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PONTAL: Prevention of being NEETs through Action Learning

Intellectual Output 1:

The methodology for teachers/educators to
map the profile of potential NEETs among
pupils

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Introduction

This document is the first Intellectual Output of the PONTAL (Prevention of being NEETs through Action Learning) project, consisting of three parts.

Firstly, it lays out basic facts and statistics on the phenomena of young people being NEET on a European scale, as well as main risk factors of becoming NEET, followed by overviews of the issue in specific countries, where the project partner organizations come from and where the project's activities will be conducted.

In the second part, overviews of the labour market trends in all the included countries are presented, in order to get an insight into what kind of skills are required in the jobs most in demand today and, subsequently, to be able to adjust the young people's education so they can fit in into the market better.

Finally, an interview used among the target group and a manual for its use can be found. It is supposed to serve the teachers responsible for the interview's distribution among children.

The content of this document is the first step of the PONTAL project's attempt to create a methodology on how to correctly identify the pupils at risks of dropping out of school, often leading to unemployment and becoming NEET in the future. Moreover, PONTAL wants to link the point of prevention of being NEET with support to boost the interest of pupils in technical, scientific and mathematical disciplines with a high degree of innovativeness among students of the last grade of primary schools.

CHAPTER 1

Overview of principal risk factors of becoming NEET on European level

Introduction

The concept of NEET has been introduced for and is increasingly useful in detecting the vulnerable groups of young people around Europe and take steps to prevent and/or resolve their problems with finding occupation in either work or training.

NEET ("Not in Education, Employment, or Training") – young people aged between 15 and 29 who are disengaged from both work and education, sharing a common status of not accumulating human capital through formal channels, and are therefore at a greater risk of future unemployment and social exclusion (Eurofound, 2016).

After NEETs proved to be one of the most vulnerable groups following the 2008-2013 financial crisis, one of the main aims on the European Union's agenda is lowering the levels of youth unemployment and disengagement. While the situation is now improving and NEETs' current average share in the European population aged 15-29 reached the lowest point in a decade, making up for 10% in 2019 (compared to 13% in 2013) (Eurofound, 2016), this number is still dramatic at the economic, societal and individual level.

For comparison, in 2012, the level of youth population being NEET in China was only 8% (Yang, 2020). On the other hand, the percentage of NEETs in US in 2013 equalled over 18% (World Bank, 2020).

Falling into NEET category is highly disadvantaging for young people, because, while being in their productive years, they are not accumulating any human capital either through labour market or education, wasting potential for their own development and contribution to the economy.

NEETs' characteristics

In 2016, within its EU-wide research, Eurofound (2016) divided the NEETs into 7 subgroups, for policymakers to better understand the phenomenon and react to it by designing adequate solutions. This categorization is also useful in determining characteristics of people prone to becoming NEET.



The research found out that young people aged 15–24 (available and seeking jobs but remaining short-term or long-term unemployed).

(approximately 4.7 million our market-driven factors

The remaining 40%

are NEET for more social-policy related reasons, such as illnesses or disabilities (6.8%), family responsibilities (15.4%), disengagement and discouragement (5.8%), and other factors (12.5%) such as exceptional vulnerabilities or, on the contrary, exceptional privileges or choosing to follow alternative, independent paths in life, such as artistic careers.

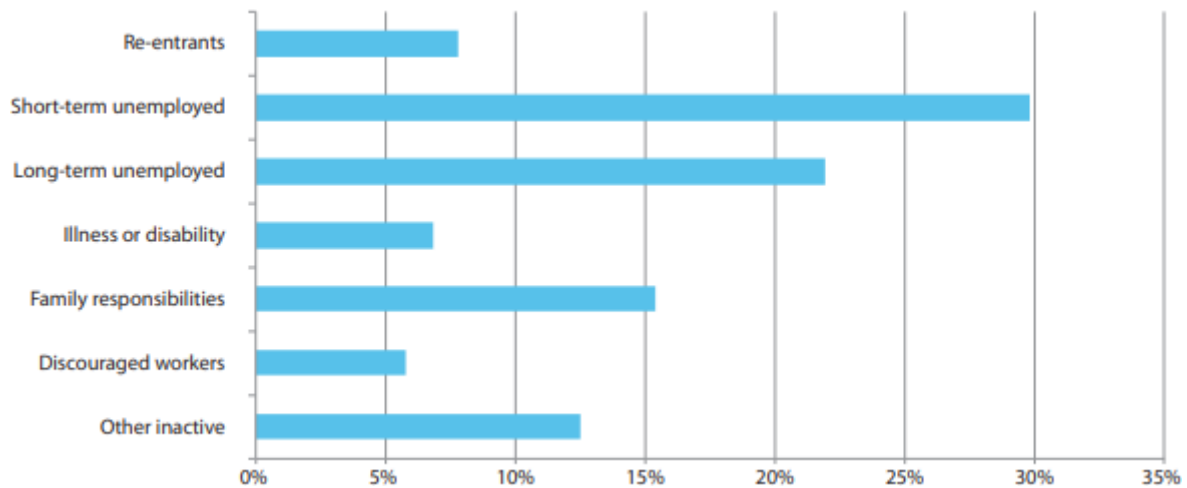


Figure 2: Disaggregation of the NEET population aged 15-24. (Eurofound, 2016).

These numbers are averaged results of the EU's population and considerable differences exist among individual member countries. For example, in Bulgaria, Croatia and Greece there are much more long-term unemployed and discouraged workers than averagely on the European scale, while the main reason of being NEET in Austria, Czech Republic and Estonia is unavailability due to illness, disability or family responsibilities. For this part of the research, however, simplified average European statistics will be used in order to understand the main causes of becoming NEET in the whole area.

Basing on the above sources and various studies, the main risks of becoming NEET can be specified:

Education and skills

Comparing the three levels of education (pre-primary, upper secondary, tertiary) at Member State level, NEET rates were always highest for young people with a low level of education (Eurostat, 2020). According to the Eurofound's research (2016), education has proved to be the best protection from becoming NEET, since young people with a lower educational level were found to be three times more at risk of becoming NEET in comparison with those with a tertiary education. Analyses have shown that those with a lower level of educational attainment are more at risk of belonging to a vulnerable group. The 2016 Eurofound research also shows that, among the long-term unemployed people aged 15-24, 32% of them hold education not higher than lower secondary, 27% completed upper secondary/post-secondary level and only 15% have attained a tertiary level of education. That means the higher education was attained, the smaller probability of being long-term unemployed (Eurofound, 2016).

Simultaneously, among those young people with lower level of education, a larger proportion is NEET due to their illnesses or disabilities.

Additionally, basic skills are also an important determinant of NEET status. It has been found that there is a strong link between pre-primary education attendance and better performance in reading, writing

and maths later in life. Poor literacy and numeracy skills may cause dropping out of school and/or making it difficult to find a job. Across the OECD, young people with low and medium levels of literacy and numeracy are four times more prone to becoming NEETs than their highly skilled peers (OECD, 2016).

Illness or disability

A group of young people who are not seeking or are unable to take up a job or training due to their illness or disability, making up for 6.8% of the EU's NEET population (European Parliament Think Tank, 2017).

Individual level illness or disability is a strong predictor of the NEET status, especially among males. Physical or psychological problems often represent serious obstacles to finding employment and accruing work experience. According to an OECD report, NEET youth are over five times more likely on average to complain of poor health than their non-NEET peers. As for psychological health, mentally unwell young people are more prone to dropping out of school, which may lead to them becoming NEET (OECD, 2016).

Family responsibilities

This group consists of young people who are unable to take up work or education because they are caring for children or incapacitated adults in their families or have other family responsibilities. Some of them are not able to participate in the labour market because they cannot afford paying someone else for caring for the family member, while other voluntarily give up on work or training activities in order to take care of their families. According to the research (Eurofound, 2016), young women are particularly affected by family responsibilities (88% of this group are women) and this means they are more likely to become NEET - one-quarter of all young women are outside of employment, education and training because of family responsibilities.

Discouragement, disengagement/exclusion originating from personal backgrounds

According to the Learning and Skills Network non-profit organisation (2010), young people that are at risk of exclusion and dropping out often start disengaging from the system long before they reach 16. It was found that young people who had negative experiences of and feelings about school in primary and secondary schools were more likely to become NEET later. Already primary children start to disengage from learning, for example stating they were bored and disrupting their classmates. This indicates that more deep-seated problems may have built up over time and that children reluctant to education are more prone to abstain from work in the future.

