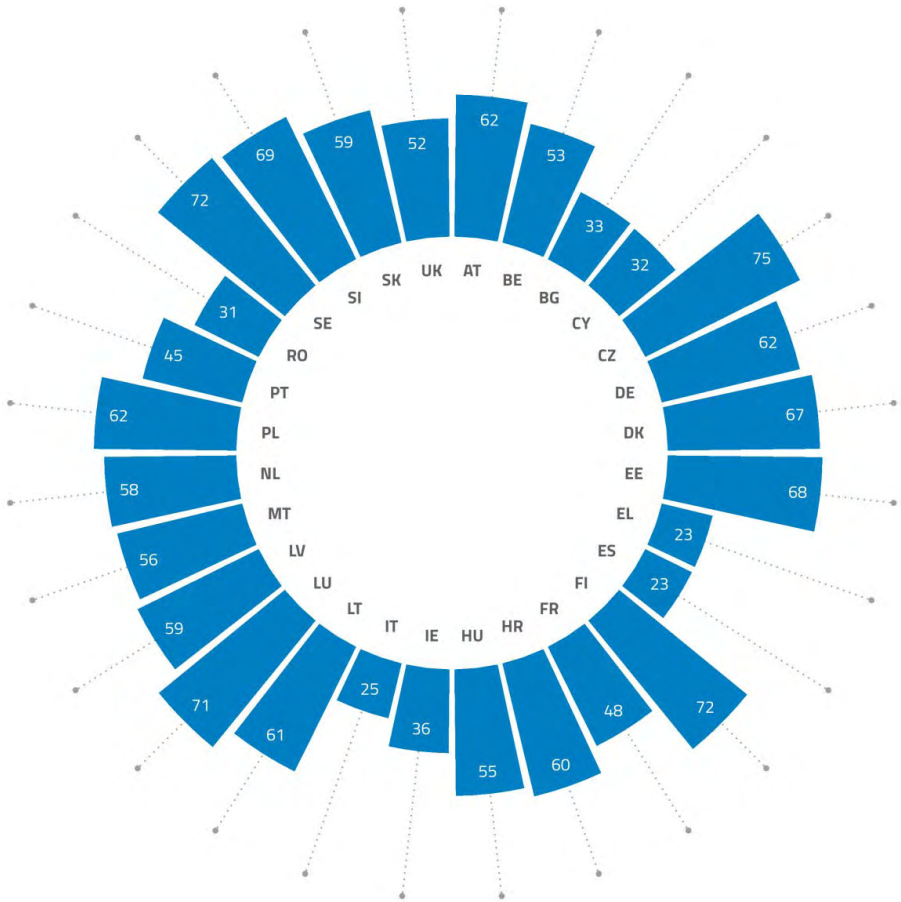
- (a) skills development; the training and education activities of a country and the immediate outputs of that system in terms of the skills developed and attained;
- (b) skills activation; the potential workforce of a country is determined not only by the development of skills but also by the activation of them in the labour market;
- (c) skills matching; the degree of successful utilisation of skills and the extent to which skills are effectively matched in the labour market.

The ESI provides a measure of the distance from ideal performance. The ideal is scored at 100 and each country is given a score which equates with the percentage achievement of the ideal (Figure 10). The overall score of 68 for Estonia indicates that the country is 68% of the way to achieving ideal performance. Estonia's overall score is good and on the individual components: on skills development it ranks fourth with a score of 72 (Finland is highest with 89); on skills activation it is seventh with a score of 71 (Sweden

---

<sup>(13)</sup> A dedicated online navigation tool at is available at: [www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/european-skills-index](http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/european-skills-index)

Figure 10. Performance of Estonia's skills system, ESI score for 2018



Source: Cedefop European skills index.

is highest with 87). Its performance on skills matching, with a score of 62, is relatively low (Czech Republic is highest with 91), but it is still much higher than the countries with the lowest scores for this aspect (Greece with a score of 9 and Spain with 11).

## 1.7. Conclusion

From the *tour d'horizon* of the demand for, and supply of skills, provided above, it is clear that the economy has experienced buoyant growth over recent years, resulting in the country becoming highly skilled and qualified by European standards. Against such a background it is not surprising that the labour market has tightened, giving rise to labour shortages and skill mismatches. The key issue is how these can be better addressed over the medium term. By developing a well-functioning and respected skills anticipation system (OSKA) in a relatively short time, Estonia has made substantial progress. How that system can be enhanced will be explored in the remaining chapters.

It is important by way of a caveat to point out that any skills anticipation system is, to some extent, an early warning system. It can help mitigate the impact of structural and demographic trends or migration patterns by signalling their likely impact on skill supply, demand and mismatch, but it has limited, if any, scope to affect them directly.

## CHAPTER 2.

# Reviewing skills governance in Estonia

## 2.1. Conceptualising skills governance

The Cedefop project *Governance of EU skills anticipation and matching systems: in-depth country reviews* <sup>(14)</sup> is concerned with understanding how skills anticipation and matching in EU countries might be improved. This chapter describes in detail how current skills governance practices in Estonia were reviewed. It defines the priorities for the review, which are clearly linked to broader macroeconomic factors and labour market developments and challenges presented in Chapter 1. The focus of the review is to assess previous action and contribute to better understanding of how skills anticipation and governance in Estonia might be developed.

Building on definitions from the European Commission (2015) and OECD (2016), Cedefop focuses the reviews on analysing skills governance, ‘the process of involvement of stakeholders from the public, private and third sector, from different economic sectors and geographical units, in generating, disseminating and using LMSI to appropriately steer a wide array of policies for the purposes of balancing skill supply and demand and providing an informed basis for further economic development via targeted skills investments’. This process comprises a negotiation perspective, which represents the needs of the education system and of the labour market from short-, medium- and long-term perspectives. Skills governance covers a wide range of issues related to skills anticipation and matching: skill needs at the entry point into the labour market; the utilisation of workers’ skills in the labour market; and future skill supply and skill demand trends to support the transformation of the labour market and the employability of the workforce in a life cycle perspective. The core of the skills governance process is the generation of labour market and skills anticipation information and data

---

<sup>(14)</sup> For more information on the project: [www.cedefop.europa.eu/en/events-and-projects/projects/assisting-eu-countries-skills-matching](http://www.cedefop.europa.eu/en/events-and-projects/projects/assisting-eu-countries-skills-matching). See also Pouliakas (2017).

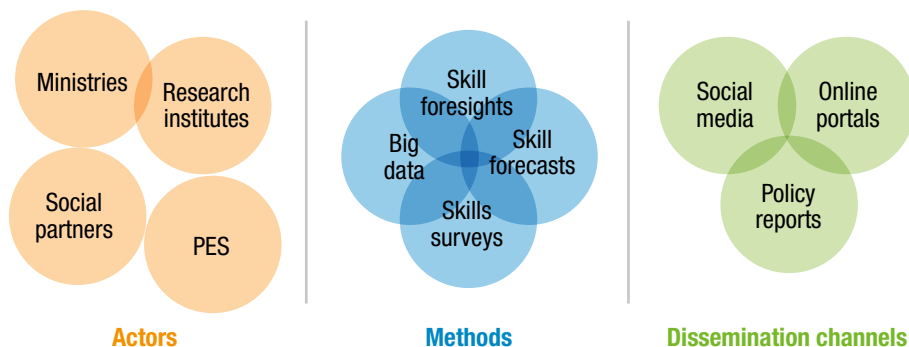
in the first instance, its analysis, dissemination of results and their use in steering the design of policies (education and training, employment, active labour market, migration, environmental) and ensuring that the skills system is responsive to findings. What constitutes effective skills governance will be largely dependent on national specificities as well as the ability of a country to overcome information asymmetries and coordination failures among key stakeholders (Pouliakas and Ranieri, 2018).

### Box 1. **Cedefop's reviews on the governance of skills anticipation and matching**

In line with its mandate, Cedefop supports the EU strategy and shared goal of improving skills intelligence and skills policies in Europe. It produces regular skill demand and skill supply forecasts at European level and analyses of skill needs and mismatches across EU countries and sectors. The skills governance reviews carried out in Greece, Slovakia, Bulgaria and Estonia between 2017 and 2019 complement this work and go one step further. They examine what types of skills intelligence are produced nationally and how these are used to inform skills policies (education and training, employment, innovation) and to support the decision-making processes of learners and employers.

The aim of the country reviews is to identify country-specific challenges and provide informed policy support to the government, in close alignment with national policy priorities and interacting with key national bodies and stakeholders. The reviews use a tailor-made methodology and analytical framework to analyse the governance of skills anticipation and matching in the national context, and to identify possible development opportunities for the near future. They are not evaluations and do not rely on assessment-focused peer-review methods. Instead, the reviews aim to promote dialogue among stakeholders and to develop consensus on directions for policy and concrete actions that can help overcome the barriers and challenges to making skills governance stronger.

The national steering committee (NSC) appointed by national authorities was in the driving seat in all review phases. The NSC set the review priorities, assisted in making information collection possible, engaged with stakeholders, provided support in analysing findings and validated review outcomes. Cedefop's role was to manage and facilitate the process, to stimulate learning from international practices and to provide access to expertise on skills anticipation methods through targeted training.

Figure 11. **Cedefop’s classification of a skills anticipation system**

Source: Cedefop skills governance country reviews.

As Figure 11 illustrates, there is a need to consider stakeholders at multiple levels. This includes the agencies involved in the production and use of skills assessment and anticipation at a strategic level, such as various government ministries. At policy level it includes various stakeholders (often the social partners) who potentially have some opportunity to shape skills anticipation exercises, and, at an operational level, the organisations, such as research bodies, that produce the skills anticipation outputs.

The methodological accuracy and relevance of the tools used to undertake skills anticipation exercises are of critical importance (ETF-Cedefop-ILO, 2016). Skills anticipation can use skill assessments/surveys (employers/employees/sectoral bodies) that review the current state of skill demand and supply, based on labour market indicators and information. They may also be undertaken through forecasts of the future demand and supply of skills, typically using an economic model where skills are proxied by occupations and/or qualifications. Skill forecasts are projections of future skill supply and demand that assume that things will continue to progress along past trajectories. Deeper insight into the future trajectory of a country’s labour market may be gauged through technological and skill foresight activities; these commonly use more qualitative methodologies to develop informed views about likely ‘futures’ or how to shape a desired future.

The final layer of a skills anticipation system relates to dissemination. This incorporates considering who are the audiences or target groups



at which those outputs are aimed, developing suitable and impactful communication approaches and formats for diverse user groups, and ensuring a continuous cycle of feedback between the VET system and the labour market (Cedefop, 2010).

## 2.2. Analysing skills governance in Estonia

Following the request by the Estonian authorities to conduct a thematic review of the current skills governance system and to provide support in identifying how it can be developed, a NSC was formed. The NSC comprised representatives of Estonian authorities and stakeholders active in the country's skills system.

To identify key priority issues the review should address, NSC members took part in a brainstorming session during the review launch meeting, held in Tallinn in January 2018, and a scoping exercise. These focused on the current skills anticipation system OSKA – which is viewed by stakeholders as the platform for developing skills anticipation in the coming years – and resulted in a wealth of possible themes, issues and areas of concern. To be focused and effective, Cedefop worked with the NSC to define three priority areas closely linked to OSKA (Box 2). These have guided the country review throughout the process.

### Box 2. Priorities defined by the NSC

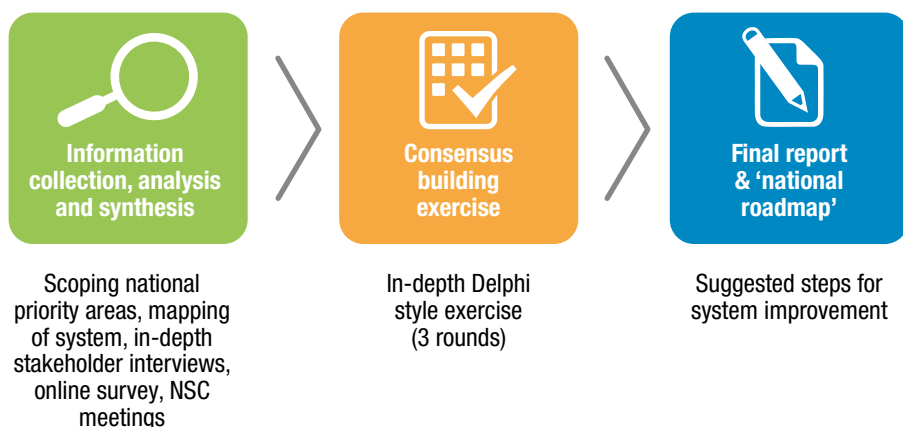
- (a) Mapping the strategic directions for OSKA: how it will encompass those factors which are likely to transform employment and skill demand over the medium-term, such as automation/digitisation. This has implications for the way skills analysis is undertaken and the skills investments which will need to be made beyond initial education.
- (b) Reshaping methods: OSKA is relatively young but it is already a firmly established mechanism for anticipating skill needs. While the mixed methods approach it uses – combining quantitative and qualitative information – is seen as a strength, there is a need to reflect upon the methodology to be used in the coming years. Data constraints (such as having to use outdated data in forecasts), unused data potential (linking register data and using big data analysis) were identified as some of the data issues that will need to be addressed.
- (c) Communicating the results with impact: wider and more user-friendly presentation options and exploiting relevant data that are currently not available to

end-users are seen as ways to achieve progress. It has been recognised that there is a need to pay more attention to customising information to the needs of different user categories and to place more emphasis on combining different sources of information in order to be able to offer more interpretation of findings and their implications.

*Source:* Cedefop skills governance country review. Scoping exercise.

After setting review priorities, a multifaceted research design was employed to map the current skills governance system in Estonia and the role of OSKA within it, and to identify how it might be developed (Figure 12) <sup>(15)</sup>. A background report (internal working document) was drafted which summarised the situation with respect to the mismatch between skill demand and supply. The background report also presented a first stock-taking of the main challenges, the institutional arena (key actors involved in skills anticipation within OSKA) and prior studies and evidence on skills anticipation methodologies in the country and their use.

Figure 12. **Steps of Cedefop's skills governance review**



*Source:* Cedefop skills governance country reviews.

<sup>(15)</sup> For more information on the methodological steps undertaken during the review, see Annex 2.

The review priorities were mapped to Cedefop’s skills governance framework (Table 3) <sup>(16)</sup>. The framework summarises the interlinked parts common to any system of skills governance and was developed as transversal support to all Cedefop skills governance reviews. It identifies the common elements that need to be considered when thinking about the effectiveness of skills governance in a holistic manner. Depending upon the specific issues that need to be addressed in a particular national context, some elements may be more important or pressing than others. While all elements in the framework were considered, three were chosen as ‘entry points’ for analysing skills governance (shaded in Table 3).

**Table 3. Analytical framework used in the Estonian skills governance review**

	Organisation	Resources	Stakeholders	Use of information
<b>Foundations</b>	<b>A</b> Legal and institutional framework	<b>D</b> Funding and human resources	<b>G</b> Cooperation arrangements	<b>J</b> Feedback mechanisms
<b>Processes</b>	<b>B</b> Management and control	<b>E</b> Data, methods and expertise	<b>H</b> Feedback and validation	<b>K</b> Customisation and dissemination
<b>Sustainability</b>	<b>C</b> Vision and strategy	<b>F</b> Stability	<b>I</b> Integration of stakeholder needs	<b>L</b> Reputation

Source: Cedefop skills governance country review.

A set of key issues that need to be considered was identified for each cell in the framework <sup>(17)</sup>. This formed the basis for developing a semi-structured interview schedule for carrying out face-to-face interviews with stakeholders. Policy-makers, academics, social partners and actors in the education and training system were interviewed to understand their perspectives on how skills anticipation and skills governance need to develop in Estonia so that the links between skill supply and demand are improved. Additional semi-

<sup>(16)</sup> Cedefop’s skills governance analytical framework: [www.cedefop.europa.eu/files/20171016-  
cedefop\\_skills\\_governance\\_framework.pdf](http://www.cedefop.europa.eu/files/20171016-cedefop_skills_governance_framework.pdf)

<sup>(17)</sup> An enhanced framework was developed where all possible issues relevant to a particular cell in Table 3 was identified.

structured telephone interviews were conducted with the chairs and vice-chairs of the professional councils and EQA coordinators to understand how OSKA could better meet their needs.

The interviews were used to refine and elaborate on the issues to be addressed in a CBE. Participants in the CBE were those charged with responsibility for skills anticipation and governance in ministries, agencies and social partners, including members of the NSC and those in OSKA and the EQA. The CBE sought, in three rounds, to concentrate thinking and reflection on the issues and actions which needed to be addressed to progress in the short to medium term and on which consensus could be found among participants. CBE findings were used to develop a national policy roadmap to guide the future development of skills governance, with particular reference to improvements which might be made to OSKA.

An online survey among careers counsellors was used to gauge the perspective of skills intelligence users. The survey was developed by Cedefop and the fieldwork took place in early 2019. It aimed to provide insight on the value careers counsellors derive from the information OSKA provides and on possibilities for improving it.

The findings from Cedefop's skills governance review in Estonia are summarised in the following chapters. The information collected has been analysed to provide a detailed overview of current skills anticipation and governance arrangements and stakeholders' views on these. This will help demonstrate the rationale for the prioritised actions in the roadmap, which aim at strengthening OSKA, and skills governance in the country more generally, over the short to medium term.

## CHAPTER 3.

# Skills governance in Estonia: state of play and challenges

## 3.1. Introduction

Prior to the introduction of OSKA, skills anticipation was based on the annual employment forecast produced by the Ministry of Economic Affairs and Communications <sup>(18)</sup> and the skills analysis carried out by the EQA <sup>(19)</sup>. The ministry acknowledged several limitations regarding its forecasts <sup>(20)</sup>, particularly that they:

- (a) did not take into account current vacancies;
- (b) were unable to capture the reallocation of employees between jobs;
- (c) did not provide information about skills requirements within specific occupations and did not take into account on-the-job training and retraining.

Another important limitation was that the forecasts struggled to identify emerging jobs which were not readily captured in existing occupational classifications (Ministry of Economic Affairs and Communications, n.d.). With access to population data becoming available information in 2013, the level of detail expanded, but it remained an open question whether the forecasts were sufficiently able to influence occupational and educational choice.

The decision of the Estonian government to establish OSKA in February 2014 marked an important change in skills anticipation in the country (Kutsekoda, n.d.) The origins of OSKA can be traced further back to the

---

<sup>(18)</sup> [www.mkm.ee/et/analusid-ja-uuringud#toojouprognosid](http://www.mkm.ee/et/analusid-ja-uuringud#toojouprognosid)

<sup>(19)</sup> The EQA had two key responsibilities in this regard: exploring, forecasting and giving an overview on the skills and competences relevant to the labour market and in various economic spheres, and incorporating them in formal qualification standards; and evaluating the qualifications and skills of people, and issuing formal qualification certificates. See also: [www.kutsekoda.ee/en/](http://www.kutsekoda.ee/en/)

<sup>(20)</sup> These have partly remained limitations in OSKA's work. Work is ongoing to address this.

taskforce<sup>(21)</sup> established by the government in 2012 (OECD, 2011), comprising representatives from several ministries and other selected stakeholders; it assessed how the country could better match the skills held by Estonians to those demanded in the labour market. The taskforce prepared a roadmap for the development of OSKA in 2012-14.

The National reform programme Estonia 2020 (updated in 2020) also flagged the importance of effective skills anticipation. It highlighted the need to increase labour supply (given that demographic trends suggested a fall of around 100 000 working age Estonians over the next 20 years), and improve productivity by producing goods and services with greater capital intensity and higher value-added (Estonian Government, 2011)<sup>(22)</sup>. Achieving this ambition requires both securing adequate labour supply in quantitative terms and attention to the skills of the labour force. This is where OSKA has a role to play, by contributing to the process improving the supply of skills and matching it to both current and future skill demand.

This chapter provides an overview of the current state of affairs of skills anticipation and its governance within OSKA. The analysis is based on desk research and the stakeholder consultation carried out in 2018. It flags certain issues as particular challenges that will need to be addressed over the medium term. OSKA is seen to have achieved a lot since its inception in 2015. In many respects, the challenges facing those responsible for OSKA are to maintain the momentum it has achieved to date and to manage the high expectations stakeholders have regarding its future development.

### 3.2. OSKA: legal framework, funding and operation

The regulatory framework for OSKA is provided in the Estonian Professions Act<sup>(23)</sup>. According to §6(2) of this act, the minister responsible may enter into a contract under public law with a private legal entity for the performance of the function of an integral and structured professional system (referred to as professional institution). The Ministry of Education and Research entered into a contract with the EQA to run OSKA. The Professions Act (§7) also

---

<sup>(21)</sup> The suggestion to create taskforces for tackling horizontal topics came from the OECD (OECD, 2011).

<sup>(22)</sup> In many respects the issue here is about creating a high(er) skill equilibrium in Estonia.

<sup>(23)</sup> [www.riigiteataja.ee/akt/12974050?leiaKehtiv](http://www.riigiteataja.ee/akt/12974050?leiaKehtiv)

defines the functions the Ministry of Education and Research can delegate to the EQA. Two were added to the Professions Act with the implementation of OSKA on 30 January 2015 (amendments entered into force on 1 March 2015):

- (a) to organise the activities of the coordination council (of OSKA);
- (b) to form expert committees of professional domains and to organise their activities based on the recommendations of the coordination council.

OSKA was established by the Ministry of Education and Research (Haridus- ja Teadusministeerium). The EQA (Kutsekoda) has responsibility for OSKA. The Ministry of Economic Affairs and Communications (Majandus- ja Kommunikatsiooniministeerium), the Ministry of Social Affairs (Sotsiaalministeerium), and the Ministry of Finance (Rahandusministeerium) also contribute, along with various representatives from other organisations.

Funding for OSKA is EUR 4.4 million over a five-year period (1.1.2015 to 31.12.2020). Structural support from the ESF provides up to 85% of the budget (EUR 3 740 000) with the State financing at least 15% (EUR 660 000) <sup>(24)</sup>. OSKA is supported under the Operational programme for cohesion policy funding 2014-20, Priority Axis 1 'Qualifications and skills meeting the needs of society and the labour market'; it uses the EU financial resources designated for Thematic objective 5: 'Reducing the mismatch between labour market needs and skills provided by vocational and higher education'. The strategic vision that guided the development of OSKA is influenced, at least in part, by the framework of the structural funds. The development of OSKA is also important in the context of various national strategies relating to, for instance, competitiveness (National reform programme Estonia 2020) and lifelong learning (Estonian lifelong learning strategy 2020) <sup>(25)</sup> and the Estonia 2035 strategy.

In 2019, OSKA's staff amounted to around 14 full-time equivalent employees.

---

<sup>(24)</sup> Annex 1 of the Decree No 1.1-2/17/313 of the Minister for Education and Research.

<sup>(25)</sup> [www.hm.ee/en/estonian-lifelong-learning-strategy-2020](http://www.hm.ee/en/estonian-lifelong-learning-strategy-2020)

### 3.3. Management and control arrangements

The involvement of key institutions and bodies in OSKA is outlined in Figure 13. The roles and responsibilities of the different actors involved are as follows.

The Government of Estonia (Vabariigi Valitsus) is responsible for developing the policy-making system, strategic vision, and legislation. It is also responsible for the Lifelong learning strategy 2020 of which OSKA is part. The strategy aims at fulfilling the goal of harmonising learning opportunities with labour market demands. Where OSKA recommendations are relevant to policy areas or issues transcending single ministries and their jurisdiction, these are raised and discussed in the Government's cabinet sessions.

The Ministry of Education and Research and the Minister for Education and Research develop a yearly action plan and set the annual budget for OSKA and supervise its implementation. Once a year, the Minister for Education and Research gives an overview of OSKA's activities and results in a Government cabinet session.

The OSKA coordination council (Koordinatsioonikogu) is a board of high-level representatives of the main stakeholders of the skills anticipation system <sup>(26)</sup>. It is in charge of planning and commissioning analyses and prognoses. The council is also in charge of informing the general public about current and future labour market and skill trends, and advises the Ministry of Education and Research, the Ministry of Economic Affairs and Communications, and the Ministry of Social Affairs on the division of the budget allocated to initial and in-service education <sup>(27)</sup>.

