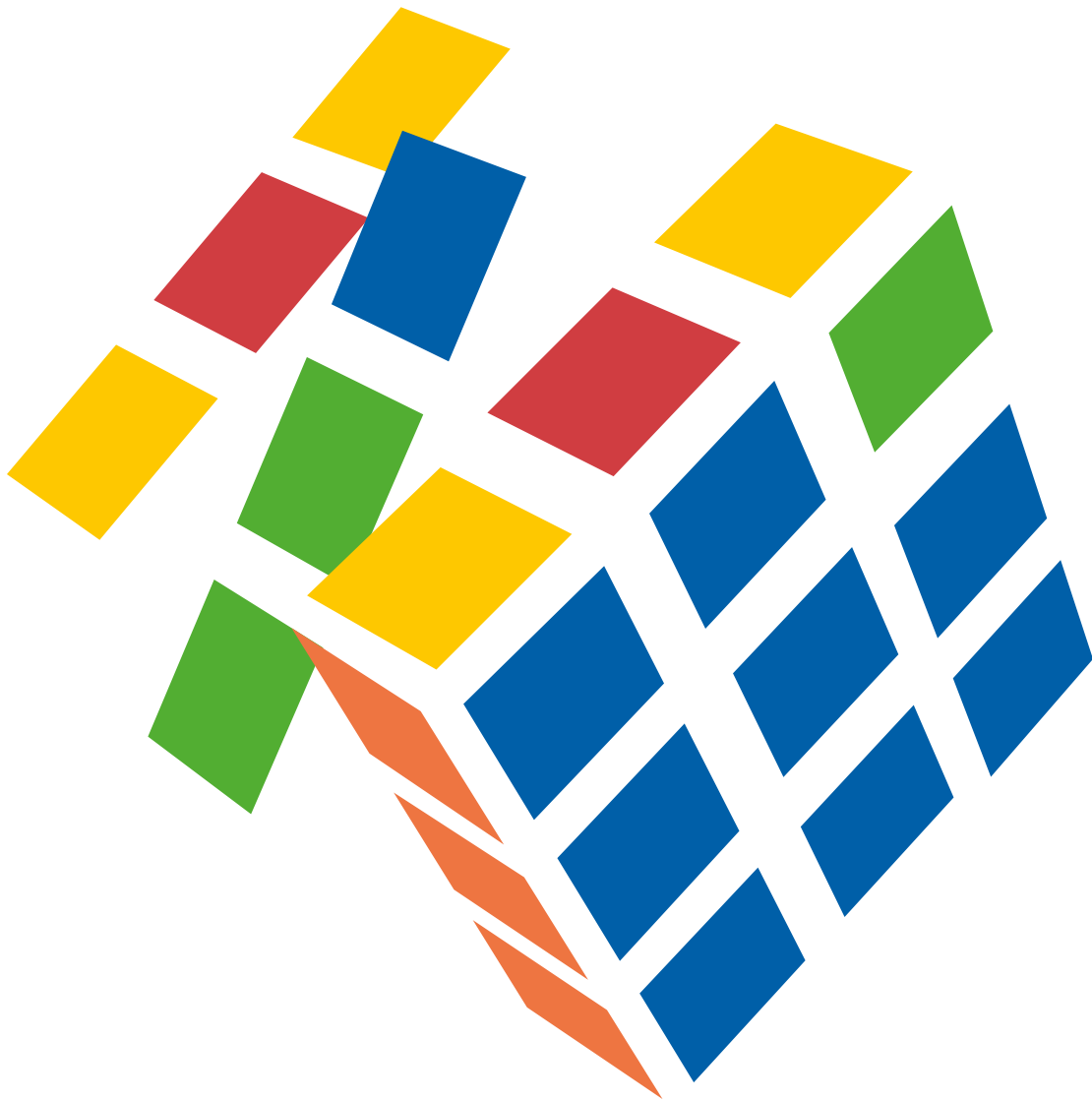




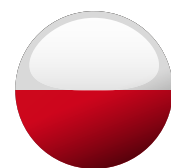
CEDEFOP

European Centre for the Development
of Vocational Training

EN



2023 skills forecast Poland





Employment in 2035

17 026 000

2.40%

increase 2021-35

% Employment growth 2021-35

-0.1%

0.9%

2.4%

- 2021-25
- 2021-30
- 2021-35

Fastest-growing sectors

2021-35% growth

43%

Accommodation & food service activities

41%

Real estate, professional, scientific & technical activities

Total job openings, 2021-35

8 156 000



- Replacement needs (95%)
- New job openings (5%)

