



**PRINT
CENSUS**

FESPA

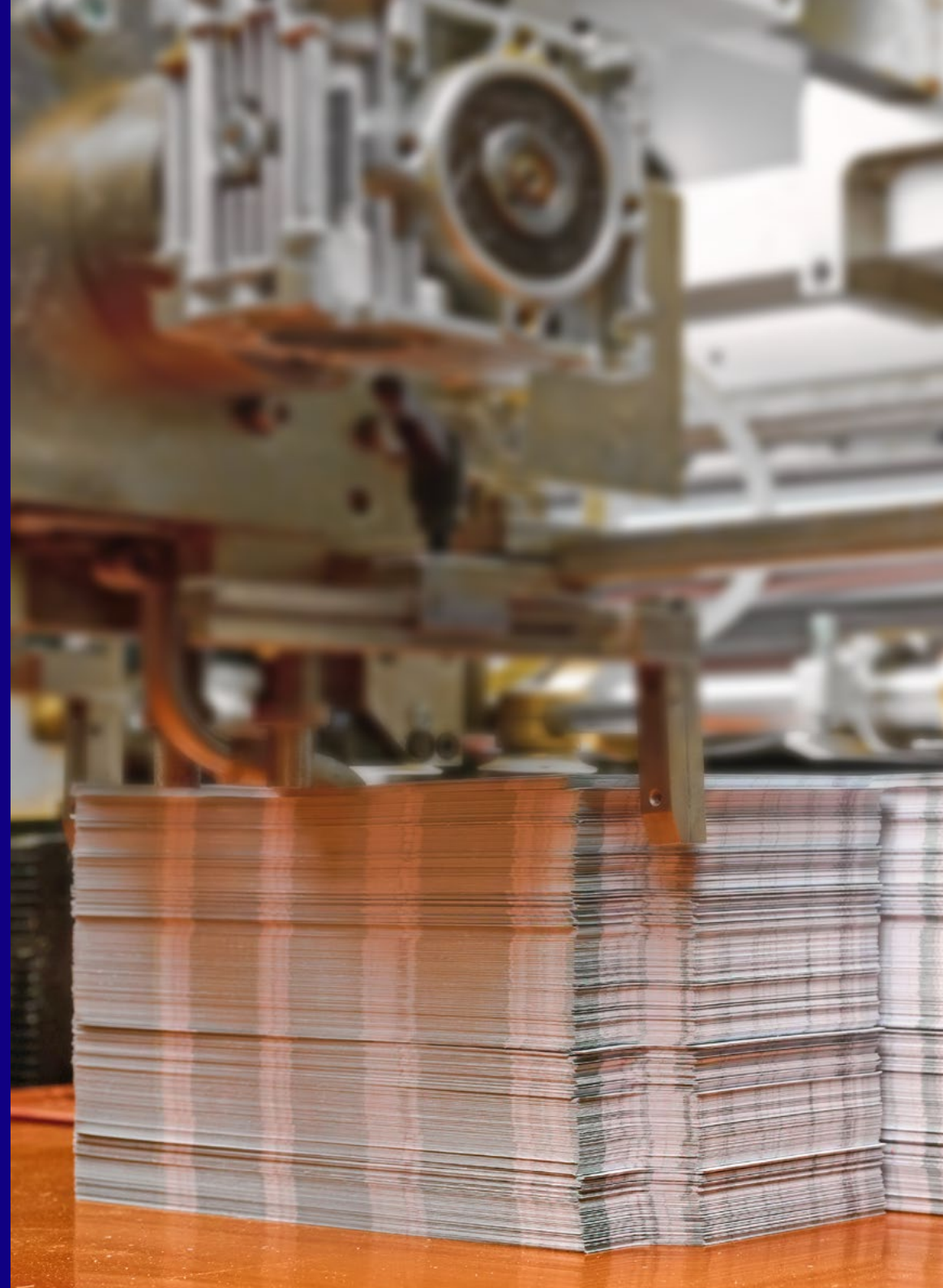
PRINT CENSUS 2026

Automation

**Connect
Inspire
Support**

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Welcome

These FESPA market surveys began in 2007 and have continued to be published every 3 years. The project continues to evolve so that we can share an up-to-date view of market conditions as experienced by speciality printers. We have changed the frequency to once every six months, so that we can share relevant insights, more often, giving the industry a clearer view of where to focus next.

Our research and analysis focus on how businesses view the future, which opportunities they are adopting, what challenges they face, and how they are planning for growth and development. The latest reports offer insights to help printers make informed decisions to enable growth. The responses are collected with the support of FESPA's Association network and analysed in partnership with our long-term partner Keypoint Intelligence.

This census was completed by 774 businesses across 89 countries, including sign and display businesses, screen printers, commercial printers, textile and garment printing specialists and packaging printers. We have focused on production automation, AI and sustainable management as these are areas of particular interest.

The Executive report is shared with everyone who contributed to the project. The three detailed reports are available to all FESPA members through our member network and to FESPA Direct members.



The sustainability findings show that while most businesses recognise its importance, far fewer have translated intent into measurable results or meaningful customer value. Smaller firms in particular face indirect pressure from supply chains, even where regulation does not apply directly. The report highlights the need for stronger, evidence-based customer communication and practical preparation for rising procurement and reporting expectations.

Automation is widely seen as necessary to protect margin, speed and consistency, yet many smaller businesses delay implementation due to time or budget constraints. Without even basic workflow automation, firms risk falling behind as labour shortages and digital-first ordering increase. The AI report shows that adoption is growing but uneven, with many unsure where to begin. It identifies low-barrier starting points while addressing concerns around data security, reliability and skills development.

Use the reports to benchmark your own priorities, sense-check investment decisions, and spot where capability gaps are likely to create risk or opportunities over the next 6–12 months.

We hope that this initiative brings you useful insight.

Graeme Richardson-Locke

Head of Associations and Technical Lead



Introduction

The FESPA Print Census on Automation, conducted globally between May and September 2025, delivers a comprehensive snapshot of automation trends, challenges, and prospects across the print industry. The survey collected responses from 774 stakeholders: 66% identified as print service providers (PSPs), 19% as equipment dealers or distributors, and 15% as manufacturers. This segmentation facilitates an in-depth assessment of automation adoption across different parts of the print value chain.

Although automation tools have been available for many years, uptake among micro and small PSPs remains limited. This slow adoption is not merely a function of awareness, but rather the result of structural constraints and operational priorities. Many small print firms operate under a “firefighting culture,” focused on immediate production demands rather than on strategic improvement. Tight profit margins, variable demand, and insufficient management bandwidth often lead to reactive, rather than strategic, decision-making. At the same time, global economic pressures further restrict the willingness and ability to invest. Persistent labour shortages, upward pressure on wages, unpredictable customer demand, and rising cost of capital make long-term investments riskier, especially for firms with modest revenues. Consequently, many PSPs hesitate to commit to automation projects that offer returns only over multiple years.

