



UNILAB's new order picking systems: a prescription for supply chain success

Few countries are as demanding when it comes to supply chain logistics as the Philippines. Comprising more than 7,000 islands, over half of which are populated, in a region with limited transport infrastructure and which is prone to earthquakes and extreme weather events, the challenges facing distributors are diverse and unpredictable.



Pictured from l-r are: Dave Alegado Prime Sales Inc, UNILAB IT Systems Manager Jeff Nuestro, Jun Pascual Prime Sales Inc and UNILAB Director Albert Alcruz.

United Laboratories, Inc

UNILAB is the leading pharmaceutical and healthcare products manufacturer and distributor in the Philippines. The business, which recently celebrated its 70th anniversary, manufactures and distributes more than 350 prescription and over-the-counter (OTC) brands.

UNILAB supports more than 6,000 customers in the Philippines including the country's largest pharmacy chains, and a growing number of distribution partners across over 20 countries in South East Asia and the Asia Pacific region. The business has expanded significantly over the past five years, diversifying its product range into new segments including personal care and dental supplies. As a result its product range has grown from around 800 stock keeping units (SKUs) to more than 2000, with UNILAB recently announcing that it had achieved annual sales of more than US\$1 billion for the first time.

First Pioneer Distribution DC

The key enabler in UNILAB's supply chain is its impressive Distribution Centre (DC) in Laguna, run and managed by one of its subsidiaries First Pioneer Distribution, Inc. (FPDI).

The DC is one of the largest single covered structures in the Philippines, providing over 30,000m² of covered floor area within UNILAB's 44-hectare compound in Brgy. Mamplasan, Biñan City, Laguna.

Working in conjunction with Dematic and its partner in the Philippines, Prime Sales, Inc., UNILAB has implemented a new split-case order fulfilment system, enabling around 90% of transactions to be fulfilled using paperless picking technologies including Pick-to-Light (PTL) and wireless mobile terminals.

UNILAB Director Albert Alcruz said order fulfilment accuracy and productivity were the key drivers in the design of the DC's new integrated logistics systems.





A Spiral Conveyor transfers orders from the Mezzanine to the Pick-to-Light system. Global induction enables orders to start in the first zone where items are required for an order, reducing order assembly time and improving order picking efficiency.

“Accuracy is important in all distribution operations, but none more so than when you are distributing healthcare products. When the time came to upgrade our logistics systems, we wanted to make sure we got the best available.

“We have had a very long working relationship with Prime Sales, and we’re very happy they could assist us in introducing Dematic’s iQ Warehouse Control System (WCS), Pick-to-Light (PTL) system with global induction, Pick Director software, and wireless computing systems,” said Mr Alcruz.

An intelligent zone-routing conveyor system interconnects the picking areas and automatically directs and diverts orders to the zones where picking is required.

Early exit diverts enable completed orders to exit the system as soon as the last item for an order has been picked, reducing the time to completion. The conveying system connects the picking systems to the checking and packing area.

Global induction, together with the zone-routing conveyor system, allows orders to start in the zone where the first item is required.

This ensures a higher availability of work for pickers, and significantly improves their productivity by avoiding the need to wait for work to arrive.

Picking is initiated when an operator scans the barcoded licence plate attached to the order tote.



In the shelving area, picking is directed and confirmed by operators using hand-held wireless terminals.

In the PTL zones, each product location is identified with its own display.

The lights on the displays indicate which locations to pick from and the required quantity of items to be picked. The operator confirms picks via acknowledgement buttons. Picking in the PTL zones is exceptionally fast and accurate.



Orders typically commence on the Mezzanine Floor where slower moving SKUs are located, with pickers using lightweight, hand-held wireless mobile computing terminals for picking.



Orders are picked into totes within the PTL system.



Collapsible Totes simplify reverse logistics by minimising the space required when returning totes to the DC.

Integrated Warehouse Control System

The PTL system, wireless mobile terminals and conveying system are controlled by Dematic's iQ WCS, which interfaces directly with UNILAB's SAP enterprise management system. Dematic's iQ WCS provides comprehensive management information, real-time visibility and logistics systems control including:

- Management of real time paperless picking technologies
- Order routing and management of intelligent conveying systems
- Wave progress monitoring
- Order interrogation and work assignment enquiries
- Individual picker productivity statistics
- Zone picking productivity statistics
- Container contents tracking
- Quality assurance checking

"In developing our integrated logistics solution for UNILAB, we invested a significant amount of time to understand their operation and challenges. A lot of attention was directed to the split-case picking operation as this is the most complicated and labour intensive part of UNILAB's order fulfilment process," said Dematic's ASEAN Director Michael Bradshaw.