Highest-demand occupations

Largest creation of new jobs, 2021-35

369 000

Health professionals

296 000

Business & administration professionals

171 000

Science & engineering professionals

Total job openings by skill level

2021-35



- High-skilled non-manual occupations (59%)
- Skilled non-manual occupations (12%)
- Skilled manual occupations (23%)
- Elementary occupations (6%)

increase in high-skilled labour demand 2021-35

30%



3.4%

employment increase in 2021-35



Fastest growing occupation
Legal, social and cultural professionals



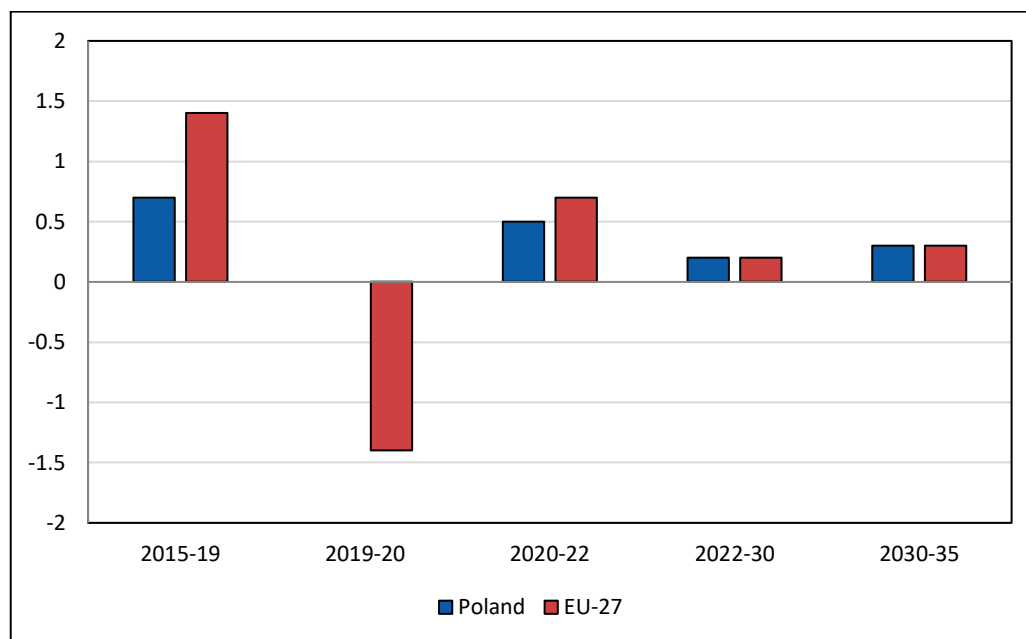
Fastest growing sector
Information and communication

Cedefop skills forecast: Poland

1. Employment outlook

Employment in Poland is forecast to grow at the same rate as the EU-27 average, although at slower rates than seen over 2015-19. Figure 1 shows that Poland's employment grew slightly slower than the EU-27 average over 2015-19 and remained static in 2020 as the Covid-19 pandemic hit. Employment in Poland is also estimated to have bounced back slightly more slowly than the EU-27 over 2020-22. Across the forecast period, employment in Poland is forecast to grow by only 0.2-0.3% pa, the same rate as the forecast for the EU-27 as a whole.

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



Source: Cedefop (2022 Skills Forecast).

