

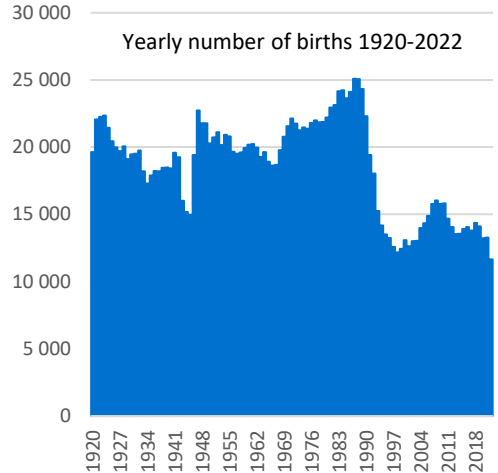


## OSKA: Estonian labor and skills forecasting system

Ave Ungro  
Estonian Qualifications Authority

## Background for establishing a skills anticipation system in Estonia

- **Lack of qualified labour force** as one of the main problems for Estonian companies
- Rapidly **aging society** and **declining working age population**
- **High skills mismatch** due to rapid changes in the society during the last 30 years (after gaining independence from Soviet Union)
- Rapid **changes in economy and labour market** (automation, digitalization, green transition, etc)

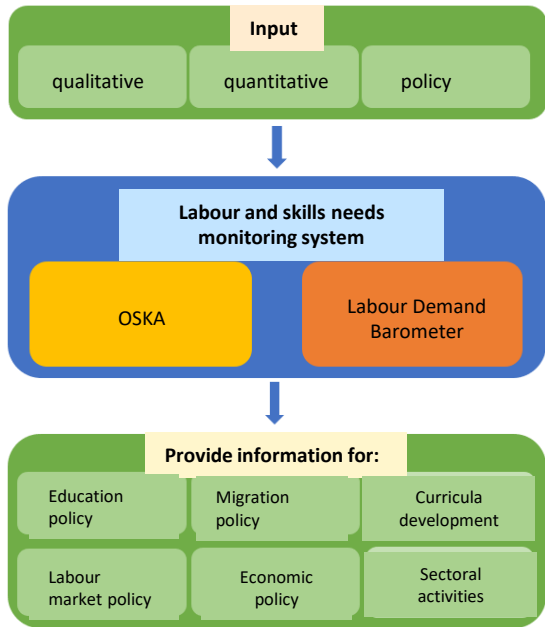


# Labour and skills needs monitoring in Estonia

**OSKA** (since 2015) and **Labour Demand Barometer** (since 2016) have different time horizons (10 years vs 6 months )

## OSKA aims to:

- help people make good career choices
- help to learn and teach useful skills in the best way
- enhance cooperation between employers and schools
- drive education, labour and migration policy

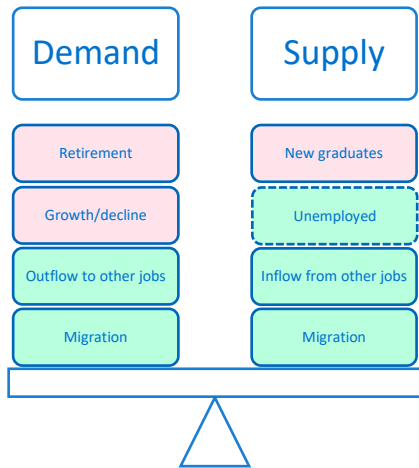


## Different OSKA studies

- OSKA data model

### 3 types of studies:

- OSKA general report
  - Sectoral studies (+ follow-up)
  - *Ad hoc* studies
- 
- Labour market megatrends monitoring



**Demand and supply model of skills/people in OSKA forecasts**

# OSKA sectoral studies of labour and skills needs – since 2015

- Reports on 5 economic sectors or topics every year
- Aim to cover all sectors in 5-7 years (and continue the 5-7 years cycle)
- Similar methodology applied to all sectors – comparable results
- Forecast horizon 10 years
- Combining qualitative and quantitative methods
- Sectoral expert panels (½ employers, ¼ educational institutions, ¼ policy makers)
- Follow-up of results and recommendations



# OSKA website for different target groups

## Contents

- Materials
- Preface
- Abbreviations
- Brief summary
- Introduction
- Methodology
- 1. Field and main professions
- 2. Trends, research and development plans affect the labor and skill needs of the field
- 3. Skill demand and supply of skills in the field
- 4. The field's higher and professional education training offer
- 5. The field's labor demand and employment forecast
- 6. Comparison of labor demand and training supply
- 7. Conclusions and

Studies > Field studies > Agriculture and food industry

## A future view of labor and skills needs: agriculture and the food industry



ESF project "Professional system reform"  
Monitoring and forecasting system of skills and labor demand OSKA

