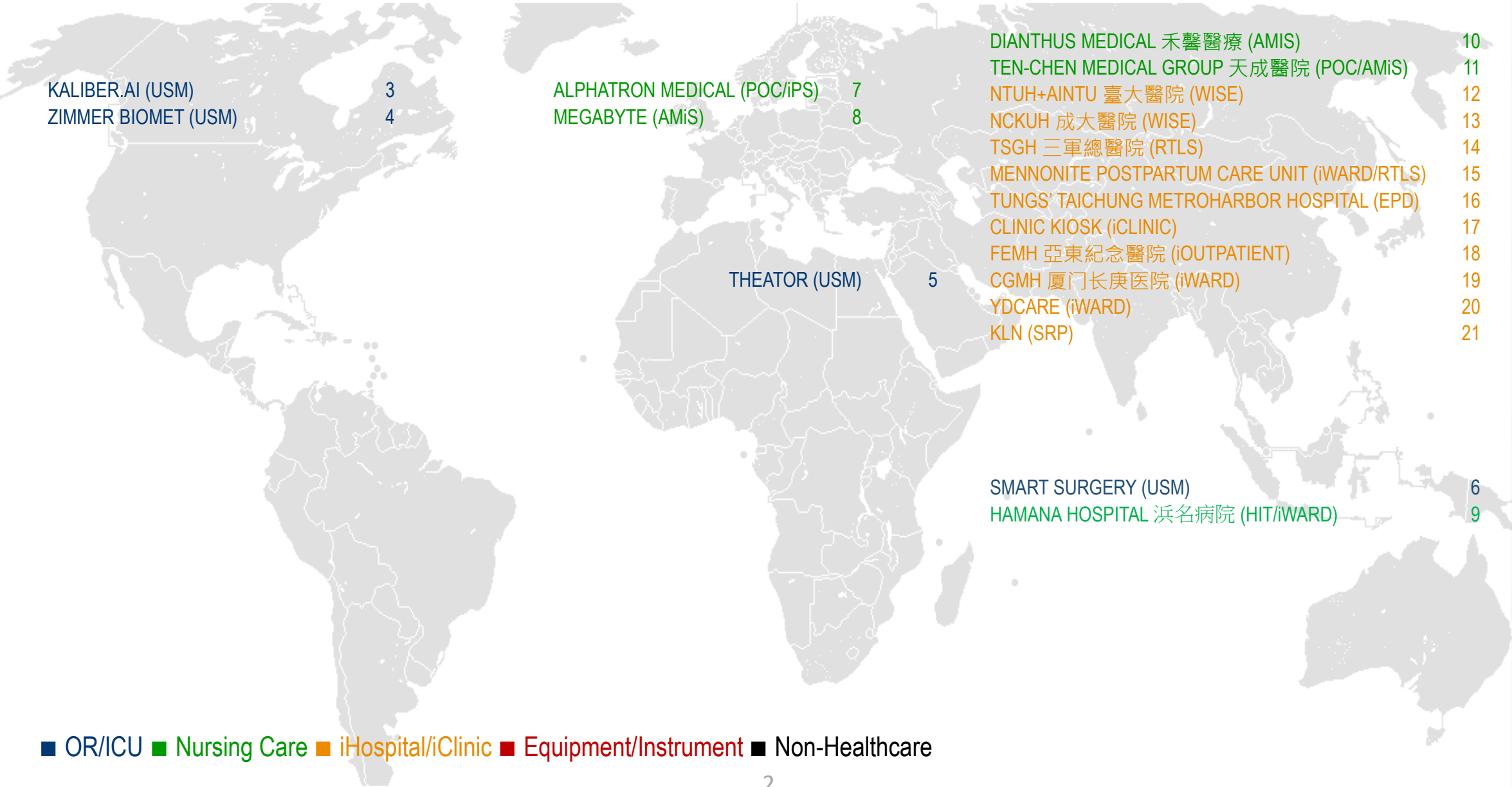


iHealthcare

Real World Applications & Case Studies

External Version – Customer Approved

Content



Innovating Surgical Care with Kaliber AI and Advantech USM-500

— Region —

United States

— Application / Solution —

Surgical Intelligent Analysis

— Product(s) —

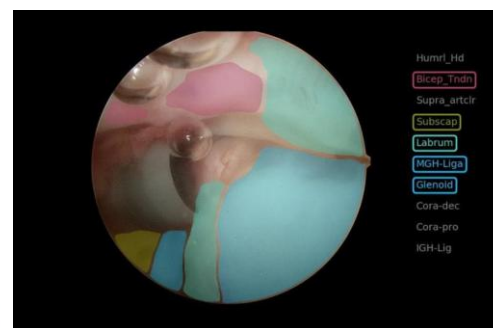


USM-500

kaliber.ai™



Arthroscopic Anatomy - Labeled through Kaliber AI



Customer Background & Feedback:

