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Research

Future of work 2030

How to prepare
for change in Ukraine



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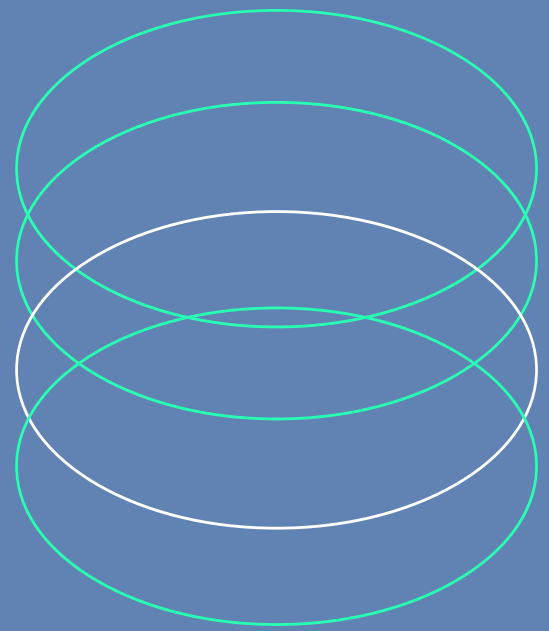
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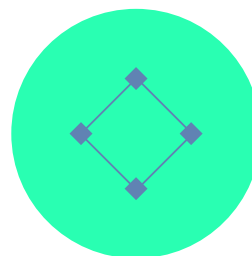
Future of work 2030:

How to prepare for change in Ukraine





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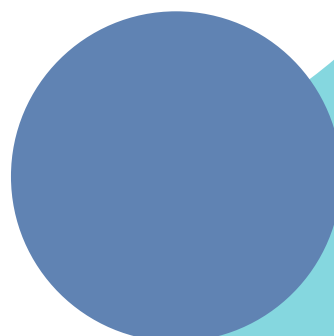
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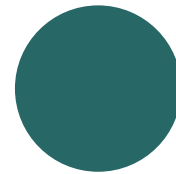
Foreword

The world is transforming. We feel how diverse changes are intensifying around us: social, cultural, technological, economic and environmental. The intensification of globalization increases competition between states for limited natural and human resources.

Where is Ukraine on the future map of the world? What awaits our country and its citizens in 2030? How do you succeed in this new, fast-paced world where everything is so interconnected that «the flutter of a butterfly's wing in Brazil can cause a tornado in Texas»?

The answer is predictable—through the increased competitiveness of the Ukrainian economy, which will be determined by several factors, including the innovation and efficiency of the private and public sectors. But behind all these factors are the people who will generate ideas, create innovative strategies, make decisions, and implement programs, doing their job with the upmost efficiency.

Therefore, the key to Ukraine's success lies in human development, and must include an understanding of work in the future. Awareness of key trends in the future and relevant skills, forecasts for the labor market and the future of leading sectors of the economy can be the basis for building strategies for training and retraining people and developing their potential.



The research is aimed at identification of trends in the labor market by 2030. Among the tasks of this publication is to create a guide for public and private organizations, and educational and youth institutions on how to help youth find themselves in the work of the future. After all, one of the few things that people want more knowing the future is to realize themselves and feel «in their place», to be content in this changing world.

In this publication, you will learn about key trends of the future, a vision for the 2030 workplace, the skills needed to work in the future, and the changes required by the education system to prepare youth for employment. Each of these topics will be presented in two perspectives—global and Ukrainian so that we could see a broader picture of changes in the future and predict the direction of Ukraine's development. Finally, in a world of high mobility and remote work, you should be prepared to work anywhere in the world.

We invite you to a bright journey called «Future of Work 2030: how to prepare for change in Ukraine»! We hope that it will be full of discoveries, and provide a deeper understanding of Ukrainian and global trends for future work.

¹ Quote and work of the same name by Edward Lorenz, American mathematician and meteorologist, discoverer of the underlying mechanism of deterministic chaos, about the Butterfly Effect.





«The world is changing. The good news is that Ukraine still has time to keep up with the international trends of the future. Understanding the future world and the global perspective that this research is about, companies and educational institutions — schools, vocational education institutions, universities — should unite and update the entire system of education and career counseling in Ukraine. Due to this, young people in Ukraine will choose a profession not because of the prism of parents» experience, but because of future employment prospects in a competitive environment. I believe that such a collaboration is possible on the Career Hub platform, where we have been preparing young people for future professions for several years. However, with the UNITY program, we want to do even more, and the first step towards our vision is this research».

Maryna Saprykina, Head of the Board of CSR Ukraine.



«Understanding the future of work is not only important for youth, but also for businesses as employers and educational institutions as preparatory facilities. We hope to facilitate a shared understanding of the evolving expectations and requirements for employment in different sectors. Today's youth are the future leaders of the economy, so bringing them into the conversation to help plan for tomorrow is essential».

James Hope, USAID Mission Director for Ukraine and Belarus.



«Understanding what the future of work prospects looks like in Ukraine will allow various institutions to adapt and plan accordingly so that demands of the job market adequately meet the supply of skilled employees avoiding skills mismatch and gaps. Within UNITY program the report will serve as a guiding compass to ensure that we are focusing on competencies and skills that will ensure that youth have prosperous employment prospects in Ukraine.»

Mehri Druckman, Chief of Party for USAID UNITY program.



Brief overview. Main findings of the research



In the next ten years, Ukraine will face unprecedented large-scale intensive and comprehensive changes. Technological progress, globalization, and climate change will become the key factors affecting economic, political, and social transformations in the country, and therefore in the labor market.

To maintain Ukraine's economic competitiveness, it is important for government agencies, educational institutions, and citizens to be aware of global trends, understand their consequences and use proactive approaches to minimize future risks.

Among the main trends of the future work will be the changes to professions and positions due to total digitalization and automation of routine processes. Staff occupied in these professions will be pushed into areas related to decision-making, creativity, communication with other people (where there will be a shortage of staff), or to low-paid professions (where there will be an oversupply of labor).

However, most professions will disappear and change not in form but in content, i.e. they will require qualitatively new skills. Changes in the content of professions will occur at critical junctions due to a combination of technology and creativity. IT will permeate almost all areas of the economy.

There will be an increasing demand for **interdisciplinary knowledge, creativity and soft skills**. The demand for a **multifunctional employee** will also increase.

Against this background, it is expected that the **inadequacy of traditional education with regards to market demands will increase**, as traditional education is too inflexible to keep pace with social and economic changes. In respect to the need to fill the vacuum of relevant knowledge and skills, non-formal education will become more popular, which will enable specialists to be trained in a short time. Traditional education should become **multidisciplinary and practice oriented**. Along with the reduction in teaching theoretical knowledge, more attention should be paid to **developing the skills of the future** in youth. In this context, **the role of teachers will evolve into the role of mentors or coaches**.

The reduction of the labor force due to the aging of the population and the migration of specialists abroad will have a significant impact on the work of the future in Ukraine. This, in turn, will lead to a shortage of skilled workers who will be able to dictate the terms of cooperation to the employer.

Such transformations will facilitate the **popularization of a new management culture**, changes in communication and approaches in work teams, changes in the role of leadership, and transition to more horizontal forms of management and teamwork (a reduction in control and management, increasing openness and delegation, renunciation of status).





Staff and employers will look for forms of cooperation that are as comfortable as possible for both parties. We will observe an increase in teleworking and flexible work schedules, and the emergence of new challenges related to effective teamwork. In addition, in 2030 there will most likely be imbalances in the labor market due to the disparity between market needs for certain specialties and the desire of modern youth to choose prestigious and popular professions.

Carefully considering these trends leads to optimal strategies for preparing for the future at three main levels.

At the macro level (national level), special attention should be paid to reforming the educational and career guidance systems in order to mitigate the expected crisis for youth and businesses.

In particular, there needs to be a complete change in the philosophy of education. **School education should shift the emphasis to skills that will make youth more adaptable and capable of self-development.** Its task should be to form a worldview and ethical foundation, as well as to help identify each person's natural aptitudes that will form the basis of his or her future self-determination. Vocational and higher education must be refined for professional and business needs and include a significant practical component. The term for the acquisition of these skills should be reduced.

In addition, it is necessary to create an effective career guidance system at the national level, which will help eliminate imbalances in the labor market and reduce the time spent on retraining.

It is also important to create a digital infrastructure that will open access to the labor market for such groups as people with disabilities, mothers with young children, and youth from regions with a limited number of jobs.

Finally, in the context of increasing global competition and increasing requirements for employers, it is important to create a more favorable atmosphere for doing business in Ukraine.

At the medium-level (enterprises) it will be critically important to follow technological and social trends and actively implement digital solutions. Companies should realize that only those enterprises that **care about the physical and mental comfort of their employees** will be able to retain valuable staff. Due to the development of freelance and remote work, **the loyalty of employees to companies and their level of involvement will decrease.** Instead, **skilled workers will be more focused on their own needs and comfort when choosing an employer.**

Companies will need to use a proactive approach to employee training, namely, articulating requests for the necessary skills for their business, cooperating with educational institutions, and creating their own training programs and institutions. In this vein, enterprises need to create the maximum possible number of opportunities for training and expanding the skills of its employees, as well as building a flexible environment for work and professional development.





Businesses must understand that changes to the workplace mean that a physical workspace may no longer be assigned to an individual employee. **The physical workspace will be in the form of a «hot table»** — the person or people who choose to come to the office/workplace on a particular day will choose a free desk or workspace. There will also be an increasing demand for diversity in teams and skilled workers: empowering people with children and people with disabilities.

At the micro level (human, employee) it is important to critically reconsider one's own aptitudes and interests (to choose the area in which to work as comfortably and effectively as possible), as well as strengths and weaknesses (to adequately assess their market value and understand what skills need to be strengthened).

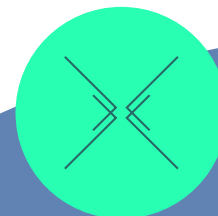
In order to further develop their aptitudes, skills, and strengths, youth must develop a **personal professional development plan** for effective self-realization in professional life.

Maximum diversification of skills — namely hard and soft skills, problem-solving skills, and creative thinking — can strengthen the position of youth in the labor market. The ability to use new devices, information, and communication technologies, preferably in combination with professional specialization, will be a must for employees.

In the future, **lifelong learning skills** and the continuous updating of knowledge and skills will be vital for employees (and employers). This should not be limited to formal programs, but employees should continuously pay attention and respond to innovations in their profession, preferably with the help of a strong mentor who will help them to progress. **That is why the most important skill of 2030 will be the ability to learn.** In addition, the typical learning format will be a combination of online and in person learning.

When looking for a job, young people should focus not only on financial rewards and growth opportunities, but also on whether they are ready to personally contribute to developing the enterprise (not only to receive, but also to invest). Commitment to common goals and loyalty will be valued on a par with professional skills..

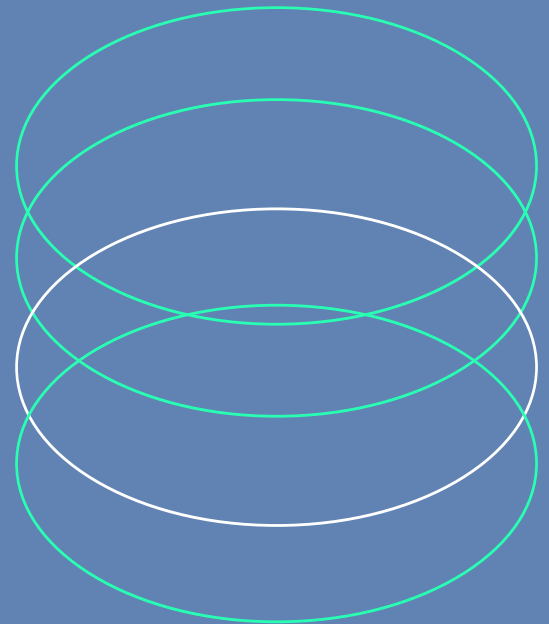
The most important conclusion of this research is that ensuring the implementation of these strategies will be most effective by the synergy of efforts of government authorities, businesses, civil society organizations, educational institutions, and each citizen of the country. Knowledge and understanding of the trends of the future will allow for the development of more effective plans to prepare for the future of work. Forewarned is forearmed.



We hope that this research will provide a solid basis for building your personal or organizational strategy in for the future of work in 2030. And the recommendations provided to key stakeholders will be a guide for further discussion and implementation at each level.



The future of work 2030: objective, methodology, and value of the research



The objective, idea, and goals of the research



The overall objective of the research is to identify key trends for the future of work in 2030 in order to develop recommendations for stakeholders in the training and retraining of youth for future jobs and careers.

Among the tasks set before the research are to:

- ✓ identify global and Ukrainian trends for 2030.
- ✓ explore potential changes that will occur in the leading industries of Ukraine.
- ✓ identify the features of the workplace of the future, determine the current status of the educational system in Ukraine and the priorities for its transformation over the next 10 years.
- ✓ outline the skills needed for jobs in 2030.
- ✓ identify employment opportunities and challenges for different population groups, especially youth, including young women, people with disabilities, and IDPs.
- ✓ provide recommendations to key stakeholders for successfully preparing for work in 2030.



Methodology of the research

During preparation of the research, the authors utilized international research publications, focus groups with youth aged 14 to 35, focus groups with Ukrainian companies in different industries, in-depth interviews with experts, as well as online surveys of a wide range of youth (14–35 year olds).

These methods were selected to reach key stakeholders and hear diverse views about the work of 2030 from both youth and employers.

Analysis of publications

Over 50 existing international papers and studies on global trends in the future of work were analyzed, including studies of international organizations, conclusions and reports from international conferences, articles in mainstream publications, and international experts' opinions and recommendations. Study topics covered the future of the labor market, the workplace, the skills needed in 2030, the education system, and the industries that will determine the future of work in 2030.

Qualitative research

Qualitative research included in-depth interviews and focus groups with representatives of private companies and youth, which took place from 9 to 20 February, 2021.

Focus groups

Four online meetings were held with company representatives (their quotes in the research are referred to as **FG business**), namely: HR directors, innovation directors, strategists, and career development specialists.

Focus group participants included representative from the following industries:

- agro-industry (Corteva Agriscience, Syngenta)
- pharmaceuticals and healthcare (Servier)
- food industry (Coca-Cola Beverages Ukraine, Enzyme)
- telecommunications (lifecell)
- IT (IT Integrator)
- infrastructure (Kyiv Smart City)
- banking and financial services (Raiffeisen Bank Aval, UKRSIBBANK BNP Paribas Group)
- legal services (Arzinger)
- retail trade (Auchan Ukraine)
- logistics (Nova Poshta)
- hospitality (Reikartz Group)
- light industry (New Fashion Zone)
- energy engineering (DTEK)
- heavy and manufacturing industry (Metinvest).



The selected industries are of strategic importance, have high export potential, and are interesting to youth. They were selected based on:

- 1) Analysis of indicators of turnover dynamics, capital investment, and net income of enterprises in various industries, compiled by the National Investment Council²;
- 2) Research of EY's People Advisory Services «Best Employer Survey», which enabled the analysis of students' preferences for choosing an employer³;
- 3) Data from the State Statistics Service on the demand for workers the Ukrainian economy until 2030⁴.

In-depth interviews

In-depth interviews were conducted with Ukrainian strategists, futurists, and experts in innovation, economic development, digital technologies, and career development (they quotes are referred to as **I-dl experts**).



Among them:

- ✓ **Anatoliy Amelin** — Director of economic programs, co-founder of the Ukrainian Institute for the Future.
- ✓ **Nadiia Vasylieva** — Digital Transformation Institute founder, Professor of the Ukrainian Catholic University.
- ✓ **Andrii Dligach** — founder and CEO of Advanter Group.
- ✓ **Natalia Yemchenko** — Director of Public Relations and Communications SCM, founder of the sports project Live.Love
- ✓ **Valeriia Zabolotna** — Rector of DTEK Academy, founder of Alternative School Generation 22.
- ✓ **Olena Martynyuk** — fashion expert, editor-in-chief at Words on Beauty, beauty editor at l'Officiel Ukraine, author of the course on fashion media and a book «Getting into Fashion».
- ✓ **Valerii Pekar** — entrepreneur, lecturer at Kyiv-Mohyla and Lviv business schools
- ✓ **Vladyslav Rashkovan** — Deputy Director of Ukraine in the International Monetary Fund (IMF)
- ✓ **Tamara Sukhenko** — coach, psychologist and facilitator, author of a manual on career guidance «How to choose a profession of the future.

From the point of view of their own work and activities, the experts identified key trends and challenges for the future industries, and other relevant predictions and analyses.

² The Office of the National Investment Council analyzed sectors of the Ukrainian economy that have prospects for further growth and attract of foreign investment, Olga Magaletska (National Investment Council of Ukraine 2020)

³ Best Employer Survey 2019: what do students expect from work? (EY 2020)

⁴ State Statistics Service of Ukraine (2020)

Focus groups with youth

In order to hear the views of young people, three focus groups were held with 14–35 year olds, who shared their own vision of the future of work. The focus groups with youth included people of different genders, regions and places of residence (cities and villages), education levels, and other demographic factors. Participants were divided into groups by age—senior pupils aged 14–17 (with parental consent), youth aged 18–25, and other young people aged 26–35 with some employment experience). Communication with young audiences of different ages helped to analyze the labor market of the future from the perspective of different generations. (Quotes of youth are listed as **FG youth**).

Quantitative research

From 20 January to 9 February 2021, a quantitative online survey was conducted to reach more young people, and gain a broader youth perspectives of the future of work. The information was collected through a standardized online questionnaire (Google form), which contained 68 closed and open questions related to youth people's vision of the future of work, the workplace of the future, leading industries, the current education system, and educational institutions of the future their role in career guidance for young people.



The purpose of the survey was to identify and outline the trends of the work of future 2030 as seen by youth. The survey received 1,227 responses from youth aged 14 to 35 from all regions of Ukraine, (of them, 59.7% were female, 36.1% were male, 4.2% preferred not to answer), and mostly living in cities (69.3% lived in a city, 30.7% in a village or town). The survey was conducted with young people of different educational levels, from schoolchildren to doctors of science, with different training and experience levels.

Among those surveyed, 24.5% of young people identified themselves as representatives of vulnerable segments of the population (people with disabilities, internally displaced persons, orphans, people with low-income, etc.).

The quantitative results of the survey confirm the qualitative research and focus group discussions with young people, businesses, and experts.



Practical value



The research «Future of Work 2030: how to prepare for change in Ukraine» is of great practical value to employees, employers, educators, and policymakers. This research will initiate a nationwide discussion among youth, business, and experts on the future of work, promote the topic and its relevance to key stakeholders, and offer recommendations to public authorities and private entities, educational and youth institutions, and youth themselves.

The results of the research can be used by a wide range of stakeholders and organizations, in particular:

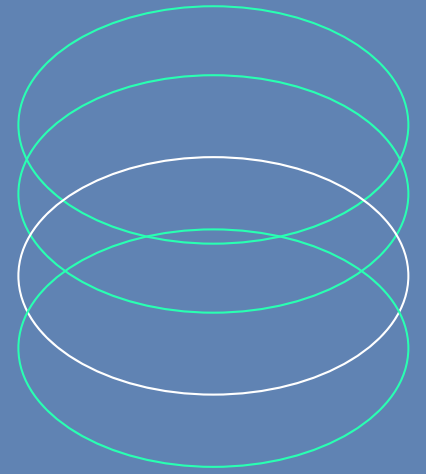
- ✓ public authorities, for creating national employment programs, strategies, and projects for youth.
- ✓ companies, for creating corporate educational programs and building strategies for working in the future.
- ✓ educational institutions and their career centers, to provide successful career guidance to youth.
- ✓ youth, for planning their career development.
- ✓ psychologists, career counselors.





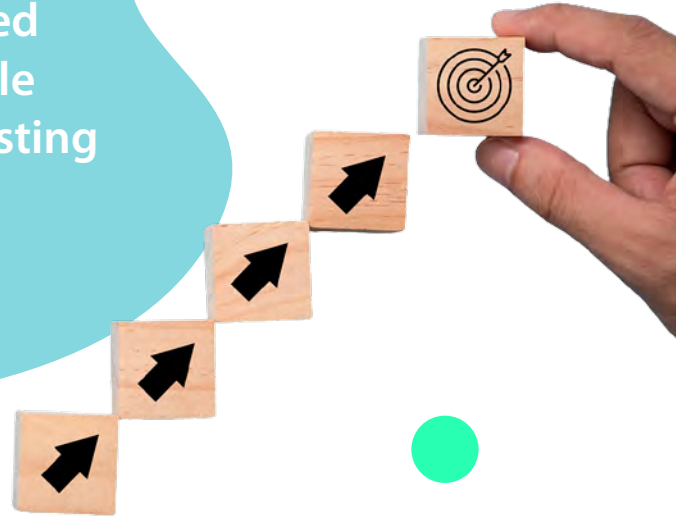
Section 1

Key trends of the future of work 2030



Global trends

The future is largely determined by what happened in the past. History has been radically changed many times by so-called «black swans»⁵. However, a significant role here is played by the maintenance of existing trends and preconditions



International experts have identified the following global trends that are having and will have a significant impact on the labor market in the future⁶:

Advancements in technology

Rapid technological innovation can lead to economic growth, social unrest, and political upheaval if the stratification of poor and rich people deepens). According to the World Economic Forum's «Future of Jobs Report 2020»⁷, by 2025, 85 million jobs may be displaced in large developed countries and developing countries due to a shift in the division of labor between humans and machines. While 97 million new roles may emerge that are more adapted to the new division of labor between humans, machines, and algorithms.

Demographic changes

With a few regional exceptions, the world's population is aging, putting pressure on business, social institutions, and the economy. An increasing number of countries have more than 20% of population over 65, and by 2030 there will be twice as many people in this age group.⁸ An increasing life expectancy will affect business models, ambitions of talented youth, and pension costs.

Rapid urbanization

There will be a significant increase in the world's urban population. The UN estimates that by 2030 4.9 billion people will live in cities, and by 2050 the world's urban population will increase by about 72%.⁹ In such a new world, cities even more will become important agents for job creation.

⁵ Small events that are unexpected and impossible to predict, but have a very large transformative effect

⁶ Workforce of the future. The competing forces shaping 2030 (PWC 2018)

⁷ The Future of Jobs Report (WEF 2020)

⁸ Andrew Bolwell, Global Megatrends shaping our future (HP 2017)

⁹ World Urbanization Prospects (UN Department of Economic and Social Affairs 2012)

Ukrainian perspectives

Resource shortages and climate change

Resources on our planet are limited which results in depleted fossil fuels, climate change, rising sea levels and water shortages. Energy and water demand are projected to increase by 50% and 40% respectively by 2030. Accordingly, there will be new jobs in industries that can mitigate potential shortages —alternative energy, environmental policy-making, corporate social responsibility etc. Moreover, climate change will give impetus to climate migration.

As these transformations take place, the problem of the flow of labor to different industries and regions—from those severely affected by the above-mentioned trends to new open opportunities—will become even more relevant. Industry is also changing. Futurist Alec Ross predicts that the five industries of the future¹⁰, which will be closely associated with the professions of the future, will be robotics, genetics, cryptocurrency, coding, and databases.

“
The futurology school to which I belong believes in the continuity of trends: the crisis does not break trends, but only accelerates them. This means that the trends that have gained momentum in recent years, will only accelerate.

I-dI expert (Valerii Pekar)

In order to fully understand the key trends of the future, it is necessary to analyze current trends, as well as the factors which initiated them.

Ukrainian experts and representatives from various industries highlighted the following trends:

Increasing globalization

Which affects competition for manpower, resources, and ideas; it also affects the location of production facilities and labor mobility of the population. Political factors also have weight in this context. For example, the Revolution of Dignity contributed to Ukraine obtaining a visa-free regime with the EU, and thus increased the impact of globalization on the country.

Transformation of economic and social models

The transition to neocapitalism. This is a transition from an economic model in which income is generated through ownership of land or fossil fuels, to a model in which we earn through access to data and information. For example, income in the agriculture sector does not depend on how much land one owns or its quality, but on the knowledge of how to increase yields through technology. In addition, reputation in this new world plays a bigger role than just owning resources;



¹⁰ Alec Ross. The Industries of the Future (Simon & Schuster, 2016).

