Success Stories

Transforming Southeast Asian Rice Fields

Winmate's 12.3” Panel PC Driving Smart Automated Farming

Background

In the heart of Southeast Asia's lush landscapes, a quiet revolution is unfolding in the realm of agriculture. The utilization of Winmate's 12.3" Panel PC in smart automated farming is not only boosting efficiency but also addressing the impending labor shortage caused by an aging workforce. This article delves into the success story of Southeast Asian rice fields, where the integration of Winmate's technology has led to 20 cycles of plowing within 30 minutes, all managed by operators stationed at the fields' edge.

Core Products

W12MG3S-GSB1 - 12.3" ARM A78+A55 G-WIN GS-Series Full IP65 PCAP Panel PC

E430RQ8 - 4.3" Qualcomm® Snapdragon™ 660 Rugged handheld PDA

L156 Series - 15.6" Rugged Laptop

Main Challenges

Southeast Asia's agrarian traditions have long been the backbone of its economy. However, as the region's population ages and younger generations migrate to urban centers in search of alternative livelihoods, a pressing concern has emerged—the shortage of skilled agricultural workers. As the average age of farmers increases, the need for innovative solutions to maintain productivity becomes paramount.

Why Winmate

Enter Winmate's 12.3" Panel PC — a technological marvel designed to revolutionize the way Southeast Asian rice fields are cultivated. This advanced panel PC serves as the brain behind an ingenious automated farming system. Operated by personnel stationed at the fields, this system has become a lifeline for the region's agriculture, ensuring that the impending labor shortage does not translate into reduced yields.

- **Winmate's 12.3" Panel PC:**
  At the heart of this transformation lies the cutting-edge Panel PC. Its user-friendly interface and robust performance make it the ideal solution for the challenging environment of rice fields. Its compatibility with various sensors and automation systems further amplifies its utility.

- **Automated Machinery:**
  The seamless integration of Winmate's Panel PC with automated farming machinery has been a game-changer. These machines, equipped with sensors and guided by real-time data, execute precise plowing, planting, and harvesting operations.

- **Real-time Data Analytics:**
  The Panel PC collects and analyzes a wealth of data, including soil conditions, weather forecasts, and machinery performance. This data-driven approach empowers operators to make informed decisions that optimize farming practices.

The success of this smart automated farming endeavor is not a result of a single breakthrough but a culmination of innovation, collaboration, and determination.

- **Research and Development:**
  Engineers and agricultural experts collaborated to design and fine-tune the automated machinery, ensuring they are attuned to the specific demands of rice fields. The robustness of Winmate's Panel PC was crucial in this regard, as it seamlessly interfaced with various components.

- **Field Trials and Iteration:**
  Before its widespread adoption, the system underwent rigorous field trials. Operators provided valuable feedback that led to iterative improvements, refining the machinery's precision and enhancing the Panel PC's user interface.

- **Training and Knowledge Transfer:**
  A key aspect of the success story is the training provided to operators. While the system leverages cutting-edge technology, it remains accessible to those with varying levels of technical expertise. This knowledge transfer empowered operators to harness the system's full potential.

The impact of this transformation has been nothing short of remarkable. The integration of Winmate's Panel PC into smart automated farming has enabled 20 cycles of plowing within a mere 30 minutes — something that was previously unthinkable. This increased efficiency directly translates into higher yields and greater economic stability for farmers.

Moreover, the system's accessibility has rekindled interest in agriculture among younger generations. The blend of technology and tradition has imbued farming with a sense of modernity, making it an attractive endeavor for those who might have otherwise chosen different career paths.

The successful implementation of Winmate's 12.3" Panel PC in Southeast Asian rice fields stands as a beacon of hope for the agricultural sector facing an impending labor shortage. Through smart automated farming, the system has not only enhanced efficiency but also rejuvenated interest in agriculture. As the region continues to evolve, this case serves as a testament to the transformative power of technology, bridging tradition and innovation for a sustainable future.

Application Diagram

Related Products

Winmate **W12MG3S-GSB1**

- 12.3" 1920 x 720 panel with projected capacitive multitouch screen
- ARM 2 x A78 2.2GHz + 6 x A55 2.0GHz
- M12 waterproof connectors, IP65 waterproof and dustproof
- Shock and vibration resistance according to MIL-STD-810H
- Support Android 13 operating system
- Wide power input 10-60V DC with ignition

Winmate **E430RQ8**

- Qualcomm® Snapdragon™ 660 (Octa-core 2.2 GHz), Rugged handheld PDA
- 4.3" 800 x 480 Panel with direct optical bonding
- Optional 1D/2D Barcode Reader for data collection
- IP65 waterproof and dustproof
- Supports Android 9.0, android pocket computer

Winmate **L156AD**

- 13th generation Intel® Processor Family – Raptor Lake Processor
- 15.6" 4K Panel resolution with PCAP touch
- Optional discrete Nvidia Graphic card
- Dual battery with hot-swappable design for whole-day-work
- Anti-glare technology for sunlight readability
- Magnesium alloy enclosure with double injection for drop protection
- IP65 waterproof and dustproof
- Utilizing Nvidia T1000 and A2000 Graphic Cards