The functions of the coordination council are <sup>(28)</sup>:

- (a) to assemble information and expertise relating to skill supply and demand;
- (b) to plan the commissioning of studies and analyses of labour needs in areas of professional activity, based on the strategic priorities of the state, considering the actual opportunities and needs of Estonia;

---

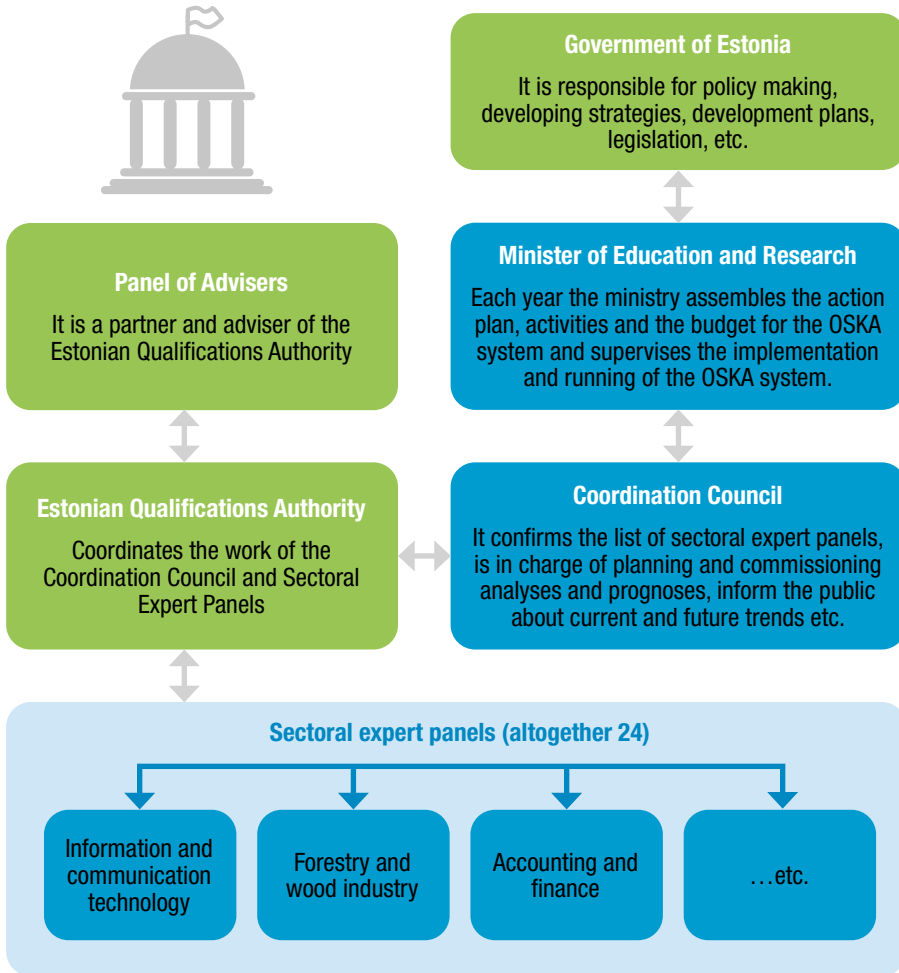
<sup>(26)</sup> The OSKA coordination council has nine members (11 starting in 2019). Its composition is officially described and guided by statute. It includes representatives of the Ministry of Education and Research, Ministry of Economic Affairs and Communications, Ministry of Finance, Ministry of Social Affairs, Estonian Unemployment Insurance Fund, Estonian Chamber of Commerce and Industry, Estonian Employers' Confederation, Estonian Trade Union Confederation and Estonian Employees' Unions' Confederation (Professions Act, §71(2)). The Bank of Estonia [Eesti Pank] and the Ministry of the Interior were added in 2019.

<sup>(27)</sup> Defined as training which is usually done in later life, as an adult and usually while working.

<sup>(28)</sup> §71(3) of the Professions Act.



Figure 13. OSKA management and control system



Source: OSKA.

- (c) to detect emerging skill needs in the labour market;
- (d) to determine the importance of professional activities and broad groups of study in line with labour market needs and the need for the balanced development of society;
- (e) to submit proposals supporting the planning of measures aimed at ensuring the continued availability of the workforce;
- (f) to submit proposals to different agencies for setting the number of student places and training places in formal education and further training;
- (g) to support the government in making decisions related to the qualification of people to enable more expedient and effective use of educational expenditure from the State budget.

The coordination council meets four to five times a year. Once a year, it submits an overview on the situation in the labour market and skills and its recommendations to the government through the Minister for Education and Research <sup>(29)</sup>. The council plays a key role in matching labour market needs with training resources, taking into account the proposals and suggestions put forward by its sectoral expert panels. The coordination council also approves the list of sectoral expert panels, their policies and practices and the sectoral reports and their recommendations, provided that they contribute to the balanced development of Estonian society.

The EQA/Kutsekoda supports the work of the coordination council by providing know-how, research skills, and manpower. In principle, OSKA can be seen as a unit within the qualifications authority. The EQA organises the work of working groups and the formation of qualification standards. It notifies educational institutions, curriculum developers and other stakeholders about agreed changes (Kutsekoda, 2011). EQA also has the role of monitoring and gathering feedback on how the OSKA recommendations have (or have not) been implemented <sup>(30)</sup>. In addition to running OSKA on a day-to-day basis, the EQA is responsible for the development of the occupational qualifications system and for coordinating the design and creation of occupational qualification standards (OQSs) for all economic sectors.

The OSKA team in EQA, cooperating with 24 sectoral expert panels, prepares expert forecasts about labour requirements and skills at sectoral level. The panels provide deep insights into trends in different sectors

---

<sup>(29)</sup> <https://oska.kutsekoda.ee/oskast/oska-koordinatsioonikogu/>

<sup>(30)</sup> Addressed in a 2018 evaluation study. See also Section 3.5.

and can propose recommendations to different stakeholders, such as training providers, the public employment service (Estonian Unemployment Insurance Fund), and curriculum developers (in vocational and technical schools). Sectoral expert panels analyse and evaluate the need for different skills (occupations) in their sector for the next 10 years, the alignment between education and training possibilities and labour market needs, the current skills and knowledge level of workers, and vocational and technical (re)training needs. Sectoral expert panels bring together experts from employers, publicly funded educational institutions (vocational schools and universities), and public authorities <sup>(31)</sup>.

The EQA has also formed the OSKA panel of advisers [*nõunike kogu*]. It has around 30 members and is entrusted with the task of being a wise partner and adviser to the EQA. The panel contributes to the development of the OSKA methodology and the preparation of decisions by the coordination council. It also acts as a forum for discussing issues and trends arising from OSKA overview reports and sectoral studies. While the coordination council comprises representatives appointed by the management of various organisations and authorities, the panel of advisers includes – in addition to the organisations represented in the coordination council – labour market and education experts from Estonian universities, research organisations, and professional associations.

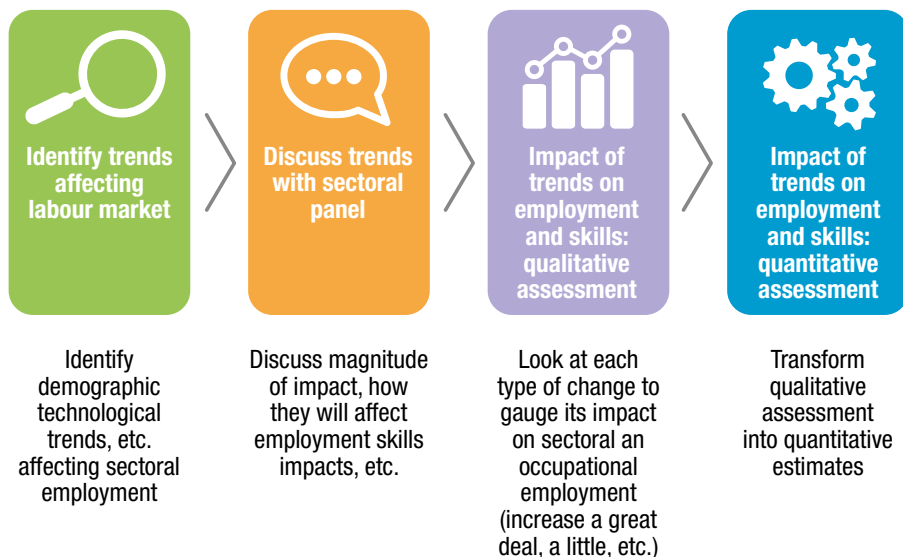
OSKA produces data to supplement the Ministry of Economic Affairs and Communications' quantitative forecasts, meaning that these forecasts are adjusted based on OSKA input <sup>(32)</sup>. The OSKA methodology is unique because qualitative and quantitative data and research methods are combined, and analysis is conducted for professional qualifications across all levels of education (Figure 14). The quantitative analysis builds on the data from administrative data sets and surveys (including the Estonian education information system EHIS, the labour force survey (LFS), the population and housing census 2011) as well as on the forecasts of labour

---

<sup>(31)</sup> Expert panels may meet around four to five times, with each meeting having a specific focus (discussion about trends, major changes in current economic branch, labour force requirements change, discussion on policy measures). The number of participants is typically between 15 and 25.

<sup>(32)</sup> For more information: [http://skillspanorama.cedefop.europa.eu/en/analytical\\_highlights/skills-anticipation-estonia](http://skillspanorama.cedefop.europa.eu/en/analytical_highlights/skills-anticipation-estonia); Ministry of Economic Affairs and Communications (n.d.). From 2019 onwards, the work of OSKA also includes the production of the quantitative labour market forecasts.

Figure 14. **Schematic outline of the OSKA approach to determining skill demand**



Source: Cedefop skills governance country review: Estonia.

substitution requirements prepared by the Ministry of Economic Affairs and Communications <sup>(33)</sup>.

### 3.4. Dissemination and feedback

All 24 economic sectors are analysed once every five to six years (Table 4) with the findings of sectoral analyses published in sectoral reports. In the years in between, the relevant sectoral expert panels keep an eye on the implementation of recommendations made earlier.

There are several dissemination channels and platforms in OSKA. All results and recommendations are published on the OSKA web page <sup>(34)</sup> and in newsletters and leaflets. This includes an annual report on changes in labour

<sup>(33)</sup> Information about labour force forecasts carried out by the Ministry of Economic Affairs and Communications (in Estonian): [www.mkm.ee/et/analusid-ja-uuringud#toojouprognosisid](http://www.mkm.ee/et/analusid-ja-uuringud#toojouprognosisid); (in English, older forecasts): [www.mkm.ee/en/news-press-releases/analysis-and-research](http://www.mkm.ee/en/news-press-releases/analysis-and-research).

<sup>(34)</sup> <https://oska.kutsekoda.ee/>

Table 4. Timetable for sectoral analyses 2016 to 2020

2016	2017	2018	2019	2020
Accounting	Construction	Accommodation, catering and tourism	Creative activities, cultural heritage, entertainment	Banking, insurance
Forestry and timber industry	Energy and mining	Apparel, textile and leather industry	Culture and creative industries	Personal services
Information and communication technology	Health care	Education and research	Real estate and facilities management	Public administration
Manufacturing of metal products, machinery and equipment	Production of chemicals, rubber, plastic and construction materials	Personnel, administrative work and business consultation	Security, law	
Social work	The agriculture and food industry	Trade, rental and repairs	Water, waste and environmental management	
	Transportation, logistics, repair of motor vehicles			

Source: OSKA (<https://oska.kutsekoda.ee/en/oska-sectors/>).

requirements, labour market developments and dominant trends over the next 10 years <sup>(35)</sup>. The EQA sends sectoral reports to stakeholders to whom the recommendations are addressed, including schools, employers, and the Estonian Unemployment Insurance Fund. Every time a sectoral analysis is completed, an information sharing day is organised to introduce the main results and recommendations to interested parties: educational institutions and curriculum developers; employer federations; employee associations; and sectoral associations.

<sup>(35)</sup> The first annual labour market overview was published in 2017 (Kutsekoda, 2017).

EQA also organises regular information days for the Ministry of Education and Research and career counsellors, presenting results of new analyses twice a year. Members of the OSKA team present their findings at many different events, including conferences, seminars, and information days, organised by their partners. Main target groups are employers, teachers, career counsellors, youth workers, and policy-makers. About 3 000 people are reached directly every year.

To reach the general public, a press release is sent out to media and partners each time a study has been completed. The main results of OSKA's analyses are reported in Estonia's main newspapers and on radio and TV.

Key results and recommendations from the sectoral and annual analysis reports are communicated in a short infographic format. The language and messages used in these infographics are short and clear. These materials are used and spread through cooperation with the Estonian Unemployment Insurance Fund and through career coordinators working in general secondary education. At the time of carrying out the interviews for Cedefop's skills governance review, there were plans to create an online platform visually representing the results of OSKA analyses in a user-friendly way. The preparatory work was finished by mid-2019 and dissemination of OSKA results and statistics via the Estonian education portal, managed by the Ministry of Education and Research, has started. Every main profession analysed in OSKA has a dedicated website which includes information about current employment, demand for labour, main tasks, future skill needs, study possibilities, and interactive charts with relevant statistics. Development of the portal and its reach potential continues.

OSKA recommendations provide input into national and regional sectoral development plans and strategies. Once a year, the coordination council presents the most important results and recommendations to the government (cabinet of ministers) who then decide on the relevant interventions.

The EQA organises an annual OSKA conference. Usually, the most important future trends and potential changes related to work, jobs, skills, education and technologies are introduced by conference speakers representing various sectors and occupations. OSKA representatives give an overview of the main findings and messages from the OSKA sectoral reports. The conference attracts attendees representing employer and employee representation organisations, representatives from schools and the education/training sector, and government institutions engaged with OSKA, such as the Estonian Unemployment Insurance Fund.

The Estonian Unemployment Insurance Fund considers OSKA's recommendations in planning the provision of labour market services and professional training and links some re- and upskilling measures directly to the skills intelligence provided. Its guidance counsellors use information from OSKA to guide their clients. Estonian higher educational institutions have a clause in their performance and management contracts with the Ministry of Education and Research that also refers to the OSKA recommendations. Although it is not obligatory, and there are no sanctions imposed on higher educational institutions that do not follow the advice, they have to explain why they chose an approach which was not in line with an OSKA recommendation.

The professional councils responsible for OS are an important intermediary target group of OSKA's work <sup>(36)</sup>. As seen in the following chapters, the evidence on whether they use OSKA's outputs effectively in practice is mixed.

In the autumn of 2017, the EQA for the first time gathered feedback from parties to whom the recommendations were addressed. The aim was to obtain an overview about whether the proposed recommendations in the sectoral reports were being acted on, were postponed, or were impossible to implement. In turn, the sectoral expert panels evaluated the success and outcome of OSKA's recommendations.

### 3.5. The sustainability of the skills anticipation system

Funding for OSKA is guaranteed until end-2020. Currently funding is provided from the ESF and jointly financed by the Estonian state. On 27 April 2017, three ministers (Minister for Education and Research, Minister for Economic Affairs and Communications, Minister for Social Affairs) agreed to continue the activities of OSKA after 2020. It was agreed to finance OSKA's activities jointly and in equal amounts from the ministerial budgets. In November 2019 the Government of Estonia suggested to continue funding OSKA via the ESF programme after 2020.

---

<sup>(36)</sup> Professional councils manage the Estonian occupational qualifications system. The objective of the 14 (sectoral) professional councils is to register the viewpoints and suggestions of different institutions regarding labour market and skill trends, and facilitate achieving consensus on working out, developing and implementing the occupational qualifications system of the sector. Details of the 14 councils can be found at: [www.kutsekoda.ee/kutsenoukogud/](http://www.kutsekoda.ee/kutsenoukogud/).

An external impact evaluation was conducted in 2018 to assess the effectiveness and efficiency of OSKA's recommendations and to improve the methodology of its system (Praxis, 2018). The evaluation showed OSKA has been successful in creating practical and usable labour market intelligence for its target groups. Its recommendations have paved the way for adjustments in formal education in terms of adapting provision quantitatively and qualitatively (through curricula) and have been a basis for providing relevant (future) career information to learners. Researchers highlight the relevance of OSKA as a comprehensive tool for managing future labour market and skill needs.

OSKA has increased stakeholder involvement in skills anticipation and created a systematic process in which stakeholders can provide input to, and shape discussions on, future labour market and skill needs. OSKA has several institutional and decision levels for engaging stakeholders from top-level ministry representatives to career counsellors and career coordinators in schools. The OSKA governance bodies and its work processes involve key ministries, social partners, experts and researchers and other important stakeholders. Representatives of employers and trade unions have seats on the OSKA coordination council and on the sector skills councils. Representatives of education institutions also have a sizeable role in the process. OSKA clearly benefits from the strong links to various stakeholders who might be expected to act on its analyses and results and collaborative work processes easing the integration of sectoral expertise. These features make it possible to develop recommendations backed by employers and education and training providers.

### 3.6. Conclusion: successes and challenges

In a fast-growing economy, where technological change is having a substantial impact on the skill content of jobs, and demographic trends have the potential to accentuate skill shortages, there is a continued need for a system that systematically assesses the demand for skills and provides evidence which can be used to improve the labour market relevance of education and (re)training (Figure 15). OSKA takes a comprehensive approach to skills mapping, analysis and development. There are early signs that its outputs have been valued by policy-makers; this is reflected in the appreciation of the work so far and in the government's decision to continue funding OSKA after 2020.



Figure 15.

# The role and scope of OSKA



## Policy challenges

- Demographic change
- Harnessing new technologies
- Productivity/Competitiveness



## Labour market and skills and challenges

- Maintaining labour supply
- Producing the skills the economy needs



## OSKA's role

- Identifying future skills needs
- Demonstrating future skills hotspots
- Providing information relevant to curriculum design
- Identifying potential future skills shortages



## Outputs

- Information resource for policy-makers and other key stakeholders
- Allow labour market actors to make economically rational skills investment decisions



## Outcomes

- Improved skills matching
- Skills system aligned with economic policy ambition

The outcomes of OSKA's analyses and forecasts of labour market needs provide essential input to the qualification and career counselling system and to curriculum development, as well as to various agencies funding education and training. OSKA has increased the involvement of stakeholders and created a systematic process allowing them to contribute to skills anticipation. Thanks to the emphasis on the input of sectoral experts to its work processes, OSKA enables evidence-based recommendations to be made concerning curricula, programmes and provision, thereby building bridges between employer and educator perspectives.

This paints a positive picture but there remains a degree of uncertainty about the extent to which key labour market and education actors actually use OSKA to shape their decision-making. The 2018 external evaluation by Praxis revealed that not all stakeholders are fully aware of the labour market and skills intelligence collated by OSKA and of the usefulness of that information for them. This suggests there is scope to strengthen dissemination. Questions remain about how to ensure that education and training providers take into account and implement OSKA's recommendations.

## CHAPTER 4.

# Exploring options for further development

## 4.1. Introduction

Chapter 3 sought to detail OSKA's key features and touched on some key challenges it faces in meeting Estonia's labour market and skills intelligence needs. In this chapter the focus is on exploring how OSKA might develop over the medium term, based on the views of key stakeholders. There is emphasis on exploring those issues the national steering committee (NSC) initially prioritised in Cedefop's skills governance review <sup>(37)</sup>:

- (a) mapping the potential strategic directions and future development of OSKA;
- (b) reshaping the methodologies/methods that OSKA uses;
- (c) ensuring that OSKA's analyses and recommendations are disseminated and communicated in a way that improves their impact on labour market behaviour and the investments made in education and training.

In exploring possible options for development, evidence is principally drawn from face-to-face and telephone interviews conducted with key stakeholders. Although stakeholder had views on how OSKA might develop, a large majority of those interviewed held it in high esteem. There was a consensus that it provided valuable LMSI relevant to the needs of a wide range of stakeholders. OSKA and the information it delivers were regarded as an improvement over the disconnected practices that existed prior to its establishment. Where those interviewed wanted to see changes made, it was from the perspective of developing and fine-tuning a system already held in high regard.

The priorities set for the review resonated well with stakeholders and three out of the five interrelated issues they considered particularly important

---

<sup>(37)</sup> These correspond to three areas of Cedefop's analytical framework set out in Table 3.

in shaping OSKA's future development directly relate to the ones referred to above: future vision, methodology and customisation/dissemination.

A fourth issue, the use of OSKA in the process of designing and adapting OS, was flagged as important by some respondents who signalled that not much was known about this. Therefore, what is happening in practice has been more deeply analysed on the basis of the interviews with representatives from the professional councils in charge and the OSKA coordinators overseeing the process. The fifth issue – balanced participation of different groups in skills governance – relates to various groups being able to have a say about dissemination, methodologies, and the overall strategic direction of OSKA.

Taking these five key issues as a starting point, the remainder of this chapter provides detailed insight into how stakeholders perceive Estonia's skills governance system and OSKA's role within it. The analysis provides a basis for exploring development options and finding consensus on them.

## 4.2. Achieving balanced participation within the skills anticipation system

Although it was recognised that a wide variety of stakeholders is engaged in skills governance, several respondents from ministries and government agencies, education institutions and professional associations viewed the process as not sufficiently inclusive. As explored in more detail below, the involvement of different groups relates to discussions about whose needs OSKA should serve.

When the fieldwork was conducted (2018), OSKA was very much seen as meeting the needs of government ministries, labour market and educational institutions and experts: primary target groups defined in the 2015-20 programme documentation. At the time, it was not yet regarded as a system that met the LMSI needs of jobseekers or students (defined as secondary target groups) deciding on which courses to study (not directly). Insights based on an online survey among career counsellors provided in Chapter 6, indicate OSKA may well be increasingly reaching jobseekers or students indirectly. To target these groups directly as well, dissemination of OSKA results via the Estonian education portal started mid-2019.

The role and responsibility of unions, employer organisations and professional associations is perceived to be providing inputs about sectoral,

entrepreneurial and technological trends of relevance to OSKA. In doing so, they provide insight into potential future developments in the labour market and the sectors they represent. But these social partners reported they felt outnumbered by education experts in OSKA meetings. While they were of the opinion that their views were listened to and recognised, and their thoughts and ideas are taken up in OSKA's sectoral reports, they wanted to have a stronger voice in expressing their views about the skills the economy needed. They said they wanted representation in various OSKA meetings at least equal to the education sector <sup>(38)</sup>. This finding also emerged from the Praxis evaluation study (Section 3.5), which reported stakeholders saying that employers and professional organisations should represent 50% of the experts on sectoral panels to ensure better balance.

Some stakeholders voiced concern about the pool of sectoral expertise drawn on by some of OSKA's expert panels. They felt a need to bring in more outsiders. It was also mentioned that the quality of analysis (however defined) carried out in the panels varied from sector to sector depending on their participants' experience and their ability to look beyond their own interests and focus on what might be regarded as the bigger picture. Several stakeholder interviewees also referred to the different perspectives of participants engaged in OSKA's expert panels. Those from the education sector, it was said, tended to be relatively cautious because of costs associated with constructing new curricula and updating those of existing programmes. In contrast, groups representing employers tended to want change to take place more quickly, so that emerging skill needs were promptly met. This illustrates the importance of balanced representation.

The EQA coordinators responsible for liaising with professional councils – the bodies responsible for creating and adapting OS – see some crossover between these councils (and their working groups) and members of OSKA institutions (OSKA sectoral experts and panels). This facilitates information exchange and potentially deepens the knowledge base. One EQA coordinator thought that there could ideally be one expert panel providing input to the professional councils and working groups, and OSKA's panel of sectoral experts. This is potentially at odds with the views reported above which suggested the panel of expertise drawn upon could be wider and more representative. Another consideration is practical: repeatedly drawing

---

<sup>(38)</sup> This opinion might be linked to their typically lower attendance rate in meetings compared to representatives of the education sector and policy-makers.

on the same group of experts potentially increases their workloads. There appears to be tension between broadening the range of expertise employed and deepening that expertise.

### 4.3. Data and methodology

Developing the OSKA methodology further and use of data were a particular focus of the review. The opinions stakeholders had on how this might be achieved over the medium term were often linked to their current perceptions of OSKA's methodology. The lack of suitable and reliable data on wages and labour costs disaggregated by occupation – the most reliable signal for labour and skill shortages – was flagged as a key issue. And data on inter-sectoral flows of labour were not readily available. Several stakeholders referred to register sources becoming available in the near future as possible ways to address these issues.

