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Methodology

Key sources of information:

- State Tax Service;
- State Statistics Service;
- Ministry of Economy of Ukraine;
- Ministry of Science and Education of Ukraine;
- Ministry of Digital Transformation;
- National Bank of Ukraine;
- Tech Ecosystem portal;
- Korn Ferry;
- Survey of IT companies by IT Ukraine Association and Top Lead;
- Survey of IT professionals by dou.ua;
- Interviews with IT experts and IT professionals.

Approach to data analysis:

- The analysis included companies with the following KVED (Ukr. Classifier of Economic Activities) codes:
 - 58.21 Computer games publishing;
 - 58.29 Other software publishing;
 - 62.01 Computer programming;
 - 62.02 Informatization consulting services;
 - 62.03 Activities related to computer equipment management;
 - 62.09 Other activities in the field of IT and computer systems;
 - 63.11 Data processing, hosting and related activities;
 - 63.12 Web portals.
- Short-term projections and forecasts are mostly based on the current trends.

Survey of IT companies:

- The survey was conducted in two stages and covered **147** IT companies, of which **116** provided answers to all the questionnaire questions.
- Survey method: self-administered online questionnaire.
- Period:
 - Stage 1: October 26, 2022
 - Stage 2: late November 2022
- The invitation to take part in the survey was sent through targeted e-mail messages to the management of the 120 IT companies that are members of IT Ukraine Association and 13 regional clusters:
 - Kharkiv IT Cluster
 - IT-Association Vinnytsia
 - Odesa IT Family
 - Kyiv IT Cluster (Kyiv and the Kyiv region)
 - IT Dnipro Community
 - Cherkasy IT Cluster
 - Ternopil IT Cluster
 - Konotop IT-Cluster
 - IT Cluster 'Chernivtsi IT Community'
 - Chernihiv IT Cluster
 - IT Cluster Khmelnytskyi
 - MARIUPOL IT-CLUSTER
 - Lviv IT Cluster

Should any clarification concerning the research methodology be needed, please let us know via info@itukraine.org.ua.

Opening Statement



Konstantin Vasiuk
Executive Director at IT Ukraine Association

February 24, 2022 was a turning point for Ukraine and ground zero for a new historical shift in the development of the entire world. The war brought numerous challenges and trials, but under such difficult conditions, the IT industry, along with the entire country, has proved to be remarkably resilient.

It remains the only export industry in Ukraine that operates to its full capacity in wartime, holds the country's economic front, actively assists the army, and supports a powerful volunteer movement.

According to the results of the ten months of 2022, the IT industry brought USD 6 billion in export revenues to the Ukrainian economy and achieved a 10% growth compared to the previous year. These results were made possible due to the effective implementation of business continuity plans, timely relocation of teams and diversification of development centers in Ukraine and abroad.

IT companies continue to operate and implement projects even with blackouts, pay taxes in a timely manner, increase their presence in the global market, and attract new customers. It is thanks to such unique skills and experience that the Ukrainian IT industry has the potential to become the main driver of Ukraine's post-war reconstruction.

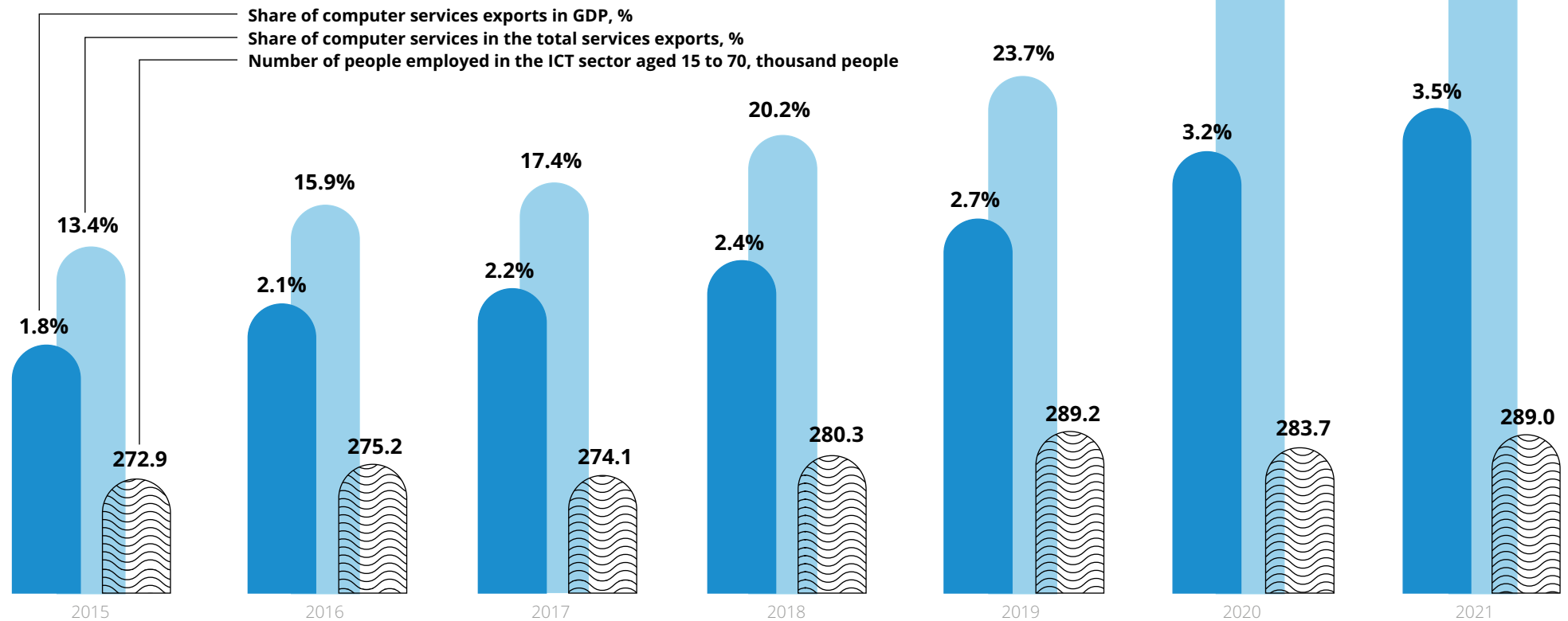
With an optimistic view of the future, on behalf of IT Ukraine Association, I invite you to read our annual study on the Ukrainian IT industry. This year, the study brought together even more partners and all Ukrainian IT clusters. Together, we keep the record the industry's history at the most difficult time for Ukraine and once again prove that any challenges can be turned into opportunities! We also express our gratitude to Ukrainian IT professionals for continuing their daily selfless work, volunteering, protecting us in cyberspace and on the front lines.

**Together we will prevail!
Glory to Ukraine!**

IT in Economy
line economy

IT in the Economy of Ukraine

Ukraine's tech industry is one of the leading sectors of economy, growing rapidly every year. Specifically, over the past 6 years, computer services exports have seen an increase from 1.8% to 3.5% GDP share, and that of services exports has gone up from 13.4% to 37.8%. The ICT sector* provides jobs for 289 thousand people, which accounts for 1.9% of all employed persons.



Exports of IT Services

The IT sector is mostly export-oriented. Over the past 6 years, the volume of exports of computer services has been growing annually by an average of 26.8%, amounting to USD 6.9 billion in 2021, which is USD 0.1 billion more than the projected estimates.

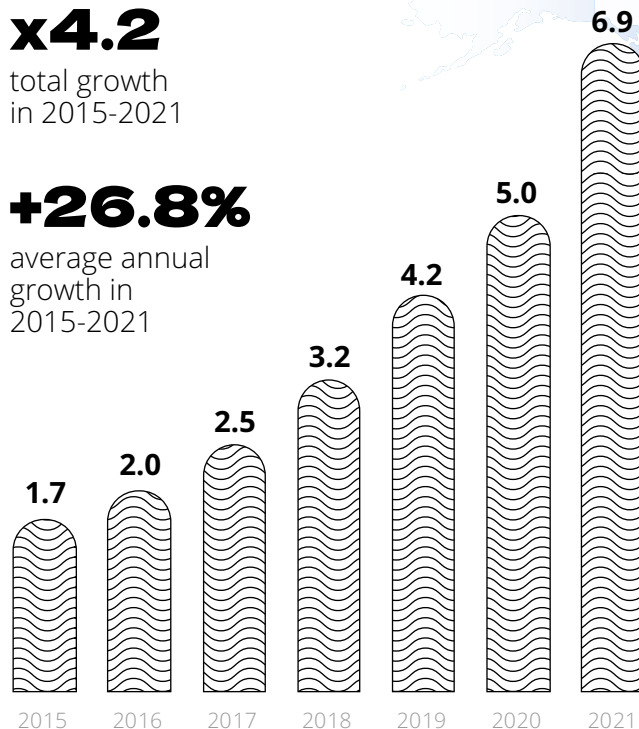
Volume of computer services exports, USD billion

x4.2

total growth
in 2015-2021

+26.8%

average annual
growth in
2015-2021



Top 10 partners in the export of computer services in 2021, USD million

2,728.4

USA

697.6

UK

481.1

Malta

334.1

Israel

287.6

Cyprus

285.4

Switzerland

268.6

Germany

145.5

Netherlands

130.7

Estonia

126.1

Canada

IT Companies

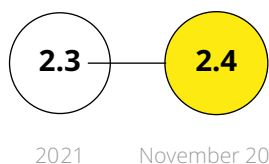
Data on the number of IT companies in Ukraine vary significantly. According to the State Statistics Service, there were 8.8 thousand active legal entities involved in IT-related activities according to their KVED codes (Ukr. Classifier of Economic Activities) in 2021. However, companies often include several legal entities, therefore the Tech Ecosystem portal estimates their number at 2.4 thousand IT companies as of the end of November 2022. According to experts' estimates there are about 1.8-2.0 thousand active companies in the employment market. The market shrank significantly in 2022 after the full-scale invasion.

Estimated number of operating IT companies

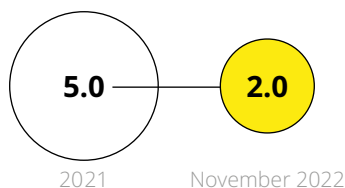
Number of operating legal entities with IT-related KVED codes according to the State Statistics Service, thousand legal entities



Number of IT companies according to the Tech Ecosystem portal, thousand companies

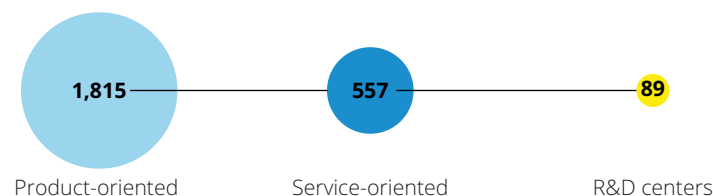


Number of IT companies actively hiring*, thousand companies

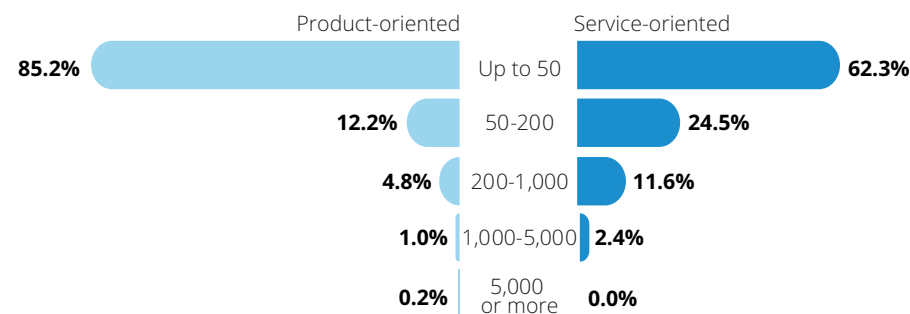


IT companies by type according to the Tech Ecosystem portal

IT companies by type



IT companies by number of employees

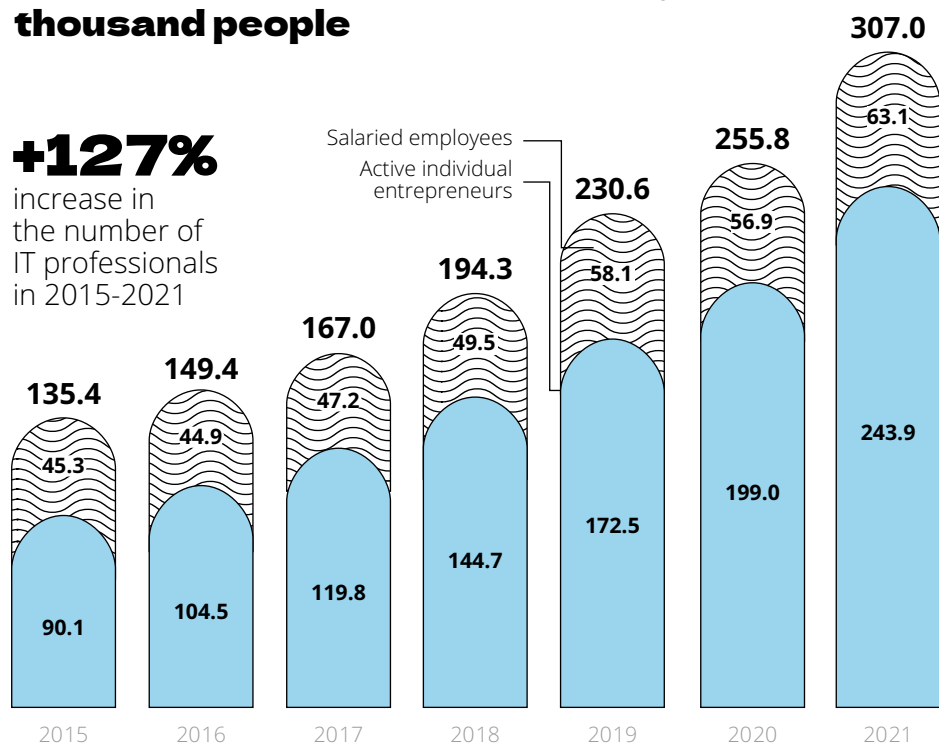


IT Professionals

The rapid growth of the IT sector leads to an increase in the number of IT professionals. Since 2015, their number has increased by 127%, mainly due to the growth of the number of active individual entrepreneurs (FOP), because companies find this type of relations most convenient.

