



**CEDEFOP**

European Centre for the Development  
of Vocational Training

EN



# 2020 skills forecast

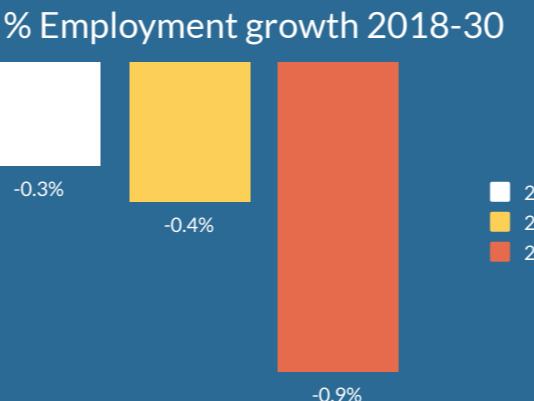
## Czechia





**5 275 000**  
Employment in 2030

-1.5%  
Increase  
2018-30



## FASTEST-GROWING SECTORS

Growth per year 2018-30



## HIGHEST-DEMAND OCCUPATIONS

Total job openings 2018-30



**4.4%**  
Increase  
in employment  
in 2018-30

EU  
overview  
2030



Fastest-growing sector  
Non-marketed services



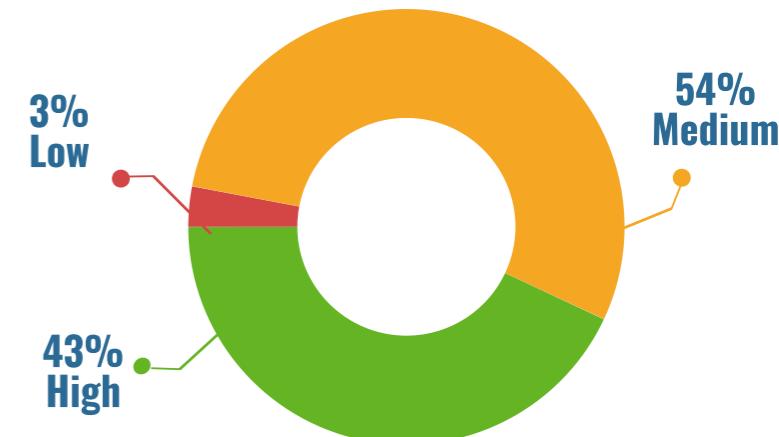
Highest-demand occupation  
Business & administration associate professionals

**2 280 000**  
Total job openings, 2018-30



Replacement needs (100%)  
 New job openings (0%)

## Total job openings by qualification level 2030:



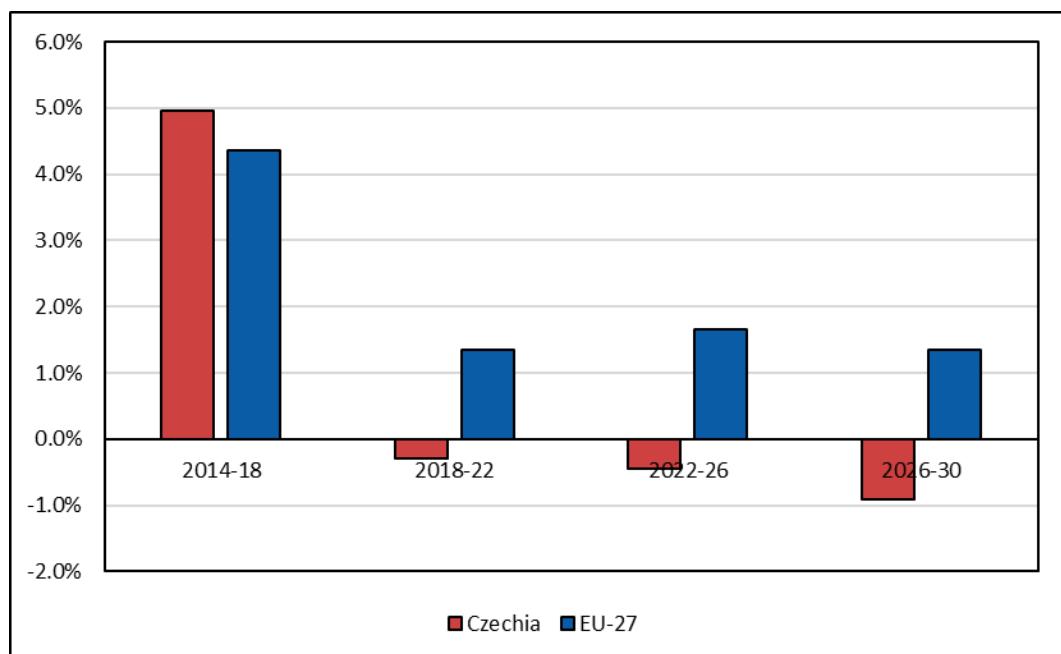
**52%** Increase in high-skilled  
labour supply 2018-30



