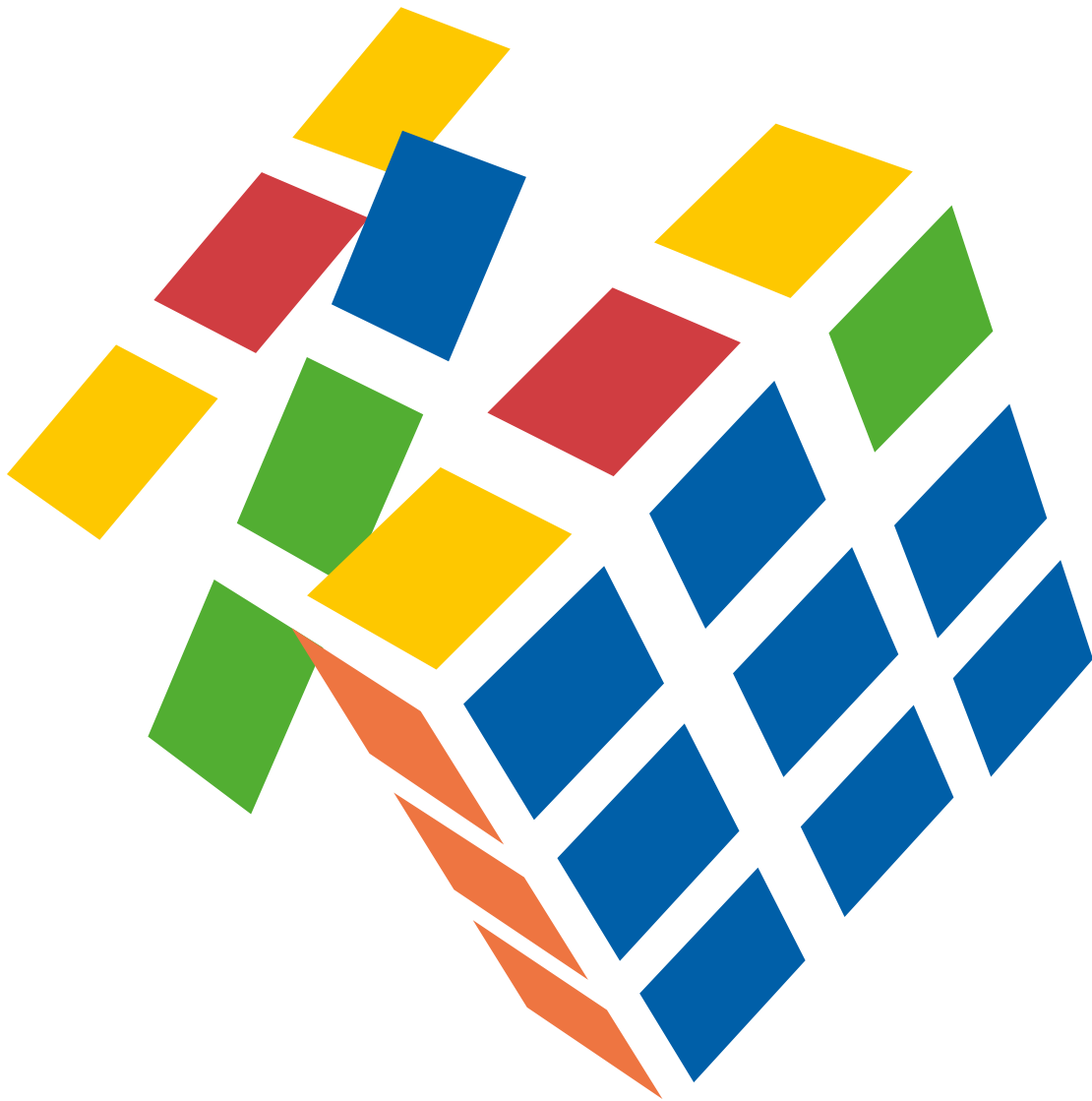




CEDEFOP

European Centre for the Development  
of Vocational Training

EN



# 2023 skills forecast Finland





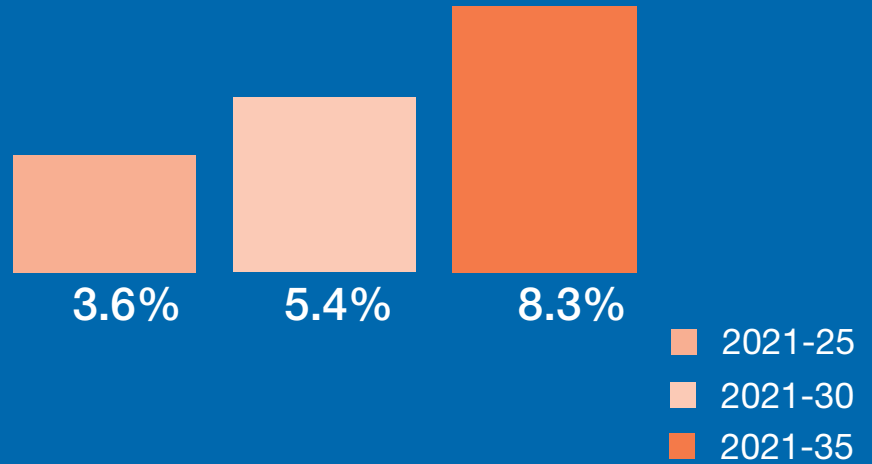
Employment in 2035

2 900 000

8.33%

increase 2021-35

% Employment growth 2021-35



Fastest-growing sectors

2021-35% growth



Total job openings, 2021-35

2 084 000



Highest-demand occupations

