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A government perspective: Tech Trends 2018
The symphonic enterprise

Technical innovation across the globe continues to increase and redefine IT, business, and everyday life. In the symphonic enterprise, forward-thinking organizations are looking beyond one-off IT implementations in single domains—they're evaluating the ways disruptive technologies can work in harmony to create something new and greater.

This report provides a government-specific perspective on Deloitte's 2018 Technology Trends report. Our aim is to provide a government lens on eight trends that are shaping strategic and operational transformations and redefining IT's role within the enterprise. As in the past, we seek to shed light on the anticipated level of government relevance and readiness for each trend.

We acknowledge that government organizations are different, broad, and complex. Our scoring of organizational readiness and trend relevance is designed to represent overall patterns. We also include real-world examples and key considerations that organizations can use to incorporate these technologies into their enterprise. As always, we hope that this perspective provides a better understanding of these technological forces so that you can build a symphonic enterprise of your own. ›

View the report online

Reengineering technology

Incremental adaptation to technical change and disruption is no longer enough. Organizations must take positive steps to keep pace with innovation. To do so, first consider modernizing IT infrastructure to improve efficiency and deliver services in new ways. Next, streamline the processes of IT budgeting, organization, and delivery to help drive mission success.

Getting started
- **Modernize IT infrastructure.** To support the transition to future innovation, begin by making sure your systems can support it.
- **Update your talent.** New technology and processes may require existing workers to upskill if they want to thrive. Offer training to existing workers, and consider supplementing them with outside talent.

Trends in action
To meet increasing mission needs, US Customs and Border Protection (CBP) is radically changing. To innovate, they have streamlined processes to identify opportunities, generate ideas, and incubate and pilot new solutions. To support rapid, incremental modernization, they are adopting cloud-based platforms, Agile/DevOps, and a "fail fast" mentality.

| Relevance | 5 |
| Readiness | 4 |
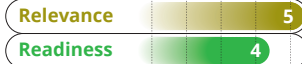
No-collar workforce

Automation, artificial intelligence (AI), and cognitive technologies are changing the way work gets done. Organizations should redesign systems and talent to accommodate the increased use of cognitive agents, bots, and other AI-driven technologies—the no-collar workforce. Instead of machines replacing people, they will work together as an augmented workforce. Organizations must plan through the management of this new model.

Getting started
- **Pilot automation today.** Which repetitive activities contain no uniquely human work and can be automated?
- **Partner with others.** Others within your organization or related organizations may already be up to speed with "bots."

Trends in action
Ohio, Texas, and other states are looking at robotic process automation to develop "bots." These new "employees," powered by AI technology, will take on repetitive administrative tasks, simplify work, and allow staff to devote brainpower to higher-level, strategic activities.

| Relevance | 4 | | Readiness | 3 |

Enterprise data sovereignty

A combination of automation and machine learning is making it possible to "free" data from the siloed systems that create and hold it. New technologies give organizations innovative ways to manage interrelationships, storage, and security of enterprise data, while dramatically improving both availability and security.

Getting started
- **Pay data debt.** How much money and time are you spending on data—and where?
- **Pilot automation.** Explore new technologies such as cognitive data stewards and enterprise intelligence layers to see if they help with your problems.

Trends in action
The US Census Bureau is looking to revolutionize its management of data by moving to a modern "enterprise data lake." The technology will support the Bureau's goal of secure, scalable data science, and will help enable survey processing, survey analysis, research, data linking and predictive analytics.

| Relevance | 3 | | Readiness | 2 |

The new core

Digital innovation has redefined customer experiences—and today, leading organizations are expanding those innovations into back-office and mid-office systems. Starting with areas like finance and supply chain, technologies such as blockchain, machine intelligence, and the Internet of Things are presenting opportunities to modernize the back office and support better constituent-facing innovation and growth.

Getting started
- **Learn from others.** Other leading organizations may already have a better understanding of the trend's potential. You can learn from their successes and failures.
- **Plan it out.** Create a transformation roadmap that starts with use cases that have proven successful in other organizations.

