Photo source: Forbes Ukraine

CENTRE FOR ECONOMIC STRATEGY

Skills Alliance for Ukraine

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Authors: CES team

LABOUR PRODUCTIVITY IN UKRAINE: TRENDS, CHALLENGES AND SKILLS

Executive summary

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Labour productivity in Ukraine declined significantly (to 80% of the 2021 level) during the first year of full-scale russia's war against Ukraine, due to supply chain disruptions, destroyed production capacity, and migration caused by the invasion. Since then, productivity has been gradually recovering (to 85% in 2025 of the 2021 level).

Productivity growth is boosted by a well-educated labour force, advanced technology, sustained infrastructure, strong capacity for innovation, and robust investment. Proper education, reskilling, and upskilling will enhance labour productivity by meeting labour-market needs.

EU accession will increase productivity through technology transfer and compliance with EU standards and will also attract investment through access to European cohesion funds and private capital inflows.

Productivity growth is crucial for Ukrainian companies, especially given labour shortages caused by the full-scale war, with 5.6 million war refugees in 2026 and an estimated annual loss of at least 5,5% of pre-war GDP.

SME growth still **relies heavily on hiring**, yet productivity tools are already widespread: 21% used automation, 30% used digitalisation, and 34% used staff training during the last 12 months. These tools often complement one another. Firms without **prior experience of automation, digitalisation or training** often remain outside the process.

Company size and sector strongly shape both the adoption of and plans for automation, digitalisation and training.

Automation and digitalisation face significant **investment barriers**, while companies that automate mostly finance these investments from their own funds.

War-related risks are another major barrier. Many businesses also **do not see a clear need to change**, possibly because they are not fully aware of available solutions.

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Productivity trends during the full-scale war

Labour productivity in Ukraine is among the lowest in Europe

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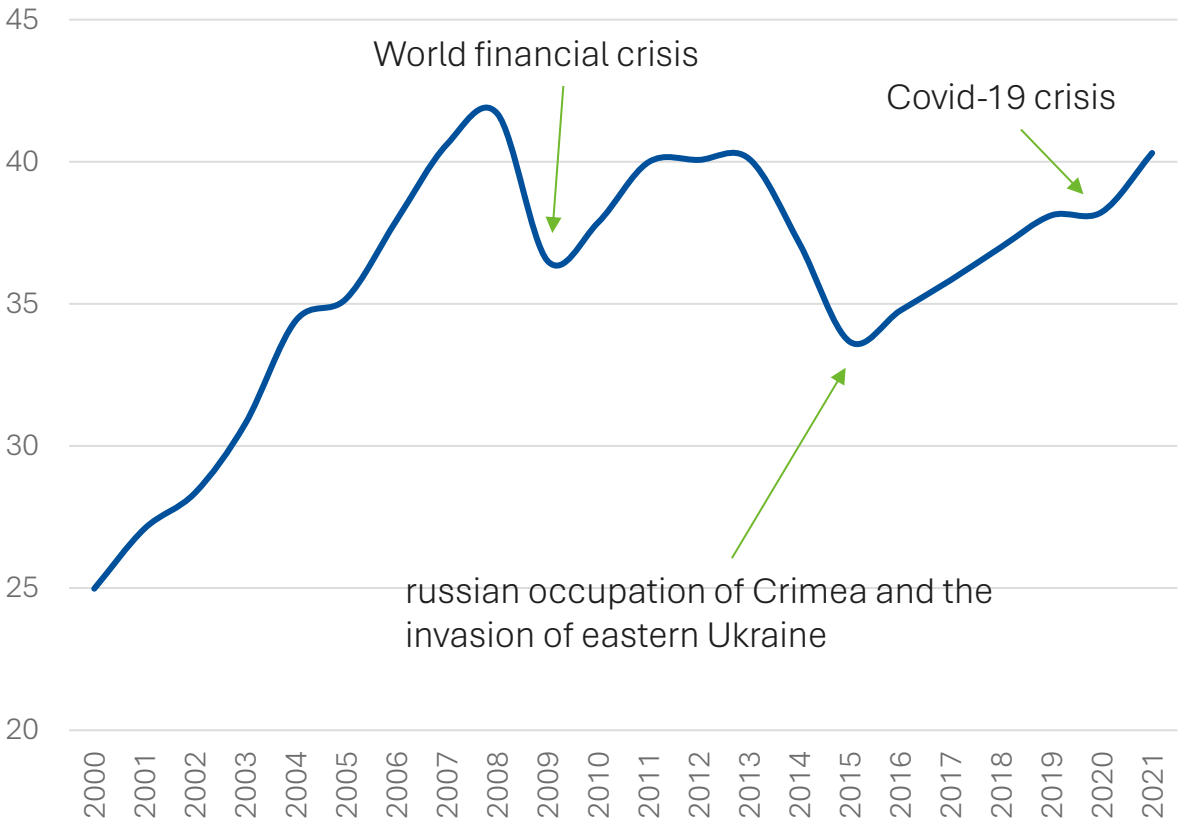
Labour productivity in Ukraine grew in recent decades

