

# The State of Application Development

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2018/  
19

How IT Is Responding to Digital  
Disruption and Innovation

**LOCAL GOVERNMENT**

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# Summary

In its fifth year, the goal of the OutSystems State of Application Development Report is to provide a comprehensive analysis of the challenges, priorities, and innovation of IT teams around the globe in this age of digital transformation.

This analysis is based on the responses to a survey conducted in March 2018. More than 3,500 IT professionals from over 116 countries took part. Respondents worked in all kinds of industries, and, in this concise summary of the report, we focus on specific findings related to the state and local government sectors.

The need for digital transformation dominates business strategy today, and there are two obvious consequences for IT. First, demand for application development (app dev) is at an all-time high. Second, speed and agility are more important than ever before.

This backdrop informed the themes we wanted to explore in this year's survey, which set out to answer five critical questions:

- 1 How are the app dev priorities of organizations adjusting to this digital age?
- 2 What are the main challenges to meeting app dev goals?
- 3 What strategies are IT teams employing to increase app dev capacity and speed?
- 4 Are these strategies working to overcome resource constraints and reduce backlogs?
- 5 Are new app dev practices such as low-code and citizen development making a difference?

Our insights from that research are captured in a 32 page report that you can access [here](#).

In the pages that follow, we provide a concise summary of our key findings, and analyze responses from state and local government on a number of key measures.

# Application Development in the State and Local Government Sectors

Compared to private sector enterprises, public sector organizations do not face the same existential threat of digital disruption from more agile digital start-ups. However, the need for digital transformation across the public sector is no less grave.

According to Deloitte's 2017 survey of 1,200 government officials, citizen satisfaction with government services has fallen to an eight-year low, and 73% of officials believe their organization's digital capabilities lag behind those in the private sector.<sup>1</sup>

According to Forrester's 2018 U.S. Federal Customer Experience Index, the U.S. federal agency's customer experience index is worse than any private sector industry and has not improved in the past year.<sup>2</sup>

Government IT organizations face an unenviable challenge: trying to launch compelling citizen digital experiences, while at the same time keeping the lights on with an aging and disjointed range of legacy systems.

Many public sector bodies are suffering from austerity funding cuts, and yet, at the same time, they face steeply rising service delivery costs for an aging population. The resulting gap between federal spending and revenues is forecast to grow threefold in the next 20 years, according to the Brookings Institution.<sup>3</sup>

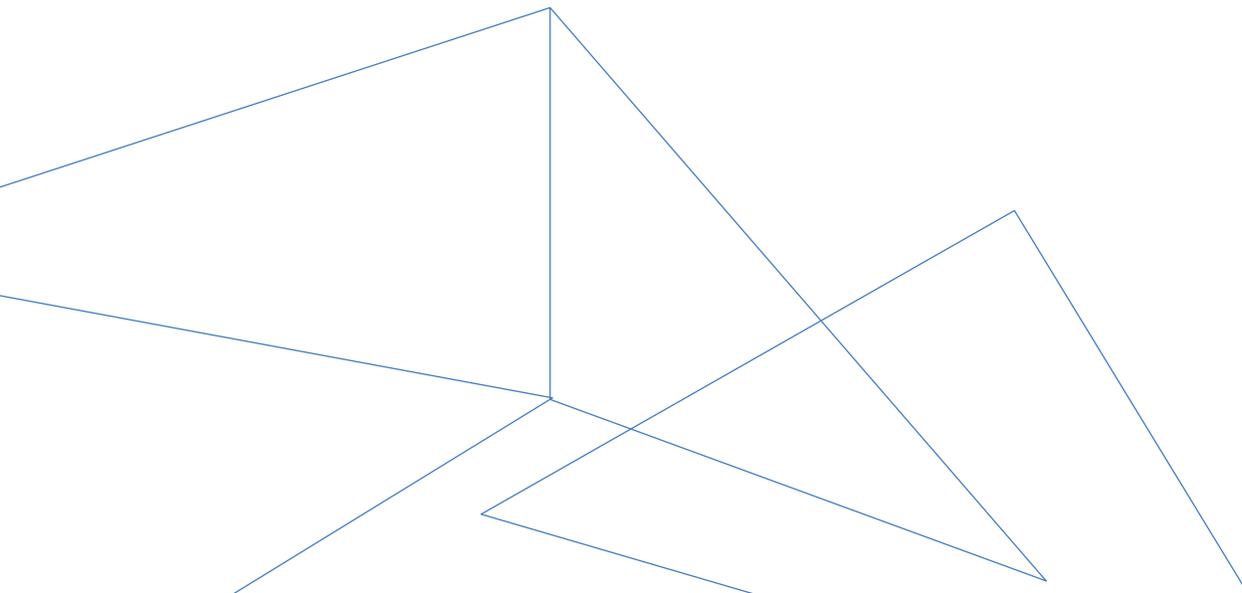
Public sector CIOs need to prioritize digital transformation, not just because of the rising expectations of digitally-savvy citizens, but because those improvements also deliver significant efficiency and cost savings.

