



Federal Technology Vision 2023

Government's physical-digital convergence

The foundational technologies
shaping our new reality

Voices of **Change**

From insights to action, the path to extraordinary value starts here.

Accenture Federal Services



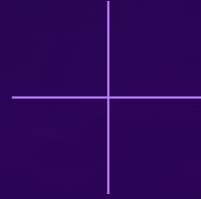
Executive summary

Federal agencies today operate in two parallel realities—the physical and the digital.

Customers can interact with government services in person or through a website. Federal employees work and collaborate at their worksites or remotely. And federal agencies routinely create digital or virtualized representations of the physical world—everything from spreadsheets and data-driven dashboards to advanced digital twins—to help them plan and execute their mission objectives in the real, physical world.

We pivot between these realities frequently, but they are not seamlessly integrated. In fact, transitioning between them can be challenging, confusing, or downright impossible, in ways both large and small.

But this is changing. Emerging technologies are laying the foundation for a new reality—one in which the divide between the physical and the digital is narrowing. The next decade of federal innovation will be defined by how agencies successfully fuse these two realms together.



Consider these agencies' recent progress:



Veterans Affairs Department doctors now consult with 3D-printed organs ahead of time to lower cost and risk during surgeries.



The Army's Medical Research and Development Command uses extended reality to train medical staffs, allowing them to provide training anywhere and anytime.



The Federal Emergency Management Agency (FEMA) is creating a new real-time data-sharing platform that will enable it to adopt a more proactive stance against threats posed by climate change, pandemics, fires, and other hazards.



Defense Department personnel can wear AI-enabled health monitoring devices that can tell if they're likely to be infected with something, such as COVID, many days before showing any symptoms.





An opportunity—and a test—for federal leaders

This convergence of our physical and digital worlds holds high potential for federal agencies.

These technologies will become increasingly central to how agencies conduct their day-to-day operations, whether it's supporting employee collaboration across fluid workplaces; delivering personalized services to customers seamlessly across all channels and venues; or tracking dynamic, complex activity—such as supply chains, traffic patterns, migrations, fraud activity, or the next pandemic—with far greater accuracy and fidelity.

At the highest level, this digital-physical convergence means federal leaders can no longer view their portfolios of responsibility through a single lens that is either physical or digital in nature. Activities, operations, experiences, and interactions with customers, colleagues, and stakeholders are occurring in both worlds, and it is important that leaders focus on reducing the many points of friction that often arise at their intersections. Agencies will need to strategically integrate new technologies and data architectures into their operations to take full advantage.

The trends re-shaping agencies' new reality

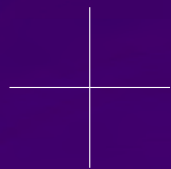


The 2023 Federal Technology Vision explores four technology trends that are enabling the physical-digital convergence, and the steps U.S. federal agencies will need to take to thrive in it.



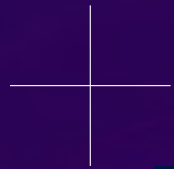
Trend 1 **Digital Identity**

explains how digital identity is being reshaped by a suite of distinct but interrelated new technologies and concepts, including distributed ledgers and blockchains, Verifiable Credentials (VCs), and tokenization. These technologies can help all organizations, including federal agencies, build a stronger, underlying foundation for seamless physical and digital identity—one that lets people frictionlessly authenticate across any digital or physical environment, maintain firmer control over the data they store and how it is shared, and alleviate concerns around security, privacy, and human factors like password fatigue.



Trend 2 **Your Data, My Data, Our Data**

explores how, as the quantity of data being collected grows and new pathways to utilizing it evolve, there is a greater understanding that data can no longer be sealed off in siloes. In this new era of data transparency, federal agencies can ensure that even sensitive enterprise data is organized and accessible to the need-to-know stakeholders who can unlock the greatest value from it—all the while keeping the data secure and protected. The key to this trend lies in new data management frameworks, such as data meshes and data fabrics.



Trend 3

Generalizing AI

reflects on how we've hit a new inflection point for the speed and scale at which AI can learn and adapt—and what that means for federal leaders. Foundation models are shifting AI from being a specifically trained expert that requires significant investment to learn each new task, to an ever-more-powerful generalist, capable of an array of increasingly sophisticated actions with little to no extra training. Many federal leaders are excited by the possibilities of this new era of AI, including the rapidly expanding capabilities of generative AI. But it's critical to balance that excitement and enthusiasm to innovate with appropriate levels of caution—particularly regarding accuracy, bias and equity, and cybersecurity.



Trend 4

Our Forever Frontier

gives agencies a window into what lies farther down the line. Technological advances—such as AI, advanced analytics, high-performance computers, quantum computing, 3D printing, advanced sensors, robotics, and others—are accelerating progress across many scientific fields by making it possible to model, simulate, predict, validate, test, and develop things far more quickly and efficiently than previously. And the resulting scientific advances, in turn, are giving way to new technological advances. As leaders in the research and development space, federal agencies can leverage this feedback loop to help translate new discoveries in the lab into more advanced, scalable, and effective solutions and products.



Federal agencies are on the front lines of a changing world that holds both new opportunities and new challenges. As the gap between the physical and digital worlds narrows, the bounds of possibility expand—and agencies will need to reorient their operations appropriately to take full advantage of the new capabilities we see emerging to solve our toughest problems and achieve greater mission success.

Read the full report at [Accenture.com/FedTechVision2023](https://www.accenture.com/FedTechVision2023)