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Samsung DeX: Modern mobility for government missions

How the growing smartphone-PC convergence can deliver a fully mobile experience and enhance support for personnel in the field

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From homeland security to law enforcement to managing our national parks and delivering citizen services, a significant percentage of the government workforce must be able to reliably communicate and work productively wherever the mission takes them. While mobility solutions provide flexibility across government operations, they take on new urgency in the field, enabling workers to stay connected and perform their duties while enhancing collaboration and safety in dynamic and often unpredictable environments.

Smartphones and tablets have long been supporting government fieldwork. Mobile devices have been traditionally seen as a valuable extension of a PC-centric enterprise technology infrastructure. Agencies recognize mobile devices as vital communications tools or accessories to a PC that provide some important functionality away from the office, but still assume that employees will need to return to a laptop or desktop to complete many essential tasks. However, the role of the mobile device in government work has significantly increased alongside important innovations across the mobile computing ecosystem that have blurred the lines between mobile device and PC performance. These include the increased processing power and advanced functionality of modern smartphones and tablets, the growing availability of enhanced network connectivity such as 5G, and the emergence of enterprise-friendly capabilities such as mobile device management and security.

For those agencies with employees who spend significant time in the field, this increasing convergence between PC and mobile device capabilities creates an opportunity to better meet the needs of employees and improve mission outcomes with a fully mobile ecosystem built around the way work is done outside the office. With this approach, the mobile device becomes the primary computing device, eliminating the need for additional PCs and laptops, streamlining management and reducing the total cost of ownership. Samsung is at the forefront of building this fully mobile ecosystem with Samsung DeX, which creates a PC-like experience anywhere you can connect a mobile device to a monitor, keyboard and trackpad or mouse.[1]

The role of mobile devices in modern government

Agencies envision an agile, engaged and empowered federal workforce that is ready to meet the mission wherever it takes them. Supporting their needs with the right tools and technology is crucial to their success. Increasingly, it is the devices that we all rely upon and enjoy using in our personal lives that we most want to use at work – our smartphones, our watches and our tablets.

Mobility solutions also enhance the flexibility, responsiveness and effectiveness of government operations while helping to reduce costs and improve service delivery. Thus, it is unsurprising that most modernization and IT initiatives recognize the need to support the workforce, strengthen service delivery and improve agency operations with a mobility strategy. For agencies with employees who spend as much, if not more, time in the field as they do behind a desk, mobility becomes even more central to the mission. Mobile devices are critical for government field operations because they improve communications, productivity, safety and real-time decision-making in dynamic and sometimes unpredictable environments. For those in public safety, enhanced mobile productivity allows them to spend less time behind their desks and more time engaging directly with the communities they serve.

Examples of the types of work mobility solutions support in the field include:

Law enforcement: Police officers and federal agents use mobile devices to capture and document evidence, access criminal databases, write reports, issue citations and communicate with dispatch.

Disaster response and emergency management: First responders and disaster relief teams use mobile devices to coordinate search and rescue operations, monitor affected areas, track resources and communicate in real time.

Fire departments: Firefighters use mobile devices to access building layouts, monitor live fire conditions, communicate and coordinate with other agencies.

Public health: Health inspectors and workers use mobile devices to collect and log illness data, track disease outbreaks and manage the delivery of health services.

Environmental monitoring: Environmental inspectors and scientists use mobile devices to collect data on air quality, water pollution and hazardous waste management. They can log observations and upload data to central systems, facilitating environmental assessments.

Park and wildlife services: Park staff use mobile devices to monitor wildlife, water quality and habitat conditions, as well as facilitate visitor education programs, and manage park incidents, tasks and facilities.

Social services: Social workers and case managers use mobile devices to access client files, conduct interviews, document and follow up on open cases. Mobile devices allow them to deliver services directly in the field and improve outreach to vulnerable populations.

Utility maintenance: Field engineers and maintenance crews use mobile devices to inspect and monitor public utilities. They can access blueprints, update repair logs and file new maintenance requests on-site.