While automation tools have matured, many micro PSPs continue to treat them as non-essential; secondary to survival activities like meeting daily production quotas, preserving cash flow, and managing client deadlines. In this context, automation is not yet viewed as a “must-have” but as a discretionary upgrade.

Survey responses also exhibit frequent non-responses or “don’t measure it” answers, particularly around performance metrics. Such responses should not be interpreted



as disinterest, but rather as absence of internal systems, such as Management Information Systems (MIS) or data capture processes, to track performance. The lack of infrastructure to capture baseline metrics means many PSPs are unable to evaluate or validate the benefits of automation, even where implementation exists.

These internal and external constraints pose increasing competitive risk. PSPs that do not adopt automation may struggle with rising labour costs and longer lead times, while competitors with digital workflows may secure advantages in speed, consistency, and scalability. However, this also creates a significant opportunity. Vendors and solution providers can address the gap by offering modular, accessible, lower-cost automation “starter kits” tailored to small PSPs.

Finally, the industry is not evolving in isolation. Shifting customer behaviours, such as digital-first ordering, and the rising importance of sustainability reporting and AI-enhanced workflows all create new demands. PSPs that fail to keep pace risk future success.

Key Highlights

1

SMALL BUSINESSES DOMINATE THE INDUSTRY

75% of respondents reported having fewer than 50 employees. Median revenues of US \$625,000 further underscore limited financial capacity for large-scale automation. Most PSPs in this range cannot justify investments with multi-year ROI horizons, especially in the absence of external capital or guaranteed efficiency gains.

2

LABOUR SHORTAGES, PARTICULARLY IN ROLES LIKE PREPRESS, FINISHING, AND JOB ROUTING, ARE ACCELERATING THE NEED FOR AUTOMATION IN SMALL PSPS

These high-frequency, repetitive tasks represent ideal automation targets, offering rapid efficiency gains and staff reallocation opportunities.

3

MOST PSPS EXPRESS INTENT TO INVEST IN AUTOMATION

The highest priorities include expanding workflow tools, automating prepress, and upgrading online portals for customer ordering and self-service, areas with clear labour savings and low disruption.

4

SUPPLIERS (DEALERS, DISTRIBUTORS, AND MANUFACTURERS) ANTICIPATE ROBOTIC AUTOMATION WILL BECOME INCREASINGLY IMPACTFUL OVER THE NEXT THREE YEARS

Anticipated gains include increased production speed and reduced reliance on manual labour. However, these expectations may exceed what most PSPs are realistically prepared to absorb.

5

MORE THAN HALF OF RESPONDENTS SERVE THE WIDE FORMAT SIGNAGE AND GRAPHICS SECTOR, AND NEARLY 40% OPERATE IN DIGITAL TEXTILE PRINTING

These sectors, particularly textiles, stand to benefit substantially from automation, but the required capital and workflow readiness are often prohibitive for smaller firms. Despite the availability of low-cost technologies, automation adoption remains low. Nearly 50% of PSPs reported no implementation of automation tools. This is not necessarily indicative of resistance but rather reflects low management bandwidth, lack of strategic planning, and operational inertia common in micro-businesses.

6

HIGH UPFRONT COSTS REMAIN THE MOST FREQUENTLY CITED BARRIER TO ROBOTIC ADOPTION

But beyond capital, suppliers also recognise that PSPs need more education about automation's ongoing benefits, practical use cases, and scalable adoption models. The need for "lightweight" entry tools and vendor-supported integration is increasingly clear.

7

MANY PSPS LACK EVEN BASIC MEASUREMENT TOOLS, MEANING THAT AUTOMATION MAY BE POORLY PRIORITISED OR UNDERVALUED DUE TO INSUFFICIENT FEEDBACK

This presents a strategic opportunity for vendors to provide simplified analytics dashboards or KPI templates. Accessible automation examples (e.g. cloud-based job submission platforms, automated nesting software, AI-driven colour profiling) can serve as low-disruption entry points for PSPs hesitant to invest in complex systems.

Research Findings



TOTAL RESPONDENTS

The survey engaged 774 respondents, of which nearly two-thirds were PSPs. The remainder consisted of equipment dealers, distributors, and manufacturers; each offering a distinct view of automation readiness and strategy. Segmented analysis allows for clearer insights by business type.

Respondents served a wide range of end-use sectors. Over half focus on wide format signage and graphics, while nearly 40% are involved in digital textile printing. These segments carry different automation potential depending on throughput, customisation needs, and investment capacity.

FIGURE 1 **PRIMARY BUSINESS TYPE**
What is your primary business type?

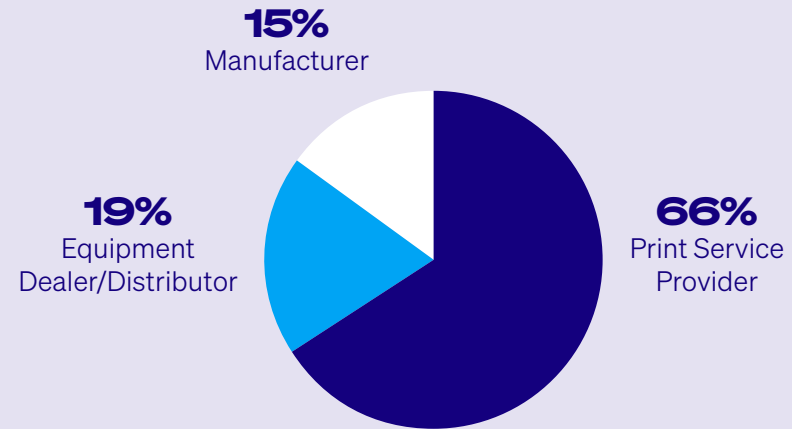


FIGURE 2 **INDUSTRIES SERVED**
Which of the following industry sectors does your company serve? (Multiple choice)