Labour productivity per person employed in Ukraine, $ thousands



Source: World Bank. Productivity is calculated as GDP in constant 2021 prices in $ per person employed.

Between 2000 and 2021, **Ukraine's labour productivity grew by ~1.6 times** due to market transition, though crises caused interruptions.

Even before russia's invasion, **Ukraine's productivity was Europe's third-lowest**, 65% below the EU average and trailing Poland or Hungary.

Productivity is hampered by low-value-added, labour-intensive industries and an inefficient, huge public sector with low-profit state-owned enterprises.

Additionally, **low investments** (~15% of GDP in 2014–2021, compared with 25% in Czechia) have resulted in a less productive capital stock.

Labour productivity suffered because of the full-scale war

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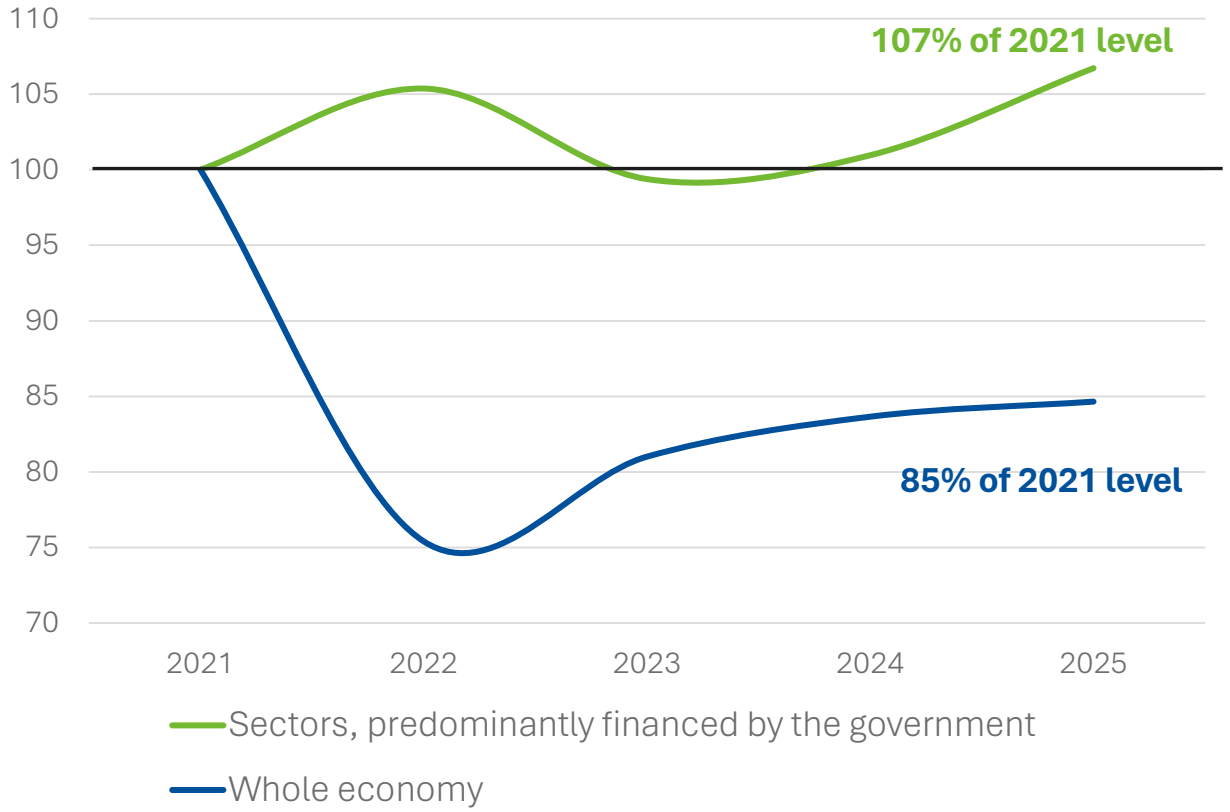
In 2025, productivity remained 15% below 2021 levels

Labour productivity per person employed in Ukraine*, index 2021=100%



*Official employment based on Pension Fund data (Single Social Contribution payers by type of activity, 2021–2025).

