

# VIA Smart Cities – StreetWise IoT Solutions

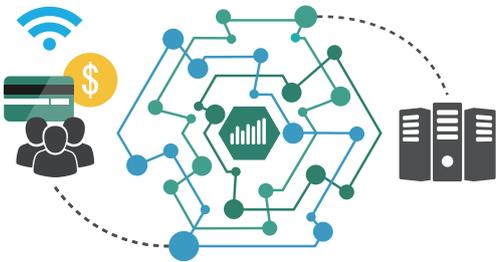


With the rapid development of the Internet of Things, cloud computing, and the mobile internet as well as smart transportation and power grids, the promise of smart cities is quickly becoming a reality. Sustainable growth, efficiency of services, and quality-of-life improvement have become the top priority of many urban governments and are the first steps in building smart communities.

VIA StreetWise IoT Solutions are designed to accelerate the deployment of innovative smart city applications. With high-performance compute, graphics and video features designed especially for intensive multimedia shopping, entertainment, and navigation applications, they are ideal for a plethora of smart locker, smart vending machine, smart information kiosk, and smart signage deployments.

# Core Applications

VIA StreetWise IoT Solutions provide robust and flexible platforms for building scalable interactive hubs that enable businesses and government departments to deliver a host of innovative logistics, retail, and community services directly from the streetside. Core applications include the following :



## Data Collection :

Rich wireless and I/O connectivity options for capturing and transmitting critical data such as pedestrian traffic flows, payments and transactions, and environmental conditions from a wide range of devices and sensors.



## Data Analysis :

Real-time data processing and analysis to optimize goods delivery schedules, product promotions, and maximize revenues.



## Monitoring and Control :

Remote monitoring and control to safeguard against system crashes and ensure 24/7 operation.



## Rich Information Display & Engagement :

Advanced interactive multimedia features for convenient accessibility to relevant information and services in rich user-friendly formats.

# VIA IoT Acceleration Platforms

VIA IoT Acceleration Platforms combine robust, ultra-reliable, and high-performance system hardware with a stable software framework that enables the rapid development of multimedia-rich applications and services. The platforms provide highly-customizable solutions for installing a host of information display, shopping, storage, and surveillance and monitoring systems for smart city environments.

## Smart Lockers :



These scalable platforms enable the rapid development and deployment of interactive self-service hubs that provide a host of on-demand O2O (Online-to-Offline) shopping, delivery, storage, payment processing, and information services for the on-the-go consumer. Combining rich I/O and wireless connectivity with powerful multimedia capabilities, the platforms can be tailor-made to meet specific installation requirements.

## Smart Vending Machines :



These flexible platforms open up exciting new opportunities for businesses to create automated convenience stores for food, beverages, and other items on every street corner. With their support for high-definition displays, interactive touchscreens, and multiple payment methods, the platforms can be rapidly customized for multiple retail scenarios.

## Smart Kiosks :



These versatile platforms facilitate the development of user-friendly touch-based systems that deliver interactive community information and O2O services. Combining advanced multimedia performance with a wealth of expansions options, the platforms can be optimized for the most demanding applications.

## Surveillance and Monitoring :



These ultra-reliable platforms integrate support for multiple HD cameras to boost security and safety on the streets and in community spaces such as shopping areas and parks. A wealth of system hardware, camera integration, and software customization options are available.

# VIA Starter Kits

VIA Starter Kits accelerate the development of affordable HMI and systems that enhance the delivery of smart city services by enabling people to view and interact with relevant community news and information in rich multimedia formats.

## VIA SOM-6X50

This starter kit includes a compact System-on-Module, an optional reference carrier board featuring built-in Wi-Fi and Bluetooth, and a Linux BSP to provide a versatile and cost-effective solution for smart city signage and HMI systems.



- 1.0GHz VIA Cortex-A9 SoC
- Supports up to 6 UART and 2 USB 2.0 ports
- Supports HDMI and LVDS
- Linux BSP
- Reference carrier board with built-in Wi-Fi and Bluetooth available

## VIA VAB-630 3.5" SBC

This starter kit combines a highly-integrated 3.5" SBC form factor motherboard with an optional 10.1" touch panel screen to provide a robust solution for interactive multimedia kiosks and signage systems.



