The Dawn of High-Performance Low-Code

E-book by





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Introduction

In an age of intuitive consumer platforms like Netflix and Amazon, any friction can immediately turn off customers and drive them to more advanced competitors. Even before the Covid-19 pandemic, many businesses had embarked on digital transformation journeys to expand their technological capabilities and give customers the best experience possible.

Social distancing rules, lockdowns, and work-from-home orders accelerated the migration to digital services. Even people who had not used digital solutions before had to embrace these services to access a range of essential utilities. On a practical level, the ability of digital innovations to increase agility in an organization is a central reason for the growing interest in digital solutions.

While most businesses are aware of the need for digital innovation, many are encumbered with legacy systems that are extremely difficult to innovate with. At a time of competing priorities, a ground-up rebuild of all legacy systems is impractical and would cause too much disruption to achieve.

Yet, there is a critical need for a platform that businesses can use to create powerful digital solutions and services for customers, while at the same time bypassing the difficulties of legacy systems and a lack of resources with software development expertise.

In the drive to make software development more accessible and usable, without the need to deeply understand programming languages, low-code platforms have emerged. These platforms were already growing in popularity before the spread of COVID, but the pandemic boosted the need for apps as businesses were forced to switch to digital almost overnight.

Many enterprises turned to low-code to quickly release software that meets customers' needs and fills gaps in their business offerings. As companies begin to set out on their post-pandemic growth paths, now is an ideal time to implement solutions that make adapting to an exciting, but complex, business future as easy as possible. But not all low-code platforms are created the same. Many fulfill only specific needs, like an application that processes procurement approvals across departments or onboards employees. These are regular low-code platforms.

A high-performance low-code platform is a more effective choice for companies that want to enable their IT teams to unlock the benefits of digital innovation quickly and in a user-friendly way, without the involvement of hard-to-recruit coders.

High-performance low-code platform provider OutSystems recently commissioned a survey in partnership with Infinite Intelligence, to gain a better understanding of the impact of low-code, how organizations are benefiting from the platforms, and the challenges businesses are facing on this journey.

A total of 102 executives working at companies in the insurance, healthcare, and banking sectors completed the survey. Just under one in three respondents (31%) represent organizations with less than 50 employees, with 11% of those replying to the survey being employed in businesses with between 50 and 99 staff.

A further 10% of respondents worked at companies with between 100 and 249 employees. The remaining less than 50% of responses came from organizations with more than 250 employees.



High-performance low-code blends power and speed with security and scale. It allows IT leaders and developers to build, deploy, change, and manage strategic applications that can transform their businesses-all at the speed that the modern business world demands.



Key findings

Development challenges

50% of survey respondents felt speed was their biggest application and software challenge. The need for faster development was followed by integrating with legacy systems (38%) and meeting customer expectations (28%).

50%

50% of survey respondents felt speed was their biggest application and software challenge

Rising costs

Over 67% of respondents believe the financial investment needed to develop software has increased. However, a similar proportion of respondents committed to either significantly or somewhat accelerating the pace of software development over the next 12 months.

67%

Over 67% of respondents believe the financial investment needed to develop software has increased

