

# Next-Generation Mobile

## Industrial Computing Hardware “Driving” Increased Parking Violation Ticketing Efficiencies

*A powerful new generation of all-in-one industrial grade mobile computing, information processing and output devices are rapidly transforming parking violation information capture and ticketing efficiencies.*

Municipalities depend on revenue generated from fines to supplement the costs of daily government and services. Even with the often high-volume of parking citations, municipalities historically experience flat revenue as manual and subpar automated approaches prevent parking enforcement personnel from effectively supporting on-site information gathering and ticket issuance.

Recognizing the challenges and limitations that its customers experience in leveraging efficient technologies, CivicSmart chose a new mobile ticketing device from Two Technologies. The N5 offers *on-the-go computing*, information processing and output capabilities in one platform; efficiently accomplishing real-time recording and archiving of violation-related information, and the processing and issuance of tickets.

In addition to increasing efficiency, the all-in-one mobile device eliminates the need for multiple pieces of equipment that parking violation enforcement personnel typically carry to capture and process critical violation-related information and issue citations.

### **The Need for a Rugged, Reliable, Hardware Ticketing Device Partner**

Two Technologies’ N-Class of industrial-grade mobile hardware devices significantly advances the processes and practices for retrieving parking violation information and quickly converting that data into a three inch ticket with optional photo. The technology platform contains:

- Well-known smart phone mobile communications technology
- Quick information processing capabilities
- Compatibility and connectivity with a range of wireless and other communications networks
- Functions and features incorporated into one handheld device (smart phone, printer, camera, payment processing and scanner)

By combining robust printing, image capture scanning, and on-the-spot payment processing capabilities into one hardware platform, Two Technologies’ N5 addresses the requirements for a self-contained, tickets device for enforcement professionals to carry in the field.

Also important is its utilization of the latest and most robust Android mobile operating system in providing versatile, user-friendly interface features and functionality that enables enforcement professionals to work more efficiently and to connect to other Android-based hardware and software such as kiosks and pay-to-park solutions.



*The N-Class of portable computing devices from Two Technologies significantly improves the operational productivity and efficiency in mobile parking citation information collection while offering a significantly smaller ticket printing footprint, and versatile remote scanning, biometric identification and payment processing.*

## **The Makings of a Good Partnership**

Two Technologies offered responsiveness and flexibility in delivering a customized technology package to Civic Smart while providing a solid platform for application development. If a technical issue arose, Two Technologies analyzed and remediated the problem in a quick and timely fashion. The mobile hardware device manufacturer also offered a quality product and a robust maintenance plan, which is critical to any hardware-software partner relationship.

## **Mobile Hardware Technology Requirements and Differentiators That Facilitated Application Integration & Bundling**

When it came to technology, CivicSmart wanted a forward-thinking, mobile device manufacturer that incorporated new technology into their hardware platform while being adaptable to their suggestions and requests for product/service upgrades and future models.

While other competitors continue to use outdated operating systems in their products, Two Technologies built their N-Class line around the Android platform to offer versatile connectivity options in a portable package that is durable, rugged and weather resistant.

The only mobile parking ticket device of its kind on the market today, the N5 utilizes popular smart phone functions and features that are familiar to virtually everyone. With a large screen housed within a lightweight frame, the N5 offers superior scanning, image and information capture/ processing, and storage capabilities to exceed the demands of real-time parking enforcement

For instance, the N5 enables robust, two-dimensional, precisely-detailed bar code image scanning of parking permits, license plates and VIN numbers, and other information. Using this powerful scanning capability, enforcement officers can quickly capture key information from a parking permit or license plate which is seamlessly populated into Civic Smart's software application. This information is, then, rapidly transmitted to CivicSmart's servers via the N5's efficient wireless capabilities.

Compared to other mobile hardware platforms on the market, the N5 device has a much higher level of storage memory, critical to capturing and recording photos and other images needed to enforce a parking violation. The N5 mobile computer device also incorporates a 13-megapixel color camera, compared to a 2-3-

megabyte camera standard in many competitive devices. This is an important feature given that enforcement officers take an average of two to three pictures per citation.