Understanding and acting on the key findings in this year's State of Application Development report is therefore crucial, not just for government CIOs, but also to those concerned with state and local government finances as well.

1. Deloitte - Delivering the Digital State

2. [www.forrester.com/report/The+US+Federal+Customer+Experience+Index+2018/-/E-RES142378](http://www.forrester.com/report/The+US+Federal+Customer+Experience+Index+2018/-/E-RES142378)

3. [www.brookings.edu/research/the-federal-budget-outlook-even-crazier-after-all-these-years](http://www.brookings.edu/research/the-federal-budget-outlook-even-crazier-after-all-these-years)



# Key Findings

## Demand for App Dev at All-Time High

The number of applications slated for delivery in 2018 is higher than ever. Forty-two percent of IT professionals said they had plans to deliver 10 or more apps, 21% plan to deliver 25 or more apps, and 10% said they plan to deliver 100 or more apps in 2018. Respondents in the public sector had even more ambitious targets, with 44% saying that they had more than 10 applications to deliver, 22% plan to deliver 25 or more apps, and 13% said they plan to deliver 100 or more apps in 2018.

## Excessive Development Time

Forty-seven percent of respondents said the average time to deliver a web or mobile application is five months or more. Twenty-eight percent described their organization as unhappy or somewhat unhappy with the speed of application delivery. More respondents in the public sector complained of slightly slower development speeds. Forty-nine percent said the average time to deliver a web or mobile application was five months or more.

## Backlogs Remain Stubbornly High

Sixty-five percent of IT professionals said they have an app dev backlog, and for 10% of these respondents, the backlog was more than 10 apps. Only 32% said their app dev backlog had improved in the last year.

## Development Skills Are Hard to Hire

Overall, 65% of organizations have hired web or mobile developers in the past year. Eighty percent of respondents described app dev talent as scarce, with hiring taking longer and costing more. In the public sector, 62% of respondents said they had hired developers, three percentage points lower than the average.

## Slow Returns From Agile and DevOps Investments

To increase application delivery, organizations are investing in multiple tools and approaches. Sixty percent of organizations have invested in agile tools and services in the past year. But, the average agile maturity score was a lackluster 2.6 out of 5.

The average agile maturity score in the public sector came in slightly lower at 2.37.

Forty percent of organizations have invested in DevOps tools and services during the past year. However, they typically described their DevOps maturity as somewhere between **“just starting”** and **“fundamental,”** scoring 2.44 out of 5.

DevOps maturity scored slightly lower for respondents in the public sector, at 2.36 out of 5. In other words, barely above “just starting.”



## Customer-Centricity Is on the Rise

Fifty-two percent of organizations have invested in customer-centric practices in the past year, including customer journey mapping (16%), design thinking (27%), and lean UX (9%). For the new apps slated for development in 2018, those that will be **used directly by customers or business partners** are **most important**, outscoring **apps for internal use** by 14%.

The percentage of respondents from the public sector who said they invested in these practices was lower than the aggregate: 7% for customer journey mapping, 16% for design thinking, and 3% for lean UX. Yet, respondents from the public sector also said that the most important apps they will develop in 2018 will be those used directly by customers or business partners, with a 14% lead over apps for internal use.