Low-code usage

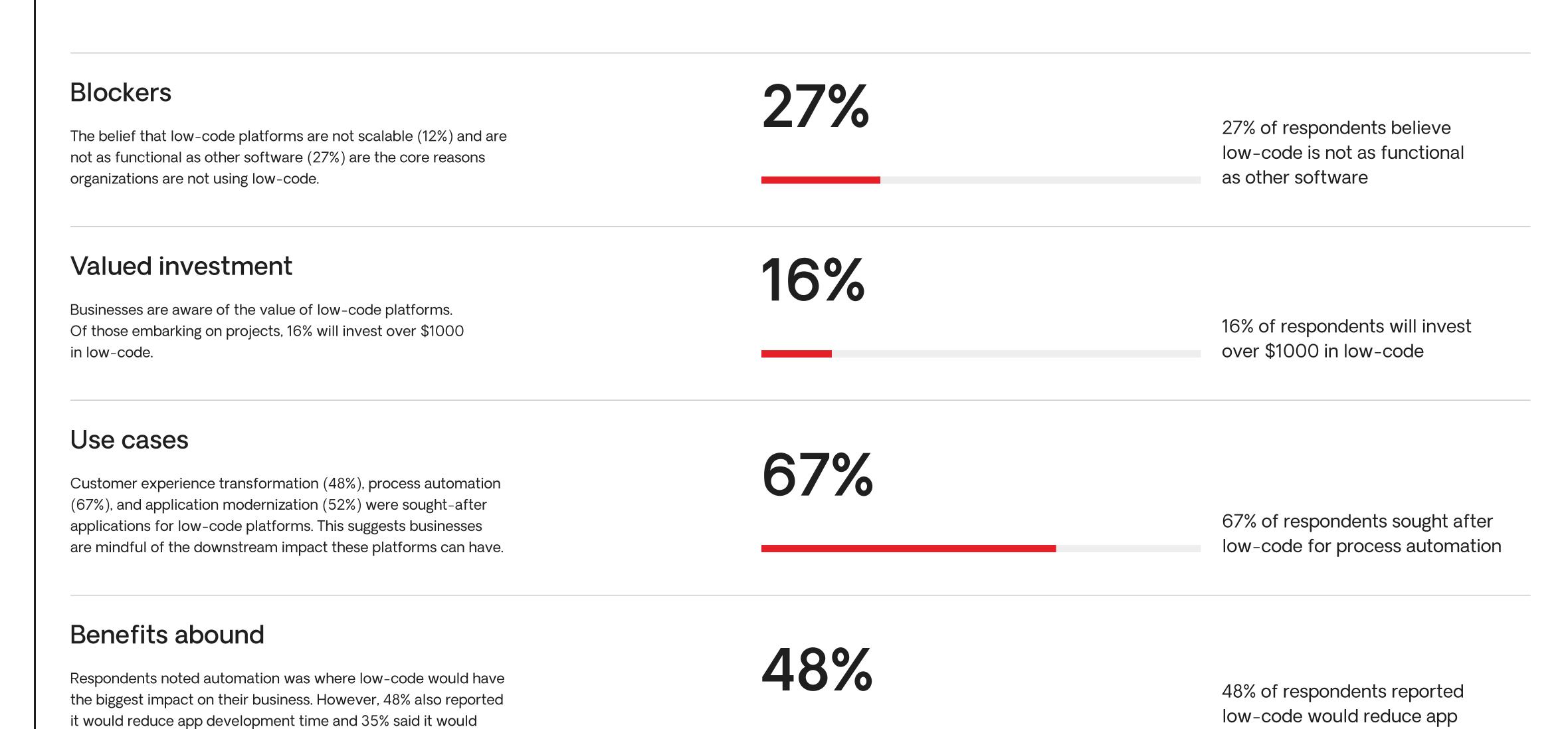
Only 40% of respondents are currently using low-code platforms. However, a further 25% of respondents said they plan to. Many of these respondents said they planned to deploy platforms within the next 2 years. Of those using low-code, most respondents (69%) use between 1-2 applications, while a further 21% use between 3-6.

69%

69% of respondents using low-code have deployed 1-2 applications

Key findings

empower users to solve problems.



development time

Current software environment

The traditional approach to software development requires expert developers to write massive amounts of code. This kind of talent is both expensive to hire and difficult to recruit. For major, global conglomerates with virtually unlimited resources to spend on software solutions, this approach may have been suitable. But smaller organizations, and those with fixed budgets, were limited in what software they could create.

As the name suggests, low-code opens up the software development process to a wide array of employees who possess a range of skills outside of writing code. Low-code platforms enable developers to simply interact with a graphical interface, where users simply drag and drop models to build up enterprise-level applications.

By contrast, conventional software can often leave skilled developers spending a great deal of their time undertaking repetitive, manual tasks such as code validation, and low-code automates a vast amount of these tedious tasks.

The biggest challenges survey respondents reported facing around developing applications and software were faster development (50%), followed closely by integration with legacy systems (38%) and meeting customer expectations (28%).

There is no question that rising software development costs and acute talent shortages are bringing new challenges to companies in all industries. Recent research from job search engine Adzuna noted tech job vacancies are at their highest in ten years, because of the massively increasing demand for innovative technological services and products.

A total of 870,000 tech and digital job openings were recorded between January to May 2022, with software developers being the most in-demand job role in the sector. A perfect storm of digital skills shortages and an increase in the need for staff with expertise in software development is leading to significant hiring challenges.

Almost two out of three respondents to the OutSystems survey say the financial investment needed to develop software has increased, with 43% reporting that the number of staff required to develop software has also increased.

The biggest challenges survey respondents reported facing around developing applications and software were faster development (50%)

Faster development	50%
Integration with legacy systems	38%
Customer expectations	28%
Meeting security standards	27%
Faster onboarding	24%
Protecting user data	24%
Keeping up with the pace of tech innovation	23%
Achieving regulatory compliance	22%
Third-party integration	19%
Platform selection	16%
Debugging	11%
Feature selection	11%
Other	11%

