RESILIENT BY DESIGN:

HOW TECHNOLOGY SUPPORTS GOVERNMENT

How the Cloud, Data, and AI Help Governments Prepare for and Recover From Disruptions

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Executive Summary

Resilience is no longer just about recovery. For today's governments, resilience means being ready for anything — cyberattacks, natural disasters, regulatory change, budget pressures, or even evolving resident expectations. Technology helps public sector leaders act faster, serve smarter, and build stronger communities before, during, and after disruption.

This e-book from Tyler Technologies explores how cloud infrastructure, data strategy, and artificial intelligence (AI) work together to boost resilience across operations, the workforce, and the resident experience. Through real-world examples and a 2025 survey of county leaders, we highlight the key tools, mindsets, and investments that help governments deliver essential services without interruption.

From Indiana's AI-powered Resident Assistant to New Jersey's AI-augmented field inspections, modern technology is helping agencies save time, maximize resources, and respond with agility. Resilience isn't just about reacting to disruptions. It's about the technology infrastructure and insight to adapt to constant change — and being ready to capitalize on new opportunities as they arise.

Resilience Under Pressure: Trends and Challenges

Government resilience is being tested more frequently and intensely than ever before. Cyberattacks, infrastructure failures, extreme weather events, and fiscal volatility are no longer exceptional — they're expected. As a result, digital resilience has become a strategic imperative.

Residents increasingly expect 24/7 digital services and clear, timely information, especially during crises. But outdated legacy systems, fragmented data, and workforce shortages leave many agencies vulnerable. To meet these challenges, governments are redefining resilience: not just as recovery, but as adaptability, continuity, and proactive planning.

Many agencies are embracing digital modernization as a resilience strategy — investing in cloud-based systems, automation, and integrated data platforms that support faster decision-making and operational agility. This shift is not just about technology. It requires new governance models, stronger collaboration, and a commitment to continuous improvement.

Recent federal policy actions have also emphasized the growing responsibility of state and local governments in national resilience efforts, underscoring the need for efficient operations, local preparedness, and modern digital infrastructure.

Analyst perspectives reflect this urgency. "Through strategic adoption of resilience technologies and AI, governments are building robust defenses, enhancing operational efficiency, and fostering skilled workforces to maintain stability and protect public services in an ever-changing world," said Aaron Walker, research manager, Government Security, Climate and Resiliency Strategies program at IDC[1]. Yet, resting on past efforts is not enough. According to Gartner® research[2], "By 2026, 80% of the resilience planning introduced under COVID-19 will have failed, been forgotten about or shelved." We believe renewed efforts are needed.

Operational flexibility, regulatory adaptability, and data-driven prioritization are now essential. As public sector leaders plan for the future, proactive resilience strategies will distinguish those who lead through disruption from those who fall behind.

IDC's Government Digital Resilience Framework 1.0[3]

IDC identifies five dimensions of digital resilience for modern governments:

- Organization: Reducing Organizational Risk
- Finance: Predicting Spend & Budgets
- Operations: Enabling Efficient Operations
- Technology: Protecting Critical Assets & Data
- Ecosystems: Deepening Networks and Resources

The framework emphasizes the importance of digital resilience for government organizations to prepare for, adapt to, and recover from business disruptions. Key technologies and initiatives are represented across five dimensions of resilience: organizations, finances, operations, technologies, and ecosystems. The framework recommends that governments develop a holistic resilience strategy integrating advanced technologies such as AI, automation, IoT, and cloud solutions for real-time monitoring and data-driven decision-making.

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[1] Source: IDC, IDC TechScape: Worldwide Resilience Technologies for Government, 2025, doc #US53040925, March 2025

[2] Gartner, Two Focus Areas to Improve Organizational Resilience, David Gregory, April 15, 2024 (Report accessible to Gartner clients only)

[3] Source: IDC, Market Disruptor: IDC's Government Digital Resilience Framework 1.0, doc # US53257325, March 2025

Snapshot: What Government Leaders Told Us

Tyler, in partnership with the National Association of Counties (NACo), asked nearly three dozen county government leaders from 27 states how they are thinking about resilience — and how they're investing in improving it.

Leaders Express Confidence — But See Room to Grow

More than half (55%) of respondents said they feel "very confident" or "confident" in their resilience capabilities, and another 36% said they feel "neutral." Just 9% expressed concern about their preparedness. These responses show optimism — with plenty of room for improvement.