There were stakeholder comments about how well OSKA forecasts take into account demographics, technological change and globalisation. Some think tank and research centre respondents said there had been recent changes in migration resulting in more people now entering Estonia than leaving it; alongside this was an increase in the activity levels and employment of those aged 50 and over. These changes, in their view, will affect the pace at which overall levels of employment are expected to decline and may well slow down the decline in the overall size of the labour force, with the result that the demand for training might be higher than currently estimated. But because OSKA relies on data that were sometimes dated – such as the 2011 census of population – stakeholders were not always confident that more recent trends had been fully taken into account. Some of them had concerns that this leads to a view of the future that is too much rooted in the past<sup>(39)</sup>. However, analysts from OSKA and ministries emphasised that the extent of change is sometimes overstated, and that the data used gave stable results, but respondents were keen to point out that recent changes and trends are significant and should be considered.

There were differences of opinion with respect to the mix of quantitative and qualitative data used by OSKA; one of its strengths was seen to be the depth of sectoral insight it provided. The contribution and involvement of

---

<sup>(39)</sup> Updated register data available after 2020 can help address these concerns.

employers and sectoral experts in identifying skill needs were considered to be of great value according to respondents from government and public institutions. But there were also dissenting voices. For some, even if it was a minority view, relying largely on interviews with employers and sectoral representatives to gain in-depth information on skill demand was a weakness. It was noted that, over time, the reliance on qualitative data (interview data) in the formation of OSKA's recommendations and conclusions has been reduced. At the start, the influence of sector expert panels was more substantial. The improved methodology, which gives more emphasis to quantitative data, was welcomed, though challenges remain. Among these is improving the qualitative (descriptive) nature of skills profiles by using real-time big data from online job vacancies, which some ministry representatives regarded as a key methodological and data challenge facing OSKA.

Some stakeholders questioned employers' ability to 'see the future' and make predictions about future skill demands accurately, pointing out that 'the employers of tomorrow may not even exist today'. An important point to consider, according to think tank, research centre, and ministry representatives, is how well the sample of sector experts and advisers which OSKA draws on sectors with growing and declining employment. This resonates with the views about the representativeness of stakeholder involvement.

Several think tank and research centre representatives described OSKA's view of the future as being too one-scenario oriented or too static, and suggested that scenario building could be readily developed; the transportation and logistics sectoral study was mentioned as an example. A respondent thought forecast employment growth over the next 10 years did not adequately estimate the implications of driverless cars and smart transportation systems for skill demand. Scenarios can be especially useful in mapping and understanding the potential impact of these technologies, which, by their nature, are difficult to predict in terms of their speed of implementation.

Several other institutions in Estonia engage in analysing future labour market developments producing intelligence complementary to the work of OSKA and the EQA. The Foresight Centre cooperates with OSKA and uses its information to prevent duplication of effort and to better discern who should do what. The distinction between the two organisations lies in differences in methodological approaches and time horizons. OSKA is

based on sectoral analyses and focuses on producing medium-term LMSI, with clear links to education and skills policies. The Foresight Centre is interested in general and global trends and developments, new forms of work and long-term labour market scenarios (Section 1.5). Another LMSI tool, the Estonian Unemployment Insurance Fund's occupational barometer, forecasts short-term labour demand by occupation and region <sup>(40)</sup>, giving LMSI with a narrower focus.

Working together, the Foresight Centre, the Estonian Unemployment Insurance Fund and OSKA have the potential to provide a unique view, such as different time-perspectives for future skill needs in Estonia.

There was some disagreement about the need for a regional dimension in OSKA. Some stakeholder interviewees saw distinguishing between regions as a potential way to ensure that OSKA recommendations relate to the specific labour markets in which people look for work. Several others acknowledged that adding a regional dimension would face data challenges, might fragment any big picture about the changing demand for skills, and could end up being a company case or sector study because some regions are strongly influenced by one or two large companies or sectors. There appeared to be support to explore possibilities for including a regional perspective in OSKA to complement the Estonian Unemployment Insurance Fund's occupational barometer regional short-term labour demand forecast. At the same time, there was recognition that this would not be easy and that it could be possible and justified for some sectors but not for others.

Another perceived methodological issue relates to the way analyses are used to develop recommendations. One sectoral representative viewed the recommendations as too general, expecting more detailed insights or suggestions about what schools -- and other institutions -- have to do to in concrete terms to improve the situation in specific fields. Some interviewees representing a higher education institution viewed OSKA's recommendations as incomplete because they expected an action plan to support their implementation or information on the costs of putting them into practice <sup>(41)</sup>. According to one interviewee, although recommendations

---

<sup>(40)</sup> The estimates are compiled by the regional departments of the Estonian Unemployment Insurance Fund, which involve external experts wherever possible. See: [www.tootukassa.ee/eng/baromeeter](http://www.tootukassa.ee/eng/baromeeter)

<sup>(41)</sup> Similar results were brought out in the 2018 Praxis study Implementation of the labour market monitoring and future skills forecasting system OSKA: [www.praxis.ee/en/works/implementation-of-oska/](http://www.praxis.ee/en/works/implementation-of-oska/)



are provided about the need to train a given number of people in a given specialism, insufficient consideration is given to whether this is realistic and what additional steps and resources might be required to achieve it. Whether or not it should be within OSKA's remit to deliver recommendations containing such detail is a moot point.

#### 4.4. Use and dissemination of OSKA findings

The preceding discussion highlighted how OSKA's analyses could be used to develop action-oriented recommendations. This reflects another key issue Cedefop was requested to address: dissemination and use of OSKA's outputs. If various groups are target ones for OSKA, there is a need to deliver results to them in a readily digestible manner. Stakeholders interviewed as part of the review considered the primary target groups to be:

- (a) ministries: the Ministry of Education and Research, the Ministry of Economic Affairs and Communications, and the Ministry of Social Affairs;
- (b) (quasi-) government agencies: Innove, the Estonian Unemployment Insurance Fund, EQA, professional councils;
- (c) the education sector: general and vocational schools, universities;
- (d) interest groups: employer associations, professional associations, trade unions;
- (e) experts: analysts in the Estonian Bank and think tanks, research centres.

Ministries were reported to use OSKA as a source of general background information to obtain an overview of the developments in their fields of governance and decision-making. For example, the Ministry of Education and Research uses OSKA information to plan and organise formal education – especially vocational education and continuing training – and to provide State-funded study places. Several other ministry representatives explained that – by providing a general overview about the trends in the labour market and society – OSKA reports provided background information for their everyday work.

Some ministry and governmental representatives doubted whether ministries other than their own made use of OSKA to any great extent. In their view there was scope for wider use in strategic planning and public management across government. The Ministry of Education and Research was seen to be the most active user in government, but it was also the

organisation which was said to gain most from OSKA compared with other ministries. After the Ministry of Education and Research, educational institutions were seen as the next most important target group; it was commented that they are visible at various OSKA's events (conferences, seminars, sectoral expert panels). Educational institutions have used OSKA in designing school development plans and strategy documents, for designing and modifying curricula, and to persuade teachers that particular changes are necessary.

Ministry and employer representatives have a strong opinion that people who are directly responsible for curriculum-building in the education system should take into consideration OSKA's analyses in their decision-making. It was said several times that the information produced has not been fully exploited by education institutions – specifically in higher education – and by private training/retraining/upskilling providers. The clause in the management contracts (*haldusleping*), between the Ministry of Education and Research and universities, for the latter to take into account OSKA's recommendations when planning course provision was only introduced in 2018, so respondents were not aware of to what degree recommendations have been taken on board. OSKA's information, it was said, was used more in VET because vocational institutions were better connected to the labour market and had more active contacts with employers.

There was an expectation among ministry representatives, governmental and public institutions, and employer/professional associations that OSKA should be used more in relation to higher education; the significant number of higher education graduates in low-skilled, low-waged jobs is a case in point. Respondents representing higher education institutions and employer associations said that it was much easier to invest resources into programmes which are popular among young people compared to programmes viewed by learners as not very attractive, because they know little about them, or because they may be influenced by potentially negative false stereotypes and prejudices.

There was a view that much additional work could be undertaken in popularising programmes with strong labour market demand; STEM subjects and some specialisms related to the textile industry are examples. But whose job and role it should be to popularise particular programmes remained unclear. Several respondents said that perhaps OSKA could fulfil this role by creating positive images for those programmes delivering skills that are in short supply. It was recognised that this would require additional resources.

Many respondents indicated that little of OSKA's information actually reaches young people. Young people – pupils and students – were considered an important potential target group who could, even should, be active users of the OSKA website. To promote information to young people, it was considered necessary to establish links between the OSKA website and portals they use. Some respondents voiced concerns about career-relevant information not sufficiently reaching young learners. While some career counsellors in schools do use OSKA, the worry is that many do not (more information in Chapter 5). Many stakeholders seemed to agree that one of OSKA's main aims should be to give young people – either indirectly via guidance and counselling or directly via accessible tools – a better understanding of the various jobs and occupations in demand in the short to medium term to ease their education and training choices.

The visual presentation of OSKA information was widely commended. Several stakeholders considered the attractive use of infographics, tables and charts in various information products exemplary, the materials visually appealing and well-formatted. The dissemination of information through short and long reports was considered satisfactory. Another positive feature for some respondents has been active engagement of the OSKA team with institutions and at conferences to disseminate their reports. That said, some respondents felt that engagement with the media could be intensified so that the messages OSKA wants to convey reach a higher share of the wider population <sup>(42)</sup>. Several respondents also referred to the potential for more automated analysis in the future, with tables and charts updated automatically after data collection and analysis. Some respondents were concerned about information sometimes being dated and expected that future data will be up to date.

## 4.5. OSKA and occupational standards

A further issue which emerged from the interviews is whether OSKA's forecasts and recommendations have some bearing on occupational standards (OS). Apart from managing OSKA, the EQA is also responsible for

---

<sup>(42)</sup> This would mean increasing media activities. OSKA already actively engages with the media, providing press releases for all OSKA studies which are taken up by newspapers and covered on television and radio almost every month.

managing the designing and updating of these standards. Some interviewees felt that, although these two strands of work are organised under one roof, the links between them and the degree of cooperation are unclear and could be improved.

Follow-up interviews with respondents more closely involved in the OS process show this critique may be overstated. Designated EQA coordinators liaise with the professional councils responsible for OS. These coordinators said that with the clarity of OSKA's recommendations having improved over time, their work had become easier. But as OSKA recommendations were not solely meant for designing and changing the content of OS, the coordinator must work through the outputs provided and summarise the information of most use to the councils and their working groups.

Whether or not OSKA is able to influence the OS, it was noted, depended on the experience, knowledge and skills of the coordinator. One coordinator usually manages up to three different sectors, some of which may be similar while others may be very different. Managing multiple sectors has become easier given the increasing importance of transversal skills common across all sectors (especially digital/IT ones). And managing several sectors simultaneously, EQA coordinators noted, helps create synergies and reduce fragmentation. One idea that was discussed during the interviews was about whether to synchronise the development of OS and OSKA's sectoral reports better, so that OSKA sectoral analyses can provide a more timely input into the drafting of OS. While one coordinator supported this, another thought it would be difficult to implement in practice as work on the OS tends to be constant, while production of the sectoral reports is a more discrete activity.

Apart from the obvious reason of no dedicated sectoral report being available, interviewed chairs and elected vice-chairs of the professional councils, who represent their professional field and professional interests gave several other reasons for OSKA not being used more – or not at all – by their councils:

- (a) one interviewee admitted that, although it seems logical that the process of drafting an OS should take into account the data OSKA provides, the prospect of doing so had not really been thought through before. It was said that if there was no formal procedure or recommendation by the EQA to use OSKA, the potential to inform the OS would probably not be fully exploited. The EQA coordinator should provide the link to OSKA, it was said;

- (b) there may be some misconception between what chairs or vice-chairs of the councils think should be included in an OS, and what they think OSKA provides. One chair, for instance, said OSKA was about future skills and had nothing to do with current and basic skill needs which were the focus of the OS. Another described OSKA as a wholly quantitative mechanism whereas amending OS is qualitative in orientation; it was not sure what OSKA could provide. In this context, the EQA coordinators explained that the OSKA system is not just about developing OS – this is not its primary goal – therefore it cannot provide all the relevant inputs;
- (c) an enforcement mechanism is currently missing. If professional councils do not have the time, resources or inclination to take OSKA's results into consideration, it is unlikely they will do so. This may suggest that OSKA needs to: make its outputs more relevant to those drafting OS; expand awareness of what OSKA can provide to OS; and/or encourage working groups to consider certain data (produced by OSKA) when compiling their OS;
- (d) some chairs and vice chairs were of the view that the work carried out in compiling an OS was already time-consuming and, because membership of the working groups is voluntarily (i.e. unpaid), there was a need for caution in adding to workloads. Asking them to take into account findings from OSKA may be a step too far.

Some chairs and vice chairs said that they had contributed to OSKA (as stakeholders), but relatively little, new or beneficial, had been delivered to them in return. But they said that this might change. As OSKA developed and gained more experience, it was expected to provide benefits to a wider range of users. It was also reported that gaining insights into future technologies and associated skill needs can be fully based on information from sectoral and professional associations, and trade unions. There was little gained from OSKA in this regard, chairs and vice-chairs said; they viewed it as being primarily targeting the education system.

Respondents representing professional councils for which no dedicated OSKA report had yet been produced (Table 4 above) expected OSKA to give them a comprehensive overview of the situation in their sector. They have used information and data from various sources so far, the most important being direct contacts with employer, professional, and educational organisations. Their attitude was positive: they expressed willingness to cooperate with OSKA when the sectoral analyses they required are available.

## 4.6. OSKA strategic development and future direction

When asked to reflect on how to shape future work, stakeholders were of the opinion that the first round of sectoral surveys and analyses undertaken by OSKA needs be completed – and the results of that work evaluated – to understand what worked well, what did not, and to gauge what should be changed, added, or discontinued. Stakeholders also indicated that further rounds of analysis were essential, otherwise resources will have been wasted.

While there was broad agreement that OSKA needs to continue, there were differences of opinion on the approach to organising a second round. Some stakeholders were in favour of organising the second round in the same way as the first, to allow comparisons to be made over time. Others preferred a different approach, with less emphasis on sectors and more on emerging skill profiles, new forms of work and changes in attitudes to work and jobs. It was noted that many skills are general in nature and can be transferred across sectors.

Interviewees provided many ideas for the future development. These mainly relate to the target groups and users of the LMSI OSKA produces and the envisioned role of OSKA in supporting economic and social ambitions. The wide range of views expressed about future development signal that stakeholders' expectations are as high as they are varied.

While the important policy areas which OSKA need to address were seen to be employment and education and training and skills policy, migration policy was also mentioned several times, especially with respect to the skills and qualifications of those returning to Estonia. Some respondents added youth policy as one area which OSKA needed to influence, given that pupils/students are a potential target user group. Some ministry, think tanks and research centre respondents also emphasised the relevance of OSKA for innovation, business and economic policies. While some respondents were doubtful whether OSKA's messages were currently influential outside the areas of employment and education policy, there appeared to be general agreement that information could be used across a wide range of policy fields.

Stakeholders were of the opinion that OSKA should continue to satisfy the needs it currently addresses. This includes the State (especially the Ministry of Education and Research), which uses LMSI to plan and organise formal education, training and retraining possibilities, and determine the number of

State-commissioned study places. Education institutions, it was said, should continue to use OSKA to plan their educational and training activities and the Estonian Unemployment Insurance Fund should do the same to inform the design and planning of their training and retraining measures.

There was a strong stakeholder emphasis on OSKA meeting the needs of young people, helping inform them about developments in the labour market. This will expand opportunities to influence their future work-study decisions. Most interviewees saw schools and teachers as the ones who could use OSKA and then advise their pupils/students on making better educational and work-career related decisions. Career counsellors are seen as critically important in this respect, as they use OSKA to educate young people about labour market realities and trends (Chapter 5).

Apart from young learners, stakeholders expected OSKA to reach out and influence workers and employees currently in the labour market to ease their work-career-study decisions. According to official 2015-20 programming documents, OSKA's primary target groups are institutions and intermediaries rather than individuals, but this does not necessarily preclude providing information that eventually reaches individuals. Interviewees recognised that changing and extending the reach and influence of OSKA would require additional resources or reorganising current ones. By starting dissemination of key OSKA findings to young people and their parents via the Estonian education portal in mid-2019, significant progress is already being made towards reaching people directly.

Some respondents perceived a lack of a broader vision: to help identify the skills, knowledge, and sectors which would enable Estonia to develop a better society and become a better country with a suitable and beneficial economic structure. These types of reflection mirror the lines of thought shaping the Estonia 2035 strategy <sup>(43)</sup>.

In relation to OSKA's future development, the relevance and attractiveness of creating the 'big picture' – a broad overview about employment and skills trends across all sectors – was strongly emphasised by all stakeholders interviewed. The OSKA system should objectively link all sectors of the economy and treat them equally so that results are not influenced by sectoral lobbying. Stakeholders viewed sectoral level analysis alone as not

---

<sup>(43)</sup> At the time of writing the report, following round table discussions and public debates for designing the strategy Eesti 2035, the process of deciding what are the key and desired changes and topics for the future is in progress.

sufficient and saw developing the ‘big picture’ as a way to enable labour market actors to make strategic decisions. Many of them expected this to happen in the near future. In the period following the fieldwork, OSKA has worked towards addressing this issue.

Some interviewees came with suggestions aimed at strengthening the policy impact of OSKA findings and recommendations. There was a sense that OSKA’s findings would carry more weight if they could reach the highest policy-making levels; government ministers and parliamentarians. Attracting more attention by making the messages prepared by OSKA ‘unavoidable’ was seen as another possible future development. This could be achieved if recommendations were accompanied by SWOT analysis or scenario development to map the consequences of not acting on them. Stakeholders also expected feedback about the impact of recommendations on policies and practices. This includes monitoring how, where and why recommendations have been or have not been implemented, how quickly this has happened, whether and how recommendations have been adjusted and why, and what kind of recommendations have worked well and which have not.

## 4.7. Summary of the stakeholder perspective

Respondents generally took the view that if OSKA were not to continue a vital resource will have been lost. There were, however, various changes that stakeholders would like to see implemented, summarised under three broad headings (Table 5).

Methodological improvements suggested included:

- (a) the validation of OSKA results against different data sets and, where possible, integration of additional data sets with less reliance on interview (qualitative) data. However, some stakeholders saw the mix of qualitative and quantitative data used in OSKA as one of its advantages;
- (b) for OSKA to have an economy-wide rather than sectoral focus (this is already part of current development plans);
- (c) developing the methodology so that it can better integrate trends such as those relating to migration, technological change, and globalisation. Given the current sectoral focus, there was also interest in being able to take into account inter-sectoral flows of labour <sup>(44)</sup>.

---

<sup>(44)</sup> Mapping inter-sectoral flows is part of OSKA’s planned activities after 2020.



**Table 5. Principal conclusions and recommendations provided by stakeholders**

Methodological improvements	Use in policy-making	Representation within OSKA
<ul style="list-style-type: none"> <li>• use wider range of data sets (administrative/register/real-time big data);</li> <li>• economy-wide focus not just sectoral;</li> <li>• development of indicators specifically designed for target groups.</li> </ul>	<ul style="list-style-type: none"> <li>• assessing how OSKA is used by policy-makers in practice (evaluation);</li> <li>• broadening target audiences;</li> <li>• guiding education and training investments;</li> <li>• identification of skill bottlenecks;</li> <li>• ensuring use of OSKA outputs in professional councils.</li> </ul>	<ul style="list-style-type: none"> <li>• broadening the range of stakeholders, especially voice of small employers;</li> <li>• being clear about the criteria for being included in the OSKA process.</li> </ul>

Source: Cedefop.

These methodological improvements might be seen as a prerequisite to greater use of OSKA’s outputs in decision-making. If indicators are produced which directly meet potential user group needs, more use will follow. In many respects the first issue is to determine which groups should be directly targeted beyond ministries, labour market and educational institutions and experts and how. Stakeholders generally wanted to see:

- (a) policy-makers to make more use of OSKA’s outputs and for the recommendations to have more of a policy focus (e.g. in relation to migration) <sup>(45)</sup>. There was a view that not much was known about how the LMSI OSKA produces were being used in practice <sup>(46)</sup>. Some stakeholders said that there was no overview of how career counsellors working for the Estonian Unemployment Insurance Fund actually use the information OSKA provides <sup>(47)</sup>. It was considered important to understand how they interpret the information and use it (or do not use it) in their everyday work;

<sup>(45)</sup> Hence the need to think about methodological improvements, such as introducing analysis of migration flows into the OSKA methodology.

<sup>(46)</sup> A report on the implementation of OSKA’s recommendations published in 2019 addresses this knowledge gap. See Section 3.5.

<sup>(47)</sup> The online survey conducted as part of Cedefop’s review, undertaken to address this knowledge gap and reported on in Chapter 6, indicates they value the information it provides.

- (b) besides meeting the policy needs of government ministries, labour market and education institutions and experts, there was also recognition that OSKA's direct target audiences could potentially include learners (pupils and students) and workers/employees. Opinions sometimes diverged on whether there should be a main focus on experts and institutions (such as the Estonian Unemployment Insurance Fund and the Ministry of Education and Research), or a much broader range of groups including the general public, pupils at schools, and prospective university students;
- (c) key bottlenecks in skill supply and demand to be clearly identified. Related to this is the interest of stakeholders in OSKA being able to popularise particular fields of study by indicating those subjects or fields for which there is relatively high labour market demand. This has the potential to counter the persistent low popularity of subjects such as engineering and mathematics for which there is considered to be a high unmet level of labour market demand;
- (d) how OSKA's outputs might be made better use of by professional councils in the process of developing and adapting OS. This was considered to warrant further investigation. From dedicated interviews among stakeholders closely involved in the process, it appears views about how extensively OSKA is used were mixed. Opinions ranged from OSKA being a key resource and their main source of data in some professional councils to being a useful additional (complementary) source of material but not a primary one, to no use of information because no dedicated sectoral overviews were available or because OSKA was not seen as relevant to the work. If OSKA is to have a stronger influence on the design and adaptation of OS, its outputs may well need to be made more relevant to the drafting of those standards. There is scope for raising awareness of the contribution made and building more of a future skills orientation into the OS could benefit from OSKA's analyses.

Some stakeholders saw a need to improve representativeness. A wider group might be co-opted – they could be rotated occasionally if the group becomes large – so that it is more representative of the Estonian economy (especially SMEs). If the OSKA team and its experts are of the view that those stakeholders already engaged are representative of the population of users, this must be more readily communicated to those who might feel excluded.

## CHAPTER 5.

# Developing consensus for change

## 5.1. Introduction

The preceding chapters demonstrate that stakeholders view the LMSI OSKA provides as useful and consider it a significant improvement over the disconnected practices previously in place. Several reoccurring themes surfaced in the stakeholder consultation, which can be seen as driving the collective ambition for OSKA's development in the years to come <sup>(48)</sup>. These are:

- (a) establishing the additional groups to be targeted directly with OSKA's information beyond those currently served (policy-makers, institutions, and experts), identifying their information needs and aligning dissemination accordingly to communicate OSKA's findings. This has implications for broadening the scope of activities;
- (b) raising awareness of the LMSI and analyses OSKA currently produces and their applicability to a range of decision-making processes;
- (c) the governance of OSKA with respect to ensuring that stakeholders are appropriately engaged and represented, including those from its target groups;
- (d) the methodological and technological changes that OSKA needs to address if it is to meet stakeholder expectations.

These are wide-ranging issues which need to be refined before concrete actions can be identified. A selection of key stakeholders was invited to exchange views on priorities, preferred steps, strategies and potential policy changes required. A consensus-building exercise (CBE) – a Delphi-type tool managed via online questionnaires – was used for this purpose <sup>(49)</sup>. The aim

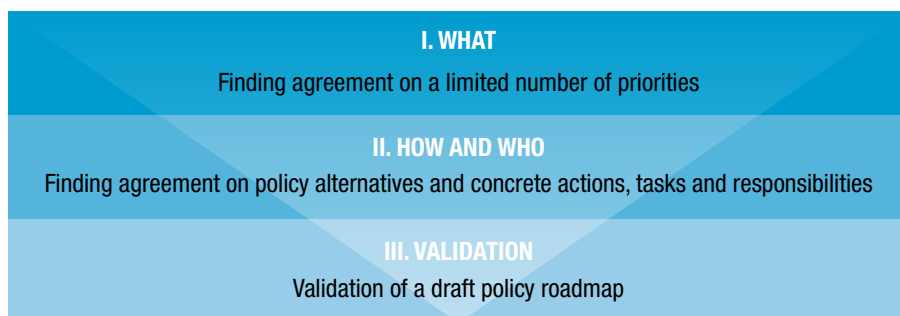
---

<sup>(48)</sup> The priorities are based on the stakeholder interviews held in 2018. Steps towards implementing them progressed in parallel to Cedefop's review project.