Technological transformations

digitalization, automation, transition to mass production, and production based on 3D-printing technologies. Firstly, these transitions gave impetus to social change. Secondly, they have led to **a significant increase in the amount of information**, and as a consequence, to the inability to fully control work processes;

Environmental changes

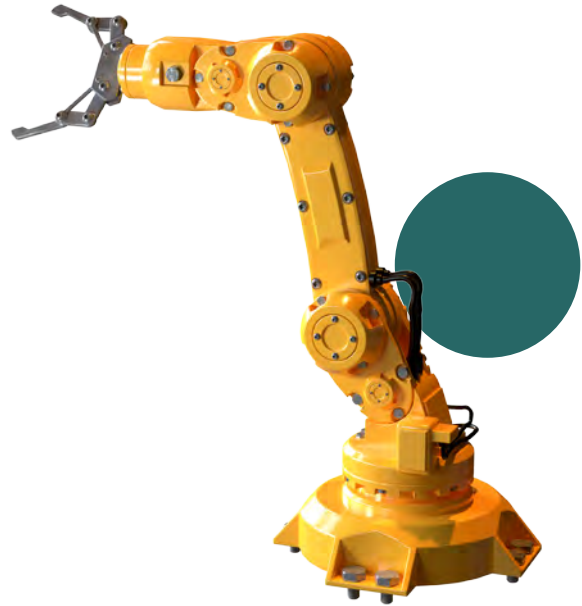
requiring change in people's attitudes to themselves and to the surrounding environment.

Of course, all these trends are reflected in **business, which has changed dramatically over the past decade.**



It is very difficult now for large systems to engage in self-destruction and search for something new. New systems are always tested next to old ones. Over the next 10 years, self-re-invention will become a new corporate norm

I-dl expert (Natalia Yemchenko)



Digitalization and automation of work processes have increased job performance, efficiency of interaction with clients, and efficiency of services. **The modernization of production technologies has led to a demand for new skills** and, consequently, to an increase in the skills of the employees who work with them. At the same time, some knowledge has lost its professionalization, such as programming, which has become an element of skills that can be acquired in short-term practical courses. Whereas ten years ago, it required a thorough education.

The development of remote work has led to the popularization of outsourcing, outstaffing, crowdsourcing, and the creation of gigonomics¹¹ and, as a result, the transition to flexible work schedules. Business representatives from different industries noted the combination of online and offline work as a result of digitalization and increased concern for the physical and mental health of employees (typical of IT/telecommunications and service industries). Home-based work and increased information flow have led to functional overload at work and the emergence of a new issue in corporate culture — **«well-being»** and improving the mental health of employees.

Focus groups with different experts demonstrated that future trends may differ by industry — see Table 1.

¹¹ Maximum involvement of outsourcing and freelancers by companies



Table 1: Trends noted by experts by industry

| | | |
|---------------------------|---|---|
| Banking/Finance | <ul style="list-style-type: none"> ✔ Spread of fintech | <ul style="list-style-type: none"> ✔ Spread of VIP-service |
| Legal services | <ul style="list-style-type: none"> ✔ Rejection of ageism ✔ Switch to hybrid working (online and offline) | |
| Logistics | <ul style="list-style-type: none"> ✔ Automation ✔ Digitalization ✔ High level of service | <ul style="list-style-type: none"> ✔ Care for the mental and physical health of employees |
| Hospitality | <ul style="list-style-type: none"> ✔ Partial transfer of work online | |
| Energy engineering | <ul style="list-style-type: none"> ✔ Automation, use of artificial intelligence ✔ Automation of middle management functions | <ul style="list-style-type: none"> ✔ Modernization of technologies and equipment |
| Light industry | <ul style="list-style-type: none"> ✔ More active work with marketing | <ul style="list-style-type: none"> ✔ Competition for professional staff |
| IT | <ul style="list-style-type: none"> ✔ Digitalization ✔ Increasing share of remote work ✔ Blurring boundaries between industries ✔ Continuous learning to keep up with technology | <ul style="list-style-type: none"> ✔ Reduction in demand for IT professionals in favor of convergence technology professionals ✔ Care for the mental and physical health of employees |
| Telecommunications | <ul style="list-style-type: none"> ✔ Blurring boundaries between industries ✔ Growing demand for customer experience management | <ul style="list-style-type: none"> ✔ Spread of biotechnology ✔ Care for the mental and physical health of employees |
| Pharmaceuticals | <ul style="list-style-type: none"> ✔ Spread of biotechnology | |
| Agro-industry | <ul style="list-style-type: none"> ✔ Involvement of specialists from abroad and from different regions of Ukraine to working remotely | |
| Food industry | <ul style="list-style-type: none"> ✔ Changing marketing strategies. Moving away from marketing/advertising at events to finding ways to integrate products into personal life of potential customers. | |



We are a telecommunications company and we are already at the junction with IT companies, because we have our own developers, a full cycle product, which begins entirely with identifying an idea to bring to market. .

FG business
(telecommunications, lifecell)



This is an intersection of classic research, classic R&D in pharmaceuticals, and the creation of drugs with digital technology.

FG business
(Pharmaceuticals and Health, Servier)



Having analyzed characteristic changes in different industries we can identify a number of patterns. First, not all industry representatives mention digitalization as a significant trend of the future. Naturally, it is less prominent in the creative industries, legal services, or services involving personal interaction (such as hospitality). While representatives of some sectors clearly underestimate digitalization, for example light industry, agriculture, and the food industry. Second, agriculture and light industry will face an acute shortage of staff. Third, it is noticeable that some industries are more actively implementing a new corporate culture which provides for the employee welfare. Particularly IT, telecommunications (who most actively involve youth), and logistics.

Corporate culture itself has undergone a transformation; there has been a shift from hierarchical models to open «team» structures. This involves reducing control and management, increasing openness and delegation, and the increasing role of the leader's personal energy for team success

At the same time, due to the development of freelance and remote work, the **loyalty of employees to companies and the level of their involvement will decrease**. Instead, skilled **workers will be more focused on their own needs and comfort when choosing an employer**.

Representatives of the IT and telecommunications spheres especially noted this trend, which will be significantly affected by the problem of low staff retention.

This will lead to greater concern for employees' well-being, in order to retain talented staff and increase their efficiency at the micro level, and as part the wider trend of being more sensitive to human needs in the economy and work at the macro level. Such companies will care about enabling a healthy lifestyle for their employees (for example, standing adjustable desks), increase access to health care and psychological support, and invest in education.

Care is also about **encouraging diversity in a team:** ethnic, racial, age, gender, which is key building effective relationships within the organization and beyond, and coming up with creative ideas.



“
The role of the individual, the person of leader, has increased. Previously, well-structured processes used to provide efficiency. Now automation has taken away part of these processes, and the rest has been concentrated in energetic leadership.

“
People will choose working conditions in which they are comfortable. Even if good money is paid for uncomfortable conditions, people would not like that.

“
Aspects of the employer-employee relationship in general are changing dramatically. Remote work allows employees to consider more employers; they may already have relationships with different number of employers. This is a serious challenge for employers. How to keep the employee who has more opportunities open to them.



Before, you could be discriminated against at work for having a physical disability, because of your weight, or because you were a man or a woman, but now everything has changed. Your difference is your trump card, the reason for your ability to find an approach to other situations and to other people.

I-dl expert (Andrii Dligach)

The humanization of business, the demand for diversity in the team and skilled workers will **increase work opportunities for people with children and for people with disabilities**. On the one hand, this will be facilitated by the increasing use of remote work and flexible work schedules. On the other hand, by new technologies in medicine (for example, the use of exoskeletons for people with mobility problems), and business will create infrastructure that will increase access to work.



Remote work opens up more opportunities. I have three children, and before I needed someone to come to me and look after my child when I went to work. Not everyone has such opportunities. With modern technologies it is easier. There are many interesting initiatives, for example, Club House, where you can feed your baby and participate in a serious discussion.,

I-dl expert (Valeriia Zabolotna)



In an industrial economy, the main task of the work force was to perform certain repetitive elements according to instructions. Today, this task is replaced by more creative, original tasks, associated with critical thinking, generating ideas, and problem-solving.

I-dl expert (Nadiia Vasyliieva)



2021 demonstrates that it is not necessary to have a university degree in order to have a profession. The concept of «work» is becoming more a concept of cognition, creativity, communication, and to a lesser extent, a reflection of a particular profession.

I-dl expert (Andrii Dligach)

Industries themselves have also changed. The change in the nature of labor has led to a decrease in the share of industrial labor (routine operations in industry, agriculture) and to an increase in the share of post-industrial labor (in creative spheres and the service sector). An example of this trend is the formation of an IT Outsourcing cluster in Ukraine.

These changes affect education as well as business. With the **decline of traditional education** due to outdated curricula (especially vocational education), low quality training, lack of practical skills, lack of building soft skills, **the role of non-formal education has increased**. There is an emerging class of workers who have realized that continuing education increases their market value and are investing in continuing professional development.

According to experts, most of these trends will be even more relevant and become more intense over the next ten years. These changes will happen in the context of demographic change and population aging in Ukraine, as well as the outflow of youth abroad, which leads to labor shortages. If no radical changes occur in the education system, the internal contradictions between supply and demand in the labor market will become more acute. The future can be unpredictable, and the appearance of a «black swan» can change the world beyond recognition.

Technological trends

Technology will change the structure of the economy, leveling down the importance of certain industries or services and increasing the importance of others.



For example, the spread of 3D printing will enable production to be located closer to consumers, so interregional and international transport will lose a significant share of work; at the same time, the share of orders of in-city delivery will increase. Some professions and jobs **associated with routine actions** (mostly low- and middle-level office workers) **will disappear and new jobs will appear**.

One of the consequences of this trend will be the **shift of jobs to industries based** on creativity and inventiveness, which will replace physical labor.

Technological development will necessitate permanent acquisition of new skills (every 3–5 years) through retraining and professional development.

The urgency **of technological challenges** is most frequently mentioned by representatives of manufacturing industry, agriculture, and IT.

The main challenge here is the necessity of keeping up with technological developments as the relevance of the education system declines (online education in particular will have to keep up with technological advances), there is a lack of qualified personnel, and exponential growth of technological innovation. In turn, lagging behind in technological progress threatens competitiveness in world markets.



“ Automation and robotics lead to redundancies, a huge number of workers are displaced by artificial intelligence. It is notable that first of all, office personnel are shifting to automation.

I-dl expert (Valerii Pekar)

“ Agro-industry and IT are at a very serious intersection. If we do not keep up with new trends, we will probably not be able to provide a quality product.

FG business (agro-industry, Syngenta)

“ Everything that can be automated will be automated. Accordingly, there will be a trend towards other competencies among employees and people. There will be more designers and creative thinkers, establishing new business processes, developing new machines, new algorithms, new products, and new services.

I-dl expert (Anatoliy Amelin)

In addition, digitalization will permeate almost all spheres of the economy. As a result, IT companies are becoming direct competitors to most traditional players in the market.

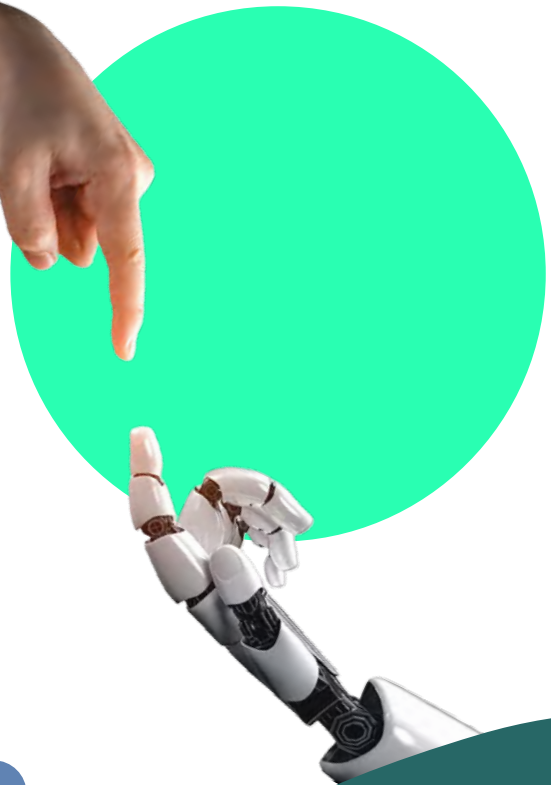
Technological development promises the most «unpredictable» changes and potential threats, both in the field of work and in relation to human civilization.

Such black swans can be **artificial intelligence and quantum computing**, which will most likely create a new systems of politics, economics, security, and management. In this new reality there will be unpredictable changes in the field of labor.

Finally, technology will both strengthen humanity and make it vulnerable. For example, the **growing influence of technological giants on private life and work is a negative trend**. Today, employers may browse social network pages before the interviewing a potential employee, tomorrow a social network will determine which employers the potential employee will be able to see (which is already used on LinkedIn).

Also, **if mass automation is achieved, humanity will risk large-scale job shortages**. This, in turn, will cause a number of social problems: how to support unemployed people, the rights of working and non-working citizens, etc.

How effectively are we able to withstand these challenges, man-made disasters, and cyberattacks? The question remains open, but economic well-being (and therefore jobs and work of the future) depends on this ability.



Automation and digital technologies have to be implemented as soon as they are available, they need to be understood and put into practice.

FG business (food industry, Enzyme)

If we combine a computer with artificial intelligence, we will get incredibly fast and unpredictable calculations that humanity simply will not have time to comprehend. There is a risk that it will be impossible to regulate technological progress.

I-dI expert (Nadiia Vasylieva)

Facebook controls our communication, our style. And in the end, it will be able to actually manage who we recruit, with whom we form relationships, and even families. And it's not just Facebook. It is also Microsoft, Google, and Alibaba.

I-dI expert (Andrii Dligach)



Economic trends

One of the global trends of the next decade will be the wide ranging reorganization of the labor market due to the extinction of a number of professions and the emergence of new ones. This will necessitate the revision of current economic models of behavior of states, businesses, and workers.



This trend will benefit youth, who find it easier to change skills and therefore find a job. While the older generation will have significant difficulties with both retraining and employment. This, in turn, will raise the question of how governments should provide material support to those who will be unable to acquire the skills needed for the new economy.

One of the potential solutions—**universal basic income (UBI)**—is currently under discussion. If people are displaced by automation, UBI could serve as a source of income to support people who will not be able to join the new economy. Thus, governments will have to review the business tax regime, which in turn will determine the number of jobs and rate of remuneration.

Another solution is **developing entrepreneurialism** (in the context of job cuts), to find a balance between personal and working time, and to influence effective employment.

Among the important global economic trends of the next decade is the **confrontation between globalization and protectionism**. If globalization dominates, individual nation states will lose their weight and influence on the economy — and, there will be tectonic shifts in the number and quality of jobs in most countries. Such a scenario is quite probable. On the other hand, states may continue to compete with each other to attract investment and the head offices of global corporations, creating an attractive investment climate within the country (investor rights protection, taxation systems, etc.), thus improving regulatory mechanisms.



According to McKinsey study (Global Institute and World Economic Forum, Future of Jobs 2030), by 2030, from 400 to 800 million people in the world will lose their existing job by 2030. But at the same time, at least 400 million must find a job through reskilling¹²).

I-dI expert (Vladyslav Rashkovan)



There will be less classical work, there will be more independence, there will be more multitasking and multi-project approaches.

I-dI expert (Anatoliy Amelin)

¹² Retraining, personnel development



What if the world becomes a world of super cities rather than nation states? Today, some countries prioritize markets; some countries prioritize capital, or regulation, while weakening national identity. Will population become global?

I-dI expert (Nadiia Vasylieva)

At the same time, today we can see, at least in the Western world, a reverse trend — the **strengthening of protectionism**. This is dangerous for export-oriented economies such as Ukraine. Closing markets to Ukrainian products and services due to protectionism can lead to a rapid increase in unemployment and related social issues in the country.

Another trend is the **stratification of society into rich and poor**, which will increase political disputes and instability.

Economic challenges will not be among the top three challenges of the future. However, some business representatives consider them key to the future of work in Ukraine.



They appeal to the fact that economic crises lead to business closures and, consequently, to a reduction in the number of jobs. The economic situation in the country directly affects the level of salaries (and hence the intensity of personnel outflow from the country) and the level of innovation and modernization investment, which is key to the competitiveness of companies in the future. Business also pointed to the lack of a government strategy for the development of specific sectors of the Ukrainian economy, and the tendency of the authorities to make political decisions in matters of regulating the activities of business entities. This creates an unstable environment for businesses, prevents them from building a development strategy, and undermines economic stability.



The year 2020 led to an even greater income inequality in the world. From a historical perspective, this leads to social revolution, protests, and riots. It is the task of the state to think about what to do with the labor force that will not be able to find its place; and take care of their education.

I-dI expert (Vladyslav Rashkovan)



During the last year, our sphere, probably like no other, suffered from political decisions.

FG business (hospitality, Reikartz hotel group)

Social trends

Economic processes and social processes are closely linked. Social and demographic processes influence the rate of economic growth, whilst the economy affects social welfare.



According to business, the most significant and influential challenges for the future of work 2030 will be in socio-demographics and technology. The intensification of changes in the modern world will change how staff members communicate with colleagues, partners, and customers. In addition, constant adaptation to change is difficult for many employees.

One of the trends that will have a significant impact on the future of work 2030 is a **change in the population demographic portrait in the world and in Ukraine**. The problem of population aging in Ukraine and, accordingly, the working population reduction, are worsened by out migration, especially of highly skilled personnel. As a result, there will be a **shortage of able-bodied and skilled labor in Ukraine**.

Staffing problems will also be exacerbated by the increasing gap between market demands and the formal education system. Schools were unprepared for distance learning, which led to a decline in the quality of education. If nothing changes, the experts of our research predict a **mismatch of youth skills to the needs of the Ukrainian labor market** in 2030.



Methods of work have changed. Not everyone was ready for this. They will change even faster in the future and we will all look for new ways of cooperating with each other, because relationships are one of the most important things in our business.

FG business (retail, Auchan Ukraine).



There are challenges, and the biggest challenge is specialists' desire to emigrate abroad. This is the first challenge, and the second is the active recruitment of Ukrainians by foreign companies. Last year about one hundred thousand IT specialists left Ukraine.

FG business (IT, IT-Integrator)

A significant number of companies are already aware of these risks. Therefore, experts envisage the widespread introduction of educational practices to mitigate these risks:

- ✓ **Lifelong learning:** every 6–8 years, staff must be retrained and re-skilled in an educational institution or on the job to meet the latest requirements of the job.
- ✓ **Adaptive education:** education based on future demands, as opposed to current demands, which helps to turn universities into centers of professional development.
- ✓ **Multi-professionalism, multifunctionality and frequent change of professions:** a combination of different bachelor's and master's degree specializations.

There will be fewer employment opportunities for people **who are unable to keep up with the pace of training.** These will mostly be people over the age of 50 who have previously performed manual labor; whereas this should be less of a problem for youth.

In ten years, the labor market will be **as open as possible for youth** due to their ability to learn new things, adaptability, and modern thinking.



The main problem of Ukrainian youth in the next ten years is that the education system does not keep up with the challenges that new work will present. Universities should teach things that will be in demand in five years, not to things that are in demand today.

I-dI expert (Vladyslav Rashkovan)

Because all previous experiments and practices are now becoming obsolete much faster than before, each succeeding generation is ... virtually the sole carrier of the future. It will be difficult for the generation who is ten years older to compete with young people.

I-dI expert (Natalia Yemchenko)



Environmental trends

The expert respondents often emphasize the importance of environmental and climate change. In Ukraine, people will become more conscious of the environment.



Employers and employees will pay more attention to conservation and renewable resources. Therefore, **eco-culture will be one of the factors that will determine the attractiveness of an employer and whether an employee's personal values comply with the employer's values.**

In general, representatives of companies are less likely to talk about the **environmental challenges** of work in 2030. Business is experiencing increasing public pressure to reduce their negative impact on the environment. They are forced to respond to these demands despite the complexity and cost of the tasks.

On the other hand, Ukraine is not immune from **environmental disasters**, including pandemics, and especially problems associated with global warming. At the same time, Ukraine is already dealing with the consequences of climate change. The rising **aridity in the south of the country** may affect agriculture and processing industries, and hence jobs in these areas and regions.

Rising temperatures could lead to mass labor migration to the colder countries of the world including Ukraine, and thus significantly change the map of the labor market. There is already a noticeable current trend of migrants performing unskilled work and the indigenous population performing skilled work which may intensify.



Environmental consciousness is controlled managerial actions related to greening of everything (both thoughts and economy). Environmental thinking is the change in a person's attitude to themselves in the universe.

I-dI expert (Andrii Dligach)



We manufacture plastic, and now we are doing a lot to reduce our impact on the environment. The company faces many questions from society on how our products are disposed of, and what we do to reduce their negative impact.

FG business (food industry, Coca-Cola Beverages Ukraine)

Political trends

Experts in our research rarely mentioned the potential impact of political factors on the work of future, and usually mentioned negative impacts. Experts noted **a probability of military conflict** in Ukraine (not only in the east), as well as **political and economic instability due to the massive loss of jobs for certain categories of workers**, which will have a negative impact on the labor market.

Experts comprehensively analyze political risks, but focus more on assessing the risks that may arise in the future. Instead, youth are mostly optimistic about the future. They associate the future of work with a wide range of opportunities and prospects, in communication, innovation, creativity, and continuous development.



Conclusion

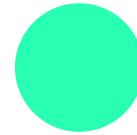
What will the future of work look like in 2030?
Experts agree on several points



First, we will deal with the **rapid transformation of the labor market**, changes in demand for skills, specialties, and staff expertise.

Second, **staff will be differentiated** not by physical characteristics (such as gender, age, health, availability of children), but by skills.

Employees who can **quickly adapt to modern market requirements**, through continuous training, professional development, increased mobility, and readiness for multitasking, will be in great demand. In turn, **businesses** interested in attracting and retaining such staff will be forced to offer potential employees **a model of work that best meets their needs**.



Youth, who naturally have a more modern mindset, and are adaptive and mobile, will become **one of the most competitive social groups in the labor market**.

Employees who are unable or unwilling to continuously develop may face a reverse trend: a **reduction in available jobs**. This trend will be especially relevant for **office workers** who perform routine duties. **The market will push them** into an oversaturated pool of low-skilled labor.

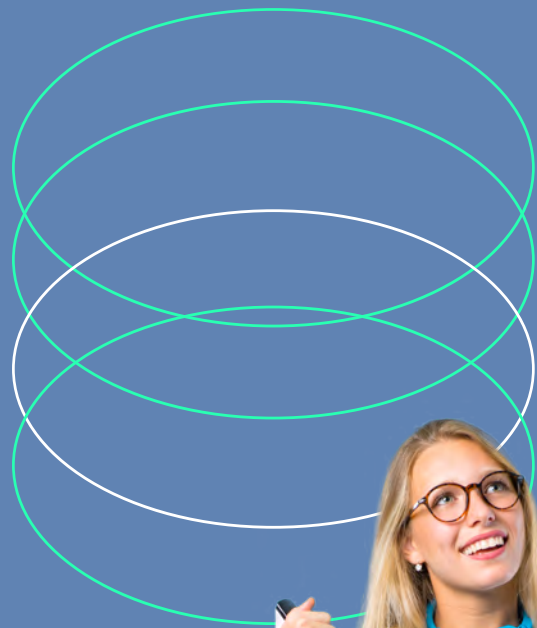
In the next decade, «black swans» will only increase the segregation in the labor market of people you can and cannot adapt to change. The main value for the work of 2030 is openness to change, ability to maintain skills and knowledge, understanding of trends, willingness to constantly reinvent oneself and business models.





Section 2

Prospects for youth in the economy 2030



Global trends

Young people fully understand the instability of the modern world and are ready to adapt to it.



According to a study performed in 2019 by the Organization for Economic Co-operation and Development (OECD) on future work, **61% of young people are confident that they will get the job they want**¹³, which shows confidence in themselves and their abilities. But 60% of young people realize that due to technological changes and automation they will need retraining, possibly more than once during their careers.

At the same time, 45% of young people worry that there will be low demand for their skills and knowledge. Accordingly, 71% of young people would be happy to receive more employment support and recommendations on how technological changes will affect future work and what steps should be taken, and they consider the available support insufficient. Deloitte's study also showed that 79% of youth said that they received the skills for their dream job outside educational institutions.

The data shows that young people are generally not afraid of their future employment, moreover, they realize that they need to learn and continuously gain new skills in order to remain competitive. At the same time, young people need help and advice in employment, although they are ready to take responsibility for preparing themselves for future work.

In 2030, young people who will be the drivers of economic activity and key employees of businesses and other institutions. Accordingly, these institutions should take into account the characteristics and needs of their future employees and begin to communicate and prepare them for the future of work as soon as possible.