Personal factors which can cause disengagement from education include poor housing, health, drug and alcohol dependency, special educational needs, bullying, domestic violence and peer pressure. Low self-confidence and poor prior attainment in school are often triggered by adverse childhood experiences or traumatic events, including abuse, neglect, parental mental illness, substance use, divorce, incarceration and domestic violence (Sexton, 2020).

Lack of direction, motivation, parents' support and advice, as well as emerging crises of young adulthood, may also influence young people's disengagement in education and later work (Gracey, Kelly, Learning and Skills Network (Great Britain), & Centre for Innovation in Learning, 2010).

Ethnic minority and migration background

Although the share of immigrant and ethnic minorities in NEETs is difficult to capture due to data constraints, it has been found that approximately 11% of NEETs in EU on average were born in countries other than their country of residence, half of them from inside and half outside of the EU. It has been found that young people with a migration background are 70% more likely to end up NEET than young people originally coming from their countries of residence.

According to the research (Eurofound, 2016), young people coming from ethnic or national minorities are of higher risk of belonging to NEET vulnerable groups, because, on average, they have a lower level of education than nationals and more of them are forced to abstain from work or education due to family responsibilities (20% compared with 13% of nationals). On the other hand, there are less discouraged NEETs among non-nationals than among nationals.

Gender

The Eurofound's research (2016) showed that the share of NEETs increases with age and women are more likely to become NEET, mostly due to family responsibilities (Eurofound, 2016).

Negative environment influence

Since children take example from their closest social environment, which is their family, they frequently follow the paths taken by their parents and other older family members. It is highly probable for young people to see and plan their life basing on their observation of routes being experienced in their environment. It may result from lack of knowledge of opportunities for their potential, feeling of unavailability and exclusivity of different lifestyles, or fear of doing something different than their family members.

Parental support and knowledge is an important source of help for young people entering employment, education or training and reduces the likelihood of them becoming NEET. Parental support gives children conditions for informal advice networks, work experience and exposure to opportunities (Gracey et al., 2010).

Personality traits

Studies have shown that non-cognitive skills can be associated with educational attainment and outcomes, such as early school leaving, and can predict overall educational achievement followed by professional career (Heckman, Stixrud, & Urzua, 2006). Non-cognitive skills, such as conscientiousness, openness to new experiences, and emotional stability can be as important as IQ in completing education and finding a job (OECD, 2016).

Tracking future NEETs

Using the above data as an indicator, common characteristics of young people at risk of becoming NEET may be identified.

1. Low level of education

2. Weak literacy and numeracy skills, poor performance in school
3. Lack of motivation and disinterest in school
4. Physical/mental illness or disability
5. Difficult family situation and/or family members requiring help (especially in case of girls)
6. Inappropriate behaviour, such as bullying other students, violence
7. Poor living conditions
8. Exposure to alcohol/drug abuse in close environment
9. Divorced parents, domestic violence or traumatic experiences from the past
10. Coming from ethnic minority or immigrant background
11. Parents or other family members who are unemployed or uneducated
12. Emotional instability, reluctance to new experiences, lack of conscientiousness

NEET situation in respective European countries

Estonia

Share of NEETs in Estonia was 9.85% of the youth population, as of 2018. Its highest value over the past 15 years was 15.14% in 2004, while its lowest value was 8.91% in 2006.

Although the share of NEET-youths has decreased in recent years, it is still a crucial problem that needs attention and low education is a key risk factor for belonging to the at-risk group. According to data from 2012, 10.5% of all Estonian youth (aged 18-24) had acquired only the lowest education (basic education or lower) and did not continue their studies. Level of education is one of the main factors increasing the unemployment risk. The unemployment rate of youth with basic education or lower was three times higher in Estonia in 2012 than that of youth with the highest educational level (32.6% and 10.4%, correspondingly). An important point of concern is also the little work experience of youth. In 2012, nearly half (49%) of unemployed youth lacked previous work experience.

Lithuania

On the 1st of October 2020, 59.900 young people under the age of 29 were registered with the Employment Services. Compared to the 1st of September, the unemployment rate of young people under 29 increased by 2.2%, and compared to the 1st of October of the previous year – by 8.0%. 47000 out of 87.500 young people who applied during the three quarters of this year didn't have professional qualifications.

The number of young people without a profession increased by 79.3% over the year. According to Statistics Lithuania*, youth unemployment rate has been steadily declining since 2014, but young people still face challenges in the labor market and are not able to compete with professionals on equal terms. The latest results of the 2018 OECD Programme for International Student Assessment (PISA) show that in all tested subjects, Lithuania's mean performance is below the EU average.

The number of young people registering with the Employment Services increased more than other age groups after the announcement of the quarantine and the share of the unemployed aged 25-29 grew the most.

Hungary

According to the EUROSTAT's statistical data, the NEET population in Hungary in 2001 amounted to 14.6%. This then fell slowly but steadily to 11.3% by 2007. Then, a new rise occurred and, by 2012, the rate reached 14.7%, that is, the total was 0.1% point higher than in the baseline year data. However, in the next year 2013, the EUROSTAT data showed a further significant increase, with the rate of the NEET group within the 15–24 age range jumping to 15.4%. This rate was 2.4 percent higher than the European Union average.

There is a number of programmes and initiatives dealing with the problem in Hungary. The Government of Hungary, in its 2013 National Reform Program, has made certain commitments aiming at increasing the country's employment rate up to 85% and decreasing the rate of early leavers from education and training by 10%. In 2015, the Youth Guarantee Scheme has been introduced, supporting young people who are NEET in different Hungarian regions.

Czech Republic

The issue of NEETs' unemployment is not as urgent in the Czech Republic as in the other EU countries. However, the issue of NEET population ranks alongside other topics in the employment policy (such as the unemployment rate of persons over 50 years, single mothers with small children or the disparities in supply and demand on the labor market).

In 2016, the specific unemployment rate of young people aged 15 to 24 in the Czech Republic reached 10.8%. Compared to 2010, it decreased by 6.6 percentage points. In the first quarter of 2018, the Czech Republic belonged to the lowest rates of NEETs in Europe (according to Eurostat), with the amount of 5.7 %. Lower values were observed in the Netherlands (4.1%).

A special category of NEETs is represented by young people coming from socially excluded Roma locations. The unemployment rate in these locations has risen up to 90% and young people represent a multiple successive generation of the unemployed. The biggest problem among young people can be seen specifically with graduates with qualifications who are not fulfilling the requirements of the labor market.

Italy

With respect to the dimension of the phenomenon (in reference to the 15-29 range), Eurostat data show that: Italy had higher levels than the European average before the economic crisis (18.8% in 2007 against 13.2% EU-28); the phenomenon increased the most in our country during the recession (with a peak above 26.2% in 2014 against 15.4% in the EU-28); in the years after the crisis, our descent is slower (Eurostat database, updated on 11/12/2019). The most recent figure is that of 2018, with our country showing a value of 23.4% (the EU-28 figure is 12.9%). The incidence is very diversified among the member states of the European Union.

There are ten countries with values above the European average (16.5%). Among them, Italy and Greece stand out clearly, **with Italy occupying the worst position with 28.9%** (over three and a half times the Swedish value). The variability within the Italian territory is very high. It should be noted, however, that the regions of Northern Italy before the economic recession were below the European average, while today they are above (only the Autonomous Province of Bolzano is an exception). For example, Lombardy rose from 10.9% in 2007 (range 15-29) to over 18% in the peak years of the recession, then dropping to 15.1% in 2018 (or still 4 percentage points above the figure initial). On similar values are found other regions of the North (in particular Emilia-Romagna and Veneto), **while in various regions of the South the figure reaches double values compared to Lombardy** (in particular Campania, Calabria and Sicily exceed 35%). In Sicily the figure for 2018 even worsened compared to the previous two years, while in Campania it remained almost constant. The provinces with the highest NEET rate, over 40%, are Caltanissetta, Crotone and Palermo. Those below 12% are Venice, Treviso, Belluno, Modena and Lecco (data referring to 2017).

In summary, the second decade of this century ended with very high NEET rates (especially in Southern Italy) and among the worst in Europe. On entering the third decade, the storm of the Covid-19 Pandemic has now fallen, which can further aggravate the condition of young people, especially in areas with a weaker economic fabric.