Agricultural inspections: Mobile devices help agricultural inspectors collect data on farm conditions, monitor for diseases and track compliance with regulations.

Transportation and traffic monitoring: Field workers in transportation agencies use mobile devices to monitor traffic conditions, manage road repairs and inspect public transportation systems. Real-time data collection and reporting allows for rapid response to road closures, accidents or maintenance issues.

Government and public safety workers across these missions and many more spend significant time moving between their field assignments, vehicles and offices. Yet, many of them still operate in a largely PC-centric ecosystem. Depending on their role, this typically requires them to juggle a combination of devices such as a smartphone, tablet, laptop, desktop computer, voice recorder, radio or rugged in-vehicle computer. This is not only cumbersome and inconvenient for workers who must physically carry multiple devices, transfer data between devices to complete tasks and manage multiple logins, etc., but it is also more devices for IT departments to track, manage and secure.

The benefits of a fully mobile ecosystem

By moving highly mobile workers from a PC-centric to a fully mobile environment, agencies can deliver a more streamlined mobile experience for employees who need to be able work from anywhere. This fuels their productivity and engagement while also simplifying the infrastructure supporting their work to reduce the total cost of ownership.

Samsung is doing this today with its DeX and DeX in Vehicle solutions. Samsung DeX creates a PC-like experience just by connecting a Galaxy smartphone to a monitor, keyboard and trackpad, thus eliminating the need to carry a separate PC or laptop.

With Samsung DeX, mobile applications are optimized for desktop use, not just cast to a larger display. DeX provides the same functionality users expect from a PC experience, like multiple resizable windows, keyboard shortcuts and drag-and-drop editing, without requiring any additional user configuration or specialized app versions.[2] This enables seamless connectivity and an intuitive user experience.

With productivity-friendly features, such as Galaxy AI and Microsoft integration, as well as rugged options for more demanding environments, Samsung Galaxy devices are as well suited for the office as they are for the harsh conditions of mobile fieldwork. This versatility enables agencies to confidently use DeX across a wide number of use cases and environments.

Supporting a highly mobile workforce with DeX in Vehicle

While DeX can be used anywhere you have a monitor, the need for in-vehicle computing to support mobile fieldwork has driven increased interest in Samsung DeX in Vehicle. The solution has rapidly gained popularity with police departments across the U.S., including the Chicago PD, Santa Barbara Police Department and Monroe County Sheriff's Office (MCSO) in Missouri.

Samsung DeX in Vehicle pairs most of Galaxy smartphones or tablets with a rugged mounted display and dedicated keyboard specially designed for in-vehicle safety, reliability and comfort.

Department of corrections reduces time spent recording notes by 80%

California Department of Corrections and Rehabilitation (CDCR) has one of the largest protective-custody populations in the country. CDCR recently deployed smartphones to field personnel, and the benefits have been significant, according to Jeff Funk, CDCR's chief of mobile application development. Agents have been able to access online information instead of carrying large casebooks with handwritten notes. When logging information themselves, agents can now use voice-to-text recording, which can reduce the time spent recording notes by 80 percent. The improved workflow efficiency also accelerates program referrals for parolees, which in turn improves program participation.

CDCR has initiated a DeX pilot and is evaluating different mounting and hardware options. "The DeX system will give our agents the ability to do anything they need in the field without having to come back to the office," Funk said. "With DeX, we can reduce our costs, increase officer safety and provide a really effective tool."

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The solution integrates with computer aided dispatch (CAD), situational awareness, records management, GPS and other productivity software to deliver a PC-like experience in a far more convenient form factor. DeX in Vehicle eliminates the need for additional expensive hardware, such as rugged tablets and bulky dedicated in-vehicle laptops, without sacrificing connectivity or functionality. Here is how it works:

In the field

Galaxy smartphones and tablets are powerful tools for connectivity and productivity in the field. For example, a police officer can use their Galaxy smartphone to collect evidence by taking photos and recording interviews at the investigation site. A park ranger can access a map of invasive wildlife sightings and cross-reference it with habitat damage they discover near a local trail. A rail system inspector can access recent maintenance logs and capture their own inspection notes and photos confirming repairs were completed correctly.