- Compact 3.5" SBC Form Factor
- Support for 3G, Wi-Fi, & BT wireless connectivity
- Optional 5V or 12V power input
- Android solution pack available
- Optional 10.1" LVDS LCD touch panel available

## VIA HMI Panel Display Starter Kit

This starter kit features a highly-integrated board, an optional 17" display, and a Linux BSP optimized to enable HTML5-based digital signage applications to provide a flexible and reliable solution for a wide variety of transportation HMI usage scenarios.



- 1.0GHz VIA Cortex-A9 dual-core SoC
- 10/100Mbps Ethernet with PoE support
- Onboard Wi-Fi support
- HTML5 support
- Optional 17" panel for rapid time-to-market

## VIA HMI Touch Panel Starter Kit

This starter kit comprises a highly-integrated board, an optional 10.1" LVDS projective capacitive touch screen, an optional Wi-Fi module, and an optimized Android 4.2 BSP to provide an affordable solution for touch-based transportation HMI applications.



- VIA Cortex-A9 dual-core SoC
- Wide input voltage range supporting 9~36V DC-in
- Lockable connectors
- Optional USB Wi-Fi module
- Optional 10.1" projective capacitive touch screen support

## VIA Systems

Combining an ultra-reliable, high-performance system hardware platform with a stable software framework, VIA Systems enable the rapid development of multimedia-rich applications and services using touch, voice, and wireless interfaces for smart city environments. They include a broad spectrum of robust and scalable systems with multiple customization options.

### VIA AMOS-3005

This ruggedized fanless system is an ultra-reliable high-performance solution for data-intensive processing and monitoring scenarios as well as multimedia infotainment applications.



- 1.2 GHz VIA Eden<sup>®</sup> X4 processor with VIA PadLock<sup>®</sup> Security Engine
- Wide input voltage range supporting 9V~36V DC-in
- Wide operating temperature range from - 40°C up to 60°C
- Dual Gigabit Ethernet, optional Wi-Fi and 3G/4G modules
- Rich I/O feature set including lockable USB, COM and GPIO

## VIA AMOS-820

This ultra-compact fanless system provides a highly-integrated low-power solution for transportation facility monitoring and control applications with multiple hardware and software customization options.



- 1.0GHz NXP i.MX 6Quad Cortex-A9 SoC
- Power over Ethernet (PoE) option
- Wide operating temperature range from -20°C up to 65°C
- Legacy I/O support including dual CAN bus, dual COM, and GPIO
- Linux and Android BSPs, including VIA Smart ETK

## VIA ARTiGO A830

This ruggedized small form factor Android system can be easily customized for a wide range of outdoor IoT applications including smart lockers, vending machines, information kiosks and signage.



- 1.0GHz NXP i.MX 6DualLite Cortex-A9 SoC
- 5 RS-232 ports and 1 RS-485 port
- Wide operating temperature range -20°C ~ 60°C
- Surge and ESD protection
- 5W audio amplifier

## VIA ARTiGO A1300

This robust ultra-compact fanless quad-core system integrates a wealth of connectivity and networking features designed for a wide range of mission-critical signage, kiosk, and HMI passenger information display applications.



- 1.0GHz VIA QuadCore E-Series processor with VIA PadLock® Security Engine
- Two HDMI ports with dual independent display support
- Rich I/O features, including COM, Digital I/O, USB 2.0, and USB 3.0 ports
- Optional 3G and Wi-Fi modules
- VIA MagicView® content management software available

# — Rapid Customization —

VIA Streetwise IoT Solutions are based on a modular design philosophy that speeds up system hardware and software optimization and customization for demanding commercial applications. Key customization options include :



## Peripheral integration :

With a wide selection of UART, USB, GPIO, and HDMI ports, VIA Streetwise IoT Solutions provide flexible connections to modern and legacy systems, peripherals, and accessories. Gigabit Ethernet, Wi-Fi, and 4G options ensure high-speed network connections to smart phones, tablets, and other devices.



## Operational environment optimization :

With their ruggedized form factors, low power consumption, and wide operating temperature ranges, VIA Streetwise IoT Solutions can be optimized to operate in the most demanding outdoor environments.



## Software customization :

Drawing on a wealth of Android, Linux and Windows software development experience and expertise and easy-to-use BSPs and SDKs, including the VIA Smart ETK, we provide a complete range of software customization services for optimizing the compatibility, performance, I/O connectivity, and peripheral integration of VIA Streetwise IoT Solutions across multiple platforms.