

Revolutionizing On-Truck Timber Volume Measurement with

Advanced 3D Imaging

On-truck timber measurement systems that leverage advanced 3D imaging are dramatically enhancing efficiency, safety, and accuracy throughout the forestry supply chain, revolutionizing how logs are gauged and managed.



Market Background

Accurate, efficient measurement of timber is vital for maintaining fair transactions, optimizing inventories, and supporting smooth operations across the forestry supply chain. Yet, traditional manual methods commonly cause delays, pose safety hazards, and fuel disputes over accuracy. To counter these issues, a specialized drive-through imaging system employs multiple camera-laser pairs and high-resolution cameras inside a 20-meter-long tent. This setup enables fast, reliable, and traceable log-truck measurements—completed in under 90 seconds.

The timber industry currently faces intense pressure to streamline processes and meet demanding delivery schedules. Mills, pulp producers, and biomass facilities require precise data to adhere to contracts and control costs. Simultaneously, the sector is turning to automation to mitigate the risks of manual measurement. With digital transformation sweeping through forestry, there is a clear demand for solutions that provide real-time, verifiable volume data.

Pain Points

Manual volume assessments are error-prone and often create truck queues, impacting productivity. Inconsistent or delayed data also complicates resource allocation. Climbing on truckloads to measure logs poses serious safety risks and can invite regulatory scrutiny. These challenges underscore the need for a more efficient, accurate, and worker-friendly measuring method.

The Drive-Through Imaging Solution

In this system, truck drivers register at a screen before entering a 20-meter tent. As the vehicle advances at low speed, six camera-laser pairs and six high-resolution cameras capture over 6,000 images per second. Powerful software 3D-calibrates these images to identify individual stacks and visible logs. Within roughly 30 seconds, the preliminary measurement is sent for remote verification, allowing unloading to begin in around 90 seconds total.

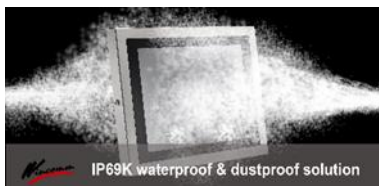
Why a Wide-Operation-Temperature Stainless Steel All-in-One Panel PC?

A Wide Temp WTP Series panel PC excels in outdoor or semi-outdoor applications like this drive-through imaging solution.

1. Robust Construction for Outdoor Conditions

- **Stainless Steel Enclosure:** Resistant to rust and corrosion, crucial for high-humidity or dusty environments.
- **IP-Rated Protection:** Shields internal components from water and dust, ensuring reliable operation.

2. Wide Operating Temperature Range



- **Extreme Temperature Tolerance:** Endures hot summers and cold winters without performance loss.
- **Thermal Management:** Fanless designs and heating elements prevent condensation in challenging climates.

3. All-in-One Integration

- **Streamlined Setup:** Combines display, processor, and I/O in one chassis, reducing installation complexity.
- **Less Cable Clutter:** Fewer external cables mean fewer points of failure in outdoor conditions.

4. Reliability for Continuous Operation

- **24/7 Uptime:** Designed for nonstop running, minimizing interruptions in busy workflows.
- **Consistent Performance:** Essential for high-speed image capture and real-time calibration.

5. User-Friendly and Easy Maintenance

- **Touchscreen Accessibility:** High-brightness or anti-glare screens remain readable in direct sunlight.



- **Hygienic and Easy to Clean:** Stainless steel surfaces are easy to wipe down, preserving hygiene in dusty locations.

6. Seamless Integration with Imaging Software

- **High-Performance Computing:** Handles intensive image processing swiftly.
- **Connectivity Options:** Multiple I/O ports link to imaging systems and remote centers for swift data exchange.

By combining corrosion-resistant materials, wide-temperature resilience, reliable performance, and an all-in-one design, Wincomm provides Full IP Wide Temp WTP Series, a stainless steel panel PC becomes an ideal choice for operating in the demanding outdoor context of a drive-through imaging solution. This ensures uninterrupted measurements, robust data processing, and a user-friendly interface, ultimately supporting efficiency, safety, and accuracy in the timber measurement workflow.

If you have any product or customization requirements, please contact Wincomm sales (mail: sales_support@wincomm.com.tw). For more product information, please visit the Wincomm website at <http://www.wincomm.com.tw/>