## Citizen Developers Are Often Poorly Governed

Fifty-two percent of organizations said they had citizen developers, which we define as “non-professional developers who don’t report to IT.” Such developers are poorly governed (managed), according to 61% of respondents.

In the public sector, citizen development seems even less mature. Only 48% of respondents thought their organization had such developers, and where they did exist 67% of respondents said that governance was either lacking or ineffective.

However, as revealed in the full report, those organizations that said they were using low-code reported markedly more success in governing citizen development.

## Low-Code Is Becoming Mainstream

Low-code is no longer just for innovators and early adopters. Thirty-four percent of respondents said their organization was already using a low-code platform, and a further 9% said they were about to start using one. If this is representative of the whole market, then low-code has “crossed the chasm,” and is well on the way to widespread adoption by the early majority. Compared to the overall average, adoption of low-code in the public sector has been lagging, with 30% saying they had already adopted low-code. However, adoption is on the rise with 13% saying that they were about to start using a low-code platform.

# Benefits of Low-Code

We compared the performance of those using and not using low-code and found notable differences across a wide number of app dev performance measures. It seems that the use of low-code is delivering significant benefits for those who have adopted it. Several of these performance comparisons are summarized in the following charts.

Users of low-code are 21% more likely to describe their organization as happy or somewhat happy with the speed of application development.