<sup>(49)</sup> Further details in Annex 2.2.

of the CBE was to converge to a national policy agenda or roadmap that could strengthen the national skills governance system. Three rounds were conducted to arrive at a sufficiently focused, action-oriented and validated roadmap (Figure 16). Given the high ambitions, the CBE was designed to elicit clear prioritisation; as it is not realistic to assume all aspirations can be addressed simultaneously in the short to medium term.

Figure 16. **Consensus-building exercise rounds**



Source: Cedefop.

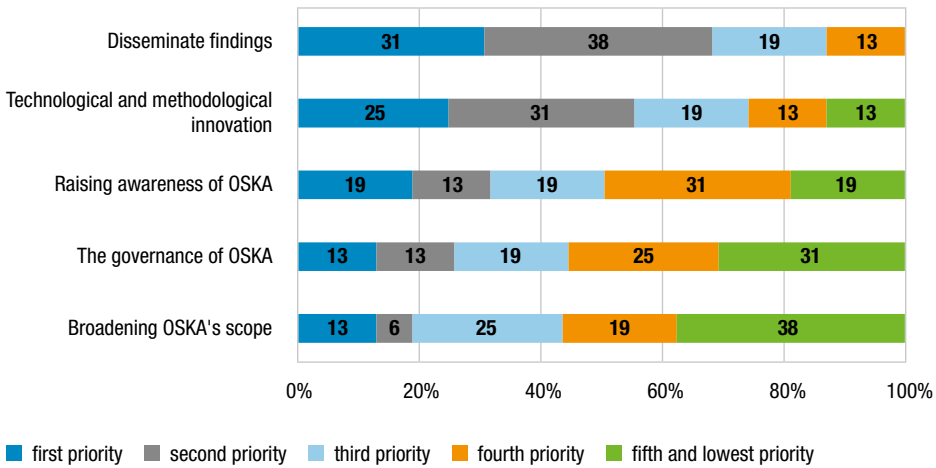
In the first round of the CBE, the main issues identified in earlier chapters of this report were presented, with the request to prioritise them. This helped identify areas stakeholders felt needed to be prioritised to ensure that success in providing LMSI can be built on. The second round was used to gather detailed stakeholder views on different options to address the main areas prioritised in the first round, to agree on how these should be implemented and, on the roles, and responsibilities of different actors.

The first round of the CBE showed strengthening dissemination of findings was seen as a key priority for many stakeholders, with 69% of respondents indicating this as their first or second choice (Figure 17). The other main priority, though secondary to dissemination, was that of bringing about technological and methodological improvements in OSKA (56%).

Although the other three possible development areas – scope, governance and raising awareness – are clearly less often prioritised, around half of the stakeholders participating in the CBE see them as first, second or third priority. This evidences the wider ambitions stakeholders have for OSKA. While the remainder of this chapter partly reflects on these, in the context of reporting on what CBE participants see as feasible ways to address dissemination and

methodological innovation, it is obvious that there is scope to address them more fundamentally in the longer term. The concluding chapter revisits all issues and places them in the wider context of the Estonia 2035 strategy but this chapter focuses on the dissemination of LMSI OSKA produces and on its methodology to shape the contours of a policy roadmap for the medium term.

Figure 17. **Prioritisation of OSKA development areas**



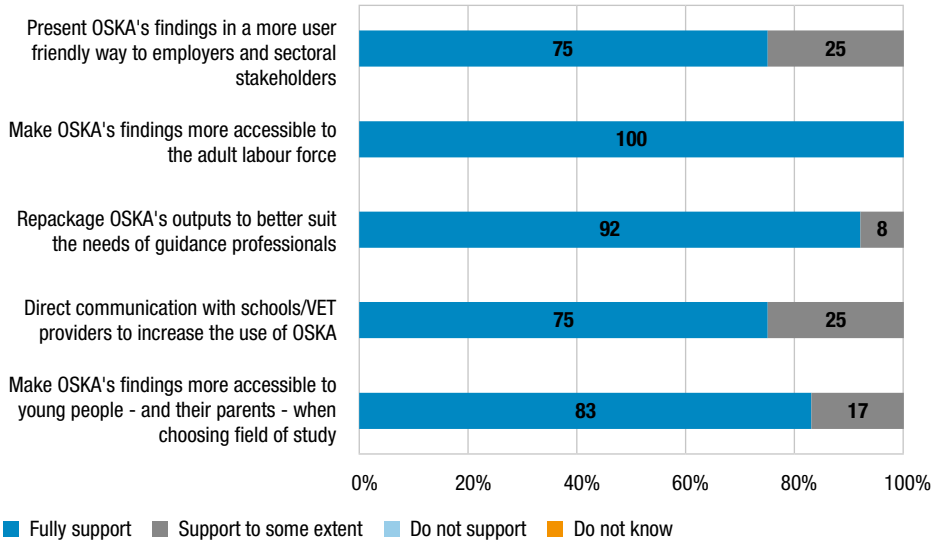
Source: Cedefop skills governance country review, CBE, round 1.

## 5.2. Dissemination

When asked about how OSKA’s findings could be better communicated there was broad support for various activities (Figure 18). There was also widespread recognition that agreement was in place to bring about these changes such that future reforms in this direction will be pushing at an open door. There was some divergence of views on prioritising various dissemination activities – as shown in Figure 19 – but overall it was apparent that two activities stood out:

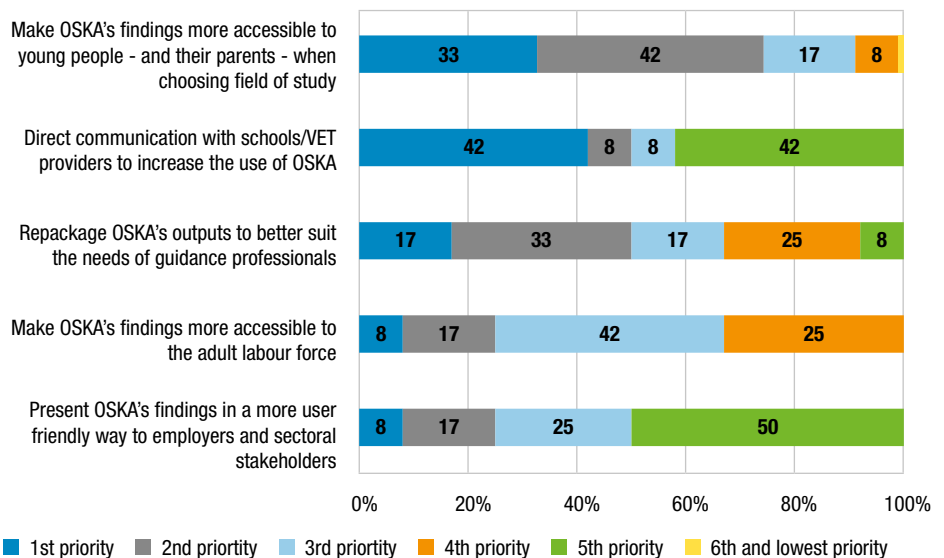
- (a) making OSKA’s findings more accessible to young people (75% reporting it was their first or second priority);
- (b) direct communication with schools and training providers (50%).

Figure 18. **Support for activities to strengthen dissemination of OSKA findings**



Source: Cedefop skills governance country review, CBE, round 1.

Figure 19. **Priorities for improving the dissemination of OSKA findings**



Source: Cedefop skills governance country review, CBE, round 1.

The Estonian education portal launched mid-2019 and its continuing development implies significant progress is already being made; career counsellors have been positive about this initiative. Comments made by CBE participants also demonstrate the perceived importance of making OSKA findings more accessible to young people and their parents:

*'Supporting directly young people and their parents in well-informed decision-making in choosing the field of study is a crucial challenge on the level of society at large.'*

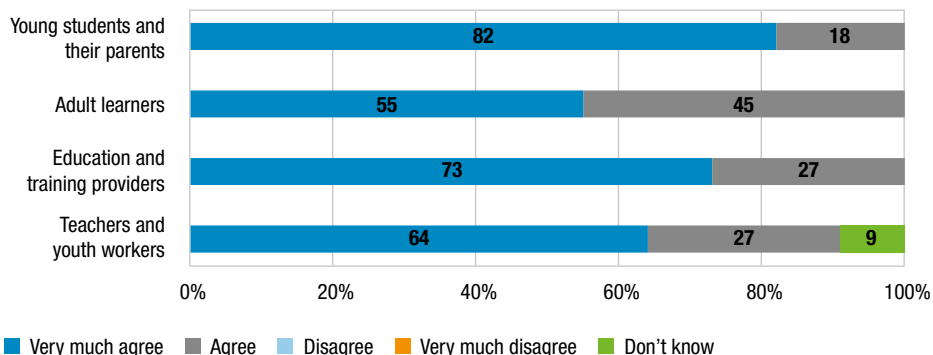
*'In choosing the field of study the opinion of parents is still the most influential in Estonia. Parents should be the first priority to make OSKA's findings accessible. Parents are also adult learners themselves. The impact of the highest priority activity would be the highest.'*

*'Actually I consider making the information more accessible or repackaging it according to different target group needs equally important. I consider young people as number one because their informed choices could bring largest benefit in the long-run.'*

The second round of the CBE aimed at eliciting further information on the responses provided in the first round on disseminating OSKA findings; it sought to identify how different dissemination approaches might be employed to guide the education and career choices of young people and adults. There was agreement on the need to focus on dissemination to groups other than career counsellors. Round 1 and the online survey (Chapter 6) suggested OSKA already largely served this group's information needs.

All other groups were perceived as needing targeted dissemination (Figure 20). Views were mixed as to whether there was a need to fully differentiate dissemination channels, with some stakeholders suggesting several groups can be combined. Apart from a website or portal, various information channels were considered important (Table 6).

CBE respondents suggested several approaches needed to be used to disseminate information to various groups (via teachers and parents, directly, through the EQA). The most commonly mentioned channels to reach young students and their parents were career guidance counsellors/professional counsellors (100%), subject-specific teachers (91%), and education and

Figure 20. **Groups in need of targeted dissemination**

Source: Cedefop skills governance country review, CBE, round 2.

training providers (82%). The most commonly mentioned channels to reach adult learners were Kutsekoda (91%), career guidance/professional counsellors (82%), employers (73%), and direct approaches (73%). When asked what needed to be prioritised with respect to the dissemination of information to different potential user groups, most CBE participants stated ‘Developing more user-centred ways to present information (e.g. tools, dashboards, etc.)’ or ‘more interpretation of findings’.

Table 6. **Information channels or tools beyond website or portal considered important**

Target group	channels/tools
Students and their parents	Social media, video clips, online games, information events (schools, career/training fairs), integration information in lessons/curricula, information point (telephone/online chat)
Adult learners	Social media, awareness raising (advertising, campaigns, infotainment on TV), video clips, brochures, information point (telephone/online chat)
Education and training providers	Lesson materials for schools, information events (schools, career/training fairs), meetings and seminars, reports
Teachers and youth workers	Social media, integration information in lessons/curricula, lesson materials for schools, information events (schools, career/training fairs), meetings and seminars

Source: Cedefop skills governance country review, CBE, round 2.



When asked to reflect on the types of LMSI to be provided to different groups, CBE participants emphasised the importance of information on skills, professions and careers. These types of information are seen as essential to all target groups, although there are differences between groups in how much weight they are given (Table 7).

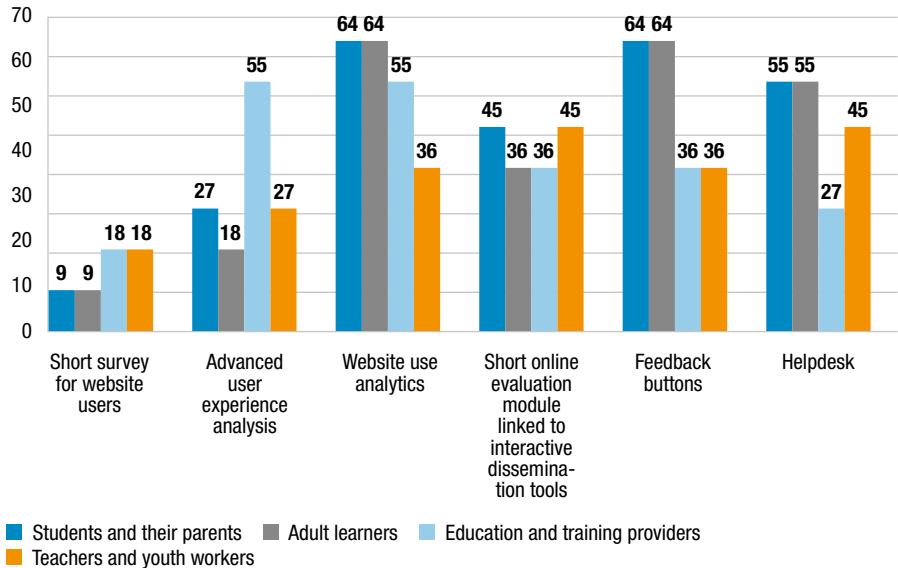
**Table 7. LMSI considered essential for different target groups (\*)**

Type of LMSI	Target group			
	Young People	Adult learners	Teachers	Schools
Skills that impact upon the chance of finding work in the (future) labour market	73	64	73	55
Likely professions/careers in reach of a particular qualification	82	73	64	64
Main characteristics of these likely professions/careers	55	82	64	27
Info on how broad the qualification can be applied	18	27	45	45
Description of studies, lists of possible education and training providers	55	55	45	36
Explanation on OSKA's sources, methodologies and limitations	0	0	9	18
Skills required in jobs	64	82	55	73
Difficult-to-fill vacancies	9	36	9	9

(\*) The percentages refer to the share of CBE respondents regarding the provision of LMSI to a particular target group essential.

Source: Cedefop skills governance country review, CBE, round 2.

Providing LMSI through various channels was not necessarily considered sufficient in itself; CBE participants considered obtaining regular feedback from target groups important, to ensure information was reaching them and that they used it. Among different feedback mechanisms, the use of web analytics, feedback buttons attached to online dissemination, and helpdesk support were most commonly mentioned (Figure 21).

Figure 21. **Feedback mechanisms to ensure user needs are being met**

Source: Cedefop skills governance country review, CBE, round 2.

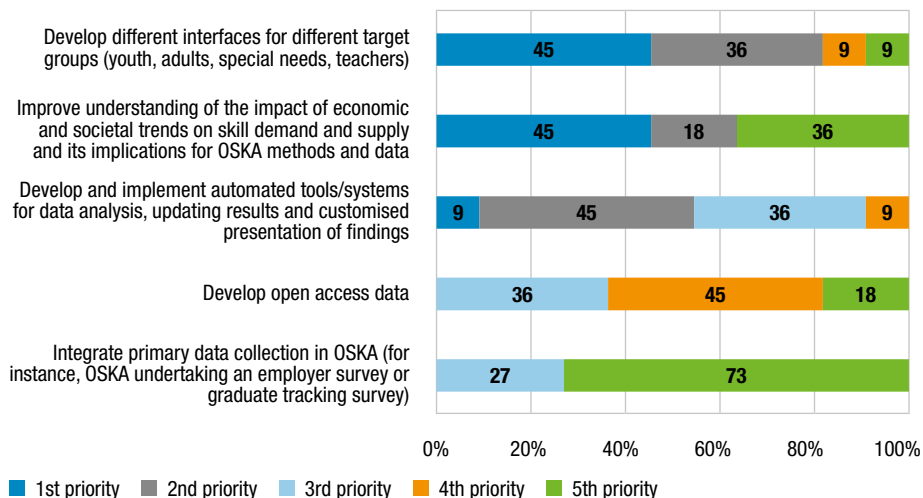
### 5.3. Technical and methodological innovation

As well as stepping up dissemination efforts, CBE participants placed relatively high emphasis on bringing about technical and methodological innovations in OSKA (Figure 17). A clear majority prioritises two actions: developing interfaces for different target groups (for 91% the first or second priority) and improving understanding of the impact of economic and societal trends (81%) (Figure 22). The former is in line with views about improving dissemination.

These two innovations are also the ones for which perceived agreement among stakeholders is highest (Figure 23). A large majority of CBE respondents reported such agreement is either already in place or can be reached when some obstacles are overcome.

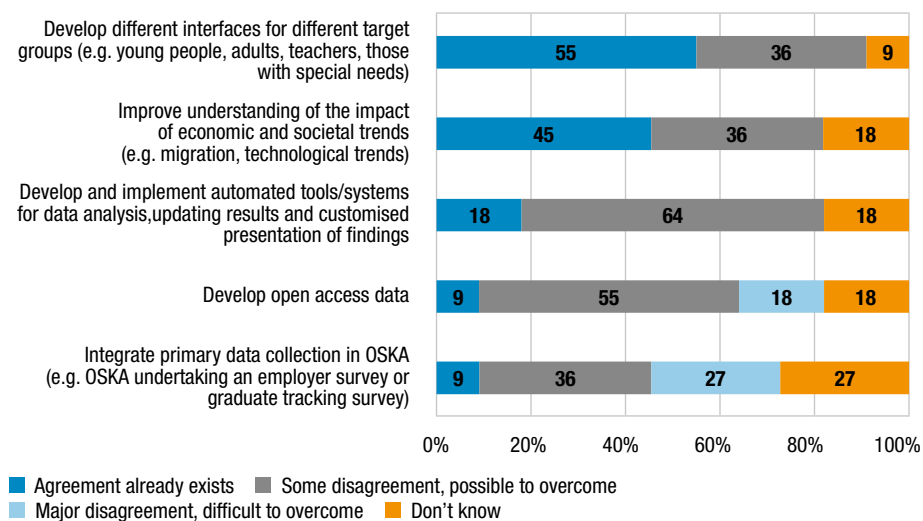
CBE participants were less convinced that other possible innovations can be readily implemented. They perceived automating data analysis and presentation systems, developing open access data, and organising and

Figure 22. **Prioritisation of technological and methodological innovations in OSKA**



Source: Cedefop skills governance country review, CBE, round 1.

Figure 23. **Support for technological and methodological innovations in OSKA**



Source: Cedefop skills governance country review, CBE, round 1.

integrating primary data collection in OSKA as more difficult to achieve due to the need to address differences in opinion between stakeholders on how to go about them. With close to two out of three expecting stakeholder disagreements that complicate practical implementation, primary data collection appears to be the most challenging innovation.

The second round of the CBE was designed to elicit further information on the responses provided in relation to:

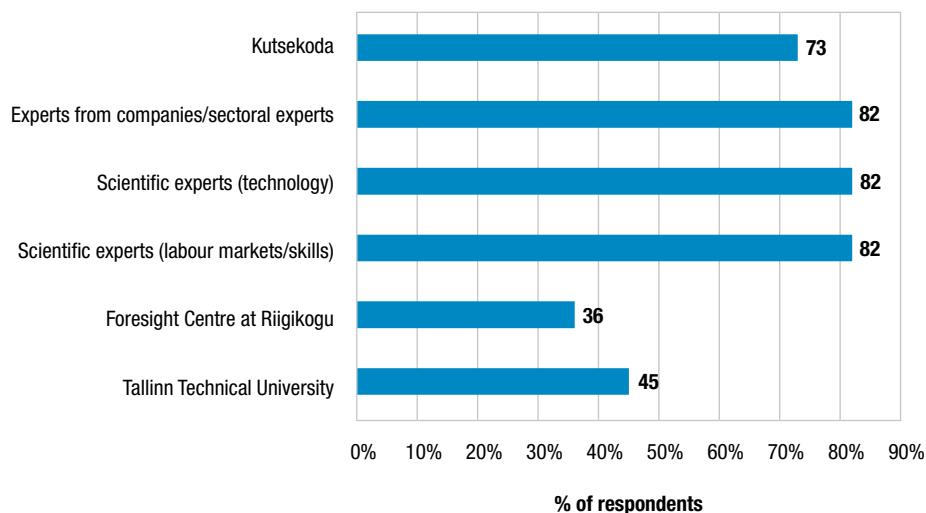
- (a) better integrating economic and societal trends into OSKA's analysis of emerging skill needs;
- (b) the frequency of OSKA's updates.

While the need to improve inclusion of technological change at national or sectoral level was seen as a key priority by CBE participants (73%), most also flagged the need to reflect demographic and migration trends and changing attitudes towards work better.

All CBE respondents were of the view that concrete steps should be taken towards gaining a better understanding within OSKA of technological change and its impact on skills. There was, on balance, agreement that technological foresight could provide a methodology and that a pilot in a sector or occupation should be undertaken, to be coordinated by the EQA and involving a range of experts and organisations (Figure 24). There was some concern that a lack of expertise might inhibit foresight analyses being conducted, which several respondents suggested mitigating through mobilising international expertise.

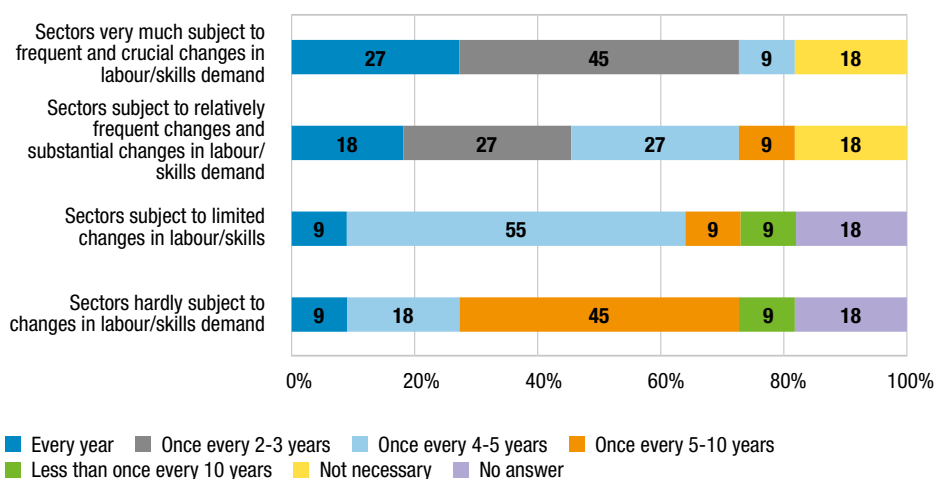
Given that not all sectors are equally, and with the same speed, affected by trends impacting skill demand and supply, respondents were also asked about the periodicity of updates (Figure 25). The desired update frequency depended on the pace of change within a given sector. Most CBE participants view the EQA as best placed to decide upon how often updates are undertaken and see an evidence-based request by sector councils, changes in skill needs and/or current skills mismatches as suitable decision criteria.

Figure 24. Organisations and experts to be included in a foresight pilot



Source: Cedefop skills governance country review, CBE, round 2.

Figure 25. Desired periodicity of updating information



Source: Cedefop skills governance country review, CBE, round 2.

## 5.4. Identifying actions and planning next steps

The first two rounds of the CBE provided a relatively high degree of consensus about what stakeholders would like to see happen next with respect to the future development of OSKA. The consensus is built around:

- (a) identifying the additional groups which OSKA should be directly targeting, especially young people – and their parents and schools – to help them make informed decisions about subjects to study so that skill supply is better matched to demand. But it is not just about young people; there is also a need to inform others, such as those in employment, those charged with a responsibility for developing OS;
- (b) the need for effective, more targeted dissemination, such that the target groups can be effectively reached and their decision-making influenced;
- (c) improving the methodology used by OSKA such that it is better able to take account of major trends affecting the demand for labour and skills. This is particularly the case with respect to how technological, demographic and globalisation trends might affect the future demand for skills. An interest in skills/technology foresight was identified.

The third round of the CBE aimed at identifying the actions needed to bring about improvements stakeholders would like to see. This was, in essence, a process which allowed potential actions to be tested before being finally included in the roadmap (presented in Chapter 7). A clear majority of third round participants agreed the areas for action listed above were the key ones which needed to be addressed over the medium term.

### 5.4.1. Target groups

Three actions were suggested, to build on work that has already been done when OSKA was set up and during the years it has been in operation:

- (a) identify the additional groups to be prioritised to be directly targeted beyond those currently served;
- (b) identify representatives of these groups who can be co-opted into the governance of OSKA;
- (c) identify the LMSI to be developed and communicated to additional groups.

