Microsoft

The Future of Public Safety and Justice

How technology can help increase community security, transparency, inclusion, judicial efficiency, and equal application of justice

Introduction

Creating safer communities is a universal goal, but what happens when delivering services puts everyone involved at risk? The COVID-19 pandemic created unforeseen challenges for public safety and justice agencies, driving them to find ways to enable their staff to work remotely by providing secure access to sensitive systems.

The result: agencies are embracing digital transformation to empower staff to work remotely, when possible, and to continue operations as safely as possible. As they do so, departments are also uncovering new capabilities, efficiencies, and cost savings. This new way of operating, although born out of necessity, is proving to be an effective way of serving people and communities.

Let's look at how digitizing operations addresses challenges the public safety and justice agencies face today, and how these advancements can help keep you and your community safer as you face new risks and challenges going forward.
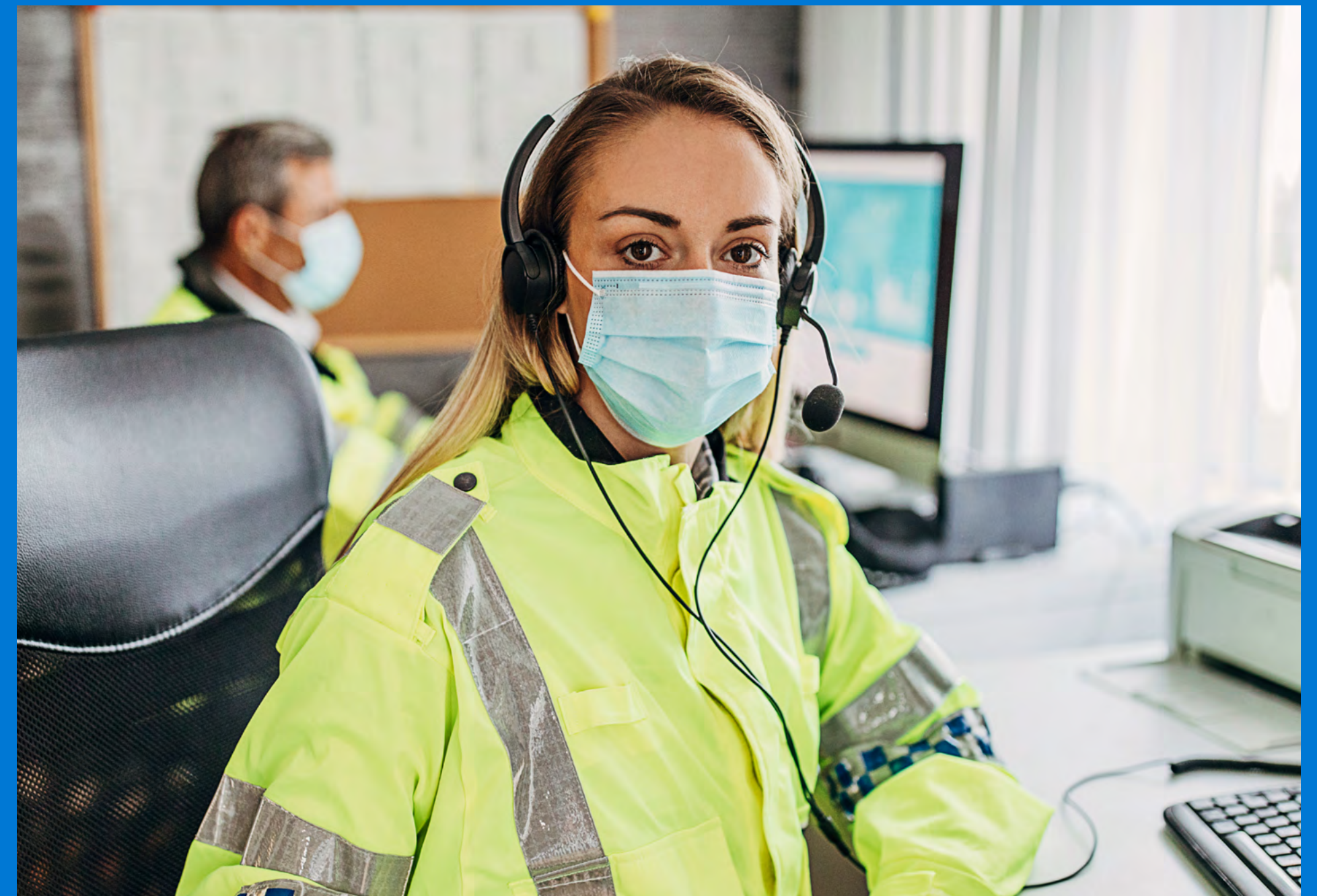
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The right digital tools can help agencies accomplish goals such as uncovering crime trends, improving response times, and developing stronger community relationships. Using cloud-based analytics, you can automate and optimize procedures that lead to increased efficiency and situational awareness. This can help law enforcement officials identify emerging trends, help fire services deploy equipment dynamically, and allow emergency medical personnel to be more responsive.