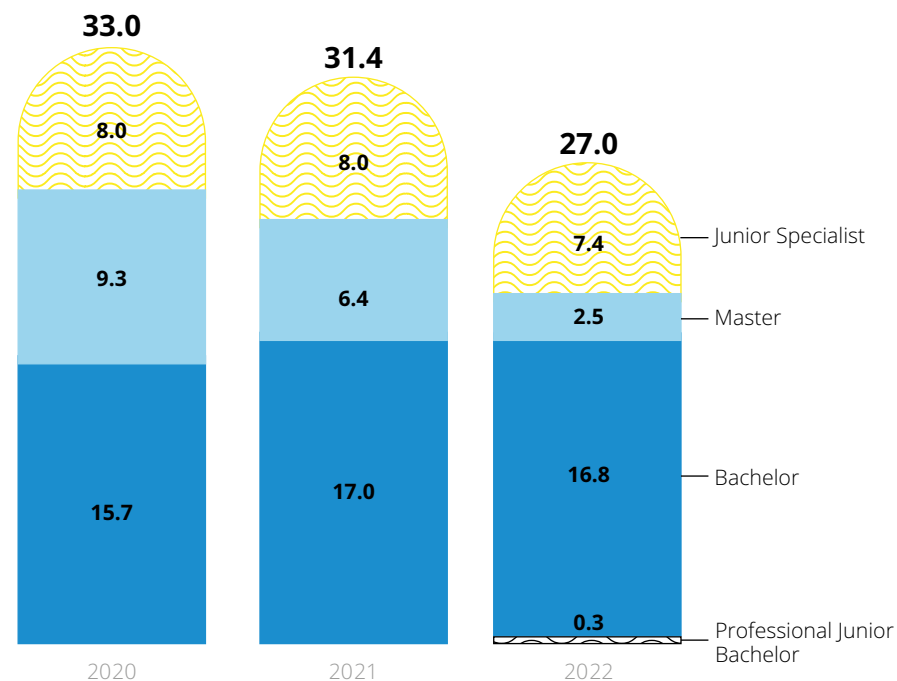
Number of IT talents in Ukraine, thousand people

+127%
increase in
the number of
IT professionals
in 2015-2021



Each year, traditional educational establishments award bachelor degrees to 16-17 thousand people with IT-related majors. In 2022, the number of graduates decreased due to full-scale invasion, because some students were forced to suspend their studies.

Number of graduates with IT degrees, thousand people

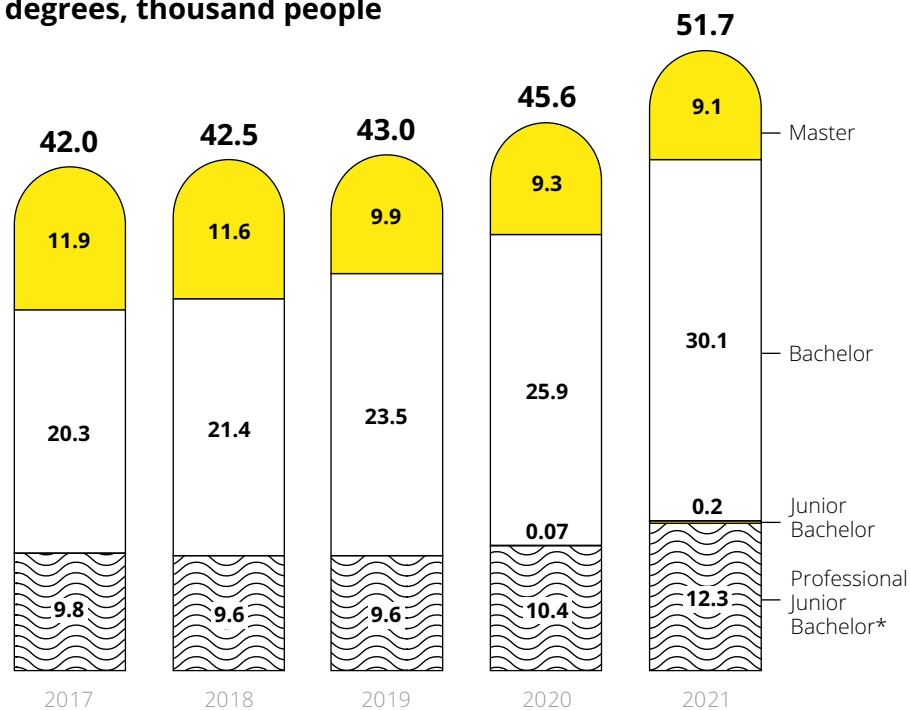


IT Education

In 2021, almost 1200 higher educational establishments trained students in Ukraine. More than 300 of them offer various IT-related degrees and majors.

IT education will prepare up to 50 thousand people annually

Number of students entering universities by educational degrees, thousand people



However, formal education cannot cope with all the needs of the IT industry, so more than half of the professionals need additional training. In Ukraine, it is provided by IT schools and courses.

Challenges of the development of traditional IT education

- Lack of responsiveness of educational programs to the real needs of the industry
- Insufficient number of teachers with the necessary skills
- Lack of regular curricula updates to align them with market needs
- Lack of practical tasks during training

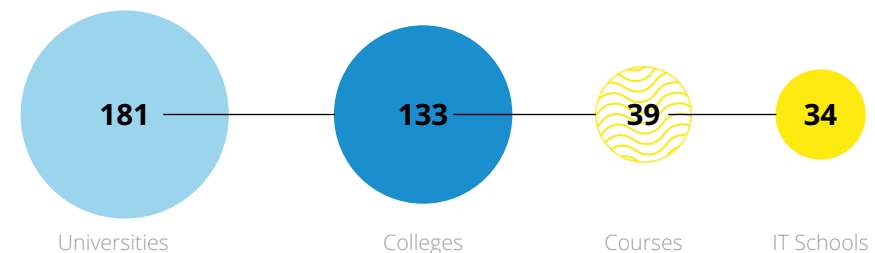
More than 50% of applicants

have some additional IT training along with a university degree

20-30% of IT professionals

enter the sector without higher IT education

Institutions that provide training in IT by type



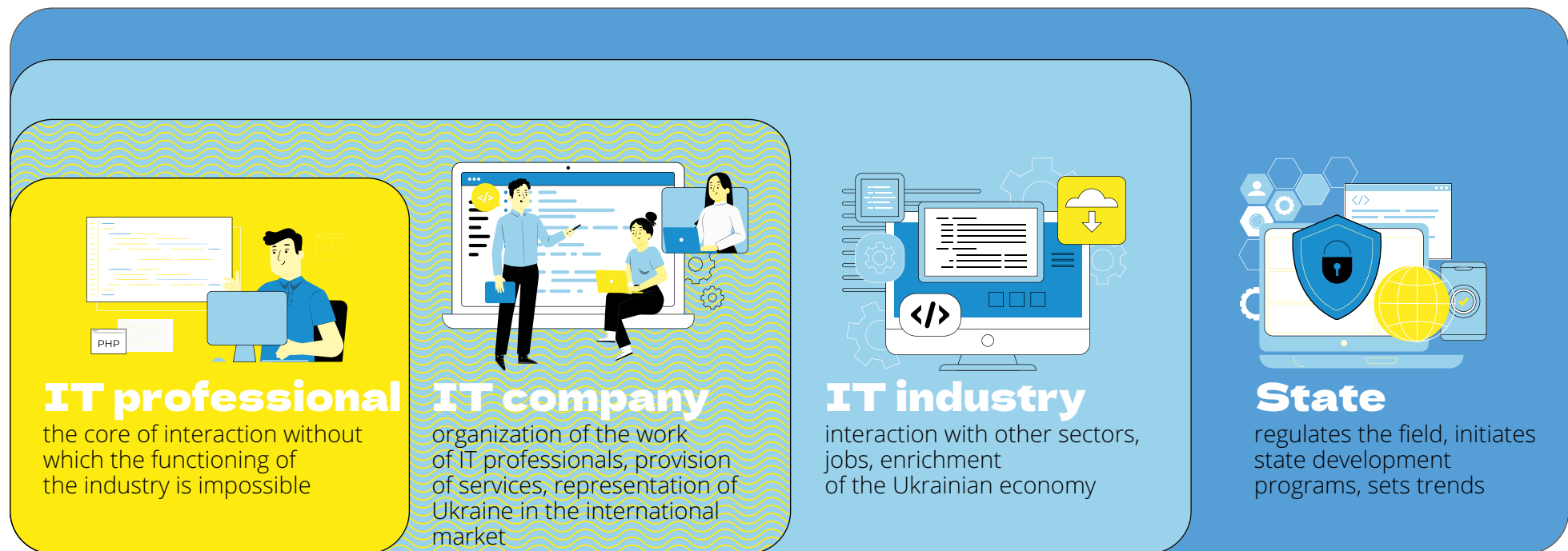
Synergy of Stakeholders in IT

Synergy
of
Stakeholders

Synergy of Stakeholders

The IT industry does not exist separately from the Ukrainian economy and state regulation, and an IT company cannot exist without IT professionals. Each party to this synergy contributes to the functioning of the industry, sets new development trends, and provides opportunities for improvement. Successful interaction of stakeholders expedites the growth of the industry, which makes this synergy crucial.

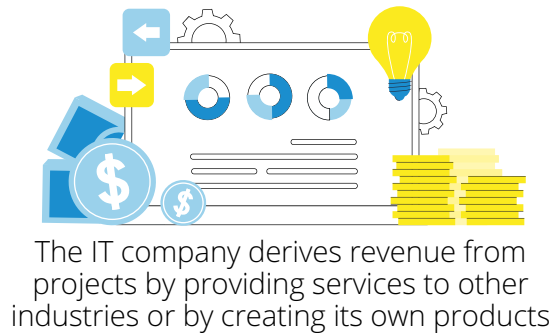
What is the synergy of stakeholders in IT like?



“IT Professional” Level

Human capital is the backbone of the IT industry. The more skilled company personnel are, the more projects it can implement and, hence, the more revenue it can generate. This, in turn, affects the value added of the industry and the amount of taxes paid.

It is at the “IT professional” level that the chain of stakeholder interaction is launched



What IT gives to an IT professional:

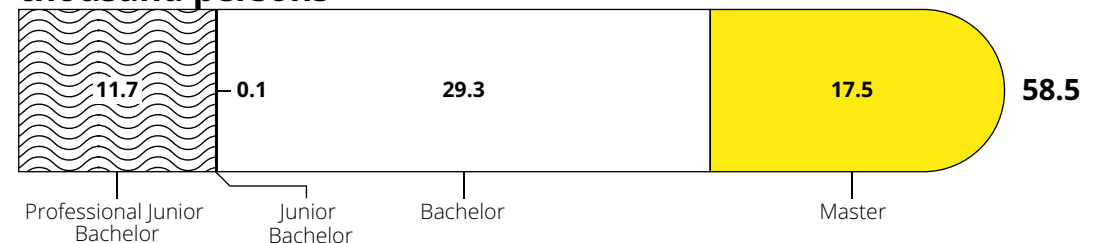
- the opportunity to work in the international market, travel, and share experience;
- high, competitive, stable wages;
- opportunities for continuous self-development;
- good working conditions (office, medical insurance and other additional benefits).

329 K

IT professionals were already involved in the field in early 2022

In 2022, a record number of students chose IT-related majors

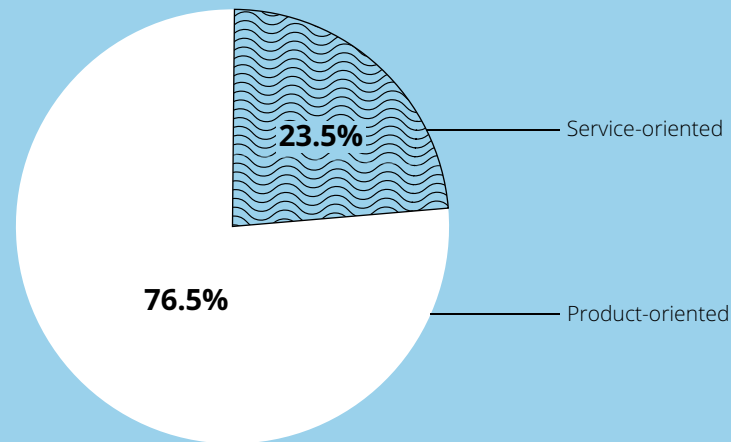
Number of students who opted for IT-related majors in 2022, thousand persons



“IT Company” Level

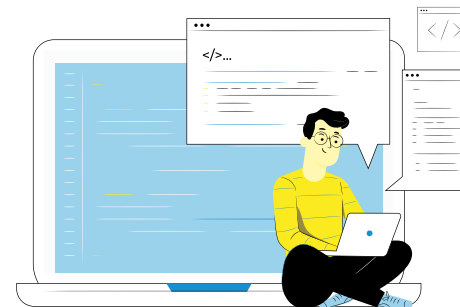
IT companies are representatives of the IT industry, its face. On the one hand, they shape the value added of the industry by providing IT services to other market players or creating unique domestic products. On the other hand, the IT industry is export-oriented, and therefore each IT company is a representative of both the industry and Ukraine as a whole on the international market.

According to Tech Ecosystem, as of the beginning of December 2022, there are 2.4 thousand companies operating on the market



Role of IT companies as industry representatives:

- creation of innovative products;
- provision of IT services to other market actors;
- clients for other sectors of the economy;
- tax contributions;
- jobs for IT professionals in other areas;
- non-formal and further education for IT professionals.



Role of IT companies as representatives of Ukraine:

- representation on the world market;
- attraction of foreign investments;
- exchange of experience with foreign IT professional;
- shaping the image and popularization of the brand of Ukraine.

“IT Industry” Level

The IT industry cannot exist separately from the global economy, as it helps transform and digitize other sectors of economy by providing services or creating unique products for Ukrainian and foreign customers.

Interaction of the IT industry with other spheres:

- digital transformation of industries;
- training IT talents that can be involved in the IT processes of companies from other fields;
- jobs for professionals in the field of economy, law, etc.

21.7% of enterprises

employ salaried IT professionals

14.6% of enterprises

outsource ICT tasks

IT industry operates in synergy with other sectors of economy

Key clients of the IT industry



“State” Level

The main function of the state in the synergy of IT stakeholders consists in the regulation of the field. Since the 90s, regular attempts have been made to impose stricter regulation on the Ukrainian IT industry, which hindered its development. In recent years, there has emerged a tendency towards deregulation, which has a positive impact on the growth of the industry.

