

Exhibits on Showcase at ConneCTech Asia 2018

Smart Environment

WISX IoT Platform

Sense, Connect, Manage and Integrate IoT

The WISX IoT Platform provides a seamless end-to-end smart city solution that leverages smart data analytics, deep learning, and advanced wireless communications technology to transform huge amount of data into useful insights and predictive actions. This allows municipals and city operators to manage multiple city services on a common platform equipped with best-of-breed technologies and solutions, without the need for heavy capital investment.



Key Benefits:

- Network-agnostic platform that enables organisations to operate in any network such as LoRaWAN, Narrowband IoT (NB-IoT), Radio Frequency (RF) Mesh and WiFi-LTE
- Open architecture and scalable to meet future expansion of IoT services
- Provides useful insights for preventive and predictive maintenance
- Integrates easily with third-party applications
- Cost savings from lower capital investment in infrastructure and solutions
- Reduces the inconvenience of managing different systems from multiple vendors
- Secure operation and control

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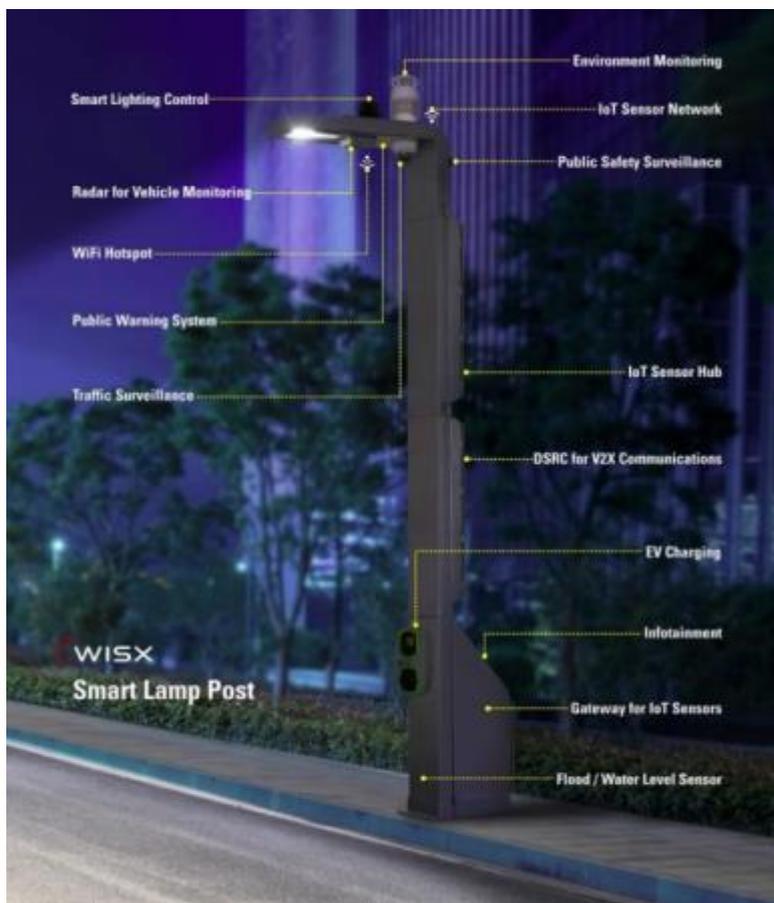
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WISX Smart Lamp Post

The WISX Smart Lamp Post is designed to enable innovative IoT solutions and applications by transforming them into an interconnected network of various sensors. Data from the sensors is collected and analysed to provide insights that can be used to enhance city and operational planning, provide prompt response to incidents, and enable preventive and predictive maintenance.



Healthcare Analytics: Hospital Operations Centre

The Hospital Operations Centre (HOC) is an analytics-based, integrated Command, Control and Communications (C3) system that empowers hospitals to effectively manage resources, improve response time and lower operational costs, while enhancing patient experience. The

HOC enables hospitals to optimise the deployment of resources to mitigate the impact of incidents to ensure efficient, coordinated and timely operations.

Ingesting data from diverse information sources, the HOC provides real-time situational awareness in a single visualisation, activation of electronic standard operating procedures, as well as timely updates to internal and external management for collaborative decision-making. The HOC will provide data-driven insights for better alignment of processes and manpower to optimise hospital operations, as well as for better crisis management, enhancing the overall operational efficiency of hospitals.