Turkey

When non-attending school and non-employed rate of young people among the OECD countries is examined, Turkey has been found remain above the OECD countries. While the average of 15-19 year old young people the OECD member countries, Turkey's statistics are higher. While 6,4% of are either not attending school or non-employed, on the other hand, it was seen that this ratio is 17% in Turkey

While within the OECD countries the average of young people (aged 15-19) who are neither in education or employment amount to 6.4%, Turkey exceeds this number with 17% of those people being NEET. The situation gets even worse in case of people aged 20-24, out of which 33.3% are NEET, comparing to the OECD's average of 14.9%. It is worth mentioning, that Turkey's NEETs situation is characterized by wide gender disparities, resulting in much larger scale of female unemployment than the male one. In a European context, the reason why the youth unemployment rate is higher than the adult unemployment rate is the lack of experience of young workers. The lack of qualifications from experience hinders a successful transition from school to work. Additionally, young Turkish people tend select their professional department unconsciously, ending up in jobs that do not match their desires and qualifications, which also results from the education that is incompatible with their abilities.

CHAPTER 2: Overview of the national economic, social and labour market trends

Estonia

Basic information from monitoring and forecasting system OSKA (before COVID):

In the first quarter of 2020, the labour force (aged 15–74) consisted of 984 000 people, out of which 670 300 people were employed and the employment rate was 68.1%.

The need for more labour will grow in sectors with increasing employment rates. The highest increase in employment rates is foreseen in the programming sector, with a forecasted increase also in the fields of professional, scientific, and technical activities. That affects natural science and engineering specialists, motor vehicle drivers, skilled employees in the metal and machinery industries, health care specialists, senior specialists in pedagogy, and construction workers.

Fast growth will trigger a greater need for employees in the information and communication technology sector. The need for personal carers and employees in the electrical and electronic industry can be said to be higher than average. There is an increased need for specialists in almost all sectors.

Due to the ageing of the population, the proportion of health care and social services is expected to rise. A decrease is expected in the number of people employed in agriculture, the manufacture of wearing apparel, retail trade, the public sector, and, in connection with a decrease in the number of students, in education. It is evident that the main trend in the Estonian labour market focuses on technical, technological and scientific sectors.

According to the prognosis, the number of jobs for specialists doing more complex work will increase and the number of routine jobs that are easy to substitute with technology will decrease. More jobs requiring technology, data analysis and creativity skill will appear. The number of young people who graduate from a vocational education and training or a higher educational institution is not sufficient to fill the jobs in the future.

Especially, more graduates having obtained degrees of following sectors will be needed:

- System analysis
- Software development
- Engineering
- Nursing
- Speech therapy

Drawing from this, it can be said that currently workers with technical and IT skills are in demand the most. While competencies in technical areas, such as engineering, have always been desirable on the market, the digitalisation made the IT skills increasingly important. System analysis and software development are based on computer science, a rapidly growing area in need of skilled workers.

Additionally, the labour market has been predicted to need **more trained plumbers, carpenters, mechatronic technicians, machine operators and plywood processing staff, harvester operators and caretakers**. On the other hand, there might be **not enough work** for people training to become **car mechanics, tailors, bookkeepers and language specialists** (OSKA, 2019).

The coronavirus pandemic has affected whole world's labour markets, including Estonian market, more than the last 2008 financial crisis did. While the **crisis has significantly impaired sectors of tourism, hotels and restaurants, leisure, entertainment, culture and retail. Manufacturing, passenger transport companies and catering companies** have also been considerably hit. There was a sharp **rise in the number registered as unemployed** after the emergency situation was declared on 13 March (from 38,000 people to a little over 50,000 during 2 months of emergency), and at the same time the probability of the registered unemployed finding a job declined (5% to 7.8% during the same 2 months) (Bank of Estonia, 2020). However, according to OSKA's report on the Estonian labour market's need for ICT skills (OSKA, 2020), the COVID-19 pandemics enhanced the technological skills' importance even more, for example in developing innovative technological solutions in healthcare using machine and robot systems. It has been stated that upgrading the workers' ICT competences is needed to adapt to the difficult times and would be a good investment in the future, where automation and digitalisation will play bigger and bigger role.

The same OSKA's report describes the need for ICT skills in virtually all the most important economy sectors, proving their capability to make them more efficient and profitable.

Lithuania

Following a relatively mild contraction, GDP is projected to grow by around 3% in 2021 and 2022 on average, as confidence strengthens and investment picks up slowly with the rollout of an effective vaccine. Unemployment has risen in the wake of the crisis and, despite some gradual decline, it will remain above the pre-pandemic level. Inflation will move upwards in tandem with the revival of economic activity.

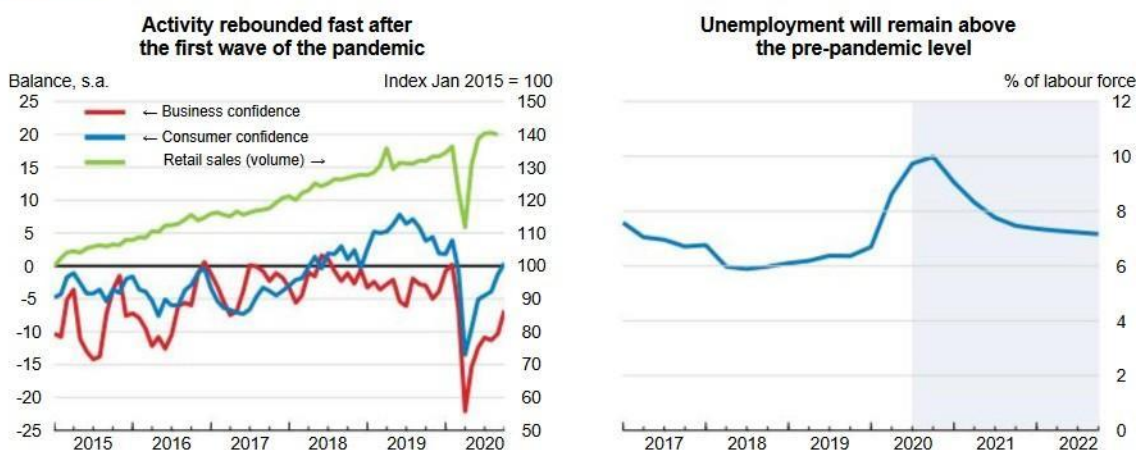
A comprehensive package official and financial measures averted a sharper GDP contraction in 2020. The short-time work scheme and support for non-standard workers, along with increases in social benefits, mitigated the impact of the crisis on jobs and poverty. Targeted support should continue given the uncertain outlook. Structural measures, especially effective skilling and re-skilling programmes, are essential for the reallocation of workers and stronger long-term growth.

The resurgence of the epidemic triggered new containment measures

Lithuania dealt successfully with the outbreak of the pandemic in the spring, recording low fatality rates. However, since early August, Covid-19 infections have been rising again, prompting the government to introduce new measures to contain the spread of the virus. These entailed, at an initial stage, tighter requirements for mass events, mandatory registration of visitors at catering and other facilities, changes to the closing times of businesses and lockdowns at the municipality level. A nationwide partial lockdown came into force in early November, including restrictions on the operation of some businesses, such as restaurants and gyms, and a ban on gatherings of more than five persons in the public places. Secondary education is taking place remotely or combining distance

and school-based learning, while vocational and tertiary education is provided only remotely.

Lithuania



Source: OECD Economic Outlook 108 database; and OECD Main Economic Indicators database.

The economy is set to recover

After a comparatively mild contraction in 2020, growth is projected at 2.7% in 2021 and 3.1% in 2022. Stronger confidence and policy measures will support the recovery. Investment will pick up gradually, aided by the faster implementation of EU-funded projects and stepping-up of the multi-annual public investment programme covering a wide range of areas. While declining from its crisis peak, unemployment will remain above the pre-pandemic level. Prolonged effects on the pandemic on domestic demand and weaker-than-expected growth in Lithuania's trading partners could slow the recovery. On the upside, a swifter-than-expected use of EU recovery funds could foster stronger output growth.