What the state gives to IT:

- popularization of the brand of Ukraine and Ukrainian IT in the international market;
- attracting investors and partners;
- education system for the training of IT professionals;
- tax and legal regime of the Diia.City;
- IT Generation educational project.

What the state gets from IT:

- proceeds from the export of services;
- tax revenues;
- professional IT talents that can be involved in government projects;
- digitalization of government services.

What is holding back the development of IT at the state level:

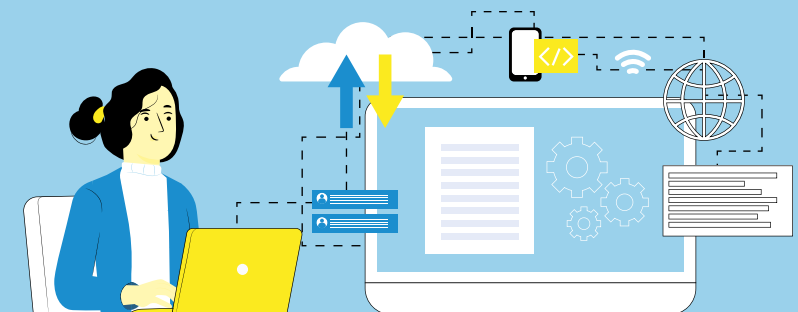
- non-transparency of tax expenditures;
- matters related to martial law: prohibition for IT professionals to travel abroad, transparency of the reservation of IT professionals;
- unreformed judicial system;
- an education system that is not adapted to the needs of the market;
- corruption.

State's main project for IT industry - Diia.City

Diia.City is a unique legal and tax space. It provides a set of tools for conducting comfortable, transparent and profit-generating IT business in Ukraine.

398
IT companies
involved in
Diia.City

33+ K
IT professionals
employed in Diia.City
resident companies



Digital Services

From the outset, the Ministry of Digital Transformation has been guided by the aspiration to build a digital state. With the beginning of the full-scale war, the work of the Ministry was quickly reformatted, new priority tasks were set, and 24/7 work has been underway to implement them. Since the beginning of the full-scale invasion, more than 20 new services have been launched.

New wartime services



- eDocument
- eVorog
- United24
- Diia.TV and Diia.Radio
- Military Bonds in Diia
- Services for IDPs
- Unemployment assistance
- Aid to the army
- Extract on the place of residence

As well as:

Services for businesses, pension certificate, permanent and temporary residence permits, documents in English, restored service of car sharing, and updated Fines for Traffic Violation service.

Results of new services introduced under the conditions of martial law

Payments under the ePidtrymka program **over 5 mln**

Ukrainians from the areas where the most active hostilities are conducted have applied to get UAH 6,500 to their ePidtrymka card

IDP Certificates **over 1.4 mln**

Ukrainians submitted an application through the Diia app to receive a certificate of an internally displaced person, which makes it possible for IDPs to receive government payments

Unemployment assistance **507+ K**

Ukrainians have applied for unemployment assistance through the Diia portal and app

Property damage claims **300+ K**

property damage claims have been submitted via the Diia portal and app

IT Generation

IT Generation is an educational project of tuition-free training in IT-related areas for Ukrainians who have no experience in this field. The idea emerged in early 2022 due to the shortage of IT professionals. To solve this problem, it was planned to involve establishments of non-formal education, which can quickly and properly train an entry-level specialist.

Purpose and objectives of the project

Purpose: to help talented Ukrainians find their way in one of the most promising areas, to continue working and developing the Ukrainian economy.

Objectives:

- to partially solve the problem of staffing shortages in the IT industry;
- to stimulate the development of edtech.

Organizers

The project is implemented by the **Ministry of Digital Transformation** in partnership with **Binance Charity** and the **Lviv IT Cluster**.

Project support:

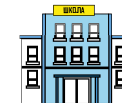
- USAID Competitive Economy Program in Ukraine;
- UNDP Digital, Inclusive, Accessible: Supporting the Digitization of Public Services in Ukraine project funded by Sweden.

Project implementation



117 applications

for participation from schools within 2 weeks



21 schools

took part in the project

Specialties available for training:

Technical

FrontEnd	JavaScript	
Java	QA	Python
Blockchain		

Non-technical

Project/Product Management	
UI/UX Design	Business Analysis
HR/Recruiting	Digital Marketing



210 K applications

for participation from 50 K persons



2,200 students

selected for training

The training will last **2-6 months**, depending on the curriculum. Many schools offer an employment opportunity and a number of educational workshops are to be held to help students with employment.



Oleksiy Uros
Business Development Director

Asters Law Firm

25+ years of experience

130+ lawyers

access to
125+ jurisdictions through the network of partner law firms

3,300+ pro bono hours since 24 February 2022

Asters provides **pro bono** legal support to governmental agencies and companies on drafting new laws and regulations, disputes, sanctions, compensation of war damages. The firm's **pro bono** work is essentially within two main directions:

- human rights, compensation of damages and war crimes;
- martial law legislation, restoration and rebuilding Ukraine.

Clients

International and national companies		Governments	
State-run companies	Investors	Banks	
International financial institutions	HNWI		

Expertise

Antitrust/competition		Banking & finance		Dispute resolution		Intellectual property	
Cybersecurity		White-collar crime		M&A, investments		Corporate	Private clients
Tax	Real estate & construction		Employment & immigration			International trade	

Law firm of the year in Ukraine

The Lawyer European Awards 2021, 2020 | Who's Who Legal Awards 2018-2022 | Chambers Europe Awards 2020

Asters is the largest full-service law firm in Ukraine with offices in Kyiv, Brussels, London, and Washington D.C., offering comprehensive legal support to IT companies.



Email:
oleksiy.uros@asterslaw.com

Website:
asterslaw.com

150+

IT companies among Asters' clients



Key services for IT companies:

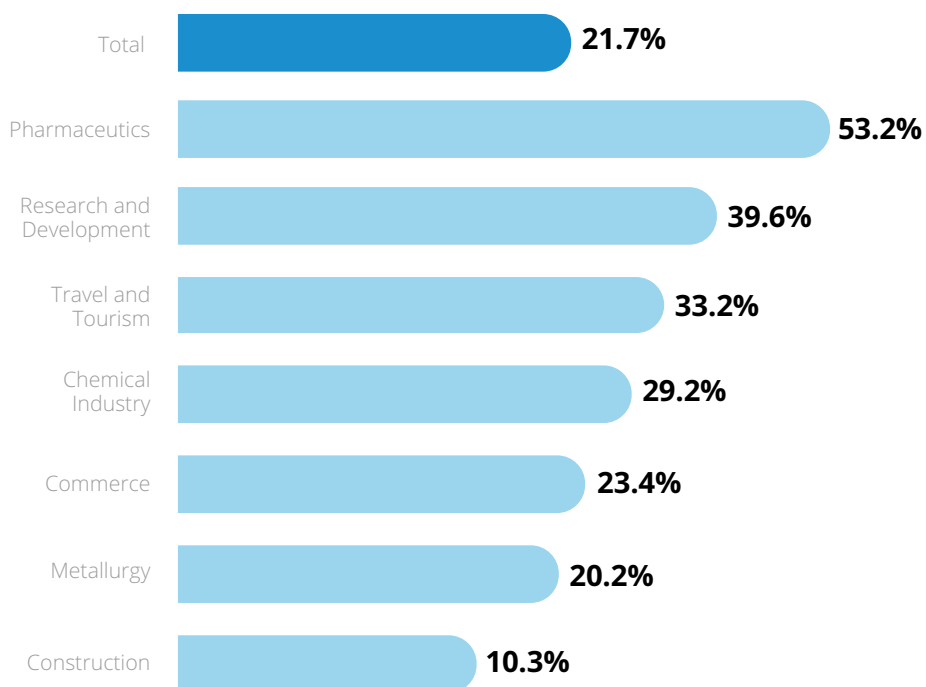
- advising on **military registration**;
- assisting with **reservation of employees**;
- **relocation of business abroad**: assistance on choice of jurisdiction, tax, corporate and IP issues; support in choice and engagement of the best foreign legal advisors;
- **currency regulation**;
- **full legal support** of all types of **transactions**, including financing, M&A, investments, etc., as well as representation in disputes and criminal proceedings;
- advising owners on **structuring, investing, accumulating, transferring**, and **protecting** their **capital** and business assets;
- advising on **Diia.City** legal regime and procedure for obtaining residency in **Diia.City**;
- data protection and **GDPR**.

IT in Other Spheres
in other
Spheres

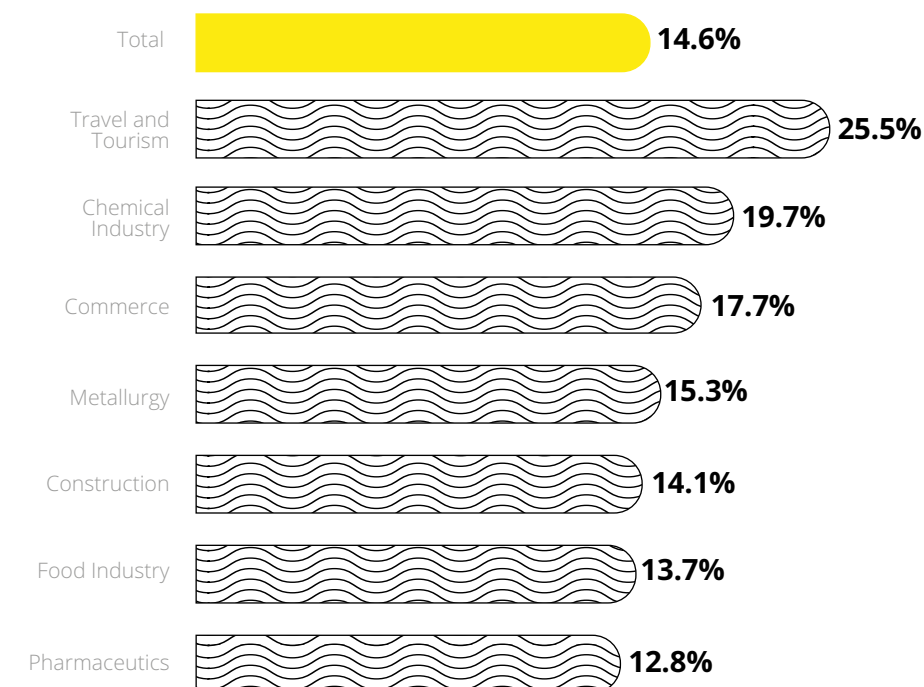
IT is Present in all Spheres

Technologies are rapidly becoming commonplace in non-tech industries, because they make it possible to automate production processes, increase productivity, cut costs and generally boost business efficiency. In 2021, more than 21% of Ukrainian companies had IT professionals in their staff, and about 15% hired outstaff professionals.

Share of businesses that had IT specialists in their staff in 2021, %

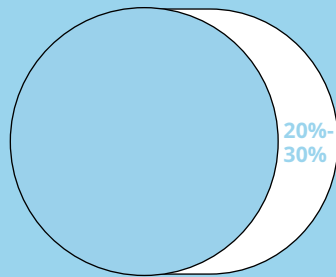


Share of businesses that attracted outstaff professionals to perform ICT functions in 2020, %



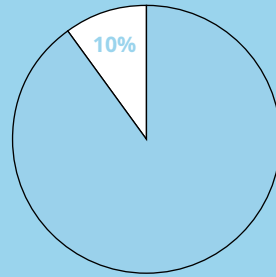
IT in Agro-Industry

In recent years, the Ukrainian Agro-Industry has been undergoing rapid transformations, and the land is becoming replaced by technology as the main resource.



20-30%

increase in the efficiency of farming due to the use of precision agriculture



10%

of Ukrainian farmers have introduced technologies in their work

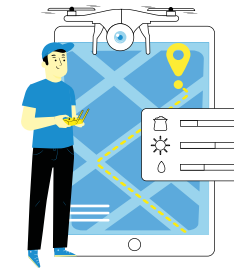
48

agtech-companies are part of Techecosystem.gov.ua

4 of 25

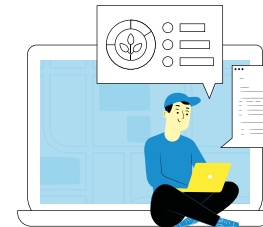
most innovative companies in Ukraine work in the Agro-Industry

Most commonly used technologies in the Agro-Industry



Precision Agriculture

Comprehensive farming management system that includes GPS technologies, geographical information systems, yield estimates, variable rate technology, remote sensing of land, and the Internet of Things.



Land Bank Management

Analytical system that makes it possible to analyze the land bank in real time, identify problems and come up with workable solutions to eliminate them.



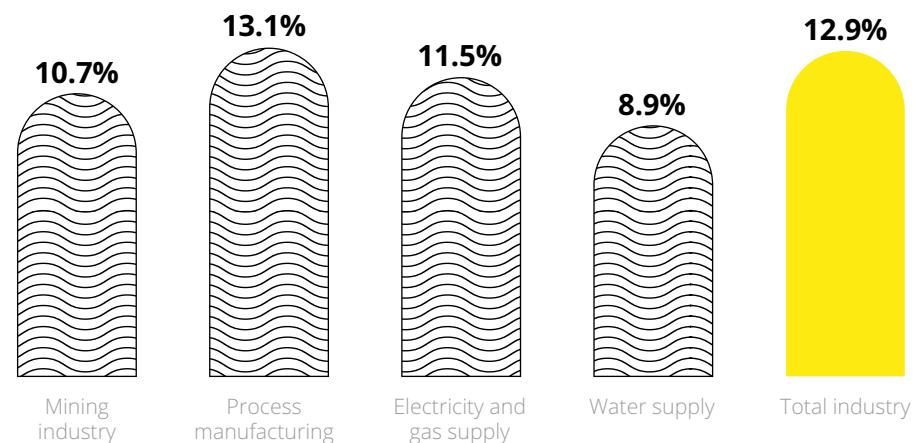
System Pharmaceutical Management

Comprehensive software solutions for automation and control of agricultural production processes at the enterprise with multiple functions.