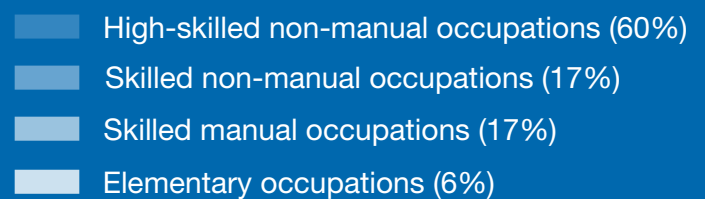
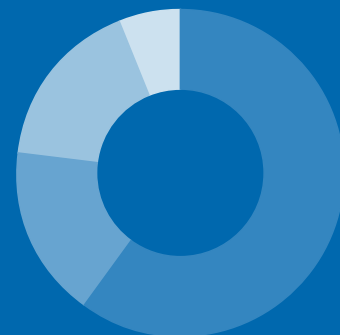
Largest creation of new jobs, 2021-35



increase in high-skilled labour demand 2021-35

25%

Total job openings by skill level 2021-35



3.4% employment increase in 2021-35



Fastest growing occupation  
Legal, social and cultural professionals



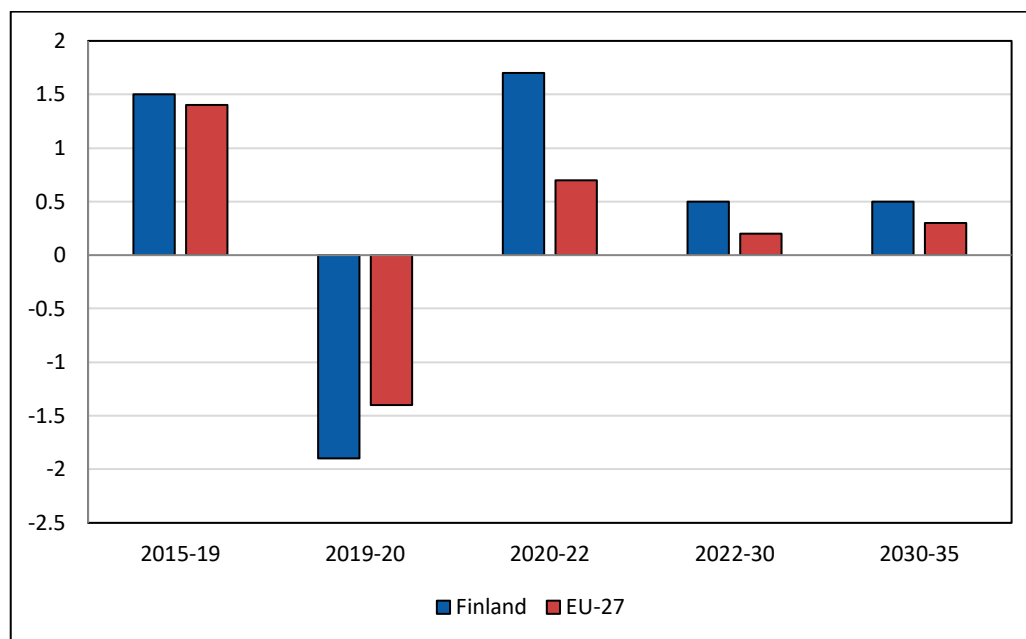
Fastest growing sector  
Information and communication