Lithuania: Demand, output and prices

	2017	2018	2019	2020	2021	2022
	Current prices EUR billion	Percentage changes, volume (2015 prices)				
Lithuania						
GDP at market prices	42.3	3.9	4.3	-2.0	2.7	3.1
Private consumption	26.3	3.7	3.4	-3.2	2.8	3.0
Government consumption	6.9	0.2	0.1	5.9	4.7	1.1
Gross fixed capital formation	8.5	10.0	6.2	-6.6	3.8	4.3
Final domestic demand	41.7	4.4	3.4	-2.4	3.4	2.9
Stockbuilding ¹	-0.4	-1.1	-1.5	-0.9	0.2	0.0
Total domestic demand	41.3	3.3	2.0	-3.4	3.8	3.0
Exports of goods and services	31.1	6.8	9.5	-4.7	3.7	4.9
Imports of goods and services	30.1	6.0	6.3	-6.9	5.5	5.0
Net exports ¹	1.0	0.7	2.5	1.4	-0.9	0.3
Memorandum items						
GDP deflator	—	3.5	2.8	1.1	1.5	1.8
Harmonised index of consumer prices	—	2.5	2.2	1.2	1.5	1.8
Harmonised index of core inflation ²	—	1.9	2.3	2.7	1.6	1.8
Unemployment rate (% of labour force)	—	6.1	6.3	8.8	8.1	7.3
Household saving ratio, net (% of disposable income)	—	-3.6	0.6	6.9	5.6	4.3
General government financial balance (% of GDP)	—	0.6	0.3	-8.9	-5.4	-3.9
General government gross debt (% of GDP)	—	40.7	44.5	53.6	58.1	60.7
General government debt, Maastricht definition (% of GDP)	—	33.7	35.9	45.0	49.5	52.1
Current account balance (% of GDP)	—	0.2	3.5	5.2	3.9	4.2

1. Contributions to changes in real GDP, actual amount in the first column.

2. Harmonised index of consumer prices excluding food, energy, alcohol and tobacco.

Source: OECD Economic Outlook 108 database.

Labour market

In 2020 the labour market will be negatively affected by the downturn in economic activity due to the spread of the COVID-19 virus and measures imposed for containing the virus –the quarantine imposed in the middle of March and limitation of shopping activities as well as supply of services to consumers. This effect will be cushioned by economic stimulus measures foreseen by the Government, part of which will be for preserving jobs and income. It is projected that in 2020 the number of employed population will decline by 2 %, and the employment of population will be most affected in the services sector of the country. The unemployment rate in the country will temporarily grow and in 2020 it will constitute 8.1 %. It is expected that after recovery of economic activity in 2021, the number of the employed population will increase by 0.6 %, the unemployment rate will decrease down to 7.3 %. In subsequent years of the medium term the unemployment rate will moderately decline and at the end of the term will represent 6.6%. At the end of the medium term the labour force supply will be restrained by deepening ageing society problem, therefore we do not expect the employment growth.

The economic shock caused by the COVID-19 virus in 2020 will correct the recent wage development trends. In 2020 wages will grow most rapidly in the public sector, while in the private sector, after increased unemployment rate, the growth of wages will significantly decelerate. Labour income downward trend in 2020 will be damped by measures for economic stimulus slated by the Government –we project that this year wages could grow 5.6 %, however wage growth downward trends will persist also in 2021 –wages in the country will grow at more decelerated pace than in 2020–3.9 %. In parallel to the declining unemployment rate in subsequent years of the medium term, the wage growth rate in the country will gradually accelerate, however it will be lower than the one observed in recent years and will remain close to 5 %.

Table 1. Key indicators of the economic development scenario

Title of the indicator	2019	2020P	2021P	2022P	2023P
GDP (at current prices), MEUR	48 339	48 919↓	51 101↓	53 239↓	55 477
GDP (at constant prices), rate of change, %	3.9	-1.3↓	2.2↓	2.2↓	2.2
Harmonised index of consumer prices (average annual)	2.2	1.8↓	2.0↓	2.0	2.0
Investment (at constant prices), rate of change, %	7.4	1.0↓	3.7↓	3.7↓	3.7
Export (at constant prices), rate of change, %	9.3	-2.4↓	3.4	3.1↓	3.1
Unemployment rate (based on definition of the Labour Force Survey), %	6.3	8.1↑	7.3↑	6.8↑	6.6
Average monthly gross wage, rate of change, %	8.8	5.6↓	3.9↓	4.5↓	5.0
Number of employed persons, rate of change, %	0.3	-2.0↓	0.6↑	0.0↑	-0.3

Sources: Ministry of Finance, Statistics Lithuania

Note: arrows indicate the direction of revision, as compared with the scenario of September 2019.

The medium term will not be easy for business –challenges ahead related to the economic shock caused by the COVID-19 virus, aging population and global demand fluctuations as well as the need to sustain international competitiveness. It is unlikely that under depletion of labour force resources, business models based on cheap labour force would remain competitive. Lithuanian exporters will have to adapt to rapidly changing economic circumstances, to manage currency risk, to take decisions reducing production costs and enhancing operational efficiency as well as labour productivity, to diversify export markets. External environment will remain unstable in the medium term, and

globale economic growth perspectives–fragile. Whereas currently the global spread of the COVID-19 virus is not contained, and its current focus –Europe, there is a risk that external environment may be worse than projected in the basic scenario. Therefore, there is a risk that in 2020 Lithuania’s GDP may decrease more–2.8%.

Hungary

The labour market analysis is based on data from the Hungarian Central Statistical Office (KSH) for the first quarter of 2020.

Central Hungary is the most economically significant and also the most developed region in Hungary. It comprises the capital city of Budapest and Pest County.

Budapest

According to the latest data from the labour force survey, in the first quarter of 2020, the economically active population aged 15–74 in Budapest numbered 872 200, and the inactive population was 440 800. The participation rate increased by 0.6 percentage point against the same period of the previous year, to 66.4 %.

In the first quarter of 2020, there were 849 700 people employed in the capital, which is 7 600 more than in the first quarter of 2019. In the case of Budapest, this indicator has improved significantly and has practically reached the level approaching full employment. As opposed to the decline of 31 300 on a national scale, in Budapest, the number of those employed increased by 0.9 percentage point. The unemployment rate was 2.6 %, which is equal to the rate recorded in the same period of the previous year.

In the capital, the figures regarding the unemployment, participation and employment rates are distinctly more favourable than the national average, as the unemployment rate was 1.2 percentage points lower and the participation and employment rates were 3.8 percentage points and 4.5 percentage points higher, respectively. The data indicated a deterioration in the second quarter due to the economic impacts of the COVID pandemic, but the exact figures have not been published by the KSH yet.

The negative impact of the coronavirus pandemic on the labour market is manifest in the data of the National Employment Service regarding the first half of 2020. Compared to the same period of the previous years, such a monthly increase in the number of unemployed people was unprecedented, since the labour market had been usually characterised by stagnation. In Budapest, the number of jobseekers registered by the employment departments of district offices was 13 806 in June 2019; a year later, as at the closing day of June, it amounted to 29 528, representing a rise of 46.7 % year on year.

In June 2020, 42.8 % of registered jobseekers were male and 57.2 % were female.

The number of registered first-time jobseekers increased to 680 (from 391 in the same period of 2019). In 2019, they accounted for 2.3 % of all registered jobseekers, while in the same period of 2020, they represented 2.8 %.

Pest County

According to the latest data from the KSH Labour Force Survey, in the first quarter of 2020, 636 000 people in the 15–74 age group were economically active in Pest County, which represents an increase of more than 1 000 against the previous year. The participation rate fell by 0.3 percentage point to 64.7 % during the year, one of the highest participation rates in Hungary. There were 619 800 people employed and 16 200 unemployed.

The unemployment rate was 2.5 % (in this respect, Baranya County is in the worst position, with an unemployment rate over three times that of Pest County). The economically inactive population aged 15–74 years numbered 346 400, which represents a decline of over 12 000 on the previous year.

The data of the National Employment Service indicate a decline in unemployment in the second half of 2019, followed by a significant increase in the first half of 2020. The average quarterly number of registered jobseekers in the county rose considerably during the past six months due to the prevailing extraordinary situation (18 300; 18 100; 18 900; 28 200 people).

The average quarterly number of registered first-time jobseekers in Pest County increased over the past year (859; 857; 880; 1 064 people). First-time jobseekers accounted for 3.7 % of all registered jobseekers in the second quarter. This figure represents a decline of 1.0 percentage point compared to six months earlier.

The average quarterly number of jobseekers under 25 increased constantly (1 531; 1 557; 1 644; 2 707), similarly to the ratio of jobseekers under 25 to all jobseekers.

In the breakdown of jobseekers by level of education, the number of jobseekers with secondary and – in a more detailed breakdown – only primary education is the highest, although it is positive that the proportion of jobseekers with only primary education is decreasing most rapidly.

Where are the available jobs?

Budapest

In June 2020, 7 984 vacancies were on the register of the employment departments of the district offices of the Budapest Government Office. Most vacancies were offered in the industrial sector, the services sector, catering and trade, but the employers of the construction industry and agriculture also notified considerable demand for workers.

The highest number of vacancies in Budapest in June 2020 (in declining order of the number of vacancies):

- basic industrial occupations,
- mechanical machine assembly worker,
- footwear manufacturing machine operator and production line worker,
- shop assistant,
- manual packer,
- freight handler.

