ADVANTECH
Enabling an Intelligent Planet

ePaper for Healthcare

Session1: Advantech ePaper Solution and Architecture.

1. EPD-258 25.3” color ePaper
2. EPD-662 13.3” red/black/white ePaper
3. EPD-707 7.3” color ePaper
4. EPD-232 2.9” red/black/white ePaper

Session 2: ePaper Module / Design-in Architecture

1. Medical Equipment

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EIOT / IPG / ePD

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Wireless ePaper: Transforming Businesses towards Carbon Neutrality

Smart Building & Transportation

Medical Equipment

Design-in Services

Factory Automation

DeviceOn/ePaper

DeviceOn/ePaper Remote management

- >10,000 ePaper devices and ePaper type
- Variety of connectivity (NFC, BLE, WIFI, LTE..)
- Utility, APIs and sample code ready.
- Easy to integrate different applications.

Device management

- Remote control
- Monitor report
- Status Monitor

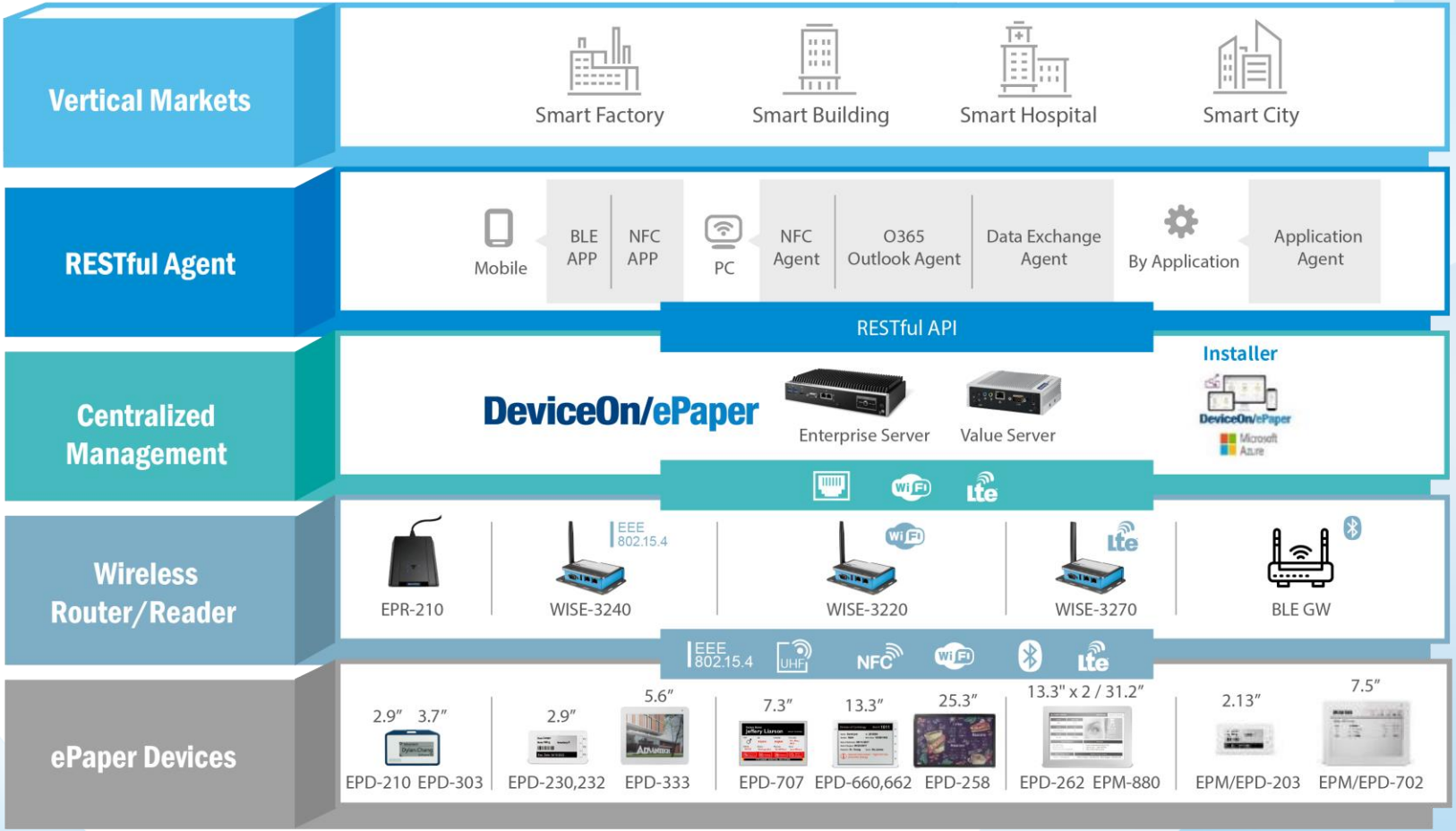
Service management

- FW OTA
- Image and task delivery
- Scheduling and Event

Image generator management

- Layout designer utility
- Drag-and -Drop image component
- Image processing and generation

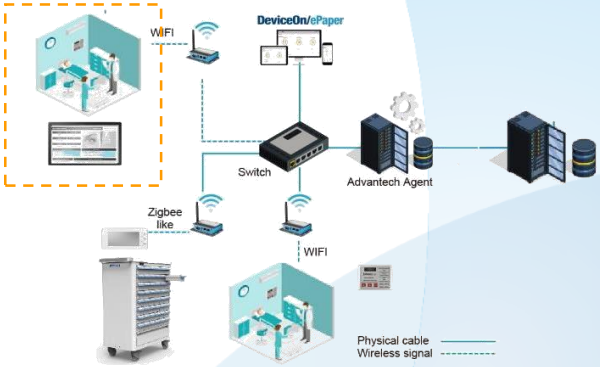
DeviceOn/ePaper Solution Architecture



A Design Win: The EPD-258 Ward Dashboard

25.3” Color ePaper Update Patient information for Hospital Wards

The Taichung Hospital in Taiwan adopted Advantech’s ePaper solution for its health examination dashboard to process tasks more efficiently. Through the use of technology, routine exam procedures and vital information can be easily delivered to patients, correctly and efficiently. This gives medical staff more time to focus on patients, improving the quality of care.