Generation Z (born after 2000) will be the key workforce in 2030. They currently have more realistic job expectations, as well as specific expectations of personal development, benefits, and corporate culture that employers need to understand. Due to their high demands for work, Generation Z have repeatedly faced widespread criticism, as they expect more freedom from their employers, and understand that overwork can cause rapid burnout.



¹³ The future of work through the prism of youth (WorldSkills Conference 2019)

¹⁴ Preparing tomorrow's workforce for the Fourth Industrial Revolution. For business: A framework for action (Deloitte 2018)

However, Generation Z themselves inspire and create innovative ideas that will change the future of work. It is worth noting the characteristics of this generation that will affect work in 2030¹⁵, because they can be a guide for employers:

Training

As automation is increasing, almost all managers claim that training and retraining are vitally important. However, there is disagreement about the best approach. The vast majority of the older generation believes that employers are responsible for retraining their staff, whilst millennials¹⁶ and Generation Z are more likely to look for self-development and training schemes on their own initiative. In this context, it is important for employers to encourage the self-development of their staff, not to ban it if it interferes with working hours.

Preliminary planning

The younger generation is much more likely to consider planning future work as an important task. That is why they often introduce agile techniques in the workspace for greater efficiency and comfort, as well as flexible working hours.

Remote work

The younger generation is more likely to perceive remote work as an opportunity for themselves and other employees, because it reduces commuting time, and teaches self-discipline—as people must concentrate equally whether in the office, home, or other chosen place of work.



Freelance employment

Generation Z and millennials strongly support working with freelancers due to the value they see in terms of productivity and cost-effectiveness. For example, an organization can hire a highly skilled expert on a freelance basis on a results rather than time worked. It also opens up more opportunities for people with disabilities and other qualified young people who cannot work for a continuous 8-9 hour period.

As the older generation is now on the verge of retirement, and the new wave of millennials and Generation Z are about to join the workforce in the coming years, they will change the work of the future. Accordingly, employers must begin cooperating with young people, help them develop, and change their organizations to appeal to young people.



¹⁵ Karen Gilchrist. How millennials and Gen Z are reshaping the future of the workforce (CNBC, 2019)

Ukrainian perspectives

Experts are optimistic about the prospects of youth in the economy of the future. They note that **businesses are already hunting for young people, whom they crucially lack.**

In the new economy, work will increasingly be tied to competencies. In fact, **youth will have the relevant knowledge, thinking and will occupy the majority of new professions.**

Experts' forecasts are largely confirmed by feedback from businesses. Representatives of companies claim that they are extremely interested in attracting young people. They are actively looking for talent, and trying to motivate and attract young people. Some businesses are trying to attract youth straight from school (such as hospitality workers) and work with students through internships. Companies are actively investing resources, funding, and creative solutions to attract young people to their organization and to the industry in general.

Among the most frequently mentioned activities in this direction are:

- ✓ inviting students for internships and on-the-job training programs.
- ✓ conducting educational events such as lectures, practical work, and webinars in cooperation with student organizations.
- ✓ measures to promote both individual companies and entire industries, especially for areas considered less prestigious by young people: agriculture, food, energy, heavy industry, and retail).
- ✓ appointing a competent curator to train young professionals within the company.
- ✓ developing computer simulations..



“
We really want young people to come. We are now actively working on the company's brand because we all understand that it is more interesting for young people to work in an IT company, or the banking sector, where there is branding and prestige. And we want to show young people that retail is also cool, it's exciting, and it's interesting.

FG business (retail, Auchan Ukraine)

“
Everyone will constantly chase after youth, because youth are not a question of skills, they are a question of energy, and energy is necessary for any business.

I-dl expert (Nadiia Vasyliieva)

“
Our colleagues made projects to attract high-achieving youth, bloggers in order to promote the agro-industry; funded the creation of a computer game, and farm simulators. Young people who play computer games can try to be a farmer, choose which seeds, and which plant protection products and fertilizers to use.

FG business (agro-industry, Corteva Agriscience).



Even our best universities provide technologies that have not been used there for 10 or 20 years.

FG business (energy engineering, Prykarpattyaoblenergo)



Ideally, we would like to get students with knowledge not only of today's technologies, but those to which we are moving. But we currently have the opposite.

FG business (light industry, New Fashion Zone)

Representatives of the manufacturing, pharmaceutical, energy engineering and even digital sectors argue that there are a **number of barriers to attracting young people to their industries.**

Some of these barriers are objective. There are fewer young people due to the demographic problems and the mass labor migration of youth abroad and to large cities. These processes led to a shortage of skilled labor in Ukraine and in certain regions of the country. For example, agricultural and energy distribution companies are experiencing a shortage of staff in rural areas.

Furthermore, many **Ukrainian companies are unable to compete with European companies in terms of salaries.** As a result, young people (who do not feel loyalty to brands) go to work in foreign companies after gaining experience in Ukraine. In turn, this discourages domestic employers from investing in their training and development.

In addition, a significant barrier to employment is the **lack of youth with a sufficient level of competencies, knowledge, and skills** to work with modern equipment and technology due to inefficient education system in Ukraine—in particular, outdated curricula and teachers and students poor understanding of modern technologies in production.



Expectations of youth from work

However, most barriers are subjective, related to **young peoples' expectations of work and their employer.** Young people have inflated demands on the level of remuneration and working conditions, unrealistic ideas about the content of the work and overestimate their own competencies and skills.

Business representatives note that young people are often not ready to work and do not know how to organize their activities effectively.



Unfortunately, their attitudes and expectations from work in general are incompatible with reality. For salaries, in the first place, and responsibilities: what they will be responsible for, what tasks will be assigned to them. For example, for an engineer-technologist, the responsibilities studied at universities do not correspond to those in reality.

FG business (food industry, Coca-Cola Beverages Ukraine)



Fashion is very open for youth. But young people are not ready to work. Because there is dissonance between their image of work in fashion and reality. Secondly, they are not taught to work at educational institutes.

FG business (light industry, New Fashion Zone)



Young people, firstly, are difficult to attract, and secondly, it is difficult to provide the working conditions that they expect and want. Some want remote work, some want a tennis table, others want cookies, or a particular kind of cookies. And then they see a salary \$10 higher and move to a foreign company, without even talking to their current employer.

FG business (IT, IT Integrator)

Finally, young people have less loyalty to a particular company, being more concerned about their personal development. In such cases, employees can try to take as much as possible (experience, training) from the company in order to improve their own qualifications and move to another company for a better paid job.

No less important is the young people's negative about the prestige and modernity of enterprises in the largest sectors of the Ukrainian economy. The majority of youth do not consider working in the agricultural sector, energy engineering, manufacturing enterprises, instead preferring creative industries. Similarly, young people do not want to start a career from the bottom of the ladder.

Thus, youth ignore positions and industries that are experiencing the greatest staff shortages.

These barriers make it very difficult for young people to enter the labor market. To overcome them, the state, businesses, schools, and youth must join their efforts.

Conclusion

Young people have broad employment prospects in 2030. However, in order to have a wide range of opportunities, it is important for them to maximize practical experiences and get involved in educational projects organized by employers.

In addition, it is important for youth to analyze their strengths and growth areas in more depth, learn more about modern professions and requirements for them, which will allow them to better orient themselves and



The energy engineering sector is not very popular with young people. Furthermore, education does not always correspond to what actually needs to be done in the workplace. Graduates are not ready to start their careers in engineering positions.

FG business (energy engineering, Prykarpattyaoblenergo)

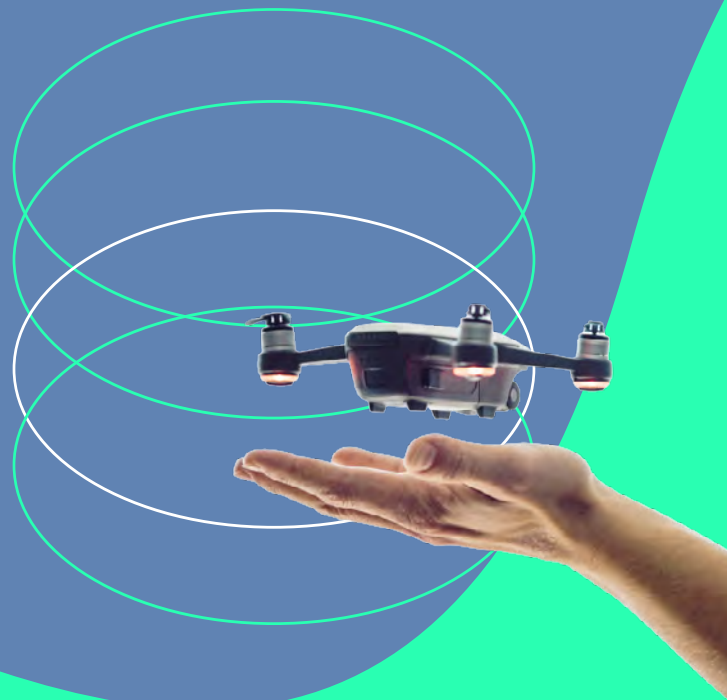


potentially choose an industry that will experience staff shortages (and therefore offer better working conditions). In turn, business and the state should cooperate more closely and focus on modernizing education and career guidance, and giving young people realistic expectations about the content of work and the level of remuneration.



Section 3

Industries of the future and the labor market



Global trends

According to a study by the McKinsey Global Institute, by 2030, as many as 375 million jobs may disappear. However, young people should focus on five areas that can provide them with jobs in 2030, namely¹⁷:



Analytics and big data

The analytics industry is growing massively across all market sectors, and its principles are being applied to every component of business, from sales and marketing to human resources. A foundational analytics skillset with additional specialized training will allow people to become analysts in most industries, even creative ones.

Cybersecurity

An increasing number of businesses collect, share, and use data as part of their routine practices. Estimates by Cybersecurity Ventures indicate that the number of unfilled cybersecurity jobs will only increase.

The health-care industry

The United Nations estimates that by 2050, there will be 2.1 billion people over the age of 60¹⁸ globally. Therefore, global health-care systems must brace themselves for high demand in geriatric caregiving. Technology will help caregivers meet the needs of aging individuals by giving them more connectivity and independence.

Renewable energy

The renewable-energy sector has become increasingly important due to climate change. The International Renewable Energy Agency indicated¹⁹ that global jobs in the renewable-energy sector increased to more than 10 million in 2018, and they expect there to be 28 million jobs in the industry by 2050. In addition, renewable energy (e.g. solar and wind) is also useful in other sectors—such as engineering, production, electrical, construction and mechanical areas, etc.

Drones

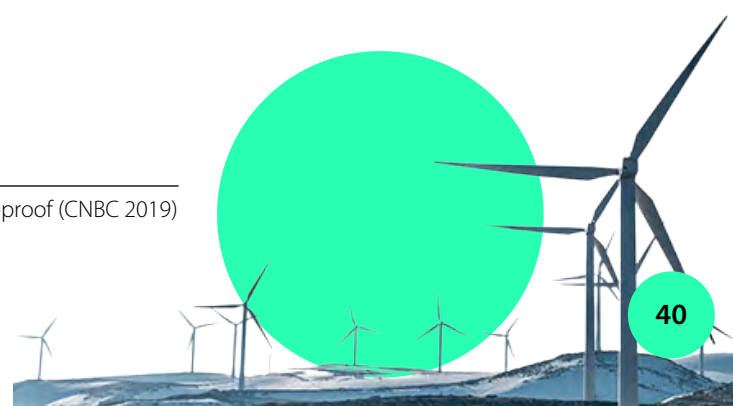
Drones will become integral support for many other large industries, including construction, transportation, filmmaking, telecommunications, and agriculture.



¹⁷ Debby Carreau. These 5 hot industries are a safe bet for a career that's future-proof (CNBC 2019)

¹⁸ World Population Ageing (UN 2017)

¹⁹ Measuring the Socio-economics of Transition: Focus on Jobs (IRENA 2020)





Ukrainian perspectives

Agriculture is and will continue to be a major part of the world economy and will be affected by technological advances. Given the importance of these agriculture for the Ukrainian economy, it is important to understand their prospects in 2030.

Today, the agricultural sector and the food industry are on the verge of revolutionary change. The global population is growing, and new ideas are needed to prevent widespread hunger. Innovation in precision biology will make it possible to replace animal foods with their plant equivalents by 2030 (for example, oat milk will gradually replace animal milk; and meat substitutes will replace animal meat). The latter will be of higher quality and be cheaper products of animal origin. This will significantly affect the prospects of animal husbandry.

This technology will be combined with a new model of Food as Software production — databases with program codes of food molecules that will be used by food engineering companies around the world to create food products. Therefore, significant changes are underway in all agricultural enterprises, regardless of specialization²⁰.

In 2030, familiar names of industries will still be present. At the same time, their very essence will change. Each of these industries will increasingly use new and existing technology. In addition, over the next five years, the boundaries between industries are likely to blur and they are likely to merge into industry clusters. Therefore, collaborative skills will be important for future employees.

Ukrainian economic realities have their own specifics as compared to the global situation. Experts and businesses created a hierarchy of the most promising sectors of the Ukrainian economy by 2030, using success indicators of industries, export potential, prerequisites for development (material and human resources), and future trends.

Most experts identify the following top five industries of the future in Ukraine:

Agriculture and food industry

As a single cluster of high-tech food production. Experts believe that by 2030 Ukraine's food industry will have global importance, in which new technologies will be introduced, and will transition from extensive agriculture to intensive agriculture.

²⁰ Catherine Tubb, Tony Seba. Rethink X: Disruption, Implications, and Choices. Rethinking Food and Agriculture 2020-2030. The Second Domestication of Plants and Animals, the Disruption of the Cow, and the Collapse of Industrial Livestock Farming (A RethinkX Sector Disruption Report 2019)





Yesterday you needed to deal with a cow to work in agriculture. Tomorrow we will not need to deal with a cow, but with new technology. Today milk is made from oats, and meat from plants ... In future, one will not be able to distinguish the quality of synthetic animal products from natural animal products!

I-dl expert (Vladyslav Rashkovan)



Metallurgical industry

The production of titanium products, lithium enrichment, and construction materials will be most actively developed.

Some experts also mentioned such fields as **bioengineering, pharmaceuticals, medicine** (technology and innovation in mental health and prolongation of life), **chemical industry** (production of new materials and composite materials), energy engineering (renewable and new nuclear energy), **logistics and warehousing** (Ukraine as a logistics hub on the route from China to Europe). Experts less frequently mentioned such areas as financial and technological services, tourism, and education.

Young people in focus groups, in line with experts, identify the most important sectors of Ukraine's economy in the future (Table 2) as IT, agriculture, mining industry, light industry, and engineering (including aircraft and rocketry). Less often, young people mentioned communications, education, tourism, fashion, and research. In a quantitative survey, youth also mentioned ecology, and energy engineering.



Mechanical engineering

Fields with great potential include robotics, aircraft construction (such as propellers, military equipment, weapons, and space technology).



IT sector

All areas related to digitalization and programming.



Creative industries

Ukraine can become a world center of outsourcing in the creative industries, design, and fashion.



They say that we have very creative people. I think it's in our DNA to make a lot of creative products.

I-dl expert (Olena Martynyuk)



I think that after all in Ukraine there will be development of IT technology and scientific developments. But we will not manage without agriculture. Also important are fashion and light industry.

FG youth (male, 26–35)



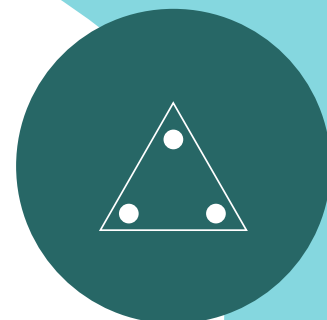
IT technologies will remain, because this is our future, this is our present. And without them we cannot survive. The second most important is probably the health sector... [Without it] we simply will not be able to develop as a healthy, fully-fledged nation.

FG youth (female, 14–17)

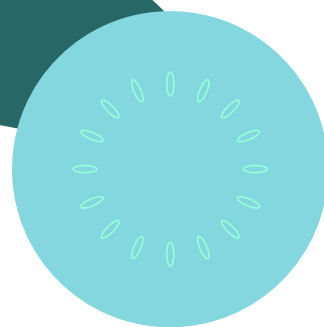
Table 2: Comparison of priority industries in 2030 from the point of view of experts and youth, in order of priority

| Expert forecast | Youth forecast |
|---|----------------------|
| Top five industries | |
| Agriculture and food | IT sector |
| Engineering | Agriculture and food |
| IT | Mining industry |
| Creative industries | Light industry |
| Metallurgical industry | Engineering |
| Other priority industries | |
| Bioengineering, pharmaceuticals, medicine | Communications |
| Chemical industry | Education |
| Energy engineering | Tourism |
| Logistics and warehousing | Fashion |
| Potential directions | |
| Financial and technological services | Science |
| Tourism | Ecology |
| Non-formal education | Energy engineering |

The answers indicate that young people already have some understanding of the labor market in the future, which is backed by the results of the quantitative survey.



Quantitative research on youth opinion



Young people see themselves in 2030

In Ukraine



In Europe



The rest see themselves in other countries outside of Europe

However, young people are ready to gain new knowledge, explore interesting practices abroad, and then return to Ukraine to adapt the best ideas at home.

Where young people want to work

Service sector



IT



In service industry, young people singled out education and the creative industries. Atypical areas chosen by young people include space exploration, urban planning, and volunteering.



Today, the service sector is gaining momentum. In the future, in my opinion, most individuals and legal entities will turn to the services of the consumer sector.

(20-year-old, female, Poltava Oblast, village)



In my opinion, in the future an important role will be played by the collaboration between technology, science, and business.

(16-year-old, female, Kyiv)



I feel that my generation has a mission of change within the country

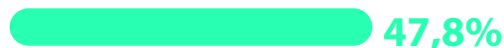
(27-year-old, male, Zhytomyr Oblast, city)

The industries that have the greatest prospects for development and innovation in the world in the future

IT



Pharmaceuticals and health care



Service sector

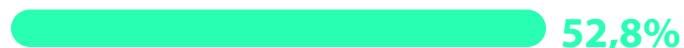


Energy engineering



Priority industries for Ukraine for 2030, according to young people

Agriculture



IT



Food industry



Energy engineering



IT doesn't need «family ties» to get a job, just a good brain. Telecommunications are like a bridge between the real and virtual world. If IT is developing, telecommunication is also developing (and vice versa)

(20-year-old, male, Lviv)



Pharmaceuticals, people will seek immortality and eternal beauty. Energy engineering, harmless and self-renewable energy is our future, because too many resources are wasted.

(20-year-old, male, Kyiv)



Prospects for these industries (IT, pharmaceuticals, infrastructure) can be justified in one word: technology. In this case, they can be interconnected. For example, IT professionals can develop innovative medical equipment for "smart" public transport stops.

(19-year-old, female, Kyiv)



The agro-industry and manufacturing industries are the basis of the country's exports and to maintain sustainable development we need to continue to do what we do well. We have a huge potential for the development of IT and I hope there will be conditions for young professionals to motivate them to work for the benefit of their home country, not abroad.

(21-year-old, female, Kyiv)



In my opinion, Ukraine has all the resources to develop energy engineering, especially green energy, and it holds the key from the future of Ukraine.

(16-year-old, Ternopil Oblast, village)

Conclusion

An analysis of key economy sectors for 2030 showed that Ukraine is largely in line with global trends. IT and related industries, healthcare, energy engineering are the industries that Ukraine will develop synchronously with the world. At the same time however, there are characteristic differences.



Agriculture will remain the top industry in Ukraine in terms of income, and will also be important in the global economy. Industries such as the consumer sector and financial services are underestimated by Ukrainians. It is important that different sectors will be able to cooperate to form clusters of industries, such as an agri-food cluster in Ukraine.

Given the scale of development of the Ukrainian agricultural sector, we can predict that this sector will need people with developed skills for cooperation and teamwork. These skills will be especially relevant due to the penetration of digital technologies in all sectors of the economy, for which cooperation and support will be the driver of success.





Section 4

The future of professions 2030



Global trends

Worrying about the «future without work» was not as significant in the past as it is now. As already mentioned, by 2030, as many as 375 million jobs may disappear (McKinsey Global Institute).



But there will be a global talent shortage of more than 85 million people, according to consulting firm Korn Ferry. This will lead to \$8.5 trillion unrealized annual revenue²¹.

This, however, is not an uncommon situation²²:

Work has always changed

And peoples' skills have changed. New young generation has little idea of who telegraph workers are, and thousands of people once worked in this position. The emergence of new professions opens new opportunities to learn and perform more fulfilling, profitable, and enjoyable work.

Machines need people

Machines can do a lot, but there are some tasks that machines cannot do. Machines are tools that people use.

Human curiosity and ingenuity will provide work

People want to know how an item works, what it means, how it can be made better. Such curiosity will be a source of new work. People will look for ways to improve different industries, and technology will only help.

Technology solves and creates problems

Smart machines will certainly solve many problems in society, but doing so they will also create many new problems that people will have to work on to solve. That is why the future without work is impossible.



²¹ Michael Franzino. The Global Talent Crunch (Korn Ferry 2019)

²² Jobs of the future. A guide of getting – and staying – employed over the next 10 years (Cognizant 2017)

Jobs in the future will be both today's jobs, but with even greater machinability, as well as new jobs:

Space pilot²³

space pilot who will navigate spaceships and has knowledge of astrophysics, astronomy, and technical skills.

Ethical sourcing manager²⁴

Expert on sourcing suppliers, ensuring ethical production, monitoring that all sources of procurement meet ethical standards, has knowledge of project management, accounting, and corporate social responsibility.

Companion for the elderly²⁵

an assistant who will help the elderly in daily affairs and during walks, and has skills such as patience, empathy, and keen observation skills to track emotional problems.



Digital rehabilitation consultant²⁶

an expert who will help people reduce the overuse of digital technology (especially social networks) and rebuild their lives, will have knowledge of IT, psychology and therapy.

Personal memory curator²⁷

responsible for consulting with patients and stakeholders to formulate specifications for the virtual reality experience, will have knowledge of IT, medicine, and engineering.

Virtual reality travel manager²⁸

a manager who works with talented engineers and technical artists to develop personalized virtual travel for clients, and has knowledge of project management, programming, UI/UX design.

^{23, 24, 25, 26} Jobs of the future: 2025-2050 (Resumeble 2020)

^{27, 28} Nikita Duggal. Future Of Work: What Job Roles Will Look Like In 10 Years (Simplilearn 2021)





Highway controller²⁹

a specialist who will control automated road and airspace management systems, will have knowledge of urban planning, infrastructure, and IT.



Manufacturer of body parts³⁰

a technologist who will create real body parts for athletes and soldiers, and will have knowledge of medicine, engineering, and IT.



Memory surgeon³¹

a doctor who will strengthen patients' memory when it reaches capacity, will have knowledge of medicine and IT.



Digital currency advisor³²

the advisor will help people manage their wealth using the right balance of systems, have knowledge and experience in accounting, financial management and data security.



Waste disposal manager³³

who will develop smart methods of large-scale waste recycling, identify more efficient ways to use and reuse garbage, will have experience in the field of materials science and industrial design.

This is by no means an exhaustive list, but examples of how new and current professions will become more prominent at the intersection of technology, human needs, and societal development.



^{29, 30, 31} Nikita Duggal. Future Of Work: What Job Roles Will Look Like In 10 Years (Simplilearn 2021)

^{32, 33} Bruce Anderson. 12 Jobs You'll Be Recruiting for in 2030 (Linkedin Talent Blog 2018)

Ukrainian perspectives

The success of a particular industry is not a guarantee of employment for a specialist who is currently studying in the relevant specialization. Most Ukrainian experts also warn that over the next ten years, many professions will disappear. The content of some professions will completely change, and a number of new professions will emerge.

Professions that can be replaced by algorithms or machine analytics will **completely change**. These professions must be significant enough for the investment in the development of the algorithm to be cost-effective. Example of such professions:

- ✓ Auditors, accountants, economists
- ✓ Lawyers
- ✓ Travel agents
- ✓ Realtors
- ✓ Secretaries, stenographers
- ✓ Call center operators
- ✓ Truck drivers
- ✓ Encoders (code developers)
- ✓ Sports commentators
- ✓ Conveyor workers
- ✓ Agronomists

In addition, professions whose tasks pose a threat to human life and health are likely to disappear.

Instead, those specialties that will be too expensive to algorithmize or those that involve a high degree of creativity will remain. This includes professions related that require empathy (education, care for the elderly, etc.), professions that involve a high degree of unpredictability (transportation within urban areas), production specialties (low-paid work) or rare specialties (only few will use algorithms). Positions that involve a high degree of productivity include chef, producer, artist, scientist, and curator.