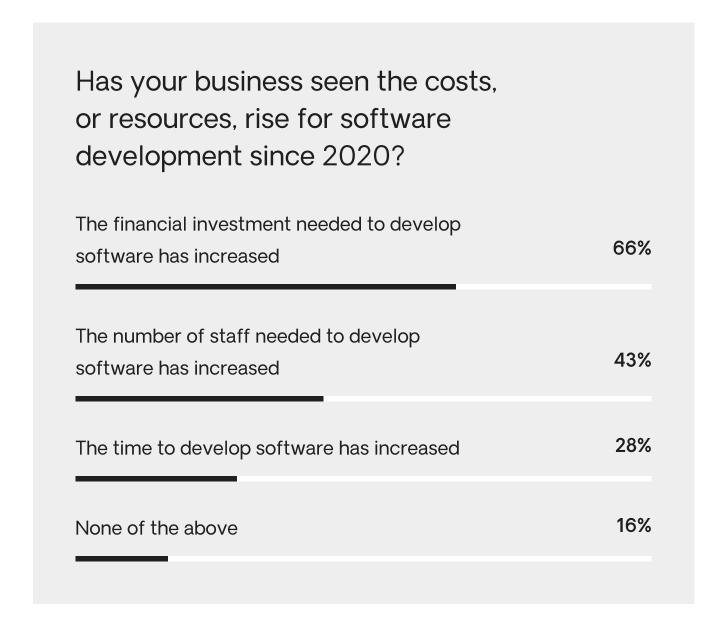


Talented staff are clearly in the driver's seat when it comes to the hiring process and can demand higher salaries and benefits than ever before. While efforts are being made to upskill staff to address the digital skills gap, it is unlikely issues around recruiting skilled tech employees will subside anytime soon.





Current software environment



And there is the ever-present pressure to control costs and ensure that robust return on investment can be achieved on spending. A higher level of scrutiny is being placed on investments that may take several years to achieve a positive return.

Almost 70% of respondents say their business plans to either significantly or somewhat accelerate the pace of software development over the next 24 months. Less than one in three people who responded said they want to maintain development at its current pace.



Another challenge facing businesses today is the difficulty in integrating new systems with legacy systems. Having to deal with legacy systems can reduce productivity, make it harder to innovate, and limit the ability to gain data-driven insights in an organization.

Most companies now see a clear need for using low-code platforms to reduce software development costs, while still gaining access to innovative software solutions. Clint Milnes, chief information officer at claims management business, Winn Group, has seen the benefits of embracing low-code platforms first-hand.

After experiencing exponential growth over the past 12 months, where sales more than tripled, Milnes saw the need to automate and streamline processes to be a key priority. But early concerns were raised about the difficulties and costs of hiring experienced developers.

"Coming out of Covid and going into a digital world, the requirements for .NET developers and alike had increased a lot and therefore they became extremely difficult to come by," says Milnes.

Milnes and his team began to look at alternatives to conventional software development approaches that would be able to streamline and speed up processes, with a low-code platform being the best choice.

With customers having extremely high service expectations, using low-code can go a long way to meeting these needs. According to Milnes, clients now expect 24/7 availability for services and will not be happy with a product that can only be accessed between 9 am and 5 pm.

Investment is needed by enterprises to implement low-code solutions in their organizations and unlock the benefits these platforms provide. Funding low-code projects often results in a solid return on investment across an organization by improving the customer experience, reducing the need for expensive developers, and enabling staff to automate mundane tasks.



The allure of Low-Code

The attraction of low-code platforms is easy to see. In the case of high-performance low-code, making custom applications only needs to be done once, it can be implemented across a business seamlessly.

Visual building blocks can be copied and pasted to achieve the exact requirements of an organization, often reducing the effort and time it takes to achieve scalability compared to traditional software development and even regular low-code approaches.

Unlike conventional code-based and regular low-code solutions, standardization is typically easier to attain with high-performance low-code, due to the drag-and-drop interface where templates can be created and shared wherever they are needed.



The OutSystems high-performance low-code platform delivers traditional-code levels of capability while still delivering industry-leading productivity. Therefore, even the most skeptical developers who begin using the platform fall in love with OutSystems.