Kaliber builds AI-powered solutions to meet the needs of patients, surgeons, and administrators in arthroscopic surgery. Their system aims to improve surgical care by providing tools for pre-operative planning, intra-operative assistance, and post-operative monitoring. They are impressed with Advantech's USM-500 AI workstation, which utilizes NVIDIA RTX A4000 GPUs, for its efficiency and ability to integrate with their AI solutions.

Watch the case study on A-Connect: [Click here](#)



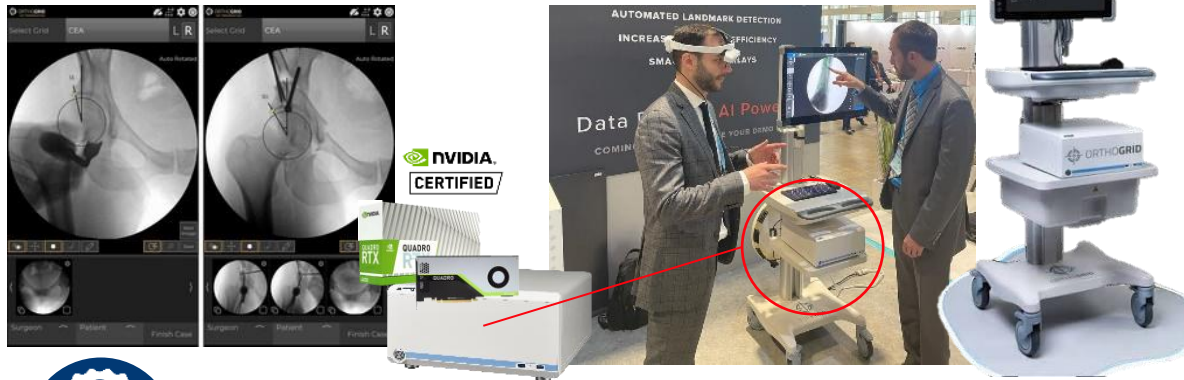
Advantech Winning Factor:

- **High-Performance AI Computing** – USM-500 with NVIDIA RTX A4000 accelerates surgical AI processing.
- **Medical-Grade Customization** – Flexible hardware integration meets Kaliber's specific clinical requirements.
- **Faster Solution Development** – Advantech expertise accelerates deployment from preoperative planning to intraoperative assistance.

ADVANTECH

Advancing Digital Orthopedic Surgery with Medical-Grade Edge AI Computing

— Region —	— Application / Solution —	— Product(s) —
United States	Digital Orthopedic Surgery	 USM-500



Customer Background & Feedback:

OrthoGrid develops AI-powered surgical navigation solutions for orthopedic procedures. To support real-time imaging, AI processing, and deployment in operating rooms, OrthoGrid sought a reliable medical-grade computing partner with long-term scalability and healthcare expertise.

To read more: [click here](#)

Advantech Winning Factor:

- Medical-certified Box PC (USM-500) platform for healthcare environments
- NVIDIA GPU compatibility and NVIDIA-certified hardware support
- Proven healthcare and medical imaging expertise
- End-to-end sourcing, manufacturing, and integration capabilities
- Reliable performance and long product lifecycle for clinical deployment



Non-healthcare
Equipment / Instrument
iHospital & iClinic
Nursing Care
OR/ICU

AI-Powered Technology Enables Surgical Video Capture and Improve Surgeon Performance

— Region —

Israel

— Application / Solution —

Surgical intelligence platform

— Product(s) —



USM-300

theator



Automatically captures surgical video.

Data
Input



Data
Output



Delivers fully annotated and categorized videos of surgical procedures with new insights.