On the other hand, **most professions will change not in form, but in content**, that is, they will require qualitatively new skills. For example, PR promoters will move from creating press releases and writing texts to producing personal images; lawmakers and lawyers will focus on working on digital era conflicts such as identity theft and data privacy regulations; the military will use more drone technology; physicians will shift the emphasis from diagnosis and treatment to predicting a patient's future conditions.

Professions that may increase in numbers by 2030 will be closely related to technological development and the level and depth of integration with technology in these professions will only increase:

- ✓ Artificial intelligence management
- ✓ Data analysis and management
- ✓ Digital promotion, digital sales, digital customer services
- ✓ Digital finance specialist, digital currency consultants
- ✓ Editor of personal pages in social networks
- ✓ Cybersecurity experts

The doctor of the future is more about risks and predictions. They have to work with genotypes, with genetics, with biology, with materials to understand risks before problems arise.

A whole range of professions will emerge at the intersection of knowledge areas, or as a mix of different competencies, which is emphasized in global studies, for example, specialists who can create new technical solutions for medicine; specialists in technology, new materials, and mechanical engineering; bioengineers in agriculture; space tour operators, and agriculturalists who grow fruit and vegetables on the roofs of buildings.

Focus groups participants believe that in the future there will be professional experimenters who test new ideas, business models, and methods of business organization.

Finally, certain professions will emerge due to the further specialization of existing jobs, in response to the challenges of the future. For example, there will be a need for designers of social relations as a complicated form of psychological work or HR.

It is quite difficult for young people to predict what field they want or will work in ten years.

However, they prefer professions related to art, creativity, communication, management, and business intelligence.

These professions include journalism, marketing, SMM, acting, singing, and less often employment in finance, public administration, and education. At the same time, those who have already acquired a profession and started working tend to stay in their field.

On the one hand, preferences in creative fields seem rational and prudent given the automation of routine processes, and on the other hand it does not strongly correlate to the key sectors of the 2030 economy in Ukraine. Therefore, in ten years the problem of lack of specialists in «unpopular» industries (such as industrial production, agriculture) will only worsen.

“
Technological progress is significantly ahead of the possibilities of the human mind. I think that we will need specialists who can ensure the health of the team. Those who connect processes of facilitation, mediation, and creative processes. Specialists who are able to artificially create relationships between people in teams.

I-dI expert (Natalia Yemchenko)

“
(I want to work in) the field of communication, but in a broad sense, where it includes some management, administration, and events, this is also a field of communication for me.

FG youth (male, 18–25)

“
Because you can go into something creative. In my case, it is acting. It is unlikely to be any work in the office.

FG youth (male, 14–17)

Quantitative research on youth opinion

Of those surveyed, 61.6% of young people believe that only some of the knowledge and skills that young people have today will be relevant in 2030.

Changes in the world will force youth to constantly learn, retrain, and improve their skills, and change jobs. But 66.2% of young people are ready to change (constantly learn) in their profession or field of work in order to adapt to these realities.

In addition, 79.1% of young people would like to start their own business in the future, of which 29% in services, 13.5% in IT, and 11.2% in the food industry. Young people believe that technology will only help them in this, and not vice versa — **66.7% of young people see technological change as an opportunity for future work.**

In general, young people are confident in the future and they rate their chances of employment at 8–10 (where 1 is not sure at all, and 10 is completely sure). Some fear that their desired profession will disappear by 2030 and try to predict which professions will disappear by 2030:

“*Accountants, copywriters, bookkeepers, librarians, lawyers, notaries, logistics specialists, dispatchers, navigators. Every year fewer and fewer people see prospects in these professions, many of them will be replaced by machines.*”

(15-year-old, female, Khmelnytsky Oblast, city)

“*It is possible that university teachers will disappear, provided that education is based on self-education and training. Librarians may also disappear if all textbooks and books are converted to digital formats.*”

(17-year-old, female, Cherkasy Oblast, city)

“*In my opinion, most professions will remain relevant. But in a slightly changed format. Given the progress, it will be easier to perform necessary tasks.*”

(26-year-old, female, Zakarpattia Oblast, village)



In general, youth believe that professions that can be replaced by robots or other technologies will disappear. Professions that require creativity and greater mental abilities will remain. Also, many young people (especially 14 to 17 year olds) noted that all professions are important and necessary in their own way.

New professions that will emerge by 2030, according to youth, will be at the intersection of different industries:

“
Data analyst, solar energy technician, personal brand consultant.

(14-year-old, female, Vinnytsia Oblast, village)

“
The IT industry will continue to develop actively. I think there will be more inventors and robot assemblers.

(14-year-old, female, Mykolaiv Oblast, city)

“
Designer of home robots, designer of virtual environments, digital cultural commentator, identifier of disinformation.

(15-year-old, female, Vinnytsia Oblast, village).

“
There should be more professions related to environmental issues: investigating ecological problems, research stations to study improving the environmental, and «policing» the environmental area will also appear. There will be teachers of sex education, politics, and vocational guidance.

(18-year-old, female, Khmelnytsky Oblast, city)



“
In Ukraine, personal assistants, life coaches, and mental health experts will become more common. In general, sustainable development experts, public «digitizers», virtual reality art will be more common.

(20-year-old, male, Lviv Oblast, city)

Young people believe that future professions will be related to IT in one way or another. The vast majority believe that the professions will remain the same, just the name and content will change.

It is important to emphasize that 49.1% of youth believe that there will not be a large gender gap in professions, and only 26.8% believe that there will be a difference.

I don't see a problem in the fact that men or women might be more capable in certain gender-specific areas. Both sexes should have equal opportunities and not have gender restrictions in their choices, but I find it absurd to strive to fill each sphere 50/50. Everyone has different abilities, qualities, and interests regardless of gender. Such criterion simply should not exist.

(33-year-old, female, Mykolaiv Oblast, city)

With the development of technology, the question «Will there be a difference between professions that girls choose and professions that boys choose?» will be irrelevant in 2030, as everyone will be able to do the work that they enjoy.

(21-year-old, male, Volyn Oblast, city)

Most believe that gender and sex should not be related to professions, and that people should choose a profession according to their desires, skills, and aspirations. According to the survey, in 2030 the most difficult in the labor market will be for older people (70.5%), because currently it is difficult and time-consuming for them to adapt to new conditions.

Thus, even in turbulent times, young people look to the future with optimism, and perceive challenges, such as new technology and its use in the workplace, as opportunities for their future work. Youth are convinced that the future lies in flexible management methods, flexible jobs, flexible schedules, and results based.



Conclusion

Given all the above, the most popular professions in Ukraine in 2030 will be in the manufacturing sector, professions related to digitalization, and professions in the creative industries



It is important for youth to aim towards professions in promising sectors, whilst also carefully monitoring industry innovations and changes in professional responsibilities, as traditional job titles may require new knowledge and skills.

Although young people have an understanding of promising areas of work in the future, they make career choices based on their own interests, aptitudes, and popular trends, and often ignore the needs of the labor market.

They strive for self-realization on the principle «work - as a hobby». Therefore, they are ready to go into professions related to digital and creative areas; and they do not seek to go into the manufacturing sector. At the same time, Ukrainian youth are aware of the variability of the modern world and do not try to build fundamental professional strategies. They are receptive to trends and are ready to change their professional plans at any moment.





Section 5

The workplace of the future



Global trends

Recent years have taught us to adapt quickly to new trends and global changes.



However, it is important to take into account changes at the both macro level (economic structure or changes in social relations), and the micro level: at the workplace, employer-staff relations, and leadership.

In its report «Future of the Workplace 2030+», Unily analyzes what the workplace will look like in 2030 through the prism of four key aspects: emotional, physical, smart, and purposeful³⁴.

The emotional workplace

Will develop towards increasing the comfort of staff. Employers will have to consider the individual routine of each employee, create a favorable emotional environment, work-life balance, promote capacity building, and care for employees» mental and physical health. Artificial intelligence (AI) will play an important role in these processes, providing personalized assistance in day-to-day administrative tasks so that employees can better focus on their core responsibilities. AI will also study individual work patterns and suggest ways to cooperate with others, as well as make timely reminders to take breaks.

The physical workplace

Expects several changes. First, the focus will be on setting up offices that combine the benefits of physical and digital collaboration (the latter involving remote work).

Second, the design of the workplace should be optimized, for example, desks will be self-cleaning, and smart textiles change color according to the mood of the employee or task. Silent rooms will also be as important as meeting rooms, as employees will use them to develop their creative skills or as a space for reflection. In addition, there will be an emphasis on sustainable design that does not harm the environment, which will include «green» elements of natural landscapes. This will help the wellbeing of employees, compensating for the huge amount of time they spend indoors.



³⁴ Future of the workplace 2030+ (Unily 2020)

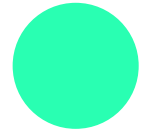
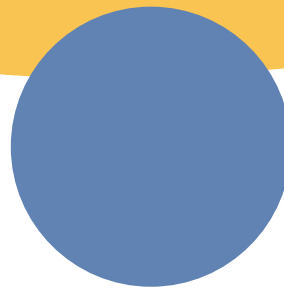
Third, meetings will still be popular, but AR (augmented reality) and VR (virtual reality) will be used more often, for example, for team brainstorming on the surface of Mars, the bed of the Pacific Ocean or the plains of Patagonia.

The technological workplace

Focuses on the rapid development and implementation of new ideas. The workplace will function as a business school, or start-up incubator, and employees will implement their innovative projects through internal funding of «venture capital».

Imagination, the ability to interact and creativity, as well as the willingness to take risks that underlie innovation, will be fueled by smart technologies. The focus will be on «learning to learn». Staff will be supported by AI, with the help of personal digital assistants who will help and train them for new positions.

Older employees, instead of retiring, may return to the labor market as mentors and coaches to pass on their experience to the younger generation.



The purposeful workplace

Will provide a positive impact on society. The main functions of companies are to be purposeful, inspire employees and maintain the dynamics of the strategy. In such companies, management is equalized, i.e. power is transferred to teams and networks. This autonomy is backed by clear and transparent rules and expectations that are directly linked to the organization's purpose and vision. In other words, people know what their company expects from them, without having to look for it in the «manual».

Thus, by 2030, workplaces will be determined by personalized solutions, wellbeing and a focus on culture, autonomy and inclusiveness. Of course, technologies will play a key role in shaping visions of workplaces for the next decade, and will be more focused on providing experience and increasing interactive employee engagement, in turn creating an ecosystem of productivity, creativity and culture.



Future workplaces may include:³⁵

- 1) Customization using wearable technology & artificial intelligence.** The traditional office setup will cease to exist within the next five to ten years. Laptops, smartphones, and tablets will become redundant and will give way to voice-activated assistants; the Internet of Things (IoT) will play an important role here. Wearable technology such as embedded chips and wearable glasses, will be customized.
- 2) Video technology will reduce the need to travel while ensuring connectivity.** Video communication technology in the past decade has evolved from the conventional video conferencing to holographic 3-D technology, enabling a face-to-face interaction that negates the actual need for physical presence.
- 3) Creation of smart buildings with interconnected smart workstations.** With the IoT analyzing the data received from all the public and private infrastructure in real-time, it will aid in understanding the individual preferences and factors important to the well-being of the people. The real-time analyzed data will allow workspaces to transform, adapt, and react to users instantaneously with health and safety being the centerpieces of infrastructure design and execution.

- 4) Deepening the technology of the Internet of Senses (IoS — Internet of Senses) as part of the workspace³⁶.** That is, the transition from an on-screen connection via the Internet to an exciting experience of «connecting» our senses. People are looking for a virtual office environment (which can replace a laptop in 2030) that allows a full presence at work from anywhere. This would mean that your colleagues will not only seem and sound completely real, but you can also use everything in the room, and physical senses.

Dematerialization of the office will be due to increased efficiency and costs, but is expected to benefit the environment.

³⁵ Amit Ramani. Workplace 2030: How the future of work will look like (People Matters 2020)

³⁶ The dematerialized office. A vision of the internet of senses in the 2030 future workplace (Ericsson 2020)



Ukrainian perspectives

Experts, business and youth are united in the fact that by 2030 there will be a **radical change in the format of work** as compared with today. The very idea of work and the workplace will change. Remote work will become the norm, the workplace will be virtualized (it will not be physically assigned to one location). Finally, we will see the combination and mixing of all possible forms of the workplace and formats of the employee-employer interaction.

Given that remote work in 2030 will become the norm in almost all areas (except those where employees need to be physically present at the workplace), the number of employees working from home will increase. As such, one of the main trends in the workplace of the future is its **relocation to the employee's private space**.

At the same time, **working from home will not completely displace office space**, as it can have many disadvantages (small space, blurring of professional and personal life, distraction by other family members, children from work; lack of necessary office equipment, and most importantly - lack of live communication with colleagues that affects production of creative ideas). Most likely in the future there **will be a mix of traditional work in the office and remote work** (for example, in the format of 2 to 3 - two days remotely, three days from the office).

In turn, the office work will also undergo transformations. **The most popular office options will be co-working and open spaces, which is a consequence of the pandemic.** On the one hand, it is beneficial for the employer, because there is no need to maintain a traditional office (it is possible to pay only on certain days when you need to gather a team together), and on the other hand, it is attractive for an employee who can temporarily get a creative workplace necessary for comfortable work.

Those traditional offices that will remain will be more comfortable for an employee: more aesthetically attractive, equipped with comfortable seating areas and modern equipment. Interestingly, this trend was mentioned mainly by young people (14-17 year olds), which indicates high expectations from potential working conditions. At the same time, the **distribution of space in offices will change.** Workplaces will not be assigned to an individual employee, but will be arranged on the principles of co-working. The number of the workplaces in the office will be less than the number of employees in the company. Anyone who comes to the office will choose a free desk for work. This will reduce the cost of renting office space.



People will need a new workplace, with another office space. There is no need in large offices, but offices and various spaces for communication between work groups and individuals with «hot» desks, where you can come with a laptop, sit down to work, and tomorrow someone else will be sitting at this desk.

I-dI expert (Valerii Pekar)



I will be able to work in a way which it is convenient for me. That is, if I want to work remotely, OK. I want to work on Saturday, Sunday, and not to work on Monday, Tuesday, that is OK.

FG business (Finance, UKRSIBBANK BNP Paribas)



You have closets in the hallway where you just put your things, and then you come, choose a table. And you don't have any hard drive. You are in a cloud. You do not have any programs on your computer. They are in the clouds; everything that is available to all your systems is in the clouds.

I-dl expert (Vladyslav Rashkovan)

Business representatives are convinced that in the future the position of staff will be strengthened, respectively, employees will choose a convenient place of work. In fact, they will **dictate job requirements to the employer**.

It is interesting that young people under 25 are in solidarity with experts, saying that the workplace in the future will be adapted to the needs of employees (you can choose a convenient format: in the office, remotely, co-working). While young people aged 26-35 believe that most employees need control, they will work from the office (as an option, remotely, but under control).

Finally, some experts believe that workflow **virtualization will take place**. Part of the work will be the responsibility of robots and machines, and the remaining workers will be able to work through virtual rooms from anywhere with the Internet.

Thus, in the future the types of workplaces will be more diverse. On the one hand, this will create more comfortable workplaces for employees. On the other hand, this will allow organizations to optimize the costs of maintaining workplaces (due to more remote work, co-working and fewer fixed workplaces).

Work schedule of the future

Respondents discussed the limits of **work schedule flexibility in 2030**. Accordingly, a fixed 8-hour workday will become a thing of the past. The value will instead be the number of tasks performed and results reached, not the number of hours worked.

The possibility of a hybrid work schedule was also identified, with flexibility to work some days from home and some days in the office.



Everything will be very flexible, we will just have tasks for every day, no one will worry when you come to and leave work. Everyone will focus on result.

FG youth (male, 14-17)

Employer-employee relationships

All participants in this research are confident that the traditional format of relationships (work through an employment record book) will lose popularity.

As a result of **increasing demand for outsourcing** (companies will outsource everything possible, keeping only essential employees and key functions in the structure) and **increasing staff mobility** (simplified transition from one employer to another, or from project to project), the demand for diverse forms of employer-employee relations will also increase.

Although it is difficult to predict changes in labor legislation in 10 years, it is even now clearly inconsistent with modern realities. Therefore, businesses expect that the government will make employment less regulated and simplify the requirements for employment.

This is especially important given that by 2030, **freelancing will become a common format for employer-employee relationships**. This format is already very common today and its popularity will only grow.

In addition, the **percentage of contract work for projects will increase (project work)**. For most industries, these contracts will be short-term (1-2 years). For some industries they may last longer (e.g., light and heavy industry, medical sphere, service industry).

At the same time, business representatives believe that for the successful development of companies, there must be a staff of fixed, permanent employees (the «backbone» of the company) who will build it in the long run. To maintain them, the employer will more often use partnership as a relationship-building tool (i.e., a share in the ownership of the company).

At the same time, both formats are alarming for young people aged 26-35, as they rarely provide benefits such as social protection and regular pension contributions.

In turn, the development of contract and freelancing will allow the **combination of work for several contractors simultaneously**. Experts predict that employees will most likely work for different companies of their choice on a part-time basis.

While in the past the frequent change of jobs and / or parallel employment was negatively perceived by employers, in the future it may be an advantage for employees (more companies, positions, and experience).

In general, the participants of the research envision a variety of interaction formats between employers and staff. However, the main trend in this context is the transition from permanent, long-term relationships to quick, short-term contracts who perform specific tasks. The most popular format of cooperation in 2030 will be temporary contracts.



The relationship between the owner and the employee must be a partnership. Employees cannot only be resource, so it doesn't work anymore.

I-dI expert (Nadiia Vasylieva)



It seems to me that it will become more and more flexible, you can work for several companies at the same time, especially if you work from home.

I-dI expert (Vladyslav Rashkovan)

Management systems and the role of leadership in institutions of the future

According to experts, the employee-employer relationship will change in the future, not only in terms of the format of cooperation, but also for management and leadership (manager-subordinate). Experts in the work of the future are convinced that there will be a radical **change in the structure of organizations**, with all basic communication mechanisms transformed.

First, there will be a transition from rigid hierarchical structures, with a clear delineation of permanent roles (functions) and subordinate communication, to a horizontal structure. So-called, «Teal»³⁷ organizations will become more widespread. Organizations will become more open and project-oriented, teams will be the key elements of the structure, and partnerships will dictate the relationship between managers and subordinates.

Management will be conducted on the basis of rules and values, not instructions. Trends towards these changes can be seen today and, according to experts, will only intensify.

Another important transformation is the change in employees' function and power from project to project depending on the level of competence and experience required to perform a specific task or solve a problem. That is, the same person will have both managerial and subordinate functions in an organization.

Hierarchical structures will be preserved only in organizations of a certain type (some governmental institutions, such as the military; industrial giants, which will still require human labor, etc.). But there will also be a reduction in the number of «steps» in the organizational hierarchy (and, consequently, a significant reduction in the number of management staff), due to the automation of control functions and monitoring. People will have to build and support partnerships.



I see the transformation of working models – there used to be vertical, hierarchical, closed structures, now they are most likely open structures based on teams.

I-dl expert (Anatoliy Amelin)



...Hierarchy is definitely not about youth, but about network structures (when in one project you are a manager and in another project your subordinate is your manager). This is not a hierarchy, but a role. And your position today (manager or subordinate) depends on your competence in this concrete role.

I-dl expert (Vladyslav Rashkovan)



Close relationships with employees is impossible if there are 5,000 people and they have to work systematically. There must be some kind of hierarchy.

I-dl expert (Olena Martynyuk)



It will be extremely important to give control and leadership to teams. Otherwise, under these conditions, in terms of maturity, speed, and depth of change, hierarchical control of the past will not be able provide the needed adaptability.

GI expert (Natalia Yemchenko)



People are used to getting a job and working for 10-15 years without any career growth. I'm not interested in this option. You have to constantly change and develop, and maybe during your life you will have several professions or several areas in your specialty.

FG youth (female, 14-17)



You need to be able to work in a team. It is already relevant today and I think nothing will change in 10 years.

FG youth (female, 18-25)



I'm still thinking about this question because I don't know the answer. But still, in the future, I would probably like to work for myself.

FG youth (female, 18-25)



It may not be defined by the position you hold. Rather, you develop your skills and, for example, your career success will be the amount of knowledge that you gain. And because of this you might receive a raise ... both in position and in salary.

FG youth (female, 14-17)

Changing the management paradigm of organizations to become more flexible (using systems such as Agile and Scrum) will make them more competitive because they can quickly adapt to abrupt changes.

There will also be a rethinking of the **leadership concept**. According to experts, it will be characterized by the following features:

- ✓ The essence of leadership will be to create opportunities and generate enthusiasm around solving certain problems and tasks
- ✓ Leadership will be distributed among the teams within organizations, which will be as open as possible, with broader management powers

In this context, leadership and managerial qualities will be needed for a wider range of employees. Demand for their responsibility will also increase.

Leadership success will be measured by the success of the team as a whole, which will envisage multifunctionality, changing roles of team members, and reduction of hierarchical control. This will increase the openness of the team in communication with customers.

Finally, the **role of teamwork** will increase. Teamwork and collaboration skills will be necessary due to the growing role of project work, the spread of remote work, and the demand for a comfortable sociopsychological climate among the team.

Young people generally like these trends regarding the transition to a horizontal management structure and the distribution of leadership. This is evidenced by the fact that most focus group participants prefer horizontal to vertical growth. For them, career level is determined not by position, but by amount of knowledge and skills accumulated and level of compensation. In turn, the expansion of competencies can be achieved through continuous training and experience in different areas of work or different companies.


The option of vertical career growth is considered only in the context of starting your own business or working in a government agency.


³⁷ «Teal» organizations are companies of the future which are distinguished primarily by self-governance, integrity, and evolutionary purpose (as described by Frederic Laloux in Reinventing Organisations).


Quantitative research on youth opinions

67.5% of young people believe that in 2030, office workers will have a hybrid style of work (split time between working remotely and in the office). In the future, respondents believe that workspaces will include formats such as open space (58.7%), personal space at home (46.9%), and co-working space (40.7%). **That is, work in offices will step back, and flexible spaces for work or work from home will gain even more popularity.**

The forms of legally established employer-employee relations

Employment contracts with work record books
 **46,9%**

Freelancing with the opportunity to work for several employers
 **41,6%**

Contracts with employees — private entrepreneurs
 **40,2%**

A typical work schedule in 2030 is not time bound (60.1%), i.e., without an emphasis on full or part-time employment. **In fact, this is not only a feature of generation Z's vision, but also a reflection of time, with the focus on flexibility and results.**

Innovative technologies that will prevail in the 2030 workplace

Artificial intelligence
 **58,6%**

Cross-sector feature combining technologies with other areas
 **53,8%**

This indicates that technology will be further introduced into our lives through a variety of industries.



Conclusion

Thus, the format of the workplace, work schedule, and employee-employer and manager-subordinate relationships will become less formalized and have a wide range of formats in the future.

However, all of them will have one feature in common: they will be as convenient as possible for employees, and economical and efficient for business.

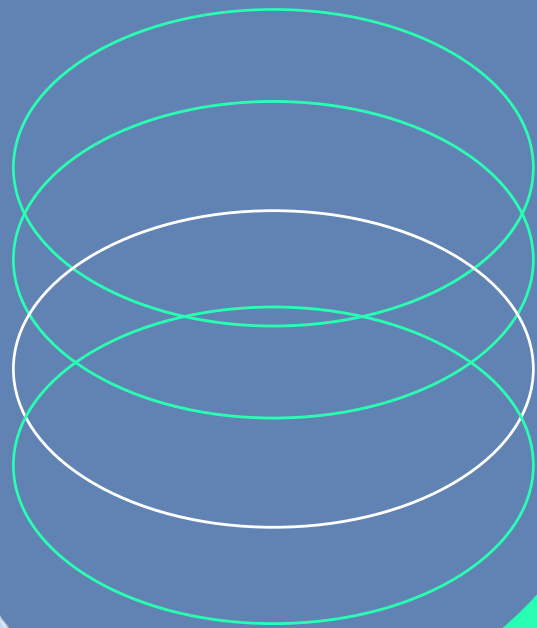
Working conditions will be more flexible and will be based on results, not working time. Freelance will still be a common format of work and will allow employees to work for several employers under part-time employment.

In addition, the system of management and leadership will completely change from a hierarchical to a horizontal structure where teamwork will be one of the most important factors in achieving results.



