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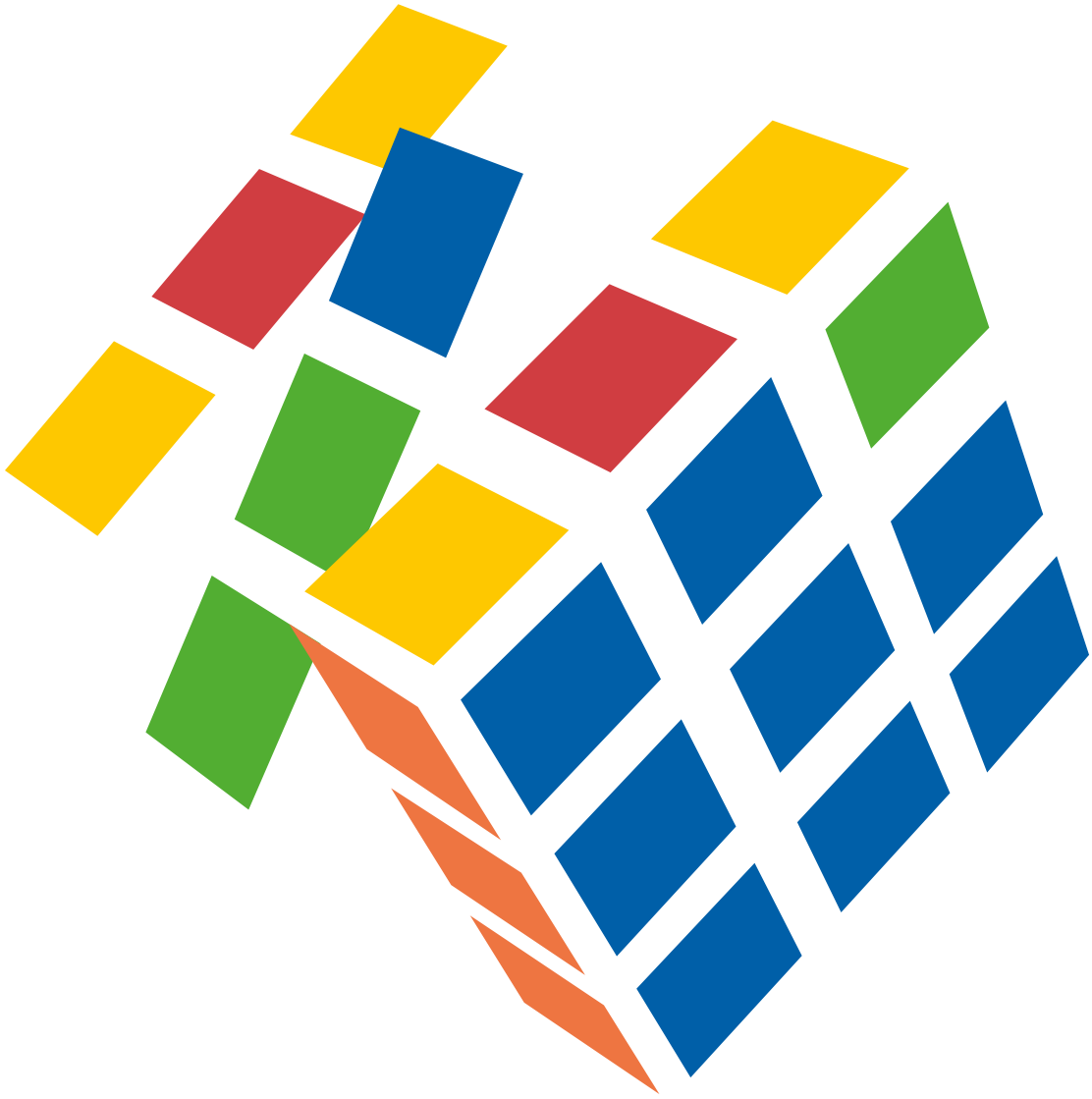
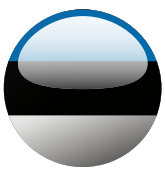


2023 skills forecast

Estonia



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SKILLS FORECAST 2023 ESTONIA