2. Labour force overview

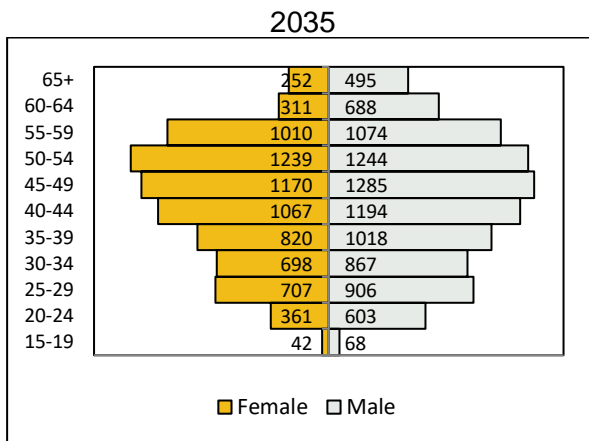
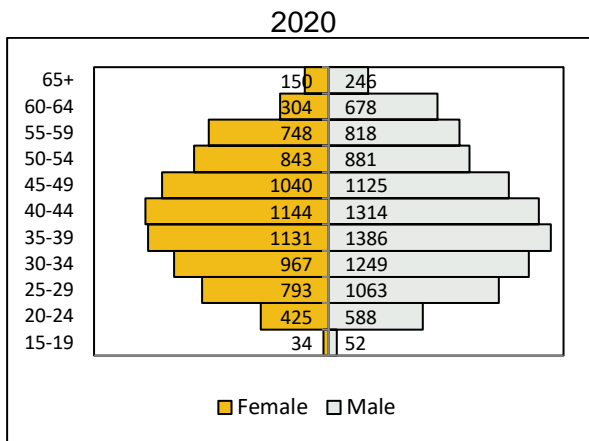
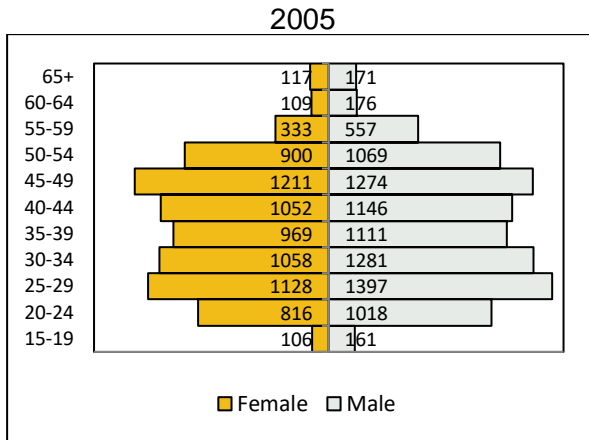
Figure 2 shows Poland's labour force by age group in 2005, 2020 and 2035. Changes in the labour force in Poland over the forecast period will continue to be driven by the ageing population and increasing participation rates in most age groups. The total labour force in Poland is projected to grow by around 1% over 2020-35, compared to a fall of around 1% 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 Poland is forecast to increase by 1 pp over 2020-35, as is the case for the EU-27. The total population is forecast to decline by 1% over 2020-35, compared with growth of 1% over 2005-20.

The population aged 20-44 and 60-64 in Poland is forecast to decline quite strongly during 2020-35, while the population aged 45-59 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 25 in Poland are forecast to grow over 2020-35, with the strongest increase projected for the 55-59 age group (9 pp) and 25-39 age groups (7 pp).

The differences between male and female participation rates in Poland are generally greater than the EU-27 average, with the overall female rate in Poland (45%) being 5 pp lower than the EU-27 average female participation rate (50%) in 2020. The pattern of increases between males and females by age group is mixed, with females aged 25-59 generally forecast greater participation rates, but males aged 20-24 and 60 and over forecast greater increases. Overall, the total participation rate for males and females is projected to increase by 1 pp over 2020-35.