The Metropolitan Police Service is running its London COVID-19 technology response on [Microsoft] Teams. Across the organization, from uniform police patrol officers to forensic teams, up through command teams and across specialists and operational support, the Metropolitan Police Service is now "living on Teams" to keep each other connected and running smoothly so it can keep London safe.[1]

1 First responders

Working together to help ensure safe communities

Modern emergency-response systems and proactive crime-reduction systems take advantage of expanded data analytics, cloud technology, and community partnerships to achieve more—even during unforeseen circumstances.

[1] "Nothing Can Stop a Team," Microsoft 365 blog, 2020.

Crime and fire prevention

Analyze, recognize, and appraise risk effectively

Real-time situational awareness is a powerful tool for first responders—and not just when responding to an incident. Proactive capabilities can reduce crime- and fire-related risks. Smart cloud tools can evaluate multiple datapoints across jurisdictions to find and assess patterns in criminal activity, fire statistics, and community crowdsourcing, offering insights into situations before, during, and after they occur.

Firefighters can use this approach to measure, monitor, and prevent wildfires. Historical fire patterns, weather projection data models, and environmental impact studies can help determine the best areas to backburn and stage equipment. By understanding historical fire trends, agencies can identify and mitigate root causes.

Combining data sources enables public safety officials to allocate resources based on risk and frees up time to focus on serving the community through outreach.

> **We're using the Microsoft cloud to digitally transform IT services for our firefighters. With mobile access to a data hub in Azure, we're empowering emergency response crews with the right information at the right time."**

Chris Cunningham,
Business Solutions Manager,
Fire and Emergency New Zealand

Incident response

Expand capabilities that help anticipate and respond to public needs

Coordinated responses are critical for officers, paramedics, and firefighters. Agencies must collect, process, and disseminate critical information quickly to responding personnel to optimize their response posture.

For command staff, maintaining operational oversight is paramount to a successful resolution. Connecting data from different department systems allows command staff to adjust tactics and better manage a situation.

Firefighters and ambulances that leverage cloud-based geographic information systems (GIS) can optimize their route based on real-time traffic data.

> **When you're looking for a missing person, every second counts. Now distributed members of a search mission stay connected through Teams... There's nothing more rewarding than finding a child, safe and sound."**
>
> **Grayson Edwards,**
> Criminal Apprehension Team,
> North Carolina State Bureau of Investigation

Investigation

How technology plays a part

Reconstructing events is time-consuming, with the potential to miss key information. Highly integrated data systems can significantly reduce this effort and help investigators find evidence buried across different devices and storage media. Machine learning and AI can draw reliable and secure correlations to provide leads and dramatically reduce discovery time for digital evidence.

With access to information such as first-hand accounts, arson reports, and officer insights, intelligence-led analytics can search through investigation data for connections among suspects, cases, and incidents. Police can then quickly develop lines of inquiry, assign investigative tasks, and collaborate interdepartmentally and across agencies.

As court systems adopt transformative technologies and mandate digital filings, they uncover new capabilities and solutions to traditional challenges. For example, delivering services efficiently is no longer a struggle, as new solutions replace or improve labor-intensive, manual, paper-based processes that rely on rigid case management programs built on old workflows.

Applying best-in-class operations from the business community to the justice process facilitates a digital evolution, driving new self-service experiences and efficiencies for public interaction, reducing trial time and processes using virtual hearings, and providing court staff with user-friendly mobile access to shared data.

2 Justice

Forced to evolve—for the better

Driven by a global pandemic, court systems are undergoing rapid and dramatic changes. Digital transformation is no longer a future objective, but a requirement to enable remote work and continue to serve justice right now.

Digital case management tools

Faster case proceedings thanks to digitized access

Surprisingly, as of this year, most court systems are still paper-based. Judicial systems in the United Kingdom, for example, generated roughly one million pages of documents per day—365 million pages a year—before moving to a digital justice platform recently.

Producing, transporting, and storing this much paper is time-consuming, costly, and harmful to the environment. All submissions to the court should be in digitized form to reduce the reliance on paper and eliminate scanning and rekeying of information.

