



CMC GLOBAL
Aspire to Inspire the Digital World

Unlocking Vietnam's Potential:

Bridging the Global Tech Talent Gap



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About This Report

IT outsourcing has grown from a trend to an important decision for multinational companies in today's digital era. With the advancement of technology, outsourcing in software development has exceeded its initial purpose of cost reduction. Instead, it is also recognized as a gateway to global talents, enabling agility, and embracing innovation.

The surge in IT outsourcing services has been nothing short of remarkable. For businesses to thrive in this new technological landscape, keeping up with this trend is important.

This report investigates the reasons why Vietnam stands out as the prime choice for outsourcing IT projects, highlighting its unique advantages and potential to catalyze success in digital enterprise.



What's Behind The Ongoing Global IT Shortage?

The US Labor Department predicts a global shortage of software engineers can reach 85.2 million by 2030. Over 85 million jobs worldwide may remain unfilled due to a lack of skilled professionals, potentially resulting in companies losing up to \$8.4 trillion in revenue.

#1 Recruiting and Remaining Talents Rank High Among Tech Companies' Workforce Challenges

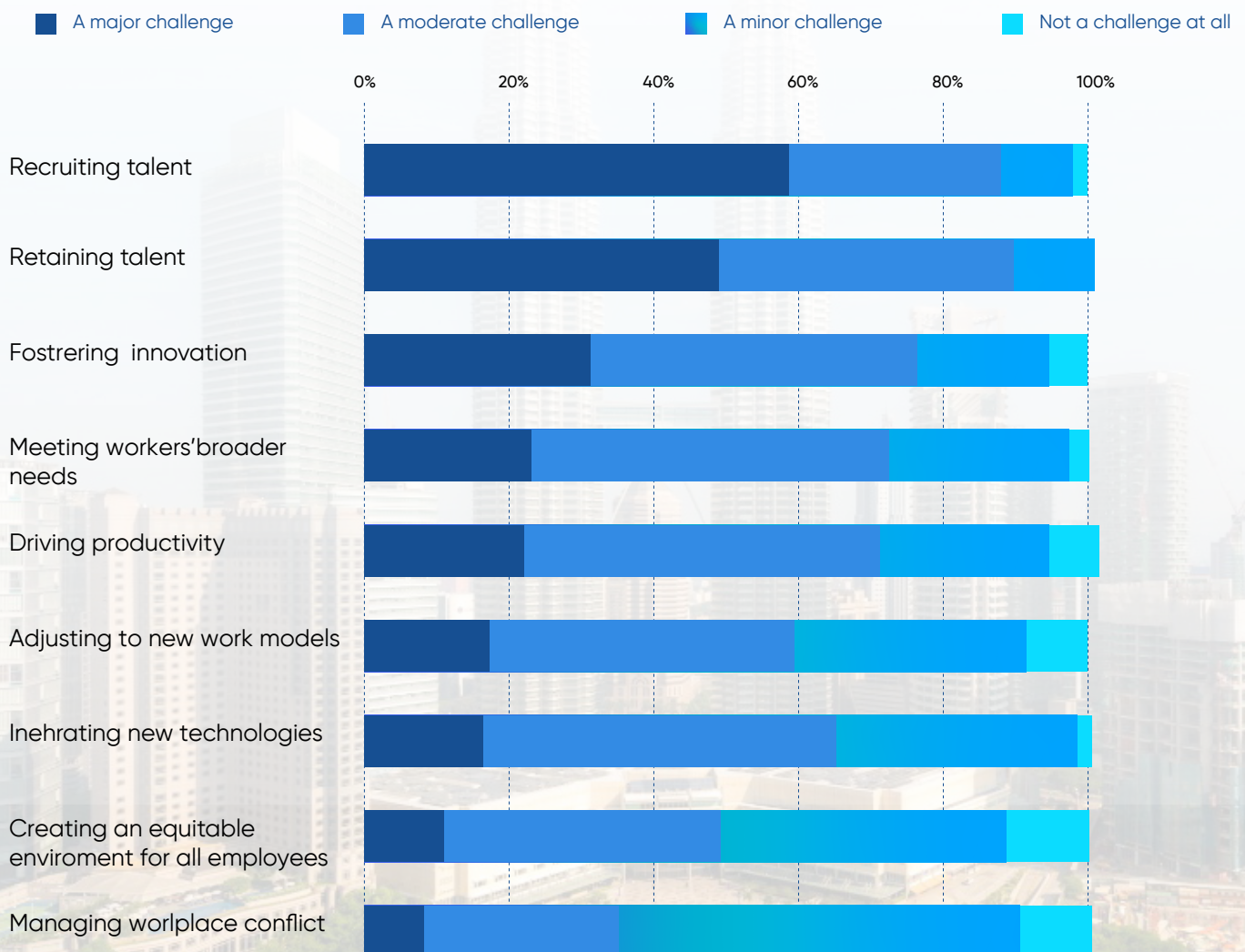
Tech companies have been sailing rough seas over the past few years, dealing with challenges like the pandemic and macroeconomic uncertainty.

Recently, tech industry leaders have faced pressure to address over hiring, enhance efficiency, cut costs, and boost automation, resulting in more than 191 thousand employees at tech-based companies in the US were affected by layoffs in 2023, and the cuts have continued into 2024.