Section 6

Key skills of the future 2030



Global trends

According to the World Economic Forum report on the future of jobs,³⁸ 50% of all employees will need retraining by 2025 due to the growth of technology implementation



For employees who remain in their positions, the share of basic skills that will change by 2025 is 40%.

The report also identifies the top 10 skills that will be relevant in 2025. Problem-solving will be a key competency in the future because it includes many of these skills (analytical thinking and innovation, complex problem-solving, critical thinking and analysis, creativity, originality, and initiative, and reasoning, problem-solving and ideation), the popularity of which will grow over the next five years. For the first time, the **importance of skills such as active learning, resilience, stress tolerance, and flexibility were noted.**

In its Learning Compass 2030 forecast,³⁹ the Organization for Economic Cooperation and Development explores the necessary skills for 2030 and distinguishes three different types: cognitive and metacognitive, social and emotional, and practical and physical.

Cognitive and meta-cognitive skills

Include critical thinking, creative thinking, learning-to-learn and self-regulation. These skills are a set of thinking strategies that enable the use of language, numbers, reasoning and acquired knowledge. Metacognitive skills include learning-to-learn skills and the ability to recognize one's knowledge, skills, attitudes, and values.

Social and emotional skills

Include empathy, self-efficacy, responsibility, and collaboration. They are a set of individual capacities that can be manifested in consistent patterns of thoughts, feelings and behaviors that enable people to develop themselves, cultivate their relationships at home, school, work and in the community, and exercise their civic responsibilities.

Practical and physical skills

Include using new information and communication technology devices, including abilities to play musical instruments, craft artworks, play sports; life skills, such as the ability to dress oneself, prepare food and drink, keep oneself clean; and the ability to mobilize one's capacities, including strength, muscular flexibility, and stamina. Practical skills are those required to use and manipulate materials, tools, equipment, and artefacts to achieve particular outcomes. Cognitive skills, such as creative thinking and self-regulation, and social skills, such as taking responsibility, require the capacity to consider the consequences of one's actions, evaluate risk and reward, and accept accountability for the products of one's work⁴⁰.

Table 3 compares these skills.

³⁸ The Future of Jobs Report (WEF 2020)

^{39, 40} OECD future of education and skills 2030. Learning Compass 2030 (OECD 2019)

Table 3. Comparison of skills relevant in 2025 and 2030

| Top skills in 2025 (World Economic Forum) | Top skills in 2030 (Organization for Economic Cooperation and Development) |
|--|---|
| Analytical thinking and innovation | Critical thinking |
| Active learning and learning strategies | Creative thinking |
| Complex problem-solving | Learning-to-learn |
| Critical thinking and analysis | Self-regulation (i.e., ability to control one's behavior) |
| Creativity, originality, and initiative | Empathy |
| Leadership and social influence | Confidence in yourself and your abilities |
| Technology use, monitoring, and control | Taking responsibility |
| Technology design and programming | Ability to work in a team |
| Resilience, stress tolerance, and flexibility | Using new information and communication technology |
| Reasoning, problem-solving, and ideation | |

Comparing these skills gives us a new basis for reflection. An analysis of the skills identified by these international organizations shows that the following will remain in demand in the both the short and long term: critical and creative thinking, active learning, self-regulation, and the use of technologies and devices.

However, there is a noticeable trend of changing accents after 2025. In the short term, there is a high demand for cognitive and metacognitive skills (analytical thinking, problem-solving, innovation and ideation, complex problem-solving, and technology design and programming), whereas by 2030 soft skills are updated (teamwork, empathy, responsibility, and self-confidence). This shift is probably due to the expected rapid development of artificial intelligence, as well as the gradual evolution of corporate culture (in favor of care for the mental and physical health of employees).



Ukrainian perspective

Skills relevant in 2030

In the framework of the research, we invited business and youth representatives to consider the list of top skills that will be relevant in the global labor market (as identified by the World Economic Forum and the Organization for Economic Cooperation and Development), select those that will be most in demand for Ukraine's labor market, and decide whether their importance depends on the industry of a particular workplace. Young people and representatives of Ukrainian business provided their responses.

The top skill in 2025 (from the WEF list) according to youth is resilience, stress tolerance, and flexibility. This skill is necessary due to the fact that the world is changing quickly and is often stressful (with burnout and procrastination becoming significant problems). The ability to control one's emotions and recover allows a person to work effectively and manage the work process. Finally, flexibility will allow the employee to quickly retrain under the impact of dynamic changes.

At the same time, each of the age groups has its own vision of the most important skills in the short term (5 years) — see table 4.

It is important to note that today's youth believe that they generally have these qualities, although they recognize that they should develop and strengthen them. After all, each person is unique, so certain skills are innate personality traits, and some should be developed. Youth say they are actively working on this task.

“
It seems to me that I have these abilities, I just need to develop them, as do we all.

FG youth (female, 14–17)

The **top skill in 2025 from a business perspective** is analytical thinking and innovation, especially relevant given the rapid renewal of technology (the desire to implement innovative solutions) and the complex problems that businesses face.

At the same time, we observe sectoral specifics (Table 5). For example, industries need the most creativity and non-standard solutions, services need resilience and stress tolerance due to the crazy pace of work, and IT needs analytical skills to clearly develop effective algorithms.

Although different skills are prioritized, it is important to remember that all skills are important in various contexts. The rapid development of technology requires technical literacy. The variability of business, the growth of information flow will require the ability not only to be creative, but also to offer solutions to complex problems. Only with the synergy of analytical, innovative, creative skills it is possible to develop non-standard solutions that business so desperately needs.

Constant changing of career paths and learning new skills requires flexibility, stress resistance, and self-control. Professional leaders with developed communication skills are best equipped to ensure the stability of systems during periods of rapid change. In addition, with the growing trend of remote work, there is a demand for the ability to consolidate a team around a common goal.

“
Without innovation, we will not be able to use the technologies that are ahead and that we need.

FG business (Energy, DTEK)

Table 4. Top skills in 2025 by age

| | |
|--|--|
| <p>Youth, 14–17 year olds</p> | <ul style="list-style-type: none"> ✔ Creativity – avoid competition with robots and artificial intelligence ✔ Leadership / social influence – the ability to form and motivate a team (in consideration of the growing diversity of society) and take responsibility for the success of a project. ✔ Resilience, stress tolerance and flexibility – the ability to manage emotions and maintain performance in critical circumstances |
| <p>Youth, 18–25 year olds</p> | <ul style="list-style-type: none"> ✔ Resilience, stress tolerance and flexibility – the ability to adapt to rapid changes and information noise. ✔ Complex problem-solving – understood as both a request for a «universal soldier» and as the ability to structure a problem and solve it. |
| <p>Youth, 26–36 year olds</p> | <ul style="list-style-type: none"> ✔ Analytical thinking and initiative – allows navigation of an exponentially growing information flow. ✔ Critical thinking and analysis – the basis for an adequate perception of reality, ability to defend a position, leadership, and problem solving. ✔ Resilience, stress tolerance, and flexibility – the ability to adapt to changes and exponentially increasing information flow. |

A person should be multifunctional, with a broad outlook, have a set of both soft and hard skills to take a problem and find a solution, but not involve more people to analyze and find solutions.

FG youth
(male, 18 -25)

A number of activities can help young people acquire these skills. Self-education allows people to learn to focus on tasks and develop the necessary skills in the shortest possible time. Participation in volunteer and social initiatives and programs for young people will form leadership qualities and emotional intelligence. However, the main focus is the need for constant learning (participation in workshops, trainings, internships, etc.).

Looking another five years ahead, we can see that the experts of our research fully believe that the top skills of 2030 provided by the Organization for Economic Cooperation and Development will still be relevant for Ukraine in ten years. However, the list is complemented with communication skills (negotiation, facilitation, presentation and self-presentation, public speaking, and virtual collaboration development), self-management skills (concentration and attention management), and comprehensive/interdisciplinary education (a combination of professional and technological skills).



Table 5. Top skills in 2025 by sector

| | |
|--|---|
| <p>Agriculture, food, and pharmaceutical industries</p> | <ul style="list-style-type: none"> ✔ Creativity, originality and initiative – a tool for developing something new and finding new solutions at all levels of a company. ✔ Analytical thinking and innovation ✔ Leadership and social influence – the ability to lead people |
| <p>Light industry, energy, and heavy industry</p> | <ul style="list-style-type: none"> ✔ Analytical thinking and innovation ✔ Technology use – necessary in the context of increasing technology presence in business and production processes. ✔ Reasoning, problem-solving, and ideation – important given that each employee is gaining more authority and must be able to formulate a solution to a problem and justify its feasibility to management. |
| <p>Services and retail</p> | <ul style="list-style-type: none"> ✔ Resilience, stress tolerance and flexibility – needed to manage the large volumes of tasks with constant unexpected inputs, not transfer stress to colleagues, and maintain a good office atmosphere. ✔ Leadership and social influence – needed for informal leadership (the ability of team members to self-organize and take responsibility, as well as emotional intelligence), contact with clients, and understanding society and respond to requests. |
| <p>IT and telecommunications</p> | <ul style="list-style-type: none"> ✔ Analytical thinking and innovation ✔ Complex problem-solving – the ability to take into account and anticipate all aspects of a problem and find innovative solutions ✔ Technology use ✔ Resilience, stress tolerance and flexibility — the ability to control oneself |



We are moving away from working under a hierarchy where we receive plans from above and we carry them out. Or we are told step-by-step what and how to do things. Actually, initiative is welcomed at all levels.

FG business (Food industry, Enzyme)



The future employee will be able to identify a problem, find a solution, and act independently. But it will always be necessary to justify it to upper management, as resources for enacting decisions come from the companies.

FG business (Energy, Prykarpatyaoblenergo)

Youth, businesses, and experts agree that the top skill in 2030 (from the OECD list) is the ability to learn.

Lifelong learning is important given the ever-changing nature of functional responsibilities in permanent positions. In an environment where technology and business models are constantly changing, staff must be as adaptive as possible, periodically mastering new skills and knowledge.

This can be achieved by integrating young people into the work process, offering a wide range of inexpensive courses, and improving the educational process in schools (which today causes students» overfatigue and forms aversion to learning).

In 2030, the skill of using **new devices of information and communication technologies** will be essential (young people aged 14–17 and all business groups, except light industry, heavy industry, and energy, have recognized this priority). Its relevance is due to the high rate of algorithmizing, digitalization, automation, and change of technological processes. Therefore, knowledge of technology will make the employee more productive and efficient and, of course, expand their employment prospects.

According to businesses, this skill should complement the professional knowledge of employees, as most developed companies are gradually digitalizing their services and products.

The second echelon of the most popular skills in 2030 includes creative thinking and the ability to work in a team.



“
Our youth are not as prepared as previous generations due to the amount of fragmented and fake information and lack of focus, so the modern student / young specialist does not have the ability to work in depth.

I-dl expert (Nadiia Vasylieva)

“

The world is actively changing. Each profession is modified according to the requirements of the time. Accordingly, a person must understand what is new in this area and learn quickly because competitors are looming in the form of the next generation. And as a result, people may lose their jobs or become noncompetitive.

I-dl expert (Natalia Yemchenko)

The importance of **creative thinking** was noted by young people aged 14–17 and representatives of the industry, energy, agricultural, and pharmaceutical sectors. This is not only required for innovative solutions, but also for strategic communications (which can quickly lose the ability to hold audiences» interest). This skill can be nurtured by encouraging young people to read a lot, think about philosophical issues, and cultivate the ability for self-control. Trainings and lectures from civil society and public organizations will help master it.

Teamwork skills, in turn, are more relevant for services and IT / telecommunications, and were also emphasized by young people aged 18-25. The skill is important given that in 2030, work will be increasingly built on the principle of project management, which involves building up relationships and the ability to encourage colleagues» creativity. The skill is also emphasized due to the fact that work will increasingly be online and employees will therefore have to support teamwork in conditions where members of the team have little personal contact with each other.

This skill can be nurtured by increasing the proportion of teamwork during training.

Responsibility and self-confidence were sometimes identified as top skills for 2030.

The importance of **responsibility** was noted in the areas of services, heavy/light industry, and energy. This skill is important given the reduction of formalization and control of processes in companies (remote workplace, increasing share of contracts and projects, and combination of online and offline work). In this situation, an employee must be responsible enough to focus on work and perform it well and on time.



2030 will have remote work – work when you need it, how you need it, and with whom you need it. If a company sets goals to be a team player, then it should not be forgotten. Look for new applications, new methods, and work on it.

FG business (Retail, Auchan Ukraine)



The skill is also identified by experts because responsibility is about employees» awareness of their own responsibility to the company, their willingness to work for its development, and ability to make personal decisions.

The development of this skill is tied to a needed change in the prevailing societal philosophy of excessive care for young people in schools and families, which can lead to a lack of responsibility.

Finally, **self-confidence and self-reliance** are important for young people aged 26–35. Raised in a different (more conservative) cultural framework, they are afraid to take risks and responsibility, they plan and think about everything too carefully. Whereas a rapidly changing world requires daring and quick decisions.

This quality can be nurtured in young people by demonstrating the «Success Stories» of those who have decided to take risks and responsibility.

However, in order to be effective in the labor market, you not only need specific skills, says expert Natalia Yemchenko, but also more general skills: the ability to live in a constantly changing world, political foresight (in the sense of relations within an organization; deep understanding of actual processes, the ability to accept these processes, and understand where and how decisions are actually made), and the courage to change this world.

After all, 10 years is a long time from now and the approach to defining skills that will be in demand in 2030 is very conditional. In the long run, it is probably worth thinking about more stable categories such as the values that will determine a person's aptitudes and their optimal profession.

“
Responsibility is today's problem for the whole country. The mature generation is afraid, and young — are not reliable: if young people do not like something, or somebody told him/her something wrong — we see their reaction: they immediately could go to another company, but try to achieve a certain result in current place — is uncommon reaction.

I-d expert (Nadiia Vasylieva)

“
The big problem is that young people who come after university do not know how to take responsibility for their actions and the results of their work. They transfer this responsibility to their manager or colleagues.

FG Business (Light Industry, New Fashion Zone)



“
It is very important now to take steps and accordingly, if we successfully take these steps, we will achieve our goals. And if we do not take steps but think about how best to approach the situation and properly analyze it, then we simply run out of time and the train has left the station.

FG youth (male, 26 –35)



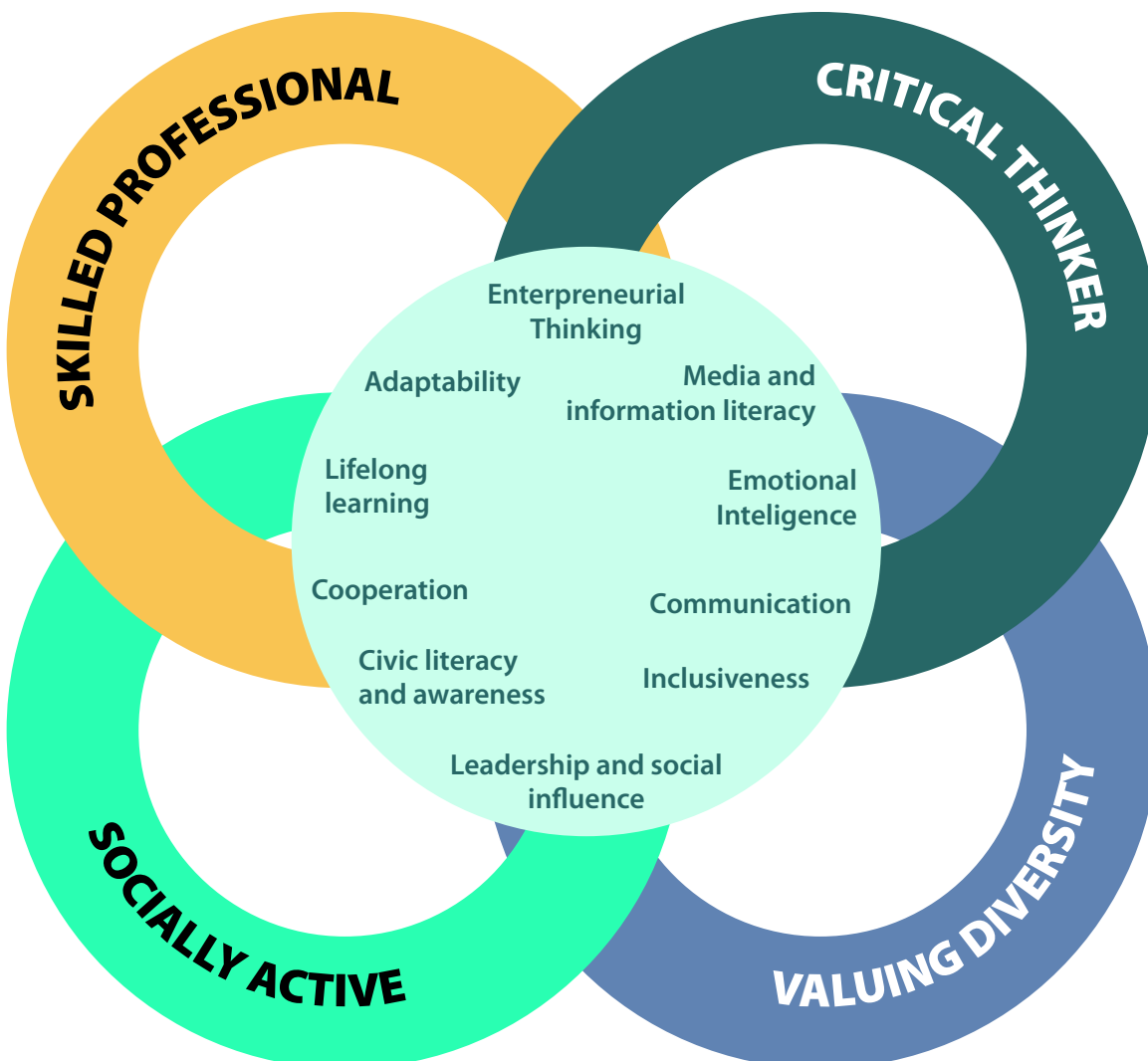
Skills can change, professions and jobs change. What things change less? Values, because they are more stable. I would go back to the basics. For someone, justice is important, and a person will always find a role and organization where it would contribute to justice. For another, it is a relationship, and these people are successfully realized in the field of services or helping others.

I-dl expert (Tamara Sukhenko)

It is important to note that the list of skills for the future defined by experts, business, and youth clearly correlates with the skills and competencies that young people should have identified by the UNITY (Mriemo ta diemo) program (Fig. 1). This indicates that the chosen skills will be really important for the professional success of young people.

Young people who can apply these skills in their daily lives will be ready for professional success in the future. Social activism, critical thinking, and respect for diversity will help young people more comfortably cope with the challenges that will bring both changes in work culture and changes in the economy.

Figure 1. IREX list of competencies of a successful and socially active young person



Ideal Employer and Employee: Imagination and Expectations

By 2030, two trends will be clear in Ukraine. **The first is business competition for qualified staff. The second is the competition among staff (between experienced staff whose jobs are made redundant by automation and digitalization and young people who are entering the market for the first time) for jobs with the most attractive working conditions.**

To develop a «formula for success» in this competition, it is important to understand what the expectations are of the ideal employer and the ideal employee in the future. It is equally important to compare the perspectives of employees and employers regarding these ideals and the expectations of the opposite party. The effectiveness of business and life strategies of employees in the labor market of the future depends on the extent to which these ideas coincide with expectations.

The **ideal employer in 2030** from a youth point of view:

- ✓ A successful and efficient structure (a job that you can be proud of).
- ✓ «Teal» organizations⁴¹ with minimum bureaucracy and a high degree of respect for and trust in staff. It is important for youth to have soft skills in these structures: be tolerant, objective/impartial, value the opinions of staff, and open to creative decisions. It is important that the organization selects the employee based on skills, not just formal education.

- ✓ Invests in employees to help them develop and increase their professional status while at the same time offering career growth within the organization.
- ✓ Offers formal employment, decent pay, and social protection (only senior and middle-aged target audience)
- ✓ A socially responsible company with a clearly defined mission

“

An employer must be authoritative and well versed in their business to give me timely advice, understand, and teach me something.

FG youth (female, 14–17)

“

First, employers must offer remuneration, the opportunity to work officially, and social benefits. Second, a flexible work schedule (with the possibility of unplanned weekends or holidays).

FG youth (male, 18–25)

⁴¹ «Teal» organizations are companies of the future which are distinguished primarily by self-governance, integrity, and evolutionary purpose (as described by Frederic Laloux in Reinventing Organisations).



An employer must always be on the page as me. They must always communicate with me. If I come to them in a bad mood, they should be able to encourage me and help understand the situation.

FG youth (male, 14–17)

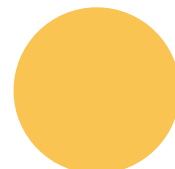


The ideal employer in 2030 is socially responsible in both internal relations, with employees, and externally, with a transparent and honest mission.

FG business (telecommunications, lifecell)

Interestingly, the business perspective quite accurately captured the expectations of young people from ideal employers.

First, it is systems and working conditions that will increase the professional and personal value of the employee. Representatives of companies noted that today Generation Z, which is beginning to enter the market, chooses companies that train, provide personal growth, and increase the competitiveness of professionals in the labor market. Probably, the exclusive feature of the ideal employing organization in 2030 (which will determine its uniqueness and prestige) will be a platform where professionals can communicate with like-minded colleagues and develop their professional skills.



Secondly, businesses noted the importance of minimal formalization, bureaucratization, and greater flexibility of the employing company and its willingness to adapt to the lifestyle of the employee (flexible schedule, ability to work from home, etc.). At the same time, the importance of the “emotional background” and soft skills of the company’s management was not emphasized as much by business representatives; to a greater extent, they highlighted the absence of gender and age discrimination. For young people this aspect is extremely important (especially for the group of 14–17 year olds, who will enter the labor market in 2030).

Exceptions to the rules here are IT/telecommunications representatives. They most actively involve young people and notice their requests for emotional support, the level of corporate culture, and social responsibility. Emphasis on emotional and psychological health are also noted by representatives of the pharmaceutical industry.



An ideal employer in 2030 understands that employees devote their lives to their company. An ideal employing organization is very determined that the people who work for it will develop.

FG business (Finance, UKRSIB BNP Paribas)

Success, progressiveness, efficiency, prestige, and image of the employer are mentioned only by representatives of the service sector and IT/telecommunications.

Businesses believe that the ideal employer must, above all, offer stability to its employees: guarantees that allow them to live their lives, such as official employment and salary. Representatives of all business areas believe that the ideal employer should be responsible for the lives of employees.

Of course, these aspects are important for young people (especially for the older target group). However, the position of the employer's concern for the employee resembles a paternalistic model and, a priori, considers the latter as a certain object. While young people strive to see relationships as equal, they prefer freedom to guardianship, and partnership to hiring.

Representatives of business in various fields, in their turn, describe the **ideal employee in 2030** quite in accord.

Young people are also sensitive to market demands, their list of qualities of the ideal employee practically repeats what was said by business representatives (Table 6).

“
The portrait of the candidate of the future is about soft, hard skills, and, about conformity to values of the companies.

FG business (Retail, Auchan Ukraine)

“
The ideal candidate — learns quickly, and strives for it.

FG business (Food industry, Coca-Cola Beverages Ukraine)

“
This is a person who should not touch anyone with his/her personal, subjective thinking, but touch some cool ideas.

FG youth (female, 18-25)

“
The ideal employer is not the manager, but the customer of my services.

FG youth (male, 18-25)

“
The ideal employer must build their relationships with employees at the partnership level.

FG youth (female, 26-35)



Table 6. The vision of the ideal employee in 2030 by business and youth

| Business vision of the ideal employee | Young people's vision of the ideal employee |
|---|--|
| A team player with soft skills | Tolerant, non-conflict, with good communication skills, able to work in a team |
| A person who is ready to learn all life / is able to quickly retrain - because in the face of increasing digitalization and automation the need for permanent retraining will increase | Lifelong learner, learns quickly |
| Multifunctional / universal soldier / flexible person - ready to perform work of various nature | Flexible, multifunctional |
| Loyal to the company and its values, motivated to develop it - with the desire to work and stay in the team for a long time (then the company will make sense to invest in his / her development) | Involved, engaged in work, initiative |
| Creative, flexible in decision-making and tasks implementation, because as routine work / professions disappear, staff will flow into the realm of creative decisions and building social interaction | Creative, responsible for his/her actions and tasks, punctual |
| Educated, having several educations. Preferably at the junction of specialization in a particular field and technology. | Educated, having different knowledge and topical skills (language, technology) |

The only difference between these two lists is that the business expects from the ideal employee loyalty to the employer, readiness to stay in the company for a long time, and develop it. While young people clearly do not emphasize this aspect (worrying only about their own market value).