Pest County

In the past year, approximately 16 300 new vacancies were advertised by employers in Pest County. Demand for subsidised jobs fell from 35.4 % in 2019 to 30.3 % over the past year. The majority of

vacancies for non-subsidised jobs targeted cleaners and helpers in offices, hotels and other establishments, kitchen helpers, mechanical machine assembly workers, freight handlers, truck drivers, product assemblers, shop assistants, physiotherapist's assistants, masseurs/masseuses, manual packers, shelf stackers, office administrators, butchers, dressmakers, forklift drivers, breeders, cooks, bakers, locksmiths, welders and bricklayers.

Where are the available workers?

Budapest

In June 2020, registered jobseekers were mostly looking for employment as shop assistants, but positions for general office administrators, cleaners and helpers in offices, hotels and other establishments, kitchen helpers, cooks, waiters, and bartenders were also in demand. As shown by the above figures, there is an overlap between the registered demand for labour and the jobs sought by registered jobseekers; in other words, these jobs should, in theory, not appear as labour shortage. However, the appropriate qualification and 'marking' a job as a job sought are insufficient in themselves for filling a specific vacancy, which may also require other skills and competences. The needs and expectations of employers and employees do not always coincide in that respect.

Pest County

In Pest County, the monthly average number of newly registered jobseekers was 3 622 in the past year.

Jobs most in demand among registered jobseekers and the relevant percentage increase or decrease:

- | | |
|--------------------------------------------------------------------|------------|
| ● shop assistants | ● ↑ 8.22 % |
| ● general office administrators | ● ↑ 6.46 % |
| ● cleaners and helpers in offices, hotels and other establishments | ● ↓ 3.88 % |
| ● truck drivers, lorry drivers | ● ↑ 2.73 % |
| ● basic industrial jobs | ● ↑ 2.42 % |
| ● other cleaners and helpers | ● ↓ 2.24 % |
| ● kitchen helpers | ● ↑ 2.11 % |
| ● cooks | ● 1.93 % |
| ● freight handlers | ● ↑ 1.78 % |
| ● waiters | ● 1.70 % |
| ● security guards, bodyguards | ● 1.55 % |
| ● forklift drivers | ● ↑ 1.41 % |
| ● manual packers | ● ↓ 1.34 % |
| ● mechanical machine assembly workers | ● ↓ 1.33 % |
| ● doormen, caretakers, basic guards | ● ↓ 1.14 % |

In June 2020 in Pest County, the number of jobseekers exceeded the number of vacancies in the following occupations: product assembler, basic construction workers, butchers, mechanical equipment mechanics and repairers (technicians), chimney sweeps, building frame cleaners, glassmakers, mechanical engineering technicians, cement, stone and other mineral processing machine operators, dentists, specialised dentists, upholsterers.

Czech Republic

The current trend of the job market in the Czech Republic

For a long time, the Czech job market has been characterized by very low unemployment, which is one of the lowest in the European Union. Last year, the number of vacancies was at a record high, with companies competing over capable workers, as there was not a sector with enough workers. With the growing ambitions of the Czechs, there is an emergence of positions that they are no longer interested in, and many companies have to in result reduce production plans, reject orders or look for a new place to move the production to, due to a lack of employees. Job offers for narrowly specialized or less qualified workers are increasing, and a similar trend can be observed in the surrounding countries, where there is a growing interest and competition for workers from "third countries" - Ukraine, Serbia, etc. Last year, the greatest demand was for workers' professions (especially painters, locksmiths, welders and machinists), electricians and warehouse workers. In demand were also workers in electronics development, industrial automation programming and developers in the field of information technology.

However, with the coronavirus pandemic comes a change in the job market. Unemployment rose to 2.9% in the third quarter of 2020, which is the highest level in three years. People in the manufacturing industry and services, which have been hit hardest by the recession, are losing their jobs, but also in fields such as transport, accommodation, catering and culture. On the contrary, number of employees increased in the areas of public administration, construction, IT and telecommunication. Another significant change is the decrease in the number of employees considering leaving work in order to start their own business, due to the high risk associated with the instability of the current market.

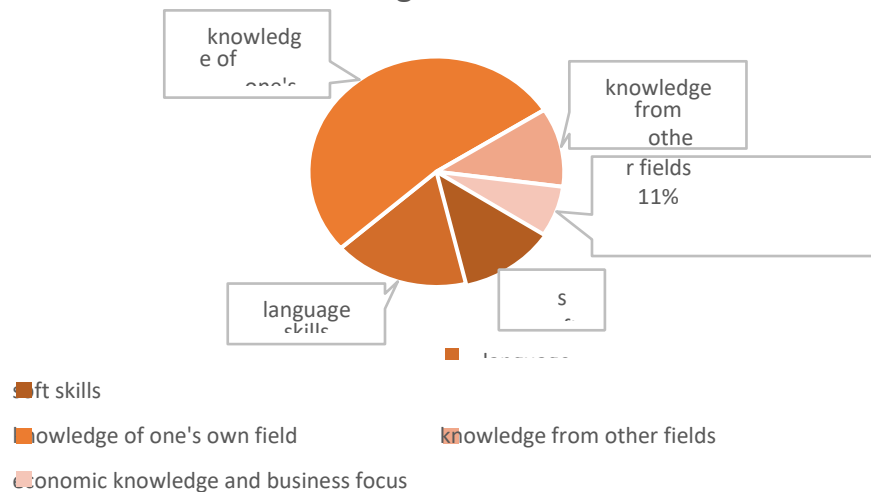
According to the forecast, employment is expected to decline by 1.2% this year and further by 0.7% in 2021 (instead of a growth of 0.2%). The effects of the recession should be more delayed in the job market due to government measures. The attention of companies will be focused on the effective use of new technologies, for which the skills associated with them are further improved. The pressure to reduce costs led to rapid changes in corporate structures in the first wave. In the second wave, companies will update their long-term business sustainability plans, which will create new opportunities for the job market, especially in digital business: experts in online commerce, digital marketing and social media and analysts who can interpret data obtained from online channels. Completely different competencies will be required - relationship management will be gradually replaced by cooperation in the field of data and information. There will be great interest in IT workers, but also in professions such as delivery services, which during the pandemic were one of the few to grow by tens of percent. A number of professions in the healthcare and pharmaceutical industries also have a perspective: development and production specialists in the pharmaceutical industry and in the production of medical technologies - clinical trial specialists, process engineers, quality engineers, purchasers. In time, the positions of accountants whose work can be handled by automated programs, postal deliverymen, cashiers, bank clerks, agents in a travel agency or legal assistants will cease to exist.

Requirements of employers for young people entering the job market of technical fields

According to the analysis of job advertisements carried out by the National Institute of Education, it turns out that 80% of job offers out of 7968 job advertisements in the press require professional education in the relevant field. The most frequently required level of education is the graduation exam, followed by university and secondary education without the graduation exam and conversely, the least required education is simply apprenticeship in the field. As for the practice, it is usually required in about 1/3 (i.e. 2660) offers, from which it can be concluded, that it is not a necessary requirement of employers. Although language skills are also not an important requirement (only 1/4 of employers mentioned active knowledge of a foreign language as a necessity), the demands on the language skills of workers in technical fields have recently increased very rapidly. This is greatly influenced by the entry of foreign investors into Czech companies and the internationalization of production processes, which requires the need for communication with foreign partners. Language skills are important in two ways - with regard to communication with customers and partners, but also with regard to professional development and the ability to meet the normal workload. Without knowledge of English, professional development is no longer practically possible, as much of the information resources, especially web, are only available in English.

However, what requires up to half of employers is a common user knowledge of working on a computer, but only 3% require more expertise. Furthermore, the necessary personality traits of technical staff are mentioned to a lesser extent, and these are mainly communication skills, independence, responsibility and reliability. Other welcome soft skills include innovation and presentation and team skills.