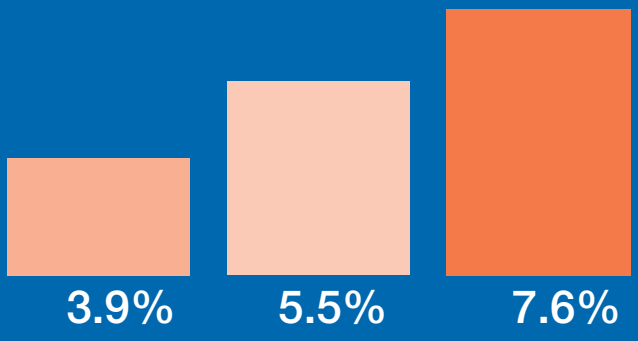
Employment in 2035

692 000

7.62%

increase 2021-35

% Employment growth 2021-35



Fastest-growing sectors

2021-35% growth

64%
Information & communication

29%
Real estate, professional, scientific & technical activities

Total job openings, 2021-35

493 000

Replacement needs (90%)

New job openings (10%)

Highest-demand occupations

Largest creation of new jobs, 2021-35

13 000
Science & engineering professionals

11 000
Information & communications technology professionals

8 000
Health professionals

Total job openings by skill level 2021-35

High-skilled non-manual occupations (55%)

Skilled non-manual occupations (18%)

Skilled manual occupations (17%)

Elementary occupations (10%)

increase in high-skilled labour demand 2021-35

21%

EU overview 2035

3.4%
employment increase in 2021-35

Fastest growing occupation
Legal, social and cultural professionals

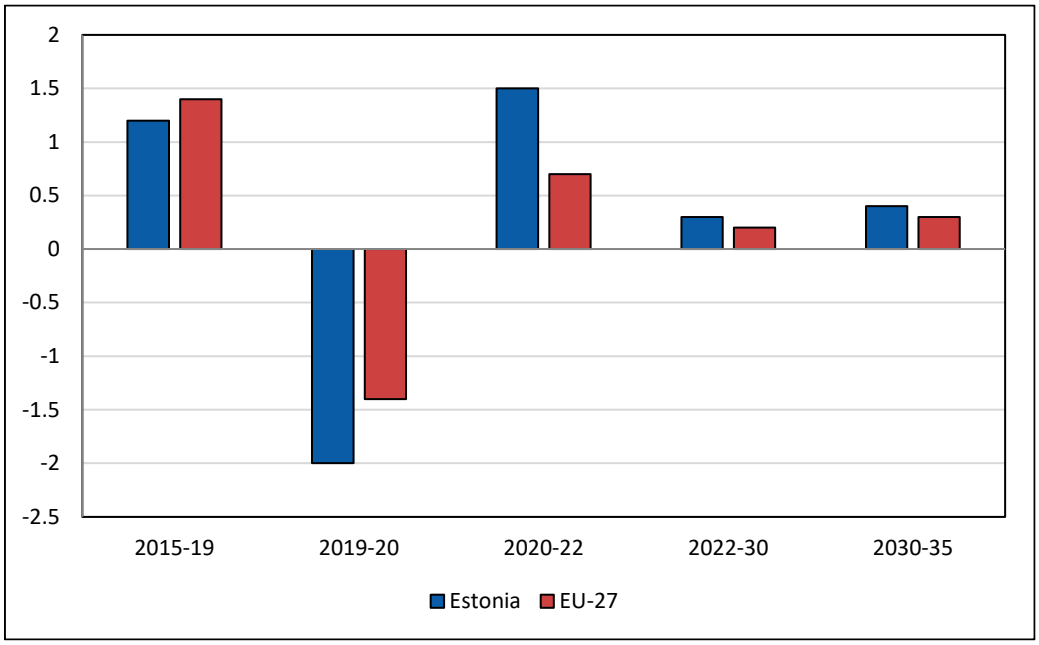
Fastest growing sector
Information and communication

Cedefop skills forecast: Estonia

1. Employment outlook

Employment in Estonia is forecast to grow slightly faster than the EU-27 average, albeit at much slower rates than seen over 2015-19. Figure **1** shows that employment in Estonia grew slightly slower than the EU-27 average over 2015-19, and fell more sharply in 2020 as the Covid-19 pandemic hit. However, employment in Estonia is also estimated to have bounced back more strongly than the EU-27 over 2020-22, and across the forecast period, employment in Estonia is forecast to grow by around 0.3-0.4% pa compared with growth of around 0.2-0.3% pa for the EU-27 as a whole.

Figure 1. **Annual percentage employment growth in Estonia and the EU-27, 2015-35**



Source: Cedefop (2022 Skills Forecast).