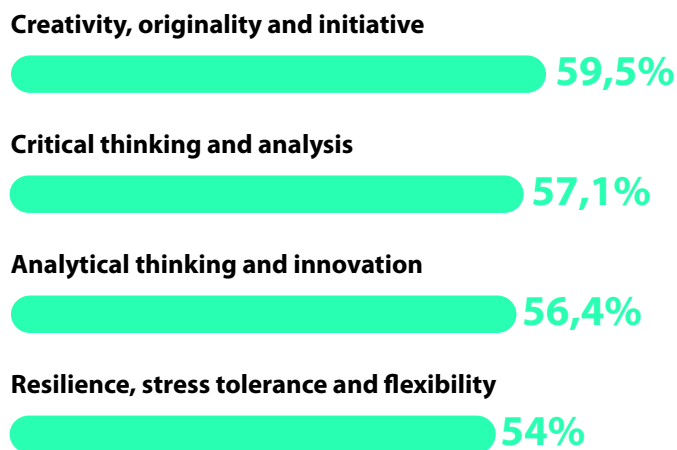
An analysis of perceptions and expectations about the portraits of the ideal employee and employer in 2030 demonstrates that there is a relative mutual understanding in the labor market about what qualities business and young people must cultivate in order to be competitive in 10 years.

However, in their reasoning, labor market agents did not specify the contents and reasons for the relevance of the skills necessary for success in 2030. Therefore, we will consider this issue in more detail.



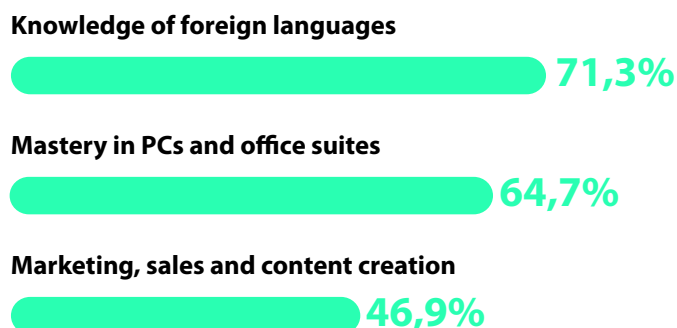
Quantitative research on youth opinion

The most important skills for work in 2030, according to young people



In fact, quantitative data fully confirm the qualitative ones mentioned above, as well as the business vision of ideal employees. **Young people emphasize the necessary skills of the future — the ability to analyze, look for cause-and-effect relationships and offer non-standard solutions**

The most important hard skills for work in 2030, according to young people



Such results may be more a consequence of globalization and an increase in the relevance of intercultural communication, as we are all part of a “global village” and must address existing challenges and problems together.



The most popular ways to obtain the above skills for further employment in 2030 for young people

Mass open online courses



Short-term practical trainings



Mentoring from specialists in a particular field



Self-education



Study in higher education institutions offlin



In addition, young people need help from both the state and business to develop these skills and gain experience to better prepare for work. In particular, young people note that the following state initiatives should be implemented with regard to the public sector:



1. Improve and update school curricula, which would include some basic acquaintance with professions 2. Provide a large number of jobs for young people 3. Provide career opportunities

(15-year-old, male, Khmelnytsky Oblast, city)



Give lecture updates: inform on the current shortage of such specialists in Ukraine, invite to apply, and employees will be accepted, but only if you like this field. There must be trust to the state.

(21-year-old, female, Kyiv)



Give scholarships for new developments, science, inventions, and discoveries. Support initiatives in any sphere in every possible way. And start with educational institutions, where teachers are trained. Because a good and comfortable school means nothing if the teachers studied within old system, are full of complexes and cannot give quality knowledge, but only dictate the textbook.

(34-year-old, female, Kyiv)



As businesses are very important employers, young people especially highlight internships and the opportunity to get a job even without experience among the needs of business to prepare for employment in 2030:



Offer the opportunity to start working without work experience.

(14-year-old, female, Kirovograd Oblast, village)



Assist the state in implementing the Strategies by holding job fairs, invitations to production tours, trends analysis, and possibly even mentoring in senior classes.

(17-year-old, male, Kherson Oblast, city)

However, young people understand that they themselves should realize that it is worth making personal efforts for their own professional success in the future, as well as clearly understand what to expect from the future profession.

The defining criteria for successful professional realization for young people

Do their favorite pastime



High income / salary



Availability of sufficient free time, apart from work



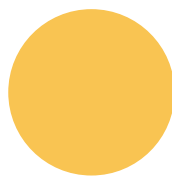
Reliability / stability in work



Career opportunities



Opportunity to do something valuable for the society



The young people also shared their vision of the **first three steps to prepare for the coming 2030**. Among the most popular answers are skills development, language learning, reading, mastering programming languages, continuous education and expanding networking:



I will work on myself; invest my time in my mind.

(15-year-old, male, Mykolaiv Oblast, city)



The first step is to graduate from university, then goes employment and then changing the world.

(17-year-old, female, Cherkasy Oblast, village)



I'm not waiting for 2030. For me, the future is today. I am already doing everything I need for a better life (and what I will benefit from in the future).

(20-year-old, male, Vinnytsia Oblast, city)



I will develop a tourist route of my city, I will publish a catalog with local folk craftsmen, develop a mobile museum-application.

(30-year-old, female, Volyn Oblast, city))



Conclusion

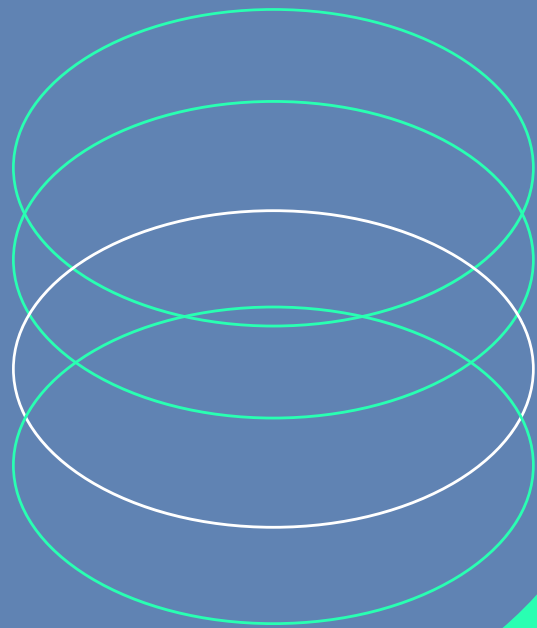
It should be noted that the country needs to train young people's universal skills (relevant, in particular, for the global economy). At the short term five years' perspective, young people and businesses have a similar vision of important qualities. However, their priority is determined differently. Young people emphasize the skills which are important for their personal well-being (stress resistance, resilience); while company representatives consider analytical thinking and innovation to be the main skills needed to solve business problems.

In the long run — 2030, both audiences emphasize the ability to learn throughout lifetime as a prerequisite for success. This may indicate that research participants believe that success strategies are unsustainable and may change in the future. So, the right strategy is to learn continuously, adapting to a constantly changing reality.



Section 7

Education system of the future



Global trends

For a successful future of work 2030 it is important to develop the education system, because it directly affects the professional development of people, skills, competencies and even aptitudes.



Today the education **should teach young people soft skills**, namely, the formation of clear goals, cooperation with the diverse people, the search for untapped opportunities and non-standard solutions to major problems. Education should not only prepare young people for the world of work; but also to make them active, responsible and involved citizens. As it turns out, the future of work is by its essence the future of education.

Why do we need another education by 2030

Globally, the modern education system was designed for the industrial revolution, when workers were employed in large-scale and efficient factories. As a rule, this institutional approach was characterized by tight integration of tasks and elimination of inefficient elements. Thus, pre-work education often involved only listening to the teacher, memorizing information, and reproducing it when asked about in class — ideal for companies in the industrial revolution. But today technologies can perform many tasks much better than humans, and besides, they don't take vacations.

To perform new tasks, companies need people who can think, solve problems with non-standard methods and offer creative ideas. Therefore, employers began to change their employment strategies. In assessing talent, they rely less on a diploma and more on the candidates» skills and abilities to actually do the job. The piece of paper to which we are so accustomed no longer signals whether someone will be a good employee⁴². And not only the strategies of employers are changing, but also the attitude of the people themselves.

If the hallmark of the 20th century education was access to higher education, the 21st century focuses on lifelong learning. Education is no longer a linear process with the end point of obtaining a single diploma, but a continuous and smooth process that should help people adapt to changes in technological, economic and social conditions..



⁴² How Will Education Change With The Future Of Work? (Forbes 2020)

⁴³ Sara Holoubek. Automation, education, and the future of work: a reading list (Luminary Labs 2017)

Artificial intelligence and automation are the future. Students need to be prepared to work with them, the workforce needs skills improved in line with changing requirements. Both are challenging tasks that require bridging the gap between education and work⁴³.

And the main problem is that people who work in workplaces that will be automated in the future do not have the skills to learn new professions and jobs that are still to be created. Without the education's intervention at early stages, this can lead to a scenario, when «everyone loses his/her job» when there is a high unemployment rate and a large number of vacancies that remain unfilled because companies simply cannot find people with the necessary skills.

Transformation of the role and essence of education

The future education needs to be much more **flexible, digitalized and modular** (short-term courses for specific knowledge), because people cannot leave their jobs to return to the university.

This, in turn, is due to the growing demands that companies place on employees, who must constantly retrain and improve their skills to keep pace with technological developments. This can lead to the elimination of the traditional education model, when we receive a diploma and move to an «adult life» and employment.

A university (one or few) can become a lifelong partner. After all, why say goodbye to your alma mater, if it provides quality education, and continuous retraining is globally required. Accordingly, the **modular system, subscription to education to stay enrolled and be able to continue learning** - will become increasingly popular. This creates new opportunities for education⁴⁴.

The wide range of skills needed for the future workforce also affects our approach to education. The importance of combining breadth and depth in education leads to the need to adopt a «T-shaped» philosophy of teaching and learning, in which vertical (deep disciplinary) experience is combined with horizontal (end-to-end) knowledge — a broad outlook⁴⁵.

Education has a unique power to catalyze social mobility, to overcome social, economic, racial and other challenges like no other force. As labor markets are constantly evolving, it is clear that the education system needs to be dynamic and adaptive as the technologies around which our society now revolves.



⁴⁴ Bernard Marr. The Future Of Jobs And Education (Forbes 2020)

⁴⁵ Farnam Jahanian. How higher education can adapt to the future of work (WEF 2020)



Necessary changes in the educational environment

Young people who are ready for the future must exercise freedom of will in their education throughout their lives. To help foster freedom of will, educators need to move to the «collaboration» concept and interactive relationships that help to advance towards reaching of goals. In addition, it will be facilitated, first, by a personalized learning environment (which supports and motivates each young person to develop his/her interests, to establish a connection between different learning experiences and opportunities, and to develop their own learning projects and processes in collaboration with others). Secondly, creating a solid foundation (literacy and calculation skills remain very important). In the age of digital transformation and with the advent of big data, digital literacy and data literacy are becoming increasingly important, as are physical health and mental well-being.⁴⁶

In general, education of the future 2030 should focus on raising awareness on the world, sustainability and an active role in the world community. Of course, education must develop skills needed for innovation, including complex problem-solving, flexibility, analytical thinking, creativity and systems analysis, and technological skills based on the development of digital skills, including programming, digital responsibility and the use of technology.



Thus, there will be an intensified sifting from a system of standardised learning to a system based on the different individual needs of each learner and flexible enough for each person to progress at his/her own pace. Problem-based and collaborative learning as well as lifelong learning ability will be the guiding principles for the future transformation of education.

Accordingly, for the educational community to develop these skills in young people, pedagogical approaches need to be changed. Such approaches include⁴⁷ a playful approach that creates joyful experiences to enable children find meaning in learning through active thinking and social interaction. Using experience in project implementation, as well as finding solutions to problems, should be an integral part of education in 2030.

To achieve this, the following elements need to be implemented in 2030⁴⁸:

- ✓ **student-centeredness**, i.e. the curriculum should be developed around students to motivate them and recognize their prior knowledge, skills, attitudes and values,
- ✓ **complexity**, i.e. topics should be complex and allow for deep thinking and reflection,
- ✓ **higher priority should be given to knowledge, skills and values** that can be learned in one context and transferred to others (interdisciplinary approach).

To implement these aspects, the teacher's role needs to be changed. Educators should have the authority to use their professional knowledge, skills and experience to effectively implement the curriculum. At the same time, the very concept of «curriculum» should be developed from «predefined and static» into **«adaptive and dynamic»**. Educational institutions and educational community should be able to update and harmonize the curricula to take into account new social needs as well as individual learning needs. Young people need to link their learning experiences with the real world and have a sense of purpose in their learning. This requires interdisciplinary and collaborative learning approach along with the acquisition of knowledge based on individual disciplines.

⁴⁶ The future of education and skills. Education 2030 (OECD 2018)

⁴⁷ Schools of the Future. Defining New Models of Education for the Fourth Industrial Revolution (WEF 2020)

⁴⁸ How Will Education Change With The Future Of Work? (Forbes 2020)

Ukrainian perspectives

Experts, business representatives and young people agree that **education is one of the main factors influencing work of the future**. A child's future career will depend on the knowledge, skills and abilities that he/she develops during school. The efficiency of the business that hires (and mostly teaches) yesterday's student depends on the ability to adapt the curricula in professional education (vocational) institutions, colleges and higher education institutions.

Unfortunately, according to respondents of this research, the Ukrainian model of education is out of date and does not show positive results. It requires urgent and thorough reformatting at all levels (from school to higher education institutions). Such large-scale changes are impossible without mobilization of all the stakeholders: youth, parents, business, educational institutions, the government.

School education

The school education in modern Ukraine is assessed ambiguously. School programs are overloaded with theoretical knowledge, they have little to do with the formation of skills needed in the postmodern world. The emphasis is still on the ability to reproduce algorithms, and on the memorization of material. **The school does not encourage initiative, does not teach to develop a comprehensive solution to the problem, to apply the acquired knowledge in practice, to work in a team**. School education is criticized for the lack of a well-thought-out career guidance program, when eleventh grade graduates do not understand which specialty they have aptitude for.

Therefore, according to experts and young people, there is an acute need for radical change in school education.

First of all, **changing the education content needs to be considered**. The curriculum should become **multidisciplinary and practice-oriented**, as mentioned in the international researches. In the future, the study of individual subjects will gradually disappear; instead, interdisciplinary integrated courses may appear. This approach will develop students' ability to take a comprehensive approach to the problem and solve it. In addition, it will contribute to the successful student's adaptation in the future professional environment. After all, most professions of the present and the future are on the list of several disciplines. The introduction of practice-oriented learning is important given the overload of students with theory without reference to practical tasks or specific life situations. This complicates the assimilation of the material, is tiring, demotivating (students ask more frequently themselves the question «why should I learn this?»). Forms of such training could be: team work, business games, simulation of situations that will arise in a professional environment or position, and so on.



We study everything in theory at school. It takes a lot of time, but little of it is memorised. In my opinion, combination with practice would be much more efficient, and it will come with time.

FG youth (female, 14–17)

Together with a decrease of theoretical material, more attention should be paid to developing **students' skills for the future**: critical and creative thinking, soft skills, and possibly ethics.

Secondly, the **forms, formats, methods of teaching** students must change. Among the expected changes in this direction is the **combination of online and offline learning** on a permanent basis. This, in turn, will involve the creation of a repository of quality educational courses (including on professions), powerful online educational platforms. One of the predicted or desired formats of the future learning is teaching theory online or in a record, unified for different schools (by leaders in their fields), and learning material and practical tasks to be provided by the local teachers.

In fact, the **role of the teacher will change to the role of mentor / coach**. The need for this transformation stems from the gradual change in the role of education, which will consist in revealing of each student's individuality, rather than simply studying and reproducing the material. Probably, specialists from the different economy sectors will come to schools.

On the other hand, experts predict that the development of technology will facilitate introduction of a **personalized approach to each student**. That is, identification of the level of material assimilation by students and formation of groups / classes in accordance with this level. In addition, a set of approaches is likely to be developed that will offer each student an individual learning strategy.



Knowledge is now infinite, it is easy to get access to it, so the school will be the first 4-5 years to prepare a child for basic knowledge, and the rest - it will be skills for the future.

I-dl expert (Anatoliy Amelin)



A teacher will stop to be just a teacher - it will be a coach, a mentor whose task is to develop talents, and not just provide static information. That is, the teachers themselves will change - they will be people of a different generation, a different way of thinking.

Idl expert (Anatoliy Amelin)



There will be more tailor made approach. Today, the whole class is taught the same topic in the same way. But thanks to new technologies, it is possible to build 10 different ways of learning for 10 different levels of children in the classroom.

I-dl expert (Vladyslav Rashkovan)



Education may be individualized in 5-10 years. The content and process of learning will be adjusted to the students' requirements, their individual characteristics.

FG youth (female, 18-25)



Conditional Siri or Alex in the lesson (with the possibility of displaying a graphic image on the screen) should help teachers to answer a question to which they probably do not know the answer. They are not specialists in all fields.

I-dl expert (Vladyslav Rashkovan)



Just because we listen about it is not enough. There should be a 3D reality that will help to imagine, to see.

FG youth (female, 14-17)

Another aspect of change will be the **intensive use of technologies in the educational process**. We can assume that, over time, virtual reality devices will be used in the learning process, or artificial intelligence will be used, for example, as a teacher's assistant. Some respondents also pay attention to the development of brain implants (neurolinks) that can integrate knowledge directly into the human brain. It is possible that over the next 10 years or more this or similar technologies will be introduced into the training system. At the same time, even if we do not deepen into the technology of the future, still today we should move away from the model that prevents students from using the Internet and gadgets during the lesson, and consider them as an auxiliary learning tool.

Of course, such changes are difficult to implement quickly at public expense across the country. Private secondary schools will become pioneers in the application of the latest approaches in the school education. The **development of private or collaboration of public-private education institutions** (with full or partial replacement of staff) is forecasted, which, on the one hand, will stimulate investments in education and, on the other hand, will strengthen control over the quality of educational process by parents, business representatives and other stakeholders.



Career guidance

Experts, business representatives, and youth emphasize the importance of career guidance during learning at school. Both students (who find it difficult to decide on the future) and business representatives (who deal with unmotivated and unqualified staff that made the wrong decision when choosing a profession) complain about the lack of career guidance.

Career guidance is important as it allows students to better understand themselves and the job market. Therefore, **career counseling, interactive / game career guidance classes** will be mandatory in the school of the future. **Problem-oriented or project-based learning** will also play a career guidance role, as solving specific problems forms a clear idea of what the student's job responsibilities will look like in the future.



I think that it is necessary to prepare a child to choose a profession in advance, starting at least from the seventh grade of school, by conducting interviews, holding some discussions, debates, role-playing games, where models are determined. So that after school children would already clearly understand in what direction they can develop as a future professional, what education to choose.

I-dl expert (Anatoliy Amelin)

In this context, it will be important to establish cooperation between **schools and higher education institutions and businesses in various formats:** mentoring by business representatives, visiting enterprises, vacancies for students as assistants at enterprises during holidays.

An active **involvement of Ukrainian youth in volunteering** will be an element of career guidance in the future. Performing work on a volunteer basis, allows you to gain practical experience, better understand your aptitudes.

Finally, an important element of career guidance for students is **working with their parents' community.** It is important to consult parents on successful career guidance models for their children, promote modern professions given that parents often determine their children's profession based on their own ideas about what will be promising in the future.

Most young people interviewed said that they had no career counseling experience in or out of school. Those who have had such an experience are not satisfied with it.

Instead, young people need more information about professional opportunities and prospects. It is important that this information relates not only to current professions, but also to the professions of the future (youth know very little about the latter, none of the participants in the research chose the "profession of the future" as a dream). In addition, young people expect that career guidance appears in graduation classes, but much earlier.

Experts recommend abandoning the model of career guidance by subjects or faculties, because most modern professions are at the intersection of different disciplines and skills. They recommend to teach students **to dream.**

In the West, it is normal for children to help the local community, parents, and relatives in their businesses on a volunteer basis since you were a teenager. In this way, a young person accumulates real experience that can be reflected - this is a real career guidance, it must be integrated into life. Then the choice of profession will be related to the needs of the community, society, which are important to meet, and your feelings from experience. This way you better understand what is yours and what is definitely not.

I-dl expert (Tamara Sukhenko)

Honestly, I didn't have any career counseling. The only consultation I received was during recruitment, in the human resource department. the steps I can move were described and that's it.

FG youth (male, 18-25)



My career counseling was that I was told that there were three popular professions — a teacher, a doctor and an accountant.

FG youth (female, 26-35)

Since primary school children should be targeted at a certain profession. So that they could cherish in themselves some idea during learning at school.

FG youth (male, 14-17)



I think this is a very good alternative to switch the stereotypical approach to choosing a profession through subjects. There are 70,000 professions, and are they all related to the school subjects? This approach narrows the scope of opportunities, you can not look at the future world through the prism of school subjects. It is much more complex, and the connections between these subjects, the ability to integrate them to solve the complex challenges of humanity, are more important here.

I-dl expert (Tamara Sukhenko)

In general, the expert community and youth are optimistic about the future of education, most of these trends / forecasts can be called positive, but there are some precautions. In particular, the interviewed young people believe that positive changes will be implemented in a slow pace, as they will face unacceptance by some students, teachers and parents.

Experts also note that political instability can have a negative effect on changes in education. After all, the frequent change of teams and the introduction of new practices each time may not allow bringing the started ideas to a logical conclusion.

Higher Education

Higher education system in Ukraine also requires significant transformations. First of all, experts emphasize the need to revive the system of vocational and technical education (colleges, technical schools) and increase its prestige among young people. At the same time, most higher education institutions have outdated training programs that fail to meet the current business needs, while the latter require young people to have the skills and knowledge of future technologies.

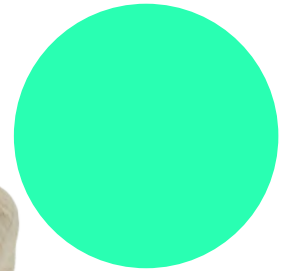


Many people will not be able to immediately switch to it. (...) That is, Ukraine itself will not be able, for example, to move to full distance learning, self-learning and self-development, because we are simply not used to it.,

FG youth (female, 14-17)

Accordingly, the system of higher education in Ukraine is awaiting a number of transformations. First of all, the **content, process and goals of education will change.** It will become more problem-oriented. The system of knowledge accumulation will gradually fade into the past, because it does not produce anything new. The skills of comprehensive analysis and problem solving are updating instead.

The share of practical-oriented education will increase significantly. The education period should be reduced due to more concentrated and the most practical presentation of the material. Educational programs are forecasted to last for 2-3 years.



We should move from the learning format, where there are correct answers (they just need to be memorized and answered «correctly») to a format where we have a problem, a task and need to find a solution. And the solution doesn't need to be correct or incorrect. It must be effective.

FG business (Pharmaceuticals and Healthcare, Servier)

There are two different predictions about the functions of the bachelor's and master's degrees in the future. According to one of them, the function of the bachelor's degree will be the general development of the student. After that, the graduates will be able to try themselves in several fields, determine the path of further professional development, and then choose a master's program (highly specialized). According to another forecast, the function of the entire system of higher education will be to acquire practical knowledge in the field, which the student will consciously choose thanks to the system of career guidance in school. University graduates must be ready for employment and motivated.

In order to ensure the alignment of the needs of graduates and business, the **cooperation of higher education institutions with business will be intensified**, primarily in the following areas: establishment of internships, traineeships, modifications of curricula and employment of successful graduates. Part of the interviewed business representatives plan to develop their own corporate training programs (including in services, IT, energy and banking), they are all ready to cooperate with educational institutions.



This cooperation will take various forms: classic invitation of business representatives to lecture rooms, creation of opportunities on the basis of enterprises for teacher development programs, investment in education development, and transformation of universities into staff centers for permanent training / retraining of business structures.

The state will promote actively the above processes. Gradually, it will **abandon the function of curriculum development, and focus on the role of mediator between businesses and educational institutions.**

This role may be to stimulate investments in the development of curricula at the request of the private sector, subsidizing private education, or creating favorable conditions for its development.

In turn, the growth of the autonomy of higher education institutions (including financial) will lead to competition not only for students, but also for investments and partners from the private sector.



For educational institutions I have a traditional recommendation: interact with the labor market as much as possible.

