Spotlight Paper | OCTOBER 2024



Digital Policeman: Modernizing Law Enforcement

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Key Takeaway

The Digital Policeman project in Kazakhstan integrates advanced technology into policing, enhancing transparency, officer safety, and operational efficiency. Smart badges with real-time video streaming and tamper-proof designs have improved oversight, reducing corruption and increasing accountability. The project showcases how technology-driven initiatives can modernize law enforcement, positioning Kazakhstan among global leaders in police modernization.

Key Stats

The project has documented over 6,000 instances of bribe offers, saved $6 million through service-lease models, and resulted in the recording of 443,765 administrative violations and the solving of 2,613 crimes. Over 10,000 smart badges and over 21.000 tablets have been deployed, significantly enhancing law enforcement capabilities.

Introduction

In an era of heightened accountability and public scrutiny, police departments worldwide face increasing pressure to enhance transparency and effectiveness. The demand for real-time data, robust situational awareness, and improved officer performance has driven significant technological advancements. Kazakhstan's "Digital Policeman" project exemplifies a forward-thinking initiative aimed at addressing these critical needs by integrating smart technology into everyday policing. The project addresses the need for enhanced oversight, improved officer safety, and streamlined operations.

The project relied on smart badges in military-style mobile phones; the badges, critically, serve as a secure control layer, ensuring continuous, tamper-proof video recording and geolocation tracking. They manage secure authentication, encrypt data, and prevent unauthorized modifications, maintaining the integrity of recorded evidence. Additionally, the badges facilitate real-time GPS tracking and enable emergency SOS alerts, enhancing officer safety and operational efficiency. By integrating these functions into a military-grade mobile device, the smart badges ensure consistent use of critical features, thereby boosting accountability and protecting sensitive data within law enforcement operations.

Key Drivers

Prior to the Digital Policeman initiative, police officers utilized various models of portable video recorders, many of which were prone to malfunction and easy to disable. The fleet consisted of various video recorder models, with limited functionalities. Also, sourcing options were limited, with the main providers coming from China. Generally, information was collected manually, and officers could disable recording at will.

Equipment failures were frequent, and repairs were often impossible due to a lack of components. The absence of reliable video evidence also hindered the ability to both monitor officers' performance and respond effectively to incidents in real time. Additionally, there was initial resistance from patrol officers who viewed the recorders as purely supervisory tools.

Implementation

The Digital Policeman project introduced smart badges based on military-style mobile phones. These devices feature continuous video recording with real-time streaming capabilities and a tamper-proof design that prevents the disabling or blocking of recording or geolocation tracking capabilities. An integrated "SOS button" allows officers to instantly send video signals and their location to the duty officer, ensuring rapid support in critical situations. The project also includes automated, contactless uploading of video recordings and remote locking capabilities, enhancing the durability and security of the devices.

The solution was implemented through a lease-of-services model to reduce up-front costs and ensure ongoing support. This approach offered clear advantages in both functionality and financial costs compared to commercially available options. The decision to use military-grade smart badges was driven by their superior features and cost effectiveness.

This aligns with global trends we are seeing where law enforcement agencies are increasingly outfitting officers with next-generation technologies — smartphones and body-worn video cameras, for example — to streamline workflows and enhance trust and transparency. These devices provide real-time data access, seamless communication,



and continuous video recording, allowing officers to make informed decisions quickly while ensuring accountability in their actions. The integration of features like GPS tracking, facial recognition, and encrypted data transmission not only improves operational efficiency but also reinforces public trust by providing transparent, verifiable records of interactions. This trend reflects a broader commitment to modernizing policing methods, improving officer safety, and fostering community confidence through technological innovation.

Benefits

The Digital Policeman project has yielded substantial hard and soft benefits. It has increased personal responsibility and professionalism among officers, reduced corruption (with over 6,000 instances of bribe offers documented), and enhanced officer safety through real-time support. The financial benefits are notable, with the project saving the national budget approximately $6 million by implementing a service-lease model that ensures free device replacements. Additionally, the system's upgradeability supports future enhancements, such as facial recognition and direct transmission of missing person alerts to officers in the field. Patrolling has become more efficient, with reduced route deviations. Since the beginning of the year, officers have recorded 443,765 administrative violations and solved 2,613 crimes using smart badges.

Additionally, technologically progressive agencies have a distinct advantage in terms of personnel recruitment and retention. They attract top-tier talent by integrating the latest technologies into their operations, streamlining workflows and creating a dynamic work environment. The opportunity to work with innovative tools and systems is a significant draw for younger law enforcement professionals.

Lessons Learned

From a project implementation standpoint, several key lessons emerged from the implementation of this project:

1. Technology can simultaneously improve accountability and officer safety.
2. Leasing services can provide financial flexibility and ensure ongoing support.
3. Removing officer intervention capabilities by implementing tamper-proof designs boosts integrity and transparency.
4. Real-time capabilities enable better decision-making and resource allocation.
5. Initial resistance can be overcome as officers recognize the protective value of the technology.
6. Clear departmental instructions and governance controls are essential for proper use and compliance.
7. Implementing the solution through a lease-of-services model significantly reduced up-front costs and ensured ongoing support, providing superior functionality and financial efficiency.
8. The choice of military-grade smart badges was crucial, offering enhanced features and cost-effectiveness compared to commercial alternatives.



Next Steps

Looking ahead, Kazakhstan plans to expand the Digital Policeman project by:

Expanding Functionalities: Integrating advanced facial recognition and real-time access to law enforcement databases within the Digital Policeman project.

Broadening Application: Applying similar smart badges technology to other public safety areas, including forestry, fisheries supervision, and traffic management.

Enhancing Communication: Implementing direct communication of alerts and wanted person information to smart badges, ensuring timely and effective responses.

Integrating with Tablets: Equipping officers with electronic tablets that provide quick access to essential information systems during patrols.

Developing Analytical Capabilities: Enhancing the ability to review video streams with advanced analytical tools for improved situational awareness and decision-making.

By leveraging these technological advancements, police departments can continue to build on their achievements, driving further innovation in public safety while maintaining the trust and confidence of the communities they serve. With over 10,000 smart tokens and more than 21,000 tablets deployed, the Digital Policeman project has set a new standard in law enforcement technology in Kazakhstan. The initiative has drawn interest from neighbors like Azerbaijan, Kyrgyzstan, and Uzbekistan. It has also positioned the country alongside global leaders like the United States, Korea, Brazil, and Scotland in police modernization efforts. As the project continues to evolve, it promises to further enhance law enforcement capabilities while maintaining a balance between effective policing and public trust.

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Massimiliano (Max) Claps is the research director for the Worldwide National Government Platforms and Technologies research in IDC's Government Insights practice. In this role, Max provides research and advisory services to technology suppliers and national civilian government senior leaders in the U.S. and globally. Specific areas of research include improving government digital experiences, data and data sharing, AI and automation, cloud-enabled system modernization, the future of government work, and data protection and digital sovereignty to drive social, economic, and environmental outcomes for agencies and the public.

More about Massimiliano Claps



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As research vice president for IDC's Worldwide and U.S. Public Safety practice, Dr. Alison Brooks focuses on public safety and first-responder research and advisory services, with a specialization in Smart Cities and Communities. Alison's research provides detailed analysis on the digital transformation of public safety and first responders, covering topics such as digital evidence management, integrated physical security solutions, intelligence-led policing, advanced analytics, video surveillance and visualization, first-responder communications, and alternative policing frameworks.

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