Published: 22.02.2023

Forecast period of the study: 2021-2031

Authors of the survey: **Katrin Pihl** and **Siim Krusell**, SA Kutsekoda

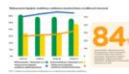
### Materials



OSKA one minute video:  
Employment in agriculture  
and food industry



OSKA One Minute Video:  
Skills and Training for the  
Agriculture and Food  
Industry



Summary topic page:  
Mismatches between  
training supply and labor  
demand



Summary topic page:  
Mismatches between  
training supply and labor  
demand



OSKA agricultural and food  
industry survey information



Briefing presentation



megatrend



## Environmental sustainability



trends

Climate neutrality

Green transition

Circular economy

megatrend



## Digital technology



trends

Digitalisation

Data science

Artificial intelligence

Automation

Smart devices, IoT

megatrend



## Globalisation



trends

Global value chains

Emerging economies

Geopolitical turbulence

Risks and disruptions

megatrend



## Demographic change



trends

Global population growth

Ageing societies

Urbanisation and migration

megatrend



## Shifting values



trends

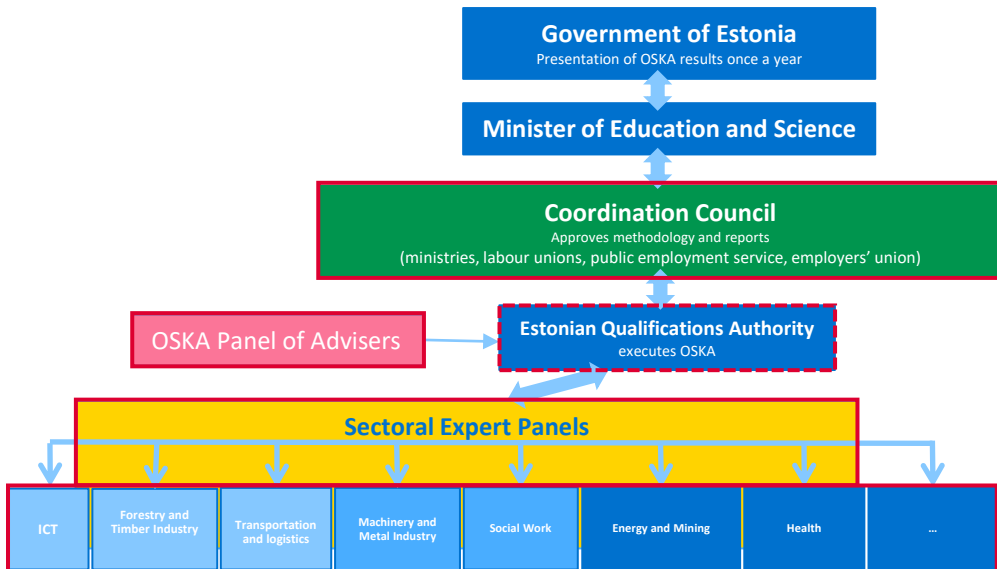
Flexibility of work and study

Social cohesion vs inequalities

Physical and mental health

Personalized and more sustainable consumption

# OSKA governance model





# Labour market policy /re- & upskilling stakeholders in Estonia



Estonian Qualifications  
Authority

A tripartite organisation

- Occupational qualification standards
- Occupational qualifications register
- OSKA labour and skills forecasting
- Skills system

<https://www.kutsekoda.ee/en/>

**Estonian Unemployment  
Insurance Fund**



Eesti Töötukassa

A government organisation

- Provision of Active Labour Market Measures (ALMPs)
- Payment of unemployment and work ability benefits and compensations
- Work capability assessment
- Career services to all population groups
- Mediation of jobs
- Labour demand barometer