There was agreement that OSKA could benefit groups beyond those currently served by directly targeting them. However, as resources are

limited and reaching out to new groups is costly, priorities need to be set and tasks shared between different bodies (where relevant). CBE respondents were also in favour of co-opting representatives of groups not already represented in OSKA governance. Most CBE participants agreed to setting up the working party, although some commented this entails a risk of creating more bureaucracy and felt this function is already fulfilled by the OSKA advisory panel.

All CBE participants felt the identification of the groups to be prioritised could be achieved in 12 months. On identifying representatives of key groups and the LMSI they need, respondents were broadly split between this being undertaken within 12 or 24 months.

#### 5.4.2. Dissemination

Three actions were suggested:

- (a) work with representatives of groups to identify how information should be disseminated (co-opting representatives from the target groups into the OSKA governance where not already represented);
- (b) learn from good practice in other countries to identify how information can be effectively communicated;
- (c) establish evaluation and feedback mechanisms into the dissemination and use of LMSI.

All CBE participants agreed that there was a need to work with representatives of target groups, and all but one respondent thought that OSKA should learn from good practice elsewhere (and that OSKA can provide lessons to other countries too). There was unanimous agreement on the need to establish evaluation and feedback mechanisms.

Most respondents thought that the first and second actions could be undertaken within 12 months, while most thought 12 to 24 months was more feasible with regard to the third action.

#### 5.4.3. Methodological improvements

Three actions were suggested:

- (a) assess how indicators/analysis need to be developed to meet requirements of target groups;
- (b) assess how wider economic and societal trends can be incorporated within OSKA;

- (c) set up a skills/technology pilot to gauge how this can be used to improve the prognoses provided by OSKA.

Around three quarters of CBE participants agreed that a working party should be convened to devise a plan of the analyses needed to meet target groups' information needs. Where there was disagreement it reflected some participant views that this action was already under way within OSKA. Just over two thirds of respondents agreed to establishing a working party to devise a strategy for incorporating wider economic and societal trends within OSKA. Some doubted that a working party was needed because they thought there are agencies or organisations which could carry such work. Nearly all respondents agreed to setting up a skills/technology foresight pilot to gauge how this can be used to improve OSKA forecasts.

Respondents generally saw the first two actions being completed within 12 months, with technology foresight taking around 24 months to complete.

It was suggested that, over the longer term, OSKA will need to take on board new methodological approaches to data capture and analysis (including big data and machine learning) if other (private or global) organisations do not cover this issue. It is apparent that the labour market data which will be available – and which is needed to understand the trends and detect potential bottlenecks – will be more complex but perhaps easier and cheaper to undertake than is possible today. Administrative data are also important. In an ideal world it should be possible to match labour market demand and supply using different administrative data.

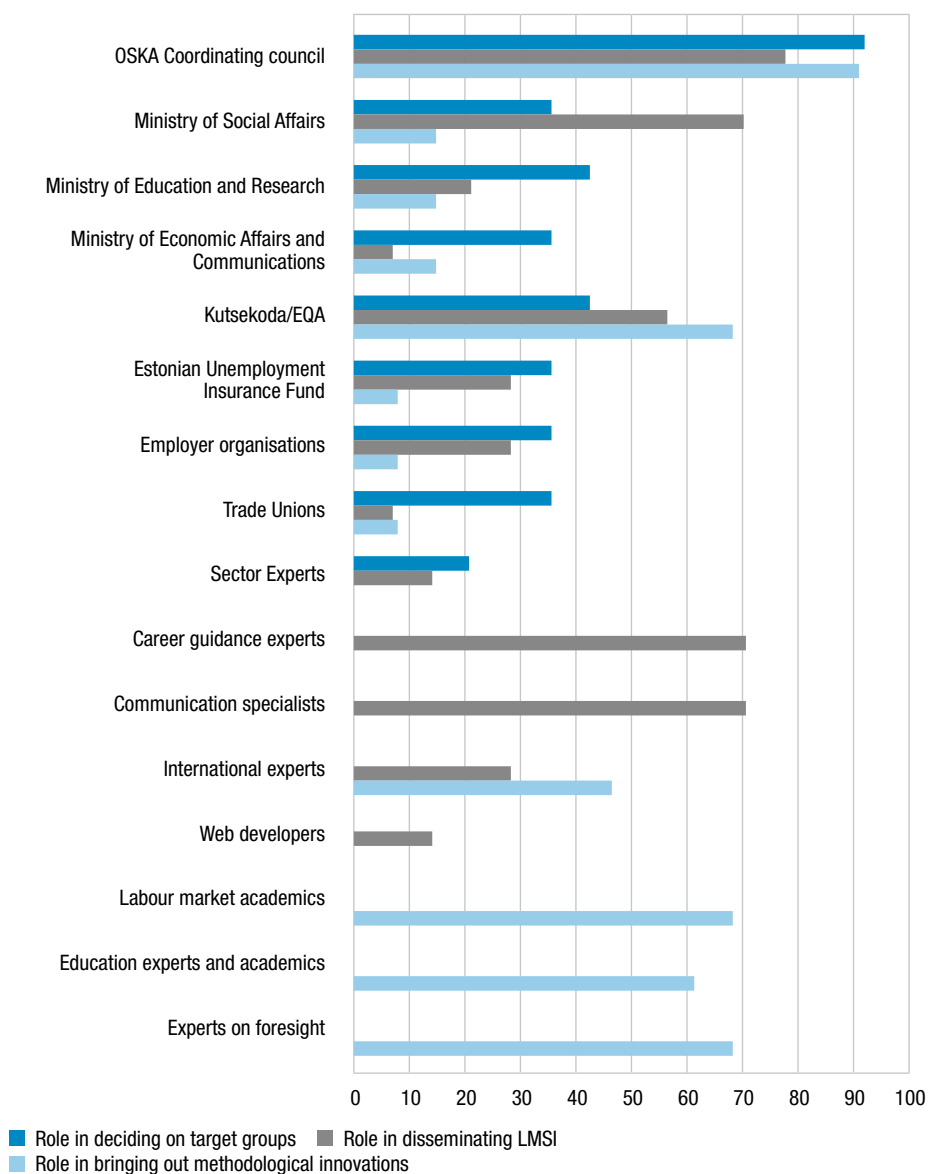
#### **5.4.4. Views on implementing the actions**

As well as prioritising areas and actions and collecting information on how these should be implemented, the CBE also asked respondents to reflect on which organisations, stakeholders and experts should be involved in implementing them (Figure 26). Respondents expressed the following views:

- (a) nearly all CBE respondents agreed the OSKA coordination council needed to be included in deciding which additional groups should be directly targeted, though there was a view that other organisations might need to be involved as well. Many of these are also represented in the coordination council. There was general agreement that the OSKA coordination council should take the lead in this action;
- (b) while respondents highlighted and confirmed the importance of wide stakeholder involvement in deciding how findings should be



Figure 26. **Main stakeholders and other groups to take a role in implementing actions**



Source: Cedefop skills governance country review, CBE, round 3.

communicated, nearly all respondents thought the OSKA coordination council should take the lead <sup>(50)</sup>.

- (c) CBE respondents saw a wide range of organisations being involved in deciding on methodological improvements, including labour market and education academics and foresight experts. Just over two thirds of respondents saw the OSKA coordination council as having the leading role (with the remainder suggesting this should be the EQA).

Almost all CBE participants saw a need for additional funding to develop dissemination: one-off to develop dissemination approaches, structural to maintain them, or a combination of these. Most of them saw cost-sharing between the Ministry of Social Affairs, the Ministry of Education and Research and Ministry of Economic Affairs and Communications as the preferred way to provide funding for dissemination activities. The question of financing could become important if the amount of work were to increase.

Most CBE participants saw OSKA, the Ministry of Social Affairs, the Ministry of Education and Research and the Ministry of Economic Affairs and Communications as being primarily responsible for providing resources (financial or other) needed to introduce methodological innovations.

## 5.5. Conclusion

OSKA in its current configuration and the LMSI it produces is well regarded by stakeholders. Where change was sought it related to improving what already existed so that OSKA's influence and reach could be expanded: identifying the additional groups OSKA should directly serve beyond the ones currently targeted, tailoring dissemination activities so that they are effective in reaching target groups and influencing their decision-making, and bringing about methodological improvements in the way OSKA considers the impact of future labour market developments on skill demand and supply.

The findings provide the basis for drafting a roadmap. As the study has progressed and findings have come to light about what stakeholders expect

---

<sup>(50)</sup> This mirrors the approach taken to communication since the beginning of the OSKA programme. The communication working party set up includes the communication experts of organisations represented in OSKA's coordinating council and Foundation Innove and the Estonian Research Council. It discusses cooperation needed to reach a wider audience and to improve effectiveness, coordinates common messages and analyses the needs of OSKA's target groups.

from OSKA, it has been able to respond to these promptly. Accordingly, as well as providing short- to medium-term goals that can be readily achieved – or are already in the process of being achieved, such as the direct dissemination of OSKA LMSI via the Estonian education portal – some longer-term goals or aspirations are attached to the end of the roadmap. Before providing this roadmap, consideration is given in Chapter 6 to the way in which career counsellors use OSKA to guide their clients, looking at the extent to which OSKA is already able to influence the actions of individuals.

## CHAPTER 6.

# Use of OSKA information in guidance

## 6.1 Introduction

The analysis in previous chapters demonstrates the importance attached to moving to a situation where OSKA has a significant impact on the decisions made by a range of labour market actors in their investments in education and training. Labour market intermediaries, such as career counsellors, are an important conduit through which LMSI is transmitted to labour market actors, particularly individuals (pupils, students, and adults).

Estonia has invested in recent years to develop a career guidance system with various initiatives aimed at improving guidance provision. Between 2008 and 2014, for instance, the ESF-funded programme entitled *Development of the career guidance system in Estonia (Karjääriteenuste süsteemi arendamine)* had the aim of developing career guidance in the education system to address current and future skills mismatch (Box 3). It has since been built on by other programmes such as the *Learning and career counselling programme 2016-19* (Ministry of Education and Research, n.d.). This programme entails measures and activities to support the conscious study, work and career choices of learners, and to develop their capabilities and their learning. Measures include career and study counselling services, education support services (social workers, career guidance and counsellors in schools) and raising general awareness among the population aged 15 to 64 of work, study and career-related services and opportunities.

Gauging the extent to which career guidance counsellors make use of OSKA's outputs is a way to assess the extent to which it might already be having a positive impact, informing decisions individuals make regarding the skills they need to acquire. A survey was undertaken of career counsellors in the public employment service to collect their views about the information that OSKA makes available online <sup>(51)</sup>. Survey respondents were employed in

---

<sup>(51)</sup> Detailed information on the implementation of the survey available in Annex 2.3.

a careers guidance role of some kind, mainly as counsellors or case workers at the Estonian Unemployment Insurance Fund. They consider OSKA an important resource, with the evidence pointing to them making extensive use of it in their day-to-day jobs.

### Box 3. Development of the career guidance system 2008-14

The goal of the policy instrument was to provide easily accessible and high quality career guidance services and to guarantee that the development of the career guidance system in Estonia is systematic and sustainable. The development of the career guidance system in Estonia contributes to reducing future skill shortages in several ways: development of the national system of career guidance in the system of education; development of career education in general and vocational schools; development of the provision of career information and career counselling in regional information and counselling centres, including the creation of a quality assurance system; development and introduction of ICT applications in guidance and counselling (questionnaires for choosing suitable occupations and the ability to recognise suitable professions); and strengthening of cooperation and information exchange within the institutional network in education, training, guidance, youth work and the labour market in Estonia.

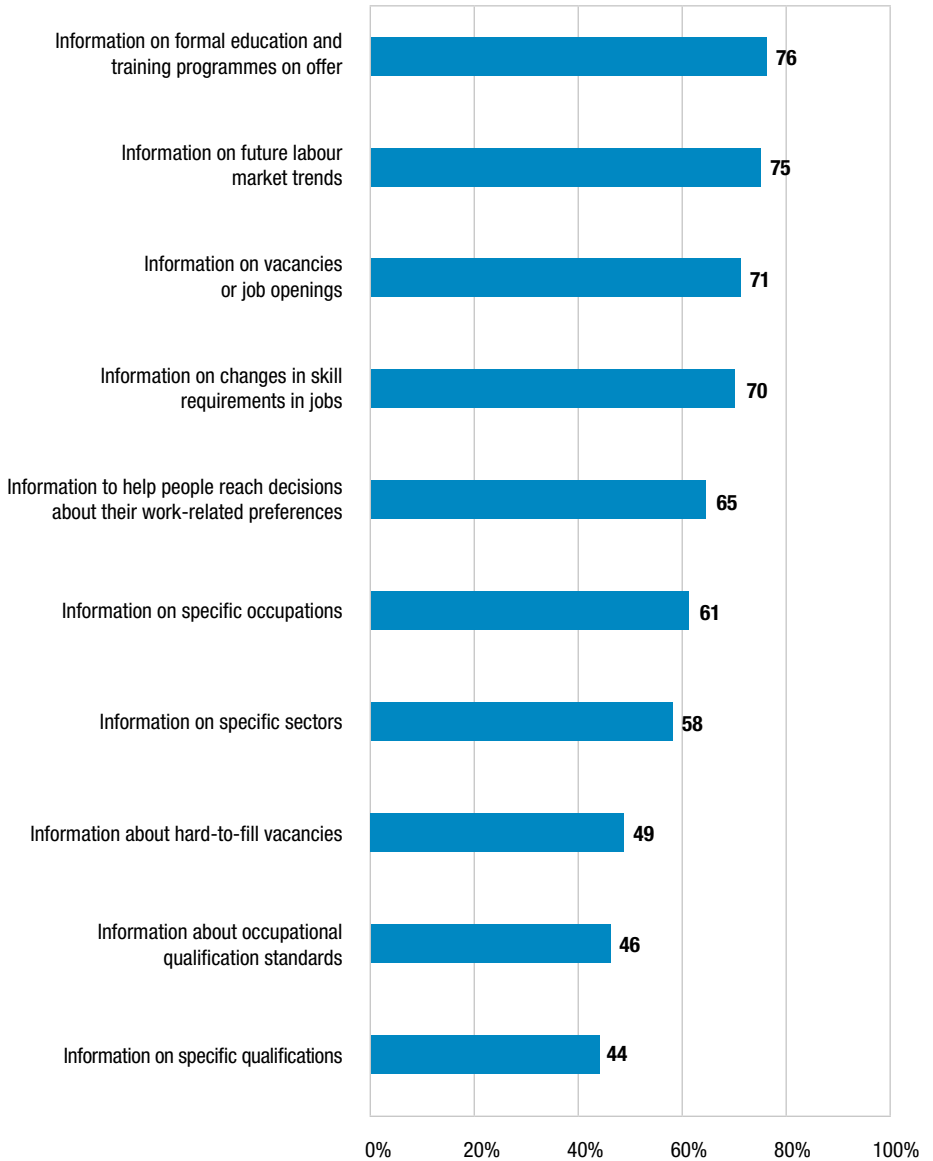
*Source:* Cedefop matching skills database.

## 6.2. LMSI use

Career counsellors use a wide variety of LMSI in their work (Figure 27), supporting them in helping their clients make decisions about education and training, work and careers. Three out of four counsellors use information on future labour market trends or consult documentation on formal education and training programmes. More than half of them use LMSI focused on sectors, occupations, vacancies or skills needed in jobs. Two thirds of respondents used at least six LMSI types, while almost one in five used all types of LMSI stated in the online survey.

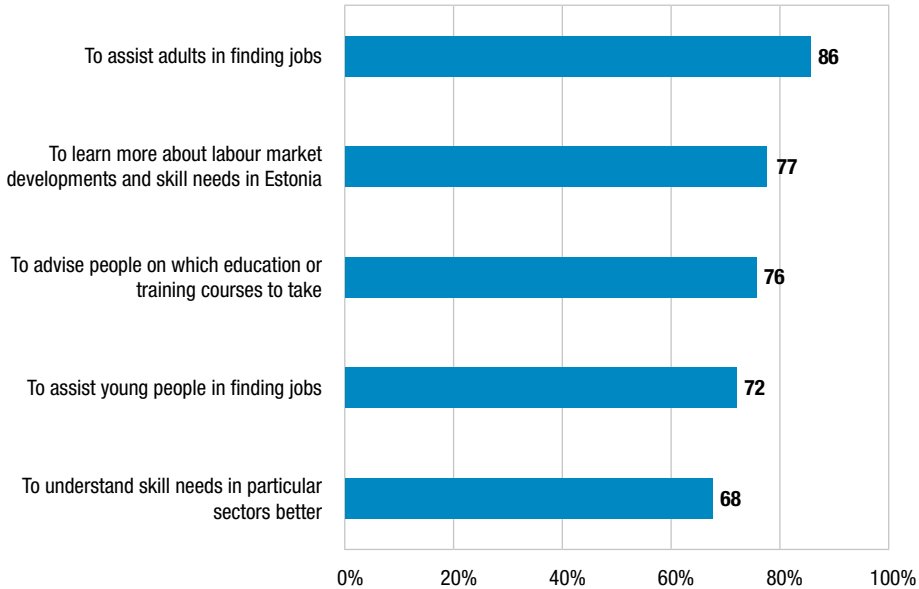
The primary purposes of using LMSI were assisting adults to find work (86%), advising people on education or training programmes (76%), and assisting young people in finding work (72%) (Figure 28). LMSI was also to gain insight into employment and skill trends in the economy (77%) or in

Figure 27. **Types of LMSI career counsellors use**



Source: Cedefop online survey of career counsellors in Estonia.

Figure 28. Purpose of using LMSI

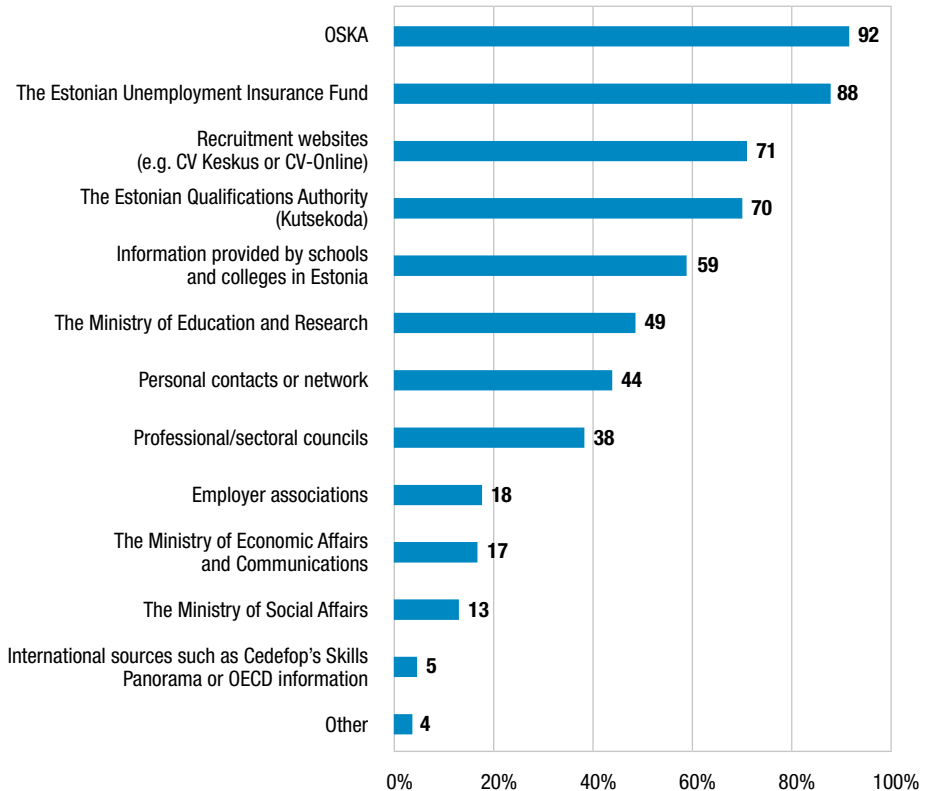


Source: Cedefop online survey of career counsellors in Estonia.

particular sectors (68%). Guidance counsellors were generally satisfied with the information they had access to; three in four counsellors were either very or quite satisfied (one in five were very satisfied).

Used by 92% of counsellors, OSKA is the principal source of labour market and skills information (Figure 29). The public employment service (Unemployment Insurance Fund) (used by 88%), recruitment websites (71%), and the EQA (70%) were also commonly used sources. Counsellors were also asked to indicate the top three choices for their information sources (Figure 30). OSKA was most often considered to be among the three most important LMSI sources, with the Estonian Unemployment Insurance Fund in second position.

To understand how guidance counsellors evaluate the information they have at their disposal, they were asked to express their opinion on the availability of LMSI, its contribution to their own development and its use in education and training (Figure 31). Counsellors appear to perceive the supply of labour market information as sufficient, with 64% seeing plenty

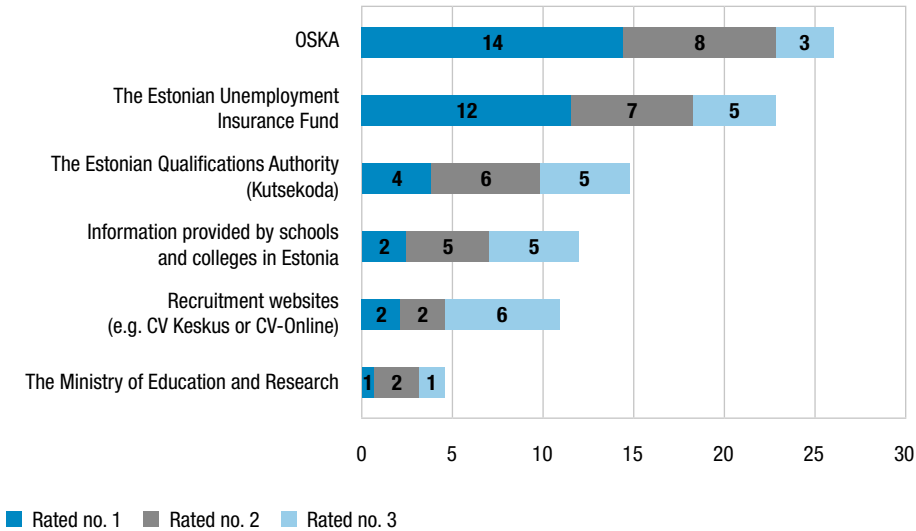
Figure 29. **LMSI sources used**

Source: Cedefop online survey of career counsellors in Estonia.

of opportunities to keep themselves up to date on the labour market and emerging skill needs. Just over two thirds (69%) partly agreed that they were up to speed with labour market developments, and 64% said they partly agreed that there was reliable information on labour market developments in the next decade. While counsellors appear to feel relevant information is available, they also said it does not always provide a clear or complete picture. There is some doubt as to whether skill supply is keeping pace with demand (57% only partly agreed that this was the case) and whether information about specific future skill needs is sufficient (more than two of every three counsellors fully or partly agrees this is not the case).



Figure 30. Top rated LMSI sources

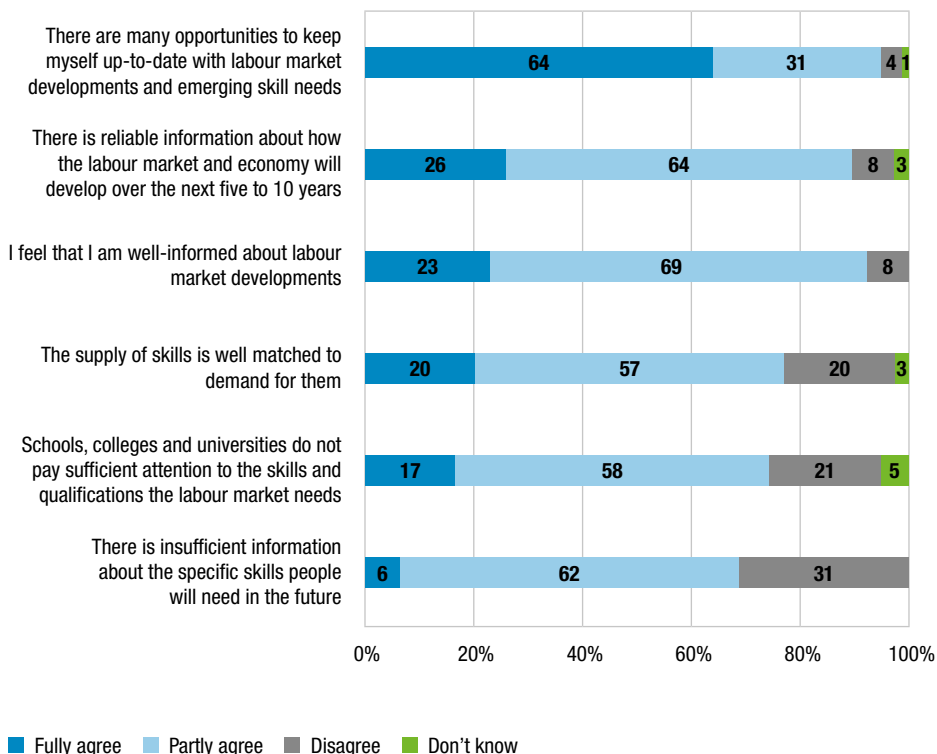


Source: Cedefop online survey of career counsellors in Estonia.