ePaper, when installed in nursing stations shows the ward information and announcements that would have been printed on paper and manually posted at designated locations in each room and at the floor
nursing stations. Whenever a patient leaves, the ePaper will automatically be updated. This digital tool not
only brings convenience but also significantly reduces the use of paper.

The Advantech EPD-258 comes with 2.4GHz Wi-Fi and full-color ePaper. Display cards, meeting room signage, and production bulletin boards are easily deployed without the need for extra network infrastructure. Without a backlight, patients get better rest and end users have a better experience. Through real-time status updates, doctors and nurses can reduce the time and effort spent checking data. This also helps hospitals move closer to the goal of sustainable zero carbon emissions.

Benefit

- No backlight necessary
- Paperless with ultra-low power consumption
- Wide viewing angles and clear contrast for a better end-user experience
- Easy wireless deployment without the need for an extra server
- Displays information when the unit is unplugged and retains data while the power is off

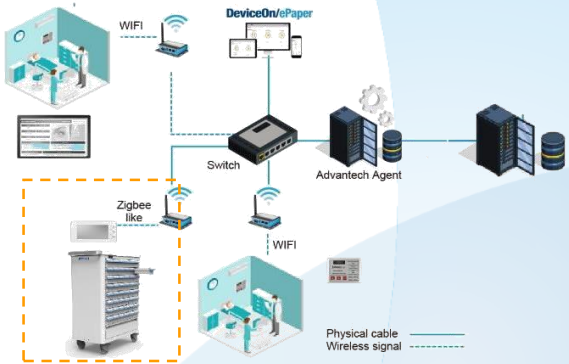
Design-win : EPD-232 Hospital Medication

2.9” ePaper enhance medication safety, streamline medical professionals’ workflow

The medication dispensing process is considered one of the most error-prone areas of healthcare because of the many tedious human interventions required to deliver medication from the hospital pharmacy to the patient, and even with a well-established management system, the risk of potential oversight during manual checks is inevitable. Therefore, the Internet of Things (IoT) with ePaper to visualize the information is the only way enhance drug safety and reduce the pressure on nursing staff to worry about errors.

