

5G is a powerful connectivity tool that can help time- and resource-strapped small and medium-sized businesses get the most out of the increasingly sophisticated AI and automation technologies on the market today.

How 5G/High Speed Networks Enable Automation and AI Applications

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Combining AI and Automation with 5G Can Pack a Powerful Productivity Punch for SMBs

Small and medium-sized businesses (SMBs) increasingly recognize that technology can help them navigate rocky economic environments. With leaner staff, less in-house IT expertise, and limited capital, SMBs are leveraging technology to reduce manual processes and boost efficiency and productivity. In fact, according to IDC's *Worldwide Small and Medium Business Survey* (February 2025), 81% of U.S. SMBs plan to increase their IT spending in the next 12 months.

AI and Automation Gain Traction with SMBs

AI and automation are two of the top technologies drawing attention — and dollars — from SMBs.

Automation has long been a priority for SMBs as they seek to accomplish more with fewer staff. But it's becoming even more crucial in today's turbulent economy. Automation refers to any technology that streamlines repetitive and mundane human tasks, saving SMBs time, boosting productivity, and reducing manual errors. In recent years, SMBs have adopted low-code/no-code and more advanced automation tools across functions to scale their operations. Examples include finance and back-office workflow automation (QuickBooks, Stripe), customer engagement (HubSpot, Mailchimp), and IT and systems management (Google Workspace, Okta).

5G networks can help SMBs support remote and hybrid workers by providing real-time data, low latency, and IoT automation at scale. The impact of 5G networks is even more pronounced when SMBs adopt AI-enhanced automation, such as chatbots, analytics, and forecasting, which require speedier data transfers. 5G also offers more throughput to support video analysis, predictive maintenance, and real-time customer sentiment tracking.

Overall, 5G supercharges automation in SMBs where physical operations (IoT, logistics, manufacturing) or customer-facing services (retail, healthcare) require speed, reliability, and security.

AT A GLANCE

KEY STATS

- » According to IDC's *Worldwide Small and Medium Business Survey* (February 2025), 48% of U.S. SMB respondents named process automation as a top forward-looking technology priority for their businesses in the next 12 months.
- » In addition, 36% of respondents are already using AI within the technology department to help manage other technologies (e.g., leveraging data from software applications), and 32% are using AI to automate business application processes.

WHAT'S IMPORTANT

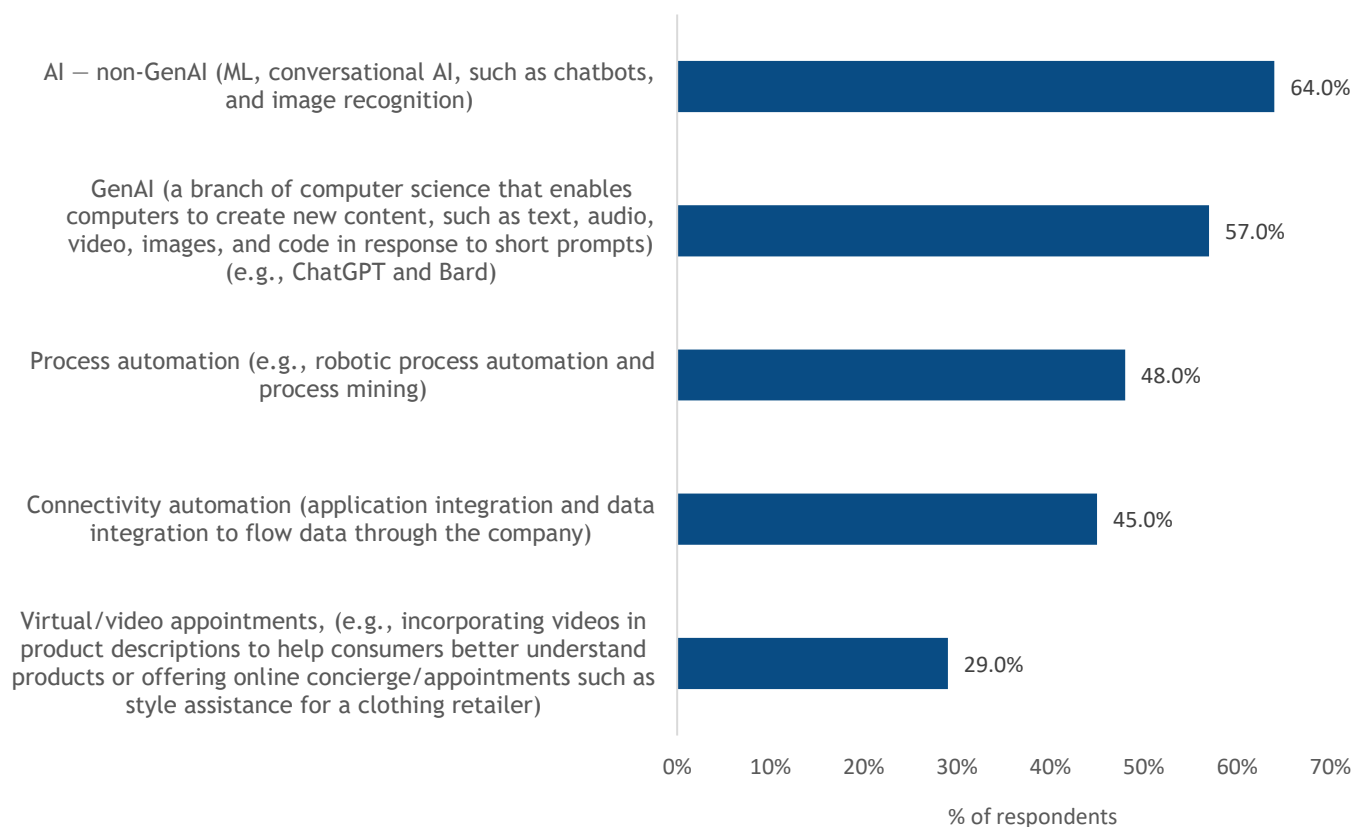
Rapid, reliable 5G connectivity is the fuel that can help drive powerful AI and automation for SMBs.

