

Forrester Opportunity Snapshot: A Custom Study Commissioned By AWS | December 2018

Build A Better Government In The Cloud

European Governments Leverage Commercial Cloud
To Digitally Transform

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Governments Face Cost Barriers To Achieving Digital Transformation Goals

European governments strive to deliver on promises to provide better, smarter, and more efficient services through digital transformation. But the breadth and depth of computing and infrastructure requirements are at odds with modest IT budgets. Government leaders tread a fine line: They must deliver the services their citizens need — and demand — while strictly managing (if not reducing) their budgets.

In November 2018, AWS commissioned Forrester Consulting to evaluate European government plans, priorities, and challenges regarding digital transformation. We found that European governments are highly engaged in modernizing their infrastructure to meet citizen expectations. Further, we found that cloud is the backbone of government modernization initiatives (e.g., “smart cities”). Commercial cloud — i.e., hosted commercial solutions, also known as public cloud — will be critical in helping governments manage costs while achieving their goals.



Geography

- › UK: 24%
- › Germany: 25%
- › Sweden: 25%
- › France: 25%



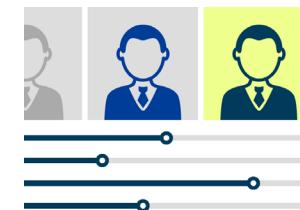
Type of government

- › Local: 27%
- › Regional: 24%
- › Central: 43%
- › National defense: 5%



Employee count

- › 100 to 499: 24%
- › 500 to 999: 32%
- › 1,000 to 4,999: 23%
- › 5,000+: 22%



Respondent roles

- › Manager-level and above in IT with responsibility for cloud strategy decisions

Note: Percentages may not total 100 because of rounding.

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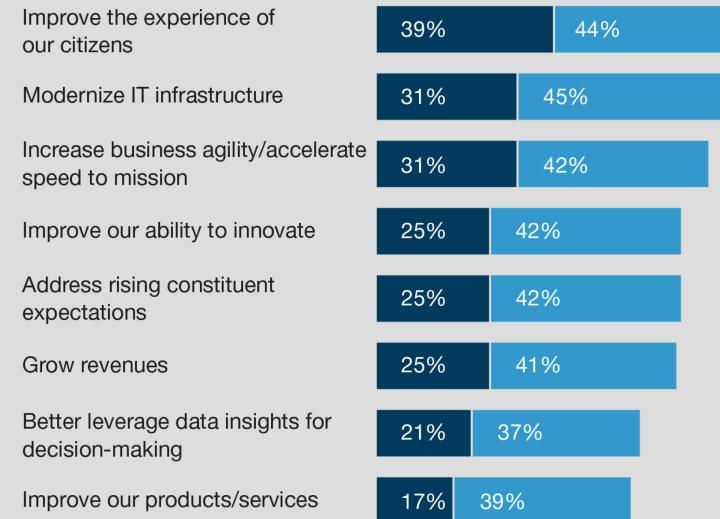
Governments Are Focused On Improving The Citizen Experience

Citizens' positive experiences with responsive, digitally connected businesses are raising their expectations for every organization with which they interact. Governments are no exception. Not always top of mind for customer experience, governments today strive to improve their customer centricity by embracing new digital capabilities — while staying within the bounds of budgetary and regulatory constraints.¹ Forrester Analytics' Business Technographics® data shows that the top priority for the public sector globally is reducing costs (a high or critical priority for 95% of respondents), followed by improving products and services (93%) and both employee (90%) and citizen (89%) experiences.² Our survey of European government IT leaders showed similar key priorities for the next 12 months, with improving the experience of citizens cited as the top priority, with reducing costs, modernizing IT infrastructure, and improving the ability to innovate all listed as high priorities.

Modernizing IT infrastructure is considered a high or critical priority for 76% of European governments.

"To what extent do you consider the following initiatives to be business priorities over the next 12 months?"

■ Critical priority ■ High priority



Base: 212 public sector decision makers responsible for IT requirements driving citizen services in Europe
Source: A commissioned study conducted by Forrester Consulting on behalf of AWS, November 2018