Source: SSSU, Pension Fund, CES calculations.

In 2022, labour productivity collapsed to 80% of the pre-war 2021 level due to destroyed capacities and labour shortages.

Since 2023, labour productivity has grown as the economy adapted to wartime conditions, though it remains 15% below 2021 levels in 2025.

Since 2022, the public sector has supported productivity restoration amid wartime statistical effects, such as rising defence spending.

Productivity growth partly offsets capital deterioration and labour shortages, leading to gradual growth in potential and real GDP despite the war.

Productivity recovers unevenly across sectors

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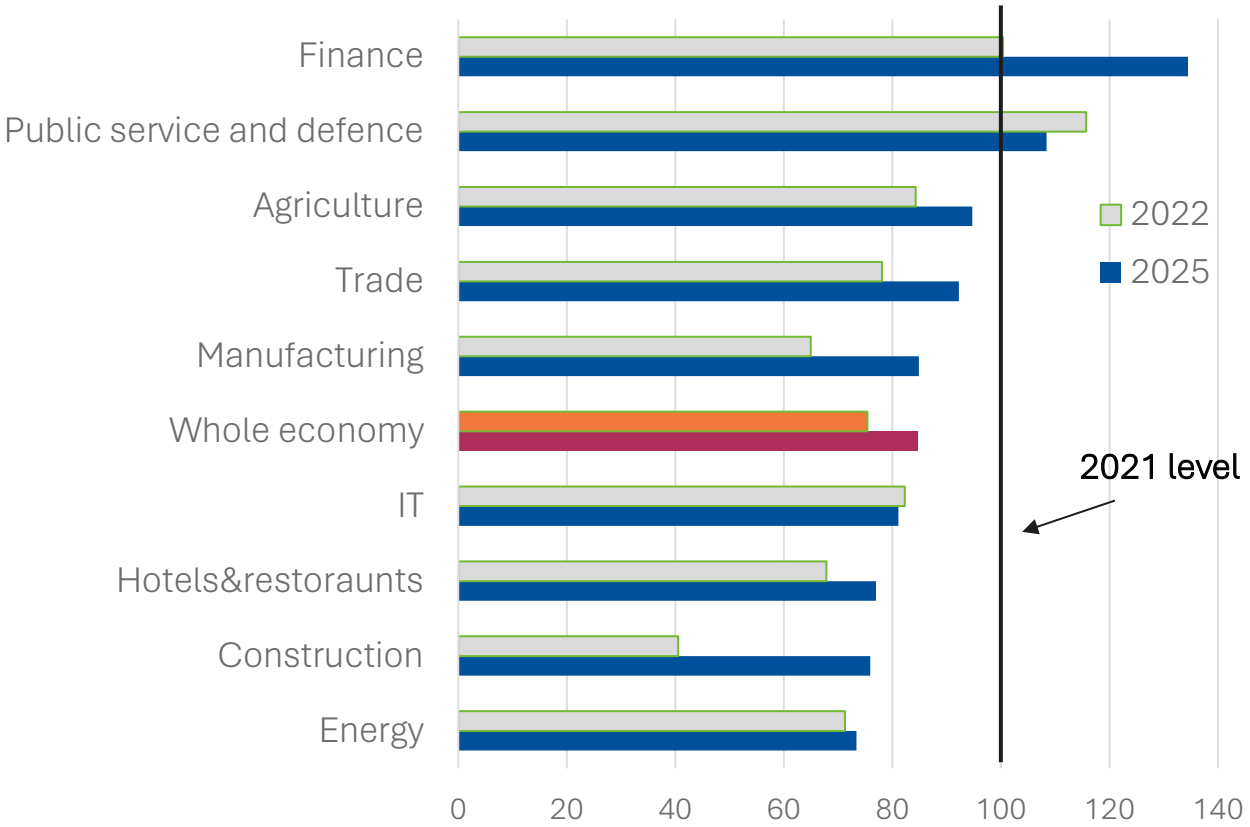
Government-financed sectors dominate in productivity growth

Labour productivity per person employed in Ukraine* in some activities in 2022 and 2025, % of 2021



*Official employment based on Pension Fund data (Single Social Contribution payers by type of activity, 2021–2025).

Source: SSSU, Pension Fund, CES calculations.