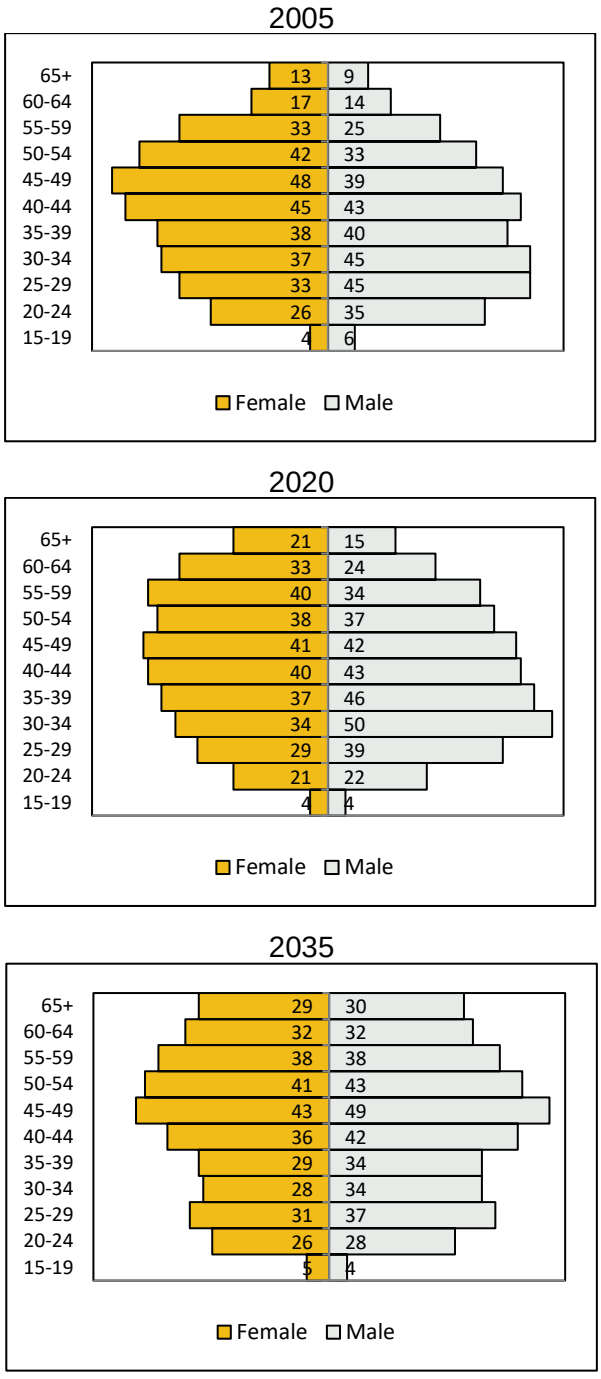
2. Labour force overview

Figure 2 shows Estonia's labour force by age group in 2005, 2020 and 2035. Changes in the labour force in Estonia over the forecast period will continue to be driven generally by the ageing population and increasing participation rates in most age groups. The total labour force in Estonia is projected to increase very slightly (just under 2%) over 2020-35, compared to growth of around 4% over the previous 15 years. This compares with an expected increase in the labour force of just under 3% over 2020-35 for the EU-27 as a whole. The total participation rate in Estonia is forecast to increase by 1 pp in 2035 compared to 2020, a similar increase to that expected in the EU-27 as a whole. Total population is forecast to grow by only 0.6% over 2020-35, but this compares with a fall of around 3.5% seen over 2005-20.

The population in Estonia aged between 25 and 44 is forecast to decline quite strongly during 2020-35, while the population aged 45-54 and 65 and over is forecast to grow quite strongly, reflecting trends in the relevant younger cohorts in preceding periods.

The participation rates of all age groups over 20 in Estonia are forecast to grow over 2020-35, with the strongest increases projected for the 25-29 (9 pp) and 30-34 (7 pp) age groups. The increases in participation rates in these groups are even stronger for females and less strong for males. The opposite is true for those aged over 60. Due to the combined impact of the changes in population and participation rates by age group, the male total participation rate is projected to remain static over 2020-35, and the female rate to increase by 1 pp over the same period.