Cloud and Hybrid Systems Dominate

Nearly all (94%) of respondents said their agency uses cloud-based or hybrid cloud/on-premises solutions. 88% indicated on-premises solutions are part of the mix. Only 6% reported relying solely on on-premises systems.

Top Barriers to Adoption

Budget emerged as the top barrier to resilience-related technology adoption, cited by 76% of respondents. Other barriers included lack of technical knowledge and resistance to change (cited by 27% each). These results suggest that financial readiness and, to a lesser extent, organizational readiness, must be addressed to enable meaningful change.

Communication Builds Trust

When asked how transparent communication impacts resident trust during crises, 94% of respondents said it either "increases" or "greatly increases" trust. The finding shows that resilience planning should include communications infrastructure — not just operational safeguards.

Approaches to Cybersecurity and System Security

In our questionnaire, respondents were asked to select from a range of approaches their county uses to address cybersecurity challenges and ensure system security.

- 91% conduct employee cybersecurity training
- 85% use cloud-based solutions
- 85% use on-premises security measures
- 79% conduct regular external security audits

Overall, 73% of respondents report using all of these approaches in combination.

GOVERNMENT RESILIENCE THROUGH TECHNOLOGY

Tyler Technologies and the National Association of Counties (NACo) asked nearly three dozen county leaders about resilience.

WHAT COUNTY LEADERS SAY ABOUT RESILIENCE

CONFIDENCE — **55%** say they are confident in their agency's ability to respond to disruption.

CLOUD — **94%** use cloud-based systems to support operational resilience.

BUDGET — **76%** cite limited funding as the biggest barrier to adopting new technology.

SECURITY — **73%** use a mix of employee training, hybrid solutions, and external audits to protect systems.

COMMUNICATION — **94%** say transparent communication increases public trust during crises.

6 STEPS TO TAKE TOWARD GREATER RESILIENCE

1. Identify Critical Services
2. Evaluate Risks and Interdependencies
3. Plan in Phases
4. Test and Practice
5. Align With Modernization
6. Embed in Operations

Learn more about these steps and how to put them into action on page 10.

Technology Resilience in Action: Germantown, Tennessee

After a cyberattack, the city of Germantown, Tennessee, migrated its computer aided dispatch system to the cloud in just five days, restoring access to 30 years of data and drastically reducing system downtime. IT staff now sleep better, get fewer late-night calls, and enjoy automated fixes.

> Life really is much better in the cloud.
>
> — Tony Fischer, Director of Information Technology, City of Germantown, Tennessee

Cloud as a Continuity Catalyst

Cloud-based systems offer governments a stronger, smarter path to operational resilience. As systems grow more interconnected and residents expect services 24/7, the ability to scale, recover, and adapt rapidly is no longer a nice-to-have — it's a necessity.

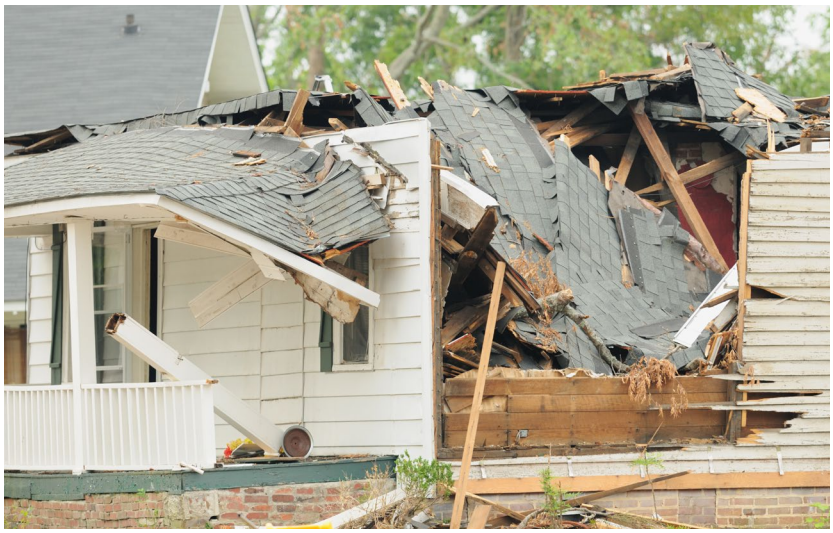
Legacy, on-premises solutions can't consistently deliver. They're often tied to a single location, depend on aging infrastructure, and require costly backups or secondary facilities to manage risk. In a crisis — whether a power outage, natural disaster, or cyberattack — restoring services can take days, not minutes.