If using a device compatible with Galaxy AI[3], productivity-enhancing AI features make these tasks even more effortless. For example, officers can document and record witness interviews instantly using Voice Recorder with Galaxy AI for hands-free recording and transcript/summary creation.

One feature of growing interest is the ability to use Samsung Galaxy smartphones with Galaxy AI to overcome language barriers in the field. Unlike traditional translation apps, Samsung's Live Translate[4] with Galaxy AI and Interpreter[5] with Galaxy AI translate conversations in real time without the need to toggle back and forth between languages manually or navigate delayed responses, ensuring conversations remain natural and fluid. Live Translate with Galaxy AI seamlessly translates voice calls and text messages as they happen. For in-person conversations, Interpreter with Galaxy AI can both audibly translate and display a transcript of the conversation all on the phone. If needed language packs are downloaded in advance, Interpreter can be used without an internet connection, which is extremely useful for those in field operations who often find themselves working in environments with unpredictable network availability or who prefer to keep information processed locally on the device.

In the vehicle

The Galaxy smartphone is highly beneficial in the field on its own and further increases in value when used as part of the DeX in Vehicle solution. When the police officer, park ranger or field worker returns to their vehicle, rather than sitting down and logging into a bulky laptop to type up a report while referencing the phone in their hand, they simply dock their device into DeX mode and continue their work. They can review the interview transcripts, add additional notes with the keyboard, and use features like Note Assist[6] with Galaxy AI to help finalize reports for sharing or filing. They can review and analyze collected images, transcripts and video links on the larger screen and share findings with agency or inter-agency colleagues. If using an eCitation app, they can quickly complete the report using their scan of the driver's license/registration, print[7] a citation for the motorist and send a digital copy to the courthouse. By giving them all the PC-like functionality they need to perform their duties right in their vehicle, they can avoid unnecessary trips back to the station, headquarters or office and optimize their time in the field.

How DeX was specially designed for vehicle use

Eric Augusto, lead for DeX in Vehicle solutions and partnerships at Samsung Electronics America, explains how DeX emerged as an in-vehicle solution. "We started by providing DeX stations to several of the leading in-vehicle hardware companies and told them they had complete flexibility in the initial prototype designs, including repurposing the DeX motherboard," he explained. "There was a lot of feedback and collaboration, and the approaches varied, primarily on the positioning of the USB-C hub."

The compactness of the DeX solution is proving popular and the smaller footprint provides mounting options, according to Augusto. "Ergonomics is key, and the positioning of the dock, keyboard and touchscreen is important to the user's comfort and productivity," he said. "It's also critical that the installation doesn't interfere with proper airbag deployment or become a projectile."

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In the office

When they return to the station, headquarters or office, they can dock their smartphone with a desktop monitor and keyboard and input any additional information needed to complete their work. This entire experience is absolutely seamless to the officer, even more so than docking a phone into a traditional PC or laptop, because DeX does not ask them to move between mobile and desktop app versions. Instead, the apps and data they work with on the phone are the same when docked in DeX mode, but with the advantages of a full-size keyboard, the real estate of a monitor and the precision of a trackpad.

For agencies with tighter budgets, temporary hires or reduced need for personnel in the office, a few DeX workstations are often sufficient for in-office or in-station computing needs, reducing costs and streamlining provisioning and security requirements. Samsung advanced mobility solutions provide the foundation for a fully mobile ecosystem ideal for government fieldwork.

Samsung and its diverse ecosystem of partners have a long history of working with the government to provide field-tested, proven mobile technology that can adapt to any mission need. The result is a modern and versatile mobile ecosystem that leverages readily available, commercial-off-the-shelf (COTS) devices to deliver specialized government solutions. With Samsung, agencies can reliably and securely deliver advanced mobile capabilities at a lower total cost of ownership.