<https://www.tootukassa.ee/en>

## Ministries:

### Ministry of Economic Affairs and Communications

Employment and working life policy, equal treatment

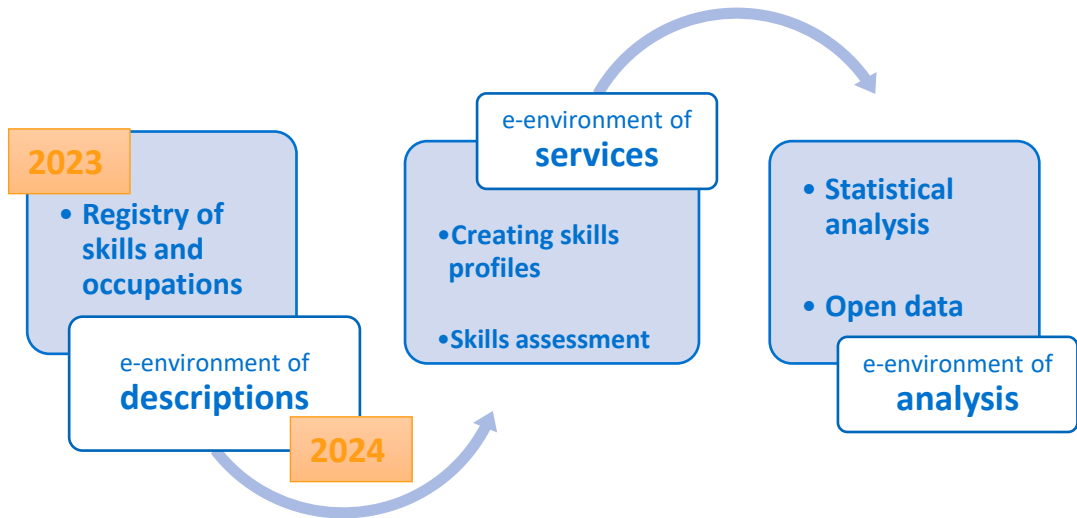
### Ministry of Education and Science

- Education
- Re-/up-skilling projects (green skills, digital skills, etc)

## OSKA intelligence is used in policy-making and more

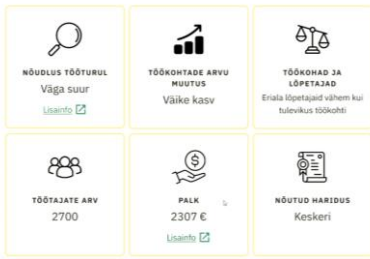
- For planning **VET curricula** and commissioning study places since 2016
- As input for adjusting **university curricula** (obligatory since 2017)
- Feeds directly into several **active labour market policy measures**
- Main data source for **career counselling** service providers
- OSKA main findings presented to Government of Estonia every year
- Ad hoc OSKA studies for policy input (sectoral ICT skills; green skills; business and management education; Labour market effects of Covid)
- Fair transition measures, green skills
- For **up- and re-skilling** measures
- For **popularizing growth occupations**
- As background and source information for adjusting **sectoral strategies**

## The skills system of Estonia (developed from 2022)



## Occupation profiles

- Based on OSKA studies, qualifications standards, etc.
- Profiles include
  - Description, main tasks
  - Working conditions
  - Minimum requirements (education, language etc.)
  - Knowledge and skills needed



## E-environment for (self) assessment

- User can mark what skills they already have and what they wants or needs to learn
  - Self-assessment
  - System based recommendations from prior education
  - Learning possibilities



## OsKus web will bring skills and occupations together

- Matching people to jobs based on the skills they have
- Recommending skills to learn to get jobs what people want
- Advising people on the future outlook of the jobs they want to learn skills for
- Advising how should the skills be obtained in/as degree programs, micro qualifications or short courses
- Directing people to apply to best fitting programs

### Insener

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Tugev sobivus

VAJALIKUD  
OSKUSED ✓ 20/21 [Vaata](#)

### Kohtunik

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Tugev sobivus

VAJALIKUD  
OSKUSED ✓ 20/22 [Vaata](#)

### Osakonna juhataja

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Hea sobivus

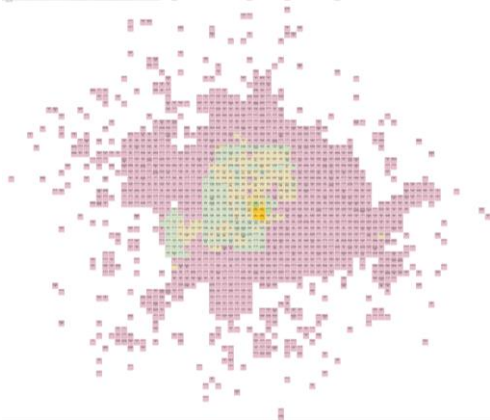
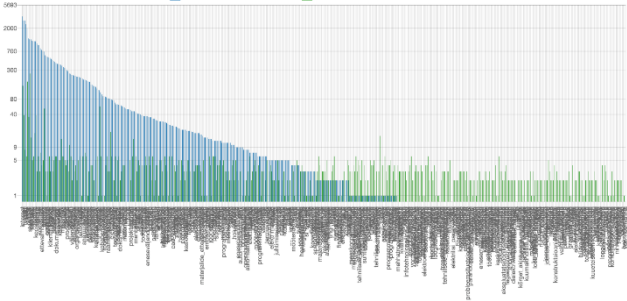
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OSKUSED ✓ 12/15 [Vaata](#)

# Automation via AI – first pilot project in cooperation with Head AI (2019)

## The useful failure

Tartu Vocational College curricula

■ demand in labour market ■ skill included in course outcome



# Mechatronics related skills demand in Tallinn

ESCO  
European Skills, Competences, Qualifications and Occupations

Natural Language Processing -based model

kontrollid (78)	skeemide (50)	tööpõhimõtted (41)
materjalid (91)	mõõteriistad (57)	elekter (36)
probleemitu lahendamise (103)	mõõtmine (61)	arvutab (32)

**For more information:**  
[oska.kutsekoda.ee](http://oska.kutsekoda.ee)  
[ave.ungro@kutsekoda.ee](mailto:ave.ungro@kutsekoda.ee)