Despite layoffs in the tech sector, tech talent remains difficult to find. In a Deloitte survey of technology industry leaders, workforce issues emerged as both a significant challenge and a key opportunity. About 90% of tech leaders responded that they have difficulty finding the right people and retaining talent.

Recruitment, retention, and developing young employees rank high among tech companies' workforce challenges

Q: For each of the following talent-related issues, select how much of a challenge it is to your company today. (Select one)

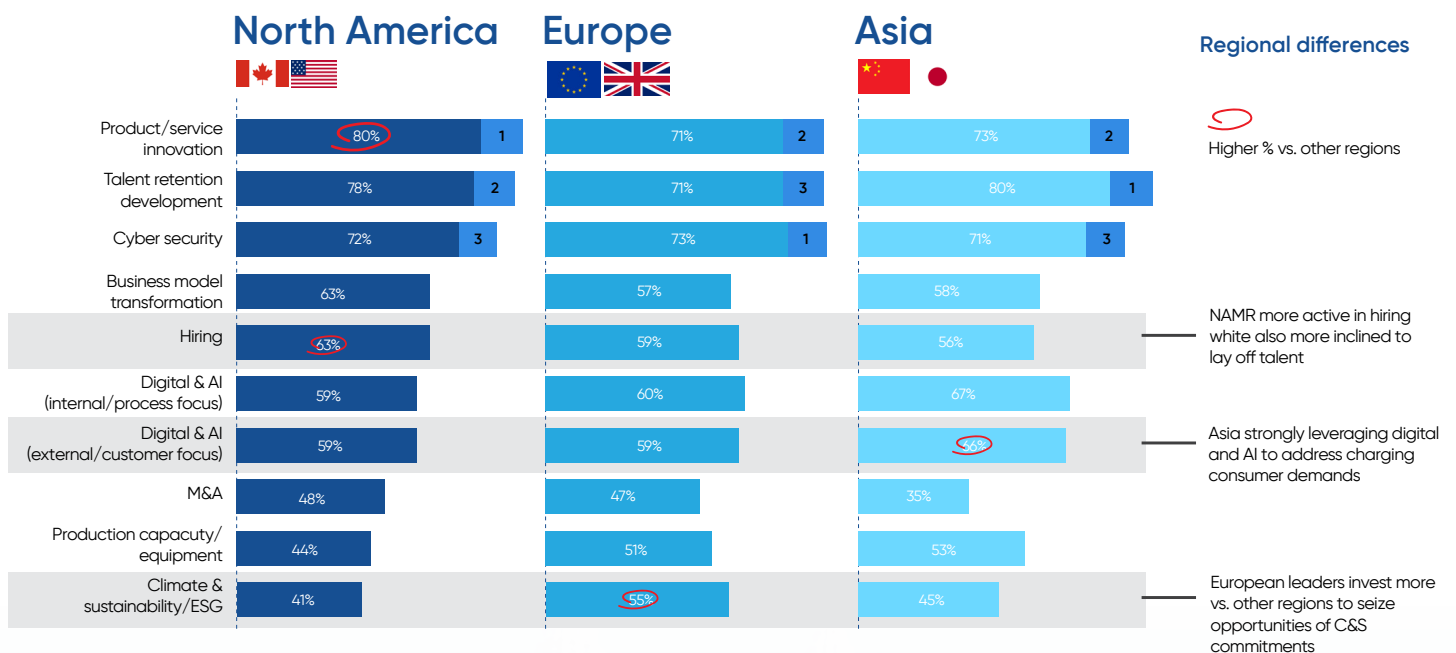


Source: Deloitte TMT Center survey of tech industry leaders in October 2022

#2 High-skilled Technical Roles Are Hard To Find

Boston Consulting Group surveyed 759 global C-suite executives across North America, Europe, and Asia to share sentiments about their company's outlook and top investment areas for fueling growth. Among the top investment areas; product/service innovation, cyber security, business model transformation, digital & AI take the lead.

% of respondents stating that this topic is currently a significant investment area for their company¹



Source: BCG analysis based on a global C-suite survey with n = 759 respondents

Despite massive job cuts, companies continue to struggle to secure the technical talent necessary to advance newer, more innovation-focused initiatives. Business leaders highlighted 2 particularly challenging areas: finding individuals with highly sought-after technical skills and supporting younger workers in adapting to an evolving workplace.

Due to layoffs and more cautious hiring practices, retention issues have improved compared to the past. However, executives still face challenges in filling senior technical roles such as data science/analytics, cybersecurity specialists, and positions requiring AI expertise.

Most difficult-to-fill IT roles today

Artificial intelligence (AI)/Machine learning.....	27%	DevOps/DevSecOps/Agile processes.....	13%
Cybersecurity.....	26%	Multicloud management.....	13%
Data science/analytics.....	17%	Internet of Things/Edge computing.....	13%
Enterprise architecture.....	17%	Cloud architecture.....	13%
Legacy technologies.....	15%	Compliance.....	13%
Blockchain.....	15%		

Credit: Foundry/CIO.com's 2024 State of the CIO Survey

The rise of new generative AI tools has led to a significant increase in job postings mentioning AI since the beginning of 2023. Engineers, data scientists, and developers with AI expertise are in high demand, including those who can build from scratch and those skilled in using new models and tools.

#3 Recommendations For Tech Business Leaders To Consider

Competing for specialized talent and developing younger workers are challenging, but companies can employ well-tested strategies. For well-defined projects or pilot initiatives, project-based outsourcing can be a suitable option. Consider looking for a trusted tech partner with the right skills and capabilities to alleviate the tech talent shortage.