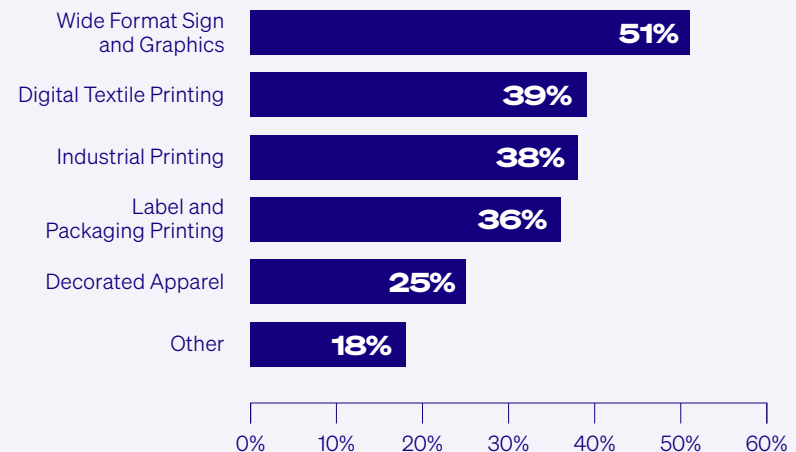
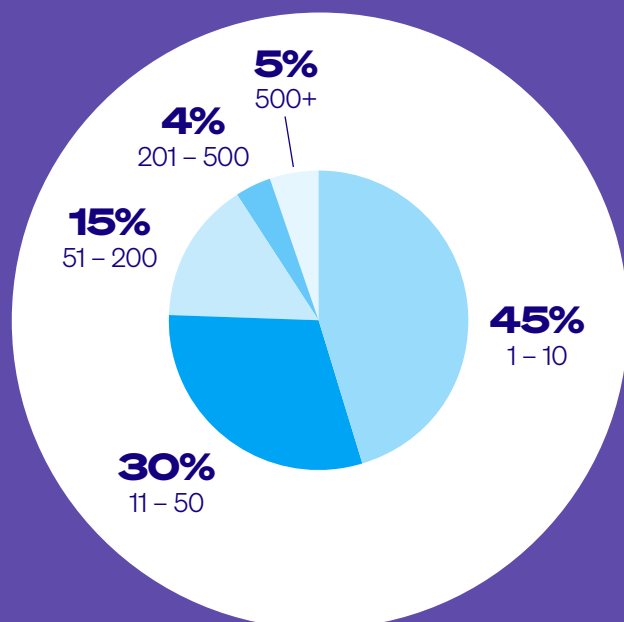


FIGURE 3 **NUMBER OF EMPLOYEES**

How many employees does your company have?

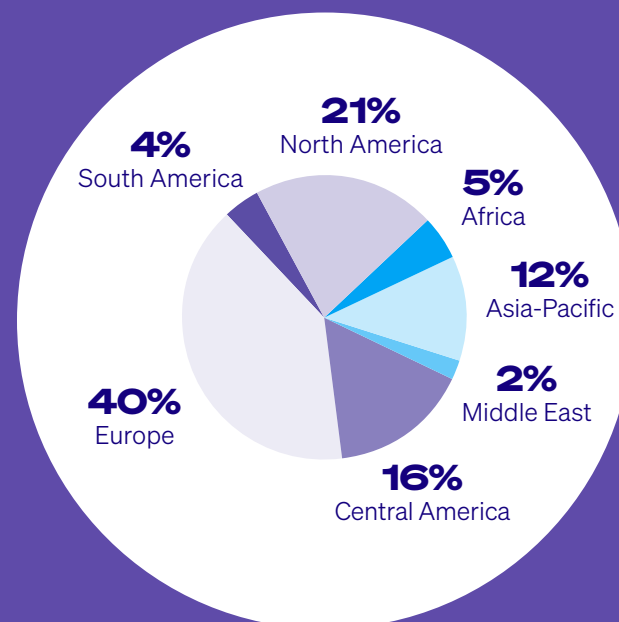


The reported average business size was 77 employees, though this is skewed by a few large firms. In reality, 45% of respondents operate with 10 or fewer employees. This dominance of micro-enterprises substantially influences automation trends and limits scale, bandwidth, and available capital. In many developing regions, print shops operate with fewer than 10 employees and low throughput. In these cases, automation feels distant or unnecessary; the prevailing belief is that existing manual processes are “good enough,” and the perceived risk of inaction remains low. This attitude reflects a form of operational complacency. For small shops not yet experiencing automation pressure from customers or competitors, the mindset of “we can manage with what we’ve got” often delays investment.

Geographically, 40% of respondents were based in Europe and 37% in North or Central America. 89 countries were represented in the full sample. However, the report does not currently explore regional automation dynamics, such as higher digital maturity in parts of Europe versus capital constraints in developing economies like LATAM or parts of Asia. There is a growing risk that small PSPs may underestimate emerging customer requirements, particularly for fast turnarounds, online self-service tools, and sustainability data. Vendors and industry bodies have an opportunity to educate on these coming demands and help PSPs prepare ahead of the curve.

FIGURE 4 **BUSINESS LOCATION**

Where is your company located?



Roughly 40% of respondents were affiliated with FESPA, indicating engagement with global networks that may offer greater exposure to automation insights, educational resources, and vendor ecosystems. The industry’s structural composition, which is heavily tilted toward micro-businesses, naturally reduces overall automation rates. For these firms, automation often feels discretionary rather than essential, particularly when current volumes are manageable with existing manual workflows. Furthermore, the type of output also affects automation viability. High-throughput sectors (e.g., industrial textiles) may gain more from robotic batching or finishing tools, whereas one-off graphics or highly customised projects require different approaches, often prioritising agility over full automation.

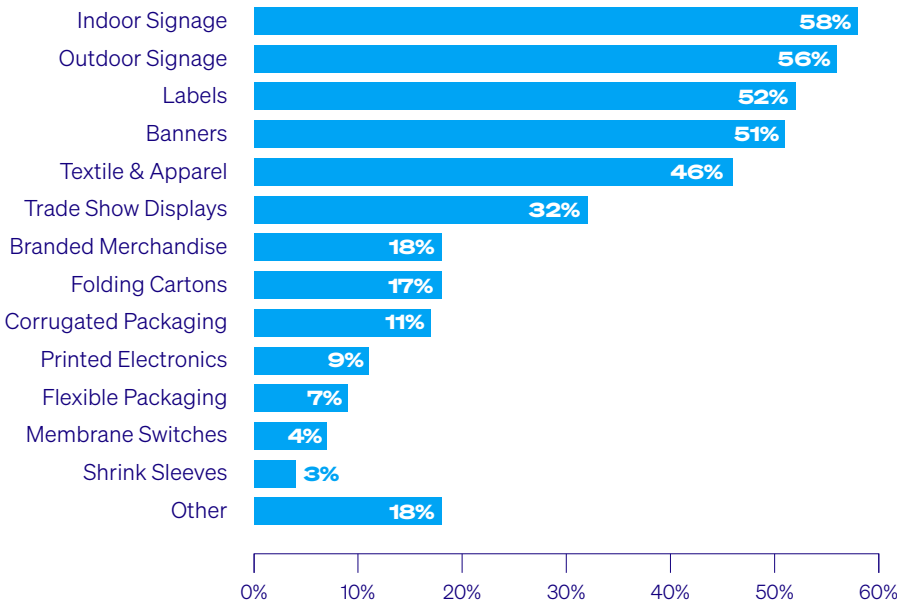
Print Service Providers

This section analyses responses from 511 survey participants who identified as print service providers (PSPs), a segment that represents two-thirds of the dataset and plays a central role in the automation landscape.