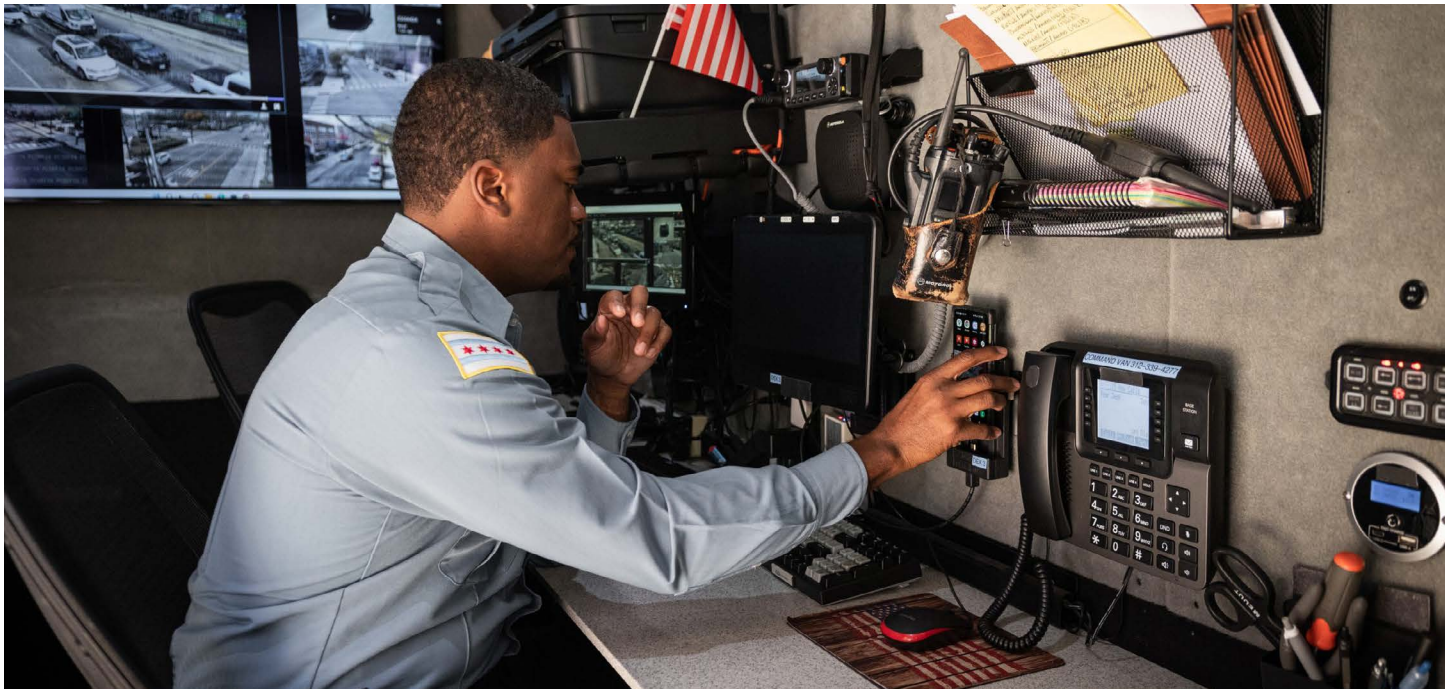
DeX proves popular at Chicago PD

Chicago PD has seen great success using Samsung DeX as an in-vehicle computing solution for their officers.

"Since we started working with Samsung, specfically rolling out the Dex-based products — the Galaxy series smartphones — we have been tasked with getting officers out more into their communities. They need to be forward facing and not spend as much time behind a desk processing paperwork," said Dennis Baliga, Deputy Director for IT, Chicago Police Department, 19th District.

"We went from 3,000 laptops in vehicles to around 10,000 Galaxy S-Series phones either assigned to officers or in a specific vehicle. Trust is immensely important for what we do in public safety IT. We need vendors that are there with us 24X7. Samsung has been there for us every step of the way," Baliga continued.