"Our integrated system design includes a zone-routing conveying system to minimise picker travel coupled with picking technology to increase productivity and ensure the highest level of accuracy.

"The modular approach we took to system design provides UNILAB with the flexibility to further expand the system in line with business growth.

"There is the possibility to introduce additional picking zones and to introduce a Put-to-Light sub-system to support order fulfilment for an expanding network of drug stores," added Mr Bradshaw.

Dematic's pharmaceutical industry experience the key

"Dematic's extensive global experience in the pharmaceutical sector gave us the confidence that they would deliver a world-class logistics solution," said Mr Alacruz.

The introduction of the new order fulfilment system has significantly improved order picking efficiency, productivity and accuracy, while the new Dematic iQ WCS system enhances UNILAB's quality of real-time information management.

"Despite significantly expanding our operations and daily volumes, the

efficiency of our new picking operations has improved productivity to the extent that we have been able to get through much more work in less time, and are much better able to deal with the peaks we experience," said Mr Alacruz.

"Another benefit of our improved information management systems is that they provide us with comprehensive track and trace capabilities for every item picked, which is important should there be a need to recall products for any reason," he said.

"While the new picking systems provide us with very high accuracy levels, our commitment to ensuring customers receive the perfect order means we still utilise a team check counters to ensure any errors are identified and rectified before orders leave the DC," added Mr Alacruz.



Stock locations in the PTL system are fitted with a digital readout indicating the quantity of items to be picked for each order, enhancing accuracy.

Distribution in the Philippines

Summing up the supply chain challenge in the Philippines, Mr Alcruz said it was essential to be always thinking beyond what you do.

“The Philippines is very much a special case when it comes to supply chain distribution,” he said.

“In a country which regularly experiences earthquakes and extreme weather events contingency planning is essential, and we are continually reassessing our distribution capabilities and always asking ourselves the question: how can we best support our customers?”

While there are obvious seasonal peaks for certain types of products, there are always unforeseen circumstances, such as the outbreak of a particular virus, which makes forecasting demand difficult in the healthcare sector.

“That is why one of the key drivers for our new distribution system was flexibility,” said Mr Alcruz.

“The healthcare sector is one in which we really can’t say no. We always try to find the most efficient way to get our products to customers wherever they are,” he said.

The supply chain challenge in the Philippines

The distribution challenge in the Philippines is unique and the last leg of the supply chain in the Philippines can be very challenging.

Mr Alcruz added: “It’s often not as simple as transporting products from A to B. Sometimes we need to deliver to very remote areas, and there are times there may be as many as ten steps in the supply chain.



“The fact that some products need to be temperature-controlled adds a further layer of complexity to the order fulfilment challenge.”

“For urgent deliveries to remote areas, it is not uncommon for the goods to be delivered by the pilot who has flown the items to the location, or for them to be delivered on horseback, or even on foot.”

“We not only have to manage individual products, we also have to track different production batch and lot numbers through the supply chain,” he said.

“For many higher volume products we aim to maintain not just one, but two active pick face locations with different batches to ensure picking stock is always available, with all products picked on a FEFO basis.

“Pick face replenishment is automatically initiated when the volume of stock in a location falls to a certain quantity,” said Mr Alcruz.

“When we were evaluating the configuration of our new distribution systems, we

considered the option of moving to a fully automated picking solution, but decided this would limit the flexibility that our system provides us with today.”

“In terms of accuracy, productivity and flexibility, we decided that Dematic’s integrated order fulfilment solution would provide us with the best performance.”

Summary

Few countries in the world face the unique supply chain challenges that distribution in the Philippines presents.

However, distributors like UNILAB demonstrate that when the appropriate investment in world’s best practice logistics distribution systems is made, supply chain excellence is achievable in even the most difficult of circumstances.

UNILAB’s new order fulfilment systems will ensure the business continues to provide efficient, cost-effective health services to people in the Philippines and set new standards for healthcare in the region for many years to come.