IT in Manufacturing Industry

The Ukrainian Manufacturing Industry has been undergoing rapid transformation since 2014 with the launch of the Industry 4.0 movement, which involves fully automated production and control of all processes in real time.

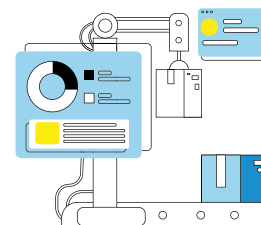
Average share of innovatively active enterprises in manufacturing industry in 2018-2020, %



46

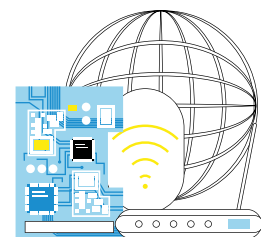
Advanced Manufacturing (Industry 4.0) companies are part of [Techecosystem.gov.ua](https://techecosystem.gov.ua)

Industry 4.0 is based on ground-breaking technologies:



Artificial Intelligence (AI)

Artificial intelligence plays a key role in creating automation solutions for manufacturing industry AI helps increase the flexibility and accuracy of production processes, adapt management processes, etc.



Internet of Things (IoT)

IoT consists of web-enabled physical objects embedded with sensors and software. This helps process information, remotely manage processes, and automate production.



Big Data

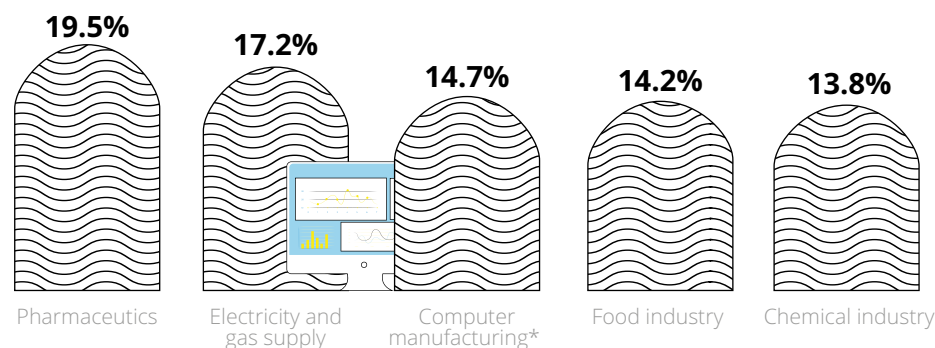
Big Data technology solutions enable real-time collection, analysis, and forecasting of data on production volumes and costs, logistics, customer service and other production processes.

Technologies in Manufacturing Industry

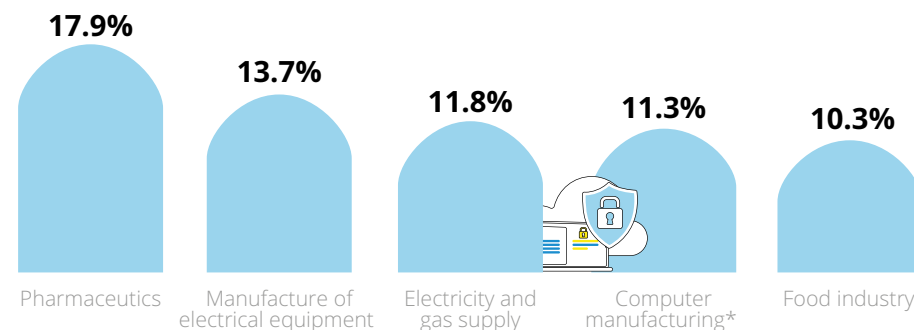
More and more Ukrainian manufacturing companies are resorting to Big Data, 3D printing, cloud services and robotics technologies. Pharmaceutical industry, mechanical engineering and machinery industry are in the lead in these technologies.

Share of manufacturing companies that use a particular technology, %

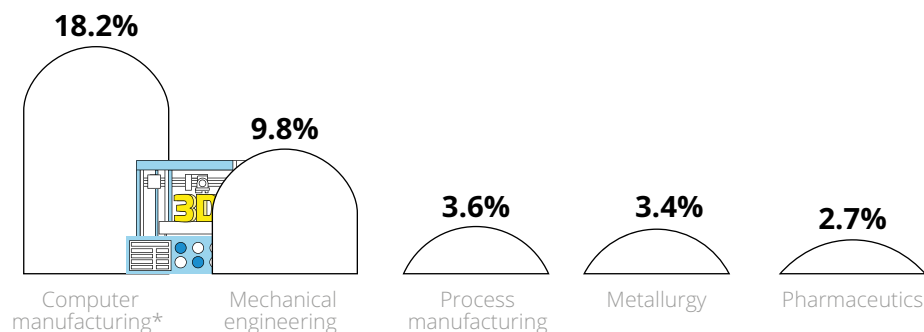
Big Data Analytics (2020)



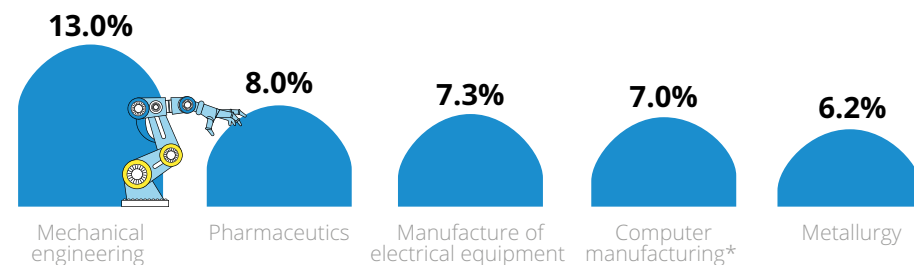
Cloud Services (2021)



3D Printing (2020)



Robotics (2021)

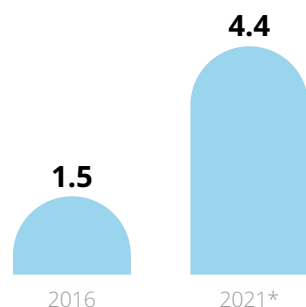


IT in Retail

The e-commerce market is quite dynamic, the pandemic just gave it added impetus for growth. Despite the decline of the market due to the war, it is expected to bounce back by the end of the year.

The e-commerce market in Ukraine has tripled since 2016

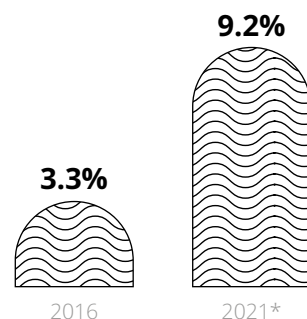
Market size,
USD billion



107

e-commerce & retail companies are part of Techecosystem.gov.ua

Share in retail, %



1 in 5

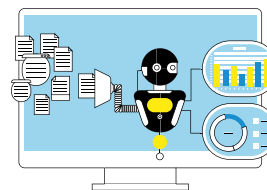
largest retailers is only available online

Retail does not just go online, it is being transformed by IT



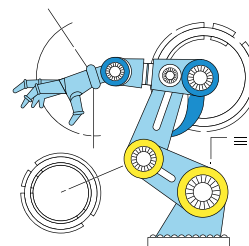
AR/VR/MR

Augmented reality technologies help businesses enhance how they interact with customers. For example, you can try on clothes using a digital avatar, showcase new furniture in your room, etc.



Big Data

Big data analytics enable demand and sales forecasting, pricing policy shaping, product range optimization based on market needs, etc.



Robotization

Robotization helps increase productivity, reduce the human factor, improve competitiveness, optimize operating costs, etc.



Stepan Mitish
Vice President, the head
of EPAM Ukraine

EPAM

1993 is the year the company
was founded

60+ thou. specialists
in the world

1,227 USD billion
is the company's income in III quarter 2022

Spheres of specialization

Financial Services	Media, Entertainment & Telecom		
Travel & Hospitality	Life Sciences	Healthcare	Insurance
Software & Hi-Tech	Energy & Utilities		Retail & Consumer
Automotive & Manufacturing		Business Information Services	

Main services

Consulting	Engineering
Digital transformation	Design

EPAM Ukraine continues working actively with clients and partners, keeping focus on the safety of its specialists. Besides supporting the business, it is important for EPAM to continue provide Ukrainians with educational opportunities, specifically in mastering IT professions, so they are able to provide for their well-being in future. We believe in our victory and bring it closer every day together with the whole country.

90 UAH million have been donated

A program **EPAM Response** focuses on 3 directions:

- Help to Ukrainians with medical and humanitarian assistance, as well as with protective equipment;
- Help to universities and educational partners;
- Help to the state with the relevant IT solutions.



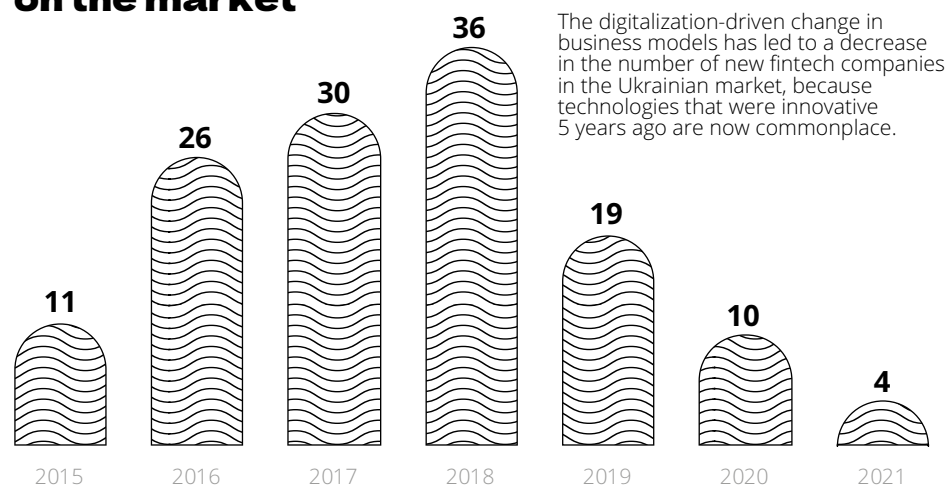
Email:
ua_career@epam.com

Website:
careers.epam.ua

IT in Finance

Ukraine's financial market has undergone major transformations in recent years. Traditional financial establishments embrace modern technologies to offer new products, tech companies launch their own fintech startups and neo-banks, quickly conquering the market.

Number of new fintech companies on the market



164

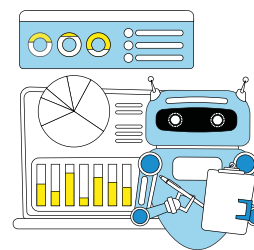
fintech & insurtech companies are part of Techecosystem.gov.ua

Most common technologies in Ukrainian fintech startups



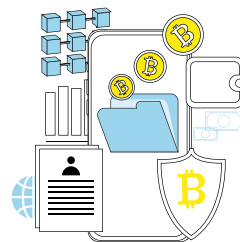
Application Programming Interface (API)

Software intermediary that allows applications to interact with each other. This helps save time and makes work easier.



Artificial Intelligence (AI)

Artificial intelligence algorithms are used to create online lending and insurance products as well as to compare financial instruments. Meanwhile, chatbots have become a key software solution in payment services and personal finance products.



Blockchain

It is a technology for processing, storing information and identifying customers using a special decentralized ledger. It is most commonly used in cryptocurrencies.



UKRSIBBANK
BNP PARIBAS GROUP



Andrii Kashperuk
Deputy Chairman of the Management
Board on Retail Banking

UKRSIBBANK BNP Paribas Group

32 years of experience **2 mln** clients

5,000 employees
in Ukraine

30%+ share of services
of the IT service market

UKRSIBBANK BNP Paribas Group is one of the largest banks in Ukraine, which has been operating on the market since 1990. 60% of the bank's shares belong to one of the world's largest financial Groups, the leader of sustainable financing in Europe – BNP Paribas and 40% to the EBRD.

We are reliable partner making safe banking in agile way by caring about customers and employees, bringing positive impact and contributing to sound Ukrainian economy, leveraging the strength of the leading European banking Group.

UKRSIBBANK's 5,000 team ensures the **continuity of the bank's work** in Ukraine to provide **high-quality and essential financial services** to almost 2 million clients: including large international corporations, small and medium enterprises and individuals.

Support to the people of Ukraine

The BNP Paribas Group, which UKRSIBBANK belongs to, actively supports Ukraine. In March 2022 the Group created a special Rescue&Recover Fund and transferred 10 million euros to humanitarian organizations involved in helping Ukrainians. The Group's clients and employees in 65 countries around the world are also involved in fundraising. Thanks to such joint efforts, more than 3.5 million euros have already been collected.



E-mail:
info@ukrsibbank.com

Web-site:
ukrsibbank.com



UKRSIBBANK
BNP PARIBAS GROUP

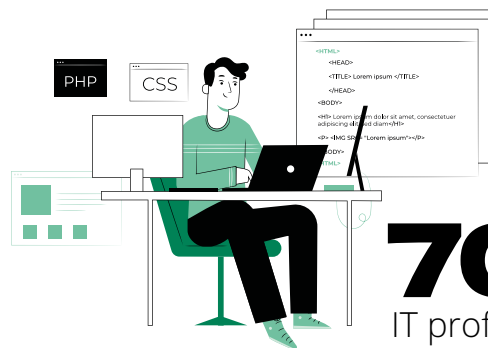
1,200

IT companies are our clients



Main services for IT companies:

- **complex service** that provides all necessary: IT companies of the Resident, IT companies of the Non-Resident, IT companies of the Diia.City Residents and IT individual entrepreneurs;
- one statement for the list crediting of funds in foreign currency to the accounts of IT professionals;
- internet banking **UKRSIB business**;
- **financial Control Center** – simultaneous management of accounts of several companies, including individual entrepreneurs in UKRSIB business;
- special exchange rates;
- quick creation of documents – **API UKRSIB business** – integration of the Client's system with UKRSIB business;
- online identification in UKRSIB business.