AI, on the other hand, describes the ability of machines or programs to learn and improve over time without human intervention as they collect more data. For example, an AI program can learn which factors in online advertisements are most commonly associated with sales or identify common patterns in fraudulent transactions.

Automation is a popular investment across all sizes of U.S. SMBs. In fact, 48% of respondents in IDC's survey listed process automation as one of their top forward-looking technology investments for the next 12 months — a top response among 10 options (see Figure 1).

FIGURE 1: **Process Automation Ranks as a Top Investment Priority for U.S. SMBs**

Q Which of the following forward-looking technology areas will be technology investment priorities for your company in the next 12 months?



n = 808

Note: Respondents are U.S. SMBs with 1–999 employees.

Source: IDC's Worldwide Small and Medium Business Survey, February 2025

AI is an advanced technology, but IDC is seeing rapid adoption among medium-sized U.S. businesses, with its popularity beginning to trickle down to smaller SMBs. In fact, 47% of U.S. medium-sized businesses are currently leveraging AI within their technology departments.

As AI platforms such as OpenAI's ChatGPT gained press attention and momentum in late 2022, these tools became more mainstream and found their way into households. A side effect of this buzz was a reduced fear barrier associated with investing in and implementing these technologies, even at the smallest companies. IDC's *SMB Survey (2025)* results reflect this trend: Only 9% of small U.S. businesses are not using AI, and 29% indicated that they plan to leverage it as a digital assistant to manage tasks in the next 12 months.

However, as more SMBs implement and experiment with automation and AI, it's critical that they invest in the necessary supporting infrastructure. 5G connectivity is a major underlying engine that enables rapid dataflow, allowing automation and AI to shine and resulting in increased productivity and efficiency for SMBs. 5G is and will continue to be an essential tool as more SMBs prioritize automation and AI.

Benefits

Inflation is leading to rising costs in hiring and retaining skilled workers, and tough economic circumstances are forcing companies to reassess their workforces. These conditions may hit SMBs harder, as they have less capital to weather tough times and typically rely on leaner staff. This makes today's SMB landscape a prime environment for automation and AI.

SMBs doing heavy IT/security monitoring, analytics dashboards, and AI video/audio workflows may benefit most from 5G/high-speed networks. Text-heavy AI tools (e.g., ChatGPT, QuickBooks AI, and Zendesk AI) are lighter on bandwidth but still need reliable, low-latency connections for responsiveness.

In IDC's 2025 survey of U.S. SMBs, increasing profitability ranked as the third immediate business priority from a list of 15 options at 32%. Improving efficiency/productivity ranked fourth at 29%. Automating processes using AI and reducing manual labor and errors can help SMBs achieve both of these top business priorities.

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Considerations

SMBs must understand that AI and automation deployments do not happen in a vacuum. These technologies require well-rounded support systems to function successfully.

High-speed and secure 5G connectivity underpins these systems. AI, supported by ML models, requires a constant stream of data to analyze and improve programs over time. Meanwhile, automation often leverages IoT and sensors to quickly collect and transmit data which also rely on high-speed connectivity. Twenty-seven percent of U.S. SMBs report they have prioritized IoT as a forward-looking technology to implement over the next year, and 27% already use IoT/device monitoring via software or SaaS. Examples from across industries illustrate how SMBs automate processes and drive efficiency:

- » Field services already rely on IoT to automate certain jobs. For example, fleet vehicle drivers use IoT to automatically transfer data about delivery status, vehicle issues, delays, and even route/traffic updates.

- » Construction employees use IoT to transmit project details from job sites to offices across the United States, share building information models, and relay the status of equipment and buildings.
- » Healthcare workers rely on IoT via connected health devices to monitor patients.

The increased transmission of sensitive information makes secure data transfer, facilitated by 5G, essential — particularly in industries such as healthcare. In fact, 50% of U.S. SMBs reported that implementing new technology securely is the number 1 challenge in achieving their business priorities.

Finally, it's crucial that SMB technology buyers educate themselves on the benefits of investments in AI and automation, the supporting technologies required to make them work, the external help and costs required to implement and maintain them, and any necessary employee training.

As IT staff are typically small or nonexistent at SMBs, and executives with business (not IT) backgrounds usually make IT purchases, these businesses should seek out low-code or no-code AI and automation solutions that employees who aren't tech-savvy can use, as well as AI and automation already integrated into vendor offerings.

Conclusion

SMBs can reap massive gains from AI and automation, and these technologies can help them compete with larger enterprises by enabling them to speed up processes, do more with fewer employees, and reduce manual tasks. But it's critical that SMBs do the legwork to understand all the steps necessary to effectively implement them. Speedy and secure data transfer is a key requirement for smooth implementation, and 5G is a prime candidate for facilitating this crucial capability.

About the Analyst



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Katie Evans is a research director for the Small and Medium Business Research Program within the digital transformation space. Katie's core research coverage includes identifying and supporting the unique, evolving needs of the very small, small, and medium-sized business technology buyer. Katie has a strong, SMB-focused research and writing background, having covered SMBs in the retail and ecommerce space for over 12 years. Most recently, her primary coverage area was researching the technology needs of SMB retailers and analyzing the vendor offerings on the market to meet those evolving needs.

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