# Cedefop skills forecast: Finland

## 1. Employment outlook

Employment in Finland 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 Finland grew slightly faster than the EU-27 average over 2015-19 but fell more sharply in 2020 as the Covid-19 pandemic hit. Employment in Finland is also then estimated to have bounced back far more strongly than the EU-27 over 2020-22. Across the forecast period, employment in Finland is forecast to grow by 0.5% 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 Finland and the EU-27, 2015-35



Source: Cedefop (2022 Skills Forecast).

## 2. Labour force overview

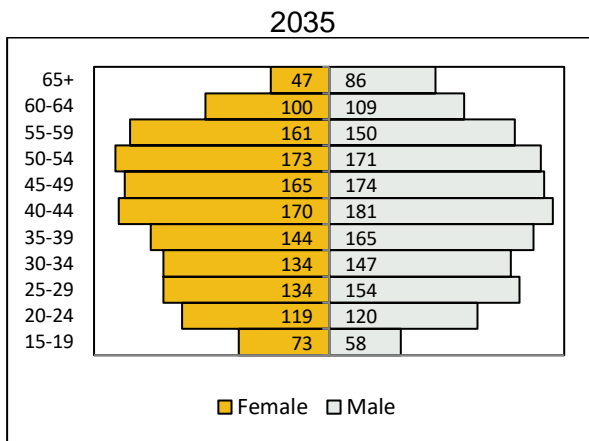
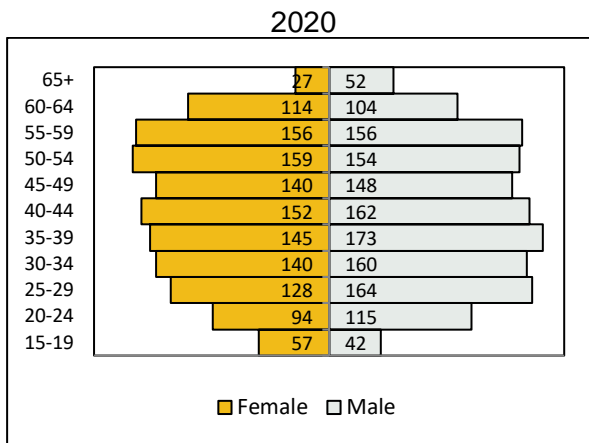
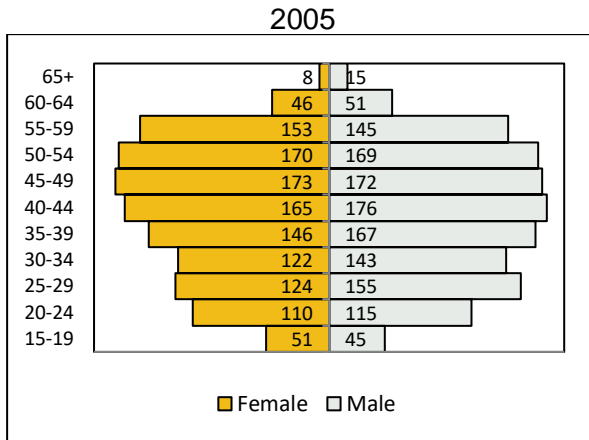
Figure 2 shows Finland's labour force by age group in 2005, 2020 and 2035. Changes in the labour force in Finland over the forecast period will continue to be driven by the ageing population, although less than in the EU as a whole, and increasing participation rates in most age groups. The total labour force in Finland is projected to increase by 7% over 2020-35 compared with growth of 5% 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. The total participation rate in Finland is forecast to increase by 3 pp over 2020-35, compared with an increase of 1 pp in the total rate for the EU-27. The total population is forecast to grow by 3% over 2020-35, compared with a growth of 8% over 2005-20.

The population aged 15-19, 25-39 and 55-64 in Finland is forecast to decline during 2020-35, but even though the population aged 40-49 and 65 and over is forecast to grow quite strongly, the population in Finland is not forecast to age as much as the EU-27 as a whole over this period.