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

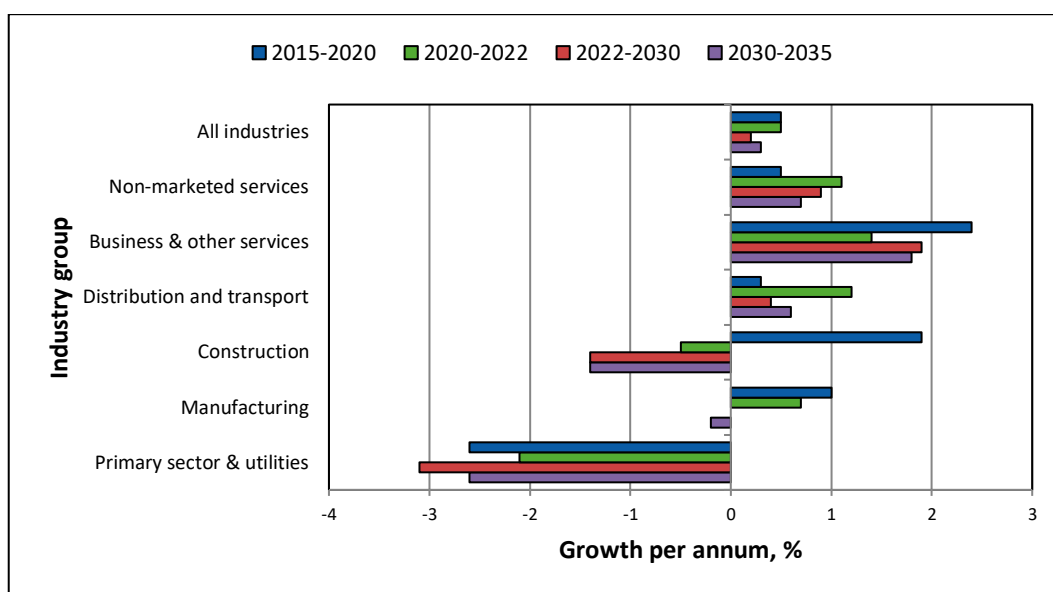


Source: Cedefop (2022 Skills Forecast).

3. Sectoral employment trends

Figure 3 shows Poland's annual average employment growth by broad sector between 2015 and 2035. The three broad services sectors are all forecast to see growth over the whole forecast period, with Business & other services forecast the strongest growth, of almost 2% pa. On the other hand, both *Construction* and *Primary sector & utilities* are forecast to see a decline 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), growth is slightly more mixed. Within *Business & other services* growth is forecast to be strong across almost all sub-sectors, with only *other service activities* forecast to see an, albeit only small, decline. Growth in employment in *architectural & engineering services, research & development, media, telecommunications, real estate activities, market research & other professional services* and *arts & entertainment* is forecast to be greater than 2% pa. Within *Distribution & transport*, only *land transport* (which accounted for 4% of employment in Poland in 2020) is forecast to decline by 1.2% pa over 2022-30 by the model. In how far these declines in transportation will manifest itself in light of the latest developments remains to be seen.

The very large sub-sector (14% of employment) of *wholesale & retail trade* is forecast to grow slowly, by 0.3% pa over 2022-30, while the remaining sub-sectors are forecast to grow by 1.7-2.5% pa over the same period. In *Non-marketed*

services, employment in *education* (8% of employment) is forecast to decline slightly, while employment in *health* (6% of employment) and *public administration & defence* (6% of employment) is forecast to grow by 2% pa and 1% pa respectively, over 2022-30. The pattern of growth in Manufacturing is more mixed, with, among the larger sub-sectors (those accounting for around 2% of employment or more), employment in *food, drink & tobacco* (-1.3% pa), *other manufacturing* (-1.3% pa) and *motor vehicles* (-3.3% pa) forecast to decline over 2022-30, and employment in *wood, paper, printing & publishing, basic metals & metal products* and *rubber & non-metallic mineral products* all forecast to grow by 0.5-0.7% pa over the same period. Within *Primary sector & utilities*, *electricity* is the only sub-sector forecast to see positive growth of 2% pa over 2022-30, while *agriculture* (9.5% of employment in 2020) is forecast to fall strongly over the same period.