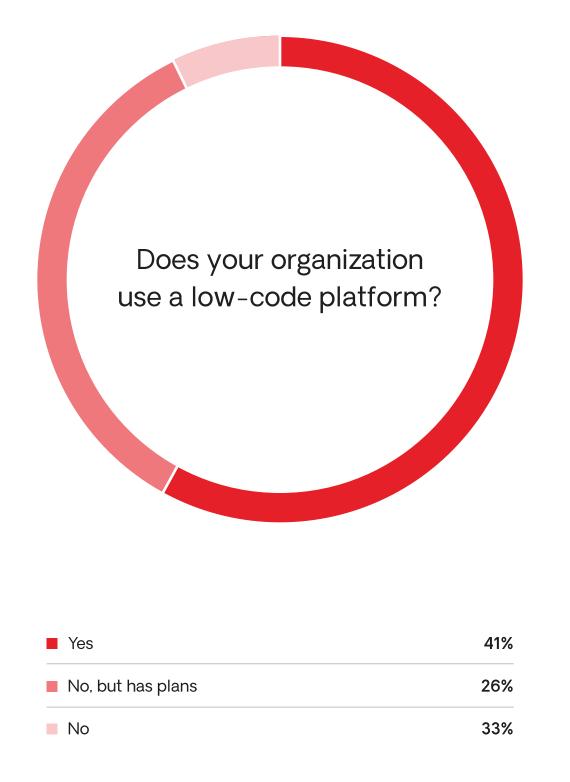
The allure of Low-Code

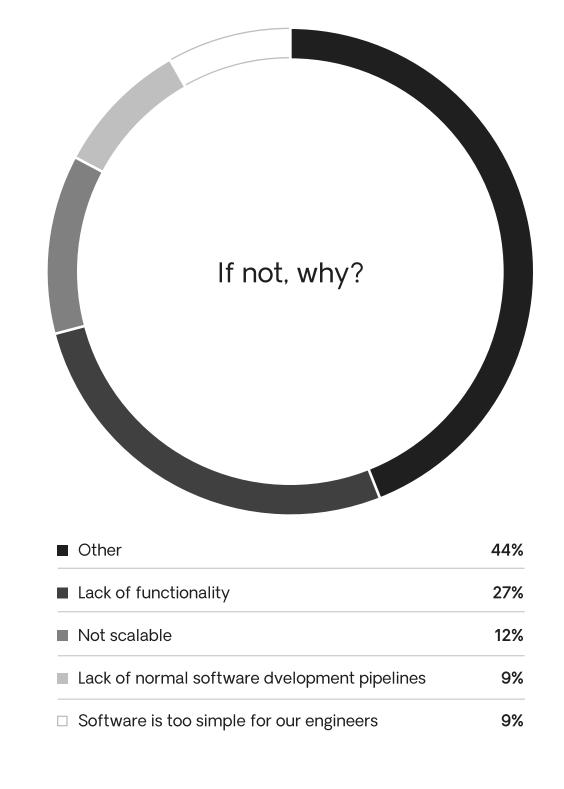
According to the OutSystems survey, 41% of respondents say their organization uses a low-code platform. An additional 25% say their company has plans to embrace low-code in the future, but this still leaves many businesses who are not choosing low-code.

Of these respondents, 26% point to a lack of functionality, and 11% believe these systems are not scalable. These results imply some businesses may be unaware of the features and benefits of low-code platforms—especially high-performance low-code—as embracing these solutions can increase scalability and offer plenty of features to users.

In organizations that plan to develop with low-code, 57% expect to do so in less than a year, with 34% saying they will be using low-code platforms within 1-2 years. These very high figures illustrate the commitment of many businesses to use these platforms as they look to grow in a post-pandemic world.

Milnes believes that although there is a reluctance in the legal market to change, it is clear that with the increasing number of law firms entering the market and branding themselves as a tech practice, firms that do not move forward will be left behind. "Because of the time and cost it takes to develop client portals with developers, I think in the next 12 to 18 months, low-code will certainly increase as it becomes more prevalent in the industry," adds Milnes.







As more and more organizations are using low-code platforms and sharing their experiences of innovation and success, the benefits of embracing these solutions are becoming better understood by all types of companies from SMEs to larger enterprises.

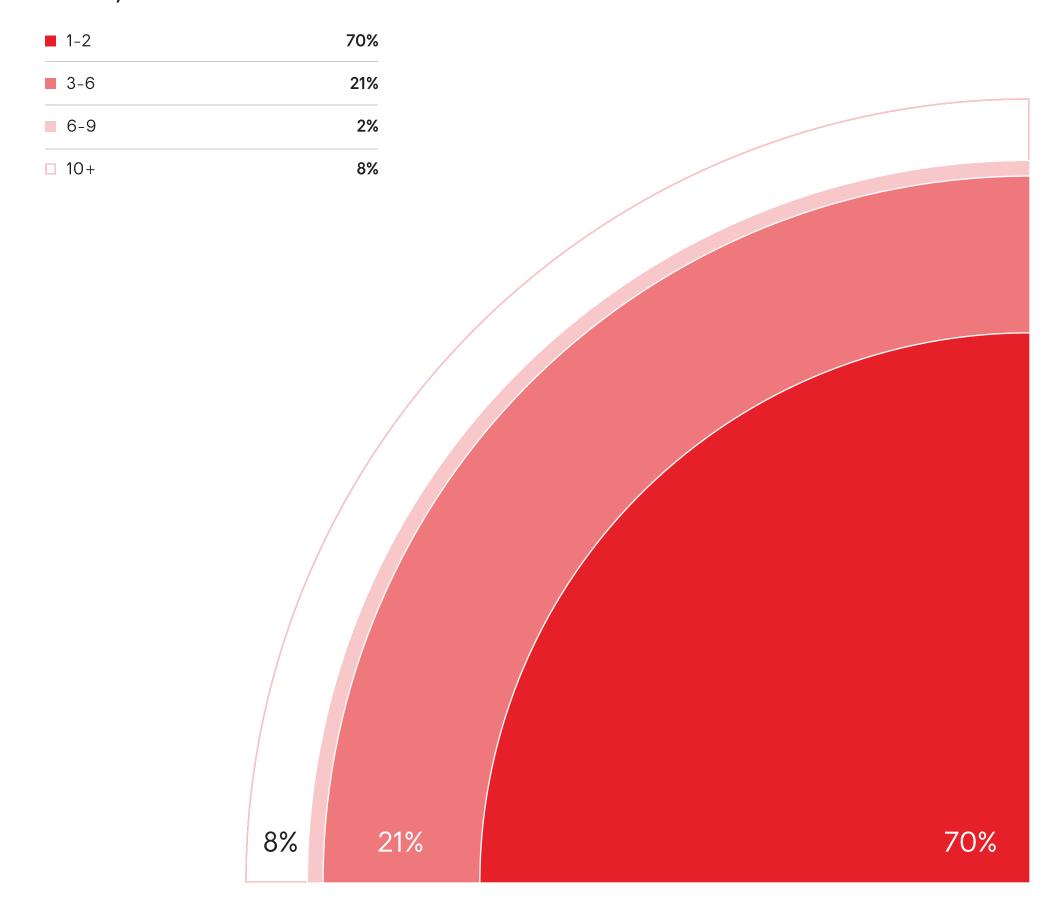
Perhaps one of the most significant advancements reported by companies that have started on their low-code journey is the reduced app development time. Unlike conventional app development, which is often a long process where delays are common, the intuitive nature of low-code removes many of the processes that cause delays.

