DRONE MONITORING

ADDING A NEW DIMENSION TO SERVING THE PUBLIC

Unmanned aerial systems, or drones, are a natural fit for public safety applications such as law enforcement and disaster management. As the technology evolves, they're also helping municipalities do things like monitor the environment and inspect infrastructure faster, cheaper and more effectively.

STRIKING THE RIGHT BALANCE BETWEEN BENEFIT AND RISK

Although the advantages of drone monitoring are clear, practical challenges remain. The technology is advancing so fast that regulations and digital infrastructure haven't been able to keep up. For example, current rules say operators must keep drones in sight at all times, even though some drones are capable of flying autonomously. This puts a practical limit on the number of drones that can be deployed. Imagine, however, a fleet of relatively inexpensive connected drones keeping near-continuous watch over hundreds of miles of infrastructure. That would help communities stay safer — and in the process, create a flood of new data that requires a reliable, high-speed, secure network to be useful.

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A TECHNOLOGY WITH TREMENDOUS VERSATILITY

As urbanization accelerates, communities of every size face unprecedented change. Congestion, pollution and demand for public services are on the rise while budgets remain flat or tighten. To address these challenges, municipalities are experimenting with drones to improve public safety and services while reducing cost, time and risk. Innovative test projects in areas such as precision agriculture, border security and critical package delivery are being rolled out,[1] and wide adoption may start as early as next year.[2]

The rapid response that connected drones enable can be a game-changer. With greater insight, it becomes possible to more quickly and accurately deploy resources whether for emergency response, crowd control, infrastructure repair or even everyday traffic management. By using high-capacity secure connections to transmit video, sound and other sensor data, drones reduce the time and personnel needed to gather vast amounts of information. Combining and analyzing that data can make it actionable, stitching together high-resolution imagery from a large number of sensors, enabling automated interpretation and intelligent alerts.

Drones also have the potential to enhance personnel safety. Most manual inspections require shutting down equipment to avoid worker injuries, but drones can safely inspect systems while they are still operating. With drone-mounted sensors, workers no longer need to physically access hazardous environments. Drones with obstacle avoidance capabilities can place themselves where humans cannot, collecting comprehensive data on minute details. This enables fast assessment, whether it is structural issues in a bridge, hot spots in a wildfire, or finding a child lost in the woods.

DOING MORE WITH LESS

Drones can be deployed and operated at a fraction of the cost of manual monitoring methods. That's helping communities make much smarter use of their limited resources. The real-time situational awareness that drones provide — and the new perspective offered by placing sensors aloft — means that workers can be far more productive even as costs go down.

With the ability to quickly and inexpensively collect, aggregate, analyze and deliver highly accurate and detailed data, it's a technology that's fast becoming a key enabler of smarter cities.

[1] http://www.govtech.com/biz/Map-FAA-Selects-10-Cities-for-Drone-Innovation-Projects.htm
[2] https://www.techemergence.com/commercial-drone-regulations-overview/

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