Vietnam is rapidly becoming a leading IT outsourcing destination globally due to its ample skilled workforce, cost-effectiveness, and conducive business climate. A Tholons report highlighted Vietnam's rise to 46th place in the top digital nations in 2023. Additionally, Vietnam is a significant player in the global software market, with numerous Vietnamese firms offering software products and services to international clients.



Vietnamese Developers' Competency

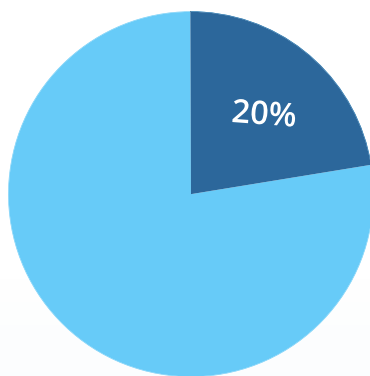
Vietnam is currently advancing its digital transformation efforts, with the aspiration of transitioning into a fully digitalized nation by 2030.



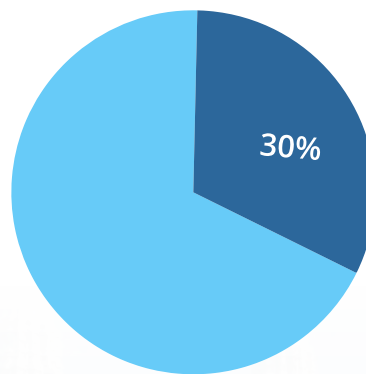
Under Decision No. 411/QĐ-TTg, the National Strategy for fostering the digital economy and digital society has been endorsed. The objective is to elevate the digital economy's contribution to 20% of the GDP by 2025 and further to 30% by 2030.

In pursuit of these digital economic development targets, prioritizing the development of human resources stands out as an important task. This endeavor is aimed at establishing the necessary groundwork for nurturing a workforce equipped to thrive in the digital economy.

Vietnam GDP 2025



Vietnam GDP 2030



■ Digital Economy

The digital economy contribution to Vietnam GDP in 2025 and 2030



#1 STEM-focused Educational Background

Vietnam's educational focus leans heavily towards STEM (Science, Technology, Engineering and Maths), particularly on IT studies. Consequently, there's a consistent supply of skilled IT experts proficient in English and familiar with global business practices.

**TECH/ DIGITAL LABOR FORCE
WORKING IN COMPUTER SCIENCE
& IT-RELATED SECTORS**

530,000

Based on the estimated ratio (1.0%+) of Tech & IT related sectors labor force on total labor force from 15 years & above.

**ANNUAL STUDENTS ENROLLMENT
(COMPUTER SCIENCE & IT-
RELATED MAJOR)**

50,000 - 57,000

Based on the annual report from MOET from 2019 - 2022 in the ratio of Information Technology majors on annual general universities/ colleges enrollment quotas.



Started in 2015, the \$8.7 million BUILD-IT between Vietnam and the USA governments is advancing a shared goal of improving STEM education in Vietnamese higher education institutions.