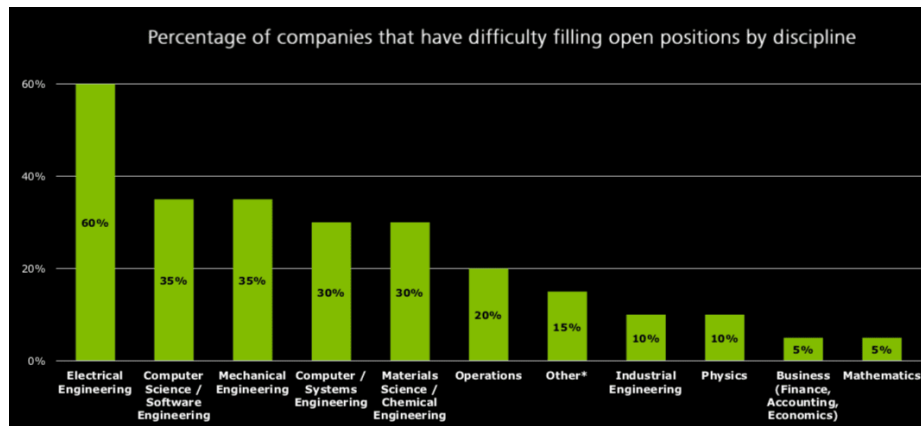
Structure of knowledge and skills in demand



Technical fields that lack qualified staff the most

The job market has long lacked up to 100,000 technically educated professionals. The most qualified staff is missing in the field of IT, telecommunications and security services. In the long run, the demand for workers in serial production positions, such as the production operator, is expected to decline as these positions will be automated. Related to this is the expected growing demand for workers in the areas of 3D printing, production robotics and nanotechnologies, which is already relatively high at this time, when graduates of these fields have no problem finding a job. There is also a huge demand for senior experts for highly specialized positions, whose shortage is expected to increase over time. As

can be seen in the following chart from 2019, globally the companies are facing a shortage of graduates from the so-called STEM fields (science, technology, engineering and mathematics) and the biggest problem have employers at finding workers in electrical engineering (60%), software and engineering (35 %) and systems engineering (30%).



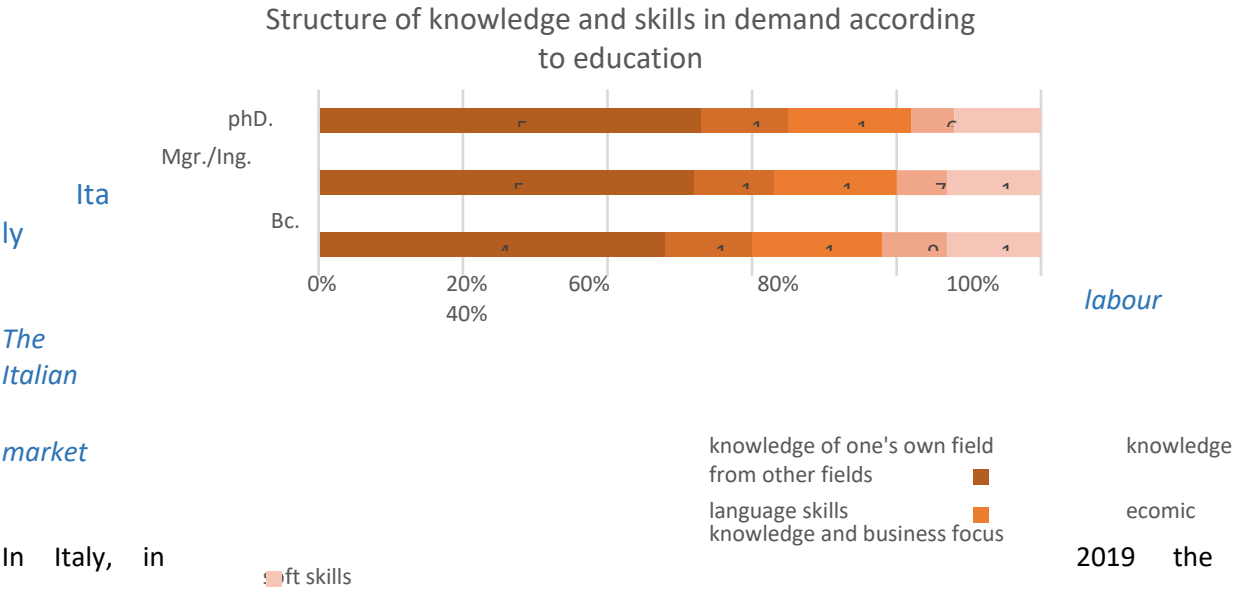
Is only an education enough in the technical fields or is experience required as well?

In most cases, only professional education in the given field is enough, experience is required for only about 30% of job offers.

For all employees in professions based on technical education, a deep orientation in their own field is key. It represents on average 50% of their educational profile (as can be seen in the graph below). The weight of professional knowledge is greater in technical fields than, for example, in graduates of humanities and social sciences. Although a deep knowledge of one's own field is important, even in technical fields it is not entirely sufficient in itself.

According to a survey by the National Education Fund, an increasing number of employers are complaining about the lack of knowledge of the practical skills of technical graduates. Theoretical knowledge is good but there is a lack of more knack and sense of work. The lack of practice also results in the already mentioned lack of knowledge of business processes, project management, etc. Even in this area, students should already acquire a sufficient basis during their studies so that the necessary training can focus only on the specifics of the company. Few university-technicians gain practical experience during their studies, in contrast to, for example, students of economics, for whom part-

time work is more common. Students usually experience the practice only during the process of writing the diploma thesis, which is in most cases not done in production.



In Italy, in 2019, there were 23,400,000 employed, 2,450,000 unemployed and the inactive aged 15-64 years 13,250,000.

If we take a look at the work situation in Italy before the COVID outbreak, we discover a situation that continues to remain overly complicated: Italy has not yet recovered after the damage caused by the 2009 crisis and has not yet solved the problems that have plagued the country in previous decades.

Italian workers are still divided between those who have managed to maintain all or part of the protections of the past, a group of workers on average older and increasingly reduced in percentage, and a growing minority made up of precarious workers and those who are older in age found cut off from the labour market. Phenomena such as underemployment and involuntary part-time are increasingly common, while wages are at a standstill and, in some cases, even decreasing.

The situation in the labour market is particularly complicated for young people who are approaching it for the first time. The employment rate in the 25-34 age group, when university studies are largely completed, dropped from 70% in 2007 to 62% in 2019. Unemployment is exceedingly high for young people, with a rate of 33% of the total, three times the OECD and the EU averages.

Levels of instruction

The share of the population between 25 and 64 years old with at least an upper secondary qualification is the main indicator of a country's educational level. In fact, the diploma is considered to be the indispensable level of training to participate in the labour market with individual growth potential. In

Italy, in 2019, this share was 62.2%, a value much lower than the European average (78.7% in the EU28) and that of most of the largest EU countries: 86.6% in Germany, 80.4% in France and 81.1% in the UK. Only Spain, Malta and Portugal have lower values than Italy.

No less wide is the gap with respect to the share of the population aged 25-64 with a tertiary qualification: in Italy, it is 19.6%, against a European average of one third (33.2%). The growth of the graduate population is also slower than in other EU countries, with an increase of only +0.3 points in the last year (+0.9 points on the EU average) and of +2.7 points in the last five years (+3.9 points).

Labour market needs

According to an ongoing research - "Excelsior Information System EIS" - conducted by the National Institute of Statistics (INPS), the Union of Chambers of Commerce (Unioncamere) and the National Agency for Active Labour Policies (ANPAL), between 2019 and 2023 the Italian labour market will need **between 2.5 and 3.2 million newly employed workers**. This forecast considers the needs of the private and public administration sectors linked both to the need to replace people who will leave their jobs for retirement (*Replacement demand*), and to the expansion / contraction of the various production sectors in relation to market trends (*Expansion demand*).

In particular, over three quarters of the requirement will be linked to **physiological employment turnover (with a forecast between 2.1 million and 2.3 million people)**, while the economic growth will generate, depending on its intensity and in a very differentiated manner in the various sectors, a share of new jobs ranging from **427 thousand to 905 thousand units**. About 85% will be absorbed by the private sector, the remaining 15% by the Public Administration.

The "**digital revolution**" and the demand for "**eco-sustainability**" will drive the overall demand for labour forces.

Digital Transformation and Eco-sustainability will fuel the employment plans of the enterprises, representing **approximately 30% of the expected employment needs** for the period 2019-2023.

In detail, companies will look for between 210,000 and 267,000 workers linked to **digital transformation** with specific mathematical and IT skills, digital or 4.0. Among the emerging professional figures, most in demand on the market, experts in data analysis, IT security, artificial intelligence, market analysis with a demand for new professions such as Data Scientist, Big Data Analyst, Cloud Computing Expert, Cyber Security Expert, Business Intelligence Analyst, Social Media Marketing Manager, Artificial Intelligence Systems Engineer.

As for **eco-sustainability**, from 480 thousand to 600 thousand workers who will be sought by companies to better seize the opportunities offered by the circular economy, reorienting their production processes. The expert in energy management, the green chemist, the green purchasing expert, the environmental marketing expert, the installer of low environmental impact plants, are some of the main Green jobs that will be most requested by companies.