## 1. Employment outlook

Employment in Czechia is forecast to decline over the period 2018-30, after a sizeable growth in the period 2014-18, and is projected alongside an increase in the labour force. Employment in Czechia is expected to decrease slightly more sharply as the forecast period progresses, from around 0.3% in the short term (2018-22) and 0.4% in the medium term (2022-26), to 0.9% in the long term (2026-30). The decline in all subperiods contrasts with positive growth in the EU-27 average as a whole, and is driven particularly by a projected decline in employment in manufacturing.

**Figure 1. Percentage employment growth in Czechia and the EU-27, 2014-30**



Source: Cedefop (2020 Skills Forecast).

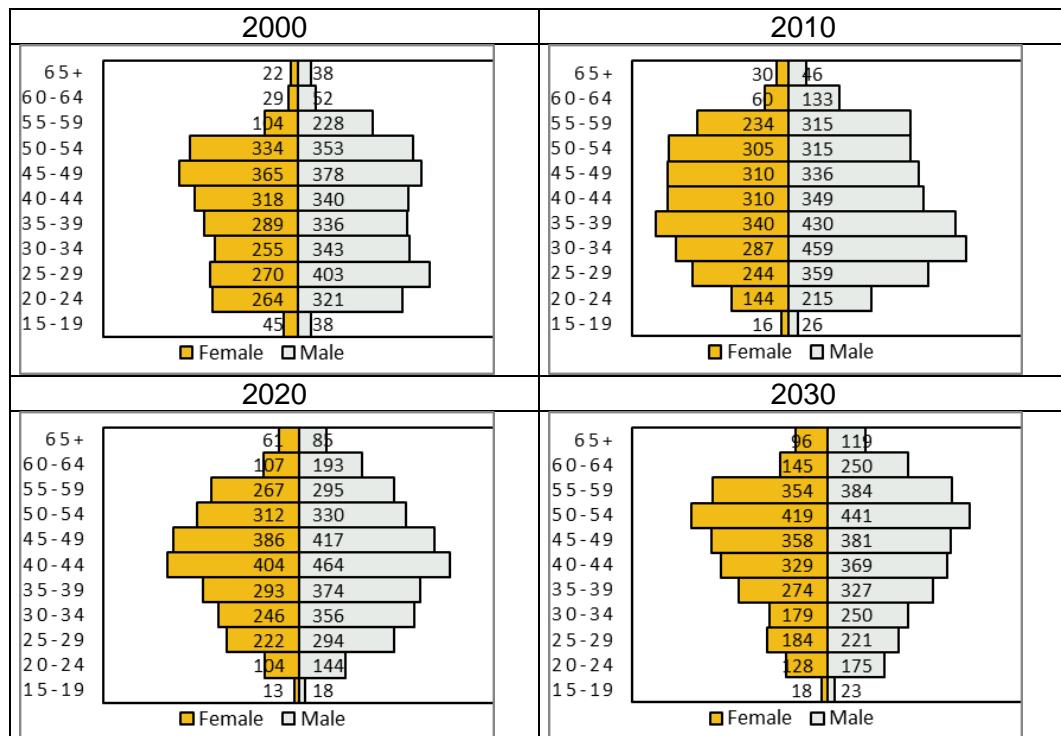
## 2. Labour force overview

In Czechia, the labour force is expected to grow by 6% over the three decades from 2000 to 2030. The increase in the labour force is driven by a large increase in the size of the labour force aged 50 or more due to an ageing population coupled with increasing retirement age, which more than outweighs the significant decrease in the size of the labour force aged 39 or less (see Figure 2). For females, the age group with the largest absolute increase is those aged 55-59, while for males it is those aged 60-64. Both the female and male labour force are expected