STEM EDUCATION DEVELOPMENT IN VIETNAM USAID'S BUILD-IT PROJECT

\$8.7

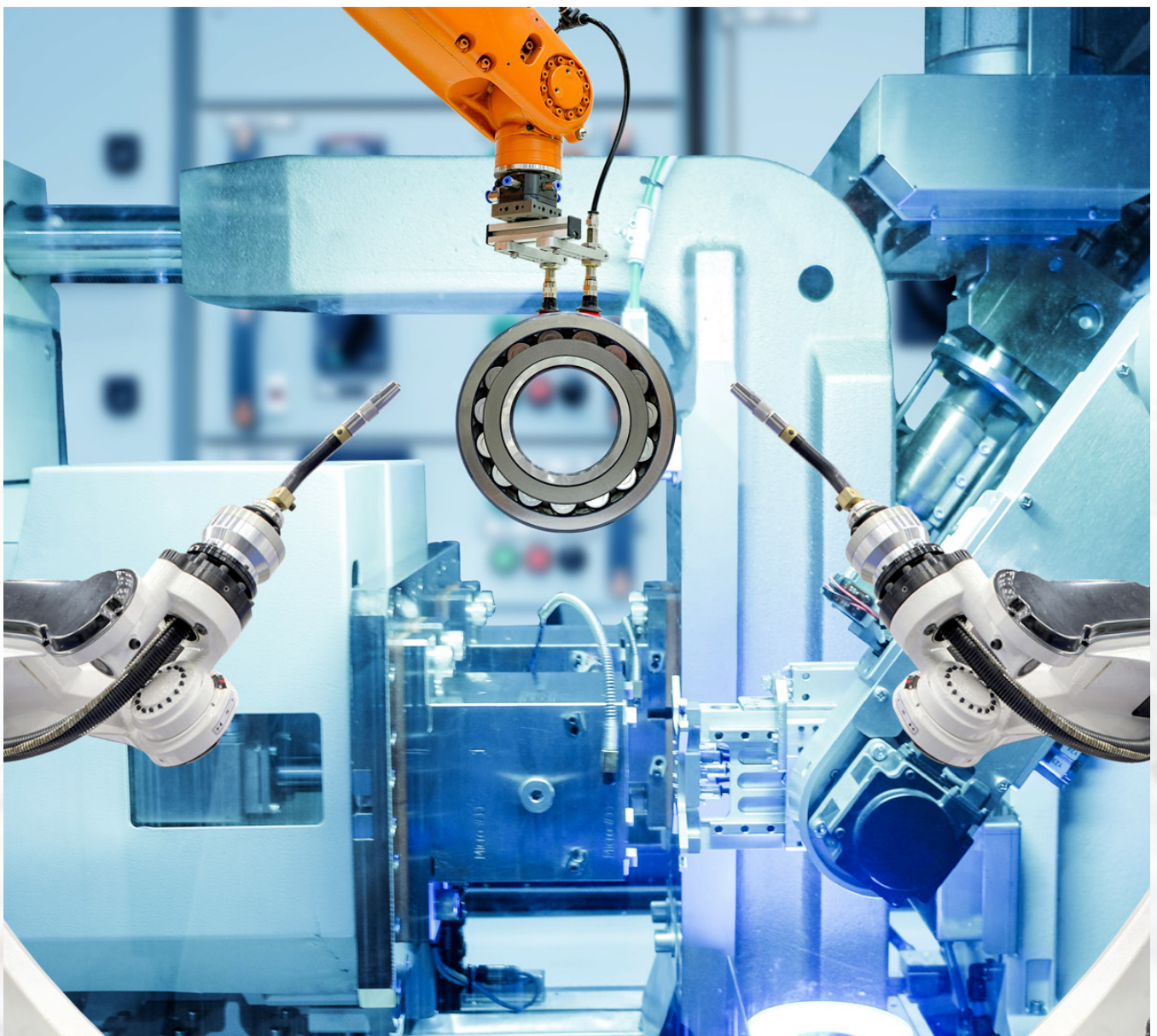
Investment in
higher education

121

Educational
programs

12

Program accreditations
under Accreditation Board
for Engineering and
Technology (ABET)



Technological Capability Development Policies



High-tech Human Resource Development Project by the Ministry of Education and Training of Vietnam

The project focuses on improving the quality and quantity of high-level talents in high-tech related fields to achieve Vietnam's economic and social development strategic goals between 2021 and 2030. We are also strengthening our collaboration with universities, companies, and international development cooperation organizations.

Specific goals of the project

- Improve the quality and quantity of education to get closer to international standards.
- Attracting students to the high-tech field.
- Innovate the way university education is conducted and work closely with cooperation and research.
- Build robust mechanisms and policies for high-tech talent development.



Samsung Innovation Campus

One of the most extensive technical development education programs for students in Vietnam. Offering courses on core technologies such as IoT, AI, and big data, the program provides participants with not only the latest and broader knowledge, but also hands-on opportunities to use the knowledge learned to propose solutions and ideas tailored to each scenario and situation.



Google Career Certificates by VietnamWork

This program is provided by VietnamWorks in cooperation with Google and the National Innovation Center (NIC) with the aim of contributing to the improvement of human resource cscholarships for digital skill improvement. This includes data analysis, project management, IT support, digital marketing, and e-commerce.

Number of IT education facilities nationwide:

240 Colleges and Universities with 160 colleges and universities in Information Technology, Electronics & Communications, Information Security.

Below is the number of IT education facilities in the three largest cities in Vietnam:

Hanoi

- 7 universities that train engineers in information technology (5-year course)
- 26 universities that train bachelor's degrees in information technology (4.5 years)
- 19 vocational schools

Da Nang

- 20 universities & vocational schools
- 18 secondary vocational schools & training centers

Ho Chi Minh City

- 59 universities
- 60 vocational schools
- 51 specialized high schools
- ~ 200 vocational training centers



In 2024, there will be a trend of increasing the capacity of the information technology field in universities in the country, and in particular, the opening of new majors in semiconductor design will meet the future development of this industry

#2 Highly Skilled Software Engineer

SKILLVALUE

**VIETNAM
RANKS 10TH**

in World Rank of
Best Developers Survey

**VIETNAM
RANKS 3RD**

for Artificial Intelligence
Coders according to Hacker
Rank's Report of 2021

**VIETNAMESE
CODERS RANK 11TH**

globally in terms of their skill ratings
according to the 2022 TopCoder
Report's Developer Skills Charts

NodeJS, Java, MySQL, Spring Boot, Laravel, .NET Core, Django and AWS are the most popular technologies in their respective tech stacks

Javascript

1.NodeJS	35.5%
2.Angular	32.2%
3.ReactJS	28.4%
4.Typescript	21.6%
5.Vue	19.9%

Java

1.Spring Boot	45.92%
2.Hibernate	10.2%
3.Struts	2.5%
4.Vaadin	2.1%

.NET/C#

1.Net core	45.2%
2.Net framework	27.4%
3.ASP.Net core	31.5%
4.ASP.Net MVC	18.5%
5.Xamarin	1.3%

Database technologies

1.MySQL	58.1%
2.SQL Server	45.6%
3.MongoDB	28.7%
4.PostgreSQL	19.9%
5.Redis	14%

DevOps

1.Linux	76.5%
2.Docker	52.7%
3.Bash	11.9%
4.Kubernetes	10.3%

Python

1.Django	38.1%
2.Falcon	20.4%
3.Pyramid	18.2%
4.Flask	16.6%
5.Numpy	14%

Cloud Platform

1.AWS	35.1%
2.Microsoft Azure	22.2%
3.VMWare	16.3%
4.Firebase	16.8%
5.Google Cloud	4.2%