I-dI expert (Natalia Yemchenko)



Universities will become staff centers, personnel research centers, which are responsible for maintaining the adapted level of person's qualification.

I-dI expert (Andrii Dligach)



We started working with university lecturers because students are cool. But we need to work with those who work with them in universities. And that's why we recently conducted a big forum «University lecturers 4.0» for lecturers.

FG business (Pharmaceuticals and Health, Servier)



Each school, university, technical school will have its own curriculum and will compete on the level of quality of this curriculum, the competencies they give to their students.

I-dl expert (Anatoliy Amelin)

At the same time, the number of **people willing to obtain a classical higher education is expected to decrease in the future**. On the one hand, this is due to the fact that higher education has become available to many people, and a diploma no longer guarantees professional competencies or a competitive advantage in employment. On the other hand, this trend will be supported by the development of non-formal education. Therefore, experts suggest that more and more school leavers will choose alternative education instead of classical, higher education. At the same time, classical education will remain relevant in the field of basic sciences.

Some experts do not believe in the possibility to reform the old system of higher education in Ukraine and propose to eliminate old higher education institutions and create new private or public institutions established on a qualitatively new basis.



We spend 5-6 years at a university. There will be courses at universities or some other organizations, which will provide only practice-oriented knowledge, necessary for the profession.

FG youth (female, 14-17)

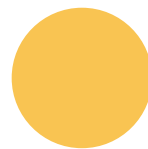


Alternative education

According to respondents, non-formal or corporate education will play an important role in the education system in the next 10 years. It will not necessarily displace classical education, but rather provide additional development opportunities for those who want it.

Forms of alternative / non-formal education until 2030:

- ✓ **Short-term courses.** Experts pay attention to short-term courses / trainings as an alternative to long-term classical higher education. It is forecasted that the courses will last 2-6 months, and due to the practice-oriented approach they will allow effectively mastering the material and even learning new professions. This is primarily relevant for mastering creative professions; such model is unlikely to be applied to science / medicine.
- ✓ **Corporate education.** The success of companies also depends on the level of competencies of specialists, so the private sector is actively involved in the educational role.



Professional and adult learning needs to be transferred to the organization. Educational institutions do not keep up with changes in industries. Corporate learning structures can build the right learning trajectories, because they know what to teach and how to quickly and effectively give the right result to this person in this organization. Dual education is an important area for the development of classical professional educational institutions. However, we have to life-long learn.

I-dl expert (Valeriia Zabolotna)



They come to us without any experience and become managers in the company. We teach their hard skills and soft skills with mentors for 3 months.

FG business (Retail, Auchan Ukraine)



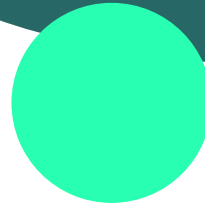
We have a program, in which experienced professionals support young people in their development when they join the company. That is similar to mentoring, coaching by managers. Managers must be coaches. And this is a program also develops managers themselves.

FG business (Agroindustry, Corteva Agriscience)

The business has a wide range of tools for staff training / retraining. Big business creates **corporate universities and training curricula**. First of all, this applies to the energy sector and the service sector, in particular the hotel business. These industries do not get enough skilled workers from the higher education institutions, and therefore plan to train staff independently, from scratch. IT companies that have been working on the development of young IT specialists since school age also have a similar strategy.

Internships are popular in this regard. This approach to employee training is planned to be used / is already used by agribusiness, pharmaceutical, food companies, as well as the service sector. A young employee, mostly right after the university, during the internship gets acquainted with the peculiarities of work in the field before starting the work.

✔ **Internal / external training programs** — often used by businesses to improve their staff's skills. Some companies organize systems of internal training programs (when more experienced employees train less experienced ones, both in terms of soft skills and hard skills) or invite external experts to conduct trainings / series of trainings. This applies to IT and telecommunication spheres, as well as banking.

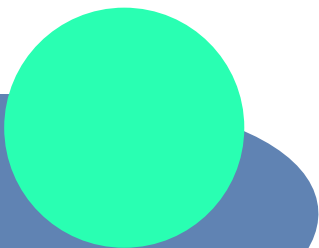


Today, business often applies **sharing of best practices, individual mentoring**. This approach is used / will continue to be used both to adapt new employees and to improve the skills of experienced employees. The representatives of the agricultural sector, banking, IT and telecommunications companies mentioned this approach.

An employee in the field of IT and telecommunications can / will be able to improve his/her skills through **participation in new projects**. An employee can join another project team as an observer / trainee and then become a full member of the team.

Most of the companies that participated in the research have staff training strategies designed for the period from one to three, maximum five years. Flexibility is important for them in planning, especially given the realities of the COVID-19 pandemic.

At the same time, the largest companies operating in the agricultural and energy sectors, as well as some service companies have longer-term strategies, for 5-10 years. .





I think you need to check the news at least once a month, to find out what's new, and what new concepts appear. It is very important to follow the news of the industry. Because it can happen that you work, and everything changed in a year and you did not pay attention. And now you are no longer competitive. Just because you haven't read the news.

Id-I expert (Olena Martynyuk)



Self-education

Both experts and youth emphasize that employees who will be engaged in self-education will be in a winning position. Also, it is forecasted that the responsibility for education will be gradually shifted from educational institutions to the employee and the employer.

From the respondents' point of view, the most popular self-education formats: **online courses and reading professional literature / news in the specific area.** Online educational platforms are developing, and it is forecasted that the popularity of online courses will only grow. More and more universities and institutions will open their lectures for public. Private or public educational online platforms will be created. Whereas regular reading of professional literature and reviewing of news will be relevant given that new knowledge is constantly produced and trends are changing in all areas.



It seems to me that there are already quite a few courses and online trainings and in the future this industry will develop and there will be more and more opportunities to engage oneself in education.

FG youth (male, 18-25)



This means that in about 6-8 years a person completely loses the ability to work at the current level. This means continuous retraining.

GI expert (Valerii Pekar)



In general, in the future, there will be life-long self-education and education, because the rapid development of science and technology produces more and more knowledge, and therefore requires the ability of continuous professional development.

The main forms of lifelong learning will be:

- ✓ **Retraining.** During their career, people will change their professional activity several times, so each time there will be a need for retraining. This will be possible both through additional master's education (in scientific, fundamental fields), or through specialized short-term courses. It will also be possible to get retrained online, on your own, given that knowledge becomes free and global. According to experts, retraining and advanced training will be the prerogative of businesses. After all, the business is interested in the continuous development of its staff.
- ✓ **Advanced training.** Even if a person does not change professions, the dynamic development within industries can lead to the necessary retraining of specialists. The job title may remain the same, but the responsibilities will be transformed. According to various forecasts, advanced training will take place every 5-7 years (for some specialties every 2-3 years) and will last 2-6 months.
- ✓ **Education of older people.** According to experts, it is a mistake to think that education is only a duty and youth's privilege. Both state and business should be interested in educating older people, because they actively work, participate in social life, and will do so for the next 10 years or more.



Another question of the week: «If you had an extra million dollars, what would you spend it for?» I would say that on the education of particularly older people. Because these people will determine a lot, including the foundations of our democracy in the future.

I-dI expert (Vladyslav Rashkovan)

Quantitative research on youth opinion

60.8% of young people believe that today schools are not preparing for the challenges of employment in 2030; only 14.3% believe that they are. Regarding higher education institutions — **39% of young people believe that today higher education institutions are preparing for the challenges of employment in 2030,** for 32.9% of young people — it is difficult to answer this question, and 24.2% believe that higher education institutions are not preparing students for employment challenges in 2030.

The difficulties are finding vacancies and understanding the professions of the future, the risk of replacing people with automation, the availability of the necessary knowledge and experience to work in the future, the ability to self-assess, encourage lifelong learning and constantly experiment and develop creativity, peculiarities of passing interviews and writing a CV, understanding the features and conditions of career growth in a changing world.

That is why the issue of career guidance is very important for young people. They pay attention to the following challenges in school education:

- ✓ career guidance starts late in school — in «senior classes» instead of fifth or sixth grade.
- ✓ methods and tools for career guidance of young people are outdated
- ✓ there are still stereotypes in the education and the division of professions into «female» and «male», as well as «humanitarian» and «technical»
- ✓ too many subjects, which does not allow to focus on specific areas



The school prepares for everything at once, with some exceptions. When you learn at school you are not given the opportunity to test your strengths in different areas of work and choose what you like. Also, it is not possible to focus on certain subjects that you would need in your future career

(21-year-old, male, Ivano-Frankivsk Oblast, city)



The school does not help to choose a future profession, just put before the choice — humanitarian or technical area

(21-year-old, male, Volyn Oblast, city)

The results show that the education that young people received at school/university (other institutions of traditional education) is useful for their own development and further employment for only 23.4%, in turn 54.7% — consider it partially useful, 11.1% — not useful at all.

Accordingly, among the main tasks of school education young people highlight — to help understand their strengths and talents (33.6%), to help try themselves in different areas (23%), to help decide on a future profession (21.8%).

Achieving these goals can be facilitated by career counseling, which is currently lacking in educational institutions. According to youth, they only partially received (51.6%) career counseling at school/university to prepare for future work and 28% — did not receive it at all. Only 18.7% of youth received sufficient career counseling. 74.2% of young people would like to receive more help (career counseling) while studying at school/university to choose a profession/find a job.

Therefore, young people shared their vision of career guidance/career counseling in the **«school of the future 2030»**. The most popular answers concern the individual choice of subjects to research, as well as the mandatory career guidance lessons. Thoughts of youth:



“ I believe that counseling should be conducted twice a year and provide some opportunities where a child could come to a place where he/she may want to work and see it him/herself. Also, excursions and trainings should be conducted for children on the types of professions, their advantages and disadvantages.

(15-year-old, female, Dnipropetrovsk Oblast, city)

“

During a certain period, students are allowed to try different areas of activity. If a student fails in a field, a psychologist works with him to determine whether there are barriers to achieving the goal, whether the activity is really “not his/her”. Each student should have a mentor who will help and assist him/her. After a while you can try again in a certain area to be sure for 1000%.

(20-year-old, female, Ternopil Oblast, city)



This is one of the components of professional training, which will never lose its relevance, because it gives the opportunity to quickly get a profession.

(14-year-old, female, Zaporizhzhya Oblast, city)



If a person has not yet fully decided what he/she wants to become, such institutions give time to think about what you want to connect your life with and acquire new skills.

(15-year-old, female, Dnipropetrovsk Oblast, city)

Most young people are quite positive about vocational education, but believe that it needs to be transformed, namely complemented with:

- ✓ financing,
- ✓ logistics
- ✓ quality advertising
- ✓ demonstration of benefits
- ✓ and break stereotypes about them.

The role of professional (vocational) education (higher education institutions/college, etc.) for the career development is seen by young people as the first step to master a profession.

As for higher education, young people agree that education is an important part of preparing for future work. Currently, the quality of educational services provided by higher education institutions in Ukraine, young people assess in average of 7–8 points (where 1 — low quality, 10 — very high). That is why according to youth, the main task of the university in the context of career counseling is to give the opportunity to learn the real work in the chosen specialty, and not just to study the theory. It is also important to teach a young person to solve real problems, find useful and unusual ways and solutions:



A university must produce a ready-made and professional specialist in his/her field.

(14-year-old, male, Khmelnytsky Oblast, city)



It would be good for universities to work with different organizations where students could undergo some training. Or for professionals (maybe even foreigners) to give lectures on the chosen field at the university. More cooperation at the international level would be beneficial.

(22-year-old, female, Khmelnytsky Oblast, city)



To train people who are able to think critically, have values, are able to solve non-trivial tasks, have high soft skills and hard skills.

(25-year-old, male, Donetsk Oblast, city)

Education must be practical, because at work we apply the acquired skills, not just theorems or laws.

The positive practices/formats/tools in the educational process that young people know and consider their implementation important in schools/universities for more practice-oriented learning that will help increase their competitiveness in the labor market are mainly training, gaming and interactive approach:



Competitive games, for example, when half of the students support one position and the other half — another. And each team must prove its point.

(15-year-old, female, Mykolaiv Oblast, city)



It is necessary to introduce more practical and laboratory classes and tasks in all subjects (especially natural sciences), as well as to give learning skills (a very valuable book by Barbara Oakley «Learning to Learn»), so that students focus on understanding information and optimizing learning time.

(17-year-old, female, Kyiv)



Inverted class, a discussion that encourages critical thinking. TED video with comments and discussion.

(27-year-old, female, Sumy Oblast, village)

Accordingly, the youth vision of career counseling at the University of the Future 2030 is to maximize cooperation with employers in order to gain real work experience during their studies, as well as the availability of career centers at the university to help build their own career strategy. Young people also point to mentoring and guidance by experts in selected fields.





Career counseling for the future in universities should include mentoring in a field that is close to each individual student, and demonstration of practical opportunities for the future career of youth.

(18-year-old, male, Vinnytsia Oblast, city)



From the first year there will be an opportunity to consult with labor market specialists in areas where my knowledge and skills are in demand, which I need to develop further.

(19-year-old, female, Dnipropetrovsk Oblast, city)



Good evening, dear students, on the air of the holographic projector I am the dean of the faculty of biotechnology and this «introduction to the profession». In ancient times, honing skills in a particular field was considered paramount, but modern research shows that polyprofile and adaptability are far more important than the skill alone. In the labor market, everything is according to the laws of biological evolution — the one who adapts better, survives. So your main task is to learn how to learn.

(18-year-old, Kyiv)

Thus, young people in Ukraine are confident in their future, ready for learning and constant change, but young people expect help in developing their talents, finding strengths and growth zones, and from higher education — more practice and preparation for the future. They also believe that educational institutions should prepare for employment challenges, conduct career counseling and open up to their own creativity.



Conclusion

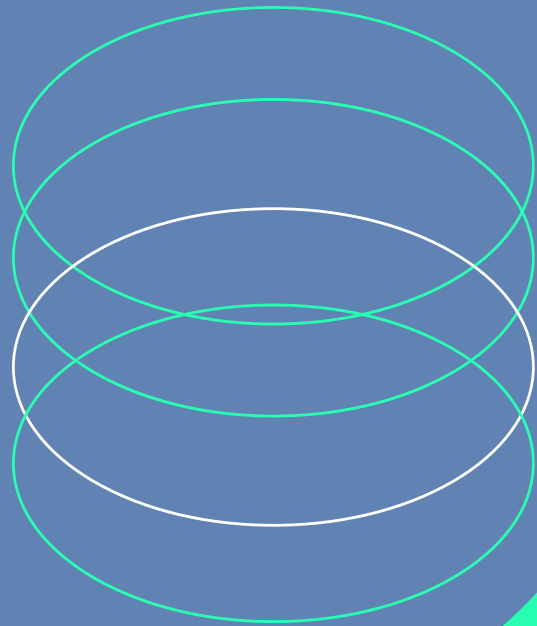
The education system and the culture of education will face fundamental transformations. They cover all levels of the education system. School education will be multidisciplinary, practice-oriented, personalized. One of its important modules will be career guidance work. Higher education institutions will gain more autonomy from the state. In the competition for students (who will increasingly abandon higher education in favor of alternative), they will be forced to change their own curricula according to the needs of successful companies.

In addition, alternative education will become increasingly popular, as it is the most convenient and least time-consuming way of lifelong learning.

It will be important that education remains a constant part of a young person's life, even after graduation, because given the variability of the world, the constant updating of knowledge and skills cannot be omitted.



Conclusions



Thus, having examined the youth opinion in the course of survey and focus groups, the vision of business and experts, having analyzed works of international researches, we can conclude that the key trend in the future of work 2030 in Ukraine and the world will be the rapid progress of technological innovation. This trend will be reflected in almost all work-related processes.

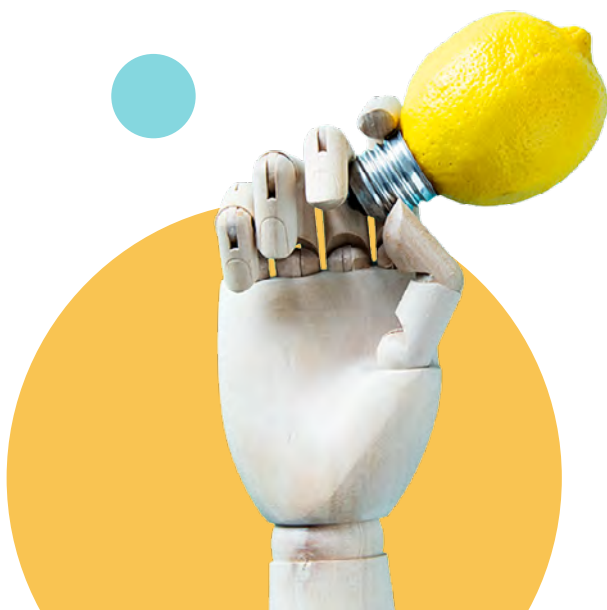
First, **the structure of the economy will change**. The result will be a flow of workplaces into the industries based on creativity and invention.

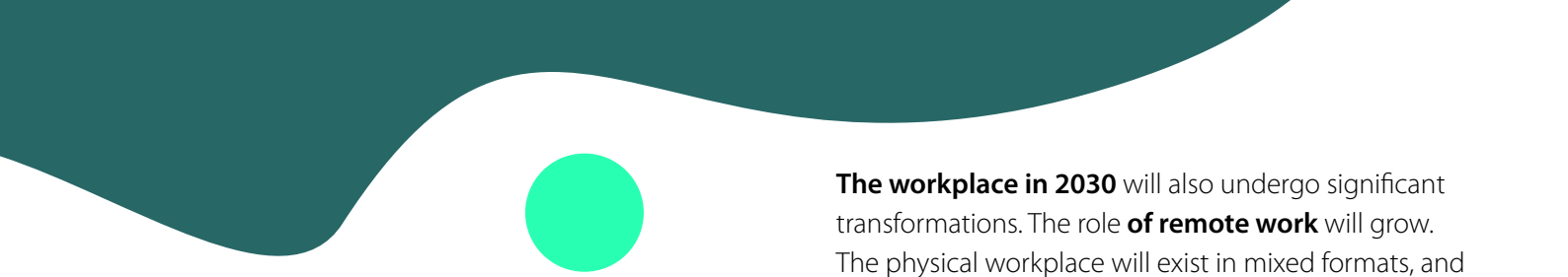
Second, **jobs will be created and disappear** because of automation and digitalization. As a result, we will see economic, political and social transformations, and sometimes upheavals.

Third, **routine professional tasks will disappear and new tasks** (mostly creative ones) **will appear**; the content and job responsibilities of many professions will change radically. And this, in turn, will require other skills of working staff, continuous training and retraining. On the one hand, people will learn throughout their lives, and on the other hand, we will have more opportunities for self-education and learning. The workplace will become more diversified and comfortable.

All these changes will be accompanied by a **change in organizational and managerial culture**. Its main characteristics will be: care for physical health and mental wellbeing of employees, moving away from hierarchical models to open structures based on teams (reduced control and management, increased openness and delegation, waiver of status); leadership will become horizontal and flow within the organization to the most competent employees; of particular importance will be the values of companies (including environmental).

The TOP-5 key trends in Ukraine also include the **reduction of the number of able-bodied citizens** due to population aging and mass migration abroad. This will lead to a shortage of highly qualified personnel in the labor market, increased competition between employers for staff, so the latter will be able to dictate working conditions. Particularly acute will be the lack of staff in manufacturing enterprises, which are currently unpopular among young people, and the IT sector due to the inability to compete with foreign companies.





These trends will certainly affect the structure of the economy. **Ukraine's industries will become increasingly technological** and, importantly, **interpenetrating** (e.g., bioengineering, agricultural technology, fintech services, etc.). And although the TOP-5 industries of Ukraine in the future look quite familiar - agriculture, engineering, IT sector, creative industries, metallurgy - in the future they will undergo radical changes. The nature of job responsibilities and skills required to work in them will be constantly changing.

A significant challenge for enterprises in the leading industries of Ukraine will be the **gap between education and technology development**, because in fact, the education system does not produce specialists with the necessary knowledge. Thus, companies will be forced to train staff to work with new technologies.

In turn, the development of technology and staff shortages will have a **positive impact on equalizing employment opportunities** for vulnerable groups: young people, women with children, people with disabilities etc. Remote work, modern communication technologies and the latest solutions in medicine will allow these groups to join the work on an equal footing with everyone. In the world of the future, any "difference" will be a competitive advantage, as it will allow businesses to better understand the diversity of the world and come to non-standard solutions.

In the world of the future of work, **youth will have broad employment prospects** as the bearer of the most modern qualities. However, in order to increase their own market value, young people already during their education learn to gain practical experience, engage in self-education and be interested in innovations in the industry.

The workplace in 2030 will also undergo significant transformations. The role of **remote work** will grow. The physical workplace will exist in mixed formats, and it will become more comfortable and better equipped. Employee will choose a convenient format of work - offline, online or mixed format. The employers will optimize the cost of maintaining the office through remote work of some employees, work in coworking and abandonment of fixed workplaces.

Employees will be able to work under a **flexible schedule**. And this will lead to a change in the traditional formats of cooperation between the employer and the employee. The most popular form of cooperation will be a contract, and freelance will become the norm of cooperation. Strong professionals will more often be able to apply for partner status (i.e. co-owner with a share of the company's total income). Thus, the format of the workplace, work schedule and the format of the employee-employer, the manager-subordinate relationships will become less formalized. Provision of the conditions for effective project implementation will be crucial.

The most **popular skills of 2030 will be**: the ability to learn, critical and creative thinking, the ability to self-control (stress tolerance) and the ability to use technology.

TOP-3 features of the ideal employee that a business would like to see: a team player with soft skills, able to learn / retrain quickly, a multifunctional / universal soldier.

TOP-3 features of the ideal employer from the point of view of the employee - a successful and effective structure (work in which you can be proud); structure with a minimum of bureaucracy, a high degree of respect and trust in staff; a company that invests in employee development / training.

Today, the **education system is largely responsible** for developing the skills needed to work in 2030. However, the latter is lagging behind to develop over time and requires a radical transformation at all levels (secondary, vocational, higher education). The format of education will change, in particular through a combination of online and offline education.

Recommendations to main stakeholder groups

To successfully meet the challenges of the future and turn global and local trends to our advantage, our experts, businesses and young people have developed a series of recommendations for key stakeholders in the future of work 2030.

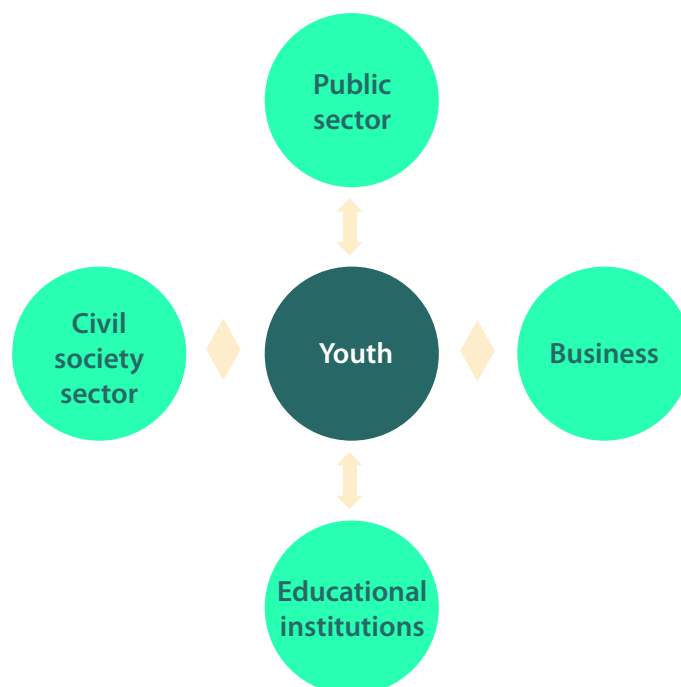
Major stakeholders and the work of the future

To prepare for the work of the future, it is necessary to clearly understand which social institutions will be involved in working with youth and will affect the formation of demands in the labor market. In this perspective, the main pillars to work with will be:

- ✔ **Business** — as employers, on the one hand, and as a subject of quality vocational education in the work environment, on the other.
- ✔ **The public sector**, which performs the functions of rule-making, regulation of relations in the fields of business, education, youth work, as well as employment.
- ✔ **Educational institutions and organizations** (formal and informal, public and private institutions of secondary, higher education, lifelong learning institutions), which not only form the quality of human capital, but also act as the workplace.
- ✔ **Youth and youth organizations** — the main social group, which:

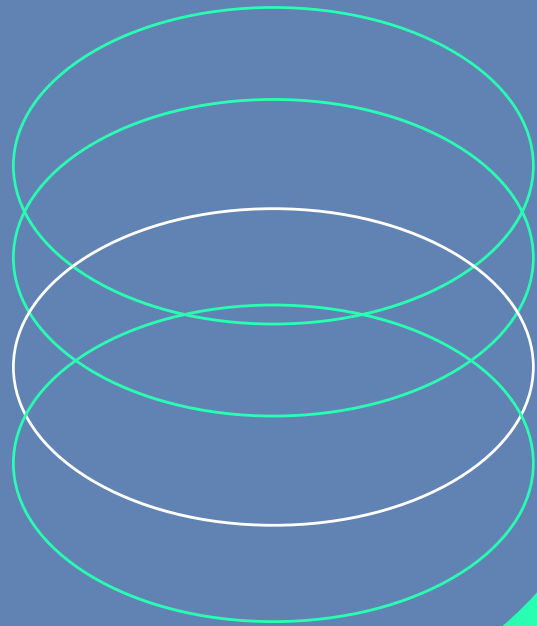
- will supply its human capital to the labor market, will create jobs in the next decade,
- is (and will continue to be) a consumer of educational services
- will require the creation of certain conditions and opportunities from employers.