Labour productivity in Ukraine rose by ~12% in 2025 compared with 2022, driven by the post-shock economic recovery. However, the war caused massive structural changes, making recovery uneven across sectors.

Productivity in agriculture depended on the weather, while productivity in industry, construction, trade, and transport recovered rapidly (averaging ~30% growth) thanks to the adaptability of Ukrainian companies.

Government-financed sectors exceeded pre-war productivity levels, but did not offset the whole economy's war losses.

Enhancing productivity takes work in several areas *(literature review)*

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There is no "silver bullet": productivity growth is a complex, multi-layered institutional process

SUSTAINABLE PRODUCTIVITY GROWTH

Human capital and skills

Foundational, digital, technical and soft skills

Adult learning and retraining

Demand-driving training

Technology and allocation

SME technological adaptation and innovation capacity development

Resource mobility

Physical capital

Resilient infrastructure and productive capacity

Replacement of war-related capital losses

Balanced labour market regulation

Less rigid and more adaptable to current conditions

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Productivity growth through skills and technology

Business response

Research focus and methodology

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WHAT WE WANTED TO UNDERSTAND

PRODUCTIVITY TOOLS USE

Automation – Digitalisation – Staff training

SKILLS DEVELOPMENT

New skills that gain importance

Role of VET

How VET can support businesses

METHODOLOGY

556
SMEs surveyed
>250 empl.

10
in-depth interviews

298,469
businesses in target population

Disproportionate sample by company size → weighted back by size, sector and region

Percentages are weighted; N values are unweighted.

TARGET POPULATION AT A GLANCE

83%
micro-enterprises

~50%
Kyiv city & Central region

55%
trade & services

Businesses have adapted, but growth requires more hiring

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Business growth plans rely heavily on additional hiring despite a limited supply of workers

39%
expanded operations over the last 12 months

42%
expect growth within the next 12 months

53%
will need more workforce within the next 12 months

50%
need additional workforce to grow

Current optimism may partly reflect survivorship bias: the number of registered businesses has declined by 20% since 2021.

Business adaptation focuses on **attracting and retaining workers**, including through higher salaries, rather than growing with fewer employees.

Companies that see potential to grow without additional hiring point primarily to **process optimisation, automation and digitalisation.**

Source: Info Sapiens survey commissioned by CES, CES calculations.

Productivity tools are used, but unevenly

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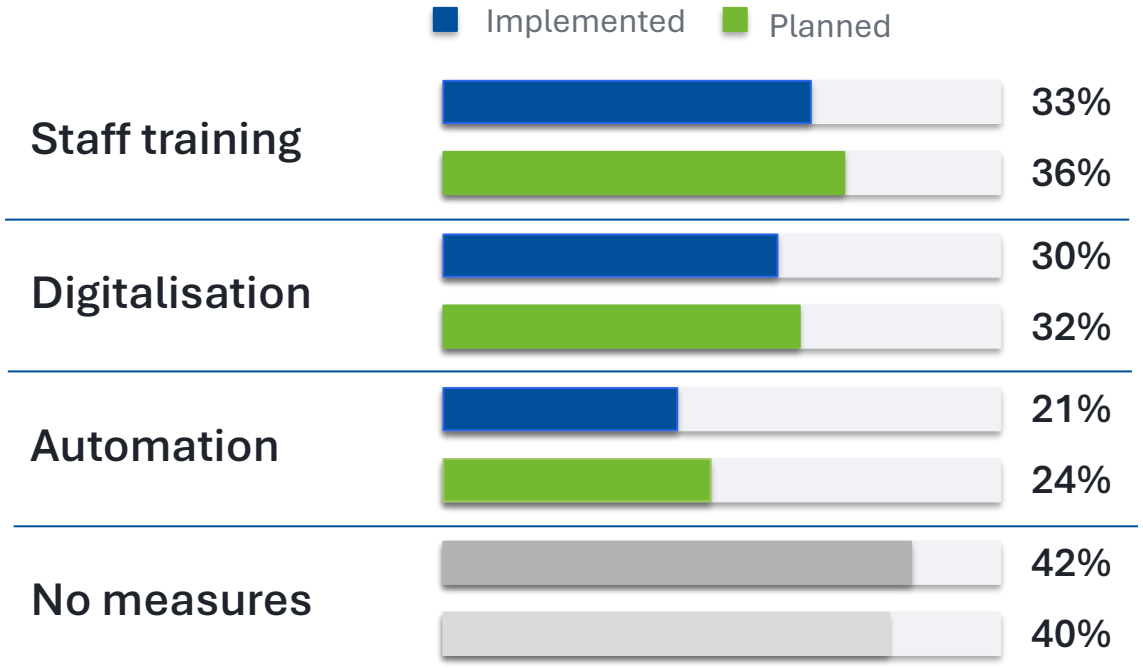
Despite wartime risks, SMEs continue to automate, digitalise and invest in staff training

Implemented / planned for next year activities, % of companies



58%
implemented at least one measure

60%
plan at least one measure next year

23%
of firms implemented several measures

>50%
of non-users do not see a need these measures

Significant risk is inertia: firms without experience of change are less likely to plan automation, digitalisation or training in the future.