Respondents deliver a diverse range of services, including signage, labels, banners, and textile applications. These vary widely in automation potential. For example, label production benefits from job batching and standardised workflows, while textiles and apparel demand precision in colour management and repetitive processes, making them suitable for automated finishing. Importantly, many PSPs may already be using automation without labelling it as such. Functions like automated imposition, nesting, or colour profiling (often embedded within RIP or design software) are rarely recognised as automation tools. Clarifying what qualifies as automation could help PSPs better understand their current maturity and next steps.

FIGURE 5 **PRINTING SERVICES**

Which of the following printing services does your company provide? (Multiple choice)

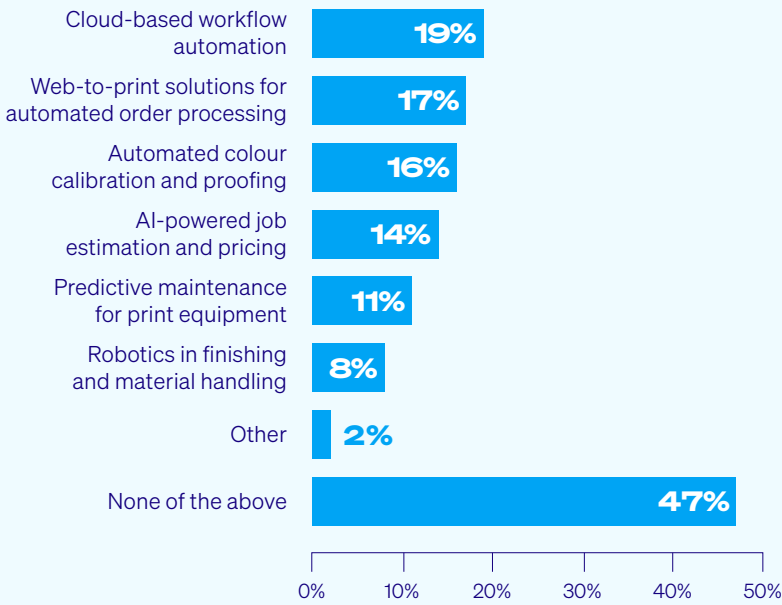


Motivated by goals such as efficiency, cost containment, and better data insight, PSPs increasingly consider automation. The most common technologies already adopted are cloud-based workflow systems and web-to-print portals, which require low upfront investment and are relatively easy to deploy. Still, nearly half of all PSPs reported having implemented no automation whatsoever, a statistic that reflects not rejection, but the structural limitations faced by micro-enterprises. Many of these businesses depend on one or two highly skilled operators and rely on manual processes out of necessity rather than choice. Manual prepress remains a significant bottleneck for many PSPs, especially as order volumes and file complexity increase. Without automation in this stage, firms may experience preventable delays, rework, and quality inconsistencies, issues that scale poorly as workloads grow.



FIGURE 6 **AI APPLICATIONS IN USE**

Which of the following types of automation technologies have you implemented in your print operations? (Multiple choice)

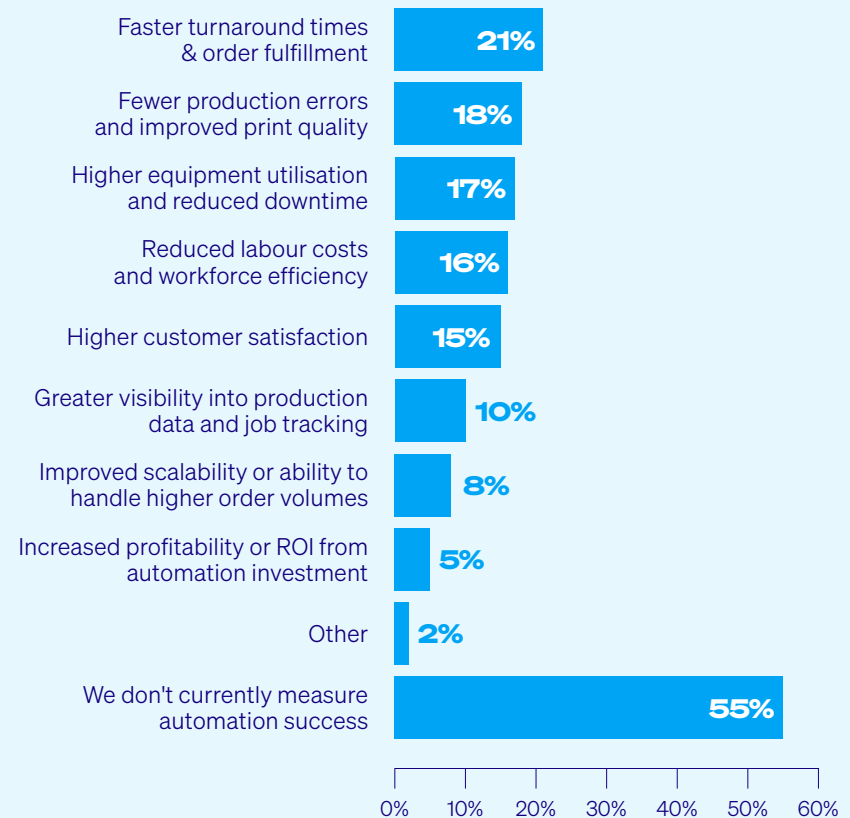




Measurement remains a critical gap. Most PSPs do not formally track automation success, typically due to a lack of MIS or time to establish metrics. Among those that do, the clearest benefits reported were faster turnaround and improved order fulfillment.

FIGURE 7 **MEASURING THE SUCCESS OF AUTOMATION**

How do you recognise or measure the success of automation in your business? (Multiple choice)



When asked about future automation investments, PSPs most frequently cited prepress operations and workflow tools. These are practical entry points: they handle high manual loads, present clear bottlenecks, and offer quick, measurable improvements in productivity. Many micro PSPs rarely plan more than 12 to 18 months ahead, making multi-year automation planning a challenge. This short planning horizon reinforces reactive decision-making and reduces the likelihood of long-term automation roadmaps. Vendors should frame solutions in terms of immediate impact and phased benefits.

Despite broad awareness of potential benefits, execution remains a challenge. Only 10% of PSPs reported a challenge-free experience. The most cited obstacle was a lack of focus, reflecting a tendency to prioritise daily operations over long-term improvements. An additional 25% were unsure where to begin, underscoring a need for industry education and simplified decision frameworks.

Many PSPs report uncertainty around where to begin automation. This often reflects limited visibility into what peer-sized firms are doing. Case studies and real-world success stories from similar 5–10 employee shops could help normalise incremental automation and reduce perceived complexity.