70,000

IT professional are our clients

Main services for IT individual entrepreneurs:

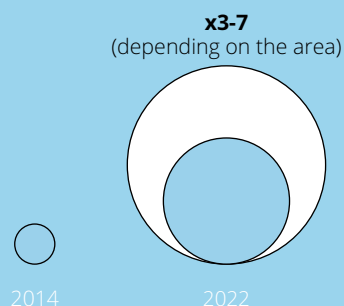
- business account **"IT Entrepreneur"** in UAH/USD/EUR;
- personal card account in UAH/USD/EUR (Premium card GOLD/ PLATINUM/ BLACK EDITION);
- internet banking **UKRSIB business** for individual entrepreneurs;
- automatic sale of currency (if necessary);
- internet banking **UKRSIB online** for personal needs;
- currency and saving accounts in UAH/USD/EUR;
- additional and virtual cards, the card ePidtrymka;
- loyalty program **"EXTRA bilshe"**;
- **insurance**: medical insurance in Ukraine, for travelers and of cards against fraud;
- premium service and personal manager.

IT in Defense

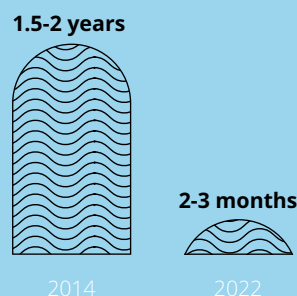
The full-scale war provided powerful impetus for the development of military-tech in Ukraine. Such companies cover everything Ukrainian defenders need – from drones to tactical medicine.

Ukraine's military-tech is developing quite rapidly

Market growth since 2014



Time needed to implement a project



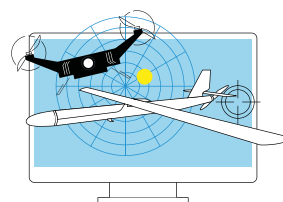
41

military-tech companies are part of Techecosystem.gov.ua

100

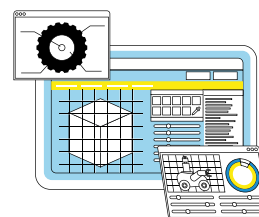
applications for participation in the program to support the Ukrainian military-tech have been received during the 3 months of its work

Ukraine's military-tech is actively developing in the following areas:



Robotics

In Ukraine, the most successful area in this sector is the production and use of drones. These include both unmanned surveillance and reconnaissance aerial vehicles and kamikaze drones to hit the enemy.



Software for the military

The Ukrainian military have received their own software, including Kropyva (Nettle), Delta, Griselda, Bronia (Armor), Milchat, etc. These programs are used to automate the collection of information, analyze and process it in real time, etc.



AR/VR

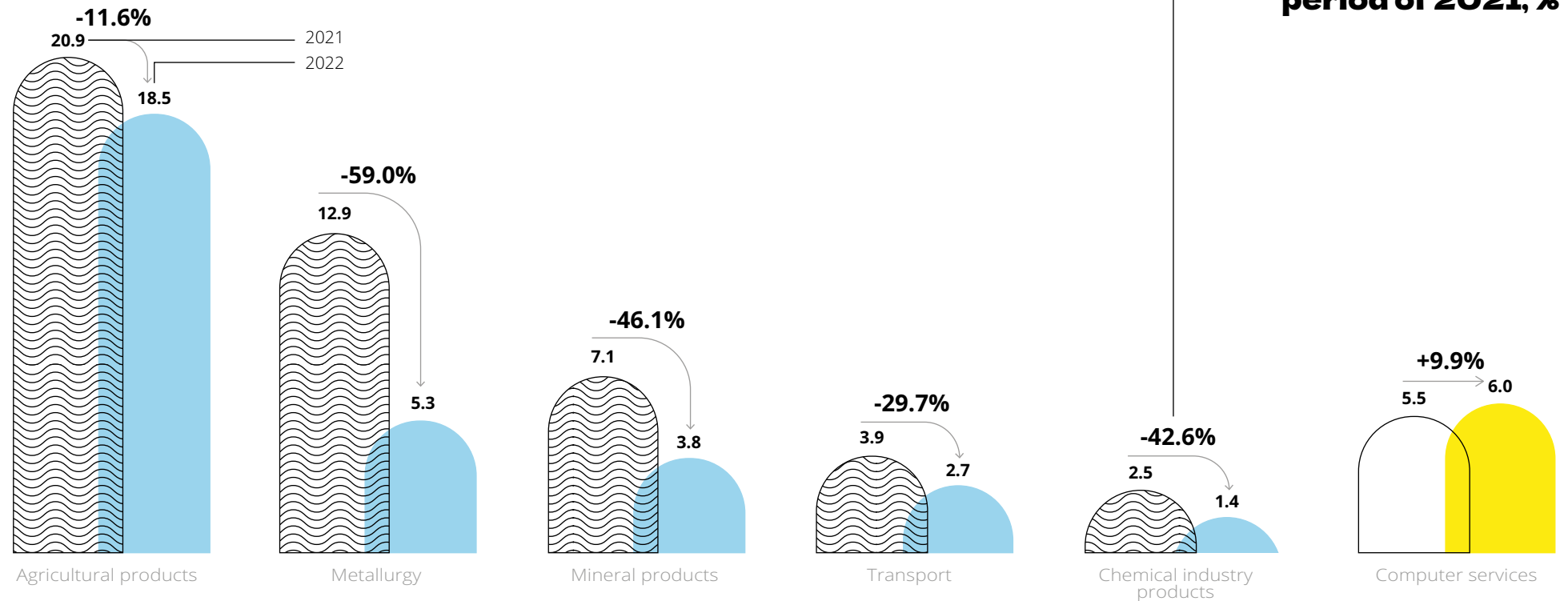
Augmented reality technologies serve as the basis in simulators of various types of weapons and equipment, which helps cut defense-training costs and avoid losses.

IT in Wartime.
Sustainability
war
time

Wartime Exports

Damaged and destroyed infrastructure, constant shelling, occupation of entire regions, and labor migration are the factors that have affected the Ukrainian economy the most during the war. Of the export-oriented areas, only the IT industry has increased its export volume relative to last year, while others have suffered significant losses.

Export volume for 10 months of 2021-2022, USD billion



Exports of IT Services

The full-scale invasion by Russia on February 24, 2022 divided the life of the country into “before” and “after”. Companies had to urgently adopt a number of decisions to preserve their business. The IT industry is one of the few branches of the Ukrainian economy that has been able not only to maintain the volume of services exports, but also to increase them.

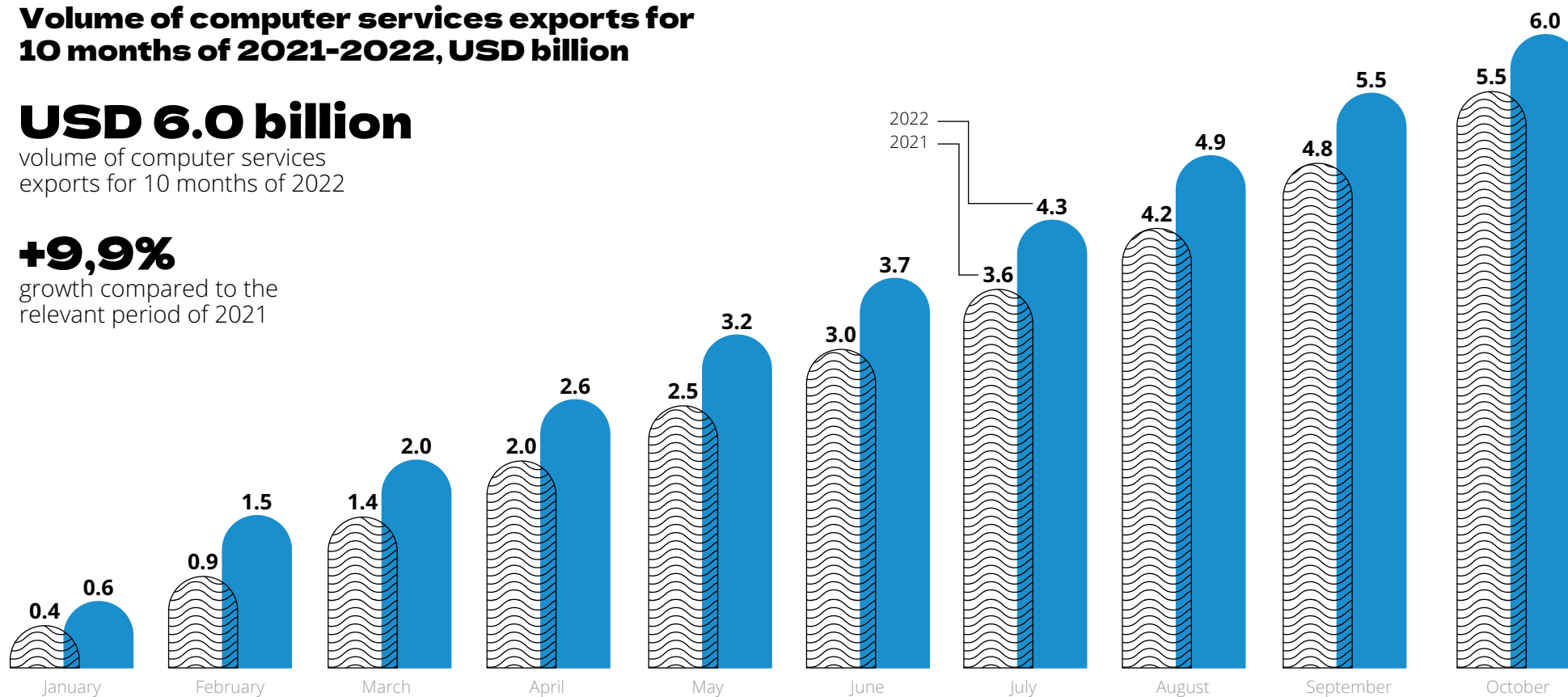
Volume of computer services exports for 10 months of 2021-2022, USD billion

USD 6.0 billion

volume of computer services exports for 10 months of 2022

+9,9%

growth compared to the relevant period of 2021



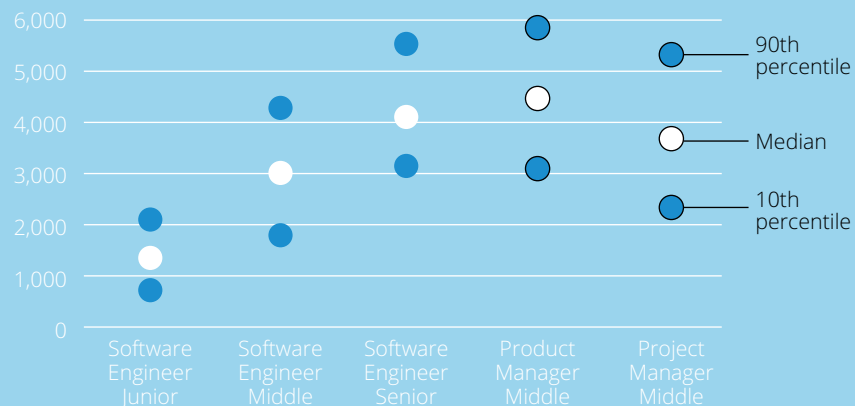
Salaries

Remuneration Survey
based on Korn Ferry data

Korn Ferry's 2022 IT Remuneration Survey attests to several major trends:

- despite the war, most IT companies plan to increase their compensation budget;
- the level of salaries varies significantly depending on the position of the IT professional;
- study of the regional distribution of rewards would be inappropriate due to the migration of IT professionals and relocation of IT companies;
- the nature of the field makes involvement of individual entrepreneurs (FOPs) a common practice in IT companies.

Base salary by IT positions, USD/month



82%

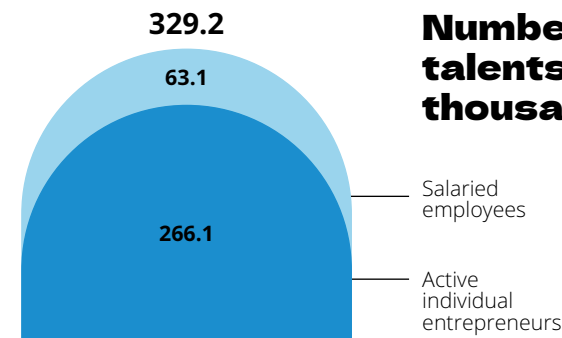
of IT companies plan to increase their rewards by the end of 2022

+10.0%

average planned increase in the reward budget for the next year

Sources: Korn Ferry Survey 2022, State Tax Service, State Statistics Service

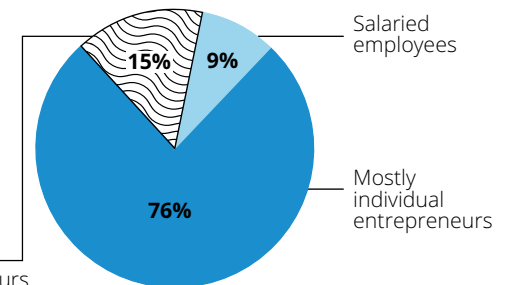
Number of IT talents in 2022, thousand persons



There are no data on the number of employees in 2022, so we assume that the value hasn't changed. Data on individual entrepreneurs as of 01.11.2022