to increase over 2000-30, but, while the female labour force is expected to increase throughout the period, the male labour force is expected to decline slightly over 2020-30.

Most age groups are expected to show slightly higher labour market participation rates over 2020-30, except those aged 20-24 who are expected to show a 1 percentage point (pp) decline and those aged 60-64 who are expected to show a 15 pp increase, resulting in a broadly stable participation rate for the labour force as a whole. Indeed, labour force and population are expected to increase at roughly the same pace. However, while labour force and population are expected to increase for the groups aged 50 or more over 2020-30, the opposite is true for groups aged 25-49, for whom labour force and population are expected to decrease. These dynamics will lead to an ageing in the structure of the labour force, with those aged 50 being more-represented in 2030 (accounting for 41% of the labour force) compared to 2000 (accounting for 23% of the labour force). This is a result of a sharp decline in birth rates after 1989 which, despite some recovery since 2000, still hasn't reached the rate required to increase the relative share of the younger population. Participation rates are expected to increase among females over 2020-30, except for the group aged 20-24, while they are expected to decrease or stay constant for males, except for the group aged 55 and above.

**Figure 2. Distribution of the labour force (thousands), 2000-30**

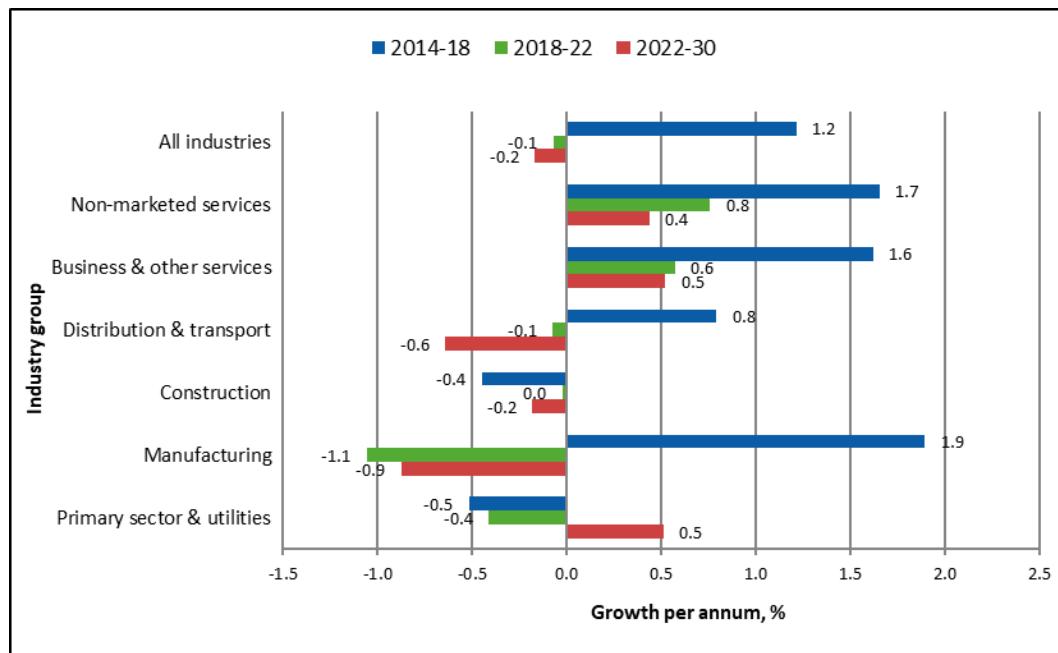


Source: Cedefop (2020 Skills Forecast).