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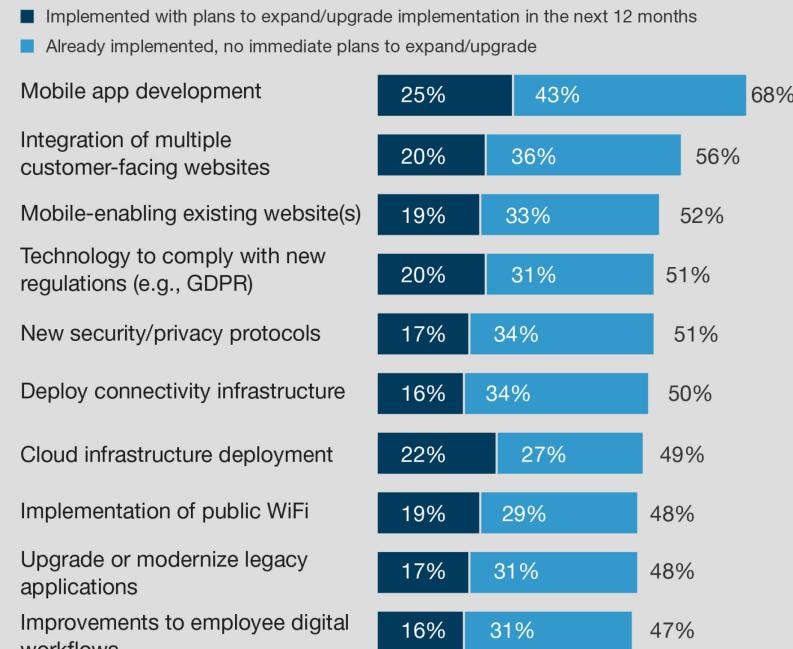
Technology Is Critical To Improving Citizen Services

Governments recognize the need for technology investments to achieve their digital transformation goals. Budgets and plans for the coming fiscal year include initiatives to address both front-end citizen experiences and back-end operations. The two go hand-in-hand. The more engagement with citizens through digital channels, the more data available to further improve services and operations.

To date, governments have invested most heavily in their “front end” — including mobile apps (68%), customer-facing websites (56%), and mobile-enabling websites (52%) — and they plan to continue doing so in the coming year. At the same time, they realize that they can’t ignore their “back end” and processes. They plan to expand capabilities in digital approvals/e-signatures, employee and customer workflows, and compliance technologies. Thirty-five percent have also invested in artificial intelligence to facilitate process automation.



“Which of the following digital initiatives are in your organization's budget or plan for the next fiscal year?”



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Cloud Is The Backbone Of Digital Transformation Initiatives

European government leaders recognize that new applications and services require updates in the enabling infrastructure, including cloud: 49% have implemented cloud, with another 35% planning to do so in the next year, and 48% have modernized infrastructure and apps with another 36% planning to do so in the future. Cloud technologies, in particular, are considered “important” or “extremely important” to facilitating most key initiatives that governments are undertaking.

The historical driver of government cloud adoption has primarily been cost savings, as cloud technologies require lower upfront investments and have more manageable cost structures such as pay-per-use pricing. However, cloud provides key capabilities that governments need to improve citizen experiences and to power innovative new “smart city” solutions.³ Governments are utilizing internet-of-things (IoT) technologies — which are inherently cloud-based — for countless uses, from wearable devices to digitally connected parking meters, street lamps, traffic sensors, trash bins, and building power management solutions.⁴ In turn, governments can activate the data from connected devices to better understand constituent needs, enhance city operations, and deliver improved services at faster rates.

“How important are cloud technologies to facilitating each of the following digital initiatives?

(Showing top selections)

■ Extremely important ■ Important

Mobile app development

31% 44%

Cloud infrastructure deployment

30% 42%

Personalization of experiences across channels

28% 42%

Website refresh

21% 49%

Artificial intelligence

26% 43%

Integration of multiple customer-facing websites

25% 43%

Paperless customer workflows

24% 44%

Technology to comply with new regulations

34% 33%

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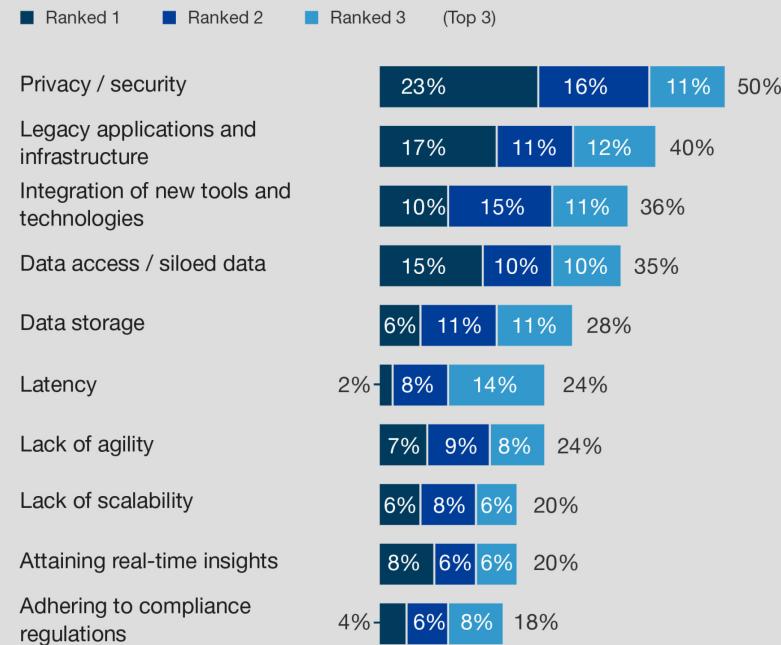
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Digital Initiatives Are Hampered By IT Challenges