Watch video ›



Designed for demanding, high-security environments

Samsung prioritizes security in design and across its supply chain to promote trust, ensure product integrity and deliver the industry's most advanced hardware-backed security protections from the chip up. This is done with Samsung Knox, which combines the protection of a defense-grade security platform built into every Galaxy device with a comprehensive set of cloud-based security and management solutions from Knox Suite.[8] DeX can be used with a USB CAC/PIV card reader to securely access enterprise applications within a FIPS-encrypted virtual desktop infrastructure (VDI) environment. Private and sensitive data remains protected and compliant with Criminal Justice Information Services (CJIS) requirements.[9]

Security-aware design features include leveraging the security of Samsung Knox Suite to enable the controlled and confident operation of its Galaxy AI tools. Two of the primary ways Samsung accomplished this include designing a number of Galaxy AI features to run only on the device and ensuring centralized enterprise control of Galaxy AI usage. Select Galaxy AI features, including both Live Translate and Interpreter, are processed completely within an on-device AI engine. This engine neither places the data in the device's storage nor delivers it to, or allows it to be accessed by, any unauthorized applications or services. None of the data is ever shared for training purposes.

Key features

- **One mobile device** to power seamless field-to-vehicle-to-office computing, replacing the need for PCs
- **S Pen** captures signatures easily and digitizes pen to paper workflows[10]
- **5G connectivity** for maximum speed and security optimizes ability to work on-the-go[11]
- **Software and hardware partners** provide the full range of tools needed, with the ability to integrate it for officers in one system set-up
- **Highest security** with defense-grade Knox security platform built-in, along with Knox Suite for device management
- **Long-lasting battery** means use in the field without interruption[12]

Reliable devices with unique, rugged options for specialized missions

Samsung Galaxy devices are particularly well-suited for mobile fieldwork. They offer office-friendly features, such as Galaxy AI and Microsoft integration, as well as rugged options for more demanding environments or specialized operator requirements.

Samsung's Tactical Edition portfolio is of particular interest to agencies that conduct fieldwork in unpredictable network environments. Unlike commercial smartphones, the Samsung Galaxy S23 Tactical Edition and Galaxy XCover6 Pro Tactical Edition are purpose-built to provide persistent communications in network-challenged areas. They support conventional cellular capabilities, as well as tactical radios, private 5G and secure mission systems to meet a broad array of communication requirements with one device. This allows agency personnel in the field to move seamlessly between cellular, radio and private 5G/LTE as the situation dictates.

This is extremely valuable in emergency situations that require both network redundancy and the ability to get multiple agencies working over the same communications system quickly. It is also significantly helpful for those in areas like utilities management, forestry and transportation, which need to maintain connectivity with personnel spread over large distances and across unpredictable network environments.