4. Job openings by occupational group

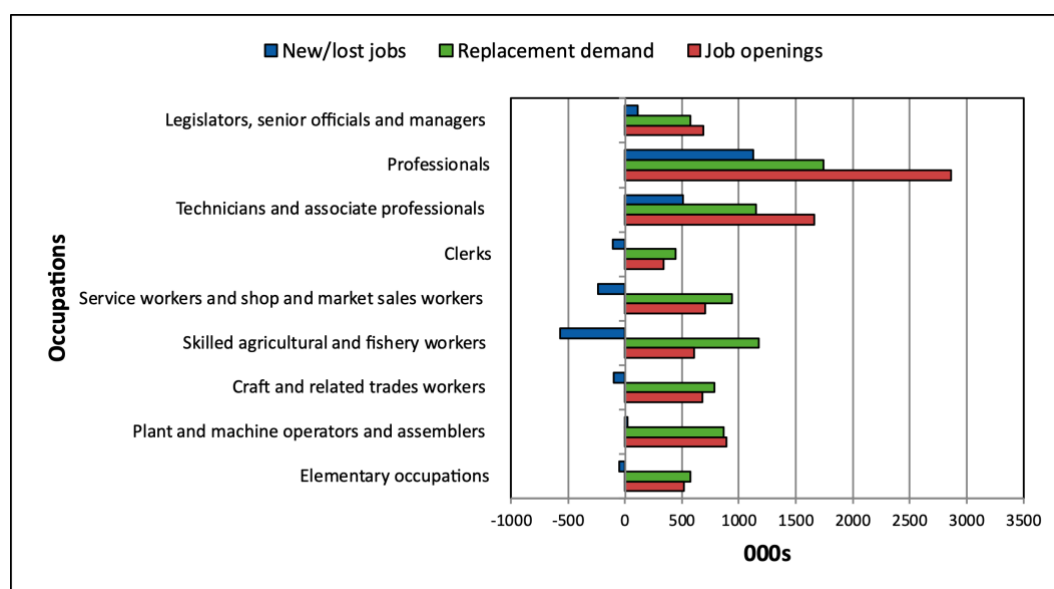
Cedefop skills forecasts estimate the total job openings by occupational group as the sum of net employment change and replacement needs. Net employment change refers to new jobs created or jobs lost due to the expansion or contraction of employment in that sector or occupation. Replacement needs arise 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 presents the total job openings by broad occupational group over 2020-35. The number of job openings is determined by the number of jobs lost/newly created and by the number of jobs that become vacant following the retirement of older workers or the movement of workers into different occupations. Most jobs will come from this need to replace workers retiring or changing occupations.

Professionals and *Technicians & associate professionals* are forecast to see the largest increase in jobs and largest replacement demand, and so both are expected to provide the most job openings over 2020-35. Even broad occupations that are expected to shrink are projected to have a large replacement demand and so are still expected to see a relatively large number of job openings over this period. Overall, the total number of jobs is forecast to increase by 629,000, while replacement demand is expected to be around 8.2 million, so there are expected to be around 8.9 million job openings over this 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 occupations such as *health professionals, business & administration professionals and associate professionals, science & engineering professionals and associate professionals* and *teaching professionals*. Even so, some skilled manual occupations such as *building & related trades workers, drivers & mobile plant operators* and *metal, machinery & related trades workers* are expected to provide many job openings, driven by new jobs as well as replacement demand. Some skilled non-manual occupations, such as *personal service workers* and *sales workers*, are also expected to provide a substantial number of job openings, with the latter despite a fall in the number of jobs available. Although most elementary occupations are expected to provide at least some job openings, 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 occupational composition of employment in Poland is characterised both by changes in the level of specialisation within occupations and, in fewer cases, by changes in the size of industries. Both stronger occupation-specific and industry effects lead to more weight in *professionals* and *legislators, senior officials and managers, technicians and other associates*. Despite the noticeable decrease in industry size, the employment increase in some less qualified occupations, such as *agricultural, forestry, and fishery labourers, and building and related trades workers*, is promising thanks to the high and positive occupation-specific effect.

High-skilled occupations that can benefit the most from these trends are, for example, *chief executives, senior official and legislatives*, as well as *professionals* (except for *teaching professionals*) and *legal, social, cultural and other associate professionals*. Furthermore, it is evident that while high-skilled occupations are subject to positive occupation-specific and industry size effects, the opposite occurs for intermediate occupations. Lower-level occupations are characterised by opposite effects that compensate for each other.

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

Among lower-level occupations, only *agricultural, forestry and fishery labourers* seem to be increasing while all the others decrease.

Intermediate occupations overall are expected to decrease. Whereas the growth of *building and related trade* and *metal machinery workers* remains promising, together with *handicraft and printing workers*, most of the other medium-qualified occupations will experience a noticeable decrease.