Cloud services, by contrast, deliver geographic redundancy, built-in scalability, and near-instant disaster recovery. Cloud infrastructure helps agencies respond to spikes in demand, maintain continuity, and reduce downtime.

A modern cloud environment also streamlines failover testing and resilience planning. Instead of paying to run duplicate systems around the clock, agencies can adopt flexible disaster recovery strategies that activate only when needed — balancing availability with cost.

Public cloud providers bring economies of scale that local governments rarely match alone. By leveraging the scale of hyperscalers such as Amazon Web Services (AWS), governments gain access to real-time system replication, identity access controls, and region-based failover that protects services across hundreds of miles.

The cloud also enables real-time data updates and constant system syncing — ensuring continuity of public-facing services so residents can access information, complete tasks, and stay informed without disruption.



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Resident-Centered Resilience Through Data and AI

Resilience isn't just internal — it's public-facing. Residents expect clear communication and accessible services, especially during a crisis. That's why leading governments are embedding resilience into the resident experience itself.

Modern tools such as data dashboards, AI assistants, and mobile apps allow agencies to understand resident needs and respond more quickly. In turn, residents are empowered to stay informed, complete tasks digitally, and navigate disruptions more smoothly.

For example, the Louisiana Governor's Office of Homeland Security and Emergency Preparedness deployed its "Get a Game Plan" app to help residents prepare for and respond to hurricanes. The app includes real-time alerts, shelter locations, emergency contacts, and offline access — critical when internet service is unreliable.

These resident-centered tools reduce strain on government call centers and front offices while enhancing public trust. They also provide governments with data on service usage and communication gaps, allowing for ongoing improvement.

Digital resilience is also about personalization. Tools that adapt to a resident's location, language, and needs — and that integrate across departments — simplify navigation and deliver services more equitably.

By combining cloud infrastructure with mobile design and AI-driven support, agencies can scale service delivery while freeing staff to focus on other priorities. This isn't just good user experience — it's a resilience strategy.

The Resilience Value of Resident Assistant

Indiana's state website resident assistant, launched in 2024, shows how generative AI can extend resilience to the digital front door:

- Helps residents find information, complete transactions, and access services — consolidating engagement across multiple departments
- Built-in collaboration with Tyler and trained on agency-approved public content
- Answered more than 5,000 questions in early months with an 83% satisfaction rate
- Enabled the state to identify content gaps and improve web accuracy
- Piloted with a beta label that encouraged real-time user feedback

With the ability to understand natural language and autonomously guide users through complex tasks, agentic AI-powered assistants like Tyler's Resident Assistant offer always-on, human-like support — ensuring service continuity and elevating the resident experience.

The Financial Resilience Value of Priority Based Budgeting

Priority-based budgeting is having a growing impact helping governments shift from reactive cuts to strategic investments. Unlike traditional line-item budgeting, this methodology allows leaders to align expenditures with community priorities, making smarter, more transparent decisions in times of fiscal stress.

Some jurisdictions pair this approach with Tyler's Priority Based Budgeting solution to automate connections between programs, costs, and outcomes using AI. For example, a Wisconsin county's parks department used Priority Based Budgeting to become 100% self-sustaining through partnerships and cost-sharing models — a strategy it dubbed a "fiscal independence plan."

By linking budgets to goals, encouraging alternative funding strategies, and surfacing cross-department insights, this method helps jurisdictions plan long-term while staying agile during disruption.

> AI is here to make you more intelligent — to help you focus on tasks that matter.
>
> — Vivek Mehta, Vice President & General Manager, Platform Solutions Division, Tyler Technologies

AI, Infrastructure, and Workforce Resilience

Operational resilience means being ready for anything — including the challenges you can't see coming. That's where AI-powered analytics tools step in. By using machine learning and predictive analytics, governments can anticipate risks, protect communities, and maintain essential functions even with limited staff.