Customer Background & Feedback:

Theator is a surgical intelligence company that uses AI and computer vision to transform real-world operating room video into structured clinical data. Their platform automatically analyzes procedures to identify safety milestones and intraoperative events, reducing care variability and complications. Notably, their technology auto-generates accurate, billing-ready operative reports directly from video footage to eliminate manual documentation burdens for surgeons.



Advantech Winning Factor:

- USM-300 delivers the edge computing foundation for AI-powered surgical intelligence with real-time performance and secure data orchestration.
- **4K Video Capture** – Zero-impact live video acquisition.
- **Edge AI Computing** – NVIDIA RTX A1000 GPU enables real-time encoding and privacy-compliant de-identification..
- **Cloud Connectivity** – Secure streaming for AI analytics.

ADVANTECH

Enhancing Surgical Precision with AI-Powered Anatomical Recognition

— Region —

Singapore/Taiwan

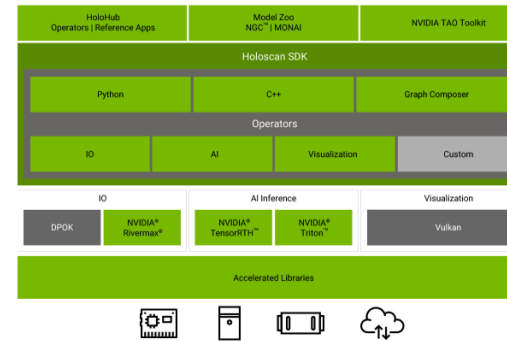
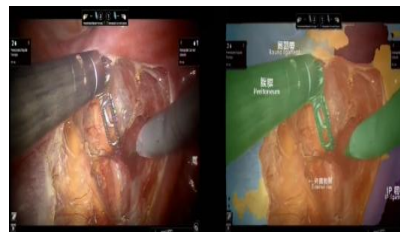
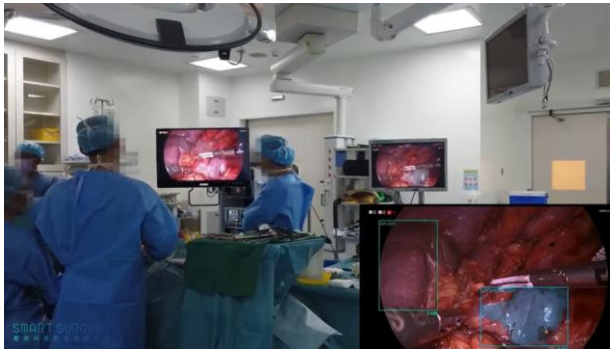
— Application / Solution —

Surgical Navigation Solution

— Product(s) —



USM-500 IGX



Enable Preoperative Training & Simulation

Enhance Real-Time Precision Navigation for Surgery

Empower Postoperative Surgical Analysis and Prediction



Customer Background & Feedback:

Medical centers in Singapore and Taiwan adopted the MISARS AI system powered by USM-500 IGX to address challenges in kidney transplant surgeries. This reduced surgical time by over 30% and lowered complication rates. Surgeons praised its real-time anatomical recognition, improved efficiency, and enhanced patient safety—proving AI's value in transforming complex procedures.

Watch the case study on A-Connect: [Click here](#)



Advantech Winning Factor:

- **Real-Time AI Processing** – USM-500 IGX with NVIDIA IGX and Holoscan enables low-latency AI inference.
- **Precise Anatomical Recognition** – Supports MISARS models for accurate artery, vein, and ureter detection.
- **Medical-Grade Reliability** – Robust platform ensures stable performance in demanding surgical environments.

Powering Reliable Mobile Care with Advanced Battery Integration

— Region —

Netherlands

— Application / Solution —

Cart Battery Solution

— Product(s) —

POC-4 & IPS-M420P

ALPHATRON
Medical

smartcart
BY ALPHATRON



Customer Background & Feedback:

Alphatron Medical is a Netherlands-based healthcare technology company specializing in integrated medical workflow solutions. To support reliable mobile clinical workflows, the company required a high-performance battery solution that delivers flexible battery integration, stable power output, and dependable operation for medical carts.



Advantech Winning Factor:

- **Proven Battery Expertise** – Trusted experience in medical cart power integration.
- **Flexible Battery Support** – Supports both Li-ion and LiFePO4 technologies.
- **Enhanced Power Performance** – Customized firmware and upgraded driver board boost power output.