Automation, digitalisation and training **often complement each other.**

Source: Info Sapiens survey commissioned by CES, 2026; CES qualitative interviews.

Implementation differs sharply by firm size and sector

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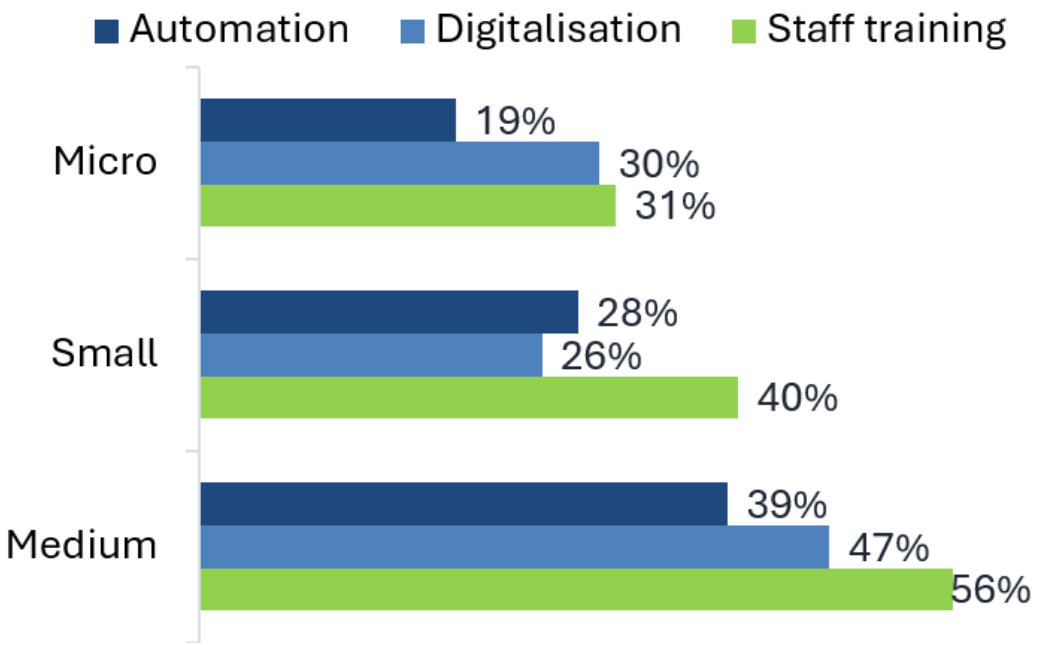
BY COMPANY SIZE

Implemented activities, % of companies in each group



BY SECTOR

Implemented activities, % of companies in each group

	Automation	Digitalisation	Training
Agriculture	34%	11%	12%
Industry & energy	39%	22%	20%
Construction	17%	14%	31%
Trade	18%	29%	20%
Transport & logistics	24%	40%	27%
IT & telecom	28%	75%	39%
Other services	10%	38%	55%

Medium-sized firms are the **most active** across all three tools.

Sector patterns differ sharply: automation is strongest in agriculture and industry, digitalisation in IT and logistics, while training is most common in service-oriented sectors.

Source: Info Sapiens survey commissioned by CES, 2026; CES qualitative interviews.

Automation costs more; digitalisation requires more staff adaptation

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Automation and digitalisation deliver similar benefits, but differ in costs and implementation needs

	AUTOMATION	DIGITALISATION
Main outcome: increased production	41%	34%
Reported cost above UAH 1M	34%	14%
Need for new skills among employees	69%	76%
Staff training challenges	16%	34%
Main incentive: access to finance	36%	32%

Automation is **more expensive** and more often relies on **external financing**.

Digitalisation more often requires **new skills** and is frequently accompanied by **staff training.** Adoption of new tools might be **challenging for employees.**

Source: Info Sapiens survey commissioned by CES, 2026; CES qualitative interviews.