PHP

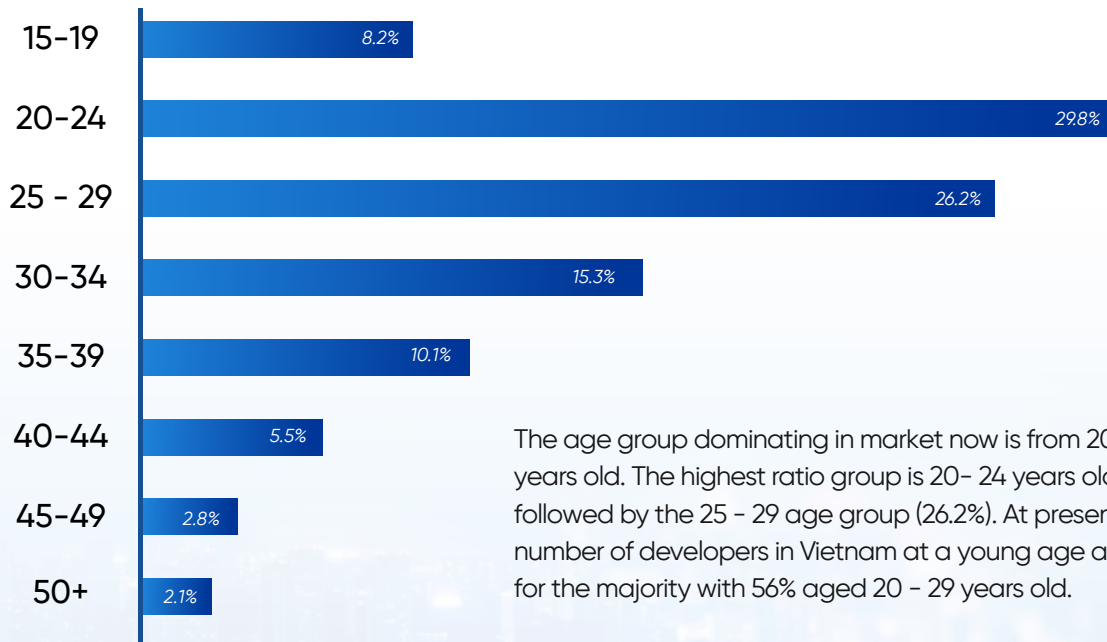
1.Laravel	75.6%
2.CodeIgniter	14.3%
3.Symfony	15.2%
4.CakePHP	7.5%
5.Yii	3.7%