ADVANTECH

Enabling Flexible Mobile Workstations for German Healthcare

— Region —

AEU

— Application / Solution —

Digital ward cart

— Product(s) —

AMIS-30EM

[megAsept]



Welcome to
[megAsept]
Medical
Computing

Here you will find products that have been specially developed for use in the healthcare sector. They meet the highest standards of performance and hygiene. We offer hospitals, doctors' surgeries and care facilities a wide range of computers and peripherals for the medical sector.



Customer Background & Feedback:

Megabyte Systemhaus GmbH is a long-standing Advantech channel partner in Germany, delivering medical IT solutions under its megAsept brand. Through this partnership, Advantech POC systems and AMiS medical carts have been deployed across multiple German hospitals and healthcare facilities to support mobile clinical workflows.



Advantech Winning Factor:

- **Long-Term Channel Partnership** – Strong collaboration enables responsive support for local healthcare requirements.
- **Flexible Cart Customization** – AMiS-30EM supports tailored options such as booklights and height-adjustable VESA mounting.
- **Flexible Power Integration** – Optional IPS-M420 LiFePO4 battery supports reliable mobile operation.

ADVANTECH

Fast and Secure Nursing Records via NFC Vitals Entry at Hamana Hospital

— Region —

Japan

— Application / Solution —

NFC Vital Sign input on BIT

— Product(s) —

iWard / HIT-312



Customer Background & Feedback:

- During ward rounds at Hamana Hospital, nurses faced heavy workloads in vital sign measurement and manual charting, which increased the risk of data entry errors and documentation delays.
- To streamline operations, a new workflow was implemented to automatically link bedside vital sign entry to the electronic medical record (EMR) system via a simple NFC touch.
- This deployment enables highly accurate documentation in a fraction of the time, significantly boosting nursing efficiency and enhancing patient safety.



Advantech Winning Factor:

- **NFC Verification:** Reliably links patients, measured values, and clinical destinations to ensure flawless vital sign documentation.
- **EMR Integration:** Eliminates manual transcription, greatly improving both data immediacy and record traceability.
- **Flexible UI/UX:** The screen layout can be customized to align perfectly with ward operations, user roles, and display needs.
- **High Scalability:** iWard serves as a scalable smart ward solution, optimized to fit diverse on-site clinical workflows.

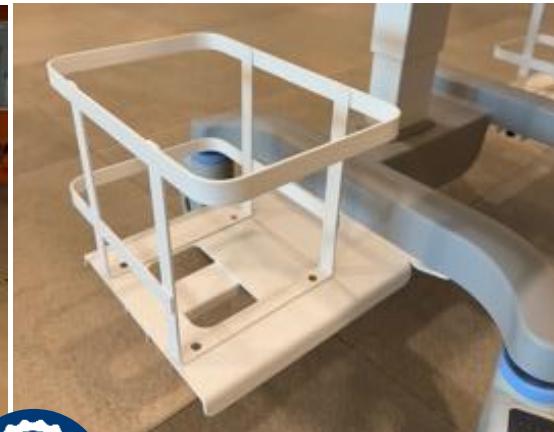
ADVANTECH

Enabling Smarter Nursing Workflows for Maternal Care

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Nursing Cart	AMiS-30E Motor Cart



禾馨醫療
DIANTHUS MEDICAL GROUP



Customer Background & Feedback:

Dianthus Medical Group is a premier OB/GYN clinic in Taiwan, known for its high-end care. To support their clinical workflow—including electronic medical record (EMR) charting and medication administration—they require lightweight, tech-forward nursing carts designed specifically for their baby rooms and labor wards.



Advantech Winning Factor:

- **Clinic-Friendly Design** – Lightweight, minimalist design blends seamlessly into clinical environments.
- **Extended Mobile Operation** – 6-hour battery life supports flexible, uninterrupted workflows.
- **Customized Storage Integration** – Tailored waste-bin holder and modular drawers improve daily usability.

ADVANTECH

Stationary Automated Dispensing Cabinet (ADC) for nursing station

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Stationary ADC for STAT medication administration	AMiS-870 (Cabinet) POC-421 (Control Computer)



Customer Background & Feedback:

Tien-Chen Medical Group is a regional hospital system in Taiwan. Due to shortages in nursing and pharmacy staff, the turnaround time for STAT medication orders for inpatients is significantly long; it often takes over 50 minutes from the time an order is placed until the patient actually receives the medication. Therefore, there is a need to implement ADC solution at nursing stations to reduce waiting times.