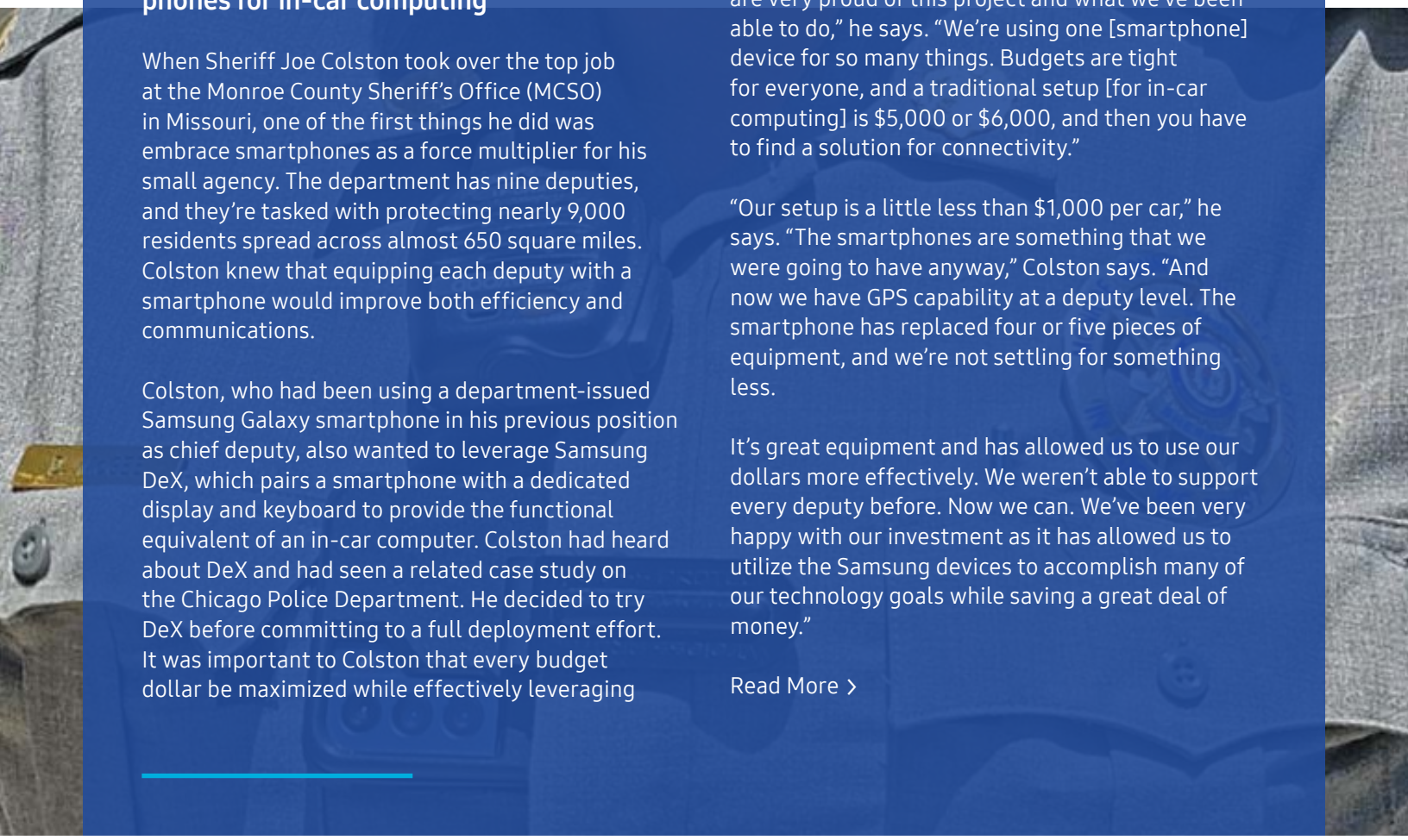
For those working in classified areas or with sensitive mission sets, DeX can be combined with the Samsung Secure Spaces solution. Through a partnership with Privoro, Samsung offers a solution for high-assurance control over the camera, microphone and network connectivity of select Galaxy smartphone models. To do this, the Secure Spaces solution combines physical camera protections and audio masking with chip-level control of phone radio frequency (RF) signals, including cellular, GPS, WiFi, Bluetooth and Near Field Communication (NFC). This is a key advantage over laptop and PC use in secure areas where surveillance can be a concern.

Simplified infrastructure and streamlined, enterprise-ready management capabilities deliver lower costs

With fewer devices to purchase, manage and maintain, a Samsung DeX-enabled mobile infrastructure offers the flexibility and security that government agencies need at a lower total cost of ownership. One analysis estimated that a transition to the DeX mobile infrastructure could result in a 20% reduction in costs when aggregated over a three-year lifecycle.[13]

DeX's popularity across agencies of all sizes is largely due to its ability to simplify IT operations and reduce the need for dedicated IT staff. Both small, rural police departments and larger, urban ones are successfully adapting DeX to their unique needs.

Management features of Samsung Knox streamline remote device deployment and maintenance. For example, when paired with a mobile device management platform, Knox Configure allows IT administrators to control and customize almost every device aspect, even before it comes out of the box. Administrators can upload a list of deployed devices using the Knox Configure portal and assign them predefined profiles, tailoring the devices to specific agency requirements. When employees receive a new mobile device, it is automatically provisioned and configured as soon as it is powered on and connected to a network. Knox E-FOTA enables IT administrators to remotely control OS versions on Samsung mobile devices, allowing them to test updates prior to real-world deployment to ensure compatibility with in-house apps and remotely deploy forced updates to ensure all enterprise devices are always running the latest validated OS version.