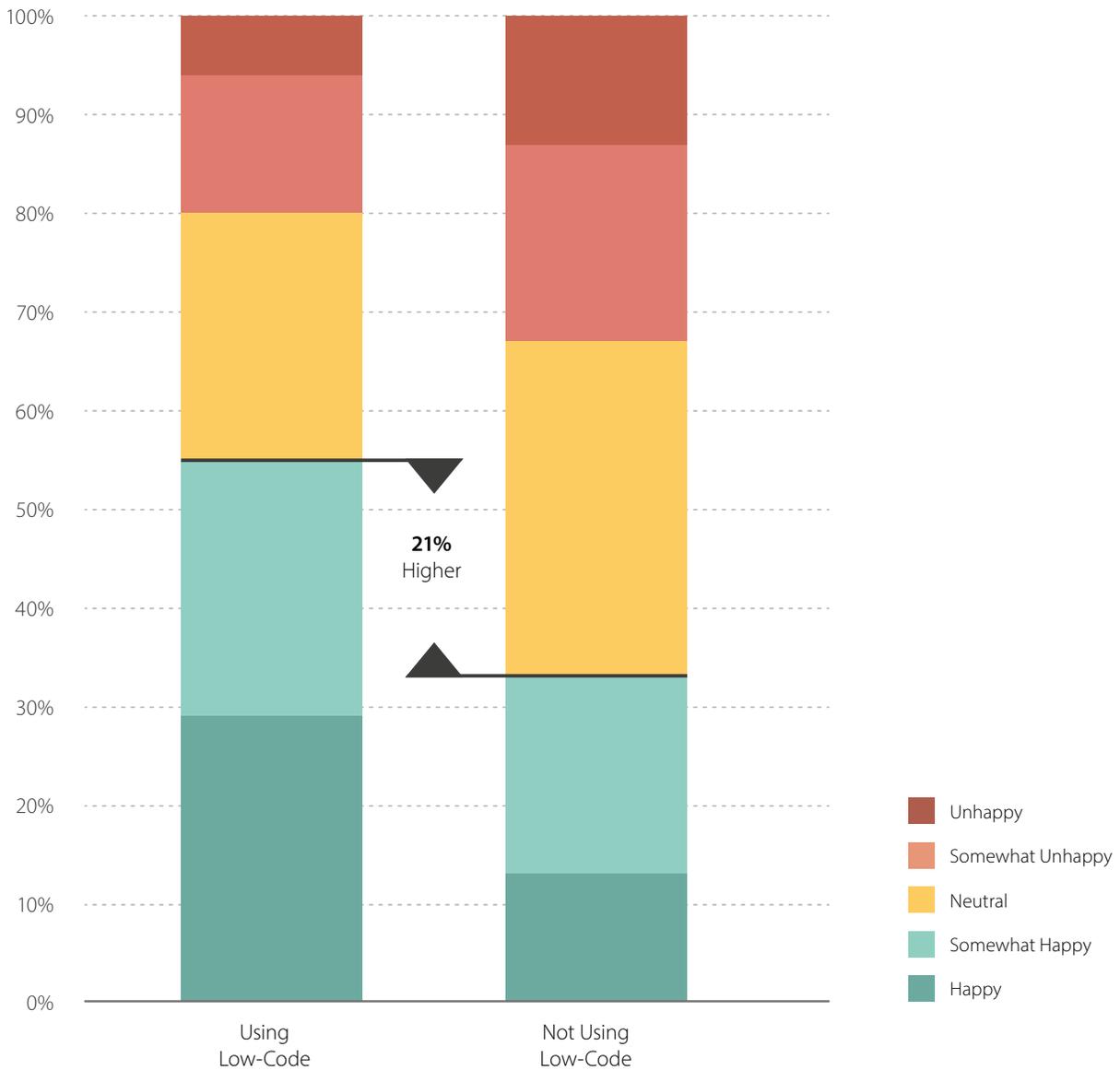


Fig. 1: Satisfaction With the Speed of Application Delivery

Users of low-code are 15% more likely to deliver applications in four months or less.

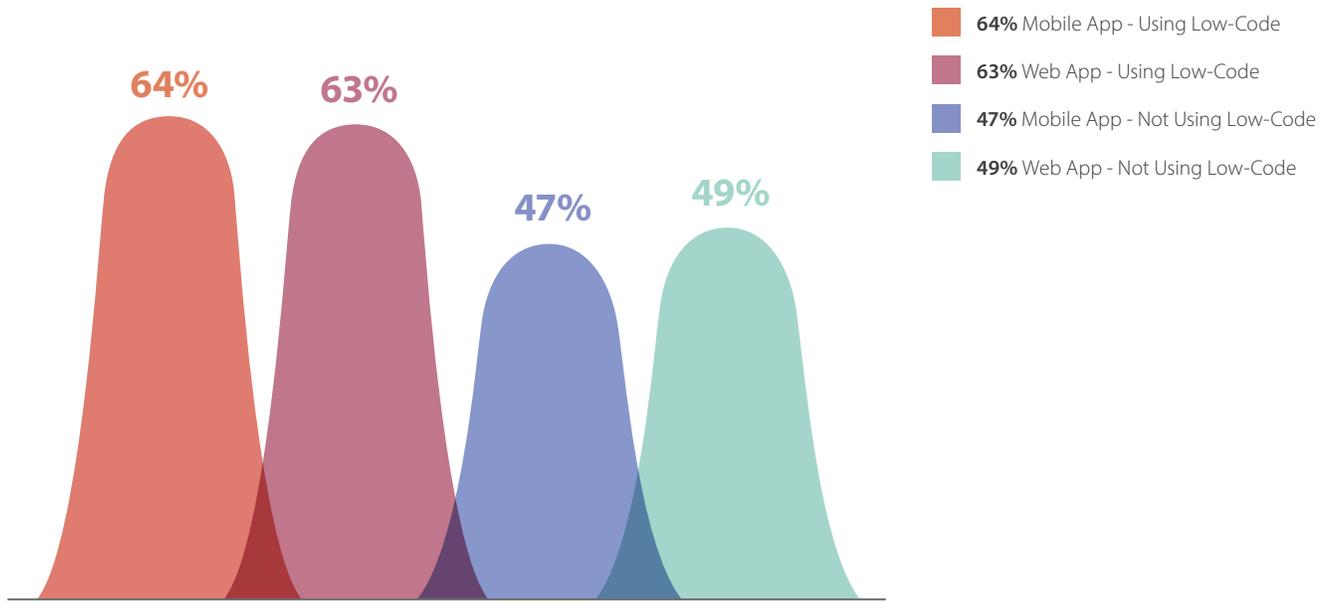


Fig. 2: Average Delivery Time of Four Months or Less

Users of low-code are less than half as likely to report app delivery times of 12 months or more.