Thanks to the streamlined point-and-click nature of low-code, with its pre-built templates and drag-and-drop approach, applications that would have taken a great deal of time to code and finalize can be created effortlessly.

During the pandemic, the East Suffolk and North Essex NHS Foundation Trust (ESNEFT) decided to use high-performance low-code to develop an application that would more effectively manage the Covid testing of staff. In a healthcare setting the importance of ensuring speed and accuracy for Covid testing is extremely high, with delays in the system potentially resulting in more Covid-related absences and cases.

Two web portals were built that allowed staff to register their Covid test and let lab employees add results to these records. The Trust was able to create a digital portal system that made the process quicker and more accurate for employees.

How many low-code tools does your business use?





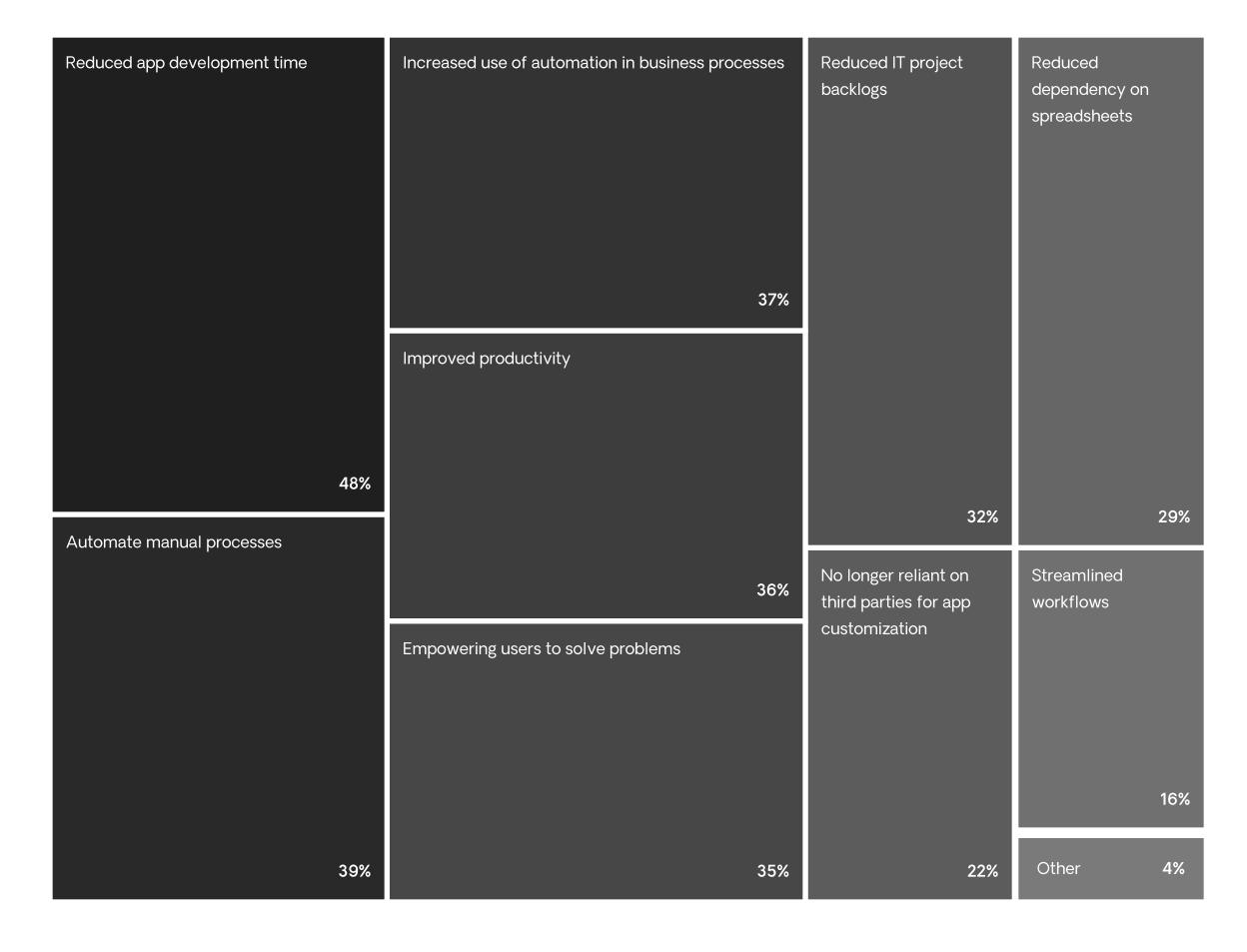
Kate Walker, digital program director at Suffolk and North East Essex ICS, says that not only was the high-performance lowcode platform much less expensive than other options, but it also enabled digital transformation to be achieved quickly. The dragand-drop functionality was an essential element that made the solution successful, especially when it came to integrating with a range of legacy systems.