### 6.3. Experience of using OSKA

Guidance counsellors consider OSKA the most important LMSI and, when asked about it specifically, most respondents said they were fully or partly aware of its activities (26% said fully and 73% said at least partly). Most respondents were aware of the information provided on the OSKA website (83%), or the flagship report *Estonian labour market today and tomorrow* (84%) (Kutsekoda, 2018). Sectoral reports or the OSKA publication *Work and skills* are less well known, although around 60% of counsellors were aware of these publications. Most counsellors became aware of OSKA via information from the Unemployment Insurance Fund (71%) or from the EQA (19%).

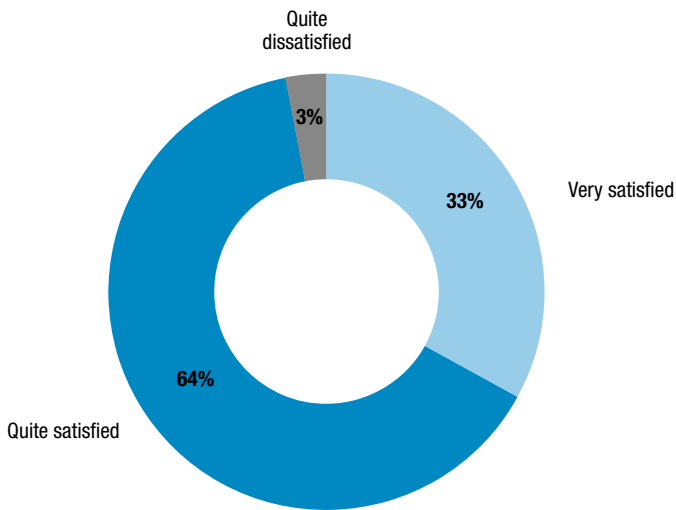
One third of guidance counsellors were very satisfied with the information and analyses produced by OSKA, while 64% reported to be satisfied (Figure 32). The high satisfaction with OSKA can be explained by its ability to provide relevant and well-presented information. Many counsellors reported considering the information readily accessible with respect to language used and presentation formats (paper reports, web-based information, data tables, videos and infographics).

Figure 31. **Counsellors' views on labour market information**

Source: Cedefop online survey of career counsellors in Estonia.

The analysis and reports were considered trustworthy because they are based on thorough research and reliable methodology. Perceived accuracy of forecasts and analyses and the openness in communicating inputs, analyses, and methods appear to have contributed to building trust. Guidance counsellors also appreciated the well-structured and attractively presented dissemination of findings (with respect to the design of the website). Apart from requests for more frequent and timely updates, there were few critical notes among the comments the counsellors could provide in open survey questions.

Figure 32. **Overall satisfaction with OSKA's information provision and analyses**



Source: Cedefop online survey of career counsellors in Estonia.

OSKA is regarded favourably when compared to available alternatives (Table 8). In terms of usefulness for advising people about their careers and education and skill development options, it compares quite favourably with other sources of information. The only type of information where a majority of counsellors considers other sources to be better is job openings/vacancies.

Table 8. Comparison of OSKA with other sources (% of responses)

OSKA is ...	...over-views of future labour market trends	...information on changes in skill requirements in jobs	...information on specific sectors	...information on specific occupations	...information on specific qualifications	...information on vacancies or job openings	...information about hard-to-fill vacancies
A lot better	41	36	46	30	23	6	13
A little better	36	33	29	28	32	10	31
About the same	16	20	14	33	26	13	26
A little worse	0	0	3	4	7	31	13
A lot worse	0	0	0	0	1	24	4
The only source	4	3	4	1	1	0	0
Don't know	3	7	4	3	9	16	13
Total	100	100	100	100	100	100	100

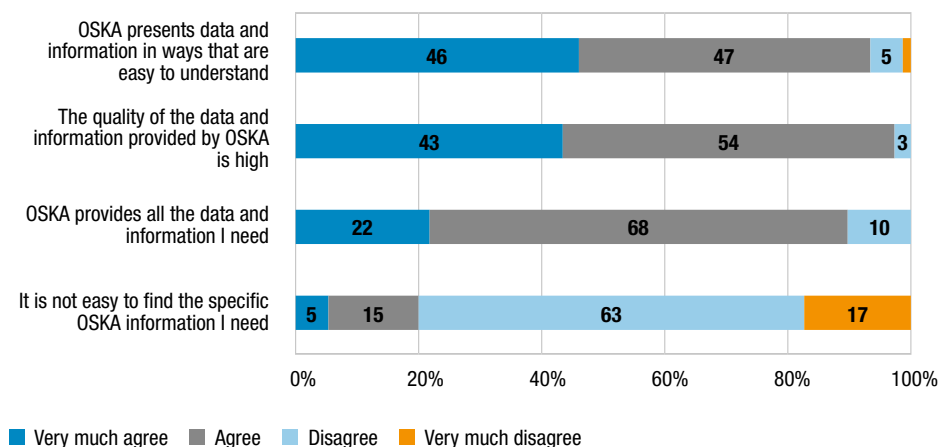
Source: Cedefop online survey of career counsellors in Estonia.

Notes: n = between 67 and 70, N/A = between 66 and 69

The overall positive evaluation of the information OSKA provides can be linked to various features counsellors particularly appreciate (Figure 33). More than 90% agreed – and half of these strongly agreed – data are presented in a way that makes it easy to understand; 80% agreed that data are easy to find. Data were considered to be of high quality (97% agreed) and comprehensive (90% agreed that it provided all data and information they needed).

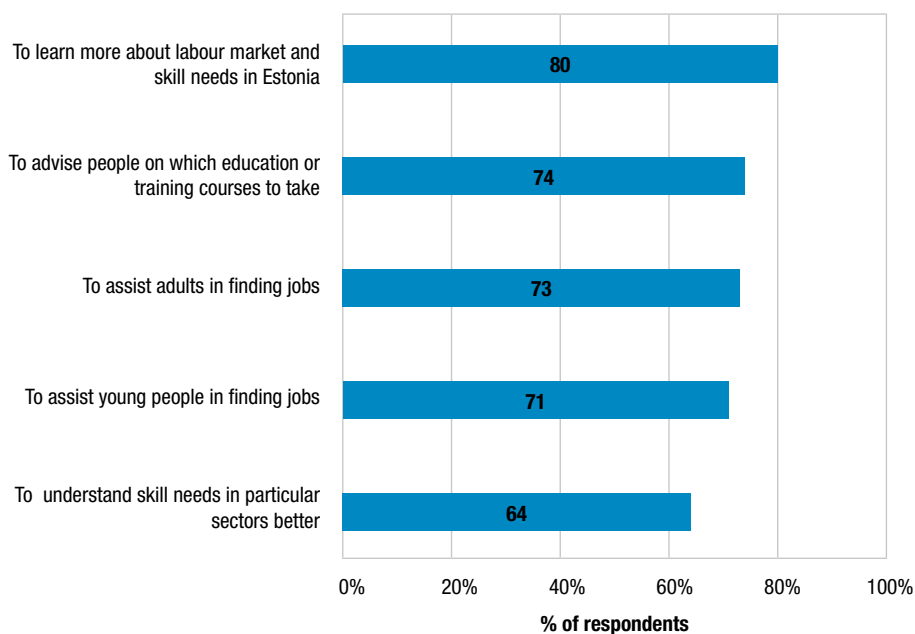
Guidance counsellors frequently use the OSKA website. At the time the survey took place, about half had used the website ‘this week’ (46%), while 30% reported to have used it ‘last week’. Some 17% indicated they had accessed OSKA’s website a month ago, and 4% more than a month ago. The website is used for various purposes (Figure 34): gaining insight into labour

Figure 33. Views on the quality and coverage of OSKA information



Source: Cedefop online survey of career counsellors in Estonia.

Figure 34. Use of OSKA information



Source: Cedefop online survey of career counsellors in Estonia.

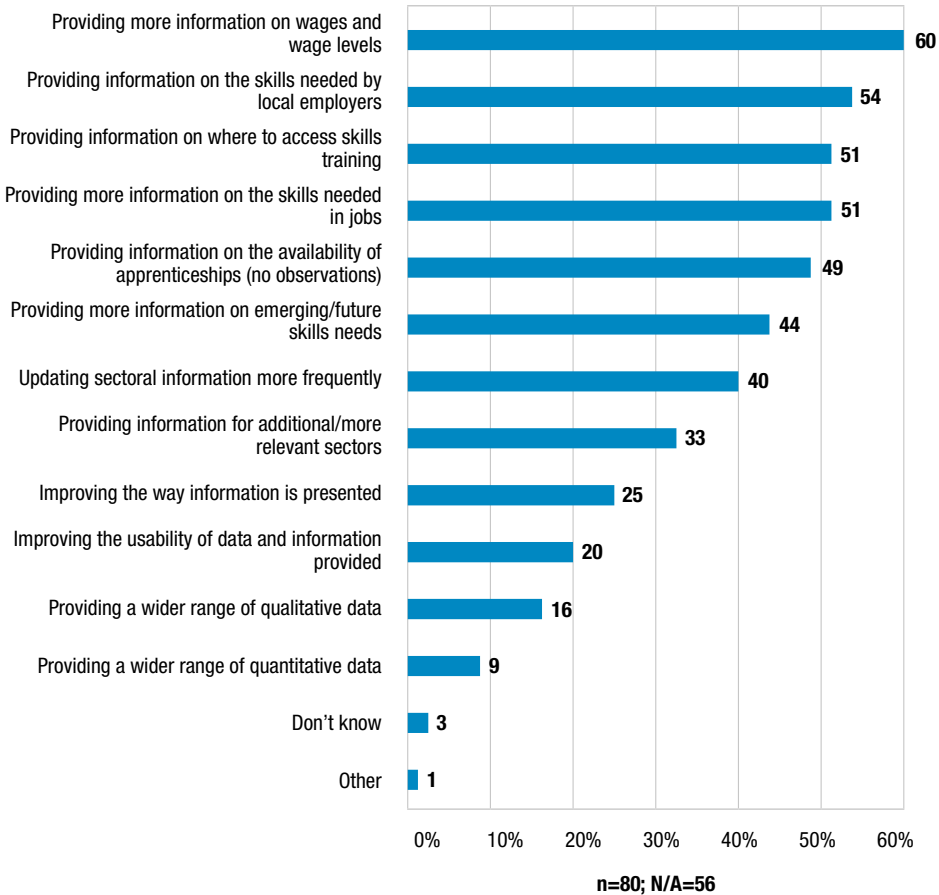
market developments and skill needs (80%), help in advising on education and training (74%) and assisting in job search (73% for adults and 71% for young people). Almost two out of three counsellors use sectoral information.

Despite their favourable assessment of OSKA and the information it provides, career counsellors put forward a wide range of suggestions and wishes for improvements (Figure 35). Apart from expanding information on wages (60% of respondents), these often concerned requests for more detailed information, such as more regional data or analyses (54%), more details on the skills within jobs (51%), or on apprenticeship and skills training provision (51%). More frequent updates, a stronger focus on emerging skill needs and more sectoral disaggregation were also relevant for a sizable share of respondents. Given the favourable impressions career counsellors gave to OSKA, these suggestions for improvement should be regarded as a wish list rather than a criticism of current provision.

## 6.4. Summary

Over 100 guidance counsellors took part in the online survey on LMSI in Estonia and its use. They mainly used OSKA to advise adults and young graduates on their career choices and qualification/training options and to learn more about labour market trends and skill needs. Career counsellors were positive in their assessment of OSKA, considering the website the most important information source in their day-to-day work. The exception was in relation to job vacancies, where other websites were considered better sources. Asked about how OSKA can be further developed, counsellors suggested more detailed breakdowns by region and/or specific skills, more frequent updates, and more information on apprenticeship and training provision. But these were, in many respects, a wish list which should not detract from the high value the counsellors attached to OSKA.

Figure 35. **Suggestions for further improvement**



Source: Cedefop online survey of career counsellors in Estonia.

## CHAPTER 7.

# Strengthening skills governance: OSKA development roadmap

## 7.1. Introduction

The CBE helped identify a set of actions that might be implemented over the short to medium term to develop OSKA and widen its reach. These actions are based on the extensive consultation with stakeholders and the first two CBE rounds, which asked key stakeholders to prioritise particular areas among the wide range of ambitions they had for OSKA and to reflect on possibilities to address these. The final CBE round presented a draft roadmap with concrete actions, to validate and test, based on the analysis of the two previous rounds. This was important. OSKA has developed quickly, even while Cedefop's review was in process in 2018 and 2019, and steps have already been taken to implement some of the proposed roadmap actions. Whenever this is the case, the suggestions need to be seen in a different light. Their primary purpose will not be to encourage actors to start taking action, but to provide more insight on organising and interlinking them, so they form a consistent whole.

The actions described below comprise what can be achieved in the next few years. They are actions which those participating in the CBE agree to, regard as worthwhile and, crucially, view as achievable over a relatively short space of time. Some other issues are also flagged – based on consultations with stakeholders and discussions on the Estonian education and research strategy 2021-35 – to indicate what OSKA might need to address over the longer-term.



## 7.2. Actions

The short- to medium-term actions which comprise the roadmap and address the priority areas identified by stakeholders are presented as three component parts (Table 9). Although described separately, there is a high degree of interdependency between them. For the most part, many of the actions relate to changes at the margin rather than wholesale overhaul of OSKA. It is about accentuating certain features so that the potential to meet the needs of various groups can be realised.

Table 9. Roadmap component parts and associated actions

Additional focal groups	Dissemination	Methods
<ul style="list-style-type: none"> <li>Identify the additional groups that will be prioritised as key ones to directly focus on</li> <li>Identify representatives of key groups who can be co-opted into the governance of OSKA</li> <li>Identify the LMSI to be developed and communicated to key groups</li> </ul>	<ul style="list-style-type: none"> <li>Work with representatives of groups to identify how LMSI should be disseminated</li> <li>Learn from good practice in other countries to identify how LMSI can be communicated effectively</li> <li>Establish evaluation and feedback mechanisms into the dissemination and use of LMSI</li> </ul>	<ul style="list-style-type: none"> <li>assess how indicators/analysis need to be developed to meet any additional requirements of groups</li> <li>assess how wider economic and societal trends can be incorporated within OSKA</li> <li>Set up a skills/technology foresight pilot to gauge how this can be used to improve OSKA forecasts</li> </ul>

Source: Cedefop skills governance country review.

### 7.2.1. Identifying groups to focus directly beyond those currently targeted

In thinking about how OSKA might be developed, it is necessary to decide which additional groups OSKA should target more directly than is currently the case. These are groups for short- to medium-term focus while recognising that, over the longer term, other groups need to be served as well. This process can also be informed by feedback from OSKA's current target groups. Identifying the groups to focus on and mapping their LMSI information needs is a basis for specifying the data/indicators and developing approaches to disseminate them effectively. The actions below are already under way.

**Action 1: Identify the groups that will be prioritised**

OSKA has the potential to serve a wider range of labour market actors than it has done to date. The coordination council could decide – taking into account the evidence provided through the CBE and other available information – which groups OSKA should directly serve beyond current audiences. The CBE identified the groups which stakeholders regard as priority – principally young people – and the decision to start disseminating OSKA LMSI via the Estonian education portal shows the ambition to reach young people directly has been central to OSKA's most recent development. It is recognised that, given resource limitations, it is not realistic over the short term to meet the needs of every group. The coordination council will need to prioritise and provide the rationale for choices made.

**Action 2: Identify representatives of key groups who can be co-opted into OSKA governance**

To understand how the LMSI needs of priority groups might be satisfied, it is suggested that representatives of those groups be integrated into the governance of OSKA where they are not already represented, so that they can offer advice. This is about building on the representation already in place to ensure that all relevant voices are heard. Representatives might be included on the coordination council, as sector experts, or on the OSKA panel of advisers.

**Action 3: Identify the information/skills intelligence to be developed and communicated to key groups**

Once it is clear which groups are prioritised, there will be a need to identify their LMSI needs. In many respects OSKA already addresses this issue, and the communication working party set up at the outset of the OSKA programme could take the lead. If the priority groups were to change, some consideration may well be required to identify the LMSI needs of those new groups and how they might be fulfilled. This must not duplicate existing work. The working party might want to consider data and indicators used in other countries; this will require available data sets to be explored and, if necessary, to develop a duly justified plan for additional data collection to lay the foundation for addressing information gaps in the more distant future.

There are risks and opportunities related to Actions 1 to 3. The risk is that the various activities become talking shops that fail to yield concrete outcomes that can be taken up and actioned. To realise the opportunities

Actions 1 to 3 potentially provide, there will be a need to set strict terms of reference that specify the required outcomes and milestones/deadlines by which they should be achieved.

### **7.2.2. Developing the means to disseminate LMSI directly and effectively to additional groups**

Once additional focal groups have been decided and their information needs identified, careful consideration is required to disseminate that information effectively. For some groups, information might be disseminated via third parties – for example, careers counsellors – but others (such as members of professional councils involved in constructing OS) could be directly targeted. It is important that a dissemination strategy is developed for each group that specifies how the group will be reached and what is needed to achieve this.

#### **Action 4: Work with representatives of groups to identify how LMSI should be disseminated**

Action 2 recommends co-opting representatives from the additional groups into the governance of OSKA (where they are not already represented) so they can advise on information needs. These representatives should also be able to provide guidance on the preferences of the group in terms of accessing and using labour market and skills intelligence. It is important groups have a say in determining how information will be disseminated to them. This action should build on existing initiatives and structures.

#### **Action 5: Learn from good practice in other countries to identify how information can be communicated effectively**

Much can be learned from other countries – via, for example, Cedefop – with respect to how LMSI can be disseminated. Cedefop’s online tool Matching skills: inspiring policies for anticipating and matching skill needs, for example, provides ample evidence of how other countries have tackled some of the issues facing Estonia.

Once additional groups have been selected (Action 1) it is suggested that evidence is collected from other countries with respect to the type of LMSI these target groups require (Action 3) and the means used to disseminate it to them (such as through dedicated portals). This lies at the heart of the dissemination strategy that needs to be developed for each group. It is also worth bearing in mind that OSKA might provide lessons that other countries could learn from.

### **Action 6: Establish evaluation and feedback mechanisms into LMSI dissemination and use**

Identifying user needs and disseminating labour market intelligence is not straightforward: there is likely to be an element of trial and error. It is important to learn from innovations via evaluation and feedback. There is a need to identify how information has been used (if at all, and if not, why not) and assess whether new approaches are improvements over what was previously available (an indication of the value-added). Evaluation evidence and other feedback needs to be collected regularly to support continuous improvement.

There are risks and opportunities related to Actions 4 to 6. There is a risk no agreement is reached on what is the most effective means of disseminating LMSI or that individuals become preoccupied with finding the perfect solution (such that the best becomes the enemy of the good). The opportunity is to develop something to improve on what has been in place, which can be developed further with the passage of time. This requires setting realistic goals for the actions and specifying outcomes which can be delivered over the short to medium term.

#### **7.2.3. Methodological innovations**

In meeting the needs of new groups or changing the way existing users' information needs are met, consideration is required with respect to the methodology, analyses, and data to be used. This will require labour market and skills experts within OSKA (including its panel of advisers) to develop OSKA's methodology further. Again, there is likely to be merit in including experts from other countries that have been involved in similar exercises via organisations such as Cedefop.

### **Action 7: Assess how indicators/analysis need to be developed to meet any additional requirements of user groups**

In the first instance it is suggested that a panel of experts be convened within OSKA (either within its existing structure or in a dedicated working group) with the task of developing a series of labour market and skill indicators that can be developed to meet the needs of user groups. It is suggested that where data sources such as the LFS – which have an international comparative element – are used, comparisons are provided with other countries for a particular indicator (where relevant). As well as specifying the method of constructing an indicator, it is also necessary to reflect on how best to convey the information

to the target group, determining the amount of interpretation required for the indicator to have some impact upon the behaviour of the target group. While Action 3 is largely about understanding data requirements, here the goal is to understand how data can be transformed into LMSI which is meaningful for OSKA's core groups. There is a need to ensure that such work does not duplicate existing activities.

### **Action 8: Assess how wider economic and societal trends can be incorporated within OSKA**

As well as looking at the specific needs of target groups, methodological issues that cut across target groups should also be considered, such as how to integrate economic, technological and demographic trends, amongst others, into the existing OSKA methodology. This could be undertaken by the same group involved in Action 7 provided it does not place too much of a burden on them. Here also it is important to avoid duplication of existing work. Methodological innovation will need to give due consideration to the potential of big data analysis to yield new insights into how technological and other trends might be affecting the demand for skills <sup>(52)</sup>, alongside methodologies such as foresight (Action 9).

### **Action 9: Set up a skills/technology foresight pilot to gauge possible use to improve OSKA forecasts**

It is suggested to establish a skills/technology foresight pilot. Given the high interest in using this methodology to understand future skill needs, it is suggested to showcase its potential by considering how it has been used in other countries before identifying a sector where it could be piloted in Estonia. The pilot might need to be undertaken by acknowledged experts who can train experts in OSKA – and the professional councils – in how to undertake skills/technology foresight. Given that foresight is about shaping the future as well as forecasting it, it may prove an effective means of dealing with the issues and challenges pertinent to skills arising from the Estonia 2035 strategy.

There are risks and opportunities related to Actions 7 to 9. The risk is that it becomes too easy to say that a particular type of indicator or analysis cannot be conducted for various reasons. Another potential pitfall is viewing

---

<sup>(52)</sup> See for example Cedefop's Skills OVATE: Skills online vacancy analysis tool for Europe. [www.cedefop.europa.eu/en/data-visualisations/skills-online-vacancies](http://www.cedefop.europa.eu/en/data-visualisations/skills-online-vacancies)

a (single) indicator as fully capturing a specific dimension. Looking at how other countries have tackled similar issues offers the possibility of realising the opportunities that this series of actions presents. A good methodological underpinning and description helps in continuous improvement through critical evaluation.

#### Box 4. **Workshop on advanced skills anticipation methods**

The workshop was part of the skills governance review, organised by Cedefop in cooperation with the Estonian Ministry of Education and Research and the Qualifications Authority. The event, which was held in Tallinn on 27 and 28 November 2019, aimed to provide stakeholders with insights into new methods for anticipating skill needs based on big data analysis and foresight, techniques that can help shed light on the impacts of important trends on skills and jobs in a rapidly changing world. Skills anticipation methods, based on analysis of patents and scientific papers and approaches to big data techniques used to extract information on skills from online job vacancies, were presented and discussed. A large part of the event was dedicated to skill foresight. Participants learned how to apply foresight techniques to labour market and skills analysis and were given an overview of the main strengths and challenges in using this participatory skills anticipation method. They also applied what they learned to develop a foresight exercise for skills identification in Estonia in the next 20 years. This involved identifying trends and reflecting on their implications, thinking about possible unexpected contingencies and scenario building. While the limited time available at the training obviously was far from sufficient to build a fully fledged foresight (a process that typically takes many months), participants managed to come up with insightful ideas. Identifying different futures in terms of global cooperation patterns, climate change, different options in energy transition patterns, and demographic trends provided a good basis to reflect on their possible implications for labour market and skill needs and to outline possible policy responses.

*Source:* Cedefop.

### 7.3. Implementation plan

The third round of the CBE showed that all the proposed actions are considered feasible. Most stakeholders view the OSKA coordination council as best placed to lead this work, with funding provided by the three main

ministries (education and research, social affairs, and economic affairs and communications). It is less clear how broad stakeholder involvement in deliberations should be. There is a desire for a wide range of groups to be consulted, represented and served and to capitalise on their insights. Despite the need to be inclusive, engagement of many organisations in decision-making may make OSKA less responsive to change. The challenge is to develop an approach that reaps the benefits of access to wide spectrum of expertise but does not compromise on the agility of the system.

Outlined below is an indication of who should lead the implementation of various actions of the roadmap and a timescale for undertaking them (Table 10). The entire roadmap could be implemented within two to three years. Stakeholders in the third CBE round consider the suggested timetable feasible.