The participation rates of all age groups in Finland are forecast to increase over 2020-35, with the strongest increases projected for the 15-19 (15 pp), 20-24 (9 pp) and 60-64 (9 pp) age groups.

As elsewhere, and due to the lower starting point, female participation rates in Finland are generally forecast to increase more than male rates. Overall, the total participation rate for females is projected to increase by 3 pp and the male rate to increase by 2 pp, over 2020-35.

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

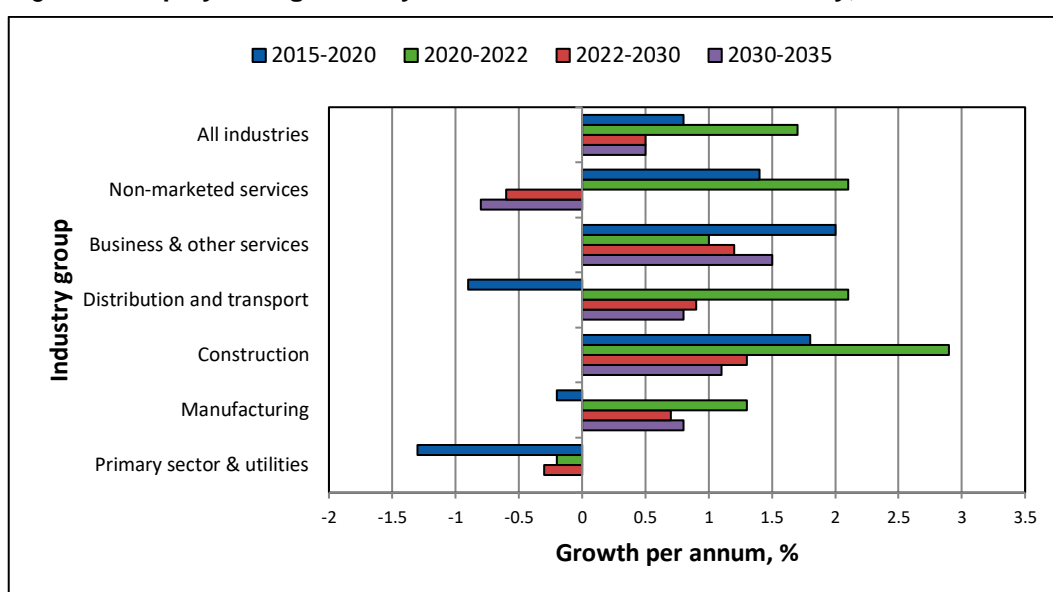


Source: Cedefop (2022 Skills Forecast).

### 3. Sectoral employment trends

Figure 3 shows annual average employment growth by broad sector in Finland between 2015 and 2035. Although total employment in Finland is expected to continue to grow over the forecast period, the picture among the broad sectors is mixed, with *Non-marketed services* and *Primary sector & utilities* forecast to see an overall decline in employment. The remaining broad sectors are forecast to see relative strong growth in employment over the whole forecast period.

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 slightly more mixed. All sub-sectors within *Business & other services* are forecast to see relatively strong growth over 2022-30. The pattern is similar in in *Distribution & transport*, except that employment growth in the large (accounting for 11% of total employment in Finland in 2020) sub-sector of *wholesale & retail trade* is forecast to be weak grow over 2022-30. Within *Non-marketed services*, employment in the health (17% of employment) sub-sector is forecast to decline very slightly over 2022-30, while employment in *public administration & defence* (7% of employment) and *education* (6% of employment) is forecast to decline more strongly over the same period. Within the larger (around 2% or more of total employment) sub-sectors of *Manufacturing*, employment in *other machinery & equipment* and *optical & electronic equipment* is forecast to grow by around 1% pa or more over 2022-30, while employment in

*basic metals & metal products* is forecast to remain static over the same period. Within *Primary sector & utilities*, the *agriculture* subsector, which accounts for more than two-thirds of employment in the broad sector, is forecast to see a fall of 0.8% pa over 2022-30.