### 3. Sectoral employment trends

As Figure 3 shows, employment trends are expected to differ widely among sectors. On the one hand, *business & other services* and *non-marketed services*, after sizeable growth over 2014-18, are expected to see much slower but relatively sustained growth during the forecast period, at around 0.5% pa. On the other hand, *distribution & transport* and *manufacturing* are expected to decline over the forecast period, with the latter declining at a rate of around 1% pa. Employment in *construction* is expected to stagnate over the forecast period, while *primary sector & utilities* is expected to recover in the long term (2022-30) at a rate of 0.5% pa, following a decline of 0.4% pa in the short term (2018-2022). Still, the share of the primary sector and utilities in total employment will remain very small. On the other hand, the expected decline of employment in manufacturing will bring about a significant change in the employment structure towards services. While manufacturing in Czechia has greatly recovered from the last economic crisis, employment in the sector might have already reached its limits, especially with the possibilities of advancing automation in production.

**Figure 3. Employment growth by broad sector of economic activity, 2014-30**



Source: Cedefop (2020 Skills Forecast).

In terms of employment in sub-sectors (i.e. below the level of the six broad sectors discussed above), services such as *telecommunications, financial & insurance activities, R&D and computer programming* are expected to be among the fastest growing, thus driving the increase in employment in *business & other services*. *Public administration & defence* is expected to be the main driver of the increase in *non-marketed services*. On the other hand, most *manufacturing* sectors are expected to decline, with the exception of *pharmaceuticals, other chemicals* and *optical & electronic equipment*. Such developments would bring significant changes to the Czech economy, which has for a long time been heavily dependent on large employers in the automotive industry and sectors linked to it. *Electricity and gas, steam & air conditioning* are also expected to increase, thus driving the recovery of *primary sector & utilities* in the 2022-30 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 due to the expansion of the 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 2018-30. 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. Most occupations are expected to shrink or to stagnate during the forecast period, with the exception of high skill occupations such as *legislators, senior officials and managers, professionals* and *technicians and associate professionals*, which are expected to show net job creation (10 000, 68 000 and 103 000 respectively). Including also replacement demand, *professionals* and *technicians and associate professionals* are expected to provide the highest number of job openings, accounting for around 20% of total job openings each. In total, 89 000 jobs are expected to disappear between 2018 and 2030 in Czechia, while total job openings (mostly due to replacement needs) are expected to amount to 2.3 million.