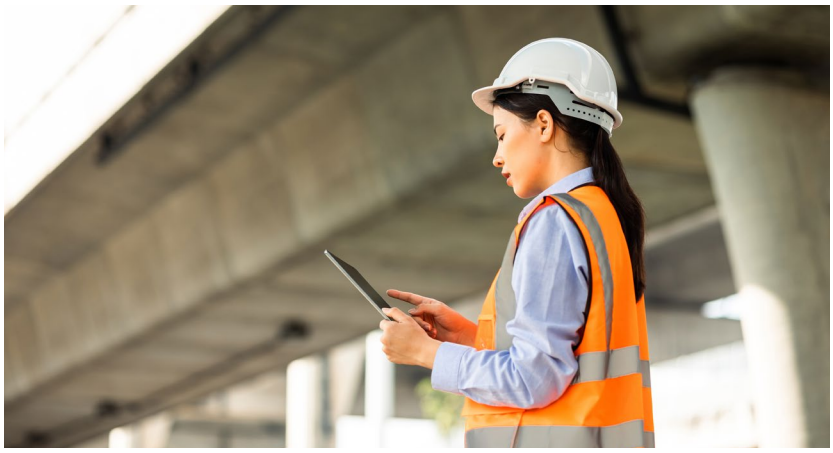
For example, Tyler's Augmented Field Operations solution helps agencies improve field inspections with AI, identifying high-risk sites using historical field visit data, census information, and violation records. This allows governments to prioritize inspections, reduce exposure, and prevent harm before it occurs.

At the same time, the solution addresses workforce shortages — a growing concern as more public sector employees approach retirement. The platform enables field inspectors to complete audits, investigations, and inspections more efficiently through a mobile-first design that includes smart routing, AI-powered tools, and self-service portals.

Case in Point: New Jersey Department of Environmental Protection (NJDEP)

The NJDEP's Transportation Oversight Unit oversees more than 150,000 regulated vehicles and conducts over 9,500 inspections annually with just seven inspectors. Using Augmented Field Operations, the agency cut inspection time from hours to minutes, saving 3,822 staff hours each year. It also improved EPA compliance reporting and reduced data entry errors.

These advances support what analysts call "future resilience" — the ability to respond, adapt, and evolve with agility. In a time of economic, environmental, and workforce pressures, tools like Augmented Field Operations make it possible to do more with less while increasing public safety.



Integrated Systems, Real Results

Technology integration is a key factor in building government resilience. Siloed systems limit visibility, coordination, and responsiveness — especially during disruption. Integrated platforms, by contrast, create a common operating picture that strengthens continuity, transparency, and service delivery.

Clermont County, Ohio, exemplifies this approach. With a population of more than 200,000 and a mix of rural and suburban communities, the county has made strategic investments in modern, connected systems. Using integrated solutions across financials, permitting, licensing, assessment, and records, the county has replaced outdated, paper-heavy workflows with digital tools that improve efficiency and access.

Departments now operate from a single source of truth. For example, Tyler's ERP and Cashiering solutions give staff real-time access to financial information across departments — eliminating duplicate data entry and ensuring timely updates. Automated invoice approval and onboarding processes save time and reduce the burden on staff.

The county's open data portal empowers residents to access information on property taxes, values, and spending. This not only increases transparency but also reduces public records requests and call volumes. Contractors and residents can pay fees, schedule inspections, and submit permits online, supporting business continuity even outside regular office hours.

IT leaders in Clermont also cite the resilience benefits of cloud hosting, which reduces dependency on on-premises infrastructure and allows the county to scale and adapt more easily. The result is a government that's more responsive, more efficient, and better equipped to serve its residents in any situation.

The Resilience Value of Modern Payment Systems

When it comes to resilience, financial operations matter. Modern payment and disbursement solutions help governments maintain essential transactions even during disruption — ensuring continuity in revenue collection, vendor and resident payouts, and government services.

With flexible fund disbursement options like ACH transfers, prepaid debit cards, and digital wallets, agencies can meet residents where they are. Cloud-based infrastructure ensures uptime and delivers the latest, most secure payment solutions to governments and residents. Recent advances in digital payments also support fraud mitigation, predictive analytics, and faster delivery of funds.

By modernizing their approach to payments, governments reduce risk, increase efficiency, and offer a more accessible, equitable experience to all residents — no matter the circumstance.