As the only mobile hardware ticketing device technology with a hot-swappable battery, the N5 enables parking enforcement officers to perform their duties in an uninterrupted fashion without having to worry about devices running low or losing power in the field. Devices that frequently lose power run the risk of losing violation-related information and necessitating frequent returns to home base to recharge or replace the battery. N5 hot-swappable battery packs can be changed easily in the field, with officers having the option to extend the length of their shifts.

Another value-added benefit of the N5 handheld computer is the capability to instantaneously print parking tickets or citations in a small, 3-inch wide format. The ultra-rugged housing preserves and protects the N5's range of capabilities, inherent technology power and functionality under different weather and operating conditions. In fact, the risk of any parts or components failing or malfunctioning due to environmental factors or droppage is extremely low.

The N5 mobile Android device also offers CivicSmart the option to customize features and internal technology. So, if the end-user wants to switch its wireless technology or communications network provider at some point in time, smart or SIM cards can be installed, or other internal hardware changes can be made to the N5Print.

## **The N5 Portable Computer Device Revolutionizes Real-Time Violation Enforcement Practices**

The N5 takes municipalities to an entirely new level of parking violation enforcement with two significant outcomes:

- Reduction in motorists disputing parking tickets
- More tickets issued more efficiently

The N5's advanced battery technology is extending enforcement officer shifts so more violations can be identified, captured and processed. The rugged and durable design enables longer use and lowers device replacement costs.

Additionally, municipalities can strengthen their parking violation practices using the N5 powerful scanning capabilities and lightning-fast 4G information upload technology that identifies on the spot whether a parking permit or a license plate is valid. Via the N5's unique GPS and image capture technology, parking enforcement professionals obtain a 360-degree view at their fingertips of all the evidence needed to ascertain if a parking space, vehicle license plate or parking permit has expired; information that aides in eliminating court and voided ticket processing fees.

## **N5 Technology Makes "Smart Cities" Smarter**

As municipalities integrate highly advanced, interoperable and interconnected technologies in their meters and parking equipment, the N5Print hand-held computer is the only self-contained device that can leverage these smart technologies for capturing volumes of missed parking violations.

For instance, the N5Print Android device can talk to smart parking meter equipment integrated with sensors to capture, display, record and transmit information on space expirations as well as quickly process and print a violation citation on the device.

With the N5, officers can expedite “directed enforcement” by displaying potential violations on a continuous, real-time basis from smart meters and sensors, lowering the number of missed violations and promoting compliance. Many motorists have cell phone apps that provide warnings when meters are about to expire. The N5 levels the playing field for parking enforcement officers by providing alerts about current violations in different areas.

With its advanced processes for tracking parking violators, retrieving parking violation information and issuing tickets, the N5 all-in-one industrial grade mobile computers is changing the way cities look at violation capture capabilities. In fact, many municipalities are installing new LED lighting equipment that not only light a parking area but incorporate a built-in camera, image sensing and capture technology that can identify when violations are occurring around the clock. This information can be sent to the N5 so parking enforcement officers can locate the space quickly to process and issue a citation.

By offering advanced capabilities to address the future needs of cities and their municipalities, the N5 will rapidly replace older, outdated mobile hardware technologies that can no longer support emerging connected and interoperable environments that make parking violation capture and ticket issuance easier and more efficient, contributing to a greater return on investment.



### **About CivicSmart**

CivicSmart, Inc., is a technology services and engineering company specializing in developing and delivering innovative parking and transportation offerings. CivicSmart solutions have been deployed globally and, with the acquisition of Duncan Parking Technologies, CivicSmart serves nearly 2,000 clients. More information about CivicSmart is available at [www.civicsmart.com](http://www.civicsmart.com)



### **About Two Technologies**

Two Technologies, Inc.®, headquartered in suburban Philadelphia, is an ISO 9001:2008 registered manufacturer of ultra-rugged handheld computers and terminals for demanding applications. Two Technologies serves as a strategic partner to hundreds of domestic and international OEM’s, VAR’s, System Integrators and Solution Providers. Two Technologies has more than 4,000 customers worldwide with over one million products in use.