Nature of cooperation between the IT company and IT professionals, %

Combination of salaried employees and individual entrepreneurs

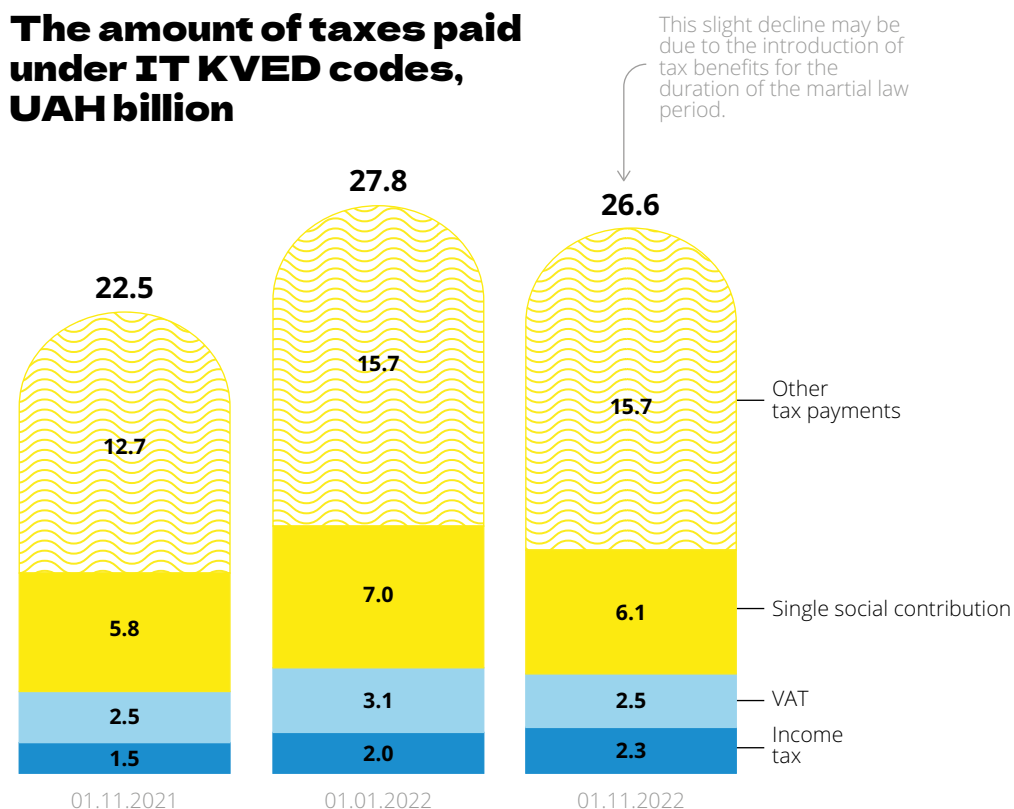


Wartime Taxes

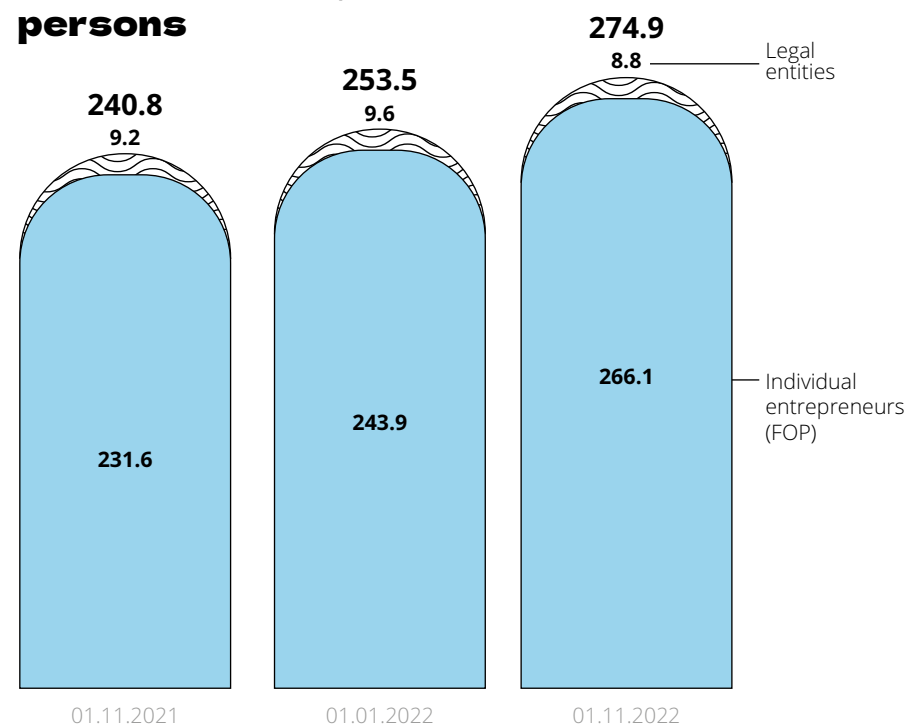
However difficult doing business is in wartime conditions, the IT industry continues to pay taxes. Some companies pay taxes in advance to support the state in a difficult period.

The tax activity of companies and entrepreneurs is intensifying. As of November 1, 2022, the number of taxpayers increased by 7.5% compared to last year.

The amount of taxes paid under IT KVED codes, UAH billion



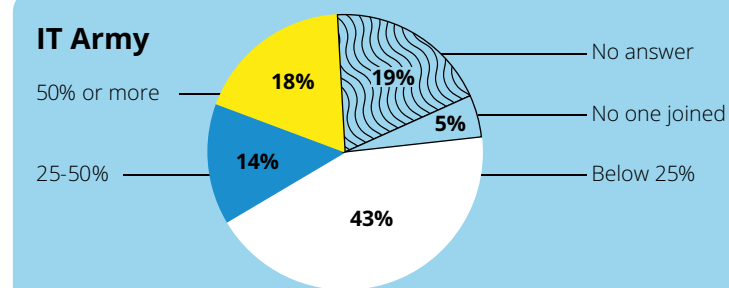
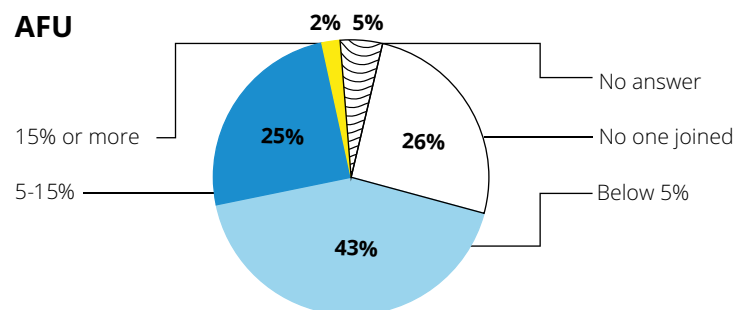
Number of taxpayers with IT KVED codes, thousand persons



IT Professionals in War

Since the beginning of the full-scale war, every Ukrainian has been looking for ways to help and protect their state. 74% of IT companies have had at least one specialist join the Armed Forces, and 95% have contributed to the IT army.

Breakdown of companies by the share of IT professionals who joined the Armed Forces or the IT army, %



Even before the invasion, Russia had repeatedly attacked Ukrainian government resources, websites, banking system, media, etc. Therefore, at the beginning of the war, the Ukrainian cyber army was created to fight the enemy.

What does the IT army do?

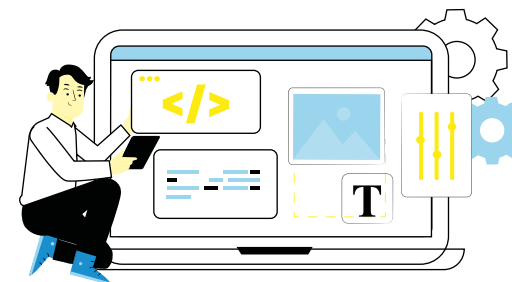
The IT Army of Ukraine includes Ukrainian and international IT professionals set to combat Russian aggression on the cyber front.

200+ K

IT professionals joined the IT army

14+ K

Russian online resources attacked



What does the IT army attack?

Using a variety of tools, the IT army paralyzes the work of Russian:

- public bodies and services;
- factories and infrastructure;
- banking system;
- telecommunication services;
- military (misinformation, obstruction of communication and army resupply).

Volunteering

The IT industry actively supports the Armed Forces of Ukraine and all those fighting for the independence of the country. Since the early days of the war, IT companies have transferred millions to the accounts of charitable foundations, procured weapons, gear, drones, equipment and other necessary supplies to bring the victory over the enemy closer.

UAH 1.21 billion

transferred by the interviewed*
IT companies alone to help the state

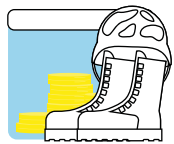
95%

of IT companies transfer funds
to help the state

17.5%

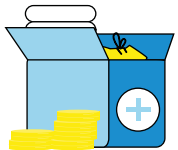
of IT companies do not disclose
information on the volume
of their donations

How are IT companies' donations spent?



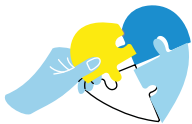
UAH 635.6 mln

transferred for military purposes (for the needs of the Armed Forces, intelligence forces, territorial defense forces, etc.)



UAH 303.4 mln

transferred for humanitarian purposes (assistance to IDPs, educational projects, purchase of medical supplies, etc.)



UAH 276.8 mln

transferred to charitable foundations

How are IT professionals' donations used?

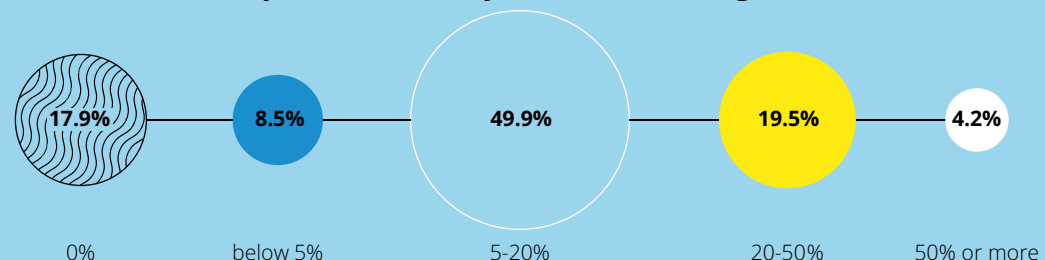
90.1%

of IT professionals transfer funds
to support the Ukrainian army and
volunteers

USD 270

average median monthly contribution
of IT professionals (among those who
donate)

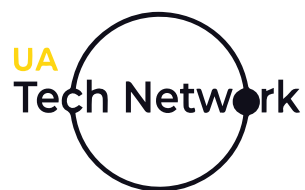
Breakdown of IT professionals by the share of wages allocated for donations



UA Tech Network for the synergy of large and small businesses and economy support

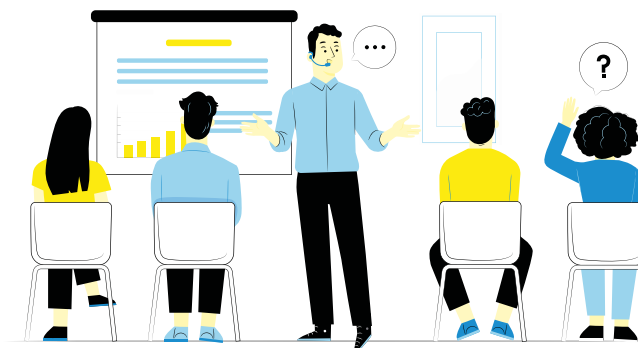
Since the beginning of the full-scale war in Ukraine **Sigma Software** put its efforts to secure its specialists, support the Ukrainian Army and people both in Ukraine and evacuation.

And it was also crucial for the company to provide small and medium-sized businesses with the opportunity to successfully overcome the crisis, using the opportunities provided by a large IT consulting company.



Together with **UA Tech Club** the company created a new association **UA Tech Network** to form a positive technological brand of the country and support the economic front.

Sigma Software helps small companies to get customers from different business domains and provides mentoring support from industry top experts in terms of establishing business processes and business development.



Email:
pr.team@sigma.software

Website:
career.sigma.software

45 companies

have already joined the Network

over 7K specialists

have already joined the Network

Companies already have impressive results. Thus, within the scope of the **UA Tech Network**, the **Unicsoft** company involved **Whimsy Games**, which allowed them to jointly sign a contract for a million dollars.

Consolidation of expertise of the participants makes it possible to offer a full cycle of services "**under one roof**" that meets global quality standards. The plans include increasing the volume of activity in order to make the industry resistant to crisis situations and to use its potential to the maximum in the post-war reconstruction of Ukraine.

Infopulse is all about active social position

The year 2022 gave a start to the project **«Plich-o-Plich»** whose objective is to take reactive and proactive action in the fight against Russia.

«Plich-o-Plich» has three directions:

- direct help from the company;
- fundraising for the needs of the mobilized specialists;
- development and sales of the exclusive collection **«The Pulse of Freedom»**, the money from which goes to purchasing pick-up trucks for the Armed Forces of Ukraine.



Infopulse transferred **4.2 million UAH** of direct aid for the needs of the military through such funds as «Come Back Alive», «Children of Hope and Love», and «Real Ukrainians», and **682 items of computer technology and 2,485 furniture items**. Additionally, we transferred **650 thousand UAH** to the communities in Vinnytsia and Lviv to set up shelters and to perform reconstruction after the damage.

Since March, the fundraiser has gathered **2.5 million UAH** that was used to buy protective equipment, 3 cars, a rubber boat, and other items necessary for the military.

«The Pulse of Freedom» has already raised **803.2 thousand UAH**, making it possible to purchase 3 pick-up trucks for the frontline. The sale continues.

The total sum raised by the project

8.15 million UAH 3,167 items

raised by the project

of equipment and furniture raised by the project

Our achievements and plans demonstrate we are shoulder to shoulder with our defenders.

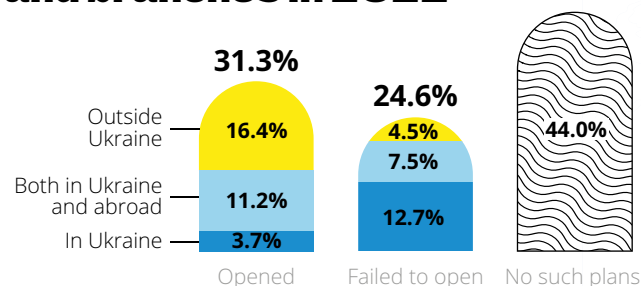
Email:
team@infopulse.com

Website:
www.infopulse.com

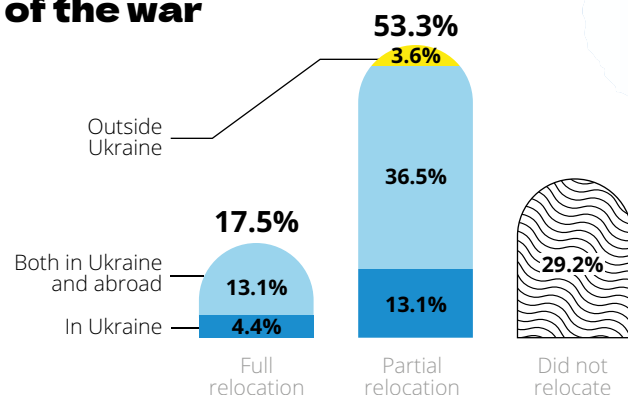
Relocation of IT Companies

According to the survey*, 54.7% of IT companies planned to open new offices and branches in 2022. However, only a quarter have managed to do so, the others had their plans frustrated by the war. As a result of the full-scale invasion, 70.8% of IT companies had to resort to unplanned relocation, including a quarter who have relocated in full.