Trends in action
Informed Delivery® by USPS® creates a digital reflection of the supply chain, allowing users to digitally preview their mail and manage their packages via email notification, online dashboard, or mobile app. The service provides consumers with the convenience of seeing what is coming to their physical mailbox through digital channels.

| Relevance | 3 |
| Readiness | 3 |
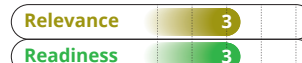
Digital reality

The combination of augmented reality (AR) and virtual reality (VR) is beginning to move beyond proofs of concept to enterprise implementation. Government use cases might include training for complex tasks and group collaboration. Organizations should consider how to integrate these technologies into their existing infrastructures and get advice on navigating evolving technology and governance standards.

Getting started
- **Take a look around.** Consider the use cases other organizations are piloting or moving to production.
- **Get started.** Don't hold out for "perfect." The imperfect technology available right now still has plenty of value to deliver.

Trends in action
New York City is developing a virtual/augmented reality (AR/VR) hub that will prototype innovative solutions to help solve the city's issues, develop a citywide AR/VR talent pipeline, and foster job growth. The goal is to create new startups and help existing companies grow.

| Relevance | 3 |
| Readiness | 2 |
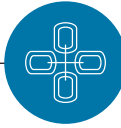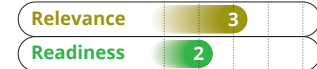
Blockchain to blockchains

Blockchain technologies are moving past the exploration stage and finding real-world adoption. Organizations are increasing the scope, scale, and complexity of their blockchain applications, and some organizations with multiple blockchains are piloting the most effective ways to integrate them. Organizations should be identifying use cases to pilot so they can learn about the new technologies and their implications.

Getting started
- **Get started.** Evaluate potential use cases and get started with proofs of concept to understand the implications of the technology.
- **Look beyond the technology.** Blockchain has operational, governance, and talent implications that grow much more complex as organizations move from pilots to commercialization.

Trends in action
The US Department of Treasury is investigating the use of blockchain to digitally trace the movement of physical assets such as smartphones and computers. This replaces a manual, several month process and will enable them to have an instantaneous view of their inventory, improving efficiency, traceability, and auditability in asset management.

| Relevance | 3 | | Readiness | 1 |

API imperative

Application programming interfaces (APIs) have long been key building blocks to system and application integration, interoperability, and modularity. Now organizations are making data more accessible by treating APIs not as data integration mechanisms, but as products. Moving to a product mentality requires new technology and talent, but it can lead to improved agility, scalability, and speed.

Getting started
- **Create a culture.** Reward those who embrace the reuse of APIs, and celebrate the wins within the organization that drive value.
- **Develop KPIs.** Use performance indicators to determine how APIs support your organization's goals to improve the overall API impact.

Trends in action
Michigan's Department of Technology, Management, and Budget piloted an API layer on top of existing enterprise services to improve data accessibility and integration across its Health and Human Services organizations.

| Relevance | 3 | | Readiness | 3 |

Exponential technology watch list

Artificial intelligence, quantum encryption, and other exponential technologies may seem to be years away, but technology moves fast. Organizations should start developing partnerships and capabilities to research, vet, incubate, and scale these technologies for when they arrive. Interim steps taken now can lay the groundwork for additional measures and help prepare for potential risks as the technologies emerge.

Getting started
- **Prepare now.** Given the vulnerabilities to quantum hacking, consider bolstering encryption and other technologies to mitigate risks.
- **Collaborate with partners.** Seek opportunities to collaborate with government and private entities to explore both the potential and risks exponential technologies present.

Trends in action
The Department of Homeland Security Science & Technology Directorate conducts technology scouting, horizon scanning, and market analysis to identify, recommend, and report on emerging technologies and startups in the marketplace that may apply to the department's mission.

| Relevance | 3 |
| Readiness | 1 |