## 4. Job openings by occupational group

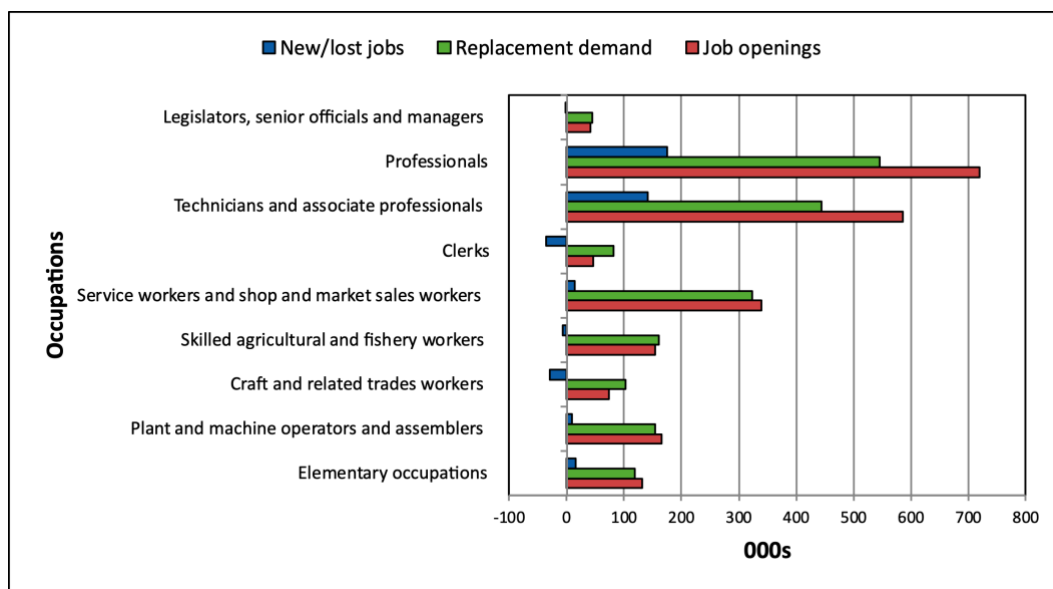
Cedefop skills forecasts estimate the total job openings by occupational group as the sum of net employment change and replacement needs. Net employment change refers to new jobs created or jobs lost due to the expansion or contraction of employment in that sector or occupation. Replacement needs arise 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. Aside from Clerks, Service workers & shop & market sales workers and Skilled agricultural & fishery workers, most occupations are expected to experience at least some increase in the number of jobs. *Professionals* and *Technicians & associate professionals* are forecast to see the largest number of new jobs and also the greatest replacement demand so they are also expected to see by far the greatest number of job openings. Overall, the total number of jobs is forecast to increase by 276,000, while replacement demand is forecast to be nearly 2 million, so that there are expected to be more than 2.2 million job openings over the forecast period.

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 such as *business & administration professionals and associate professionals*, *science & engineering professionals and associate professionals*, *legal, social cultural & related associate professionals* and *teaching professionals*, all accounting for 5% or more of total job openings. The skilled non-manual occupation creating the most job openings over this period is *personal care workers*, accounting for 7% of all job openings. Some skilled manual occupations such as *drivers & mobile plant operators* and *building & related trades workers* are also expected to provide many job openings. Although most elementary occupations are expected to provide at least some job openings, mainly through

replacement demand, the number is expected to be much lower than in the more skilled occupations.

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



Source: Cedefop (2022 Skills Forecast).

## 5. Drivers of occupational change

Within the Cedefop skills forecast, 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 than others).

The changes in the occupational composition of employment in Finland is mainly characterised by changes in the level of specialisation within occupations and in fewer cases by changes in industry size. Stronger occupation-specific and industry effects lead to an increasing share of *professionals* and *legislators, technicians and other associate professions*. The highest increase is expected for *legal, social, cultural and related associate professionals*, despite the negative industry size effect. High-skilled occupations that can benefit from the positive trends in occupation-specific and industry-size effects are, for example, *business and other*



*professionals, professionals and associate professionals in science and engineering.* Regardless the evident negative impact of the industry size, *health professionals* and *teaching professionals* remain strong occupations with good expectations to grow.

The overall effect of occupational change therefore depends on a number of factors that need to be considered together. Increasing automation and digitisation, a move towards a service-oriented economy, including within manufacturing, will lead to greater use of higher-level occupations at the expense of some medium and low-level occupations. All relevant lower-level occupations are forecast to increase, except for *agricultural, forestry and fishery labourers*. Overall, intermediate occupations are expected to decrease, and this is noticeable especially for *general office clerks, handicraft and printing workers* and *agricultural workers*.

