

Mediceo Corporation Delivery Management System

TOUGHBOOK

A highly precise logistics system for reliable provision of an extensive range of pharmaceuticals, accessed from a tough device.



A scan with FZ-N1 instantly verifies the contents of a delivery

Mediceo Corporation is the largest wholesaler of pharmaceuticals as well as medical equipment and materials, clinical testing reagents, and related products in Japan. In recent years, rapid proliferation of medical products has led to a corresponding increase in the number of products used by medical institutions, creating demand for highly precise logistics. In response, Mediceo opened an Area Logistics Center (ALC) in 2009 to achieve accurate, efficient operations from stocking to delivery. And to carry out its operations efficiently as well as ensure accurate delivery of products shipped from the ALC, the company adopted TOUGHBOOK FZ-N1 (4.7" Fully Rugged handheld tablet).



Automation enables the Saitama ALC to provide rapid, superior one-stop logistics services for a lineup of over 30,000 products

Background to Introduction

Building an innovative logistics system to eliminate human error and achieve dependable delivery

To fundamentally solve the various problems relating to incorrect product delivery, Mediceo was convinced that it had to fully automate and systematize its formerly human judgment and selection processes. The company consequently began innovating its logistics system in a variety of ways, and in 2017 it established its Saitama ALC, which acts as the distribution center for Tokyo as well as Saitama, Ibaraki, Tochigi, Gunma and three other prefectures. The ALC is an advanced logistics center with operations optimized to meet customer needs. Jun Wakana, Managing Executive Officer, General Manager of Logistics Division, commented on the Saitama ALC, which is equipped with cutting-edge systems: "Here at the Saitama ALC, we use bar codes and electronic scales to monitor every process from logging products into inventory to loading onto trucks for delivery. Products are boxed for shipping to individual customers and bundled with packing tape. Our 'total packaging, no-touch system,' a world first, ensures that no one can touch packaged products until they reach the customer. This means fast, accurate, reliable, safe delivery. Furthermore, to prevent human error during the loading and unloading of packages for delivery, we equip our drivers with barcode reader terminals."

When the driver scans a box label with their handheld device, a list of the contents is displayed, enabling them to confirm them without opening the box. The goal is to ensure accurate movement and delivery progress tracking by confirming the contents of packages at each point in the flow as they are loaded, delivered and received.

However, using barcode reader terminals for delivery comes with risk. For example, when loading packages for delivery, terminals are sometimes subjected to shock, or accidentally dropped and damaged. In addition, package labels sometimes have to be read outdoors when products are shipped or at the point of delivery, and in conditions of extreme cold or in bad weather, a terminal may cease to function. Drivers must also visit many customers each day, subjecting their terminals to extended use, and a loss of battery power while in the field is always a possibility. Any of these contingencies could prevent accurate delivery as well as movement and delivery process tracking. Mediceo was acutely aware of the need for a tough terminal, and management decided to consider FZ-N1. Tough design to stand up to outdoor use. Dust- and water-resistant, useable at temperatures from -20°C (-4°F) to +50°C (122°F). A large-capacity battery for dependable all-day operation clinched the decision, and management chose FZ-N1 for adoption.



(Left) Jun Wakana, Managing Executive Officer, General Manager of Logistics Division, MEDICEO CORPORATION
(Right) Yoshiaki Tomofuji, Strategy Section Manager of Distribution Strategy Department, MEDICEO CORPORATION



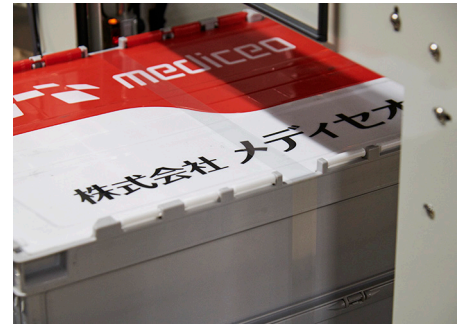
(Left) Tomoya Asahi, Shipping Section Manager of Distribution Strategy Department, MEDICEO CORPORATION
(Right) Shinichi Shibukawa, Deputy Manager of System Development Department, MEDIPAL HOLDINGS CORPORATION

Why FZ-N1 was chosen

Highly rugged against shocks and being dropped

Dust- and water-resistant for use under any weather conditions

Large-capacity battery allows extended use



Specialized shipping boxes are bundled automatically with packing tape. This “total packaging” approach ensures highly reliable, error-free delivery