6 Steps to Resilience

Resilience isn't a one-time investment — it's a long-term commitment that must be embedded into your agency's DNA. Today's technology landscape is more interconnected than ever, and residents expect services to be available around the clock. That means public sector leaders must proactively plan for the unexpected — not just natural disasters and cyberattacks but also vendor disruptions, outdated systems, and surges in user demand.

Cloud-based infrastructure makes resilience more achievable than ever, but technology alone is not enough. Agencies need a roadmap that aligns priorities, budgets, and operations. Here's how to get started:

1

Identify Critical Services

Start by ranking services based on their impact on internal operations and resident-facing functions. Ask agency leaders to stack-rank which services are essential — not just what's most visible, but what's most disruptive if it fails. For example, resident permitting, emergency communications, or payroll systems might top the list.

2

Evaluate Risks and Interdependencies

Resilience doesn't happen in isolation. Examine how your most critical services connect to other systems — especially those with shared data or API dependencies. A failover plan for one system won't be effective if the systems it relies on are offline.

3

Plan in Phases

Don't try to make every system resilient at once. Start with services that need to be always on, then build a phased roadmap to address others over time. Factor in cost modeling, operational capacity, and the timeline for transitioning from legacy systems.

4

Test and Practice

Run quarterly disaster recovery drills and tabletop exercises with your IT teams. Test failovers. Verify that your runbooks and documentation reflect reality. Use sample sizing to manage workloads — prioritize a few critical services per quarter and rotate.

5

Align With Modernization

Each system upgrade is a chance to reduce technical debt and improve resilience. If an on-premises system has no roadmap to the cloud, explore whether a software-as-service (SaaS) solution can provide the availability and recovery you need. Don't treat modernization and resilience as separate initiatives — they're linked.

6

Embed in Operations

Make resilience part of your budgeting and operational planning cycles. Assign ownership. Track improvements. Consider resilience a metric for success — just like service delivery, staffing, or cybersecurity.

Resilience isn't about perfection — it's about preparation. With a thoughtful roadmap, public sector leaders can deliver continuity, confidence, and capacity in the face of whatever comes next.

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The Path Forward

The public sector's resilience journey is ongoing. As this e-book has shown, resilience today is about more than bouncing back — it's about maintaining continuity, adapting with agility, and serving residents without interruption, even in the face of disruption. It also means being ready to capitalize on new opportunities as they arise — not just surviving change, but leading through it.

Modern resilience demands cloud-based infrastructure, real-time data, and scalable, AI-powered tools that work across departments and jurisdictions. But just as important are the human systems — strong leadership, cross-agency collaboration, and a clear commitment to resident trust.

Resilience isn't a technology story alone. It's a governance story.

Agencies that prepare, align, and act decisively can move from reactive to proactive and from vulnerable to resilient. Whether you're updating core systems, automating workflows, analyzing risk, or rethinking your budget, every step matters.

Resilience doesn't mean preventing every crisis. It means being ready for whatever comes next.

Additional Resources

For additional insights for government leaders on improving digital resilience, visit Tyler's Resource Center at tylertech.com.