Other production chains

The needs expressed by some supply chains that characterize the Italy's economy will further contribute to fuelling the demand for work. The companies of the "**Health and Wellness**" supply chain will express in the period 2019-2023 an employment need that may vary between 323 thousand and 357 thousand units, mainly seeking doctors, nurses, physiotherapists, and medical laboratory technicians.

The "**Education and culture**" supply chain will express, in the period 2019-2023, a need of between 134 thousand and 194 thousand units and will be aimed mainly at figures such as teachers, designers

of training courses, translators, designers and organizers of cultural events, experts in communication and marketing of cultural heritage.

The employment needs of companies in the "**mechatronics and robotics**" supply chain may concern between 76 thousand and 106 thousand workers, over the period 2019-2023. The most requested figures will be technicians for automation and mechatronic systems, technicians for the management and maintenance and use of industrial robots, designers of industrial plants and those in charge of programming numerically controlled machines.

The "**mobility and logistics**" supply chain will be looking for a number of workers between 78 thousand and 99 thousand. The main professions sought will be logistics workers, whether they are warehouse workers or department managers, air, naval and railway traffic controllers, and drivers of heavy vehicles.

Finally, the "**Energy**" chain, with a requirement between 38 thousand and 41 thousand units, will require in particular technicians for the production of electricity, chemical controls and operators of waste recovery and recycling and water treatment and distribution plants.

Requested and unobtainable professions

However, in Italy the labour market also faces the paradox of a series of very requested professions which are unobtainable. In fact, EIS estimated – pre-COVID - that in the three-year period 2020-2022 in at least six Italian working sectors there will be a shortage of personnel:

1. mechanic
2. food
3. ICT
4. textile-fashion
5. wood-furniture
6. chemistry

In fact, considering the growth in employment in the technical and manufacturing sectors and the turnover of retirements, there will be work for at least 205 thousand people, but for companies it is difficult to find competent workers in these six sectors.

According to the statistics, companies are unable to find specialized professional profiles because young people often make wrong educational / school choices, which do not consider the labour market. In fact, more than half of the enrolments in high schools are addressed to lyceums, while technical or professional institutes are not considered, even if the demand for workers with these kinds of skills are constantly increasing. Consequently, at the end of school, young people are unable to find a job.

What are the winning jobs?

One of the biggest worries of young Italians is to orient themselves in the best way to choose a profession. In an economically unstable historical period, characterized by significant rates of precariousness and unemployment, it becomes increasingly important to make wise choices in the future.

Thanks to the accurate statistical analysis of ISTAT, it is possible to get an idea of the jobs most requested by the market, so as to have more solid possibilities for solid employment.

The so-called "popular" sectors are truly varied: from highly specialized professions to those that do not require a specific course of study, from ultra-modern professions resulting from technological progress to the more traditional ones that have survived over the centuries.

Istat made a ranking of the most requested jobs, built on the basis of 4 well-defined groups:

1. Technical specialized professions

These are the jobs with the highest technological and scientific index, which require a solid intellectual preparation supplemented by excellent practical skills in the technical-mechanical field. Here are the main figures involved:

Industrial production managers	Software analysts and designers
Contractors and technicians in the management of construction sites	Electric welding specialists
Operators in the hospitality businesses	

This group registered 632 thousand employees in 2018.

1. Non-technical specialized professions

These jobs also require a good level of intellectual specialization, but they do not require sophisticated technical-mechanical skills. The main professional figures include:

Physiotherapists	Specialists in market relationships	Educators
Accountants	Sales and distribution employees	Conductors and stationmasters

Professors of elementary and middle schools	Pharmacists	Logistics and freight transport workers
---------------------------------------------	-------------	-----------------------------------------

In 2018, there were 1 million employed in these categories.

1. Operational technical professions

These are jobs that require good manual skills rather than a high level of intellectual specialization, which involve the use of special equipment. Some examples:

Restaurant managers	Farmers and agricultural workers	Green space maintenance workers
Tool makers	Assemblers of electronic equipment	Dental technicians
Cooks	Breeders	

There were 890,000 workers in the operational technical professions in 2018.

1. Elementary professions

these are jobs that require a basic level of preparation. Among which:

Caregivers and nannies	Office and shop cleaning staff	Warehouse workers
Canteen workers	Custodians	Waiters
Cashiers	Shop assistants	Drivers

The record of employees is held by the latter group, with 2.9 million employees in 2018.

How will labour in Italy change in the future?

It is no mystery that Italy is one of the countries least accustomed to the desire for socio-economic change. It is in fact indicated as one of the most “old-fashioned” countries and is in a certain sense reluctant to accept these great developments. The facts demonstrate this: ISTAT (2019) says that Italy is the oldest country in Europe and the one with the largest number of NEETs, largely discouraged by the bad prospects and not encouraged by adequate policies for their integration into the labour market.

Certainly, one of the main problems in this situation is the lack of adaptation of training to the changes in the labour market and the new skills required. The topic is more relevant than ever and requires an immediate commitment to fill this gap and prepare for the new challenges facing workers: this is demonstrated by the latest study by the World Economic Forum, according to which **65% of children entering primary school today will ultimately end up working in completely new job types that do not yet exist**. As a matter of fact, such a thing has already happened: 10 years ago, no one would have thought that some girls and guys could have made money by becoming YouTuber, Web Influencer or Social Media Manager. But this time the revolution will be even more radical and complex.

At the moment, we can only imagine the jobs of the future: we can make hypotheses on the basis of the developments of new technologies, but we cannot predict which paths progress will take. The technology, in fact, will soon be applied to the most varied areas, from agriculture to medicine, without considering the great need that there will be for experts in artificial intelligence, robotics and cyber security; possessing digital knowledge will therefore be essential in order not to remain out of the job market.

Now there is a gap between the skills required and those available, because so many people do not have these new skills. While workers try to run for cover with training courses, students and young people still have time to prepare for future job challenges by starting immediately an educational path focused on technology and digital skills.

Covid19 changes the job market

The labour market was already changing before the pandemic arrived: The coronavirus outbreak accelerated the change taking place. Going back is impossible.

Turkey

As of November 2020, the unemployment rate in Turkey amounted to 12.9%. According to the Turkish Statistical Institute, the number of unemployed aged 15 and over decreased 303,000 to 4.5 million as of November compared to the same month of 2019. Unemployment among youth seems to be the most severe, with 24% of people aged 15-24 remaining without a job.

Assessing the labour market trends is not easy due to the economic turmoil and fragile political context present during the recent years in Turkey, but despite those fluctuations, there is high demand for labour in certain sectors, in particular intermediate staff in niche sub-sectors. Due to the digital transformation, technologies have been transforming conventional production processes, creating demand for technology-driven production regardless of the economic progress of the provinces. The most frequently identified demands during the field visits and desk-based review are as follows:

- textile, clothing, leather and footwear sectors: especially people with abilities to work with robotics and digital technologies in designing and styling;
- information and communication technologies sector: programming, coding skills for web, mobile apps, AI;
- energy and petrochemical industries: especially people with skills in renewable energy;
- pharmacological and medical device industry: product developers, designers, programmers, engineers

The COVID-19 crisis has had broad economic and employment effects in Turkey, with the most affected group being workers of the sectors of social and personal services, textile production, automotive, electrical and electronic, as well as energy services.

Annex 1: Manual for questionnaire interviewers

1. Important parts of the questionnaire - these questions should be answered.
 - a. questions number 1., 4., 5., 6., 7., 9., 11., 13., 14., 15., 16., 17., 19., 20., 21., 22., 23.
2. Before distributing the questionnaires:
 - a. please check the questionnaire contains all the questions nu. 1 - 23
 - b. please check the **Consent of the legal representative on the provision of personal data** is signed for each pupil who will be filling the questionnaire
3. After distributing, before starting the filling the questionnaires - please explain to the pupils:
 - a. **Why do they have this questionnaire to be filled?** There is an EU funded project focused on prevention of becoming unemployed. Project support primary school students in risk of being not in education nor employment to continue with studying in high schools focusing on the most innovative technologies through action learning courses in the companies that deal with these technologies so students can see how technology is working.