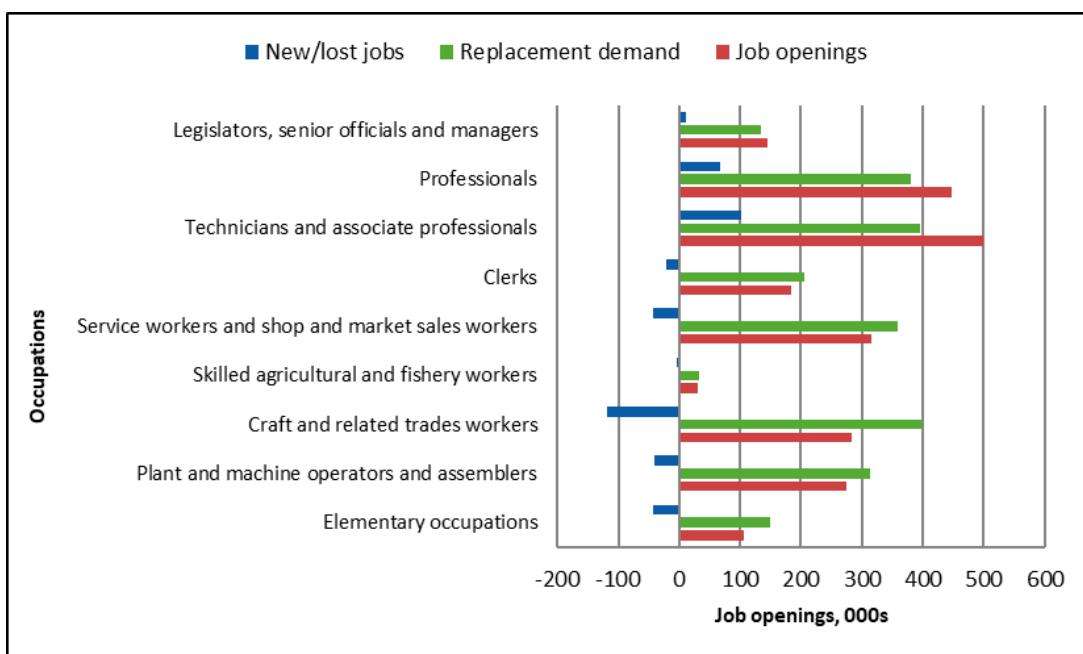
At the more detailed level, most job openings (taking both new/lost jobs and replacement needs together) are expected to be in *high skill* occupations found mostly in services such as *business and administration associate professionals* and *science and engineering associate professionals*. *Skilled non-manual* occupations mainly found in services activities such as *personal care workers* and *personal service workers* are also expected to provide many job openings, while clerical occupations such as *numerical and material recording clerks* are expected to shrink. Some *skilled manual* occupations such as *drivers and mobile plant and metal, machinery and related trades workers* are expected to provide a significant amount of job openings, although these will be due to replacement needs, while the employment in these occupations is expected to shrink, reflecting employment losses in *manufacturing*. Occupations found in retail such as *sales workers* are expected to shrink significantly. Overall, the recent trend of occupational upgrading is expected to continue according to the projection, despite quite large losses in some of the middle-skilled occupations.

Both the occupational and sectoral forecast are in line with the ongoing shift of the Czech economy away from being an “assembly line” for foreign producers based on cheap labour. On the one hand, a general process of convergence with richer Member States is happening, with labour costs in Czechia rising as a result. On the other hand, conscious efforts from the Czech government (e.g. increases

in minimum wage) are being made to abandon the focus on cheap labour as a source of comparative advantage.

The expected trends therefore seem to support policy goals. With the declining popularity of manual work, the shift towards a higher share of service sector jobs will also make it easier for employers to fill vacancies at times of high demand. On the other hand, de-industrialisation of the labour market might increase opportunities for non-standard employment relations.

**Figure 4. Job openings by broad occupational group, 2018-30**



Source: Cedefop (2020 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 Czechia is mainly characterised both 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, overall, to an increasing share of *professionals* and *legislators, senior officials and managers, technicians and other associate, customer services clerks* and *health professionals*. High-skilled occupations that can benefit from these trends are, for example *chief executives, senior officials and legislators*, and, in particular, *legal, social, cultural and related associate professionals* and *clerks*.

The overall effect of occupational change therefore depends on a number of factors that need to be considered together. It seems likely that the convergence of the Czech economy and wage levels towards Western ones might weaken the motivation of foreign employers to hire large numbers of low-skilled Czech workers, especially in manufacturing. Increasing digitisation and moves toward a service-oriented economy, including within manufacturing, will lead to a greater use of higher-level occupations at the expense of some medium and low-level occupations. All relevant lower-level occupations apart from some of those supporting production, such as *building and related trade workers, excluding electricians* are expected to decrease.

Intermediate occupations overall also decrease. Among the medium-qualified occupations that are expected to see growth, there is only *legal, social, cultural and related associate professionals*.

