Six Things to Do With Emerging Technology

Emerging technology can be a whirlwind. Every day, there's a new software solution or exciting device with innovative capabilities. There are endless ways to improve your work through technology investments. But how do you choose and prioritize? What's even out there?

At a recent GovLoop virtual event, government and industry leaders shared their experiences with some of the most interesting emerging technology and their advice for selecting what will benefit your agency.

> **OUR EXPERT PANEL**
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> **Scott Beliveau**, Director of Enterprise Data Architecture and Chief of Enterprise Advanced Analytics, Office of the Chief Technology Officer, U.S. Patent and Trademark Office
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> **Bill Zielinski**, Chief Information Officer, City of Dallas
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> **Damien Eversmann**, Chief Architect for Education, Red Hat

1. Know What You're Going For

Before you select a new technology to implement, understand what problem you're trying to solve. Then, you can choose what makes sense for your agency.

"Once you have a plan, you have a case," says Beliveau.

In the U.S. Patent and Trademark Office, he uses artificial intelligence (AI) to analyze language concerning trademarks. Words define boundaries for both inventors and the public, so AI helps Beliveau's agency accomplish the mission of defining trademarks and does so more efficiently.In transforming with new tech, he recommends establishing goals early, with "lots of incremental deliveries of small value." Adopting emerging technology and building its credibility among directors, stakeholders and your team is not a "one and done" process, he said.

2. Seek Tech That Flips the Dynamic

In providing services to the city of Dallas, Zielinski looks to technology that makes agencies more proactive, rather than only responding to needs as they occur.

AI and predictive analytics reveal patterns of data generated by publicly stationed monitors and sensors. For instance, one type of device tracks the flow of water through a pipe and creates an alert when there's a leak or a break forming. With that type of information, an agency can deploy services before they're even requested.

"Where people may not even know that they need a service, we're already moving out on delivering it," he says.

3. Go For What Helps Save Resources

While an online model or real-time 3D view of machinery is fascinating and fun, augmented reality is more than just a cool tech trick.

In Van Dyke's work with the Department of State, he encounters situations abroad where it would take both time and money to bring in an expert engineer to repair something. Through augmented reality, however, the engineer can diagnose and design repair plans remotely. With embassies and consulates in 190 countries, and facilities for 110,000 people, that innovation adds up to a lot of savings.

He defines his endeavors in emerging technology as "taking something that's really proven itself in the market in a commercial setting and coming up with a way to apply it in various areas around the world."

4. Invest in the Robust, and a Culture of Change

Robustness goes beyond resilience. It's not just the ability to bounce back, it's the ability to withstand pressure in the first place, without failure.

Eversmann says those are the types of systems we should aim to build. He says that robustness comes from flexibility, and from being prepared for continuous change. Agencies can become more nimble, and even more stable, if they embrace everyday change and ongoing modernization.

"If we're used to making small tweaks and changes as we go along every day, when someone throws an unexpected change at us, it's not that big of a deal," he said.

Curveballs won't seem as challenging for a team that engages in modernization with no end date.

5. Think Bigger and Communicate the Value

Agencies are so accustomed to being asked to do more with less, they forget about the possibility of doing more with more. But, according to Beliveau, that's exactly how they need to think of new tech options, with new funding behind them.

In sharing tech transitions with staff or stakeholders, Van Dyke suggests highlighting the alignment with the agency's mission, so that the enthusiasm catches on.

"It's all about listening, and it's all about letting your stakeholders understand what the issues are," he says. "And then identify where your particular new technology or your new shiny object fits in and how it can alleviate those issues that they're talking about."
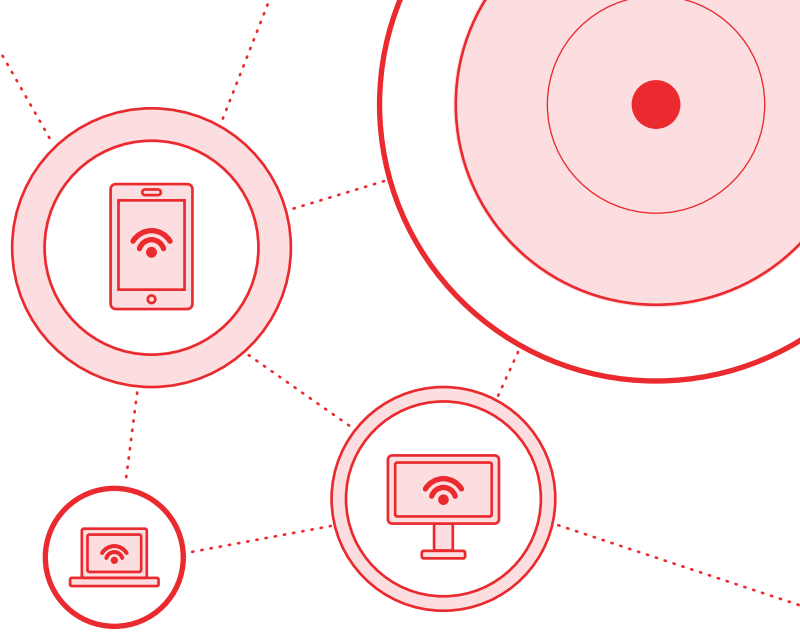
6. Use What You Have in New Ways

City technology is smartening up — in infrastructure, in communication and in data platforms and points of delivery.

Single-use monitoring devices provide great information: a thermometer or air-testing tool, a microphone to record potential threats, a motion-sensor device or simply a camera, to prevent theft or trespassing. But what if you combined those robotic eyes, ears and noses into one? More information and services could be delivered.

With many things to monitor, from illegal dumping to weather events, merging existing technologies into multipurpose devices can accelerate agency intel and activity. Progress is even faster because AI is at work, interpreting information and conducting predictive analysis, Zielinski said.

"We're trying to transition away from the passive use of these devices," he explained. "We're trying to see if we could really get this down to a sweet spot of delivery."

As new technology comes into play, Zielenski recommends that agencies use existing infrastructure as a jumping off point, and to "look for those targets of opportunity where you can start to align it to current ongoing funded efforts."

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