Advantech Winning Factor:

- **Flexible Medication Storage** – Modular bin sizes support diverse medication needs.
- **Scalable System Architecture** – Multiple cabinets connect to a single control platform.
- **Smart & Seamless Integration** – RFID tracking and RESTful APIs enable real-time medication management

Turning Emergency AI into Real-World Clinical Intelligence

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Emergency AI Capstone Project	WISE-STACK WISE-IoTSuite



NTU AI Center Prediction Models
Triage Model – Triage Index
Medical History Analysis Model
Real-time Risk Identification – Tuberculosis
Real-time Risk Identification – Pneumothorax
Real-time Risk Identification – Catheter
Cardiac Arrest Prognosis Model
Safe Discharge – Revisits within 3 days
Safe Discharge – ER Observation Death
Safe Discharge – Hospitalization Prediction
Safe Discharge – Over 24 hours
Safe Discharge – Similar Cases
Critical Condition

- AI Triage
- Disease Prediction
- Risk Detection
- Safe Discharge
- Early Warning



Customer Background & Feedback:

National Taiwan University Hospital is advancing AI adoption in emergency care by integrating clinical data, AI prediction models, and real-time operational insights into daily workflows. The project aims to support faster clinical decisions, optimize patient flow and resource allocation, and ultimately improve emergency care efficiency and outcomes.



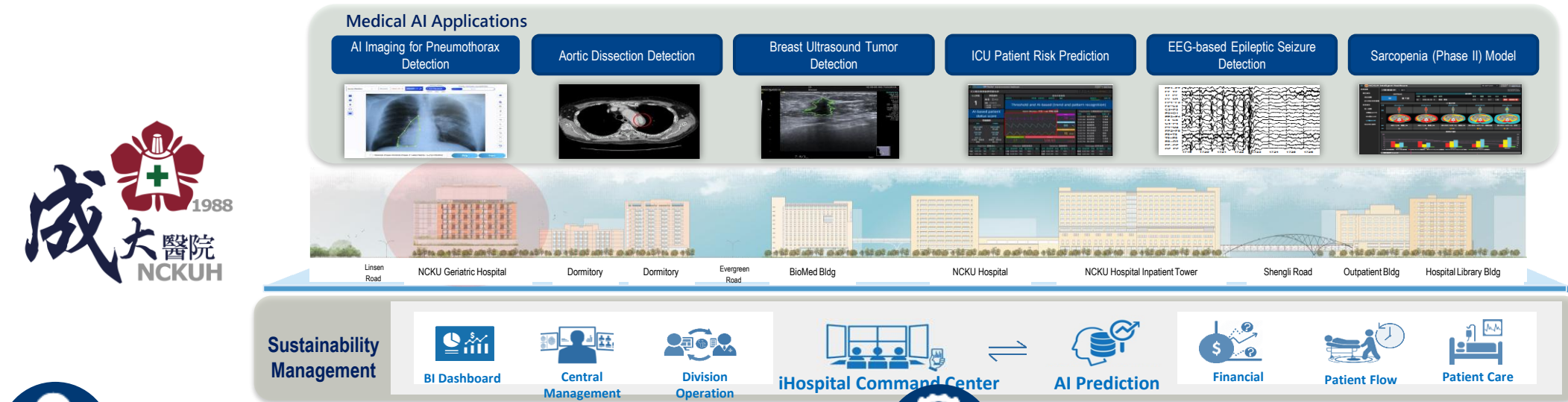
Advantech Winning Factor:

- **Integrated AI Infrastructure** – Private cloud and edge computing provide a secure, scalable foundation for clinical AI.
- **Unified Data & AI Platform** – Integrates HIS, EMR, RTLS, and clinical data with multiple AI prediction models.
- **From Research to Clinical Practice** – Enables AI models to be rapidly deployed into real emergency workflows and decision support.

ADVANTECH

Building the Future Hospital with an AI-Ready Digital Platform

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Command Center (AI-Ready Hospital Platform)	WISE-IoTSuite



Customer Background & Feedback:

National Cheng Kung University Hospital is advancing its Future Hospital vision through a unified digital platform that connects clinical data, AI applications, and hospital operations. The platform provides the foundation for expanding AI-enabled healthcare services and smarter hospital management.