## 6. Demand for and supply of skills

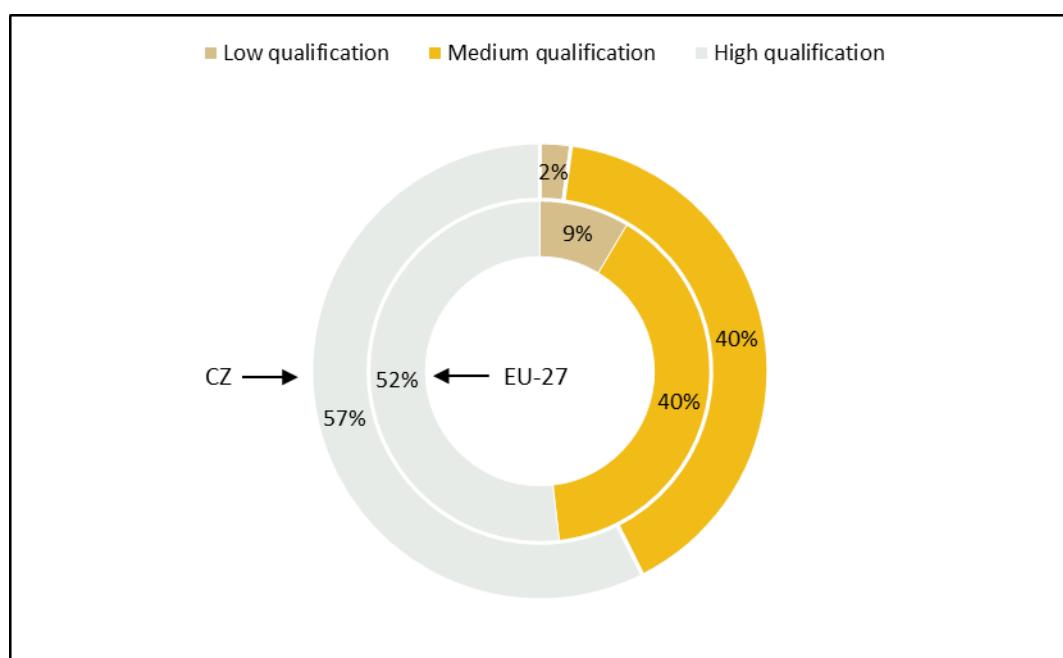
Within the Cedefop skills forecast, skills are proxied by the highest level of qualification held by individuals in the labour force and in employment. Three levels are distinguished, high, medium, and low, which correspond to the official ISCED classification. The occupational group also offers an indication 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 Czechia and the EU-27 over 2018-30. In Czechia, most job openings are expected to require a high-level qualification. Compared to the EU-27, job openings in Czechia are expected to require a higher share of high-level qualifications, the same share of medium qualifications, and a lower share of low qualifications. In this respect, the Czech labour market would converge towards the Western member states.

Source: Cedefop (2020 Skills Forecast).

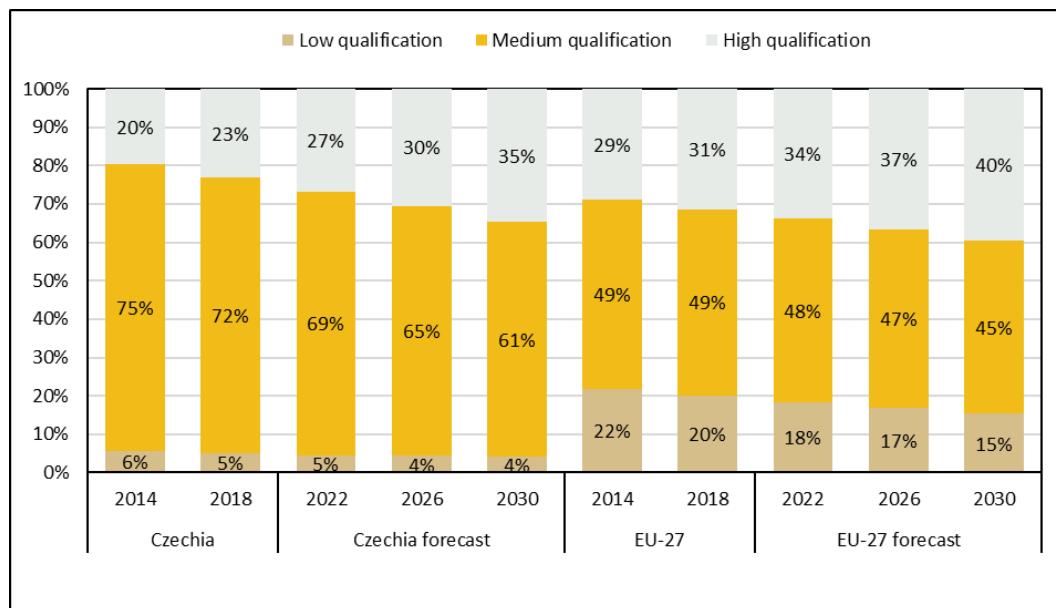
Figure 6 depicts the development of qualification shares in the labour force in Czechia and the EU-27. Czechia is rapidly increasing the share of higher qualified in the labour market. While the share of high qualifications was 20% in 2014, it is expected to increase to 35% by 2030. Even though the previous boom of university education has slowed in recent years, the qualification structure of the labour force will reflect those changes for a long time to come.