Technology gives everyone faster access to electronic documents on secured devices without losing a physical piece of evidence. When the latest information arrives, it can be captured and shared with all necessary parties in a central location. Secure electronic documentation also reduces accidental or intentional data tampering, which can lead to financial and reputational consequences.

The Supreme Court of Buenos Aires Augusta Systems portal [automatic PDF download] (based on Azure) allows people to upload and download legal documents, search for files, and stream videos related to their case.

Already serving 200,000 users per month, Augusta Systems promises to improve court efficiency dramatically for years.

Trials

Ensuring that justice is served

People deserve justice and resolution, even in the midst of a global pandemic or a natural disaster. That means keeping courts open and enabling people to attend court proceedings without risking their health or safety. The virtual courtroom can do just that—and more.

Beyond enabling continuity of operations in difficult circumstances, the impact of a virtual courtroom can be felt throughout the entire judicial process as the pace and quality of justice improve.

Thousands of court cases adjourn early every day because officers aren't available to give their testimony. With a virtual courtroom, conducting hearings that support witness, defendant, or plaintiff testimony can be much easier. Parties can participate in the field, or from their home or office, and more trials can proceed at the same time without restrictions to a courtroom or courthouse. In addition, live translation and transcription with Microsoft Teams and Azure Cognitive Services can improve and expedite transparency and accessibility for those involved.

Court systems can also reduce costs by eliminating the need to physically transport detainees to hearings and trials, which also decreases security risks to staff and the community.

> **The court is now accessible 24/7 from anywhere in the world, so we know no geographical or time boundaries. You can register, submit documents, file and pay online, and utilize Skype-enabled trial hearings from remote locations."**
>
> **Linda Fitz-Alan,**
> Registrar and Chief Executive,
> Abu Dhabi Global Market Courts

Judges can take advantage of insights from similar cases to ensure that penalties align with modern ethical expectations. With more avenues to information, judges need fast, user-friendly access to rulings from other jurisdictions to help inform their decisions (e.g., sentencing for similar offenses and defendant backgrounds). Judges can also interact with specialty courts and advise on sentences and conditions that promote more rehabilitative behavior and address root problems.

> In Manila, Philippines, the Supreme Court teamed up with Microsoft to enable videoconferencing hearings using Microsoft 365 during the COVID-19 pandemic. In the first nine days of piloting videoconferencing hearings, they saw a 125% increase in daily releases compared to six weeks prior to implementation of Microsoft 365.

3

Sentencing

Judgements that are productive, thoughtful, and effective

Judges want to ensure their decisions are fair and based on the foundations of law and prescribed, measured sentencing. But sentencing can vary due to unconscious bias, a lack of easily accessible information about the defendant's history, data from other cases, and legal precedents.

4 Corrections

A secure digital and people-centric approach

Now is the best time for corrections to embrace modern digital approaches for more informed management and safer communities. Using secure platforms can help create alignment across the entire justice spectrum, enabling people to better predict and mitigate risks—and not just at correctional facilities.

This alignment causes a positive ripple effect in your ecosystem that travels to law enforcement and courts and downstream to the public.

Corrections procedures are burdened by traditional, siloed, and costly approaches to rehabilitation. Populations change over time. The same treatments don't work for ever-changing populations. The handoff from courts to corrections facilities is—to this day—still mostly manual. Relying on paper-based methods increases the risk of incomplete files and lost sensitive penitentiary [pen] packets.

As society and digital tools change and age, it's crucial to use secure, user-friendly technology to optimize processes while reducing costs. Yet fear remains that change is too frustrating, and that modern digital tools are too complex and often have unforeseen side effects.

When employed correctly, the opposite can be true. Technology can play a key role in transforming an aging system and giving the corrections industry the means to identify and promote new, effective approaches that drive better outcomes.

Alternative rehabilitation

Driving down cost

Rehabilitation in the 21st century requires more than physical buildings. Advanced technology is needed to optimize processes, manage systems, and rehabilitate people effectively. It should come as no surprise that overpopulation in corrections facilities results in greater economic burdens and challenges to effective rehabilitation.

The cost of keeping an individual in a major institution in Washington State is $115.94 per day.[2] In the UK, the cost of keeping one prisoner is £118 a day.[3] In Ireland, the cost to detain one juvenile prisoner per day is €2,773.38.[4] Alternative rehabilitation can lead to lasting judgments and decrease costs associated with overcrowded facilities. When agencies share data, rehabilitators gain access to more data to inform their decision-making process. Instead of using a one-size-fits-all approach, rehabilitation can personalize more effective and long-lasting plans.