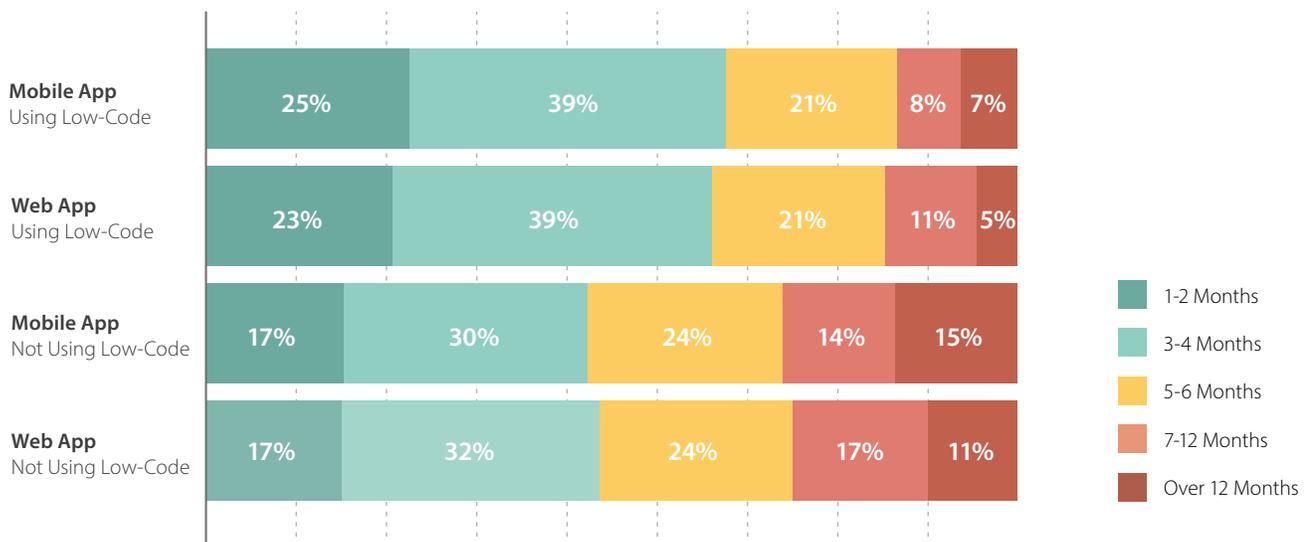


Fig. 3: Application Development Time

Users of low-code are 15% more likely to describe their agile maturity as level 3 or higher using this maturity model.

Agile Maturity Model	
Level 1	<b>Initial:</b> We lack consistency and need training to get everyone aligned.
Level 2	<b>Just Started:</b> Processes not fully defined. Basic level of agile adoption. Development and testing are not fully in sync yet.
Level 3	<b>Defined:</b> Our whole team is using well-defined agile processes, and we're consistently delivering sprint after sprint.
Level 4	<b>Measured:</b> We're measuring code quality and other key measures. Our focus is on engineering maturity.
Level 5	<b>Optimizing:</b> We develop on schedule and release on demand. We've invested in automation for continuous integration and deployment. Consistent delivery across teams. Self-organized, sustainable, continuous improvement based on KPIs.

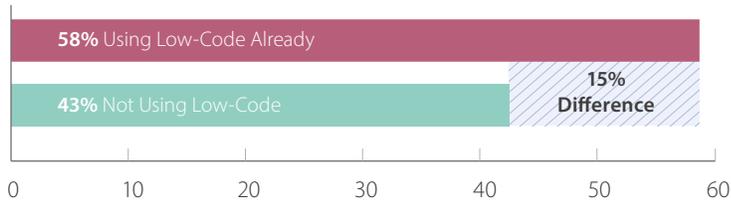


Fig. 4: **Combining Levels 3, 4, and 5 of Agile Adoption**

Users of low-code are 10% more likely to describe their DevOps maturity as level 3 or higher, using this maturity model.