Smart Mobility

Data-Driven Next Gen Traffic Management Platform

Smart Analytics to Provide Better Insights for 'Proactive' Traffic Management



The Data-Driven Next Gen Traffic Management Platform is an advanced smart analytics solution designed to collate and analyse huge amounts of live and historical data to better assess, forecast and manage traffic conditions.

The platform utilises advanced algorithms, data analytics and machine learning to empower city planners and traffic operators with a better understanding of a city's traffic profile. It combines the precious 'experiences' of traffic operators, with deep understanding of traffic

patterns and trends, to forecast and enable 'proactive' management of traffic and incident response.

Key Benefits:

- Provides better insights and real-time evaluation of traffic networks by utilising advanced algorithms, analytics and machine learning
- Forecasts traffic conditions with real-time and historical traffic information
- Enhances situational awareness with deep learning of traffic patterns and trends
- Improves detection and responsiveness to traffic anomalies instead of relying on visual feedback
- Focuses attention of traffic operators on areas of concern with intuitive visualisation (eg. charts, graphs and maps)

Smart Aviation: Next-Generation Airport Operations Centre System

The Airport Operations Centre System presents a unique solution for smooth and effective airport management with a comprehensive overview of critical operations in the dynamic airport environment. Key decision makers will have direct access to relevant mission-critical information, enabling them to make quicker and smarter decisions.

Developed to manage complex situations through collaborative decision-making with multiple stakeholders, the system empowers users to fully optimise operations, resources and capacity through smart information use.

Smart Maritime: Vessel Operations Centre

The Vessel Operations Centre is a comprehensive vessel management suite designed to empower fleet owners to manage and optimise fleet operations across different locations. Leveraging real-time vessel data, fleet owners can manage operations such as remote diagnostic, fuel optimisation, condition-based maintenance, and geo-fencing alerts.

Developed with an in-house Common Application Platform, the customisable and modularised system offers flexibility and ease of integration to existing infrastructure.

Coupled with smart analytics capabilities, the solution provides over-the-horizon early warning and contextual insights for vessel owners to make timely decisions.

Smart Logistics

The Smart Logistics solution is an analytics-based time-cost-disruption geographic information system visualisation tool to support supply chain operation and management for more informed decision-making. The visualisation tool displays and analyses real-time supply chain and logistics data, which includes routes, locations, travel times, cost, real-time disruptions and more. It will help decision makers discover the most time-saving and cost-effective solution, and identify potential disruption through predictive analytics, so that risks of these disruptions can be pre-empted, mitigated and reduced.

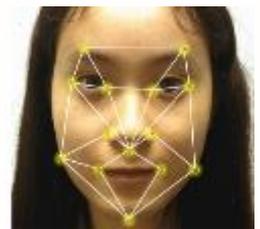
Smart Security

Multi-Modular Biometrics Solutions

SecurNet, an Integrated Security Management System developed in-house, features a next-generation Automated Identity Verification System that goes beyond the use of smartcards. The multi-modal authentication system complements the smartcard by utilising proven biometrics technologies in facial, iris and contactless palm vein recognition to grant authorised access. The one-stop self-registration kiosk provides users with the convenience to self-register their different biometrics at the same time. This will help to increase operational efficiency by reducing the manpower needed to man counters and visitor passes.

Key Features:

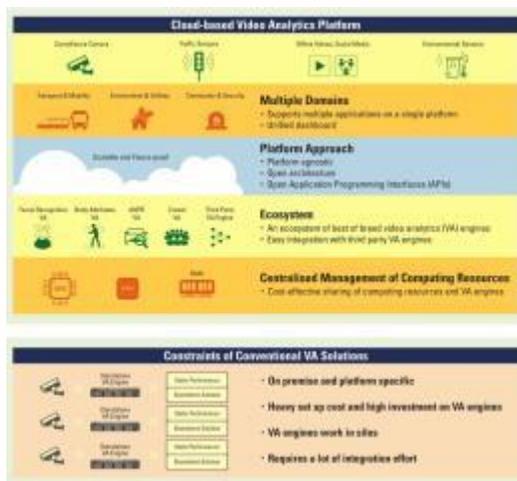
- Captures a high quality face image simultaneously with iris image
- Fast and highly intuitive with a typical capture time of less than one second from proper positioning
- Advanced, proprietary stereoscopic eye localisation
- Real-time image quality metrics
- Wide inter-pupillary distance range, making it ideal for large scale, public authentication programs
- Iris image output meets ISO 19794-6 2011 standard



Video Analytics Platform

One Platform for Different Video Analytics Engines

The Video Analytics Platform is an open architecture cloud-based system that manages different video analytics (VA) engines on a single platform. Users will no longer need to worry about compatibility issues as it is customisable and agnostic to various VA engines. It is scalable and offers users the flexibility to scale up or add VA engines to meet changing operational requirements.