**Table 10. Implementation of the roadmap**

	Action	Lead	Timescale
	<b>Additional focal groups</b>		
1	Identify the additional groups that will be prioritised as key ones to directly focus on	OSKA coordination council	To be determined within 12 months
2	Identify representatives of key groups who can be co-opted into the governance of OSKA	OSKA coordination council	To be commenced in parallel with Action 1 – up to 24 months
3	Identify the LMSI to be developed and communicated to key groups	OSKA coordination council working with OSKA panel of experts	To be commenced in parallel with Action 1 – up to 24 months
	<b>Dissemination</b>		
4	Work with representatives of groups to identify how LMSI should be disseminated	EQA in collaboration with partners – to be confirmed by coordination council	Within 12 months

	Action	Lead	Timescale
5	Learn from good practice in other countries to identify how LMSI can be communicated effectively	EQA in collaboration with partners – to be confirmed by coordination council drawing on international evidence from organisations such as Cedefop	Within 24 months
6	Establish evaluation and feedback mechanisms into the dissemination and use of LMSI	EQA	Within 24 months
	<b>Methods</b>		
7	Assess how indicators/analysis need to be developed to meet any additional requirements of groups	OSKA coordination council (working in collaboration with labour market/education experts and academics, and Kutsekoda)	To be integrated in OSKA post-2020 methodological developments
8	Assess how wider economic and societal trends can be incorporated within OSKA	OSKA coordination council (working in collaboration with labour market/education experts and academics, and Kutsekoda)	To be integrated in OSKA post-2020 methodological developments
9	Set up a skills/technology pilot to gauge how this can be used to improve OSKA forecasts	OSKA coordination council (working in collaboration with labour market/education experts and academics, Kutsekoda, and foresight experts)	Within 24 months

Source: Cedefop.

## 7.4. Ambitions and goals beyond the roadmap

The actions outlined above are considered essential if the shared ambition for OSKA – which emerged from the stakeholder consultation and the consensus building – is to be realised. The actions have been specified in such a way that they can be implemented over the short to medium term. Implementing these actions is not necessarily the end of the matter. The CBE was designed to focus on those issues in which consensus could be obtained and the roadmap actions reflect this.



Throughout the review it was also apparent that various stakeholders had wider ambitions for OSKA, though there was sometimes less consensus here. Therefore, implementing the actions contained in the roadmap should not be seen as the end of the road. Once these have been achieved, consideration can be given to further improvements identified from the monitoring and evaluation of OSKA. However, the actions specified are necessary if OSKA is to continue to have the support of various stakeholders. Because a substantial amount has been achieved over a relatively short space of time, the expectation is that the momentum established to date will continue. While the actions are relatively modest in some respects – based on the art of the possible – they are essential.

By way of conclusion, it is worth returning to some of the issues identified over the course of the study which might need addressing over the longer term. The following were mentioned by the stakeholders who participated in the study:

- (a) issues which are closely linked to the ambitions of the Estonian education and research strategy 2021-35 (part of the Estonia 2035 strategy). There are likely to be indicators which OSKA will need to develop in relevant areas to monitor progress towards achieving the aims set out in the strategy once it is finalised;
- (b) OSKA needs to be relevant to future policy but there is also a need for it to be relevant to current policy. This will mean ensuring that results are not too general and are able to serve policy (such as highlighting fields of study where the demand for skills is high and/or will be high in the future). Some stakeholders wanted OSKA to provide more detail in its recommendations and consider, for instance, the costs of changes and who is likely to bear them;
- (c) ensuring that OSKA's results have a bearing in key policy areas. For instance, some stakeholders would like to see a more direct role for OSKA's findings in the design of OS. Mention was also made of ensuring that the influence of OSKA within government stretches beyond the Ministry of Education and Research so that it can inform policy in other areas (e.g. migration). Some stakeholders mentioned that there could be more consistency between OSKA and the PES's occupational barometer;
- (d) reflecting on the representativeness of those participating in the governance of OSKA so that groups are balanced (those from education and industry) and groups which might not be well represented today are co-opted, such as representatives of smaller employers. There is also a

need to ensure that as new sectors/occupations emerge – as a result of the strategies pursued in Estonia 2035 and/or as a result of technological change – that representatives of those sectors and occupations are incorporated into OSKA's governance;

- (e) using a wider range of data, especially wage data, in being able to determine the responsiveness of skill supply to demand. There is also the need to look at the potential use of administrative data and big data to shed light on inter-sectoral flows of labour.

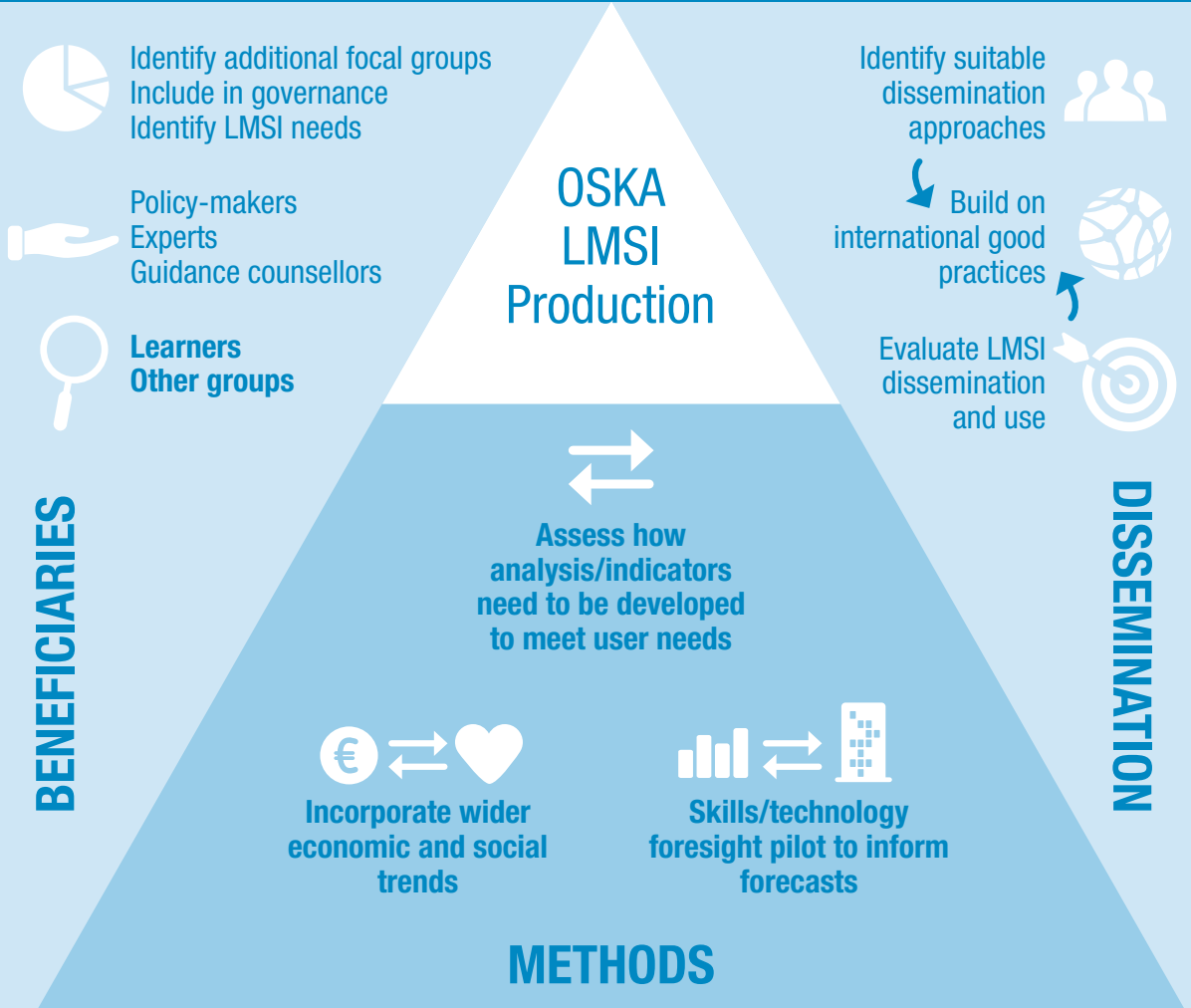
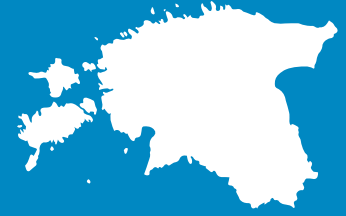
In some respects, much of the above is related to developing and maintaining a high profile for OSKA. This points to the need to market OSKA's results such that all potential users are able to benefit from them.

Figure 36.

# Estonia

## Building on OSKA's successes

Implementing the roadmap



## Possible longer term ambition to pursue

Estonia 2035 Strategy



## CHAPTER 8.

# Conclusion

Over recent years there are signs that the Estonian labour market has been tightening. Following the economic crash in 2007-08 the economy and labour market has recovered relatively strongly compared with the EU average. But, given demographic trends – a large population outflow to other parts of the EU until relatively recently and a low birth rate – this has inevitably resulted in labour and skill shortages. That these shortages exist side-by-side with skill surpluses – exemplified by the share of those with tertiary level qualifications working in jobs that do not require them – has focused attention on the capacity of the education and training system to deliver the skills the labour market requires.

The implication is that the supply-side is not sufficiently responsive to demand. This may partly reflect relatively weak signals that too much investment is being made in education and training that brings about a suboptimal return. In turn, this is seen as a constraint on economic development and the shift to a high productivity, high-skill economy (cf. the *National reform plan 2020*). Estonia has been able to counter this to some extent through the development of OSKA; a labour market information system that is able to provide information on the current and future demand for skills that feeds into, amongst other things, the design of OS and guidance provision. Despite continuing to experience relatively high levels of skills mismatch, which appears to affect young people in particular, OSKA is seen as a valuable resource that has the potential to match skill supply better to demand. Over a relatively short space of time it has been able to establish a good reputation for providing robust labour market skills intelligence such that, given time, it promises to guarantee that future investments in human capital are better matched to the needs of the labour market.

Delivering this will be partly dependent on OSKA capitalising on its success to date; the key question is perhaps what does OSKA need to do next? From the extensive consultation with stakeholders and the CBE undertaken as part of the Cedefop skills governance review, the answer would appear to be maintaining the momentum which has allowed OSKA to establish itself over a relatively short space of time as a key resource valued

by a range of labour market actors. Change is required but it is modest; there is no clamour from stakeholders for the wholesale overhaul of the current system. Where change is required is with respect to:

- (a) identifying a wider range of groups whose labour market information needs might be served by OSKA beyond those currently directly targeted; given resource limitations, identifying those to be prioritised;
- (b) disseminating information to these groups such that it exerts an economically rational influence over any decisions they should make regarding their careers and investments in education and training;
- (c) developing a more nuanced view of future skill needs than that provided through forecasting through, for instance, skills foresight.

Achieving this will not require major change. It is apparent that the roadmap contains a relatively modest set of actions that can be readily achieved over a two to three-year timeframe under the auspices of the OSKA coordination council. Recent developments, such as the start of disseminating OSKA LMSI via the Estonian education portal and the planning of work to develop OSKA's methodology further, are fully in line with the roadmap. There are, of course, funding implications with additional costs that will need to be met either from OSKA's existing budget or through the provision of additional funding. Continued development of OSKA is needed to ensure that the programme can build on and make the most of its early successes. Allusion to OSKA's early successes draws attention to the need for the stakeholder expectations to be carefully managed. Some want OSKA to produce, alongside its forecasts of emerging skill needs, implementation plans that might be used by, for instance, the education sector to reform their provision. This is a big ask from any skills anticipation system let alone one that is still something relatively new. Even the most cursory examination of skills anticipation systems – across Europe and beyond – demonstrates that their reason for being is that of providing labour market skills intelligence that can guide the actions of employers, individuals, and education institutions, rather than instructing them, in a somewhat didactic fashion, to take a particular course of action.

Skills anticipation systems have a remit to inform rather than instruct and, in doing so, address one of the principal market failures affecting the operation of skills systems: the lack of information on which skills are in demand and are likely to be in demand in the future. This is important because it helps manage expectations about what is possible and thereby

protect systems, such as OSKA, from potentially crumbling under the weight of unrealistic expectations.

There is also a need to consider longer-term challenges, as set out at the end of Chapter 7. These relate among others to representation, policy specificity, methodological advances (using administrative data, big data analysis), which will need consideration. Current work on OSKA should not stop with the achievement of the goals set out in the roadmap: further development can also support the aims set out in the Estonian education and research strategy 2021-35, under development at the time of writing this report. Working documents to support drafting the strategy clearly demonstrate that labour market and skills intelligence (LMSI) is seen as a strategic tool easing the decisions of citizens and policy-makers alike; the further development of OSKA is seen as a key building block in a whole system approach to skills governance. While it is not realistic to expect definite answers or precise predictions, taking collective ambitions further can solidify OSKA's position as a compass showing the way in an increasingly complex and dynamic world.

# Acronyms/Abbreviations

<b>AI</b>	artificial intelligence
<b>Cedefop</b>	European Centre for the Development of Vocational Training
<b>CBE</b>	consensus-building exercise
<b>EQA</b>	Estonian Qualifications Authority
<b>ESI</b>	European skills index
<b>ESJS</b>	European skills and jobs survey
<b>ESF</b>	European Social Fund
<b>EU</b>	European Union
<b>ICT</b>	information and communications technology
<b>LFS</b>	labour force survey
<b>LMSI</b>	labour market and skills information and intelligence
<b>NSC</b>	national steering committee
<b>OQs</b>	occupational qualification standards
<b>OS</b>	occupational standards
<b>OSKA</b>	System of Labour Market Monitoring and Future Skills Forecasting <i>[Oskuste arendamise koordinatsioonisüsteem]</i>
<b>PIAAC</b>	programme for the international assessment of adult competencies
<b>SMEs</b>	small and medium-sized enterprises
<b>VET</b>	vocational education and training

# References

[URLS ACCESSED 12.2.2020]

- Cedefop (2010). *The skill matching challenge: analysis skill mismatch and policy implications*. Luxembourg: Publications Office. Cedefop reference series. [www.cedefop.europa.eu/en/publications-and-resources/publications/3056](http://www.cedefop.europa.eu/en/publications-and-resources/publications/3056)
- Cedefop (2017a). *On the way to 2020: data for vocational education and training policies. Country statistical overviews – 2016 update*. Luxembourg: Publications Office. Cedefop research paper; No 61. [www.cedefop.europa.eu/files/5561\\_en.pdf](http://www.cedefop.europa.eu/files/5561_en.pdf)
- Cedefop (2017b). *Vocational education and training in Estonia*. Short description. Luxembourg: Publications Office. [www.cedefop.europa.eu/files/4155\\_en.pdf](http://www.cedefop.europa.eu/files/4155_en.pdf)
- Cedefop (2018a). *Skill forecast: trends and challenges to 2030*. Luxembourg: Publications office. Cedefop reference series; No 108. [www.cedefop.europa.eu/en/publications-and-resources/publications/3077](http://www.cedefop.europa.eu/en/publications-and-resources/publications/3077)
- Cedefop (2018b). *Insights on skill shortages and skill mismatch: learning from Cedefop's European skills and jobs survey*. Luxembourg: Publications Office. Cedefop reference series; No 106. [www.cedefop.europa.eu/en/publications-and-resources/publications/3075](http://www.cedefop.europa.eu/en/publications-and-resources/publications/3075)
- Cedefop (2019). *2018 European skills index*. Luxembourg: Publications Office. Cedefop reference series; No 111. [www.cedefop.europa.eu/files/3080\\_en.pdf](http://www.cedefop.europa.eu/files/3080_en.pdf)
- Chung, H. (2018) *Future of work and flexible working in Estonia. The case of employee-friendly flexibility*. [www.riigikogu.ee/wpcms/wp-content/uploads/2017/09/Employee-friendly-flexibility.pdf](http://www.riigikogu.ee/wpcms/wp-content/uploads/2017/09/Employee-friendly-flexibility.pdf)
- Delaney, J.; McGuinness, S.; Pouliakas, K.; Redmond, P. (2020). Educational expansion and overeducation of young graduates: a comparative analysis of 30 European countries. *Oxford review of education*, Vol. 46, No 1, pp. 10-29. [www.tandfonline.com/doi/full/10.1080/03054985.2019.1687433](http://www.tandfonline.com/doi/full/10.1080/03054985.2019.1687433)
- EESC (2018). *Skill mismatches: an impediment to competitiveness of businesses*. Brussels: European Economic and Social Committee. [www.eesc.europa.eu/en/our-work/publications-other-work/publications/](http://www.eesc.europa.eu/en/our-work/publications-other-work/publications/)



[skills-mismatches-impediment-competitiveness-eu-businesses](#)

- Estonian Government (2011). *National reform programme Estonia 2020*.  
[www.riigikantselei.ee/sites/default/files/content-editors/Failed/eesti2020/nrp\\_estonia\\_2020\\_30.05.2019.pdf](http://www.riigikantselei.ee/sites/default/files/content-editors/Failed/eesti2020/nrp_estonia_2020_30.05.2019.pdf)
- ETF; Cedefop; ILO (2016). *Developing skills foresights, scenarios and forecasts: Guide to anticipating and matching skills and jobs*. Luxembourg: Publications Office.  
[www.cedefop.europa.eu/en/publications-and-resources/publications/2216](http://www.cedefop.europa.eu/en/publications-and-resources/publications/2216)
- European Commission (2015). *Skills governance in the EU Member States. Synthesis report for the EEPO*. Luxembourg: Publications Office.
- European Commission (2016). *A new skills agenda for Europe. Working together to strengthen human capital, employability and competitiveness*. SWD(2016) 195 final. <https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-381-EN-F1-1.PDF>
- Frey, C.B.; Osborne, M.A. (2017). The future of employment: how susceptible are jobs to computerisation?. *Technological forecasting and social change*, Vol. 114, pp. 254-280.
- Holts, K. (2018). *Understanding virtual work: prospects for Estonia in the digital economy*. Tallinn: Foresight Centre at the Riigikogu.  
[www.riigikogu.ee/wpcms/wp-content/uploads/2017/09/Virtual-work-size-and-trends\\_final1.pdf](http://www.riigikogu.ee/wpcms/wp-content/uploads/2017/09/Virtual-work-size-and-trends_final1.pdf)
- Kutsekoda (2011) (updated 2015). *Kutsestandardi koostamise ja vormistamise juhend [Guide to the preparation and formalization of occupational qualification standards]* (in Estonian).  
<http://kutsekoda.ee/fwkw/contenthelper/10381894/10575848>
- Kutsekoda (2017). Ülevaade Eesti tööturu olukorrast, tööjõuvajadusest ning sellest tulenevast koolitusvajadusest. *[An overview of the situation in the Estonian labour market, the need for labour and the resulting need for training]*. (in Estonian) <http://oska.kutsekoda.ee/wp-content/uploads/2017/12/Eesti-t%C3%B6turg-t%C3%A4na-ja-homme2017.pdf>
- Kutsekoda (2018). *Eesti tööturg täna ja homme. Ülevaade Eesti tööturu olukorrast, tööjõuvajadusest ning sellest tulenevast koolitusvajadusest*. Tallinn: Kutsekoda *[Estonian labor market today and tomorrow. An overview of the situation in the Estonian labor market, the need for labour and the resulting need for training]* (in Estonian).  
<https://oska.kutsekoda.ee/wp-content/uploads/2018/12/Eesti-t%C3%B6turg-t%C3%A4na-ja-homme-2018.pdf>

- Kutsekoda (n.d.). *OSKA – oskuste arendamise koordineerimisüsteem. [OSKA - skills development coordination system]* Presentation by Yngve Rosenblad (in Estonian). [www.etag.ee/wp-content/uploads/2016/01/OSKA-STEM-konverents-19-11-2015.pdf](http://www.etag.ee/wp-content/uploads/2016/01/OSKA-STEM-konverents-19-11-2015.pdf)
- Lessaer, B.; Pasimeni, P.; Pouliakas, K.; Sekmokas, M. (2015). Supporting skills development and matching in the EU. In: European Commission (2015). *Employment and social developments in Europe 2015*, pp. 229-273. Luxembourg: Publications Office. <https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7859&furtherPubs=yes>
- Mavromaras, K.; McGuinness, S. (2012). Overskilling dynamics and education pathways. *Economics of education review*, Vol. 31, No 5, pp. 619-628. [www.sciencedirect.com/science/article/pii/S0272775712000246](http://www.sciencedirect.com/science/article/pii/S0272775712000246)
- McGuinness, S.; Pouliakas, K.; Redmond, P. (2017). *How useful is the concept of skill mismatch?* Geneva: International Labour Organization.
- McGuinness, S.; Pouliakas, K.; Redmond, P. (2018). Skills mismatch: concepts, measurement and policy approaches. *Journal of economics surveys*, Vol. 32, No 4, pp. 985-1015.
- McKinsey and Company (2017). *Digitally enabled automation and artificial intelligence: Shaping the future of work in Europe's digital front-runners.* <https://mck.co/33YeXcx>
- Meroni, E.C.; Vera-Toscano, E. (2017). The persistence of overeducation among recent graduates. *Labour economics*, Vol. 48, pp. 120-143. [www.sciencedirect.com/science/article/pii/S0927537116303992](http://www.sciencedirect.com/science/article/pii/S0927537116303992)
- Ministry of Economic Affairs and Communications (n.d.). *Tööjövajaduse ja -pakkumise prognoos aastani 2024. [Forecast of labour demand and supply up to 2024]* (in Estonian). [www.mkm.ee/sites/default/files/toojouprognos\\_2024\\_lyhikirjeldus.pdf](http://www.mkm.ee/sites/default/files/toojouprognos_2024_lyhikirjeldus.pdf)
- Ministry of Education and Research (2015). *Adult skills: their use and usefulness in Estonia. Summaries of thematic reports on the PIAAC study.* Tartu: Ministry of Education and Research. [www.hm.ee/sites/default/files/inglise\\_sisu\\_veebi\\_14okt.pdf](http://www.hm.ee/sites/default/files/inglise_sisu_veebi_14okt.pdf)
- Ministry of Education and Research (2017). *Eesti kõrgkoolide 2015. aasta vilistlaste Uuring. Aruanne. [2015 Alumni survey of Estonian higher education institutions. Report]* (in Estonian). [www.hm.ee/sites/default/files/uuringud/vil2015\\_aruanne.pdf](http://www.hm.ee/sites/default/files/uuringud/vil2015_aruanne.pdf)
- Ministry of Education and Research (2018). *Important activities in the 2019/2020 academic year.* [www.hm.ee/sites/default/files/htm\\_koolialgusepakett\\_a4\\_eng.pdf](http://www.hm.ee/sites/default/files/htm_koolialgusepakett_a4_eng.pdf)

- Ministry of Education and Research (2019). *Summary of the Ministry of Education and Research's annual report for 2018*. Tartu: Ministry of Education and Research.  
[www.hm.ee/sites/default/files/htm\\_aruanne\\_2018\\_en.pdf](http://www.hm.ee/sites/default/files/htm_aruanne_2018_en.pdf)
- Ministry of Education and Research (n.d.). *Õppe- ja karjäärinõustamise programm 2016-2019. [Learning and career counselling programme 2016-19]*. (in Estonian). [www.hm.ee/sites/default/files/lisa\\_5\\_oppe-ja\\_karjaarinoustamise\\_programm\\_2016-2019.pdf](http://www.hm.ee/sites/default/files/lisa_5_oppe-ja_karjaarinoustamise_programm_2016-2019.pdf)
- Nedelkoska, L.; Quintini, G. (2018). *Automation, skills use and training*. OECD social, employment and migration working papers; No 202. Paris: OECD Publishing. <http://dx.doi.org/10.1787/2e2f4eea-en>
- OECD (2011). *Public governance reviews: Estonia: towards a single government approach*. Paris: OECD Publishing.  
[www.oecd.org/estonia/oecdpublicgovernancereviews-estoniatowardsa-singlegovernmentapproach.htm](http://www.oecd.org/estonia/oecdpublicgovernancereviews-estoniatowardsa-singlegovernmentapproach.htm)
- OECD (2016). *Getting skills right: assessing and anticipating changing skill needs*. Paris: OECD Publishing.  
<http://dx.doi.org/10.1787/9789264252073-en>
- OSKA (2018). *Eesti tööturg täna ja homme. Väljavõte olulisematest tulemustest. [Estonian labour market today and tomorrow. Key results]* (in Estonian). [https://oska.kutsekoda.ee/wp-content/uploads/2018/12/%c3%9clevaade\\_-Eesti-t%c3%b6%c3%b6turg-t%c3%a4na-ja-homme2018.pdf](https://oska.kutsekoda.ee/wp-content/uploads/2018/12/%c3%9clevaade_-Eesti-t%c3%b6%c3%b6turg-t%c3%a4na-ja-homme2018.pdf)
- Pouliakas, K. (2014). *A balancing act at times of austerity: matching the supply and demand for skills in the Greek labour market*. IZA Discussion Paper series; No 7915. <http://ftp.iza.org/dp7915.pdf>
- Pouliakas, K. (2017). *Making labour market and skills intelligence policy relevant: How Cedefop supports countries*. Blog article. Skills Panorama. <http://skillspanorama.cedefop.europa.eu/en/blog/making-labour-market-and-skills-intelligence-policy-relevant-how-edefop-supports-countries>
- Pouliakas, K. (2018). Automation risk in the EU labour market: a skill-needs approach. In: Hogarth, T. (ed.). *Economy, employment and skills: European, regional and global perspectives in an age of uncertainty*. Rome: Fondazione Giacomo Brodolini. *Quaderni* series.
- Pouliakas, K.; Ranieri, A. (2018). Governance of labour market and skills intelligence as driver of VET reform. In: McGrath, S.; Mulder, M.; Papier, J.; Suart, R. (eds). *Handbook on vocational education and training for the changing world of work*, Springer Publishing.