DevOps Maturity Model	
Level 1	<b>Not Started:</b> Outages, war-rooms, blame, unplanned work, delays, and defects.
Level 2	<b>Starting:</b> Thinking about cultural change, starting to write scripts, looking at test automation.
Level 3	<b>Fundamental:</b> Automated build, cross-functional teams, product-focused, cultural change is underway.
Level 4	<b>Managed:</b> Happy people, integrated tool chain that preempts failure, automated test and deployment, continuous delivery.
Level 5	<b>Optimizing:</b> DevOps is done, fine-tuned, and tied tightly to business goals.



Fig. 5: **Combining Levels 3, 4, and 5 of DevOps Adoption**

Users of low-code are nearly three times more likely to say they have no app dev backlog.

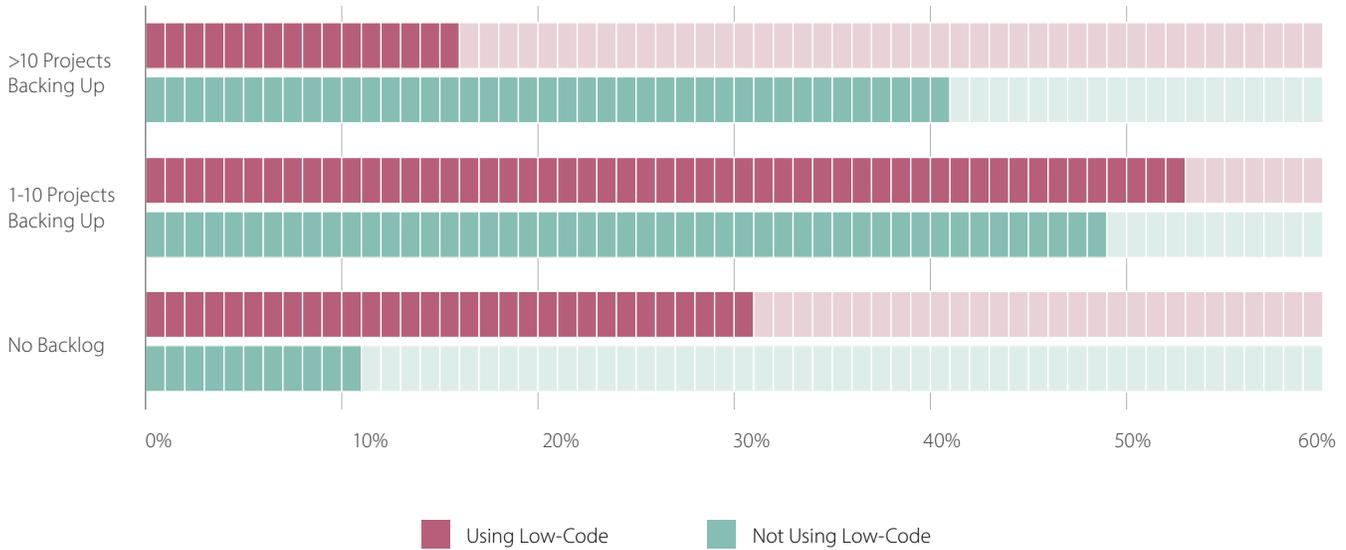


Fig. 6: Low-Code vs. No Low-Code Backlogs

Also, as shown here, users of low-code are two-and-a-half times less likely to have a backlog of over 10 applications waiting for development.

Users of low-code are three times more likely to describe citizen development as tightly governed.