VR Incident Response Trainer

Designed to train defence and frontline officers for urban operations, the VR Incident Response Trainer sharpens situational awareness and use-of-force judgement skills when handling incidents and threats.

Harnessing the latest Virtual Reality (VR) technologies, the system delivers realistic scenario-based training for individuals and teams, and tracks and assesses their response with a training analytics system. During the training session, officers are equipped with VR-enabled weapons and omni-directional treadmills that enable freedom of movement while interacting with the virtual world.



Key Capabilities:

- Realistic VR Training with simulated scenarios and weapons
- Localised and dynamic training scenarios that recreates on-the-ground situations
- High-fidelity local environments, characters and vehicles
- Caters to individuals and teams
- Training analytics that tracks performance

Trusted Enterprise Solution

The Trusted Enterprise Solution is a comprehensive suite of indigenous hardware-defined cybersecurity products designed to fit seamlessly into any enterprise security architecture, allowing customers to secure and access sensitive information on the go, anytime, anywhere in a trusted working environment. The solution comprises of four segments:

(1) Trusted Workspace

The Trusted Workspace offers users the ease of security while working on both internet and intranet securely without compromising productivity. It serves as a sensor to protect organisations from insider threats and remote users as it is able to manage and push down policies from the backend, such as dynamic white listing of USBs, and perform remote forensic from the command centre immediately upon any detection of threats.

(2) Trusted Communication

The Trusted Communication offers users the ease and complete privacy for voice and instant messaging communications as they can communicate and connect securely while on-the-go, anytime and anywhere with instant messaging, multimedia, attachment and voice features.

(3) Trusted Network

The Trusted Network secures and connects organisations' network to multiple sites on Public Internet/Private Ethernet/Private IP infrastructure. Its customised encryption is ideal for different security requirements and applications. Enhancing security on the move, it also has a portable and compact IP encryptor that enables the user to access corporate resources securely through public/private WiFi and network securely via public registrations.

(4) Trusted Storage

The Trusted Storage enables users to store their information securely while on the move with its portable USB Encrypting Hard Drive with two factor smartcard technologies for authentication.

Black Computer

The Black Computer allows users to operate in both trusted (intranet) and untrusted (internet) environments securely and conveniently without compromising productivity. The system safely performs isolation in guarding against any exploitation, such as ransomware, through its hardware-defined segregation technology.



Black Computer D100 (Desktop Version)



Black Computer D100 (Desktop Version)

Key Features:

- Performs Network Isolation
A single computer platform with dual computing capabilities and hardware-defined segregation technology, it allows users to safely access the unsafe internet and

secured enterprise intranet at the same time without compromising productivity and efficiency.

- **Secure with Ease**
With just a simple reboot of the system and without any need for operating system and security updates, it is able to neutralise threats repeatedly.
- **Security Layered Approach**
The laptop version is first in the world to have secure BIOS level separation. Each security layer enhances defence mechanisms to different threats.
- **Remote Management and Forensics**
It serves as a sensor to protect organisations against insider threats and remote users as it is able to manage and push down policies from the backend, such as dynamic white listing of USBs, and perform remote forensic from the command centre immediately upon any detection of threats

Data Diode

Many IoT networks are not designed with full cybersecurity protection. When integrating these networks to achieve operational effectiveness and cost efficiency, cyber risks are aggregated. The Data Diode can securely support the unidirectional aggregation of IoT data streams into the backend IT system for big data analysis.

Key Features:

- **Information Assurance by Design** – Ensures no leakage of data due to hardware-enforced one-way communication.
- **High Throughput and Robust Performance** - Configurable for High Availability
- **Compact Design** - Reduces space required when deployed as all functionalities can be encapsulated within the servers
- **Ease of System Integration and Customisation** - Supports multiple IT and Industrial Control Systems (ICS) / Supervisory control and data acquisition (SCADA) networking protocols and is customisable to any operational requirements.

- Highest level of Certification and Recognition – certified under National IT Evaluation Scheme (NITES)