Figure 2**. Distribution of the labour force (thousands), 2005-35**

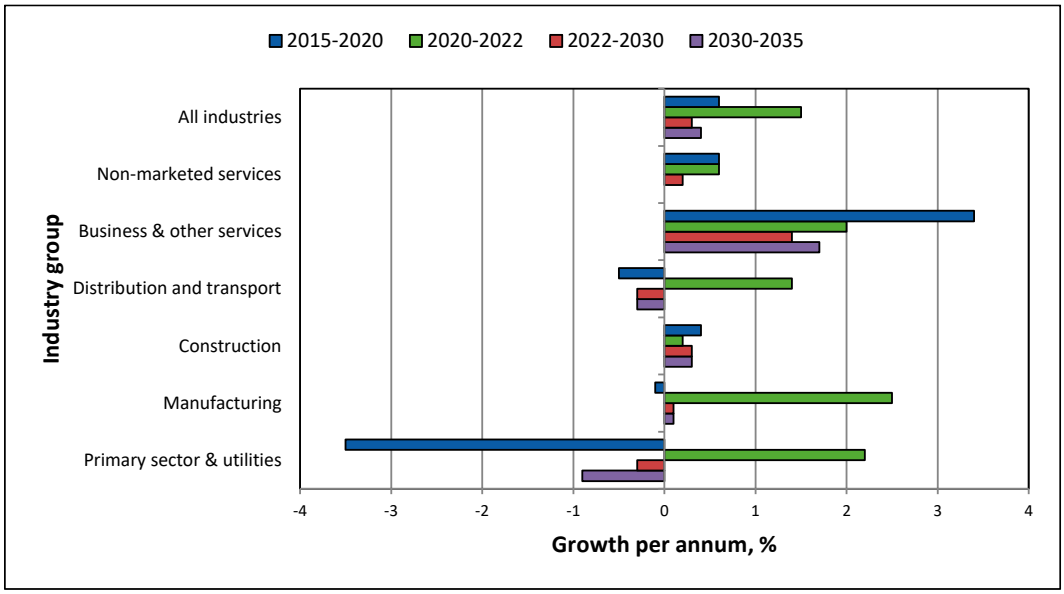


Source: Cedefop (2022 Skills Forecast).

3. Sectoral employment trends

Figure 3 shows annual average employment growth by broad sector in Estonia between 2015 and 2035. While total employment in Estonia is expected to continue to grow over the forecast period, and most broad sectors are expected to see positive growth; the *Distribution & transport* sector is forecast to see something of a decline (of around 0.3% pa) in employment over this period, as is *Primary sector & utilities* (a decline of 0.3-0.9% pa). *Business & other services*, with a growth of 1.4-1.7% pa over this period, is expected to see the strongest growth in employment.

Figure 3**. Employment growth by broad sector of economic activity, 2015-35**



Source: Cedefop (2022 Skills Forecast).

In terms of sub-sectors (i.e. below the level of the six broad sectors discussed above), the pattern of growth is much more mixed. The growth in *Business & other services* is forecast to be driven by growth in the sub-sectors of *research & development, computer programming & information services*, *architectural & engineering services*, *real estate activities*, *media* and *administrative & support services*. Within *Manufacturing*, growth in employment is forecast to be driven by *wood, paper, printing & publishing*, *electrical equipment*, *optical & electronic equipment*, *motor vehicles* and *other transport equipment*. Within *Primary sector & utilities*, the *electricity* and *water supply* sub-sectors are forecast to see positive employment growth. Still, agriculture, which accounts for around 3% of total

employment in Estonia (in 2020) is forecast to see a continued decline in employment over the same period.

4. Job openings by occupational group

Cedefop skills forecasts estimate the total job openings by occupational group as the sum of net employment change and replacement needs. Net employment change refers to new jobs created or jobs lost due to the expansion or contraction of employment in that sector or occupation. Replacement needs arise as the workforce leaves the occupation due to retirement or career changes. Replacement needs, generally, provide more job opportunities than new jobs, meaning that significant job opportunities arise even in occupations declining in size (i.e. agricultural workers are a typical example, as ageing workers employed in the sector will need to be replaced).