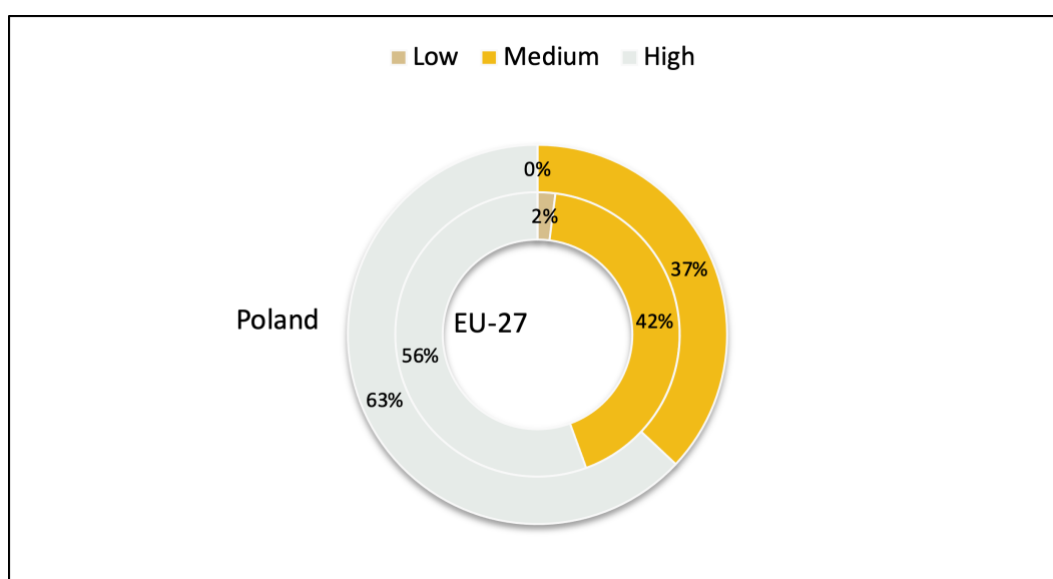
6. Demand for and supply of skills

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.

In net terms, most job openings expected to be created in Poland over the period up to 2035 are projected to require high level qualifications (63%), compared with a share of 56% in the EU-27.

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

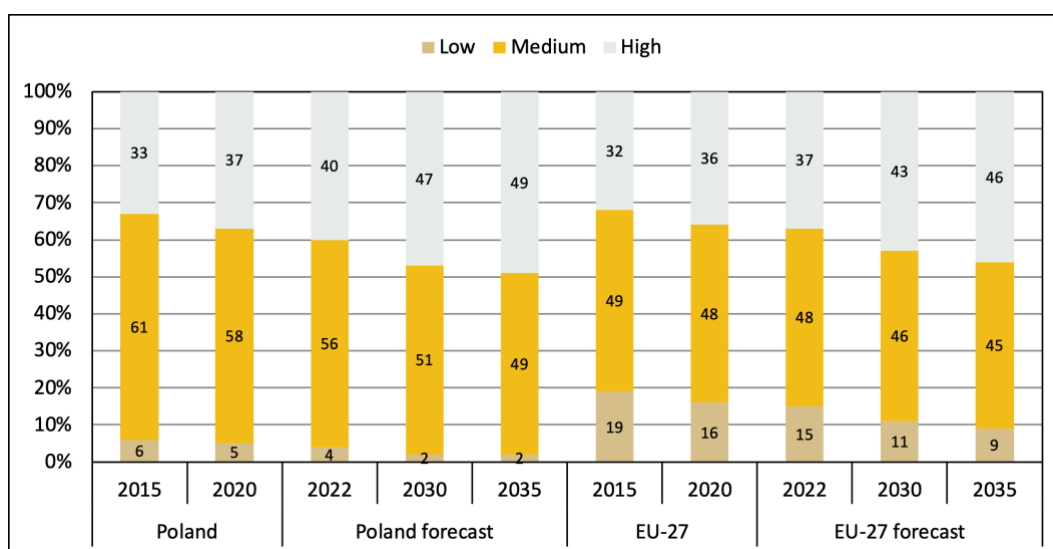


Source: Cedefop (2025 Skills Forecast).

