

# National Taipei University

## Transforming Smart Campuses with Sustainable Innovation National Taipei University's Pioneering E-Paper Timetable System

### BRIEF PROFILE

Place: Taiwan

Industry: Education

Solution:

- e-paper x 80

### A Vision for a Fully Smart Campus

The e-paper timetable is just the beginning of National Taipei University's smart campus journey. Future plans include integrating student and staff ID systems to enable smart access management and automated energy controls for classrooms. These applications aim to optimize campus resource allocation and boost overall operational efficiency.

Additionally, the university plans to share its successful timetable system model with other academic and non-academic institutions, promoting the broader adoption of smart technology solutions.

This collaboration demonstrates the limitless potential of e-paper technology in education and validates CAYIN Technology and Advantech's ability to deliver tailored, innovative solutions for their clients.



**National Taipei University, in collaboration with Advantech and CAYIN Technology, has developed an innovative and energy-efficient e-paper timetable system.**

This groundbreaking initiative is driving the university's digital transformation, advancing its vision of a smart campus while showcasing its commitment to ESG (Environmental, Social, and Governance) goals.

### The Birth of the E-Paper Timetable Combining Efficiency and Sustainability

In the rapidly changing education environment, National Taipei University faced challenges with frequent classroom schedule updates. Traditional paper-based timetables were inefficient and error-prone, especially as classrooms were not permanently assigned to specific teachers, and daily schedules varied depending on needs. Although LCD screens were used previously, the university aimed to take the lead in green initiatives and environmental responsibility.

To address these challenges, the university embraced e-paper technology to create a low-energy, highly visible smart timetable system. This move not only met the demand for real-time updates but also took a significant step toward environmental responsibility, reinforcing the university's ESG commitments with concrete actions.

# CAYIN Technology and Advantech Perfect Integration of Hardware and Software

CAYIN Technology's software solutions played a pivotal role in this project. By seamlessly integrating with National Taipei University's scheduling system, CAYIN automated the management and presentation of timetable data. Simultaneously, Advantech provided cutting-edge e-paper hardware and the DeviceOn platform to enable real-time updates and energy-efficient displays. Key highlights of this solution include:

## • Smart Integration :

CAYIN Technology's software automates data processing, paired with Advantech's panel design tools to deliver clear, accurate information without manual intervention.

## • Zero Operational Burden :

From deployment to daily management, the system runs fully automated, requiring no additional effort from university staff.

## • Innovative Display Features :

Timetable content switches automatically based on schedules, with reverse color highlights for easy identification of key information.

The solution prioritizes user experience, requiring only basic server and network infrastructure from the university to deploy the system quickly. This intuitive and efficient design makes the e-paper timetable an indispensable tool for campus management.



# A New Era for Smart Campuses

The launch of the e-paper timetable has delivered multiple benefits for National Taipei University:

## • Enhanced Teaching Efficiency :

The timetable's QR code-based attendance feature saves instructors time, collects attendance data for analysis, and supports teaching improvements. Automated reports further streamline administrative tasks.

## • Sustainability Leader :

Compared to LCD screens, e-paper displays consume power only during refreshes and require virtually no energy in standby mode, drastically reducing power consumption and reinforcing the university's commitment to environmental goals.

## • Upgraded Campus Image :

The paperless timetable system reflects the university's dual dedication to innovation and sustainability, significantly enhancing its reputation and brand value.

This project also aligns with National Taipei University's ESG strategy by integrating environmental sustainability with modern campus management, highlighting the institution's leadership in social and environmental responsibility.



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