Mapping who might be in risk is the first activity within the project.
 - b. **Why is it important to have filled their name?** For the project is necessary to identify pupils who might be in risk and to whom the project will offer participation in courses.
 - c. **How to correctly mark the answers?** For open questions: write the clear and concise answer to the text box. For closed questions: circle the answer (*Some of the answers offered may not cover all possibilities. It may happen that the student does not find a suitable category for an accurate statement of his/her situation. In this case, please work together. Assess which of the possible answers is at least close to this. In this case, there is a better answer that does not describe the respondent exactly than none.*)
 - d. **How to correct wrongly marked answers?** For open questions: horizontally cross out the written answer with one line and write the correct answer next to it (it doesn't matter if it doesn't fit in the text box). For closed questions: cross out the originally circled letter of answer and circle the new option.
4. Starting the filling the questionnaire - teacher/educator should go through the questionnaire together with all students (question by question) and explain the meaning of each question. Just after answering one question, they should commonly move to the next one.

Question 1.: student can also state "I don't know". If a student doesn't know what he/she would like to work as and he/she will continue studying in higher education level or training, he/she will state the study field.

POINTS: 3 points for whatever job or field of study stated, 0 for nothing mentioned regarding further studying or work experience

Question 2.: student should state max. 2 names of subject to the text box he/she likes the most

POINTS: No points

Question 3.: see Question 2.

POINTS: No points

Question 4.: student expresses his/her feeling about most common grades received in average (taking into account all subjects). Student circle 2 options.

POINTS: 1 = 4 points, 2 = 3 points, 3 = 2 points 4 = 1 points, 5 = 0 points (in CZ)

Question 5.: if none of the most probable choices describes the students' situation, the student states his/her situation in the text box under the option "others" and circle the letter of "others" option. Student circle only 1 option.

POINTS: a) 3p, b) 2p, c) 2p, d) 0p

Question 6.: this question means anything new in terms of exploring new technologies that the student could hear about and be so interested in that he /she would like to accept an offer for a practical course to see the technology in practice.

POINTS: YES = 1 point, NO = 0

Question 7.: this question should provide the information whether the student would agree to visit the companies that use given technologies and get familiar with them (visits will take place for 6 months)

POINTS: YES = 1 point, NO = 0

Question 8.: if none of the most probable choices describes the students' wish, the student states his/her option in the text box under the option "others" and circle the letter of "others" option

No points

Question 9.: this question should be answered purely based on student's feeling (disadvantaged from health, religious, sex, minority, finance, national minorities point of view)

POINTS: YES = 0 points, NO = 3 points

Question 10.: A student can provide the information on how it affects his/her at school (e.g. worse grades, demotivation, bullying, feeling of inferiority, transfer to another school etc.)

POINTS: No points

Question 11.: student can decide the choice based on his/her feelings. The help should be provided regularly, at least 1x/week. If help is not provided regularly but only ad-hoc, circle "NO"

POINTS: YES = 2, NO = 0

Question 12.: student should circle YES answer if he/she feels without support he/she won't be able to pass the given subject/s with the best 3 grades (in Czech 3 best grades are 1 - 3).

POINTS: YES = 0, NO = 3

Question 13.: if none of the most probable choices describes the students' situation, the student states his/her situation in the text box under the option "others" and circle the letter of "others" option

No points

Question 14: student should circle "YES" if he/she regularly meets in his/her free time with at least 1 friend who dropped out of the school and is not in any other education, employment nor training.

POINTS: YES = 0 p, NO = 3 p

Question 15.: student should circle the situation that predominates. Student circle only 1 option.

POINTS: a. = 3p, b. = 2p, c. = 1p, d. = 0p

Question 16.: student should circle the situation that predominates. Student circle only 1 option.

POINTS: a.= 3p, b.= 2p, c.= 1p, d. = 0p

Question 17.: student should circle the answer based on the situation, Slovak nationality doesn't count (this applies only for CZ)

POINTS: a.= 0p, b.= 1p, c.= 2p

Question 18.: student should circle the answer based on the current situation

POINTS: a.= 2p, b.+c.=1p, d.= 0p

Question 19.: student should circle YES if he/she lives with or is in regular touch with his/her sibling/s regardless of whether own or half-sibling/s

No points

Question 20.: if none of the most probable choices describes the situation, the student states other situation in the text box under the option "others" and circle the letter of "others" option

POINTS: a.+b.+c. = 3, d. = 2, e = 0, f = 3

Question 21.: Question should provide information whether a student is in risk of being unemployed or not educated enough for his/her desired job position. Students should circle the answer that predominates based on his/her feeling.

POINTS: YES = 0, NO = 3

Question 22.: student should circle the answer based on the current situation, if some relative in the family has the serious health problem but help is provided from external medical staff, please circle "NO"

POINTS: YES = 0, NO = 3

Question 23.: Student will circle "YES" if during his/her studies he/she had to transfer to another school for any reason (with the same status of primary school)

POINTS: YES = 0, NO = 1

Question 24.: student should circle the answer based on his/her feelings and at the same time based on grades received at new school compared to the grades received at previous school

POINTS: a.= 3p, b.=0p, c= 2p

Question 25.: student circle the option based on his/her feelings

POINTS: a.=1p., b.=2p., c.=3p., d.=0p.

Question 26.: student should answer and circle the option based on the most common situations.

POINTS: a=2p., b=1p., c.=1p, d=0p.

5. After filling: please check all questions are answered and eventually corrected. Also please make sure all questionnaires are signed by respondents

Annex 2: Questionnaire

Name, surname

Age

Questionnaire

1. **What would you like to be/do in terms of job when you are an adult?** (name the job position or the area you would like to focus on)

.....

2. **What is your favourite subject at school?**

3. **What subject do you like the least?**

4. **What 2 grades do you generally get most often?**

1 2 3 4 5

5. **What do you plan after graduating from primary school?**

- a. Continue studying in high school
- b. Working
- c. Other training / vocational practice
- d. Other:

6. **Would you like to experience anything new/new experience at school?**

YES

NO

7. **Would you like to see how state-of-the-art technologies work?**

YES

NO

8. **If yes, what technology would you like to try the most?**

- a. Nanotechnology (a field of research and innovation concerned with building 'things' - generally, materials and devices - on the scale of atoms and molecules)
- b. 3D print
- c. Augmented reality (= gaming industry)
- d. Robotization
- e. IoT (= Internet of Things, Smart Homes)

f. Other:

9. Do you feel in any way disadvantaged compared to other students?

YES

NO

10. If yes, how this disadvantage affects your studying

.....

11. Do your parents/other family members regularly help you with your homework?

YES

NO

12. If not, do you need your parents to be helping you with your homework/studying?

YES

NO

13. How do you like the most to spend your free time?

a. Doing activities with my parents (mom/dad) or siblings – what activities:

.....

b. Doing activities with my friends – what activities:

c. Doing activities alone – what activities:

d. Other:

14. If doing activities with your friends, is among them a friend that is not attending any school and is unemployed?

YES

NO

15. What is your mood most often?

a. Optimistic (I am happy almost all the time, I do not worry about things)

b. Realistic (I see things as they are)

c. Pessimistic (I am often sad and in a bad mood)

d. Very often variable (my mood changes several times during the day)

16. Do you manage to be confident?

a. Always

b. Sometimes and I work on it

c. Rarely, I don't manage

d. Never

17. Is at least one of your parents other than Czech nationality?

a. YES, both

b. Yes, one of them

c. Both are of Czech nationality

18. Are your parents/guardians working/running their own business?

a. Yes, both

- b. Only my mum / only my dad
- c. No one (both are unemployed, nor running their own business)

19. Do you have any siblings?

YES

NO

20. If yes, what do your siblings do?

- a. Studying in kindergarten, primary school or high school
- b. Studying at university
- c. Working
- d. Running own business
- e. Other
- f. I have no siblings

21. Do you have any health problems that limit your further study or your future work?

YES

NO

22. Does anyone in your family have health problems so he/she needs constant care from some other relative? (parents, grandparents, siblings)

YES

NO

23. Have you ever had to move from your previous home to a new one where you attend a new school?

YES

NO

24. If yes, how has it affected your education progress?

- a. Positively
- b. Negatively
- c. No impact (I have the same grades and understand the subjects at the same level as in my previous school)

25. What do you think the others like most about you?

- a. Appearance (how I look and how I dress)
- b. Sociality (eg. openness, sense of humour, how I communicate with others)
- c. Artistic talent (painting, acting, singing, dancing etc.) or other talents (on languages, maths, etc.)
- d. Things I own (eg. my cell phone, laptop, jewellery etc.)

26. When you prefer to do your homework?

- a. I do homework before any leisure activities and finish them all
- b. I do homework after leisure activities and finish them all
- c. Without any specific order, but I finish them all
- d. Without any specific order, but I usually don't finish them all