More than one-third of the job openings are at the medium level, none at the lowest level.

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



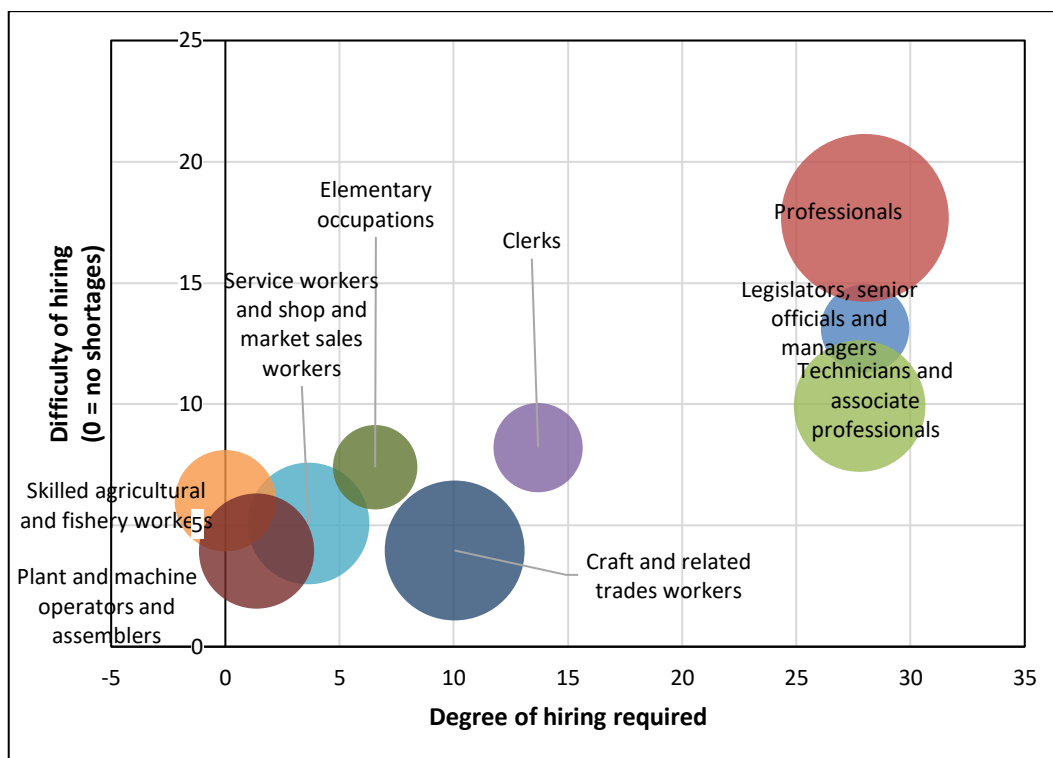
Source: Cedefop (2022 Skills Forecast).

In general, Poland is expected to experience substantial changes over 2022-35 in the shares of qualifications in the labour force, as seen in Figure 6. The share of people with high level qualifications in Poland is expected to increase over the period up to 2035 (reaching 49%) to become the largest qualification group at the expense of workers with medium qualifications that declined towards this level (49%). The low qualified labour force share will decrease to 2% in 2035. The share of the labour force with high qualifications is expected to remain somewhat above the EU-27 average.

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.

Hiring difficulties are expected among the high qualified. Thus Figure 7 shows a division between those occupations that require higher qualified workers (Legislators, senior officials and managers, Professionals, Technicians and associate professionals), which all exhibit high degrees of hiring and difficulties of hiring. The other occupations exhibit lower degrees of hiring and less difficulties of hiring.

Over the forecast period, Poland is expected to shift towards a much higher share of highly qualified workers. It is consistent with the increasing demand for higher level occupations that will allow new graduates with high qualifications to find employment. However, the job openings for intermediate and low-level

occupations could also face more hiring difficulties in the coming decade as the supply of intermediate and low qualified is limited.

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](#).



The country fiche for Poland has been developed in collaboration with Artur Gajdos, assistant professor at the University of Lodz, Poland.

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