Sheriff's office saves costs with Samsung phones for in-car computing

When Sheriff Joe Colston took over the top job at the Monroe County Sheriff's Office (MCSO) in Missouri, one of the first things he did was embrace smartphones as a force multiplier for his small agency. The department has nine deputies, and they're tasked with protecting nearly 9,000 residents spread across almost 650 square miles. Colston knew that equipping each deputy with a smartphone would improve both efficiency and communications.

Colston, who had been using a department-issued Samsung Galaxy smartphone in his previous position as chief deputy, also wanted to leverage Samsung DeX, which pairs a smartphone with a dedicated display and keyboard to provide the functional equivalent of an in-car computer. Colston had heard about DeX and had seen a related case study on the Chicago Police Department. He decided to try DeX before committing to a full deployment effort. It was important to Colston that every budget dollar be maximized while effectively leveraging smartphone technology as a force multiplier. "We are very proud of this project and what we've been able to do," he says. "We're using one [smartphone] device for so many things. Budgets are tight for everyone, and a traditional setup [for in-car computing] is $5,000 or $6,000, and then you have to find a solution for connectivity."

"Our setup is a little less than $1,000 per car," he says. "The smartphones are something that we were going to have anyway," Colston says. "And now we have GPS capability at a deputy level. The smartphone has replaced four or five pieces of equipment, and we're not settling for something less.

It's great equipment and has allowed us to use our dollars more effectively. We weren't able to support every deputy before. Now we can. We've been very happy with our investment as it has allowed us to utilize the Samsung devices to accomplish many of our technology goals while saving a great deal of money."

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The future of government work is mobile

From the desktop to the laptop to the smartphone, the tools that power the government workforce have shifted increasingly mobile. Now, the capabilities of the smartphone and PC are starting to converge, reducing or even eliminating the need for a separate PC. With DeX and DeX in Vehicle, agencies can securely and cost-effectively use a streamlined mobile ecosystem to support a truly mobile workforce with connectivity and functionality wherever their mission takes them.

Footnotes

1 Cases and accessories sold separately.
2 Samsung DeX works with most apps. Some apps may require a separate license (purchased separately), or may be unavailable due to partner requests.
3 Galaxy AI features by Samsung will be provided for free until the end of 2025 on supported Samsung Galaxy devices.
4 Live Translate feature for Call Assist does not need a network connection. Calls need a network connection to activate Live Translate. Samsung Account login required. Live Translate is only available on pre-installed Samsung Phone apps and some third-party apps. Service availability may vary by language or region. Certain languages may require language pack download. Accuracy of results is not guaranteed.
5 Interpreter requires Samsung Account login. Certain languages may require language pack download. Service availability may vary by language. Accuracy of results is not guaranteed. Availability and supported features may vary by country, region or carrier. Availability of supported languages may vary.
6 Note Assist requires a network connection and Samsung Account login. Service availability may vary by language. Summary feature for Note Assist is activated when a certain number of characters is met and is under the character limit. Voice recording feature for Note Assist may not be supported in some countries. Audio files must be under 3 hours in duration to be processed. Accuracy of results is not guaranteed.
7 Printer sold separately.
8 Requires separate license.
9 For the full list of Knox certifications, please visit https://www.samsungknox.com/en/knox-platform/knox-certifications
10 Galaxy S24 Ultra, Tab S Series and Tab Active Series included a bundled S Pen. S Pen available as an optional accessory for Galaxy Z Fold3 and newer.
11 5G network connection available in select markets. Download and streaming speeds may vary based on market, carrier, content provider, server connection and user environment. Check with your carrier for availability and details.
12 Based on average battery life under typical usage conditions. Average expected performance based on typical use. Actual battery life depends on factors such as network, features selected, frequency of calls, voice, data, and other application usage patterns. Based on laboratory testing. Results may vary.
13 The Public Safety Network, LLC. Bringing Mobile First to Public Safety. 2018