EPD-232 can visualize clinical medication administration, including drug names, quantity, and dosage to reduce human error . EPD-232 optimizes medical professionals workflow and patient care, Easy to track and Inventory control. In fact, ePaper solution offers medical staffs enhanced control over the medication dispensing process.

Advantech EPD-232 come with 2.4GHz Zigbee Like and red/black/white color ePaper , which is aimed at helping hospitals enhance medication safety, streamline medical professionals’ workflow, and thus provide more patient-centered care. The system automatically records the operator, time, consumption, and return quantity. Above information can be shown on ePaper and allow for efficient medication retrieval and dispensing, saving manpower and time. Lastly, EPM-203 2.13” ePaper device with BLE 5 will be ready in June 2024 , and it will bring ePaper even more user friendly in the future.



Benefit

- ePaper Visualization process to Raising Working efficiency with clearly information
- Reducing papers and paper works
- Improving patient care qualities
- Improve the efficiency of medical communication

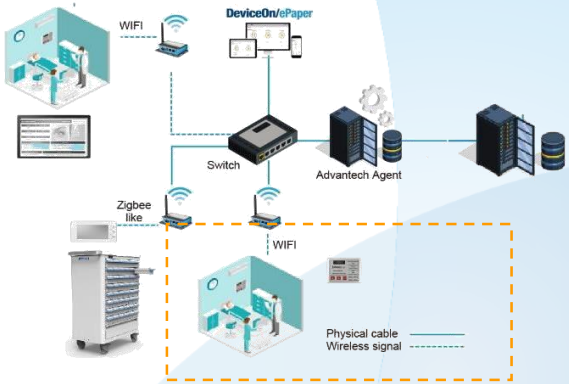
Design-win : EPD-662 Hospital Bed Card

13.3” ePaper show Patients status and streamline patient’s medical care process

The Taoyuan and Pingtung Hospital in Taiwan adopted Advantech’s ePaper solution for its digital bedside cards to help primary healthcare providers complete daily tasks more efficiently. By significantly reducing staff workloads, this solution improves doctor–patient relations and enables the provision of enhanced medical care.

Moreover, one of the most important goals of promoting smart solutions in healthcare is reducing staff workloads. With the use of technology, routine procedures and vital tasks can be completed more efficiently. This gives medical staff more time to focus on patients, improving the quality of care delivered. Therefore, increased digitization allows patients’ physiological data to be analyzed for improved healthcare outcomes. These bedside cards can assist with numerous tasks ranging from traditional form input for digital record-taking to issuing name tags for identity confirmation, as well as notifying medical staff of patients’ specific needs.

Advantech EPD-662 comes with 2.4GHz Wi-Fi and red/black/white color ePaper. Bedside card, meeting room, and production Bulletin board are easily to be deployed with BLE APP, so that field deployment becomes easier without extra network infrastructure. Moreover, EPD-662’s power type is selectable. User can select DC-in while power source is easy to get. On the contrary, user also can select Li-battery while the power could not get easily. In fact , patients can get better rest and end users can get better user experience in ePaper like signage without backlight, and through real-time status and update, doctors and nurses reduce data checking time to make medical care procedure more focus and accurate.