Consider offenders who have a high rate of recidivism. Future methods can focus on proactive counseling to break the cycle versus physical buildings for offenders who may do poorly in a facility. Prison management can use analytics to place inmates in cells based on threat groups and other criteria to ensure an inmate can safely learn, reinforce counseling, and overcome addictions, reducing the probability to recidivate.

Economic opportunity can be a factor in leading the way out of a life of crime. Providing professional training for in-demand trades or skills to individuals while they are in custody can help reduce the likelihood of returning to prison.

Split sentencing—enabling offenders to complete the final part of their sentence though home detention or community confinement—reduces the costly burden of corrections facilities. And by using automated monitoring, the public can feel confident agencies have their safety in mind.

> **Prison overcrowding is a global problem, with offenders exceeding capacity in at least 124 countries and national prison systems in 23 countries holding more than double their capacity.[5]**

[2] "Department of Corrections Institutional Costs, Average Daily Population, and Cost per Incarcerated Individual per Day," Washington State Department of Corrections, 2019.

[3] "Cost of Crooks," The Sun, 2019.

[4] "It costs the State €2,773.38 to detain one juvenile prisoner per day in Ireland," thejournal.ie, 2017.

[5] "Overcrowding," PenalReform.org web page (accessed August 2020).

Offender management

Driving effective reform

Digital technologies are transforming how corrections systems approach managing and housing detainees entirely. The facility of the future will better meet inmate needs and prepare them more effectively for life after rehabilitation.

Correctional facilities can now make sure that the right support processes are in place to treat incoming offenders once they arrive. With the ability to automatically enter cases and files from the court's case management system, and with automated systems that distribute clothing and assign rooms, technology removes the time-consuming burden of doing these intake tasks manually. In addition, technology can support services once the inmate enters the population, such as setting up health programs, tracking vocation training, or aligning an inmate within a facility to reduce violence.

Parole and release

Delivering personalized rehabilitation

Helping offenders adjust to life after corrections increases public safety. It's also critical to the offender's wellbeing when society looks drastically different on the day of release compared to the day of detainment.

Modernizing the corrections system can help with pre-release programs that offer vocation, socialization, and computer skills tailored to individuals. But even with such programs available, they still need a supportive network after release.

This is where enhanced technology plays a role. Modern approaches that use intelligent data networks can help former inmates find opportunities to succeed while freeing up taxpayer dollars and valuable case officer time. Shared, accessible data can help amplify knowledge sharing between parolee and parole officer.

5 Microsoft AI principles

Responsible AI solutions that reflect principles rooted in timeless values

Microsoft is committed to the advancement of AI driven by ethical principles that put people first.

We put our responsible AI principles into practice through the AI, Ethics and Effects in Engineering and Research (Aether) Committee, as well as our Office of Responsible AI (ORA). The Aether Committee advises our leadership on the challenges and opportunities presented by AI innovations. ORA sets our rules and governance processes, working closely with teams across the company to support the effort.

Microsoft AI serves to extend human capabilities—not replace them. They are designed to embody ethical principles such as fairness, inclusivity, reliability and safety, transparency, privacy and security, and accountability. By using AI to optimize administrative functions and services, stakeholders are able to focus on what matters most: human-centered design, decision-making, and empathy.

In public safety and justice agencies, decision makers should consider not just what AI can do, but what it should do to innovate in a reliable and trusted way. It's critical to understand the components of a holistic approach to AI that will help these agencies turn meaningful innovation into actionable results for their communities. AI business school for government offers a blueprint and roadmap designed for decision makers to realize the true transformational impact of AI in the public sector.

As they do so, three opportunities stand out:

✓ **Enabling remote government access**

✓ **Empowering cross agency collaboration**

✓ **Delivering trusted and secure services**

6 New opportunities

Public safety and justice agencies are beginning to align to an innovative digital approach that ensures sustainability now and in the future.

Our mission at Microsoft is to empower every person and every organization on the planet to achieve more, and that includes working with agencies worldwide to align technology to the drivers of change in public safety and justice. That's why our approach centers around a single identity structure; a strong, consistent, security-focused platform; and productivity solutions to transform collaboration and produce faster decision-making at any time and from anywhere.

It's this mission and these strategic partnerships that are helping change the way agencies engage with communities, and which have helped make Microsoft a trusted partner in these efforts.

Enabling remote government access

Going to the office for work isn't always practical—or necessary. Whether it's in response to an emergency or accommodating an employee preference, agencies need to ensure they can serve their communities while giving personnel the flexibility to work remotely.