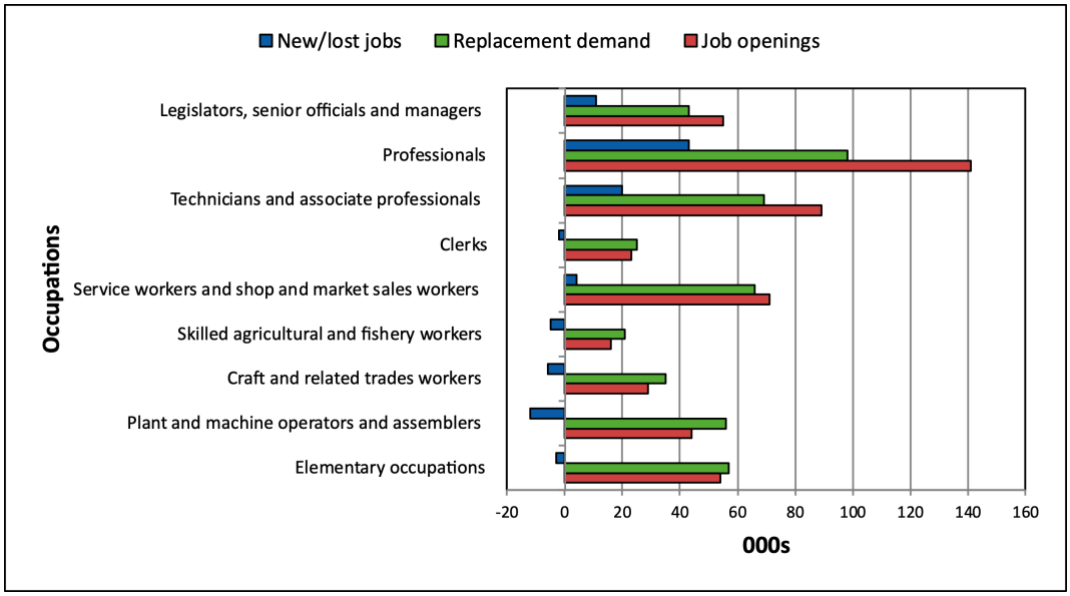
Figure 4 shows the total job openings by broad occupational group over 2020-35. The number of job openings indicates the number of jobs that are required to be filled due to lost/newly created jobs and those that are in need of replacement workers. Although quite a few broad occupations are expected to see a contraction in total employment, all are expected to see a significant number of job openings, due to replacement demand. *Professionals,* and *Technicians & associate professionals* are expected to see the greatest number of job openings over this period due to fairly strong job growth combined with strong replacement demand. Overall, the total number of jobs is forecast to increase by around 51,000 over this period, while replacement demand is expected to be around 470,000, meaning that there are expected to be more than 520,000 job openings.

At the more detailed level, most job openings (taking both new/lost jobs and replacement needs together) are expected to be in high skilled non-manual occupations, which are mostly in services, such as teaching professionals, business & administration associate professionals, production & specialised services managers and science & engineering associate professionals, each accounting for 6% or more of total job openings. All high skilled non-manual occupations are expected to see at least some increase in total jobs.

Although many occupations with low qualification requirements, including skilled manual occupations such as *drivers & mobile plant operators* and *metal, machinery & related trades workers*, and elementary occupations such as *cleaners & helpers* are forecast to see a decline in total jobs, they are still expected to see a large number of job openings due to replacement demand.

These findings are consistent with the general trend of skills upgrading within the occupational distribution seen recently in Estonia. Digitalisation so far has mostly displaced clerical occupations. However, efforts are being made in Estonia to convince more companies to adopt digital solutions, including in manufacturing, although no specific policy is in place to mitigate the possible losses in employment due to automation. Therefore, various types of machine operators are expected to shrink.

Figure 4. **Job openings by broad occupational group, 2020-35**



Source: Cedefop (2022 Skills Forecast).

5. Drivers of occupational change

Within the Cedefop skills forecasts, future employment growth (or decline) of occupations is further broken down by separating national economic components from regional industrial and economic effects, helping to interpret what is driving the change. From this perspective employment growth can be explained by three possible drivers: (a) overall trends of the economy (i.e. growth or decline), (b) shifts of employment between sectors and (c) changes in the occupational structure within sectors (i.e. factors making some occupations more important/ others).

In almost all occupations, the occupation-specific effect has a much stronger impact than the industry size effect. This means that in many sectors, the

occupation-specific effect will be decisive for the occupational composition of employment in Estonia. Overall, the increases in the sector size and the occupation-specific effect are expected to lead to increased shares of *corporate managers, professionals* and *technicians and associate professionals*. Despite of the negative industry size effect present in specific occupations, all high-skilled occupations, without exception, are forecast to increase. High-skilled occupations that can benefit the most from this trend are, for example*, science and engineering professionals, health professionals* and especially *health associate professionals*.

Therefore, the overall effect of occupational change depends on several factors that need to be considered together. Increasing automation and digitisation, moves toward a service-oriented economy, including within manufacturing, will lead to greater use of higher-level occupations.