**Figure 5. Shares of total job openings by level of qualification, 2018-30**



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, 2014-30**



Source: Cedefop (2020 Skills Forecast).

The increase of share since 2014 has been predominantly at the cost of medium qualified workers, and this trend is expected to continue into the forecast period, declining from a share of 72% in 2018 to 61% in 2030. The trend is similar to that of the EU-27, albeit that Czechia has had lower levels of higher and lower qualified and higher levels of medium qualified. Relative to the EU-27 averages, Czechia is expected to catch-up somewhat in aligning their qualification mix to EU averages. However, unlike in many other EU countries, middle education in Czechia is stratified into two distinct levels (with and without the *maturita* exam). The recent decline in the middle educated labour force was driven by the lower level and this is likely to continue to be the case.

Overall, the forecast implies an increasing shortage, especially among the medium and lower qualified. While the supply of higher educated is forecast to sufficiently fill the demand within higher level occupations.

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,

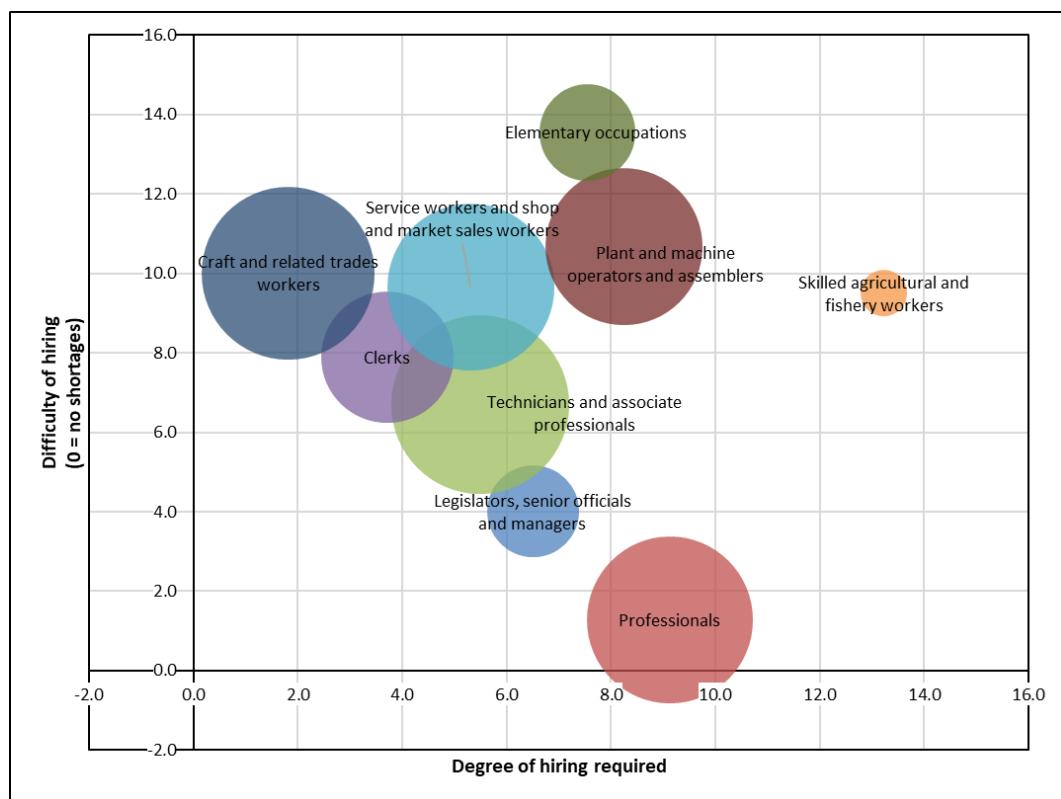
shown along the vertical axis, indicates increasing difficulties to fulfil demand given the available supply of qualifications used in the occupation. Along the horizontal axis, the *degree of hiring required* in the occupation is depicted. Higher values indicate that to reach the forecast result that 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.