Only a comprehensive, systematic approach to working with human capital, cooperation of major stakeholders will allow to properly prepare for the challenges of working in a changing world.





Recommendations



Business and work of the future

Business has been repeatedly named as the engine of progress and the most flexible and efficient structure that can make decisions quickly and efficiently. As for the future of work, business needs to act now to remain the driver of transformations until 2030.

In order to maintain their competitiveness and efficiency, business structures, as well as other employers will have to work not only to improve their own product/service, but also to attract and develop staff.

One of the main recommendations for companies is the need to **assess the impact** of job transformation on the current environment. Employers should update their **crisis management strategy** to respond more quickly and effectively to crises that may arise in the future. They need to be ready to adapt — to develop a strategy to address these issues in the most cost-effective way

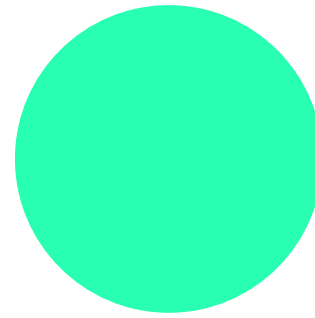
Companies should also not only pay attention to work with young people, but also employ them, teach them and help them become excellent professionals in the world of work of the future.



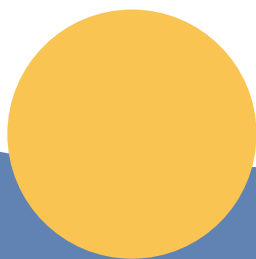
Business process optimization

- 1) Companies should move to **horizontal management in the company** through the systems of Agile, Scrum, etc., because young people in 2030 will seek creative freedom and equality with the leader. In addition, a person-centered culture of leadership should be developed in this context. It is worth expanding the opportunities of informal and formal leaders in the company and improving communication, listening to employees, emphasizing diversity, fairness and inclusiveness. Also, the new world of work requires the protection of workers, so it is necessary to rethink the dismissal and its consequences.
- 2) Employers need **to start implementing project cross-sectorality** — that is, to look for connections between projects, to create a network structure where several teams can unite into one for a joint project. They also need to give employees the opportunity to try themselves in other projects of the company, because it may be an ideal place for your employee in another project or direction of the company, but not outside it.

- 3) Companies should **encourage diversity in the team** — ethnic, racial, age, gender — this will enable to look at current challenges from different angles and offer non-standard solutions.
- 4) Businesses should pay attention to the **digital infrastructure of the workspace**, i. e. optimize work processes for remote work, which in turn will open equal access to future work for people with disabilities, young parents, young people from small villages and more.
- 5) Companies should **minimize formalization and bureaucratization** in the company, because in 2030 these factors will repel youth from employers. Instead, these formal aspects and activities should be automated, Slack, Trello and other platforms should be implemented.
- 6) With the change of the concept of the workplace, the business should **reorient the offices in the format of coworking and open spaces** with «hot desks» — that is, workplaces not fixed for a particular employee. This will save companies money, because there will be no need for a workplace for everyone, and there will be added variety for the employees — the opportunity to work one day at a desk by the window, and the next — at a round table with other employees, for example.
- 7) Young people expect the company to participate in solving environmental and social problems of society, leadership positions on urgent social and economic problems. For the generation that will enter the labor market in 2030, the company's **corporate social responsibility** and the company's impact on the environment are important conditions.



- 8) Companies should create **platforms, clubs for professional / personal interests**, where professionals will be able to communicate with like-minded colleagues and develop their professional skills. This is important in a context of increased focus on teamwork and increased informal communication.
- 9) **Employers have already tried during lockdowns, and now they will have to introduce a flexible work schedule**, which is the future of 2030. After all, the main requirement of the new generation - a reorientation to the result of work, rather than the number of hours worked.
- 10) Given the general trend of humanization of the economy and business, the demands and expectations of youth regarding the future workplace (remote work, increased access to health care and psychological support, investment in education, etc.), companies need to develop **programs to support physical health and mental wellbeing**. One of such steps could be the introduction of **separate rooms of silence**, because they are no less important than the rooms for negotiations — employees will be able to create, relax or use as a space for reflection.





Training, retraining and certification training of employees

- 1) Given the obsolescence rate of the knowledge gained in the process of professional education, companies must build their own systems of training and skills development in the workplace, to introduce reimbursement programs for educational costs of employees. As continuous **training, qualification and retraining of employees** are a necessity, access of employees to such opportunities must be assured, for example, through corporate accounts from the company, on online education platforms such as Coursera, edX, Udemy, Prometheus, EdEra, etc., especially encouraging courses which develop the skills of the future 2030
- 2) As part of the human resource management strategy, companies should determine which **skills (hard and soft)** will be needed in the future. This will allow organizations to understand their needs, and will be a good reason to work with higher education institutions in order to declare these skills and knowledge to them and in future vacancies, so that educational institutions could in turn adapt their curricula accordingly.
- 3) Understanding the needs of the business as regards the future skills, the business **should assess the current existing and lacking skills of employees**⁴⁹. Conducting such an «inventory» will help draw attention to the skills needed to incorporate into training and professional development program.
- 4) The task of a business is to be an organization that is constantly self-learning. Therefore, companies will **create their own curricula** and implement new formats of corporate education, namely: online courses, adaptation courses for new employees, corporate universities, workshops, business games. **Applications such as digital assistants, special simulators or computer simulations** will also be popular. Such technological tools can be widely available, and they will help to assess how a person acts in specific situations, as well as give young people the opportunity to try themselves in simulated tasks that they will face during work. In addition, such simulations can be in offline format as well. And the results of the employee's development can be tracked online
- 5) In the future, companies should **change their approach to older employees**. Instead of firing and offering to retire, they should be encouraged to become mentors or coaches to share their experiences with youth. This will reduce the company's costs for training new young employees in the future, as well as enable the company's knowledge and skills invested in the company not to «go» with them.



⁴⁹ 4 Strategies To Prepare Your Employees For The Future Of Work (The McQuaig Institute 2019)



Employer brand development and interaction with other stakeholders

1) Companies should form and communicate

a request to the state and society regarding the necessary qualities and qualifications of the future employee. For example, they can directly participate in the development of professional standards of training and **curricula** of higher education institutions, which will help make these programs as close as possible to the needs of business, and educational institutions will be able to teach relevant information..

2) To improve the business education system, employees

should be encouraged to act as speakers during lectures and workshops in specialized educational institutions, so that practitioners can share with young people information that they will need for future work.

3) Since in the future **young people may work for several employers at the same time,**

employers themselves should reconsider their attitude to this course of events and perceive it as an opportunity — because it shows that the employee is a multifunctional person, able to work and find common language with different people, is competent in several areas and is flexible.

4) Companies should review their youth recruitment criteria and ignore work experience

(this is the primary request from young people). Sometimes the same “experience” can be a young person’s informal activity, volunteering, possession of the necessary skills, the desire to develop in principle, and not just entries in the employment record book about professional experience.

5) Since most young people are convinced that in the future there will be no difference between professions that girls or boys will choose, because **gender and sex should not be related to professions**, companies must also position their vacancies and select employees for them without any gender stereotypes, and evaluate candidates only on the basis of skills, experience, etc.

6) **Initiate the creation of alumni associations** (following the example of leading European universities), which will be joined by employees of the company. The members of association could provide consulting support to students, become donors, propose changes to improve the quality of training within the institution.

7) **Companies should inform young people about promising sectors of the economy** (in particular, energy, agriculture, etc.), dispel myths about the prestige/non-prestige of professions, specialties, promote industrial worker jobs among young people, including through social networks. The message of the companies should be about the existing advantages (the latest technologies, internships abroad, the level of remuneration) of jobs in Ukraine and employment opportunities at the place of residence.

We live in a rapidly changing world, and thus the nature of work will also continue to change and no one knows exactly what the world of work and jobs will be in the future. But we know certain skills and competencies that employees will need in 2030. So businesses can focus on preparing their workforce for the uncertain future: teaching current employees soft skills, encouraging curiosity and innovation, and developing a corporate culture that is sustainable and has a solid foundation for learning and development. Focusing on these aspects now will help save the business in the future so that when it comes, employees and the company are ready for it.



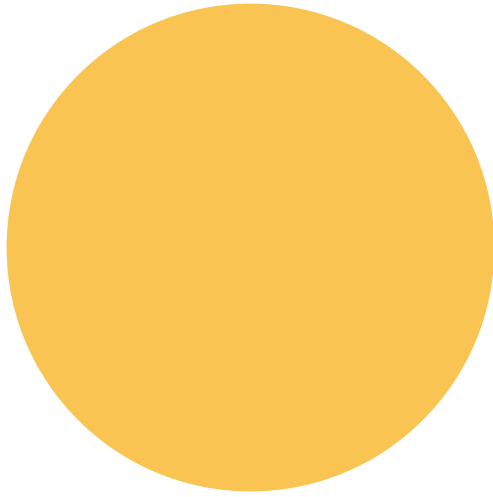
Public sector and the work of the future

The role of state institutions in preparing youth for future work should not be underestimated. It is on the shoulders of the state that the mission of initiating effective «change from above» lies. Experts advise government agencies to include in the Country Development Strategy and Economic Development Strategy such goals as «**Development of talented youth**» and «**Human capital development**», which will be the basis for developing strategies and programs for working with youth. The consequence of these decisions may be the allocation of a separate structural unit in the state apparatus, which will be solely responsible for the development of human capital. The recommendations below will become valuable priorities and directions for further discussion and implementation at the national, regional and local levels in accordance with the areas of competence of the responsible authorities.

- 1) Given the orientation of young people to obtain specialties that are popular and highly paid in the labor market, there is a need to **implement state and regional programs aimed at encouraging youth to choose professions for industries that ensure the development of the national economy** (including heavy and mining industry, agriculture, etc.). And also it should form the basis of revision of the Occupational Classification taking into account the trends of work of the future specified in this research.
- 2) Necessary **state support in the creation of digital infrastructure**, including accessible and high-quality Internet, including in rural areas. This will open access to online public services and the labor market for people with disabilities; persons caring for children or sick family members; young people from regions with few jobs

- 3) Public authorities need to change the image of the state as an employer, **increase the attractiveness of the civil service among young people** in order to attract to the public sector young people who care and are willing to and have ideas on how to change Ukraine. And also - it will increase trust in state institutions
- 4) The state should focus on the challenges that young people are facing in rural areas. Here it is necessary to promote the idea of regional projects, regional business, implementation of business initiatives at the level of local communities. This will improve the **infrastructure in rural areas** (schools, kindergartens, cinemas, medical institutions) in **order to create attractive living and employment conditions for youth**. Another priority is the development of **career guidance in rural areas through the involvement of companies** with branches or representative offices in those areas, and encouraging businesses to create new jobs so that in the future there are jobs for youth and there is no need to go to big cities. It is worth helping villages to find the same uniqueness and professional specificity, so that young people notice it and have a desire to develop. That is why it is necessary to stimulate business to employ young people as the most powerful and creative part of the population.





- 5) The state must protect jobs, including through the introduction of **temporary incentives and rewards to companies for saving people's jobs or fines for mass layoffs due to automation (so-called «robot tax»)** to provide longer transition periods for people to adapt and retrain. The state can promote the development at the national level of the **idea and practice of volunteering for Ukrainian youth**, because in the future doing work on a volunteer basis will allow to gain practical experience and skills that companies need. And then the lack of work experience in the resume will be compensated by the experience of volunteering.
- 6) **The state can also focus on supporting youth entrepreneurship**, including through better access to markets, finance and skills, and can have significant benefits for economic sustainability, innovation and job creation in the state. Significantly improving such support and using it as a thoughtful strategy for shaping future work can improve results for many people from all social groups.



Work with educational institutions

The state should focus on reforming the education and career guidance system to take into account future labor market trends, strategic directions of the country's economy and the demands / interests of companies in the national and regional labor market. This requires the following steps.

- 1) The state must initiate changes in the goals and content of education. Emphasis should be placed on the formation of skills and competencies that will be in demand in the future, so it is important to **correlate the system of professions for which higher education institutions train with the projected demand for professions in the next decade and analyze skills to be developed**. New courses should appear in schools — for example, on the development of critical thinking, project management, leadership, self-knowledge, the development of adaptive, emotional intelligence.



2) The state should update **career guidance in the school with a focus on the future, starting with the lower grades**. Such programs should not frighten young people that one or another profession that may have been a child's dream will disappear in a few years, but convey the fact that most professions will disappear not in form but in content, i.e. will require qualitatively new skills. For example, public relations specialists will not be producing press releases and writing texts, but producing personal images online; and physicians refocus from diagnosis and treatment to predicting the patient's condition.

3) **Education systems need to be reformed** — from pre-school, primary and secondary education to vocational training and higher education — as it will determine how the next generation of workers will find their place in future jobs under different scenarios. To do this, it is necessary to form training programs taking into account the skills needed for future employees — both digital and «human», including business skills and investment. It will also require a reconsideration of teaching by combining offline and online methods, professionalization and increasing the role of teachers as educational leaders.

- 4) The state should not only ensure the **autonomy of higher education institutions** but also encourage higher education institutions to be **financially independent, following the example of Western counterparts**, to be able to «earn», create their own products and attract investment.
- 5) Today, more than ever, the development of a national program to increase the **authority and respect for the profession of teacher and lecturer**, is topical. This is an integral step towards attracting the most talented youth to education. It is necessary to work on raising the level of qualification and motivation of teachers, teachers and to take care of a decent salary of the pedagogical staff of educational institutions of all levels.



Educational institutions and the work of the future

The management and teachers of existing educational institutions should prepare for radical, revolutionary changes, as the education system needs a complete overhaul for the quality of those educational services that society needs. In this regard, it is necessary to reconsider the principles of providing educational services, content and forms of training — this, in turn, requires additional training and retraining of employees in the field of education.

Transformation of goals and roles of education

- 1) Taking into account the trend of disappearance of a number of professions due to automation, educational institutions need to **constantly conduct a review of educational programs and specialties with the involvement of business representatives, and include a practical component.** Rapid technological development requires the introduction of interdisciplinary educational programs and reduction of training time. Therefore, more practical components need to be included in existing educational programs.
- 2) Universities can change their role in the context of future work in 2030 and **become centers of professional development**, so that students do not perceive obtaining a diploma as an end point of interaction with a higher education institution, but one of the stages of a permanent “partnership”. To this end, universities should implement a modular system open to all those who need knowledge and skills in a particular module, based on a **format combining online and offline learning** (requirement of young people and those undergoing advanced training or retraining in an educational institution). In addition, it is better to use offline for discussions and rethinking of the acquired knowledge through teamwork.

- 3) It is necessary to build and **develop career centers in educational institutions** — structures responsible for career guidance and employment, that will really help young people prepare for future work by helping to learn about themselves, understand strengths and growth zones, through direct career consultations in higher educational institutions
- 4) **Career guidance** should be introduced in school not in graduation classes, but much earlier. Career guidance can relate to two areas: professional counseling (informing about professions and current requirements for them, work to learn about their strengths) and the promotion of working professions/individual industries (industry, agriculture, retail). It is worth adding the contact component (visits to enterprises, elements of practice). An important aspect of career guidance for students should be **working with parents, namely, advice for parents on successful models of career guidance** for their children, the promotion of modern professions



5) School education should change its role and tasks as one of the institutions that prepares young people for the future labor market. Namely — focus on such tasks as: to help young people understand their strengths and talents, to help them try themselves in different directions and decide on a potential future profession, to develop skills of adaptability and creativity. As for skills, it is worth paying attention to the humanities (art, literature, logic) — it develops young people's ability to make decisions, look for non-standard ideas, look for causal links between topics and learn to solve problems. And given that the popularity of higher education is declining, schools will offer courses that should prepare students not only for higher education, but also for a career, without entering university.

6) Teachers and lecturers should change their **role of a teacher to that of mentor/coach** in order to reveal the individuality of a student instead of simply mastering the material. They should be **constantly trained**, and they should help to change the concept of "curriculum" in their institutions from "predefined and static" to "adaptive and dynamic". As soon as new trends or technologies emerge, new curricula should be easily and quickly introduced into learning. It is important that teachers have experience in other organizations: business, public and governmental organizations, this will add variety and practicality to their work.

7) Educational institutions, especially universities, should be more open to cooperation with business and other employers, initiate joint projects, such as mentoring from business representatives, lectures, visits by young people (mostly students) to enterprises, encourage businesses to open vacancies (such as internships) for assistant students at enterprises during the holidays. It can also be through collaboration in curriculum development or graduates' employment.

8) Given the pace of technological change, educational institutions should provide close cooperation with national and regional companies in the development of dual education, the creation of technology parks, laboratories, creative hubs, accelerators (such as UNIT. City), the introduction of joint educational programs and more. In these institutions, young people could try themselves in a certain business, as well as acquire entrepreneurial skills.

Instead of fearing future change, with support and encouragement, educators can develop new innovative ways to engage and educate young people. Technology and digital skills give educators and young people this opportunity. Over time, teachers will be able to make sure that young people in educational institutions develop into individuals, not just potential employees.



Youth, educational organizations and the work of the future

Throughout its history, the civil society sector has ensured the performance of those functions (roles) demanded by society, the implementation of which the state and business have failed to ensure (for one reason or another). Therefore, in solving the problem of preparing young people to work in the dynamic world of professions of the future, civil society organizations are called to help the state, business, educational institutions to best cope with the task in the interests of all stakeholders. In this context, the civil society sector is recommended:

- 1) Civil society sector, taking into account the existing demand of young people for new knowledge and skills, which in modern conditions are not provided by the system of vocational, professional higher and higher education, can take on the **role of organizer and promoter of non-formal education** (through seminars, workshops, trainings, webinars, fairs, exhibitions) aimed at developing skills that will be in demand in the workplace in 2030 — the ability to learn, creativity and initiative, analytical, critical thinking, as well as stress tolerance, resilience and flexibility.**
- 2) Civil society organisations (CSO) can initiate **stakeholder engagement in addressing issues of preparedness for the future, including lobbying for the realization of digital rights and opportunities for youth** (particularly for the vulnerable segments of population) and conducting **research to diagnose the situation of human capital and the labor market.****
- 3) Youth organizations can together with the state develop volunteering** and form a social norm according to which participation in civil society organizations, volunteer projects will serve as an additional source of information for employers/partners/employees about the experience and social capital of employees/companies, about common/different values.
- 4) CSOs can actively initiate projects for young people, organize educational activities (trainings, lectures, business games) to develop the skills necessary for future work** (critical and problem-oriented thinking, search, analysis of information and optimal decision-making in uncertainty) and career guidance.



Youth and the work of the future

The desire to prepare for the future already today motivates a significant part of young people to work in this direction. However, students often do not have a clear plan for personal development.

However, working on current challenges, thinking about their place in the future world and moving intuitively, make the right choice, including expert advice! (For example, in favor of following one's own vision and interests, in favor of developing creativity!) Only a small number of participants (mostly older age groups) clearly know what they want to do and generally understand what they need to do.

Young people who want to prepare for the labor market and be competitive in a changing world in the next ten years are recommended, above all, to learn to be flexible, active, open to constant change. They complement the list of recommendations for future success with the following points:

Improving skills of the future and developing personal potential

- 1) Young people need to analyze their strengths and weaknesses, and focus their efforts on developing key skills of the future,** including creativity, analytical thinking and innovation, stress tolerance, the ability to learn (and the desire to learn throughout life) — and not limit themselves with formal programs and traditional learning. After all, it is worth realizing that many jobs will disappear, but those young people who will have the skills of the future and will be able to quickly retrain — will easily find a job.
- 2) The work of the future also requires the development of the skill “lifelong learning”, the constant acquisition of new knowledge and skills.** It is best to study through mass open online courses, short-term thematic courses, attending master classes, participation and volunteering in various projects, reading professional literature/news in areas of interest.



- 3) Fluency in foreign languages is the basis for successful intercultural communication, because one of the trends is **increasing globalization**. Accordingly, young people with highly developed language skills will be in high demand; In addition, language learning develops memory and other cognitive skills
- 4) Youth should work with career counselors trained by the Career Hub in Ukraine and develop a **personal professional development plan. This will help to develop their key ability (talent)** and related skills (including the use of digital opportunities), which allow them to more effectively realize in their career.
- 5) **Young people should pay attention to psychological well-being, because with the development of technology the amount of stress will increase.** Being able to track any emotional discomfort in advance is important because it can affect career development and health.

- 6) For a successful life in the future 2030, **young people must** cultivate creativity, learn to use the latest technologies, develop leadership skills and flexible thinking, because it is focused on the mindset growth.

When thinking about the future of work in the world in 2030, it is difficult to derive a single formula for success. However, learning the necessary soft skills can help grow and create space for creativity. If robots are really following on our heels, we should focus on developing those human qualities that technology can never replace.



Afterword

We have reached the end of an exciting journey into the **world of Work of the Future 2030**.

What did we understand? That the world is changing. To remain competitive, we must make significant efforts. And the main are on self-improvement, following progress, changing the philosophy of education.

It is also important to constantly align activities of business-employees-authorities-educational institutions-civil society organizations to develop a strategy to synchronize efforts to form a match between the demands of employers and employees in the labor market of the future.

At the same time, any strategy is based on a forecast — an attempt to predict the future. But will we be able to make such predictions in an era of comprehensive, radical and intense changes? Can we build strategies for 10 years, while the business has switched to strategic planning with a perspective of 1–3 years, because otherwise the planning will quickly lose its meaning?

Previously, institutions preferred long-term planning, but are now moving to semi-annual plans. This indicates the complexity of long-term forecasts.

‘Nevertheless, the experts of our research are united: **attempts to predict the future, to forecast, to build strategies are more important today than ever. After all, how to become successful in the future, if you do not prepare for it now?**

Like everything in this world, forecasting must be complicated. **Our predictions should be multivariate** (if we used to build 3 scenarios, now we should work with 30), **and strategies should be multiple** (i. e. covering each of the possible scenarios). **Namely, the forecasting should become spiral** — that is, it should be reviewed at regular intervals, adjusted and adapted to new changes.

The future is uncertain, the scenario of the future is unknown, but based on trends and the information we have, we will be able to anticipate and mitigate the maximum number of risks that may wait for us in the future, as well as create room for new opportunities and prepare for 2030.



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CSR Ukraine is an expert organization in Ukraine, which unites more than 40 companies, with which it has been promoting the principles of sustainable business and social responsibility for ten years, implementing its own social projects, providing consultations, workshops and trainings on CSR issues and non-financial reports for both private companies and public authorities. CSR Ukraine is a national partner of CSR Europe (Brussels, Belgium) and the World Business Council for Sustainable Development (Geneva, Switzerland).

Career Hub is an expert platform of the CSR Ukraine, which brings together young people, employers, government and educational institutions for career development of young people — from school to successful self-fulfillment in the profession.

UNITY is a five-year program aimed at developing and supporting the Ukrainian youth, fostering a friendly environment in which they can realize their dreams, ideas, and visions of their country's development. By adopting an approach centered around the young generation — an approach not just for youth, but together with them — UNITY promotes youth innovation and entrepreneurship; more active participation in decision-making processes; and youth involvement in resolving issues at the national and local levels. UNITY aims to enhance the potential of Ukrainian youth and become a driving force for pluralism and respect for diversity. UNITY engages youth in developing and implementing projects and initiatives and conducts research to inform youth policy and bring effective and sustainable change.