Incremental gains are a key strategy. Rather than sweeping changes, PSPs are better served by targeted upgrades based on a review of current workflows. Clear goals, paired with lightweight tracking of production costs, turnaround times, and labour hours, can demonstrate progress and guide future investment.

FIGURE 8 **FUTURE AUTOMATION INVESTMENTS**

Which of the following automation investments are you considering for the future? (Multiple choice)

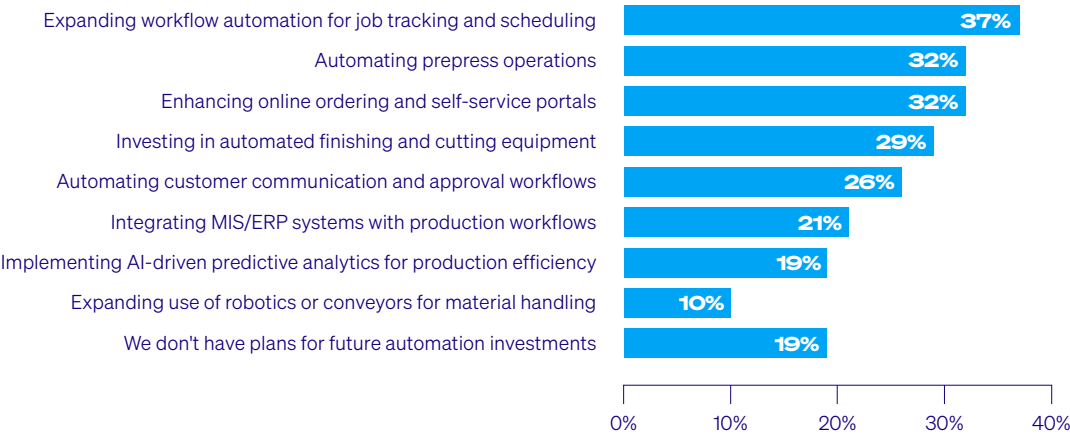
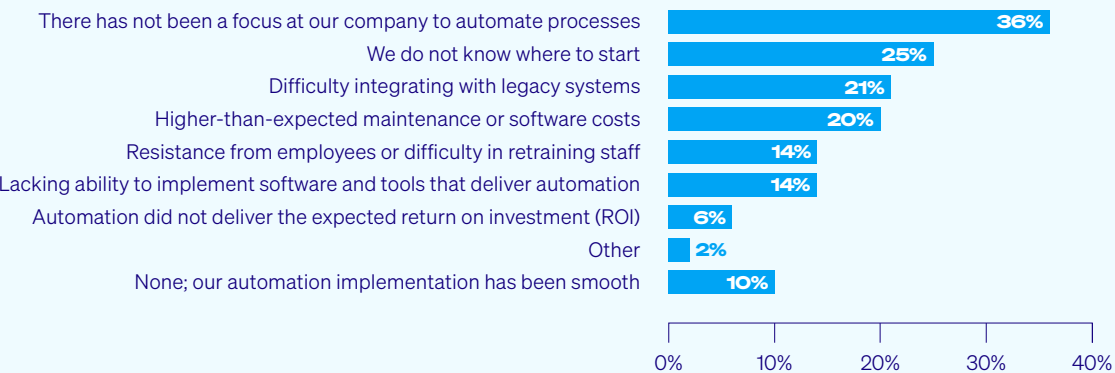


FIGURE 9 **UNEXPECTED AUTOMATION CHALLENGES**

Which of the following unexpected challenges have you experienced with automation implementation?

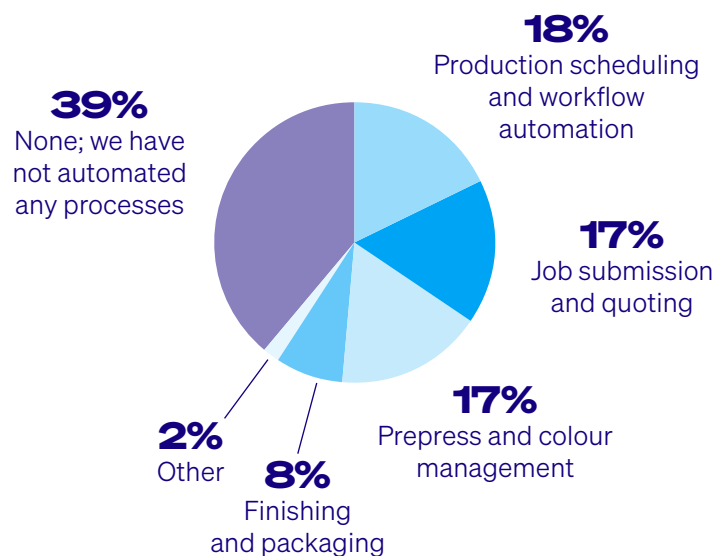




Among those who adopted automation, the most improved areas were production scheduling, job submission and quoting, and colour management. However, nearly 40% of PSPs reported no improvement, which aligns with the portion that had not yet implemented automation. This parallel confirms that meaningful gains are closely tied to active adoption. Where improvements were observed, they often stemmed from specific tools: job submission gains typically align with web-to-print or online ordering systems; improvements in colour accuracy often reflect adoption of profiling or ink optimisation software. Explicitly mapping these outcomes to the enabling technologies could help others follow a similar path.

FIGURE 10 **AREA WITH GREATEST AUTOMATION IMPROVEMENT**

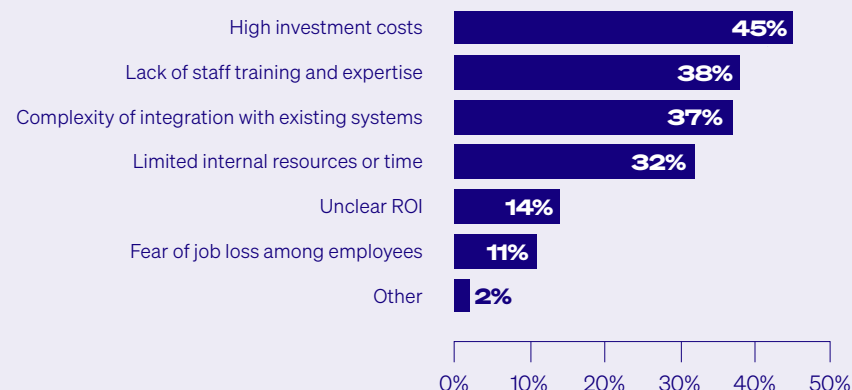
What area of your business has seen the greatest improvement due to automation?