The time saved through high-performance low-code can be extended to other areas, including testing and design, where a better customer experience can be spun up quickly. Improvements in productivity help reduce time-related issues, particularly around the need for skilled staff to undertake relatively low-value tasks.



The time saved through high-performance low-code can be extended to other areas. including testing and design.

Where do you see low-code platforms having the greatest benefit?





Diverse workforce

Before the advent of low-code platforms, only staff with coding experience could program software. Unlocking access to creating software to a far larger range of people through embracing low-code means that a diverse mix of staff can now participate in the creation of software.

A global survey of software developers in 2022 found that more than 9 in 10 software developers are men. Such a drastic underrepresentation of women in the field means that only a limited number of perspectives can be provided in the traditional software development process. Now, people from a broad range of backgrounds with expertise in everything from usability to ethics and customer experience can add their talents to software development.

Employees who may have shown an interest in software development but were dissuaded due to not possessing the right technical qualifications or education can be hired. Existing staff can also gain new development opportunities in a workplace that uses regular and high-performance low-code platforms thanks to the democratization these solutions bring.

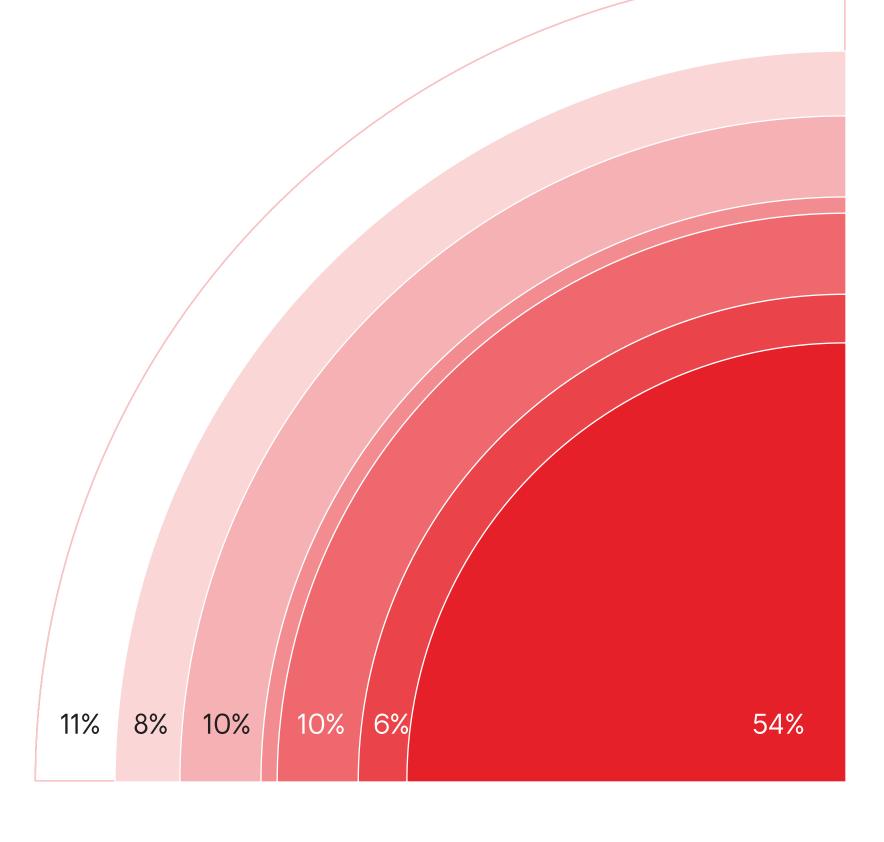
The Infinite Intelligence/OutSystems survey found that 46% of respondents believe the impact of low-code in their industry will result in development opportunities for people to code and build applications, with 31% of people also expecting to see the ability to hire people without an IT degree or a university education to be unlocked due to embracing low-code.