Planned opening of new offices and branches in 2022

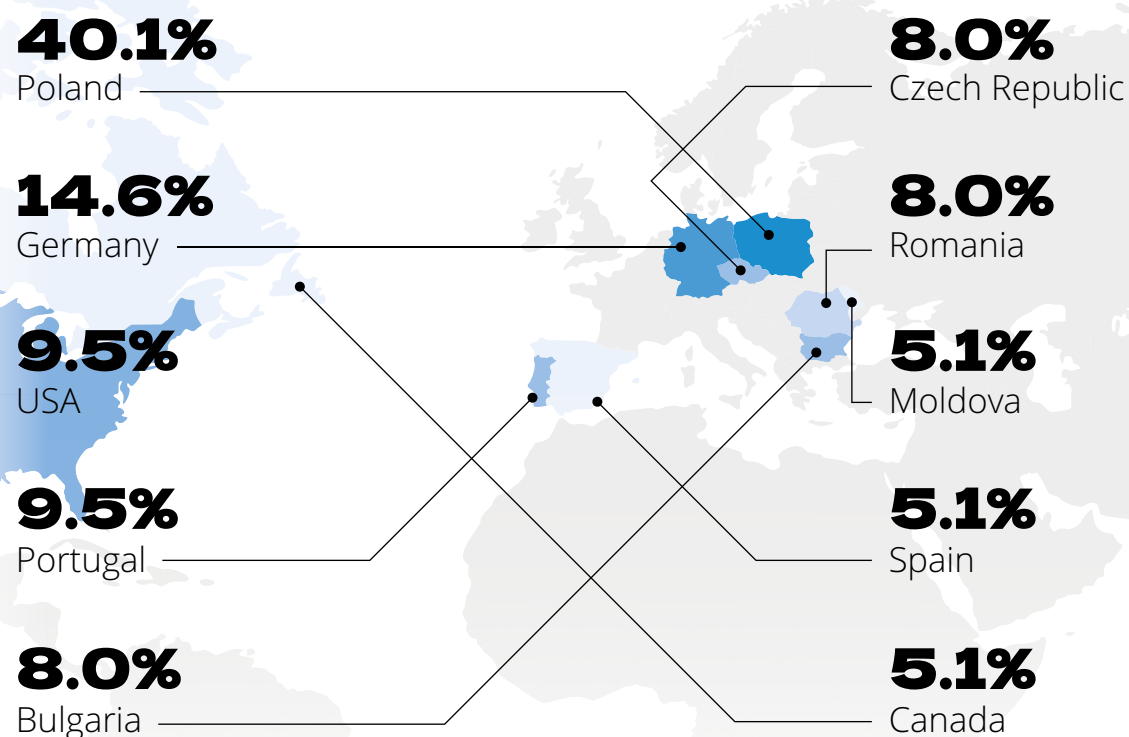


Relocation of IT companies because of the war



Top 10 countries to which IT companies relocated

Share of companies that chose the relevant option, %

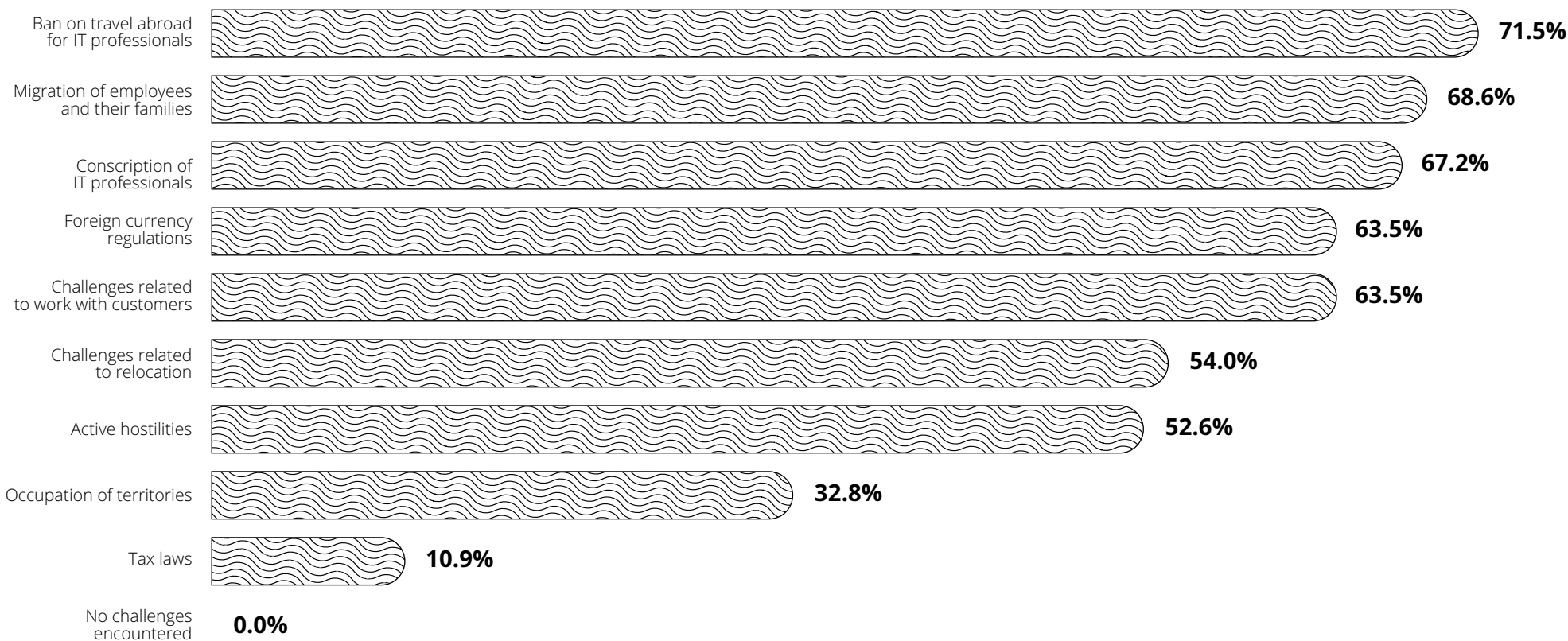


Challenges Faced by the IT Industry

During the full-scale war, the IT industry has encountered a number of challenges. The activities of IT companies were most affected by the challenges associated with the ban on travel abroad for IT professionals.

Share of companies facing the following challenges, %

Share of companies that chose the relevant option, %

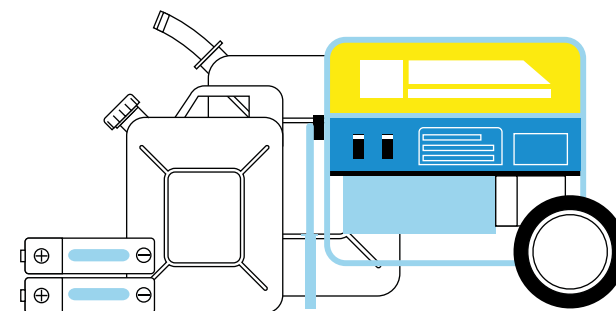
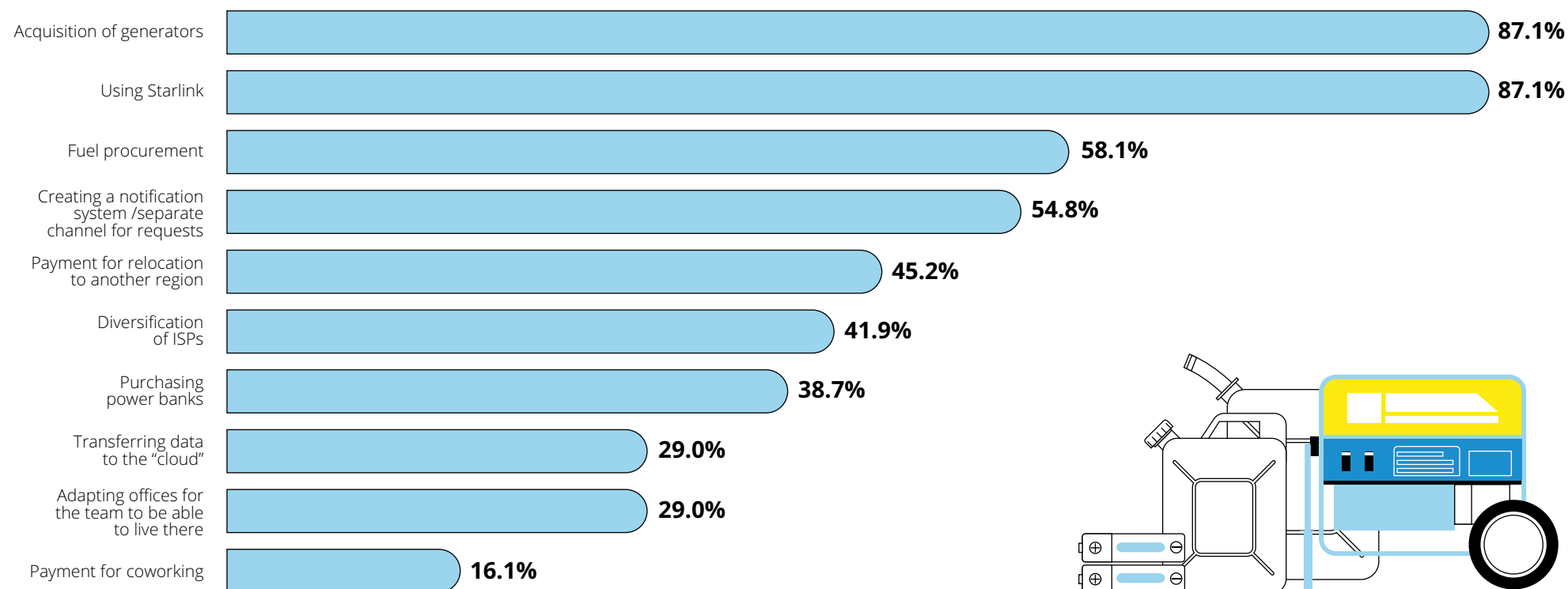


Impact of Blackouts

Since October 10, 2022, Russia has been carrying out massive missile attacks on energy infrastructure facilities, which has led to power outages throughout Ukraine. This poses another major challenge for the industry, as complete blackouts or stabilization outages require new anti-crisis measures.

What measures do IT companies take to stabilize business processes?

Share of companies that chose the relevant option, %*



IT in Wartime.
Expectations
war
time

State of Affairs in the IT Business

The war has proved to be a real test for the IT industry, as all companies have faced problems and new challenges. According to the survey*, 34.3% of companies have successfully adapted to the new realities, and more than 43% of IT companies expect business growth based on the results of 2022.

How have IT companies adapted to wartime realities?

34.3%

of IT companies have successfully adapted to the new realities

3.7%

of IT companies still have not adapted to new challenges

61.3%

of IT companies have managed to arrange stable operations, even though not all the challenges have been overcome

0.7%

No response

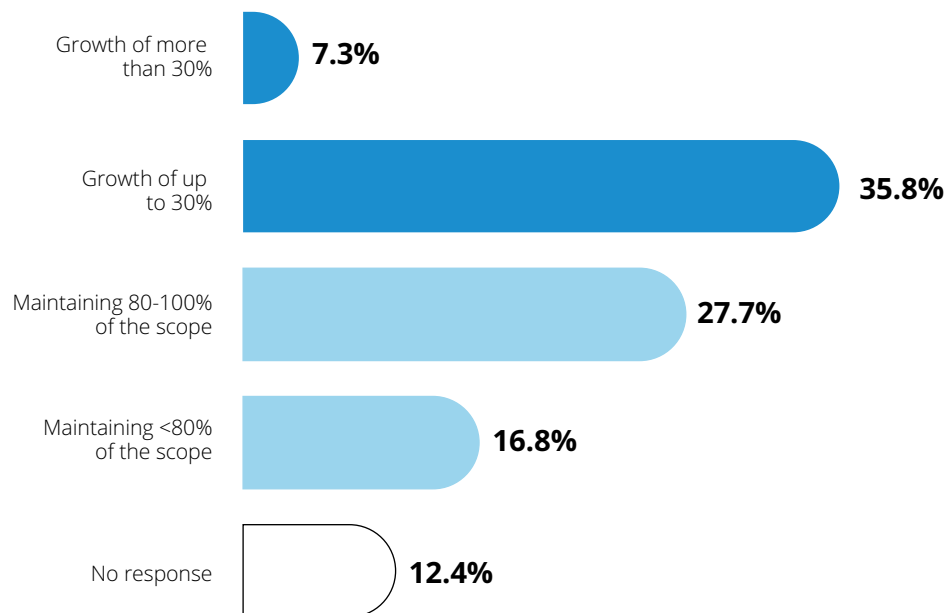
How do blackouts affect the activities of IT companies?

9 out of 10 IT companies

maintain more than 80% of their business processes

43.1% of IT companies expect business growth based on the results of the year

Share of companies that chose the relevant option, %



Relocation of IT Professionals

The main challenge for IT professionals during the war was relocation. 64% of them were forced to move because of the war, however 24% have already returned to where they had lived before the full-scale invasion. In view of this, the approach to work has changed – after the start of the full-scale war, 71.5% of companies have more than 75% of employees work remotely.