Technology adoption is already reshaping skills needs

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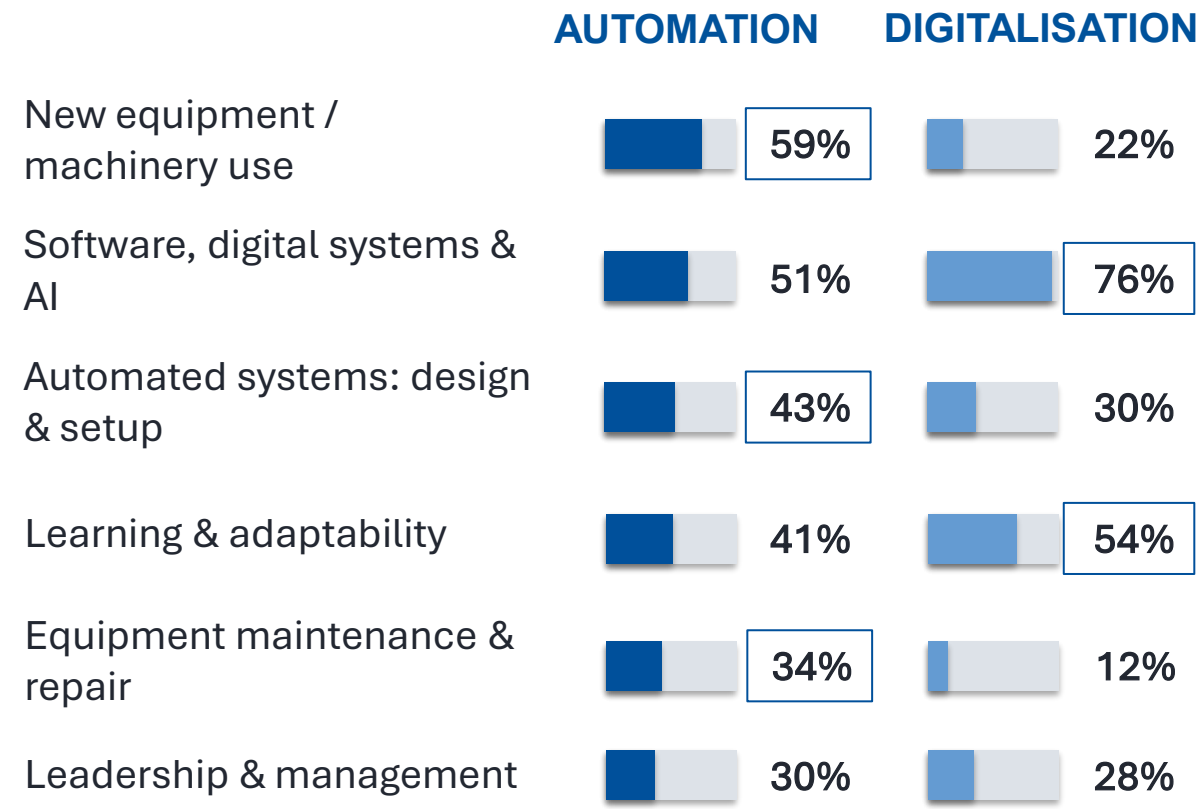
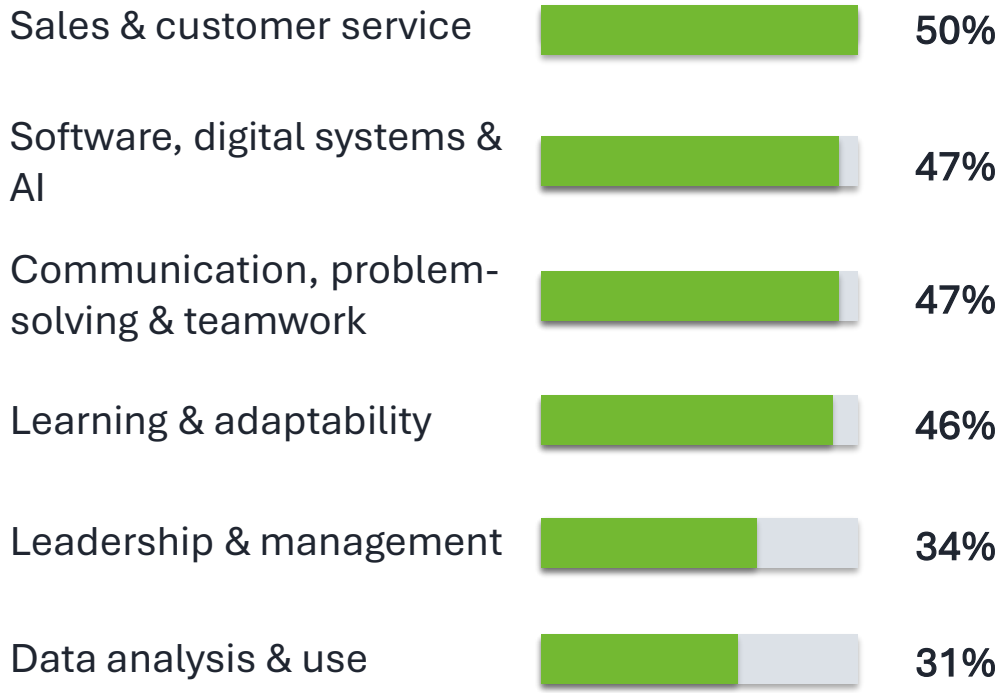
Automation drives equipment-specific skills; digital and soft skills cut across technologies