The most common barrier was high investment cost, followed by a lack of in-house expertise and integration challenges with legacy systems. These concerns are amplified in firms lacking IT support or MIS infrastructure. High costs are especially discouraging in environments with variable, short-run jobs. In such workflows, calculating ROI becomes difficult, and PSPs struggle to justify large investments without predictable returns. Vendors could better support decision-making by framing ROI in terms of time savings per job or labour reduction across weekly cycles. Another unspoken barrier is the lack of awareness around interoperability. Many PSPs assume new tools won't integrate with existing RIPs or equipment. Education around open standards, API compatibility, and modular adoption can reduce this fear and improve confidence.

FIGURE 11 **BARRIERS TO AUTOMATION**

Which of the following are your biggest barriers to implementing automation? (Multiple choice)



Among PSPs that had automated, the reported benefits included: increased efficiency and reduced turnaround (37%), reduced manual labour and associated costs (27%), and improved consistency and quality control (25%). These data points confirm that where automation is implemented, operational gains are substantial and tangible.

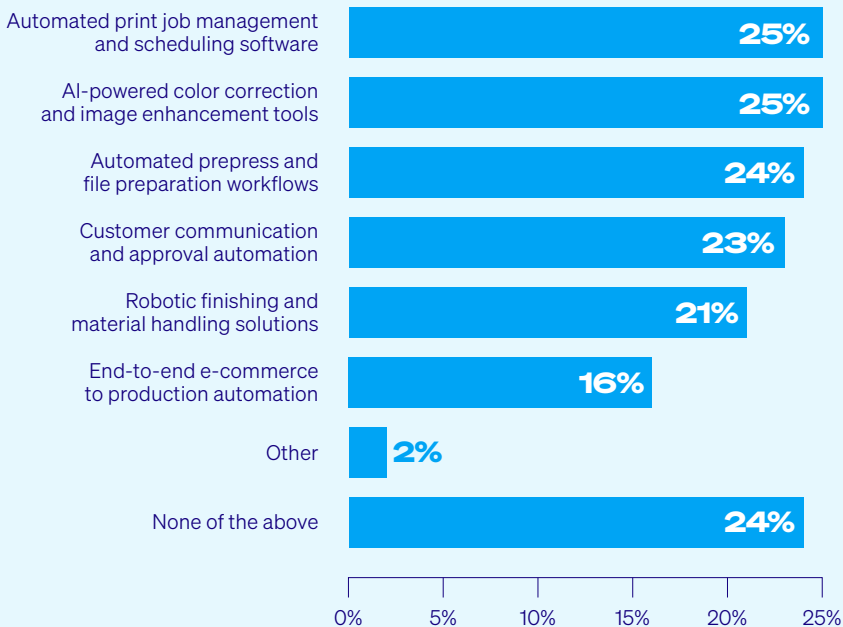
Dealers, Distributors, and Manufacturers

This section covers insights from 263 survey participants identifying as dealers, distributors, or manufacturers, representing the supply side of the print automation ecosystem.

Respondents in this group reported that the most common automation solutions they offer are AI-powered image enhancement tools and automated scheduling platforms. These tools are generally easy to scale and integrate into PSP workflows, especially where there is a high volume of repetitive prepress tasks. However, nearly 25% of respondents indicated they are not currently offering any automation solutions. This likely reflects either a focus on low-volume markets or limitations in R&D budgets and product development capacity.

FIGURE 12 **AUTOMATION SOLUTIONS FOR PSPS**

Which of the following types of automation are you developing or distributing for print service providers? (Multiple choice)



In terms of robotics, the most common offerings include automated material handling systems and robotic garment printing. These solutions are well-suited to high-throughput textile operations. However, 37% of respondents reported offering no robotic automation at all, highlighting that robotics remains a niche, often expensive, segment that is inaccessible to many PSPs.

FIGURE 13 **ROBOTIC AUTOMATION SOLUTIONS**

Which of the following types of robotic automation solutions are you currently developing or distributing for print service providers? (Multiple choice)

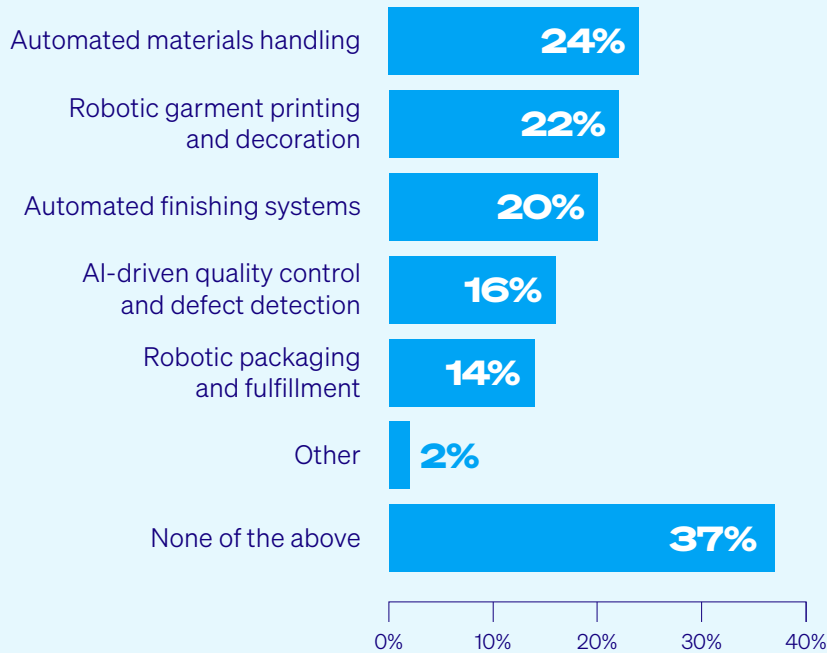
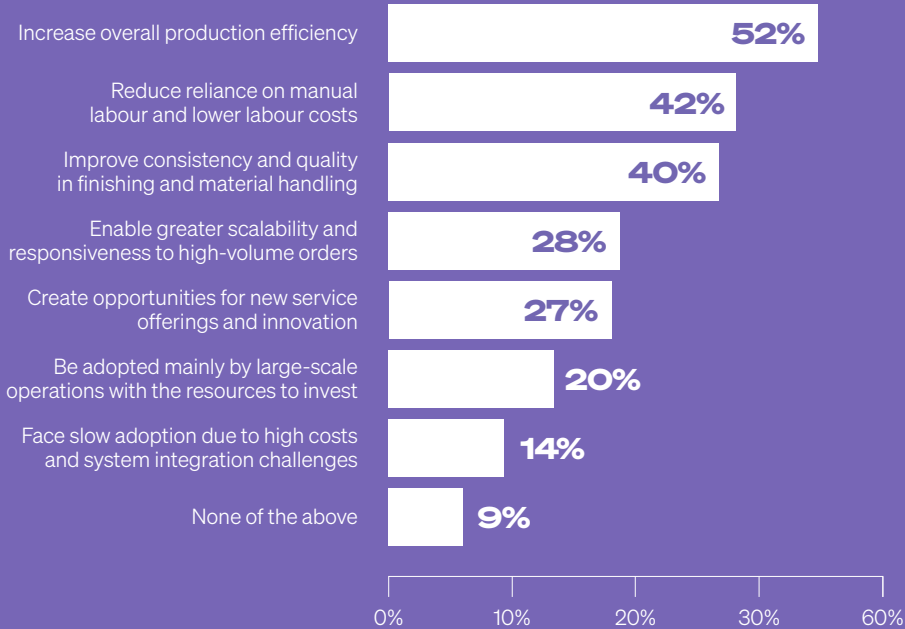