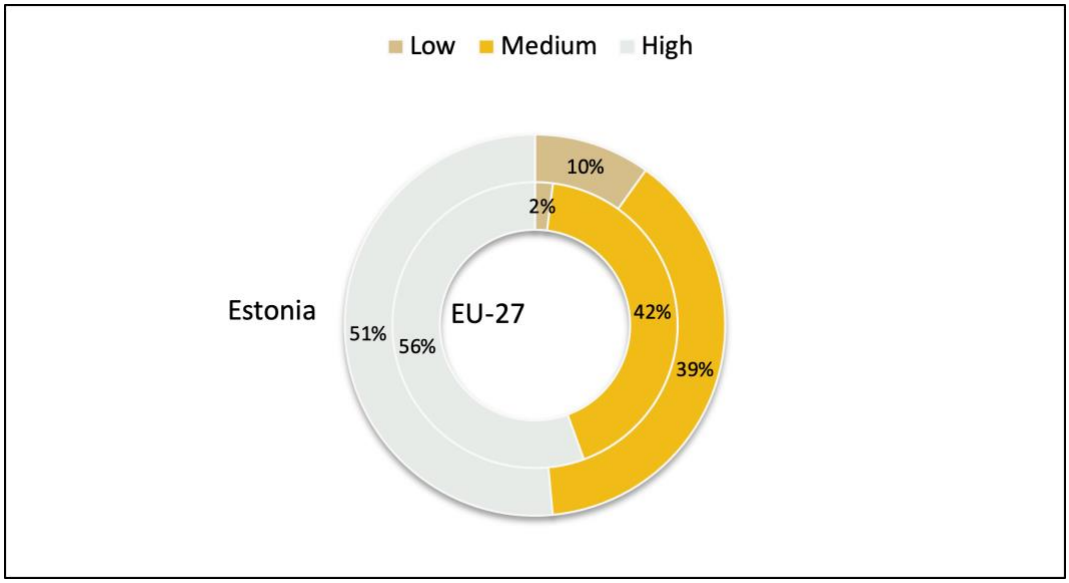
All low- and intermediate-skilled occupations, excluding workers in *personal, care, protective service*, will decrease. Among the weakest low- and intermediate-skilled occupations are *agriculture, forestry and fishery labourers* and occupations in *food processing, wood working, garment and other craft and related trades*. However, these projected reductions cannot outweigh the positive growth characterising high-skilled occupations.

6. Demand for and supply of skills

Within the Cedefop skills forecasts, skills are proxied by the highest level of qualification held by individuals in the labour force and employment. Three levels are distinguished, high, medium, and low, which correspond to the official ISCED classification. The occupational group also offers an indication of the skill level required, as some occupations (e.g. professionals) typically require high-level skills, while some others (e.g. elementary) typically require only basic ones. Therefore, occupational groups are also linked to a skill level.

More than half (51%) of the total job openings that are expected to be created in Estonia over 2022-35 are expected to require high level qualifications, somewhat below the EU-27 average. 39% of total job openings will require medium level qualifications, and 10% will require low level qualifications. The share of employment with low qualifications is decreasing but the replacement demand is relatively high. Thus, while the higher level job openings are somewhat below the EU-27 average, the share of low level qualifications in Estonia is above the EU-27 average.

Figure 5. **Shares of total job openings by level of qualification, 2022-35**

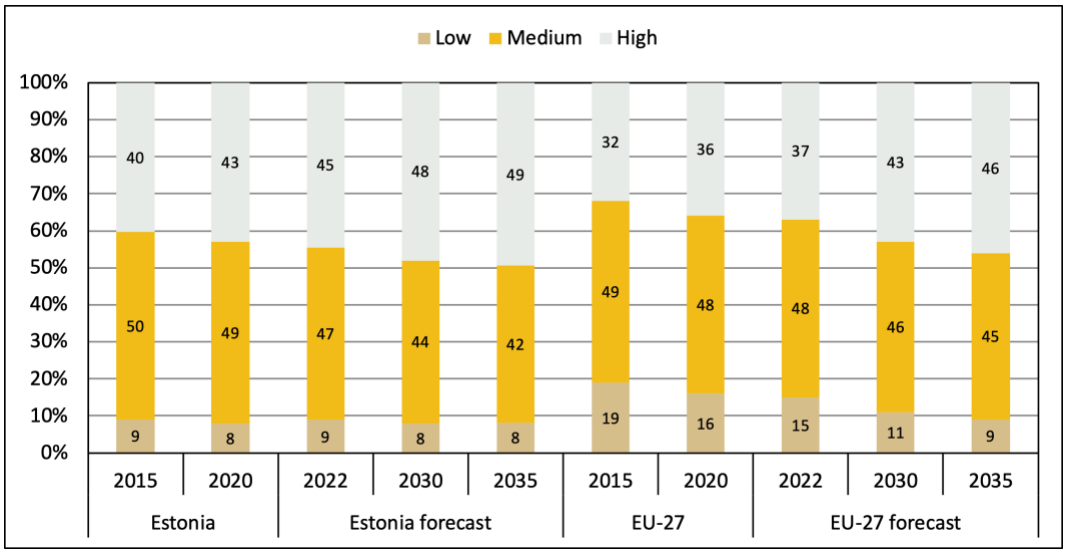


Source: Cedefop (2022 Skills Forecast).