SKILLS EMERGING AFTER TECHNOLOGY ADOPTION



SKILLS EXPECTED TO GAIN IMPORTANCE IN 2–3 YEARS



Source: Info Sapiens survey commissioned by CES, 2026; CES qualitative interviews.

Future skills needs differ strongly by company size and sector

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Skills provision needs to combine cross-cutting digital and soft skills with sector-specific technical training

MOST FREQUENTLY NAMED SKILL BY COMPANY SIZE

MICRO	SMALL	MEDIUM
Sales & customer service 51%	Learning & adaptability 49%	Software, digital systems & AI 64%

MOST FREQUENTLY NAMED SKILL BY SECTOR

AGRICULTURE	INDUSTRY	CONSTRUCTION
Modern machinery use, maintenance & repair 46%	Modern machinery & equipment use 60%	Learning & adaptability 45%
TRANSPORT	**TRADE**	**IT & TELECOM**
Communication, problem-solving & teamwork 55%	Sales & customer service 70%	Software, digital systems & AI 71%

Source: Info Sapiens survey commissioned by CES, 2026; CES qualitative interviews.

Training is the most widely used productivity tool, mostly internal

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33%
trained staff
in the past 12 months

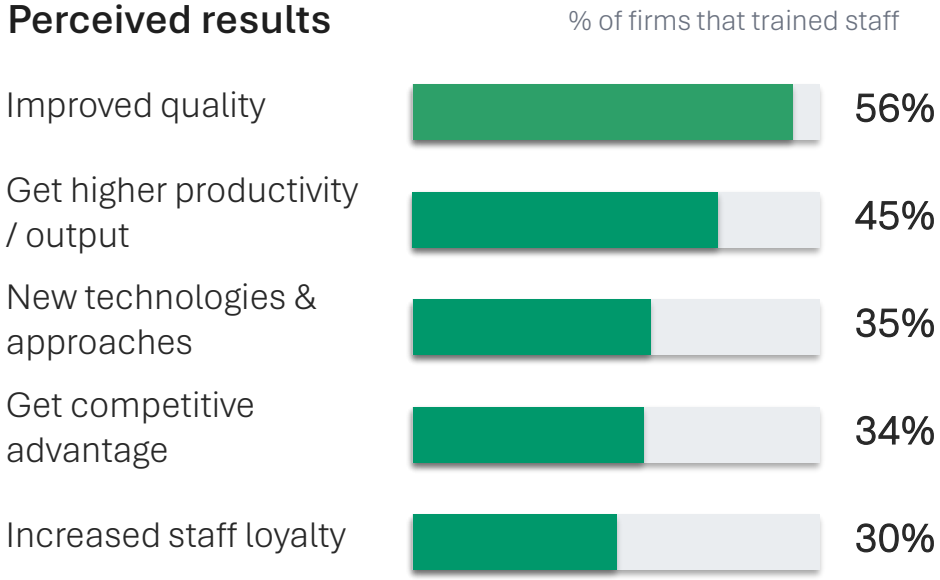
57%
of them used internal training

41%
private training centers

33%
training from manufacturers/ suppliers

13%
VET institutions

Perceived results



Training is not only a way to acquire competencies from external sources, but also a mechanism for **preserving and disseminating internal expertise**.

Weak links with public education institutions: few firms use VET or higher education providers, partly due to **limited awareness** of available institutions and programmes.

Businesses are more open to **practical cooperation with VET institutions**, like internships, hiring and dual education.

Source: Info Sapiens survey commissioned by CES, 2026; CES qualitative interviews.