Manual business processes that once required staff to spend time completing can now be automated easily. With only a small amount of coding, new developers can make use of enterpriselevel technology for virtually any time-consuming manual process.

Empowering staff to take control over their workflows would have been far too costly and cumbersome in conventional software development approaches. But thanks to low-code automation, employees don't need to ask expert developers for support and can simply address any issues themselves through intuitive interfaces.

What is your business' budget for its next low-code project? (US\$)

54%	\$5000+
6%	\$3000-4999
10%	\$1000-2999
2%	\$750-999
10%	\$500-749
8%	\$250-499
11%	\$1-249



According to a <u>report published by research firm</u>

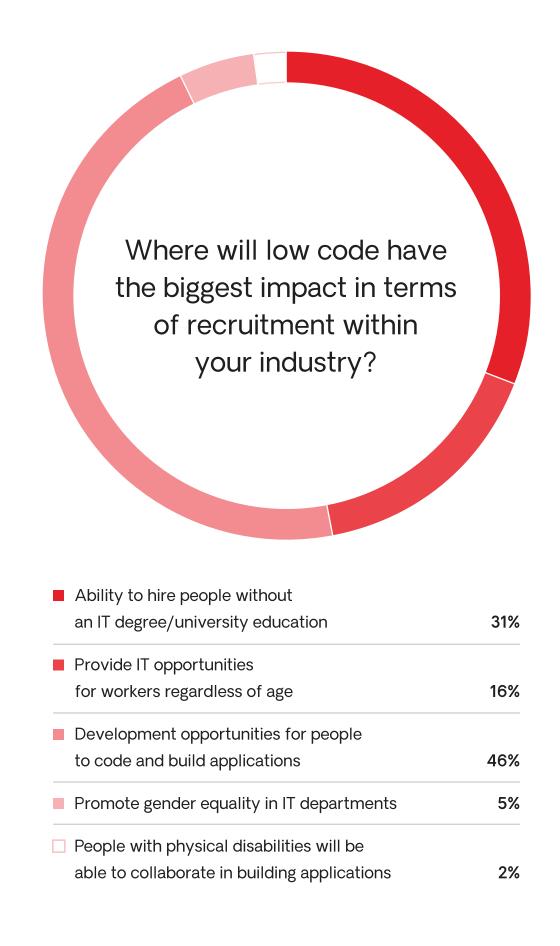
<u>MarketsandMarkets</u>, the low-code market is forecasted to increase from less than \$12 billion in 2019 to reach over \$45 billion by 2025, growing at a compound annual growth rate of 22%.

In addition, employees who use high-performance low-code will be empowered to find solutions to complex business challenges through custom workflows. They will be able to use their experience with low-code to solve both the challenges they face, as well as create solutions to improve their daily tasks.

As a result of closer collaboration between the IT function and all other parts of the business, staff who before wouldn't have been able to work on digital transformation projects will now be able to gain both insight into this process and new digital skills.

The next 12 months are expected to see the low-code ecosystem continue its strong development and make a positive impact on more organizations. Results from the OutSystems survey show that two out of three respondents (67%) say that their company is either using or planning to use low-code platforms over the next 12 months for process automation, with a further 52% focusing on application modernization and 48% using low-code to transform the customer experience.

It is clear the advent of high-performance low-code will impact all aspects of a business, not just the IT function. By embracing a low-code platform that contains developer tools, a whole range of tasks and processes can be automated. The use of templates, too, that contain API accessibility and in-built integrations can make workflow automation an easy thing to achieve.



How is your company using/planning to use low-code platforms in the next 12 months? Process automation 68% Application modernization 53% Customer experience transformation 49% Workplace innovation 34% Develop mission-critical software solutions 29% Unsure 6% Other 2%

Conclusion

A perfect storm of increasing customer expectations, difficulties in recruiting developers, and the need to increase business agility have resulted in an urgent need for businesses to assess their current software development plans. For many companies, the old ways of creating software are no longer cost-effective or achieve central business goals, making a shift to a high-performance low-code platform a clear choice.

"When you need to own it, make it awesome, and evolve it long term. OutSystems is the choice for leaders looking to go beyond what's possible by prepackaged off-the-shelf software," adds Gaiolas.