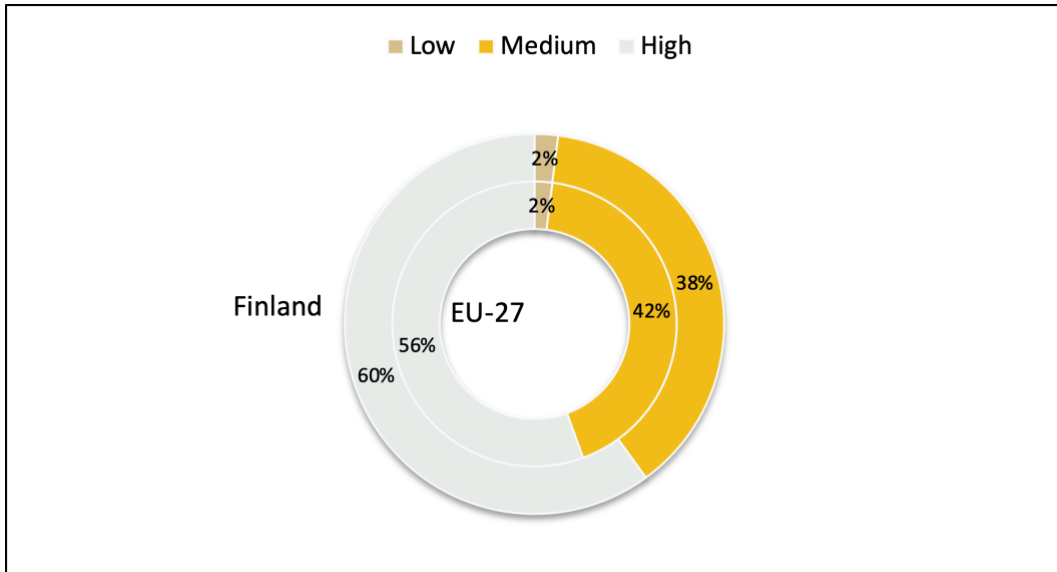
However, the anticipated reduction in the number of occupations cannot outweigh the positive growth, which mainly characterises highly skilled occupations.

## 6. Demand for and supply of skills

Within the Cedefop skills forecast, skills are proxied by the highest level of qualification held by individuals in the labour force and in 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.

Figure 5 shows the shares of total job openings by qualification level for Finland and the EU-27 over 2022-35. In Finland, most (60%) job openings over this period are expected to require a high level of qualification, which is slightly higher than the EU-27 average. At the intermediate level, a slightly lower share of job openings is expected to require medium qualifications (38%), while 2% require low qualifications, on par with the EU-27 average.

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



Source: Cedefop (2022 Skills Forecast).

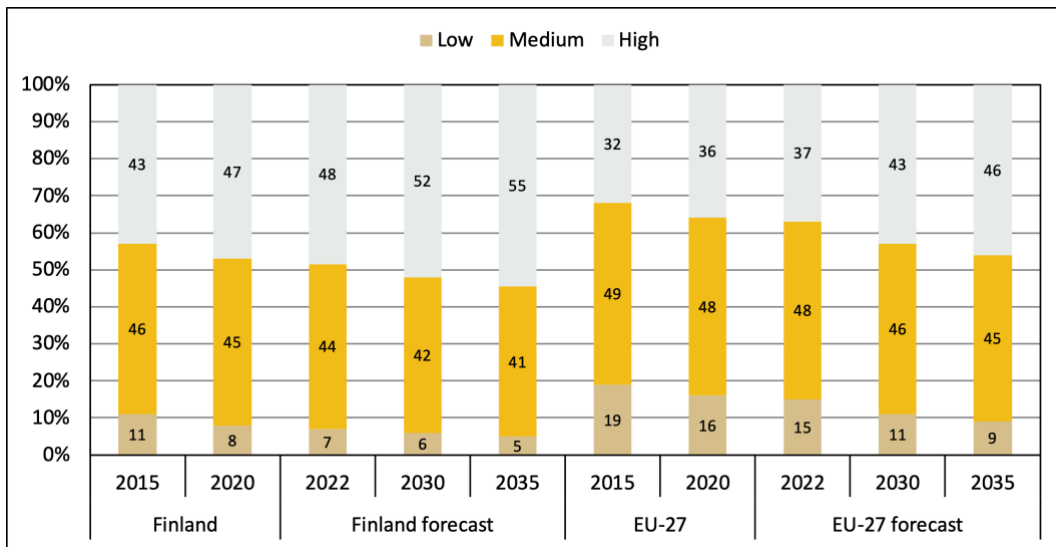
Future labour supply trends depend on the size of the working age population (defined as aged 15 or older), the labour market participation rates, and the extent to which people acquire formal qualifications.