Mobile Development

1.Java	49.3%
2.Swift	19.7%
3.Flutter	15.1%
4.React Native	9.9%
5.Kotlin	2.1%

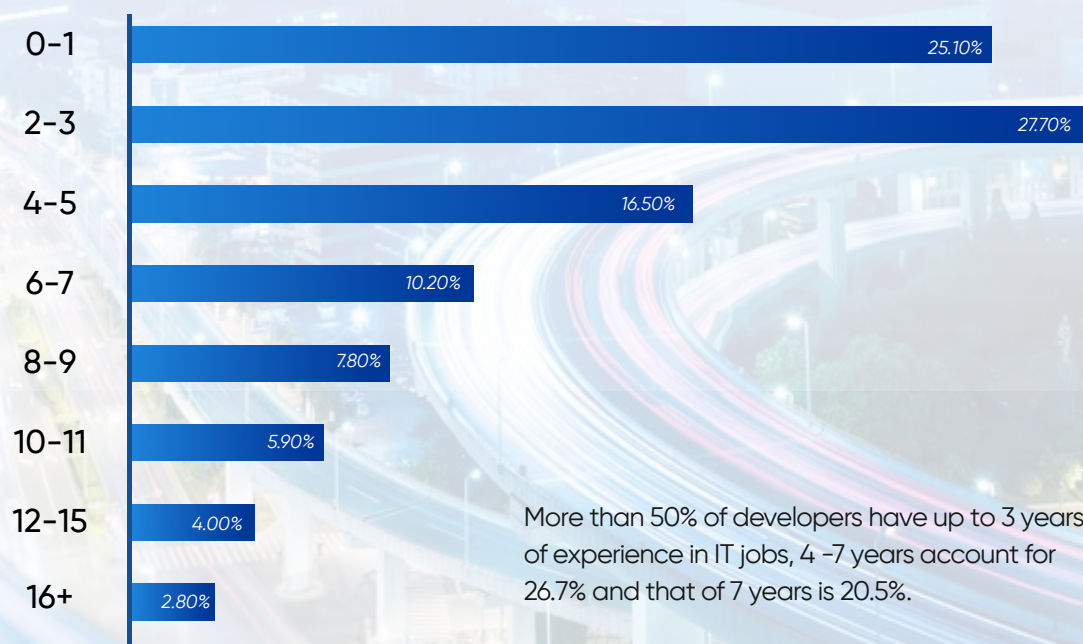
#3 Young & Dynamic Workforce

AGE



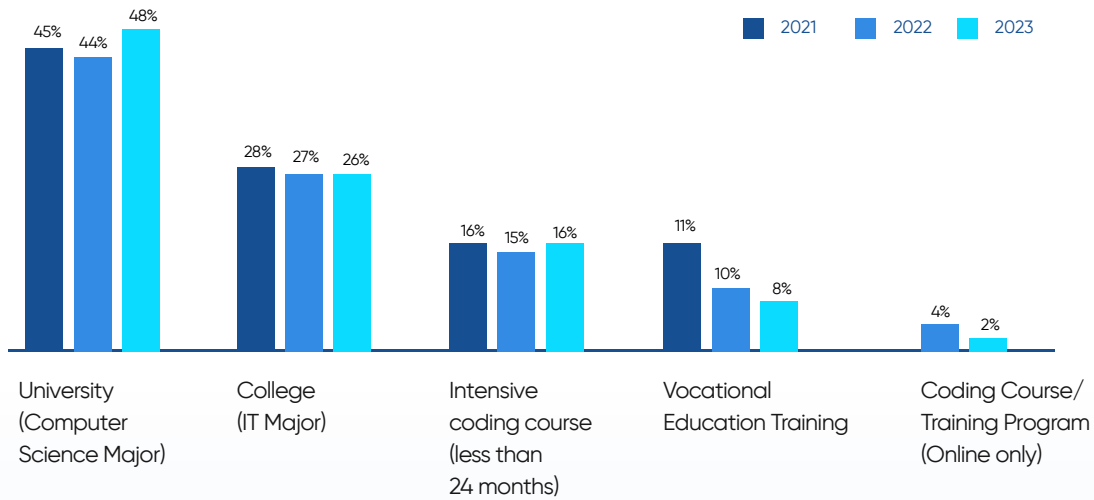
The age group dominating in market now is from 20 to 34 years old. The highest ratio group is 20- 24 years old (29.8%), followed by the 25 - 29 age group (26.2%). At present, the number of developers in Vietnam at a young age accounts for the majority with 56% aged 20 - 29 years old.

YEARS OF EXPERIENCE



More than 50% of developers have up to 3 years of experience in IT jobs, 4 -7 years account for 26.7% and that of 7 years is 20.5%.

EDUCATIONAL BACKGROUND IN TECHNOLOGY



Top 2 educational background of developers are from Universities (48%) & Colleges (26%) having IT-related & computer science majors.

NEW TECHNOLOGY APPROACH

How have developers learnt new programming language/ technology?



ONLINE COURSE PLATFORMS

Which platforms do developers often use for learning new technologies?

Udemy

Coursera

LinkedIn Learning

codecademy

PLURALSIGHT

freeCodeCamp (🔥)

UDACITY

edX

W³
schools

- The web developer Bootcamp" course
- The Complete JavaScript course" course
- The Complete Python Bootcamp" course
- Machine Learning A-Z™: Python & R in Data Science" course
- Java Programming Masterclass" course

#4 English Proficiency

English stands as the second most widely spoken language in Vietnam, with a significant proportion of college graduates with a strong command of English. Vietnam's proficiency in English ranked 7th in Asia and 58th worldwide in the EF English Proficiency Index 2023. As a result, approximately 90% of IT professionals in Vietnam possess intermediate or higher proficiency in English, enabling effective communication on outsourcing projects.