Total job openings are highest among the *Teaching professionals, Business and administration associate professionals,* and *Production and specialised services managers*, all among the higher level occupations.

Future labour supply trends depend on the size of the working age population (defined as aged 15 or older), labour market participation rates, and the extent to which people acquire formal qualifications.

Figure 6. **Labour force share by level of qualification, 2015-35**



Source: Cedefop (2022 Skills Forecast).

Figure 6 shows the expected changes in the shares of qualifications in the workforce in Estonia and the EU-27 over 2022-35. The share of people with high level qualifications in Estonia is expected to increase over the period, to reach 49% in 2035 and become the largest occupation group. The level of medium qualified labour force is expected to decrease accordingly, towards 42% in 2035. Those with low levels of qualification are expected to remain fairly stable, reaching 8% in 2035. Estonia thus follows the general EU-27 movement of increasing high qualified at the cost of medium qualified, but without the strong changes that can be observed in the average development, as Estonia starts out from a qualification mix that resembles the final EU-27 mix already.

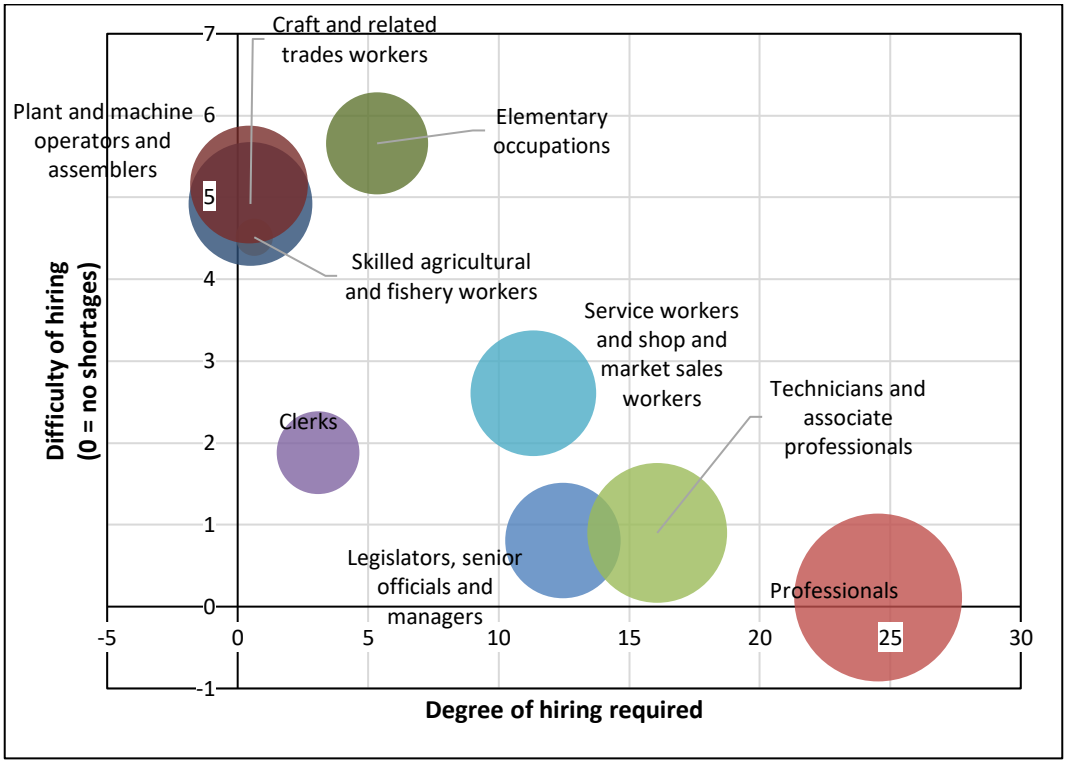
The Estonian labour market is expected to continue to increase the supply of the higher qualified while decreasing the intermediate qualified. Estonia already has a strong tradition in highly educated supply of labour, following this EU trend but at a higher level. The increase, at the cost of intermediate qualification can,

however, lead to mismatches within occupations that still require intermediate qualification levels or skills embedded therein. How these mismatches will be solved is unclear as both underqualification, using supply from the lower qualified as well as overqualification, employing the high qualified in intermediate level occupations, can result.