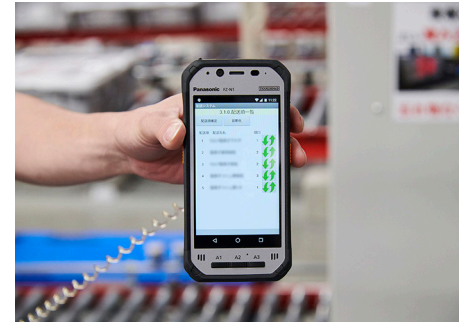
Introduction Benefits

By making delivery visible, error rates approach zero

Shinichi Shibukawa, who was involved in developing the logistics automation system, had this to say about Mediceo’s adoption of FZ-N1. “We actually were using barcode reader terminals from another manufacturer, but when we changed our communications carrier, we thought the timing was right to address the difficulties of using that particular terminal, and we considered other options. FZ-N1 is compatible with nearly all carriers, and since it had the toughness, resistance to environmental conditions, and other features we were looking for, we procured 40 units in January 2018 for field trials.” Feedback from users was positive: FZ-N1 was tough enough for any weather conditions, didn’t freeze the way the previous terminal did, and was able to send and receive data and read barcodes smoothly, eliminating delays and enabling users to work with confidence.

Adopting FZ-N1 further enhanced the quality of Saitama ALC’s delivery services, according to Wakana: “Currently we link the driver’s FZ-N1 to the administrator’s PC via a cloud server, and tie products to drivers. Now we can avoid incorrect deliveries and manage the delivery situation in real time.” In addition, drivers can verify the contents of bundled boxes by simply scanning the label with FZ-N1. In the past, the driver had to open each box and verify the contents with the customer, a process that could take 60 minutes for 40 cases. Now, with FZ-N1, the same process takes just five minutes.

Streamlined delivery creates time for customers to spend more time with patients. Mediceo appreciates the way better delivery efficiency frees customers from inconvenient procedures like verifying package contents, giving them more time to care for patients and focus on their principle business.



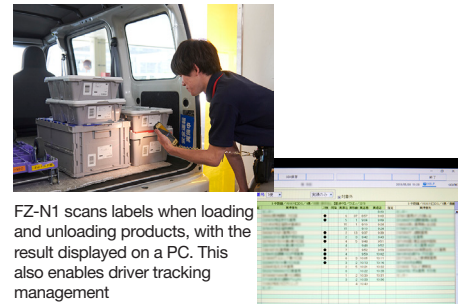
Transferring delivery destination data to FZ-N1. Users can check delivery sequence, package count, and a range of other data at a glance

Introduction Benefits

Suitable for nearly all carriers, facilitating smooth operations

Visible delivery status allows rapid response to queries

Greatly reduced delivery verification time, freeing up customers to focus on patients



FZ-N1 scans labels when loading and unloading products, with the result displayed on a PC. This also enables driver tracking management

Future Outlook

Utilizing tough devices, providing better medical technology

FZ-N1 also helps log in products in the low-temperature warehouse. Tomoya Asahi (Shipping Section Manager of Distribution Strategy Department), noted FZ-N1’s ease of use: “We needed a device with enough environmental resistance to be used in low-temperature conditions. The touch panel also had to be usable while wearing gloves. In addition, the FZ-N1 barcode reader is mounted at an angle, allowing operators to read barcodes on the top and bottom shelves just by tilting the device slightly, which was an attractive feature. The devices are in use for extended periods, so it helps productivity if they can be used without stress while the user is standing.”

Moreover, Mediceo believes there will be a need for increasingly sophisticated shipping technology in advanced medical fields such as regenerative medicine. The company is currently building a logistics platform to enable reliable, safe, efficient delivery of products at specified temperatures, and to deal with products requiring storage at extreme low temperatures, they developed an SDDU*1 transport cart. Since the cart needs to withstand significant shocks during transport, they used the detachable 10.1-inch fully rugged monitor part of TOUGHBOOK CF-20. By connecting a logger that records temperature, amount of liquid nitrogen remaining, and other parameters directly to a USB port on CF-20, they can be monitored continuously, along with the cart’s GPS coordinates. Yoshiaki Tomofuji (Strategy Section Manager of Distribution Strategy Department), who is responsible for managing the SDDU, remarked: “The device we were using previously often had communications issues, and I sometimes had to deal with them on holidays or in the middle of the night. Because of these issues, we also incurred significant operating costs, but CF-20 is rugged, so we don’t need to worry.” CF-20 itself is not subjected to ultra-low temperatures, but it is used repeatedly for transport and must be shock-resistant. Shibukawa added, “Going forward, with progress in communications networks, we hope to add more CF-20s.”

Mediceo management is considering expanded use of FZ-N1 and CF-20 to facilitate the building of logistics systems that can cope with rapid future advances in medical technology.



Users prefer the convenience of the angle-mounted FZ-N1 onboard bar code reader for tracking inventory in the low-temperature warehouse



SDDU ultra-low temperature storage and transport cart. CF-20 is used for monitoring

*1 SDDU: Specialty Drug Distribution Unit. An ultra-low temperature storage and transport cart charged with liquid nitrogen. Note: Regardless of resistance to shock, vibration, dust, moisture, and other environmental conditions, this product is not guaranteed against damage or malfunction.