Vietnam

#58

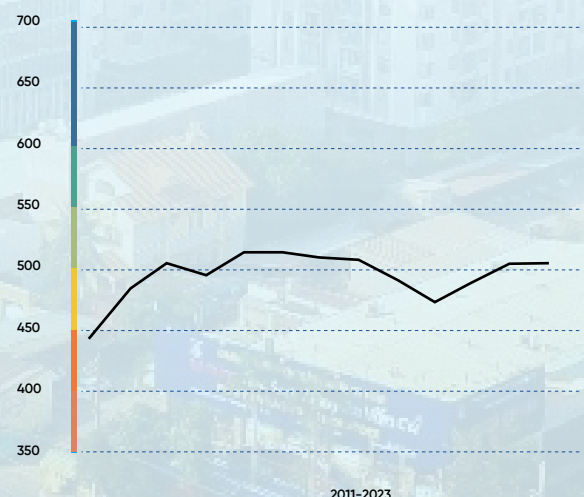
Ranked no.58 out of 113 countries

EF EPI score: 505

Global average score: 493

Position in Asian: 7 of 23

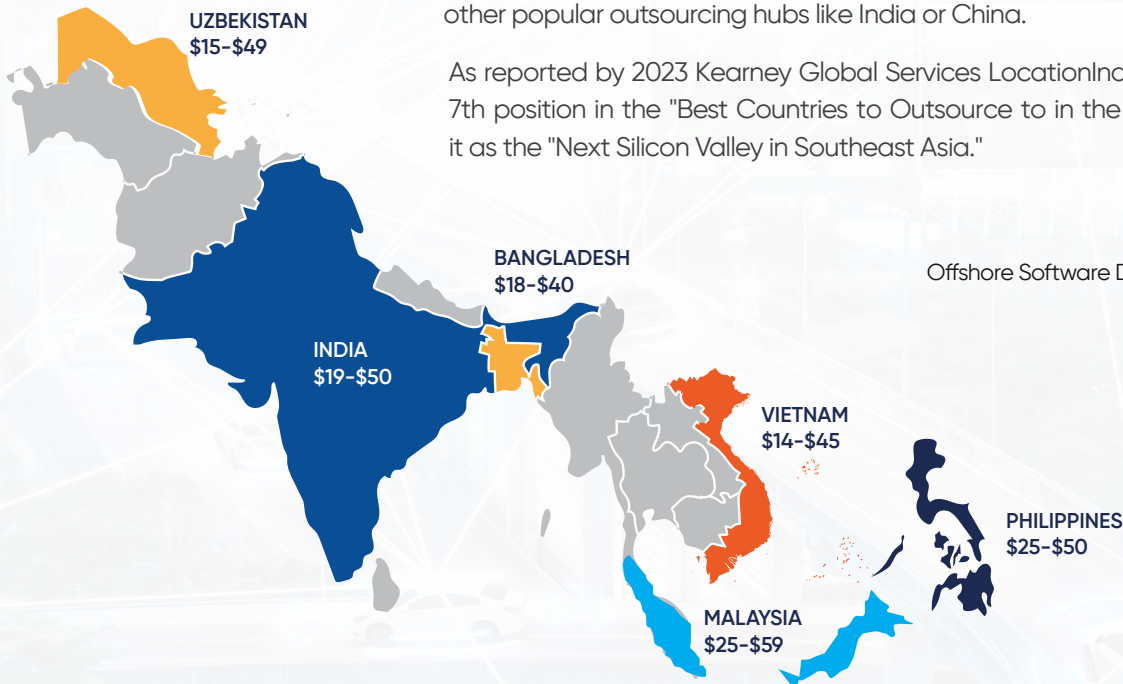
Proficiency Trends



#5 Attractive Cost

Vietnam offers an attractive cost for IT outsourcing services. The average hourly rate for a software device is around \$25, which is notably lower when compared to other popular outsourcing hubs like India or China.

As reported by 2023 Kearney Global Services LocationIndex, Vietnam secured its 7th position in the "Best Countries to Outsource to in the World in 2023", making it as the "Next Silicon Valley in Southeast Asia."



#6 Average Annual Cost Saving Per Employee



Over 90% of Fortune 500 companies leverage staffing agencies to optimize their talent management plan. In Vietnam, IT staffing services are one of the most popular and flexible outsourcing models and recruitment techniques. Organizations can hire a dedicated team of engineers who work exclusively for their projects, whether they need an extended team or a remote staffing solution.

More than half of the leaders expect their teams to become more geographically distributed. With IT staffing services, they access a global talent pool that offers cost-effective and high-quality resources. They enable them to leverage the benefits of a global workforce and achieve operational efficiencies.

#7 Project Hourly Rates

Country Name	Country Code	OP23	OP24	%
France	FR	€ 109,00	€ 113,00	3,7%
Germany	DE	€ 109,00	€ 113,00	3,7%
Belgium	BE	€ 100,00	€ 105,00	5,0%
United States	US	€ 96,00	€ 102,00	6,3%
Canada	CA	€ 92,00	€ 97,00	5,4%
United Kingdom	GB	€ 76,00	€ 79,00	3,9%
Portugal	PT	€ 60,00	€ 64,00	6,7%
Japan	JP	€ 58,00	€ 60,00	3,4%
Italy	IT	€ 57,00	€ 60,00	5,3%
Spain	ES	€ 57,00	€ 60,00	5,3%
Czech Republic	CZ	€ 51,00	€ 53,00	3,9%
Slovakia	SK	€ 51,00	€ 54,00	5,9%
China	CN	€ 48,00	€ 52,00	8,3%
Singapore	SG	€ 48,00	€ 52,00	8,3%
Hungary	HU	€ 42,00	€ 44,00	4,8%
Poland	PL	€ 38,00	€ 41,00	7,9%
Mexico	MX	€ 32,00	€ 42,00	31,3%
Brazil	BR	€ 27,00	€ 29,00	7,4%
South Africa	ZA	€ 27,00	€ 29,00	7,4%
Korea	KR	€ 26,00	€ 27,00	3,8%
Malaysia	MY	€ 26,00	€ 27,00	3,8%
Thailand	TH	€ 26,00	€ 27,00	3,8%
India	IN	€ 25,00	€ 29,00	16,0%

Global Tech Giants' Presence in Vietnam

Vietnam stands out as a prime location for business endeavors. In addition to the Free Trade Agreements (FTAs) established with the EU in 2019 and effectively managing the Covid-19 pandemic, Vietnam has been attracting substantial investment from global technology giants such as Microsoft, LG, Samsung, and Intel. Moreover, companies like IBM, Sony, and Cisco are actively exploring opportunities to extend their presence in Vietnam.

This trend underscores Vietnam's capacity as a business hub. With these major players establishing a foothold in the country, the Vietnamese workforce is actively supporting them in delivering top-notch services to the global market.

Conclusion About Vietnam IT Workforce

In conclusion, Vietnam's IT workforce is poised to meet global IT outsourcing requirements, driven by a combination of factors including a growing talent pool, competitive labor costs, and government initiatives to promote digitalization.

With a strong focus on education and skill development, coupled with a proactive approach to adopting new technologies, Vietnamese IT professionals are increasingly gaining recognition for their expertise and reliability in delivering high-quality IT services to clients worldwide. As Vietnam continues to strengthen its position as a prominent destination for IT outsourcing, sustained investment in talent development and infrastructure will be crucial to further enhancing the country's competitiveness in the global IT outsourcing market.