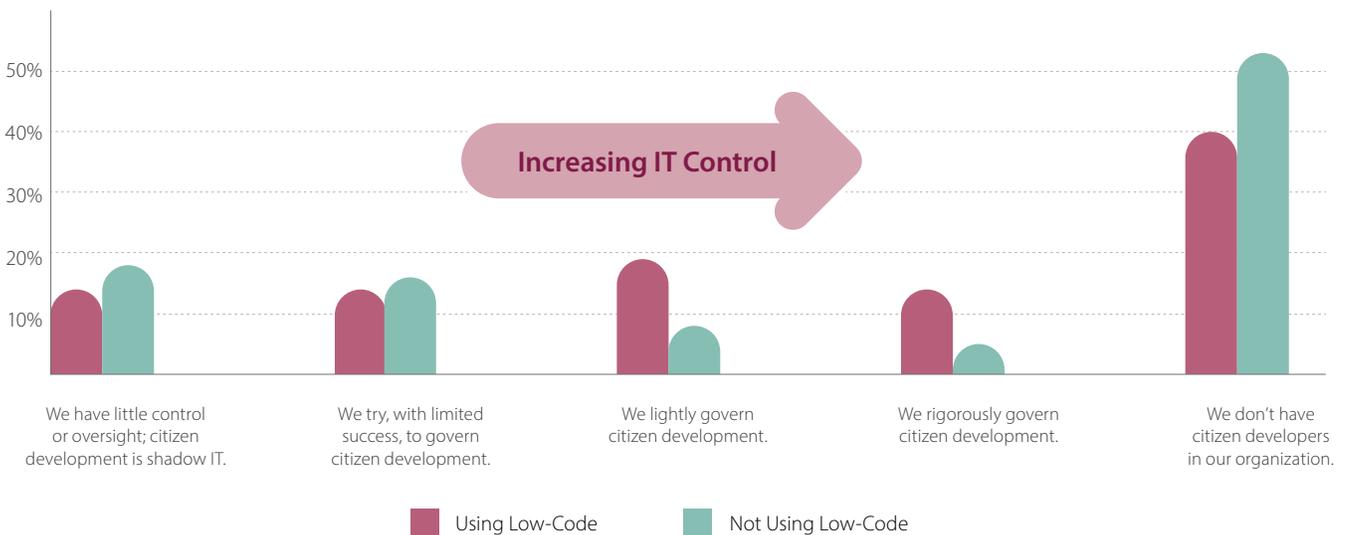


Fig. 7: Citizen Development in Organizations

# Survey Demographics

## Roles

Respondents were developers, CIOs, IT managers, and other professionals, representing thousands of companies from around the world, who agreed to share objective feedback based on their experiences.

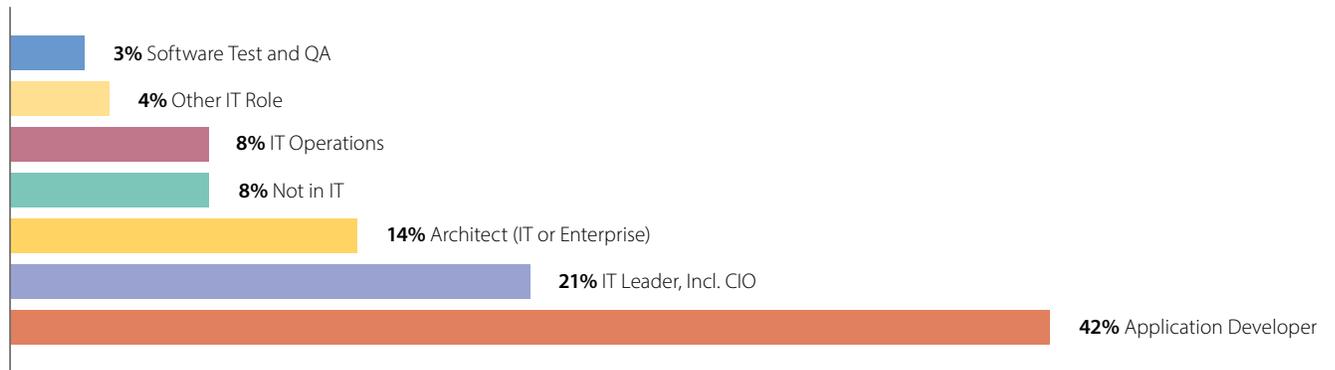


Fig. 8: **Primary Job Function**

## Geography

Europe accounted for 41% of the responses. Roughly two-thirds of organizations have headquarters in either Europe or North America, 18% in Asia and the Pacific, and the remainder is spread across the rest of the world.