The prioritization of multiple digital initiatives indicates that many governments may have finally overcome the cultural and leadership barriers to starting their digital transformations in earnest. The next step is to overcome the technological hurdles. Unfortunately, governments are often saddled with outdated and ineffective infrastructures, processes, and technologies and have limited budgets with which to remedy these woes.

By far, the top technology challenges for government leaders are their concerns about privacy and security. New security threats and increased regulation have raised the bar for organizations, processes, and technology solutions. Many governments struggle with their aging, legacy infrastructure and applications and with the difficulty of integrating newer tools and technologies into the mix. Adding to these challenges, the new drive to be insights-driven highlights existing data silos and impediments to data access across organizations.

“What are your top IT challenges?”



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Challenges Lead To Delays, Security Vulnerabilities, And Waste

Often these challenges lead to delays in the rollout of innovative new technologies, increases in security vulnerabilities, and wasted time and money. The challenges significantly impact government organizations' abilities to efficiently, effectively, and securely deliver services and create positive citizen experiences.

Organizations that can't overcome these challenges may face consequences beyond just short-term project delays. As evidenced by headlines around the world, citizens are quick to voice their opinions of their favorite (and not so favorite) brands — and their governments. Insufficient services and poor citizen experiences deteriorates trust — the trust of both individual citizens and businesses. Failure to deliver services can jeopardize a government's ability to attract people and businesses, resulting in long-term social and economic ramifications.⁵



“To what extent have these challenges resulted in the following consequences?”

■ High impact

Security vulnerabilities

45%

Waste and/or inefficient use of funds

39%

Delays to innovations and/or rollouts of new services

27%

Poor decision-making

21%

Emergency expenditures to remediate issues

18%

Poor customer experience when using public services

16%

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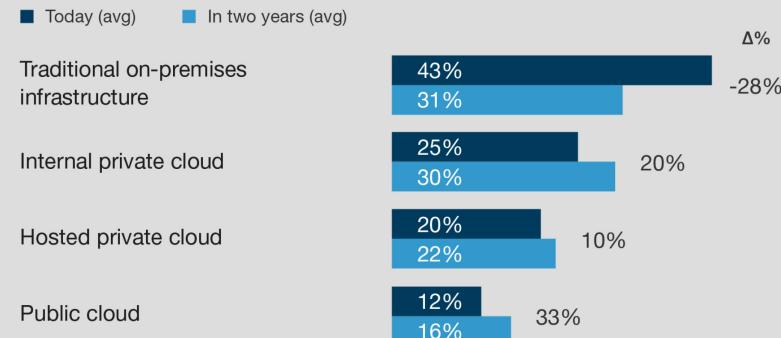
Commercial Cloud Adoption Is On The Rise

Commercial cloud — i.e., hosted commercial solutions — is currently underutilized relative to other types of infrastructure, but that will change. As evidenced by survey responses, European government leaders expect to move to the cloud. Over the next two years, governments will shift their applications from on-premises infrastructure to cloud infrastructure that gives them more agility and allows them to deploy, scale, and innovate more quickly.

Government decision makers expect commercial cloud adoption to grow the fastest, with a 33% increase in usage over the next two years. This trend is consistent with the private sector: Forrester's data shows that 91% of European infrastructure decision makers across industries are prioritizing the use of commercial cloud infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS) in the next year.⁶

Commercial cloud usage among European governments is expected to grow by 33% in the next two years.

"Using your best estimate, what percentage of your current applications are in the following environments? How do you expect this to shift in the next two years?"



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Commercial Cloud Delivers Myriad Benefits

Government leaders report many benefits of public cloud adoption. Specifically, public cloud infrastructure accelerates time-to-mission and business agility, reduces costs, and improves ability to innovate.

Cost efficiency is a critical driver of government cloud adoption and has been for years.⁷ Cloud services enable governments to make the most of their budgets by allowing them to only pay for the resources they use. As a result, large government projects don't necessarily require large, upfront investments in infrastructure (nor the personnel to manage it). But it's not only about costs. In addition to potential savings, a flexible, cloud-based infrastructure accelerates the rollout of new services.