Not all low-code platforms are created equally. Organizations that are considering embracing the low-code need to ensure they select a partner on this journey who is able to offer high-performance low-code. In practice, this will mean choosing a low-code platform that is future-proof and iterative while enabling enterprise-level security and compliance.

OutSystems has been named a leader in low-code by both customer reviews and analyst rankings, as well as having more than 600,000 community members and growing. The reason for that is that it delivers high-performing teams and strategic applications.

In an increasingly customer-centric corporate ecosystem, low-code platforms can ensure-cost-effectively-that the customer journey is as frictionless as possible. Finding a high-performance low-code platform to support software development is a powerful way to stay competitive, and OutSystems remains the only market leader solely focused on high-performance low-code software application development, whose founder and market visionary is the active CEO.



The OutSystems high-performance low-code platform is designed to unleash innovation from across an organisation – whether it be a large enterprise or a small-to-medium sized business-enabling them to build serious applications that solve their biggest business challenges"

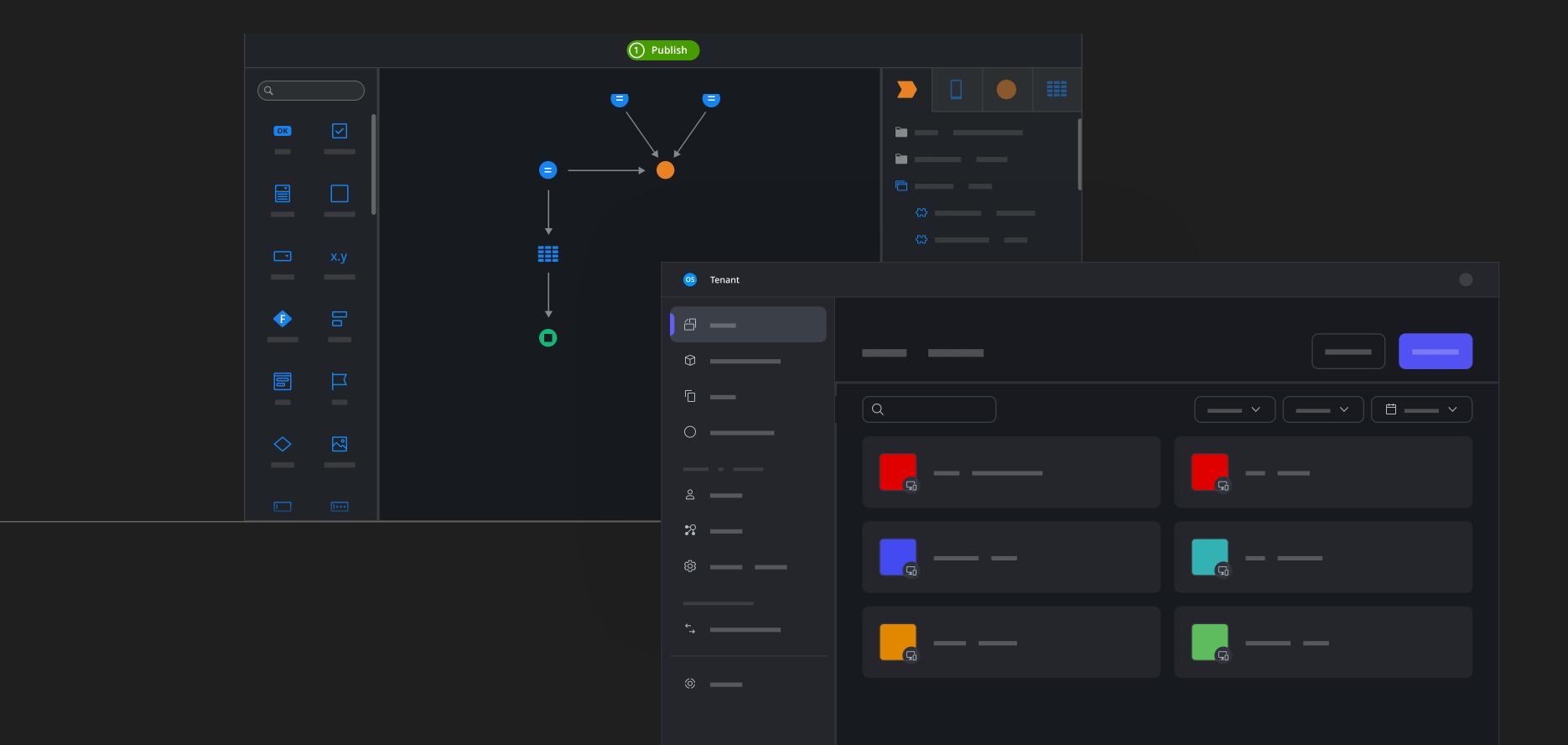




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