The increasing supply of higher educated workers implies potential shortages especially among the medium but also the lower qualified. These shortages can thus imply that higher educated will have to be employed within occupations at a lower level than that which they qualify for, or it will result in hiring difficulties. It is thus of no surprise that medium level occupations in the *crafts, the plant and machine operators and assemblers*, as well as the *service workers and shop and market sales workers* and *elementary occupations* are expected to see higher levels of hiring difficulties in the forecast (*Chyba: zdroj odkazu nenalezen*). These go along with medium levels of change, thus medium degrees of hiring required, within these occupations. While *skilled agricultural and fishery workers* are expected to have high hiring difficulties, as they usually hire from the supply of lower qualified, they also show a high degree of hiring required in the forecast period. A low degree of hiring required along with modest hiring difficulties can be found among *clerks* and *craft and related trades workers*.

Hiring difficulties among *professionals* are very low across the underlying occupations. The degree of necessary hiring differs, though, with *legal, social and cultural professionals* (19), *health professionals* (18), and *business and administration professionals* (17) being well above the average of *professionals* as a whole (13), while the degree of hiring required among *science and engineering professionals* (9) and *teaching professionals* (8) is below the average.

**Figure 7. Indicators of future hiring difficulties, 2018-30**



NB: Indicators were calculated at the level of the underlying two-digit occupation groups. Aggregation was based on the employment weights within each one-digit occupation group.

Source: Cedefop (2020 Skills Forecast).

# Cedefop methodology and scenarios

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 2030. The forecast takes account of global economic developments up to May 2019. The European economy is continued to expand for the seventh year in a row in 2019, with real GDP growing in all EU Member States. As global uncertainties continue to weigh, domestic dynamics are set to support the European economy. The key assumptions of the baseline scenario incorporate the Eurostat population forecast available in May 2019 (Europop 2015) <sup>(2)</sup> and the short-term macroeconomic forecast produced by DG ECFIN in May 2019 <sup>(3)</sup>.

The Cedefop Skills forecast was developed before the global Covid-19 pandemic had begun. The short-term economic impacts of the pandemic and subsequent lockdowns in many countries are very uncertain, and therefore the current short-term forecast is likely to be over-optimistic. However, the key long-term factors (such as the ageing population, increasing use of automation/artificial intelligence, globalisation, resource scarcity and moves towards a carbon neutral economy) will still hold as the EU Member States put plans in place to deal with the virus and their economies move forwards. The trends in the longer-term forecast are therefore still likely to hold.

For the latest update and access to more detailed Cedefop skills forecast data please visit:

<http://www.cedefop.europa.eu/el/events-and-projects/projects/forecasting-skill-demand-and-supply>



<sup>(2)</sup> <https://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-projections-data>

<sup>(3)</sup> [https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2019-economic-forecast-growth-continues-more-moderate-pace\\_en](https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2019-economic-forecast-growth-continues-more-moderate-pace_en)



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

The country fiche for Czechia has been developed in collaboration with Michal Janíčko, analyst at the National Training Fund, Czechia.

Please cite this publication as:

Cedefop (2020). *Skills forecast 2020: Czechia*. Cedefop skills forecast.

<https://www.cedefop.europa.eu/en/publications-and-resources/country-reports/czechia-2020-skills-forecast>

© European Centre for the Development of Vocational Training (Cedefop), 2020.  
Creative Commons Attribution 4.0 International.