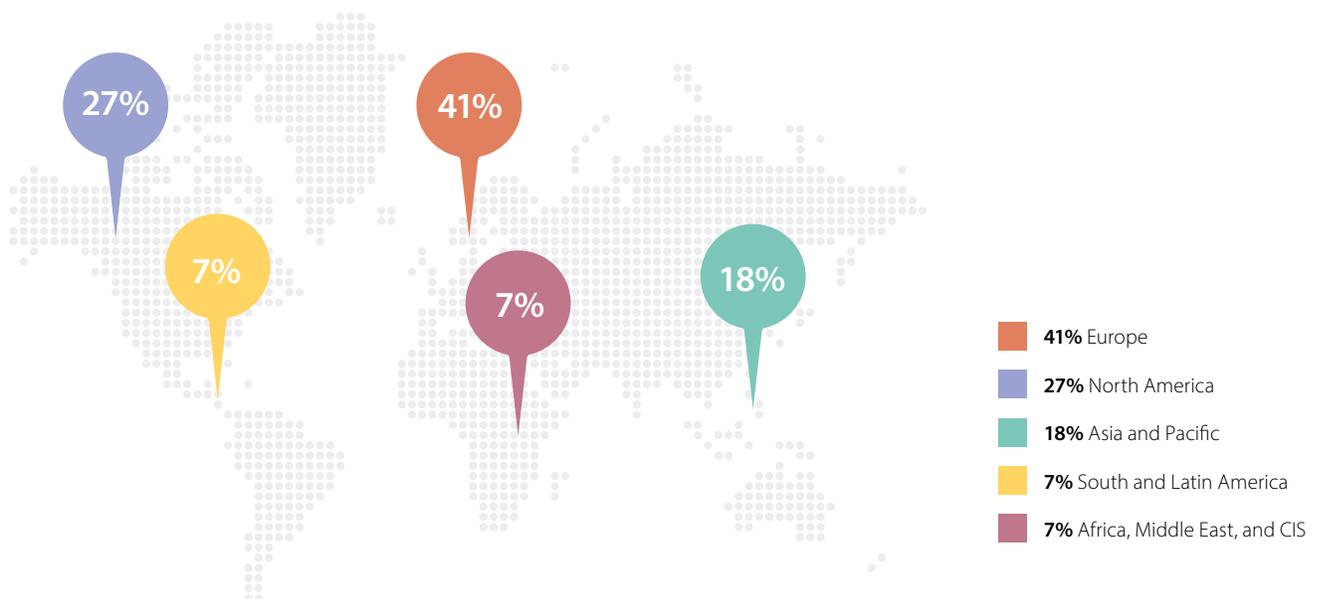


Fig. 9: **Geography**

## Size of Organization

Responses came from organizations of all sizes, approximately half with under 500 employees and one in six came from organizations with more than 10,000 employees.



Fig. 10: Company Size

# Get the Full Report

The full report answers many more questions besides the highlights we've summarized. Access the full report **here** to learn much more, including:

- What proportion of applications planned for delivery in 2018 is really new as opposed to maintenance or replacement of applications that already exist?
- What are the most important types of app that organizations plan to deliver in 2018?
- What approaches and technology are organizations investing in to speed up application delivery?
- Does organization size affect the performance of application development functions? (We looked at a wide variety of performance measures.)
- What priorities for improvement do organizations have to speed up software delivery?
- What are the top challenges that organizations blame for application delivery delays?
- What is the prevalence of outsourced development?
- What kinds of use are organizations making of low-code application development platforms?
- How are citizen developers being used in organizations? How are they governed?
- What reasons do organizations give for using, or not using low-code?
- What are the main barriers to digital transformation?
- What fears regarding low-code still worry potential IT buyers?

# About OutSystems

OutSystems is the number one platform for low-code rapid application development. Thousands of customers worldwide trust OutSystems as the only solution that combines the power of low-code development with advanced mobile capabilities, enabling visual development of entire application portfolios that easily integrate with existing systems.

## The Fastest Way to Build Enterprise-Grade Applications

- **Visually develop full-stack apps**
- **Integrate with everything**
- **Deploy to any device**
- **No lock-in, no boundaries**

Learn more at [www.outsystems.com](http://www.outsystems.com)





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