Relocation of IT professionals

13.0%

Relocated abroad

27.0%

Relocated within Ukraine

24.0%

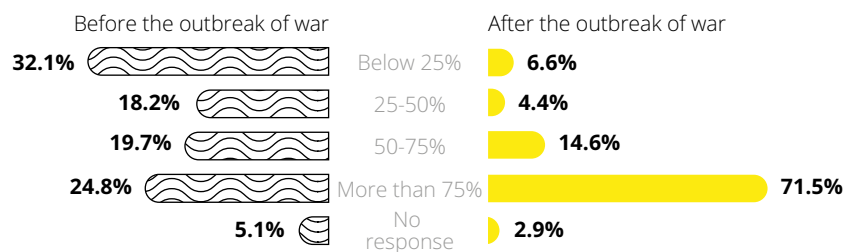
Already back to where they had lived before the start of the full-scale invasion

36.0%

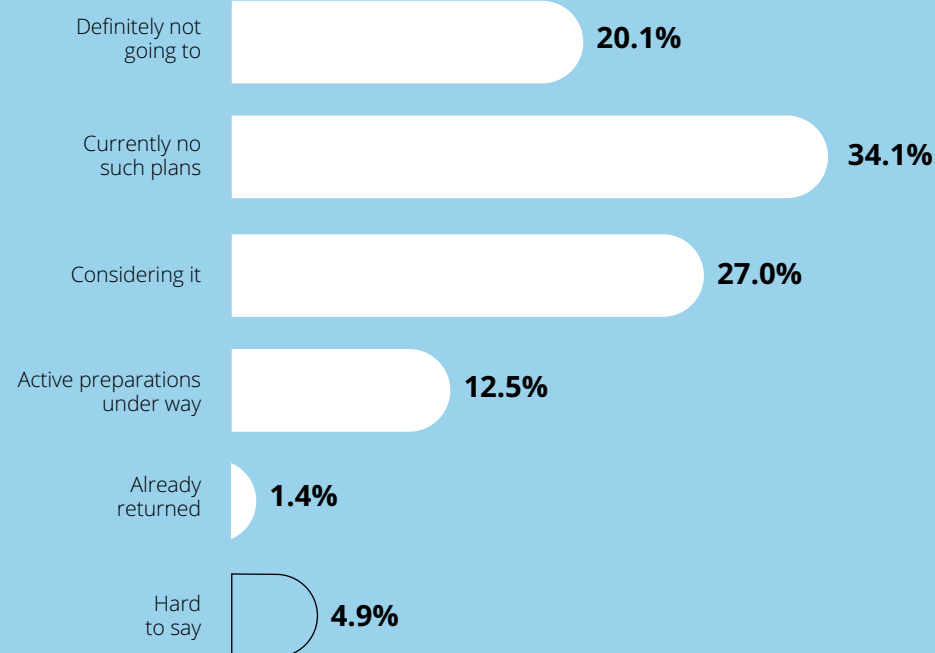
Not relocated

Most IT professionals have switched to remote work

Breakdown of IT companies by the share of professionals working remotely, %



What do IT professionals think about emigrating from Ukraine in the future?

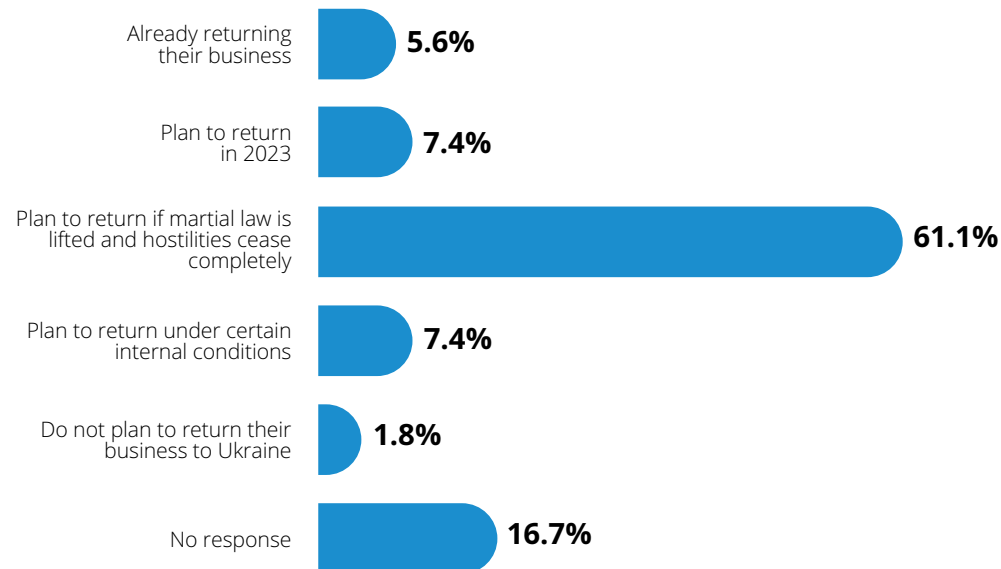


Investments in Ukraine

Active hostilities and occupation of territories, business relocation and migration of workers, shelling of energy and critical infrastructure made IT businesses change their plans. Some companies opened new offices in Ukraine and abroad as planned, and some were forced to relocate to safer regions. However, 81.5% of IT companies that have relocated abroad still intend to return their business to Ukraine, 5.6% of them are already coming back.

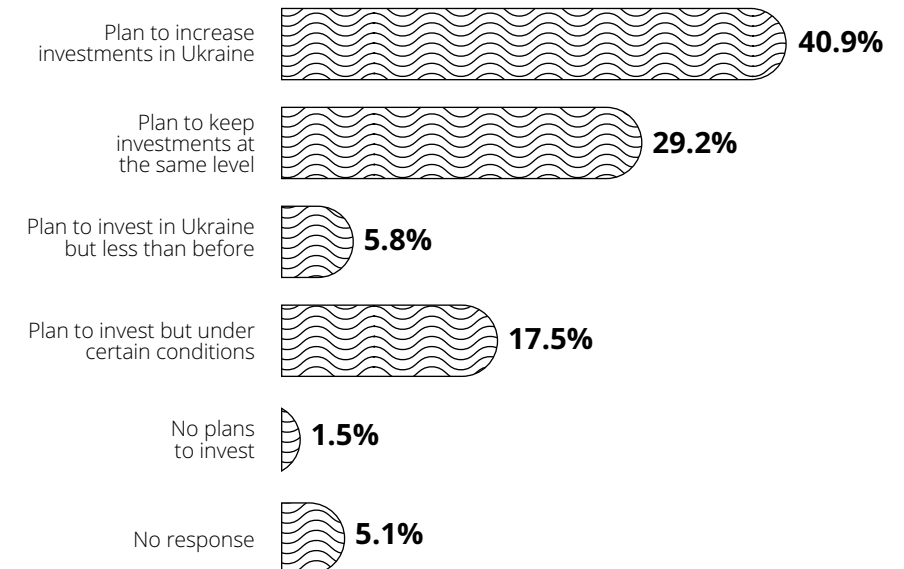
81.5% of relocated IT companies plan to return to Ukraine

Do IT companies that relocated abroad intend to return their business to Ukraine and under what conditions?



93.4% of IT companies plan to continue investing in Ukraine

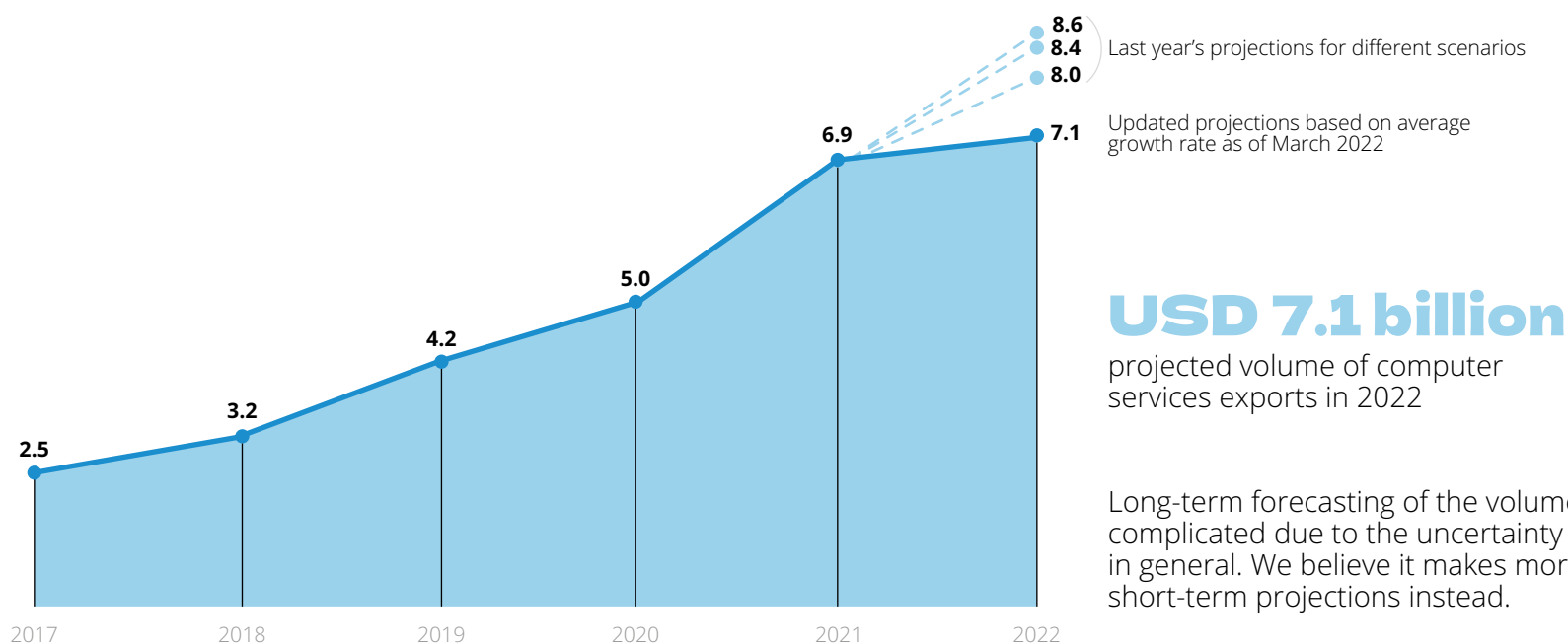
Do IT companies plan to continue investing in Ukraine?



Exports of IT Services. Forecast

Last-year's IT market study contained some projections concerning the exports of IT services by 2025. According to the baseline scenario, in 2022, export volume was expected at the level of USD 8.4 billion, whereas the conservative scenario projected USD 8.0 billion exports. However, the full-scale invasion has made an effect on the development of the industry. As of the end of November, it is projected that the volume of exports of IT services in 2022 will amount to USD 7.1 billion, which, although lower than the projections, still exceeds the relevant last year's indicators.

Projections concerning the export of computer services for 2022, USD billion



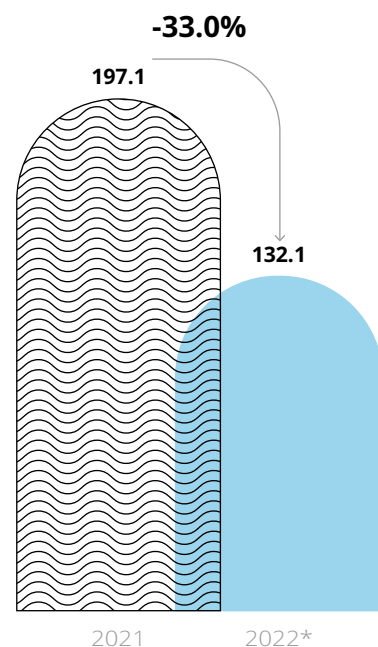
Long-term forecasting of the volume of IT services exports is complicated due to the uncertainty in the industry and economy in general. We believe it makes more sense to update short-term projections instead.

IT in the Economy. Forecast

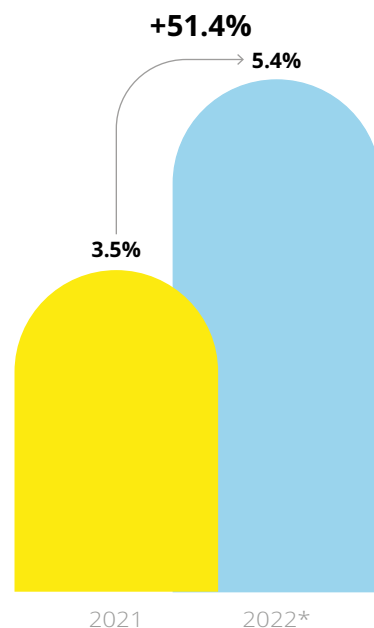
The full-scale invasion has significantly affected the economy of Ukraine. At the beginning of the year, a 32-33% decline had been projected, but the economy showed a very high adaptive capacity, thanks to which the forecast improved. However, due to the massive attacks of the Russian Federation on the energy system in October/November, part of the enterprises suspended their activities, so we had to return to the initial projections.

How will the role of IT in the economy of Ukraine change based on the results of 2022?

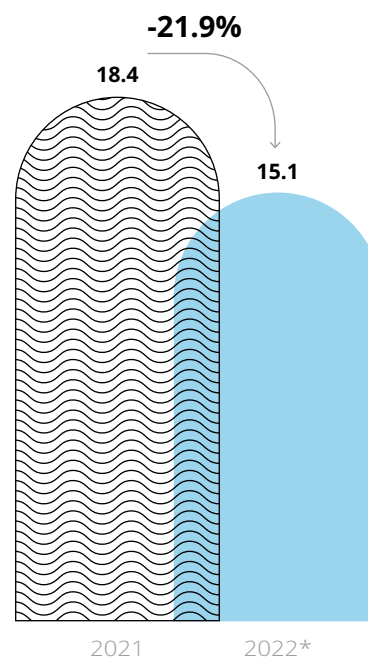
GDP, USD billion



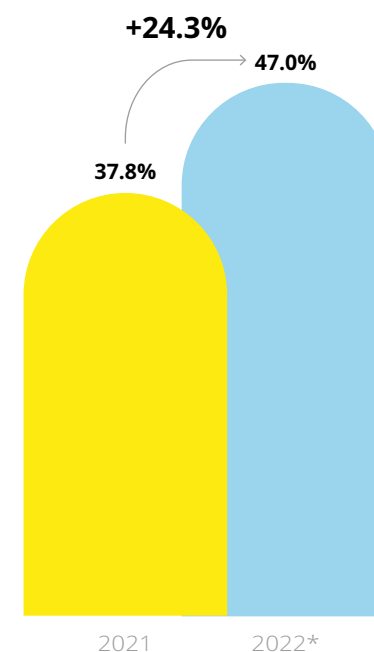
Share of IT services
exports in GDP, %



Exports of services,
USD billion



Share of IT in the
export of services, %



PROJECT MANAGER

Yuliya Malich

AUTHORS OF THE PROJECT



Team:

Viktoria Fedorenko
Konstantin Vasiuk
Yuliya Malich



Team:

Anastasiia Budnik
Anastasiia Korolova
Anastasiia Tkachuk
Stanislav Shum

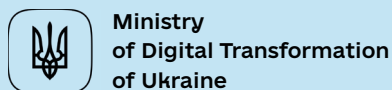
GENERAL PROJECT PARTNER



GENERAL LEGAL PROJECT PARTNER



RESEARCH PARTNERS



Partner
of the IT in Wartime section



Partner
of the Salaries section



MEDIA PARTNER



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