Benefit

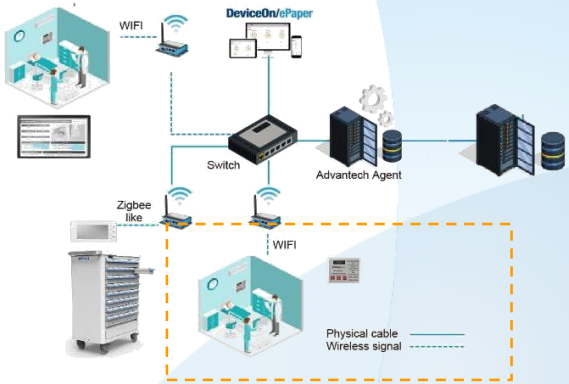
- View angel and clear contrast for better end-user experience.
- No backlight and to provide better env. for patient.
- Patient and Nursing people can know the schedule and status in real time without extra inquiry to nursing station.
- Wireless design for easy installation with current infrastructure

WIN

Design-win : EPD-707 Smart Baby Card

7.3” ePaper show baby’s identity and updated health condition for nursing and family

The Paper like screen to show new born baby identity and status is eager for the New born Baby Room due to the baby is need to be take care consistently. Previously, when a baby’s condition or diagnosis changed, their medical records and paperwork needed to be manually updated or even replaced entirely. This increased the likelihood of data errors and necessitated extra care to avoid misinterpretation and miscommunication. Replacing paper-based administration processes with the implementation of smart baby bedside cards helped eliminate these problems. These bedside cards can assist with numerous tasks ranging from traditional form input for digital record-taking to issuing name tags for identity confirmation, as well as notifying medical staff of patients’ specific needs. Smart baby cards display clear and accurate baby information in real time, providing medical staff, patients, and baby’s families with up-to-date information. This improves communication between doctors and family, as well as doctors and nursing staff.



Advantech 7.3” EPD-707 comes with 2.4GHz Wi-Fi and Black, White, Red, Yellow, Blue, Green, Orange color ePaper. Bedside card, meeting room, and production Bulletin board are easily to be deployed without extra network, so that field deployment becomes easier. Cable-less, battery and slim design can be easily install on the baby’s cart. Nursing people can easy know and update the information for baby without any hand written and reduce human error. In fact, nursing people can more focus on the baby medical care without extra paper work and baby can better nursing care and rest environment.

Benefit

- No backlight to affect baby’s sleeping
- Family and Nursing people can know the status in real time without paper work .
- Wireless and slim design for easy installation on baby cart.
- Medicine and treatment tracking clear to family and nursing people

ePaper Design-in Services

Advantech provides hardware and software integrated wireless ePaper solutions that accelerate the implementation of a wide range of applications. These solutions, comprising ePaper devices, routers, and DeviceOn/ ePaper management software, are used in smart warehouse, factory automation, medical equipment, and public workspaces. Besides the standard product, Advantech offers design-in service to create outstanding custom ePaper product in different application.

Select suitable Model for Quick kick-off

- Diverse STD model options for customization
- Multi-source to meet requirement
- Streamline development via standard products

Dedicated PM for Project Management

- Dedicated PM from RFQ to mass production
- Stringent NPI development process
- Products and components lifecycle management

Excellent technique R&D team support

- H/W (EE, ME, ID) team for industrial-grade quality
- S/W (Cloud, APPs, FW, API) team by demand
- RF (NFC, BLE, WIFI, LTE) team for antenna and EMI service
- Fine-Turn and verification