Acknowledgements

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About the Authors

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About Tyler's Solutions

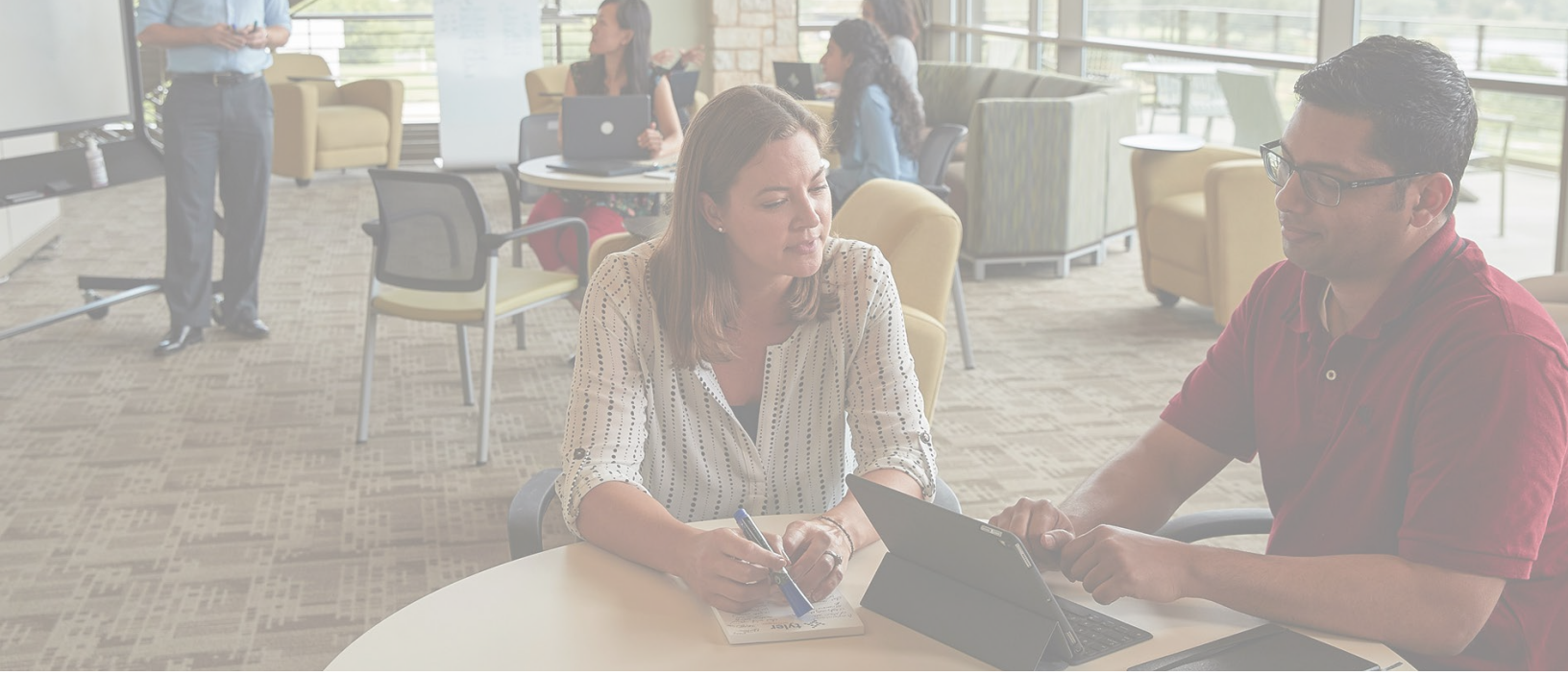
More than 12,000 clients use Tyler's cloud-based solutions to enhance security, strengthen resilience, and provide the public with easy access to a wider range of services and solutions. Powered by our strategic collaboration with Amazon Web Services (AWS), we leverage the cloud to deliver a better experience for our users and constituents while reducing costs and increasing efficiency and security.

Tyler's broad geographic footprint forms a powerful network of governmental agencies. Through Tyler, these agencies create stronger connections with partner organizations and departments across local, state, and federal jurisdictions. Our proven depth and breadth of solutions set the nationwide standard for electronic efficiencies, out-of-the-box interoperability between applications, and cloud-based functionality at every level of government across public administration, justice, health, and education.

Tyler's client support teams provide clients with access to documentation, live support, online training, and more. Tyler Community is an online peer-to-peer support community that enables our clients to share knowledge about Tyler products, provides collaborative learning opportunities, and offers product support via forums, libraries, and wikis. Tyler University and Tyler Coach, our continuing education platforms, help clients improve their skills, learn new software, and keep up with the latest technology and procedures.

CONTACT TYLER

If you would like more information about Tyler solutions, contact us at info@tylertech.com or visit tylertech.com.



About Tyler Technologies, Inc.

Tyler Technologies (NYSE: TYL) is a leading provider of integrated software and technology services for the public sector. Tyler's end-to-end solutions empower local, state, and federal government entities to operate efficiently and transparently with residents and each other. By connecting data and processes across disparate systems, Tyler's solutions transform how clients turn actionable insights into opportunities and solutions for their communities. Tyler has more than 45,000 successful installations across 13,000 locations, with clients in all 50 states, Canada, the Caribbean, Australia, and other international locations. Tyler has been recognized numerous times for growth and innovation, including on Government Technology's GovTech 100 list. More information about Tyler Technologies, an S&P 500 company headquartered in Plano, Texas, can be found at tylertech.com.

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