



Solutions for the Healthcare Field

Initiative

Commence GDP-Compliant Transport of Reagents for Gene Testing at the Ultra-Low Temperature Range of Minus 70°C or Below -Also Commencing Experiments for Ultra-Low Temperature Transport without Using Dry Ice-

In anticipation of further progress in personalized healthcare,*1 Yamato Logistics Co., Ltd. and Sysmex Corporation created a logistics service optimal for the transport of reagents for gene testing*2 and commenced operation in February 2021. This is the first commercial service in Japan for transporting such reagents in consolidated cargo at the ultra-low temperature range of minus 70°C or below.

Sysmex, a leading company of instruments and reagents for clinical testing, has, until now, required a dedicated truck to satisfy their advanced quality requirements during transport, regardless of quantity, and the associated high transport cost has posed an issue. Furthermore, this mode of transport requires dry ice for cold storage through the transport process, which uses CO₂. To reduce the environmental burden and deal with tight demand in the summertime, Sysmex has long been seeking ways to improve this.

To that end, Yamato Logistics and Sysmex conducted demonstrations of logistics quality control and cost to realize

GDP-compliant*s transport of reagents for genetic testing. This transport required management in temperature ranges from "refrigerated" to "ultra-low," assuming transportation was carried out in a specially designed carrier box by a truck with consolidated cargo. As a result of these demonstrations, we succeeded in eliminating dry ice used in the "frozen" temperature range and reducing use in the "ultra-low" temperature range by approximately 50%. Since we were able to demonstrate a high-quality, low-cost logistics system at multiple temperature ranges, we have commenced full-scale operation.

Going forward, the two companies will strive to advance a cold chain that meets social needs by, for example, utilizing "ultra-low temperature ice"*4 of minus 120°C and conducting experiments to realize extended transport without using dry ice in the "ultra-low" temperature range.

- *1 Treatment and prevention methods that are tailored to individual patients and their clinical conditions to enhance effectiveness and minimize side effects
- *2 Indicating in vitro diagnostics products used for gene testing
- *3 Good Distribution Practices: A basic scheme for assuring the quality of pharmaceuticals in the distributive process, from shipment from a manufacturing plant to delivery to medical institutions
- *4 With the Ultra Deep Freezer (developed by ADD Co., Ltd., Numazu, Shizuoka, Japan), fresh water is quickly frozen to minus 120°C. This is used as an eco-friendly substitute for dry ice.

Transport Flow Schematic Drawing Deliver/ Deliver collect inner hoxes carrier Final desti-Nearby Nearby for packing Trunk-route boxes Dispatching Sysmex Receiving nation Yamato transport Yamato terminal (Kobe, Hyogo) (Kawasaki, network Pickup office office Kanagawa) Register transport Trace data information Complying with the GDP ordinance (area clearance)

Solutions for Agricultural Product Logistics

Initiative

The Vegeneko Project for Resolving Issues Facing Agricultural Product Logistics

Agricultural product logistics in Japan currently involves a complex process for receiving and placing orders, which includes gathering information via the phone or fax, typing in data manually, and once again interacting via phone or fax. Such a system places a large work burden on producers and shipping agencies. Also, as there is no framework for smoothly sharing information with distributors, it is difficult for producers and shipping agencies to transport products at desired times and with the desired level of service. For distributors, various issues arise in terms of work style and profitability, including inefficient loading operations, the lack of return shipments, and long-distance travel.

To address these issues, Yamato Transport collaborated with Oisix ra daichi Inc., a company that offers food delivery services for organic and specially cultivated agricultural products as well as meal kits, to establish the Vegeneko Project. This project aims to leverage the resources of both companies, including their respective transport networks, to resolve the issues facing agricultural logistics. Under this project, Yamato Transport and Oisix ra daichi are working to establish

an open platform that helps make the logistics process more efficient through one-stop services that cover everything from receiving and placing orders to delivery. As part of these efforts, the two companies are providing systems to enhance the efficiency of receiving orders and creating delivery forms, which are part of the many complex characteristics of agricultural products logistics.

Going forward, Yamato Transport and Oisix ra daichi will establish systems that can help increase the efficiency of adjusting shipping volumes with retailers and create platforms that can help expand sales routes and improve transport efficiency by connecting distributors with digital data.

