

SUCCESS STORY

THE ASUS PE200U ENHANCES
PATIENT SAFETY IN OPERATING ROOMS

WHY ASUS IOT ?

**Quality**

Industrial-grade PCs designed to meet the demands of item recognition software and form-factors for Smart Hospital

**Functionality**

Versatile I/O ports and WiFi connectivity for superior system expandability

**Service**

World-leading service capabilities and long-term technical support

Our Customer

Smart Sensing Ltd. is an AIoT company incubated by HKSTP for providing smart city and business intelligence solutions with self-developed data analytics platform. The company develops AI-enabled IoT sensing technologies for smart city data acquisition. The sensing technology can be applied to various smart city applications such as property management by improving operational efficiency and customer journey experience. One of company's recent targeted markets is smart property management in different scenarios including shopping mall, exhibition hall, hotel, museum, hospital, etc. The company has been great success in RF sensing and will extend the sensing technology with video by AI-powered smart cameras.

The Challenge

Maximizing process efficiency while minimizing development costs and human error

A retained foreign object refers to any type of surgical instrument or material accidentally retained inpatient's body after surgery or clinical procedure. Because retained surgical objects will cause infection, even internal damage, those situations may lead to constitute medical malpractice. Therefore, most hospitals tend to create checklists, tracking,

and routines for surgeons and nurses, decreasing unnecessary harm and medical malpractice. Chin Fong Machine Industrial turned to ASUS IoT.

The Solution

ASUS PE200U Industrial PC with Item Recognition automatic medical equipment identification solution adopted in Hong Kong

Smart-Sensing developed an in-house AI algorithm with ASUS IoT PE200U edge computers for item recognition training models to reduce the risk of guidewire retention in a patient's body after a clinical procedure or surgery, as known as insertion of a central venous catheter (CVC), and this system is used in hospital operating rooms. The system first will indicate the number of guidewires for the nurse to confirm. Then, the nurse after identifying the guidewires and will take the photo and upload it to the system containing the guidewires and other entangled medical instruments with a smartphone or tablet. Based on the object recognition and data techniques of the AI image-based system, it will detect the guidewires and double-check the manual count in real-time accurately.

The PE200U edge computer comes in a compact size, at 254 mm tall, 147 mm wide and 57 mm long, and it offers stable computing performance and low-power consumption for

installation in a 24x7x365 hospital environment. The fan-less thermal design not only prevents dust accumulation and establishes quiet operation in operating room, but it also facilitates hygiene control and environment management by avoiding convection that may result in cross-infections. Meanwhile, its diverse I/O interface and expansion options allow integration with multiple medical devices. Moreover, ASUS IoT offers world-class after-sales service and a long-term availability guarantee to accommodate hospital customer needs. Finally, as a global technology powerhouse, ASUS always strives to ensure that customers have the components they need for timely and successful deployment.

The Outcome

Precise AI solutions to enhance patient safety in operating rooms

With the PE200U edge computer, hospitals have successfully reduced the time needed for equipment check-up. Most importantly, have reduce the risk of guidewire retention inpatient's body after having a clinical procedure, also patient safety is much more emphasized.

The new and various techniques, instruments, and technology used for surgical procedures make correct decisions critically important. ASUS IoT which can accurately and promptly recognize all the used guidewires removed from patients' bodies without missing, is highly reliable in enhancing patient safety. By assisting our customers in implementing smart hospital AI applications, ASUS IoT tries to build a safer operating room and a patient-centric hospital environment. ASUS IoT is a living demonstration proving how smart hospital development can boost efficiency, and make sure patient safety.



"Our team has been devoted to AI applications in smart cities in recent years, to build Hong Kong into an intelligent living and working city for the Greater China region. We look forward to collaborating with ASUS IoT to create more innovative, connected and efficient IoT solutions for our customers."

Co-Founder & CEO of Smart Sensing Ltd. **Dick Tang**

ASUS IoT
IN SEARCH OF INCREDIBLE

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