Advantech Winning Factor:

- **Unified Digital Platform** – Integrates cloud, data, and AI services within one architecture.
- **Scalable AI Enablement** – Supports deployment and expansion of diverse clinical AI applications.
- **Smart Hospital Integration** – Connects clinical intelligence with hospital operations and management.

Transforming Emergency Care with Real-Time Intelligence

— Region —

Taiwan

— Application / Solution —

Emergency Department
Equipment Tracking

— Product(s) —

RTLS



Customer Background & Feedback:

Tri-Service General Hospital launched a smart emergency department initiative to integrate patient workflows, real-time location tracking, and information displays. Inspired by the smart ED at Pingtung Veterans General Hospital, the project aims to create a more efficient, secure, and data-driven emergency care environment.



Advantech Winning Factor:

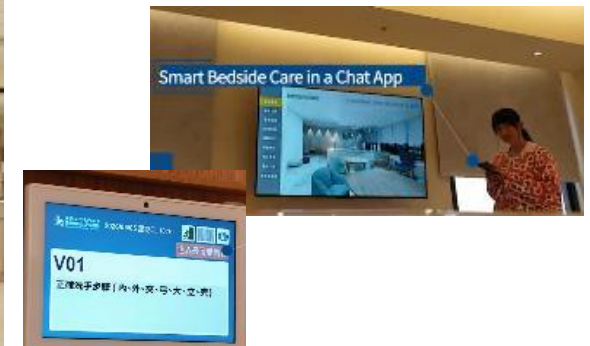
- **Integrated Smart ED Platform** – Connects workflows, location tracking, and information systems.
- **Real-Time Location Intelligence** – Enables accurate patient tracking and greater operational visibility.
- **Deep Clinical Workflow Expertise** – Flexible applications adapt to complex emergency department needs.

Advancing Postpartum Care with Intelligent Ward Solutions

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Smart Postpartum Care Center	iWard 、RTLS



門諾產後護理之家



Customer Background & Feedback:

To address space constraints and growing demand for integrated care, Menonite Hospital established a new Healthcare Management Building that brings specialized services together under one roof. Its Postpartum Care Center leverages smart healthcare solutions to enhance maternal and neonatal care, creating a more connected and family-centered care experience.



Advantech Winning Factor:

- **Proven Ward Integration Expertise** – Extensive experience enables intelligent postpartum care workflows.
- **Integrated Software & Hardware** – Flexible solutions address diverse clinical application requirements.
- **Sustainable Hospital Enablement** – Energy management supports green building and smart hospital initiatives

Divers digital information display in hospital with ePaper solution

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Patient information display	EPD-662-W EPM-288、EPD-333-Z



Customer Background & Feedback:

As part of its commitment to ESG and paperless operations, Tungs' Taichung MetroHarbor Hospital has implemented e-paper solutions across its facilities, including general wards, ICUs, operating rooms, and postpartum centers. By replacing traditional paper charts with system-integrated e-paper devices, the hospital now enables automatic data updates, greatly reducing the manual transcription workload for nursing staff.



Advantech Winning Factor:

- **Flexible Form Factors** – Multiple sizes support diverse hospital department requirements.
- **Centralized Device Management** – DeviceOn/ePaper enables unified control across different device models.
- **Seamless HIS Integration** – Standardized APIs simplify integration with hospital information systems.

Enabling Convenient Self-Service for Smarter Clinics

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Self-Service Clinic Check-In & Payment	Clinic Kiosk



Customer Background & Feedback:

Across multiple clinics, staffing shortages and growing administrative workloads have created increasing pressure on front-desk operations. To improve efficiency, clinic operators introduced self-service check-in and payment kiosks, allowing patients to complete routine processes independently while reducing repetitive tasks for staff.



Advantech Winning Factor:

- **Space-Saving Design** – Compact footprint fits clinics with limited space.
- **Intuitive User Experience** – Large-screen guidance and voice prompts simplify operation.
- **Flexible Payment Options** – Supports both cash and electronic payments for greater convenience.