FIGURE 14 **IMPACT OF AUTOMATION ON PSPS**

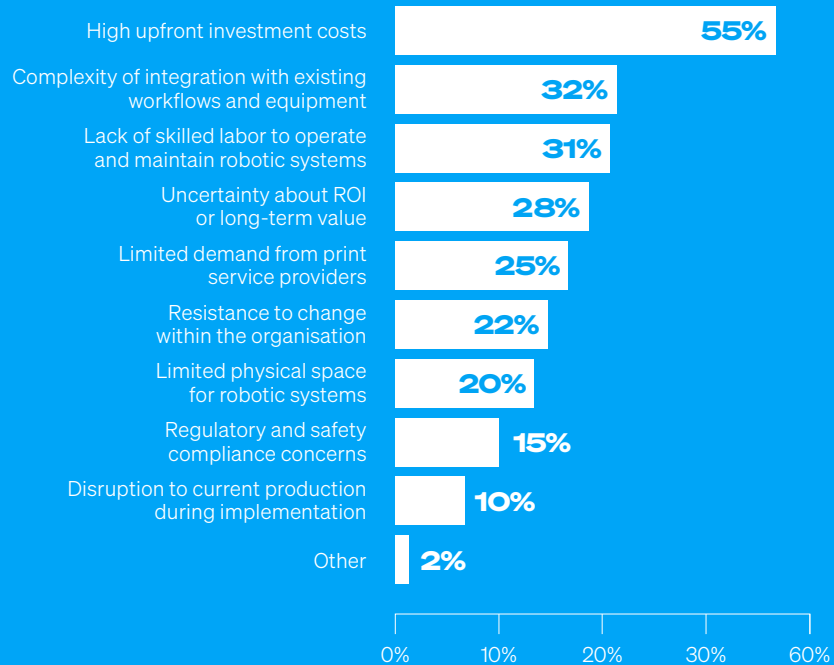
In which of the following ways do you expect robotic automation to impact print service providers over the next 3 years? (Multiple choice)



Despite modest implementation rates today, vendors remain optimistic: 52% expect robotics to improve PSP production efficiency within three years, and 42% anticipate reduced labour reliance and costs. However, this supplier optimism may not align with the financial and operational realities faced by smaller PSPs. Additionally, there is a real risk that PSPs may misjudge the internal capabilities required to benefit from robotics, such as digital readiness, integration knowledge, and staff training. Without these foundational enablers, robotic investments may underperform or fail to scale.

FIGURE 15 **BIGGEST BARRIERS TO ROBOTIC AUTOMATION ADOPTION**

What are the biggest barriers to print service providers in adopting robotic automation solutions? (Multiple choice)

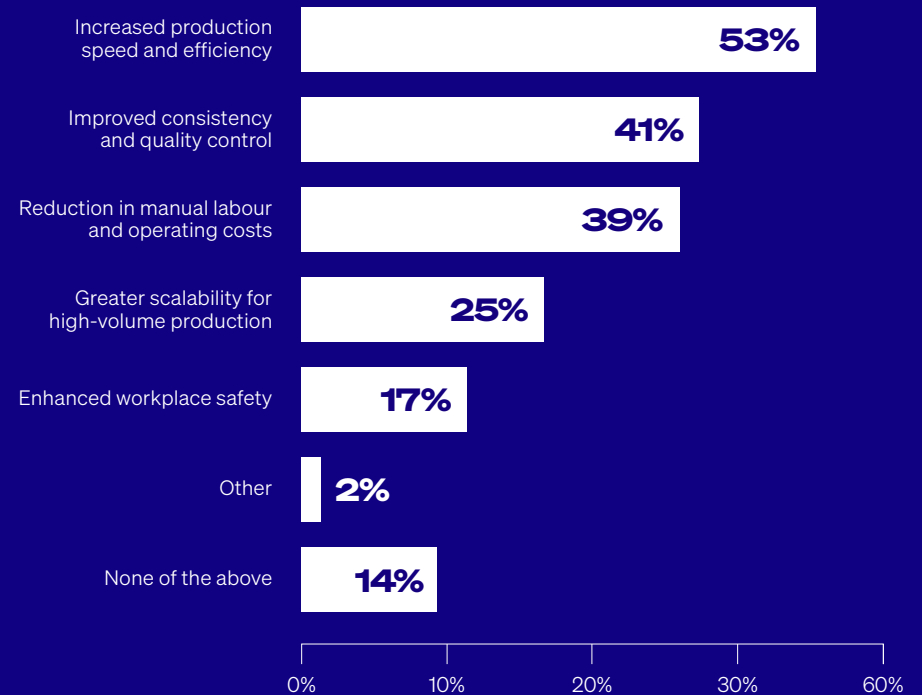


Vendors cited high upfront investment costs as the top barrier to robotic automation. Yet capital cost is only one component. Total cost of ownership (including installation, servicing, training, and integration) also affects PSP decisions. Education about these aspects, paired with realistic ROI expectations, could improve adoption.

Where implemented, robotic systems are delivering clear benefits: increased production speed, efficiency, and consistency. These gains are particularly relevant in high-volume applications. However, adoption is constrained by system complexity, need for workflow standardisation, and operator training requirements.

FIGURE 16 **BENEFITS TO ROBOTIC AUTOMATION**

Which of the following benefits are print service providers reporting after implementing robotic automation? (Multiple choice)



Looking ahead, many vendors plan to develop or expand robotic finishing systems and advanced garment printing automation. However, 30% of respondents indicated no plans for further automation development, underscoring both a lack of market readiness and the need for vendor-side education about emerging PSP needs.

While current adoption remains limited, many suppliers expect PSPs to be partially or fully automated by 2027. This expectation, however, may overestimate current PSP maturity

and investment capacity. If the gap between supplier forecasts and PSP readiness persists, product offerings risk being over-engineered or mismatched. Vendors have an opportunity to address this gap by creating appropriate solutions for small PSPs. Solutions such as shared robotics, cobots, or subscription-based automation packages designed for smaller footprints and lower throughput environments. While suppliers expect 60–80% of workflows to be automated by 2027, nearly half of PSPs currently operate with no automation at all.