[https://doi.org/10.1007/978-3-319-49789-1\\_45-2](https://doi.org/10.1007/978-3-319-49789-1_45-2)

Sicherman, N. (1991). Overeducation in the labor market. *Journal of labour economics*, Vol. 9, pp. 101-122.

Tammaru, T.; Kallas, K.; Eamets, R. (2017). *Estonian human development report 2016/2017: Estonia at the age of migration*.

<https://inimareng.ee/en/estonia-at-the-age-of-migration/>

## Web links

[URLS ACCESSED 12.2.2020]

14 Professional councils. [www.kutsekoda.ee/kutsenoukogud/](http://www.kutsekoda.ee/kutsenoukogud/)

Cedefop's Anticipating and matching skills project. [www.cedefop.europa.eu/en/events-and-projects/projects/assisting-eu-countries-skills-matching](http://www.cedefop.europa.eu/en/events-and-projects/projects/assisting-eu-countries-skills-matching)

Cedefop's European skills index data visualisation.

[www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/european-skills-index](http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/european-skills-index)

Cedefop skills forecast. [www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/skills-forecast](http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/skills-forecast)

Cedefop's skills governance analytical framework. [www.cedefop.europa.eu/files/20171016-cedefop\\_skills\\_governance\\_framework.pdf](http://www.cedefop.europa.eu/files/20171016-cedefop_skills_governance_framework.pdf)

Cedefop's Skills OVATE – Skills Online Vacancy Analysis Tool for Europe. [www.cedefop.europa.eu/en/data-visualisations/skills-online-vacancies](http://www.cedefop.europa.eu/en/data-visualisations/skills-online-vacancies)

Estonian 2035 strategy [Strateegia Eesti 2035].

[www.riigikantselei.ee/et/eesti2035](http://www.riigikantselei.ee/et/eesti2035)

Estonian 2035 strategy. Riigikantselei. Strateegia Eesti 2035. Materjalid [in Estonian]. [www.riigikantselei.ee/et/valitsuse-toetamine/strateegia-eesti-2035/materjalid](http://www.riigikantselei.ee/et/valitsuse-toetamine/strateegia-eesti-2035/materjalid)

Estonian education portal. <https://haridusportaal.edu.ee/>

Estonian lifelong learning strategy 2020.

[www.hm.ee/en/estonian-lifelong-learning-strategy-2020](http://www.hm.ee/en/estonian-lifelong-learning-strategy-2020)

Estonian Professions Act (in Estonian).

[www.riigiteataja.ee/akt/12974050?leiaKehtiv](http://www.riigiteataja.ee/akt/12974050?leiaKehtiv)

Estonian Unemployment Insurance Fund, occupational barometer.

[www.tootukassa.ee/eng/baromeeter](http://www.tootukassa.ee/eng/baromeeter)

Estonian Unemployment Insurance Fund, occupational barometer table.

[www.tootukassa.ee/eng/baromeeter/tabel?period=121&assessmentType=LABOUR\\_DEMAND&mainGroupSelect=MAIN\\_PROFESSION\\_](http://www.tootukassa.ee/eng/baromeeter/tabel?period=121&assessmentType=LABOUR_DEMAND&mainGroupSelect=MAIN_PROFESSION_)

[CHOOSE&professionsSelect=PROFESSIONS\\_ALL&areaSelect=AREAS\\_ALL&mainGroups\[\]=2&mainGroups\[\]=3&mainGroups\[\]=7&mainGroups\[\]=9](#)

Estonian Unemployment Insurance Fund, shortage of programmers, cooks, lorry drivers. Article of 09.07.2018. <https://news.err.ee/845307/estonian-unemployment-fund-shortage-of-programmers-cooks-lorry-drivers>

Estonian Unemployment Insurance Fund [Eesti Töötukassa]. Statistics. [www.tootukassa.ee/eng/content/about-tootukassa/statistics](http://www.tootukassa.ee/eng/content/about-tootukassa/statistics)

Estonian Ministry of Education and Research [Haridus- ja Teadusministeerium]. [www.hm.ee/et](http://www.hm.ee/et)

Estonian Ministry of Economic Affairs and Communications [Majandus- ja Kommunikatsiooniministeerium]. [www.mkm.ee/et](http://www.mkm.ee/et)

Estonian Ministry of Economic Affairs and Communications. Analysis and research page (in English, older forecasts). [www.mkm.ee/en/news-press-releases/analysis-and-research](http://www.mkm.ee/en/news-press-releases/analysis-and-research)

Estonian Ministry of Economic Affairs and Communications. Information on labour force forecasts (in Estonian). [www.mkm.ee/et/analused-ja-uuringud#toojouprognosid](http://www.mkm.ee/et/analused-ja-uuringud#toojouprognosid)

Estonian Ministry of Finance [Rahandusministeerium]. [www.rahandusministeerium.ee/et?lang=en](http://www.rahandusministeerium.ee/et?lang=en)

Estonian Ministry of Social Affairs [Sotsiaalministeerium]. [www.sm.ee/en](http://www.sm.ee/en)

Eurostat data browser. <https://ec.europa.eu/eurostat/databrowser/view/tessi190/default/table?lang=en>

Government of Estonia [Vabariigi Valitsus]. [www.valitsus.ee/et](http://www.valitsus.ee/et)

Kutsekoda, Estonian qualifications authority. [www.kutsekoda.ee/en/](http://www.kutsekoda.ee/en/)

OSKA. <https://oska.kutsekoda.ee/>

OSKA coordination council [Koordinatsioonikogu]. <https://oska.kutsekoda.ee/oskast/oska-koordinatsioonikogu/>

OSKA sectors. <https://oska.kutsekoda.ee/en/oska-sectors/>

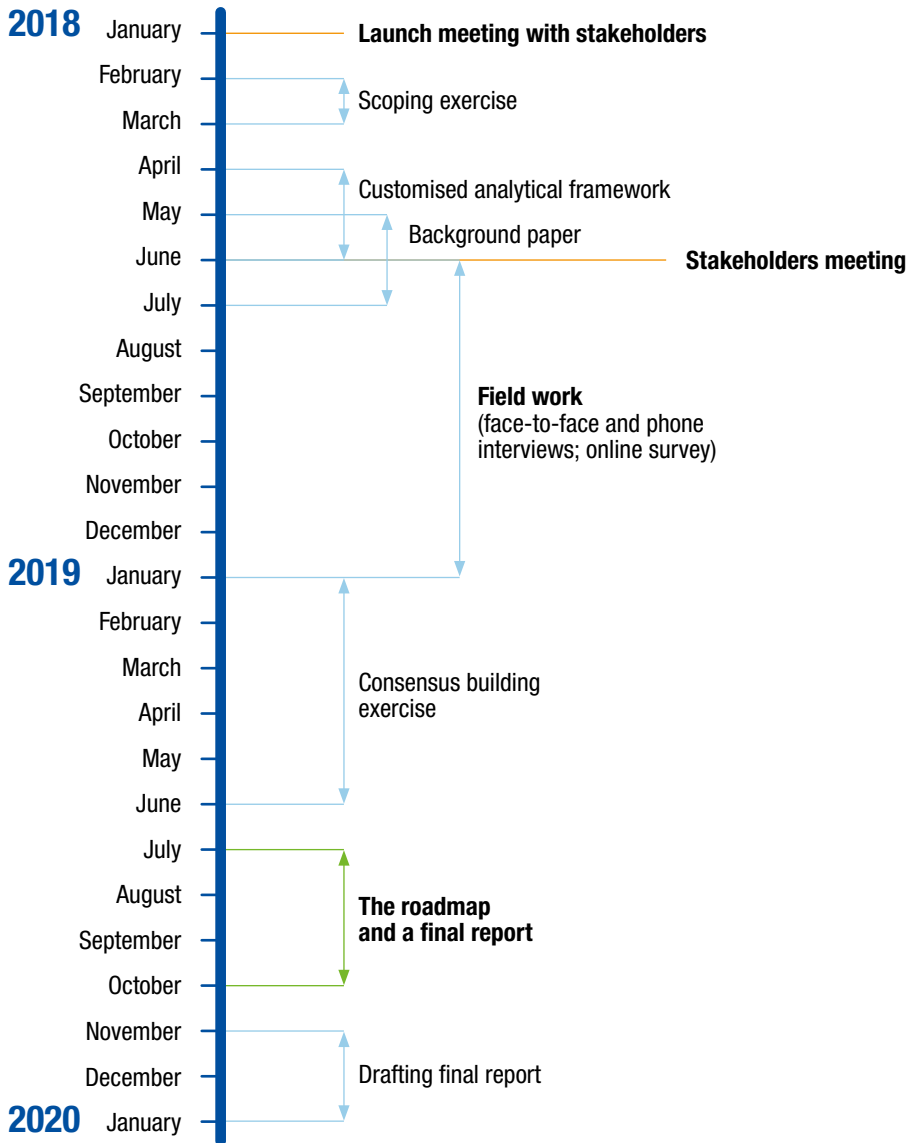
Praxis. Implementation of the labour market monitoring and future skills forecasting system OSKA, 2018. [www.praxis.ee/en/works/implementation-of-oska/](http://www.praxis.ee/en/works/implementation-of-oska/)

Short of elementary occupation workers. Töandjad on hädas sobivate töötajate leidmisega, article of 29.08.2016. [www.brandem.ee/blogi/toandjad-hadas-sobivate-tootajate-leidmisega](http://www.brandem.ee/blogi/toandjad-hadas-sobivate-tootajate-leidmisega)

Skills Panorama. Skills anticipation in Estonia. [http://skillspanorama.cedefop.europa.eu/en/analytical\\_highlights/skills-anticipation-estonia](http://skillspanorama.cedefop.europa.eu/en/analytical_highlights/skills-anticipation-estonia)

ANNEX 1.

# Study timeline



## ANNEX 2.

# Methodology

## A2.1 Stakeholder interviews

The stakeholder interview phase followed the development of a generic questionnaire by Cedefop and the project consortium, designed to provide insight into all the component parts of the Cedefop skills governance analytical framework (Table A1) <sup>(53)</sup> The questionnaire used for the stakeholder interviews was subsequently customised in accordance with the identified national priority areas agreed between Cedefop and the NSC following the completion of a scoping exercise. The customised questionnaire for Estonia was built around the three main sections corresponding to the main skills governance focus areas, with a range of mostly open-ended questions pertaining to each topic (Box A1).

### Box A1. Sections and issues of Cedefop's skills governance questionnaire

**Section A** – customisation and dissemination: this looked at stakeholders' views on dissemination of OSKA's outputs. It asked about the groups OSKA should be targeting, the information it needs to provide to them, and the perceived obstacles to providing certain information.

**Section B** – data methods and expertise: this asked respondents about the data and analyses provided by OSKA, how robust it was, and whether it was sufficient to meet Estonia's needs.

**Section C** – vision and strategy: this concentrated on thinking about the strategic role OSKA might fulfil in the future and what would need to change to do so.

---

<sup>(53)</sup> The generic skills governance questionnaire and all other relevant research materials used as part of the country review are available on the Cedefop's website:  
[www.cedefop.europa.eu/el/events-and-projects/projects/assisting-eu-countries-skills-matching](http://www.cedefop.europa.eu/el/events-and-projects/projects/assisting-eu-countries-skills-matching)

In total, 31 semi-structured face-to-face interviews were conducted following a multi-step research design and process (Box A2), once all supporting survey guidance and information materials were prepared and translated into the respective language. The interviews were carried out by native researchers with extensive experience in carrying out qualitative research.

#### Box A2. **Stakeholder interview protocol**

- Finalisation of list of potential invitees/stakeholders following coordination between Cedefop and the EQA.
- Preparation of invitation letter and information sheet signed by Cedefop-EQA.
- Booking of appointment for interview by phone or e-mail held at the stakeholders' premises.
- Pilot implementation of interview.
- Conducting interviews (45'-60' per interview).
- Sending of interview summary to each participant (in Estonian), receipt of comments and validation.
- Translation of summaries to English using final summary template.
- Monitoring of progress; updating list of invitees (whenever necessary).
- Codification and analysis of responses.
- Validation by Cedefop and NSC.

Following the completion of each interview, the responses were codified and summarised by the lead researcher and each summary template was sent back to the interviewee for validation.

In addition to the face-to-face interviews, 17 telephone interviews were conducted with the chairs/vice-chairs of the professional councils, and with the EQA coordinators who liaised with the professional councils. The aim here was to assess the way in which outputs from OSKA were used in practice by the professional councils (and if not, why not). Table A1 provides details of the interviews.



Table A1. **Summary of stakeholder consultation**

<b>Organisations</b>	<b>Number of interviews conducted</b>
<b>Face-to-face interviews</b>	
Ministries responsible for skills governance	2
Estonian Qualifications Authority	2
Members of the OSKA coordination council	4
Members of the OSKA panel of advisers	11
Education organisations	5
Social partners, think tanks, etc.	7
Total	31
<b>Telephone interviews</b>	
EQA coordinators	2
Chairs/vice-chairs of sector skills councils	15
Total	17

*Source:* Cedefop skills governance country review: Estonia.

The results obtained from the interviews are based on a relatively small number of interviews with respondents who had divergent prior information and knowledge of OSKA; they should be regarded as indicative. It is also acknowledged that the survey population, comprising relevant actors, was not (could not be) generated using a random probabilistic statistical design.

Nevertheless, a wide array of key institutional stakeholders at national level was selected and consulted for this exercise; specifically the list of invited stakeholders was identified following extensive scanning of the available landscape by Cedefop and the EQA. For this reason it is believed that the stakeholder interviews provided a good basis for understanding the relative strengths and weaknesses of OSKA.

## A2.2 Consensus-building exercise

The findings from the interviews – both face-to-face and telephone – provided a succinct set of issues to be addressed in the three rounds of the CBE. Table A2 below provides a summary of the issues addressed in each round of the CBE.

Table A2. **CBE process and issues**

### Round 1: Prioritisation

An online questionnaire was developed outlining a number of potential areas of interest related to the main CBE focus areas. Respondents were asked to prioritise these. Each broad priority area was then disaggregated into a series of sub-priorities and respondents were asked whether they supported these, the extent to which there was broad agreement on the need to tackle these issues, and how they would prioritise them.

### Round 2: Deepening stakeholder positions

Based on the results from the first round of the CBE, further investigation of the specific areas respondents wanted to see addressed was undertaken. Attention was focused on identifying target groups for OSKA, the best means of disseminating information, and how OSKA can better incorporate various societal and economic trends into its methodology. The general approach was one of identifying precisely what might need to be done and the degree of support for those actions. For example, with respect to identifying target groups it asked whether these needed to be further disaggregated, how each group should be communicated with, and the types of information they will require.

### Round 3: Achieving consensus

A nascent roadmap was drafted from the findings obtained from the second round of the CBE. This covered actions that the CBE participations had indicated a degree of support for in general terms in the second round. It asked whether respondents supported the actions (classified under three broad sections), who should be involved in implementing the action, who should have overall responsibility for an action, and the timescale for implementation. Respondents were also asked to identify potential barriers.

Source: Cedefop skills governance country review.

An online Delphi method was applied to carry out the CBE, making use of questionnaires developed by Cedefop and the project team with a number of open and closed questions. They were distributed by the project partner to the invited participants, who were requested to fill them in, in three separate and sequential rounds. Participants received an extensive explanatory note and guidelines and were asked to complete the questionnaires on behalf of the institution they represented.

Each round lasted between two to three weeks (with reminders sent mid-way and before expiration of the deadline). The whole CBE process ran for around half a year, starting in January 2019 and ending in June 2019. The collection and analysis of the findings of each CBE round was administered by the project partner and validated by Cedefop. Confidentiality and anonymity of participant inputs was guaranteed. All answers were analysed by the project partner and presented as a summary and anonymously to participants as inputs before the start of each subsequent round.

Table A3 below provides information on participation in the CBE, which proved highly satisfactory, both in terms of organisational representativeness and the number of individuals participating.

Table A3. **Participation in the CBE by round**

CBE round	Number of people invited to take part	Number of people participating (% participating)	Number of organisations participating (% out of 19 invited)	Number of organisations participating (% out of 16 invited)
One	21	16 (76%)	15 (79%)	11 (69%)
Two	21	11 (52%)	11 (58%)	8 (50%)
Three	21	14 (67%)	13 (68%)	10 (63%)

Source: Cedefop skills governance country review.

### A2.3 Online survey

An online survey, developed jointly by the project team and Cedefop, was undertaken among career counsellors. After initial testing and adjustment based on the suggestions for improvements, invitations to complete the survey were sent out by e-mail on 11 February 2019; two reminders were sent afterwards. The survey was closed on 5 March 2019, allowing more than three weeks for completion. The survey instrument was programmed using Limesurvey hosted on servers owned by the project team. A total of 134 responses were obtained, of which 73 were counted as complete responses and an additional 41 as partial responses. The remaining 20 raw responses were empty and therefore excluded from the analysis: these respondents merely opened the link to the survey, potentially browsing through it without answering the questions. Note that the item-response rate can vary.

### ANNEX 3.

# Members of the national steering committee

Organisation	Member
Olav Aarna	Estonian Business School/Qualification Authority
Küllli All	Ministry of Education and Research
Raul Eamets	University of Tartu
Anneli Entson	Estonian Employers' Confederation
Tatjana Kiilo	Ministry of Education and Research
Mario Lambing	Ministry of Economic Affairs
Reelika Leetmaa	Estonian Unemployment Insurance Fund
Kirsti Melesk	Praxis Centre for Policy Studies
Heleri Reinsalu	Government Office Of Estonia
Yngve Rosenblad	Qualification Authority
Marge Unt	Tallinn University

## ANNEX 4.

# Glossary

Term	Definition
Apprenticeship	Systematic, long-term training alternating periods at the workplace and in an educational institution or training centre. The apprentice is contractually linked to the employer which assumes responsibility for providing training leading to a specific occupation.
Cedefop skills forecasts	Econometrically derived projections of future employment by occupation and qualification as well as the supply by qualification for each EU Member State.
Consensus building	The process of establishing those issues on which participants have agreement. Often conducted over a series of rounds to establish those issues on which there is common ground with respect to future actions.
Continuous vocational education and training	Education or training after initial education and training or after entry into working life aimed at improving/updating skills, acquiring new skills, or continuing personal or professional development.
Delphi exercise	An iterative process that collects information from individuals or groups in a number of rounds. After each round responses are summarised and used as input into the next round. The approach has been used in the CBE of the Cedefop country review.
Estonia 2035	This is the government's long-term strategy for how Estonia should develop over the next 15 years or more. Extensive consultations are taking place regarding its content.
European skills and jobs survey	Cedefop's first EU survey of skill mismatch identifying the extent to which adult workers' skills are matched to jobs and if they face skills obsolescence due to technological or organisational changes.
European skills index	Cedefop's composite indicator measuring the performance of EU skills systems.
Foresight Centre [Riigikogu– Arenguseire Keskus]	This is the foresight centre linked to the Estonian Parliament. Activities include studies on the changing nature of work over the longer term; OSKA focuses on the medium-term (next 10 years).
Kutsekoda	The Estonian Qualifications Authority established in August 2001 to continue developing the occupational qualifications system.

Term	Definition
High-tech employment	Employment in those sectors/occupations which are considered to have a high technological intensity.
Initial vocational education and training	General or vocational education and training carried out in the initial education system, usually before entering working life.
National reform programme 2020	Estonia 2020 is a reform programme that describes the objectives established to improve competitiveness and activities needed to achieve these objectives. The two central objectives of Estonia 2020 are increasing productivity and employment.
Occupational barometer	Looks at labour/skill demand over the next 12 months. It is run by the public employment service in Estonia.
OSKA	System of labour market monitoring and future skills forecasting [Oskuste arendamise koordinaatsioonisüsteem] which analyses the needs for labour and skills in Estonia for the next 10 years.
Overqualified	Situation where an individual has a higher qualification than the current job requires.
Overskilling	Situation where an individual has skills which are not required in the current job: sometimes the skills are relevant to the job but not used.
PIAAC	OECD's Programme for the international assessment of adult competencies measures adults' proficiency in literacy, numeracy and problem solving and how these are used (not all EU countries participate in it).
Roadmap	Plan that identifies the outcomes to be achieved over the short to medium term with the major steps or milestones needed to reach it. The CBE is a key input into the roadmap.
Skills anticipation	Process of identifying changing or emerging skill needs and the extent to which skill supply is likely to meet future skill demand and the reasons underlying any skill mismatch.
Skills governance	Process through which skills anticipation is implemented, with reference to the key institutions and stakeholders which have responsibility for overseeing and carrying out skills anticipation exercises as well as using their outcomes and associated operational processes. In some countries, skills governance is regulated by law.
Skill mismatch	Gap between the skill demanded by the labour market and those held by individual workers. It can manifest as both skill shortages and/or skill surpluses.

Term	Definition
Skills obsolescence	Situation in which the knowledge and (formal, non-formal and informal) skills of individuals are out of date or out of use due to changing technologies and work organisation (economic), ageing/wear-and-tear (technical) or outdated labour market perspectives (perspectivistic).
Skill shortage	Situation where skill supply (quantitative and qualitative) is not sufficient to meet labour market demand, taking into account the vacancy wage offer, working conditions, accessibility of location as well as jobseekers' reference wage.
Stakeholders	Key individuals, organisations and institutions that have responsibility for the design and implementation of skills anticipation activities and the development of appropriate skills matching initiatives.
Vocational education and training	Education and training which aims to equip people with knowledge, know-how, skills and/or competences required in particular occupations or more broadly on the labour market.

# STRENGTHENING SKILLS ANTICIPATION AND MATCHING IN ESTONIA

## Capitalising on OSKA's potential to realise national ambitions

Ensuring that EU countries develop robust skills anticipation to inform responsive VET systems is a key aim of the *Skills agenda for Europe*. But to be impactful, skills intelligence requires good skills governance, feeding into VET and employment policies with wide outreach to diverse potential users.

In 2015 Cedefop initiated a country support scheme to assist the EU strategy of improving skills governance in its Member States. Cedefop has recently concluded four skills governance country reviews in Greece, Slovakia, Bulgaria and Estonia, following pilots in Malta and Iceland. This report summarises key insights and lessons of the review of skills governance in Estonia, focusing on the country's skills anticipation system OSKA. The review analyses stakeholder perspectives on its achievements so far, identifies development opportunities, and offers a roadmap with several specific actions. These build on OSKA's successes, striking a balance between ambition and feasibility in managing the high expectations of stakeholders for the system's future development.

**CEDEFOP**European Centre for the Development  
of Vocational Training

Europe 123, 570 01 Thessaloniki (Pylea), GREECE  
Postal address: Cedefop, Service post, 570 01 Themi, GREECE  
Tel. +30 2310490111, Fax +30 2310490020, Email: [info@cedefop.europa.eu](mailto:info@cedefop.europa.eu)

visit our portal [www.cedefop.europa.eu](http://www.cedefop.europa.eu)

Publications Office  
of the European Union