Business–VET cooperation: weak links, strong potential

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Practical cooperation can be the entry point: internships and dual education can build relationships

51%
firms ready or rather ready to cooperate with VET

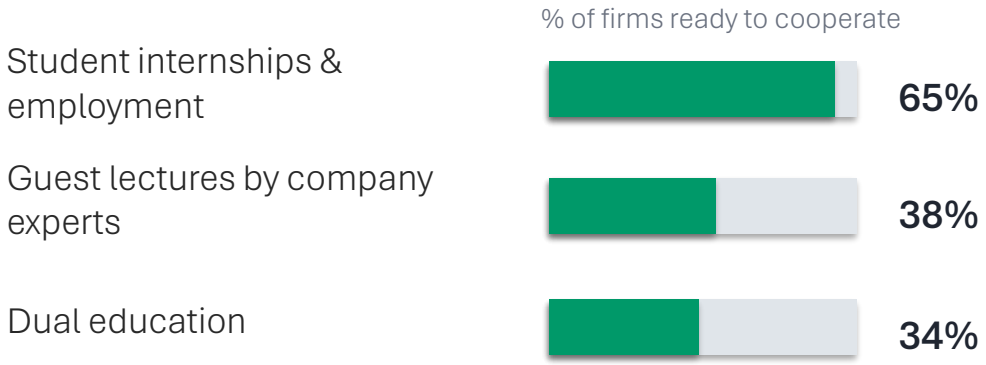
74%
among middle-size firms

59%
in construction

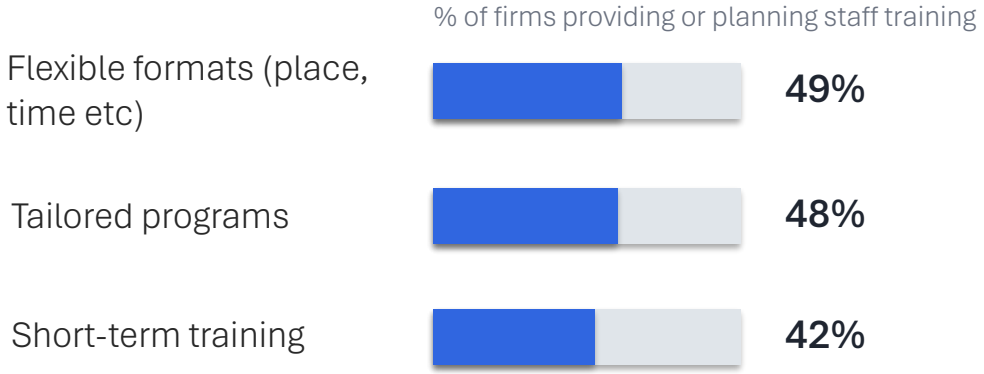
80%
in Eastern region

Source: Info Sapiens survey commissioned by CES, 2026; CES qualitative interviews.

TOP-3 PREFERRED FORMS OF COOPERATION WITH VET



TOP-3 EXPECTATIONS FROM TRAINING PROGRAMS



Businesses say they mostly need **specific new skills** rather than extensive reskilling. Training should therefore be **targeted, practical and short**.

Key recommendations for productivity boost: macro level

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From labour-intensive growth to productivity-driven growth

Modernise production through automation, digitalisation, robotisation and new physical capital to offset persistent labour shortages.

Mobilise private capital and expand public–private partnerships, with the government focused on creating a predictable, investment-friendly environment.

Strengthen skills and labour mobility through lifelong learning, reskilling, adult education and better career guidance.

Accelerate EU integration and institutional reform – rule of law, simpler business regulation, competitiveness and access to European and global value chains are essential for productivity growth.

Key recommendations for productivity boost: skills and VET

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Priority actions to strengthen business–VET cooperation

Strengthen VET providers' capacity to engage employers, conduct outreach and actively promote their services.

Prioritise practical entry points for cooperation where businesses show the greatest readiness, including student internships and employment, guest lectures and dual education.

Engage medium-sized businesses as anchor partners for VET–business cooperation and use successful partnership models to reach smaller firms.

Develop tripartite partnerships between businesses, VET providers and technology suppliers to link technology adoption with relevant skills development.

Expand short, practical and targeted training programmes for businesses, focused on specific skills that employers need.

Tailor training to sector-specific needs, combining occupation-specific technical skills with relevant digital and soft skills.

Develop train-the-trainer programmes as an entry point for VET–business cooperation, helping companies build their internal training and mentoring capacity.

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Thank you.