CMC GLOBAL

THE SOLUTION TO THE GLOBAL TECH TALENT SHORTAGE

Global Offices

10+

Employees

3,000+

Global Clients

300+

Business Partners

35+

DIGITAL
TRANSFORMATION
SERVICES

ENTERPRISE
PLATFORM
SERVICES

OUR
PROFESSIONAL
SERVICES

MANAGED
SERVICES

SOFTWARE
DEVELOPEMENT

OUR CERTIFICATES & AWARDS



OUR TECHNOLOGY PARTNERS



OUR PROMINENT PARTNERS



DIGITAL TRANSFORMATION CAPABILITY

Cloud MSP Services →

60



AWS Certified Developer – Associate

20



AWS Certified SysOps Administrator – Associate

15



AWS Certified Solutions Architect – Associate

15



Microsoft Azure Fundamentals (AZ-900)

50



AWS Certified DevOps Engineer – Professional

BPA Services – Authorized Partner with Outsystems →

2



Blue Prism Developer

1



Blue Prism Professional Developer

2



UiPath Certified RPA Associate

2



UiPath Certified Advanced RPA Developer

13



Automation Anywhere Certified Advanced RPA Professional

6



Automation Anywhere Certified Master RPA Professional



IT Workforce Development

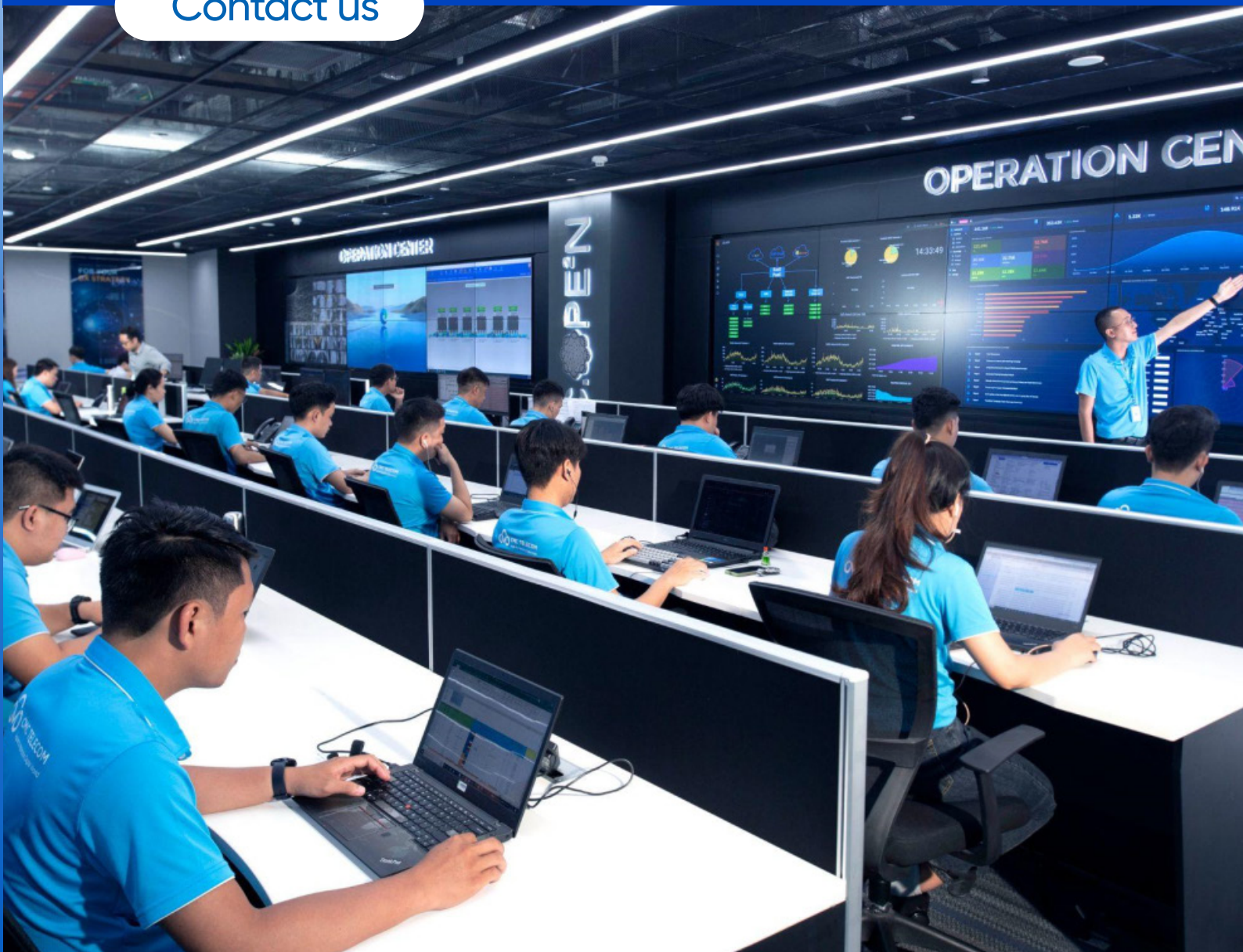
CMC Global Plans to Rise the Number of IT workforce to 5000 staff by 2028. Through hiring and training, CMC also invest in education activities.

Investment in CMC University

The 1st digital university of Vietnam with an advanced academic environment, with a special focus on key technology and engineering fields, meeting the need for highly qualified human resources both domestically and internationally.

It's Time to Start the Transformation Journey with CMC Global

Contact us



CMC Global

Website: <https://cmcglobal.com.vn/>

Social Network: **Facebook**

LinkedIn

Email: marketing@cmcglobal.vn

Contact us

<https://cmcglobal.com.vn/contact-us/>



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