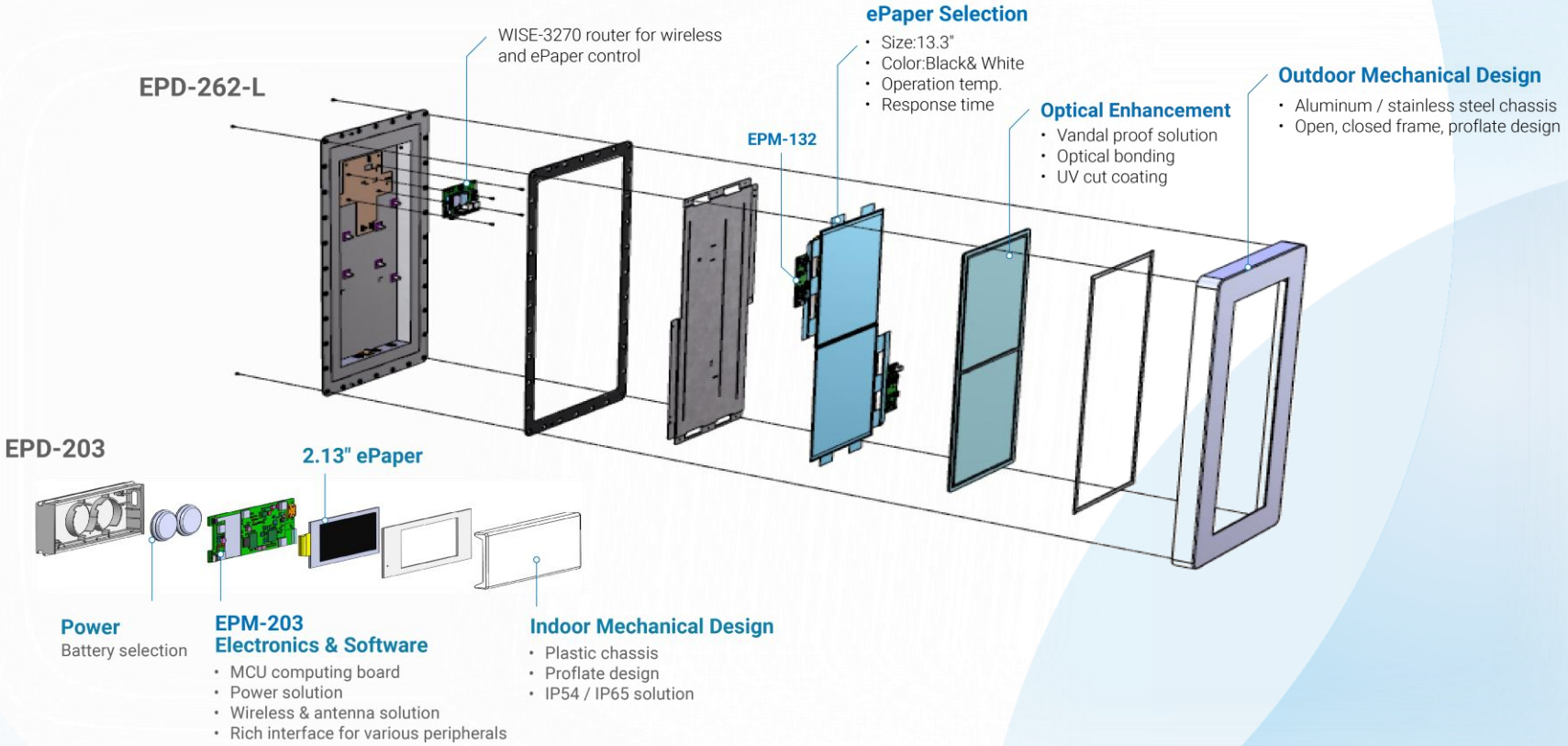
Feasible & Verified NPI Procedures

- Comprehensive DQA test flow
- Reliability and component compatibility tests
- RF, EMI, ISO, UL certification serevice

Reliability Enhancement of Global Operations

- Global certification Service
- Manufacturing services
- Local PSM and FAE support
- Logistics management
- Warranty service

Wireless ePaper DTOS Services



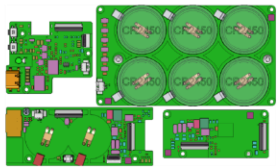
Industrial/Medical Equipment Builders & Smart Transportation

ePaper module with rich interface as a turnkey product

1. EPD-023B1 with UART,RS485
2. EPM-203 with I2C , USB , UART
3. EPM-702 with RS485, I2C , USB , UART
4. EEPD-130B1 , EPM-880 with USB

- Local agent / SW object, supporting Windows/Ubuntu
- Sample code for development
- Customization service available