Figure **7** shows an indicator, *difficulty of hiring*, whose aim is to approximate shortages of supply by qualifications and its impact on occupations. This measure, shown along the vertical axis, indicates increasing difficulties to fulfil demand given the available supply of qualifications used in the occupation. Along the horizontal axis, the *degree of hiring required* in the occupation is depicted. Higher values indicate that to reach the forecast result that occupation will need to adjust more (in terms of workers with particular qualifications) relative to the base year (2018) levels. These changes (degree of hiring required) can be due to a change in the qualifications required or increases in the number employed. The size of the bubble indicates the *overall employment level*, bigger bubbles indicate more employment while smaller bubbles less employment.

Occupations with both a high *degree of hiring required* and a high *difficulty of hiring* (i.e. towards the top right of the figure) are likely to have the most difficulties in achieving a suitable workforce.

Figure 7. **Indicators of future hiring difficulties, 2022-35**



Source: Cedefop (2022 Skills Forecast).

Note: Indicators were calculated at the level of the underlying 2-digit occupation groups. Aggregation was based on the employment weights within each 1-digit occupation group.

Figure 7 shows that occupations within *Technicians and associate professionals* and *Professionals* are forecast to experience the highest degree of hiring in Estonia.

Occupations with a high share of low qualified have the highest hiring difficulties. These are *Elementary occupations, Skilled agricultural and fishery workers, Craft and related trades workers,* and *Plant and machine operators and assemblers*. The projected hiring difficulties will depend on the willingness of more qualified workers to be employed for the typical work conditions and salaries of these occupations.

There are few firing difficulties among those occupational groups with high degrees of hiring: *professionals, Legislators, senior officials and managers,* as well as *Technicians and associate professionals.*

Cedefop methodology

The Cedefop Skills Forecast offers quantitative projections of future trends in employment, by sector of economic activity and occupational group. Future trends in the level of education of the population and the labour force are also estimated. Cedefop's forecast uses harmonised international data and a common methodological approach allowing cross-country comparisons between employment trends in sectors, occupations and qualifications. The forecast and methodology is validated by a group of national experts. The forecast does not substitute national forecasts, which often use more detailed methodologies and data, while they also incorporate in-depth knowledge of a country's labour market.

The latest round of the forecast covers the period up to 2035. The forecast takes account of global economic developments up to May 2022. The European Economy experienced a sharp downturn in 2020 due to the global pandemic, and partially bounced back in 2021. However, the strength of the recovery in the short term is threatened by global factors such as supply chain disruptions, the consequences of the war in Ukraine and high inflation.

The key assumptions of the baseline scenario incorporate the Eurostat population forecast available in May 2022 (Europop 2019) ([1]), and the short-term macroeconomic forecast produced by DG ECFIN in May 2022 ([2]). Several revisions to the data affect the Cedefop Skills forecast 2022, when compared to the 2019 update. For example, the population projections used in the 2022 update are generally more pessimistic than those used in the 2019 update (i.e. Europop 2015), with a corresponding impact on labour force figures. The source of historical labour force data is the European Labour Force Survey, which in 2021 underwent important methodological changes causing a break in the time series for several variables, including labour force. As a consequence, in many Member States the participation rates in 2021 are noticeably above/below historical trends, which causes the Cedefop Skills forecast 2022 to be revised in the same direction, compared to the 2019 update. Moreover, some Member States experienced significant revisions in the historical data series for sectoral employment from the National Accounts.

The Cedefop Skills forecast 2022 is made consistent with the objectives set by the European Green Deal by incorporating suitable assumptions in terms of additional investment, power sector technologies, energy balances and carbon pricing.

Energy and commodity price forecasts from the World Bank and the IEA are used as inputs to the Cedefop Skills forecast, which therefore incorporate the recent surge in prices.

([1]) https://ec.europa.eu/eurostat/web/population-demography/population-projections/database

([2]) https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2022-economic-forecast_en

For the latest update and access to more detailed Cedefop skills forecast data visit our Skills forecast project page.

For more details, please contact Cedefop's Skills Forecast team at: Skills-Forecast@cedefop.europa.eu