Streamlining Patient Journeys with Intelligent Queuing & Flow Management

— Region —	— Application / Solution —	— Product(s) —
Taiwan	Hospital Clinic Check-In & Queuing System	iOutpatient



Customer Background & Feedback:

Far Eastern Memorial Hospital sought to streamline check-in and queuing workflows across outpatient clinics, examination rooms, the pharmacy, and administrative counters through an intelligent patient-flow management system. The solution integrates with the hospital information system (HIS) while ensuring cybersecurity, personal data protection, system reliability, and future scalability.



Advantech Winning Factor:

- **Flexible & Scalable Platform** – Modular software and hardware adapt to diverse departmental workflows.
- **Seamless HIS Integration** – Standard APIs enable fast, reliable hospital data synchronization.
- **Secure Service Connectivity** – Secure interfaces support integration with third-party services such as LINE.

Advancing Smart Maternity Care with AI-Powered iWard

— Region —	— Application / Solution —	— Product(s) —
China	Smart Maternity Ward	iWard OBS Smart Maternity Solution



Customer Background & Feedback:

Xiamen Chang Gung Hospital is a leading tertiary hospital and an early adopter of AI-enabled obstetric care in China. Partnering with Advantech, the hospital deployed the iWard OBS Smart Maternity Solution across nursing stations, maternity wards, and bedside terminals to enhance obstetric workflows and patient care.

Advantech Winning Factor:

- **AI-Enabled Maternity Care** – Intelligent monitoring and analysis support maternal condition management.
- **Integrated Smart Ward Experience** – Connects nursing stations, bedside terminals, and digital patient information.
- **Enhanced Care Efficiency** – Customized digital workflows improve nursing efficiency and the patient experience.

Bringing Hospital-Grade Digital Care into the Home

— Region —	— Application / Solution —	— Product(s) —
Hong Kong, China	iHomecare Smart Homecare Platform	iWard Smart Ward Solution



Customer Background & Feedback:

YDCare, a homecare brand under NF Group, brings hospital-grade care standards and clinical workflows into the home. Partnering with Advantech, YDCare launched the iHomecare Smart Homecare Solution in Hong Kong, extending the proven iWard platform to enable more connected and digitalized homecare services.



Advantech Winning Factor:

- **Proven Digital Care Platform** – Extends iWard workflows from hospitals to homecare.
- **Flexible Workflow Adaptation** – Configurable interfaces support diverse homecare needs.
- **Secure Data Management** – Protects patient data with enterprise-grade security and compliance.

Enabling Smarter Medical Supply Management with a Customized SRP Solution

Non-healthcare
Equipment / Instrument
iHospital & iClinic
Nursing Care
OR/ICU

— Region —

Hong Kong, China

— Application / Solution —

Medical Supply
Management System

— Product(s) —

Customized SRP Solution



The screenshot shows the 'Report' form in the KLN Medical Supply Management System. The form includes fields for Customer (Taiwan Hospital), Group (IT), Item (Name Call Center), Item ID (202511051100019), Serial Number (7880110260), Address (No. 1, Alley 20, Lane 20, Ruiguang Road, Neihu District, Taipei 114, Taiwan, R.O.C.), Place (6 building 1F 3rd room), Project ID (50230716/Maintenance 2023-2025), Issue (Touch screen not work, System can't open), and Remark (AAA). The form also displays a 'Case ID: CA2025110600019' and a 'Create Time' of 2025/11/05 11:00.

The screenshot shows the 'Case Details' form for Case ID: CA2025110600019. The form includes fields for Status (Fresh), KLN Report (Checking materials), Files (two images of a medical device), and a 'Create Time' of 2025/11/05 11:00. The form also displays a 'Case ID: CA2025110600019' and a 'Create Time' of 2025/11/05 11:00.



Customer Background & Feedback:

KLN Medical provides medical devices and healthcare solutions across Hong Kong and Southeast Asia. To strengthen medical supply management, the company partnered with Advantech to develop a customized platform that supports more efficient and reliable healthcare operations.



Advantech Winning Factor:

- **Complete Solution Planning** – End-to-end proposal aligned with customer requirements and business value.
- **Flexible Design-In Support** – Customized implementation addresses specific workflow needs.
- **Deployment & Validation Expertise** – Comprehensive planning and testing ensure reliable system rollout.

ADVANTECH

Enabling an Intelligent Planet

Edge Computing &
AI-Powered WISE Solutions