Cloud hosted applications also facilitate data access. Better insights into citizen needs — also a reported benefit — enable governments to improve their products and services. Governments now collect growing volumes of data through connected IoT devices; data sharing is expanding across government organizations, as well as with the private sector. Access to and analysis of this data drives better decision making, more efficient operations, and ultimately happier citizens.

“What benefits have you achieved / would you expect from using commercial cloud?”

56% Increased speed-to-mission / business agility

51% Reduced costs

48% Improved innovation

47% Better insights into needs of citizens

45% Improved products /services

38% Improved safety and security

34% Better analytics and decision-making

34% Higher satisfaction for constituents

32% Better compliance with regulations and requirements

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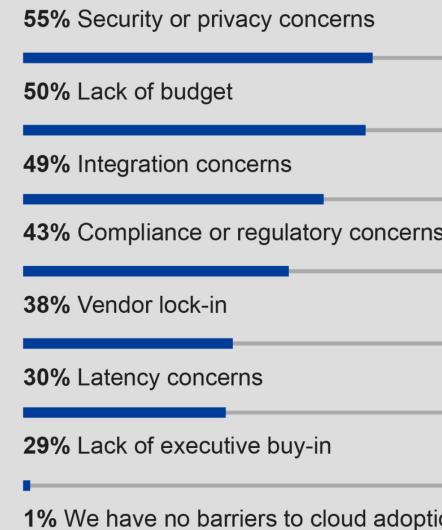
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Despite The Clear Benefits, Barriers To Cloud Adoption Still Exist

Despite the anticipated benefits, getting there isn't always easy — or straightforward. Even though improved security is cited as a top benefit of commercial cloud, it still figures as the top barrier, perhaps reflecting a dated understanding of current cloud offerings among those who have yet to embrace them. In 2018, cloud providers made major strides in offering integrated and streamlined cloud security features that provide improved monitoring and protection for workloads moving to and between clouds.⁸

Other barriers — such as budget, integration, and compliance concerns — have also affected cloud adoption. Newer regulations such as GDPR may slow digital transformation projects in general as organizations examine and redefine their policies for collecting, storing, and using data. But the question of overcoming these barriers is not "if," but "how," as the net result has been proven to be well worth the cost and effort.⁹ Governments will need to overcome any barriers to digital transformation as citizen demand for services continues to grow, with digital becoming the new norm.

"Which of the following have served as barriers to cloud adoption?



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As technology evolves, consumers will increasingly demand better experiences when interacting with their governments and public infrastructure. European governments have recognized this trend and are undertaking technology-driven initiatives to improve different aspects of their operations. Commercial cloud supports these efforts by offering greater scalability, agility, security, and connectivity, with pricing models that are more feasible with limited budgets. Governments will continue to evaluate requirements of various apps and infrastructure and incrementally shift workloads to the cloud to obtain these benefits.

Methodology

This Opportunity Snapshot was commissioned by AWS. To create this profile, Forrester leveraged its existing research on smart cities and cloud adoption. Forrester Consulting supplemented this research with custom survey questions asked of government cloud decision makers from the UK, Germany, France, and Sweden. The custom survey began and was completed in November 2018.

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Project Director:

Mark Brozek, Principal Market Impact Consultant

Contributing Research:

Forrester's Customer Insights research group

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Endnotes

1 Source: "Transform Government From The Outside In," Forrester Research, Inc., December 5, 2016.

2 Source: "Smart City Platforms Enable The Insights-Driven City," Forrester Research, Inc., December 3, 2018.

3 Source: "Ten Ways That The Cloud Can Power Government Customer Experience Innovation," Forrester Research, Inc., May 18, 2016.

4 Source: "Smart City Platforms Enable The Insights-Driven City," Forrester Research, Inc., December 3, 2018.

5 Source: "Transform Government From The Outside In," Forrester Research, Inc., December 5, 2016.

6 Source: "Adoption Profile: Public Cloud In Europe, Q2 2018," Forrester Research, Inc., May 2, 2018.

7 Source: "Ten Ways That The Cloud Can Power Government Customer Experience Innovation," Forrester Research, Inc., May 18, 2016.

8 Source: "The Cloud Security Market Grows From \$1.5 Billion In 2017 To \$3.5 Billion In 2021," Forrester Research, Inc., July 6, 2017.

9 Source: "Adoption Profile: Public Cloud In Europe, Q2 2018," Forrester Research, Inc., May 2, 2018.

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