Mainboard



1. NFC, BLE 5.4 supported
2. 2.x" ~ 31.5" ePD supported
3. Onboard antenna
4. LED & rich I/O interface: USB, UART, GPIO, SPI, I2C...
5. Battery holder

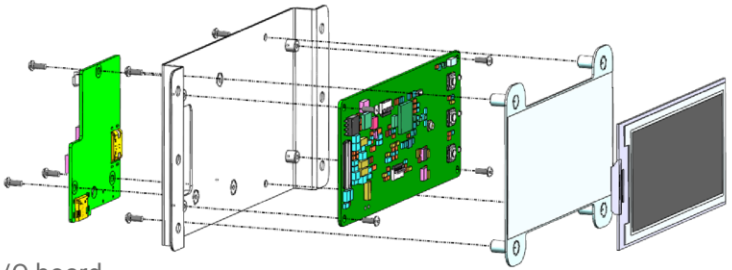
Extender Board

1. RS-232/485
2. SPI, I2C, GPIO
3. GPIO button

ePD I/F Converter

Supports all ePD in ADV

Advantech turnkey end-product platform



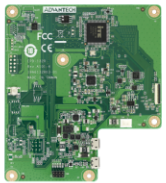
I/O board

MCU with BLE/antenna, LED/buttons, I/O control

Supports 2.x" ~ 31.2" Panel

Interface USB, I2C, UART, RS485

Customer's host board



Module-Level Architecture

Vertical Markets

Smart Factory | Smart Building | Smart Hospital | Smart City

Application System

Medical Equipment | Parking / EV Charger | AGV | Semiconductor | Medication | Battery Pack Display | Smart Lighting







API, WebSocket (user-defined)

Incorporation into Customer Designs

User's Host

User's Host | JPG | PNG

Send

DLL: Advantech Windows 10 Utility, Advantech Linux/Ubuntu Utility

SPI | USB Client, RS485 Secondary, I2C, UART

Show Image

Advantech ePaper Module w/ Open Frame Design


2.13" DTOS


EPM-203 2.13"


EPD-023B1 2.9"


EPM-404 EPM-507 , EPM-702


EPD-130B1 13.3"


EPM-880 31.2"

WIN

Implementing ePaper in Intelligent Healthcare Displays

How to Create ePaper-Specific Medical Equipment

The display module features a 2.13-inch Active matrix Electrophoretic Display (E-ink) with a resolution of 250 x 122 pixels. This setup allows the module to display the scanner's status without draining power. ePaper shows the equipment status, including battery level and maintenance record without needing power.

Efficient and precise customization service.
The design-in service allows customers to select suitable ePaper from our diverse standard models to get their projects started quickly. We also provide a multi-source approach for the custom options to meet requirements and streamline development using suitable standard products.

Customers can obtain total solutions through one-stop shopping with Advantech. Beyond software, our hardware can seamlessly integrate into complete solutions, offering end products with outstanding specifications. We strictly monitor reliability and run component compatibility tests to ensure we deliver products and systems of industrial-grade quality. These practices empower customers so they will know how to swiftly build fitting solutions.

Benefits

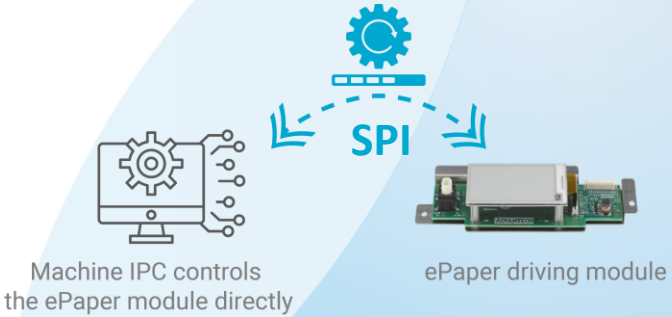
- Easy wireless deployment without an extra server
- Displays battery status when the unit is unplugged
- Extra low power consumption, and data is retained when the power is off

Key to win

Cooperating closely with the customer

Panel driving coding experience

Strict reliability test



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Go Together,
We Go Far and Grow Big