FIGURE 17 FUTURE PLANS FOR ROBOTIC AUTOMATION

Which of the following robotic automation solutions are you planning to develop or distribute in the future? (Multiple choice)

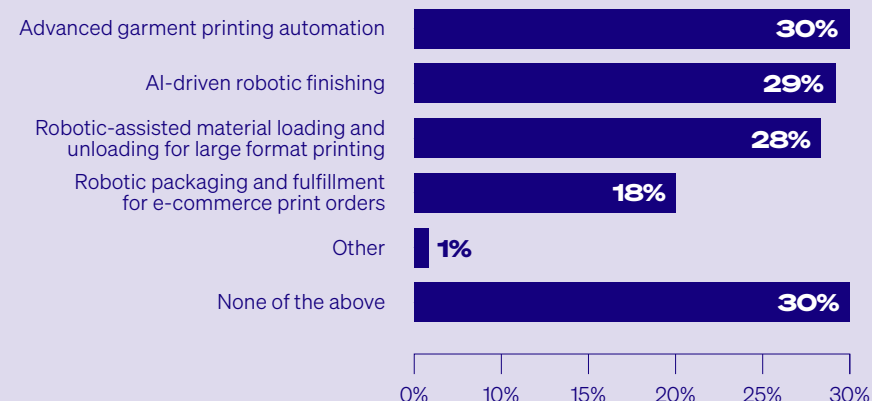
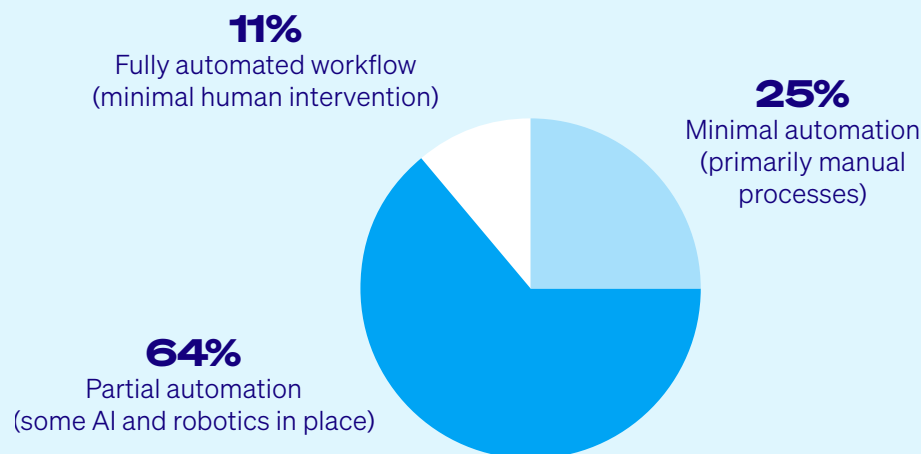


FIGURE 18 FUTURE LEVEL OF AUTOMATION

What level of automation do you believe will be standard in print service providers by 2027?



RECOMMENDATIONS

Despite persistent implementation challenges, automation is steadily reshaping the wide format printing sector. Labour shortages, widening skills gaps, and rising customer expectations for fast, flexible production are accelerating the pressure to automate. To support this transition, especially for micro and small PSPs, the following strategies can improve outcomes and align investments with operational reality:

Start with modular tools that offer fast ROI and minimal disruption. Automated nesting, AI-powered colour profiling, and cloud-based job submission platforms are effective entry points. Integrate incrementally. Instead of automating single tasks in isolation, link prepress, scheduling, and finishing workflows to form a cohesive data-driven operation.

Provide simple KPI dashboards or lightweight performance tracking tools (e.g., turnaround time calculators or labour hour logs) to help PSPs prove ROI and expand automation initiatives over time. New tools such as AI-assisted prepress, low-code automation builders, and workflow integrations offer an accessible path to scale, even for firms without internal IT teams.

Focus on bottlenecks that consume labour or create delays. Automation should begin where time savings are most easily measured and customer experience is improved.

Vendors should develop low-cost, bundled packages that combine hardware, software, training, and integration services that remove the complexity barrier for resource-constrained PSPs.

Solutions should be designed for interoperability with existing software, equipment, and legacy infrastructure, especially given that many PSPs operate mixed-vendor environments without IT support.

Education remains critical. Vendors must provide onboarding guides, starter kits, case studies, and training focused on small business use cases, not just enterprise-scale implementations.



Automation and robotics are no longer optional; they are becoming essential components of print businesses seeking to remain competitive in an increasingly digital, customer-driven landscape. While current adoption rates remain modest, particularly among micro PSPs, better education, practical guidance, and scalable solutions can help reduce hesitation related to cost, complexity, and operational fit. Across the ecosystem, PSPs and suppliers alike are seeing that automation improves throughput, reduces labour intensity, and supports more agile ways of working, especially in sectors with short-run variability and digital-first customer expectations. The shift from manual to intelligent, data-enabled workflows enables gains in turnaround, consistency, quality, and scalability. This transition is especially urgent for firms serving clients who demand traceability, fast response, and digital integration.

Advanced automation releases skilled staff from repetitive low-value tasks, allowing reallocation to customer service, creative development, and workflow optimisation. To succeed, PSPs must build internal capabilities. Training and upskilling are necessary to manage evolving systems. A change-oriented culture that is supported by leadership and vendor resources will be essential.

Looking forward, the convergence of automation, AI, robotics, and workflow analytics will redefine the print production model. Small businesses that adopt a continuous improvement mindset will be best positioned to scale effectively.

The most resilient PSPs, dealers, and manufacturers will treat automation not as a one-time upgrade, but as a progressive shift toward smarter, more connected operations. Those who start early and focus on scalable wins will deliver more value to customers, better withstand market disruptions, and help shape the next era of intelligent print production.



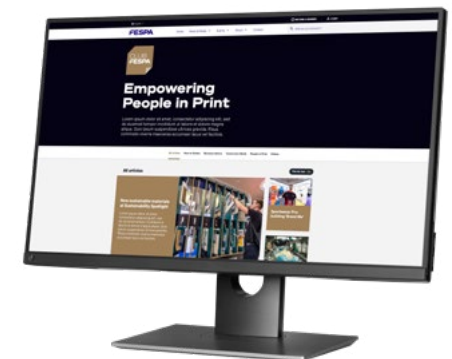
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FESPA

FESPA Ltd
Holmbury
The Dorking Business Park
Station Road
Dorking
Surrey
RH4 1HJ
United Kingdom

T: +44 (0)1737 240788

W: www.fespa.com

E: info@fespa.com