Enabling remote government access means making data available anytime, anywhere. When agencies do so, they support a lot more than the ability to work from home. By leveraging connected cloud data and analytics across multiple devices and locations, agencies can reduce response times and the impact of crime. Data insights for first responders can improve situational awareness, and personnel can meet the needs of all people where and when they're needed, with accessibility and security built in.

Remote government access also modernizes services. Agencies can orchestrate operations, including mission critical workloads, through cloud-enabled technologies. Courts can serve justice at scale via highly secure and compliant, intelligent tools. Emergency call centers can handle increasing levels of calls.

One example is the Hamburg Police, where mobile communication has become a critically important capability. When a missing person is reported

to the police department, officers on the case create a group chat that includes all colleagues involved. At the department, photos of the missing person or special location plans can be scanned and uploaded to the appropriate chat. This keeps officers on field duty apprised of up to date and relevant information, regardless of where they happen to be working.

Learn more

Empowering cross agency collaboration

Sharing data, services, and innovation across jurisdictions helps everyone be more effective and efficient on the job, reducing risk to themselves and the community.

When agencies share crime, fire, and other incident data, they collectively build data models that apply to community and geographical risks. This reduces the cost and effort of large-scale data matching and reactive resource allocation. The data that agencies collect can also help determine where to increase staffing, develop richer community engagement, and pre-position safety equipment.

Cross agency collaboration also helps personnel better decide and act for the safety of the people and the security of the communities they serve. To facilitate collaboration, agencies can connect and share sensitive law enforcement data securely with judicial institutions, as well as leverage data analytics to solve more complex multi-jurisdictional and regional crime trends.

In Belgium, the Belgian Federal Police has accelerated its digital transformation using Microsoft Teams. "Teams provides a great opportunity to go to a higher level in collaboration and communication between people, and with external partners," says Vincent Moreau, General Product Manager, Police Information and ICT, at Belgian Federal

Police. "Our units could see it delivered a safer, compliant alternative to consumer apps like WhatsApp so they can do their jobs more easily."

The enhanced collaboration and greater mobility have reduced administration and increased productivity. Officers can attend meetings through voice and video calls from home or in the field, reducing travel needs. Email volumes have reduced significantly, and paper-based processes like changing shifts or filing activity reports have been digitized.

Learn more

Delivering trusted and secure services

Courts, first responders, and corrections all rely on sensitive data to ensure effective operations and public safety. Community trust and engagement in public safety and justice can be strengthened by securing information, protecting infrastructure, and ensuring regulatory compliance.

Modernizing legacy systems and simplifying regulatory compliance with a trusted cloud solution helps support compliance, privacy, protection, and accessibility of your data. You can ensure continuity of operations and maintain public trust without increasing your security risk. By using artificial intelligence, you can respond faster and smarter to cyber threats, protecting sensitive public safety data shared across jurisdictions.

In Zambia, the Common Market for Eastern and Southern Africa (COMESA) Court of Justice adopted Microsoft Azure as part of its digital transformation. Azure comes with added security capabilities that ensure case documents are effortlessly accessible, secure, and placed in an orderly fashion.

"The system is very secure and at least 80 percent of COMESA lawyers have adapted to using it. The paperwork can now be uploaded digitally in a short space of time. Printing and flying copies for court hearings has become obsolete, now that everything is a click of a button away," says Nyambura Lucy Mbatia, Registrar at the COMESA Court of Justice.

Thanks to Microsoft Azure and Office 365, litigants, the Registry, and judges now receive up-to-date information and court cases can be accessed securely from anywhere in the world. Filing a case through COMESA is now less stressful and more efficient.
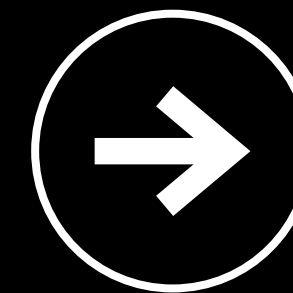
Learn more

Take the next step

The global pandemic in 2020 has had an impact on every aspect of society. For public safety and justice organizations, the changes that have come as a result can be for the better. Digital transformation can empower agencies to be more efficient, scalable, and effective in delivering their mission.

With flexible, integrated, and trustworthy solutions, Microsoft accelerates digital transformation for public safety and justice organizations, helping them deliver more impactful actions to increase the safety of the people and the security of the communities they serve. Cloud and edge-enabled technology solutions serve as force multipliers to help reduce response times and improve operational efficiencies. Microsoft and our powerful network of partners understand the needs of public safety and justice agencies, and how to utilize the power of our innovative technologies to achieve more for the communities and people you serve.

**Learn more about
public safety and justice** >

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