Figure 6 depicts the development of qualifications within the labour force in Finland and the EU-27. Finland is expected to continue to see an increasing share of high qualified in the labour market. While the share was 48% in 2022, it is expected to increase to 55% by 2035.

The medium-qualified share decreases in the same period from 44% to 41% is expected to be at the expense of both high-skilled workers, and a slight decrease of employed at the low qualification level (7% to 5% in 2035).

Finland is expected to continue to have lower shares of lower and medium qualified than the EU-27 average.

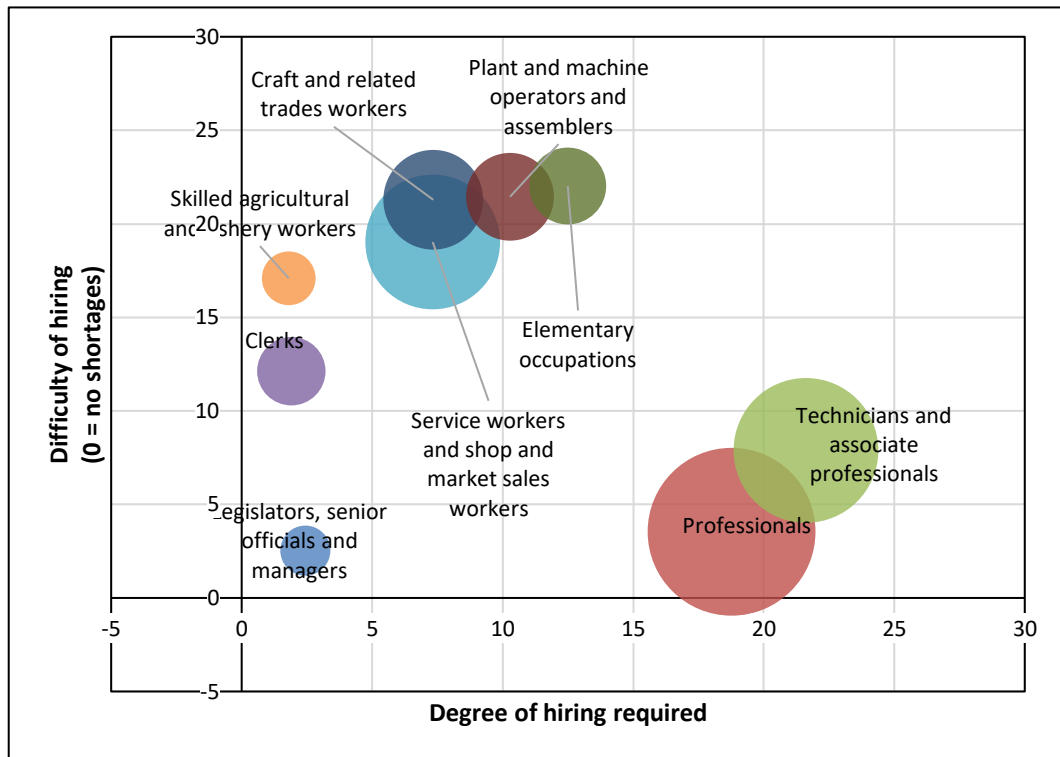
Figure 6. Labour force share by level of qualification, 2015-35



Source: Cedefop (2022 Skills Forecast).

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, 2018-30



Source: Cedefop (2020 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.

While the supply of high educated workers is expected to increase, shortages are expected especially among the low qualified. These shortages imply that the some medium and high qualified will be mismatch and work below their qualification level.

In all other occupations, more hiring difficulties can be observed, yet only in occupations that show a change in the qualification mix – most likely because of the hiring difficulties, also show an intermediate level of hiring degree.

## 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) <sup>(1)</sup>, and the short-term macroeconomic forecast produced by DG ECFIN in May 2022 <sup>(2)</sup>. 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.

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(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](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](mailto:Skills-Forecast@cedefop.europa.eu)