

< Joint Release >

April 04, 2024

KDDI CORPORATION
KDDI SmartDrone Corporation
Japan Airlines Co., Ltd.
East Japan Railway Company
Weathernews Inc.
Mediceo Corporation

Demonstration of Pharmaceutical Delivery Management Using Drone Port

~Working towards the social implementation of drone delivery services, aiming for safe supply management and labor reduction~

KDDI CORPORATION (Headquarters: Chiyoda-ku, Tokyo, President: Makoto Takahashi), KDDI SmartDrone Corporation (Headquarters: Minato-ku, Tokyo, President: Masafumi Hirono), Japan Airlines Co., Ltd. (Headquarters: Shinagawa-ku, Tokyo, President and Group CEO: Yuji Akasaka), East Japan Railway Company (Headquarters: Shibuya-ku, Tokyo, President: Yuji Fukasawa), Weathernews Inc. (Headquarters: Chiba-shi, Chiba, President: Chihito Kusabiraki) and Mediceo Corporation (Headquarters: Chuo-ku, Tokyo, President: Kuniaki Imagawa) conducted a demonstration of pharmaceutical delivery management using a drone port (hereinafter referred to as the "Demonstration") from February 13 to February 22, 2024, in Koto-ku, Tokyo.



< Image of the Demonstration >

This demonstration is based on the “Demonstration Project for the Promotion of Drone Logistics Service Implementation in Tokyo”, established by the Tokyo Metropolitan Government aiming to accelerate the social implementation of drone logistics services in Tokyo.

Following Japan’s first pharmaceutical delivery demonstration using Level 4 flights in December 2023 (*1), this demonstration focused on using drone ports to verify the safe transfer of pharmaceuticals and to reduce the manpower required for delivery management.

(*1) [“First ever Demonstration of Level 4 Drone Flights for Pharmaceutical Delivery in Japan”](#)

(Based on research by KDDI, KDDI Smart Drone, Japan Airlines, East Japan Railway Company, Weathernews, and Mediceo; as of December 8, 2023.)

Level 4 drone flight: Unmanned flights beyond visual line of sight in populated areas.

Role of each company in FY 2023 demonstration

KDDI CORPORATION	Project Leadership
KDDI SmartDrone Corporation	Provision of smart drone platform Aircraft operation of Level 4 flights
Japan Airlines Co., Ltd.	Development and evaluation of drone logistics business Operation and verification of drone port operations
East Japan Railway Company	Support in studying future implementation locations for drone logistics business
Weathernews Inc.	Provision of weather data and operational advice for safe operations
Mediceo Corporation	Development and validation of procedures for pharmaceutical delivery using drones




1. Overview of the Demonstration

(1) Outline

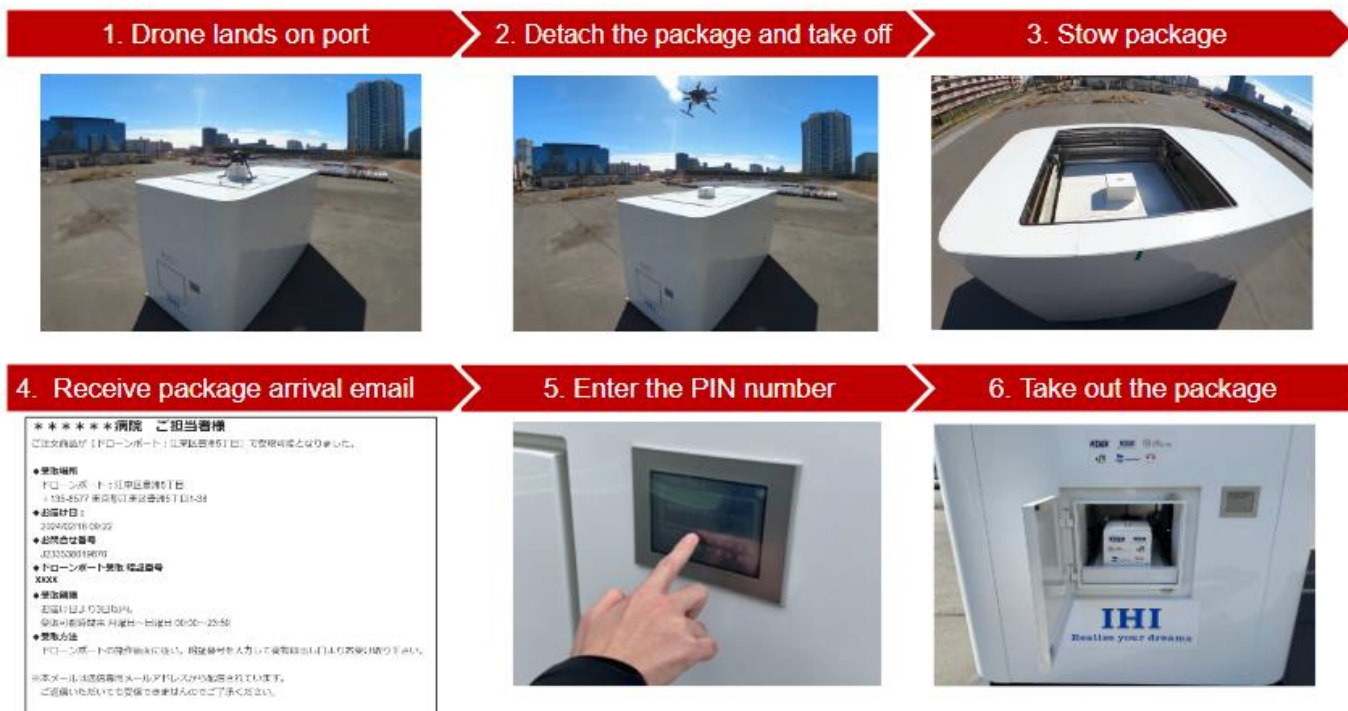
The verification of the effectiveness of drone ports and operational flows were conducted from February 13 to February 22, 2024, in preparation for the social implementation of drone logistics services.

In order for drone logistics services to be widely utilized in society, it is necessary to ensure the safe operation of drones and achieve safe and reliable delivery and receipt of goods. Additionally, improving convenience and reducing the labor required for delivery and receipt management are crucial factors.

Previous demonstrations required personnel for safe landing of drones and receipt of deliveries. Therefore, in this demonstration, a takeoff/landing site with drone port capable of storing packages was constructed in a location adjacent to a medical facility. The verification focused on the safety during takeoff and landing, as well as the convenience of supply management which is required for a drone-based pharmaceutical delivery service.

Date & Time	February 13, 2024, to February 22, 2024 (weekdays only). From approximately 9:00 a.m. to 1:00 p.m.		
Demonstration Location	<p>5 Toyosu, Koto-ku, Tokyo</p>  <p>Source: GSI website</p>		
Drone Port	<p>Drone port manufactured by IHI Transport Machinery</p> 	Size	Height 2.4m Width 2m Depth 4.8m
		Drone Landing Range	Width 1.5m x Depth 1.5m
		Applicable Package Size	Width 260mm Depth 340mm Height 200mm Weight 2.7kg (max.)
		Notification function	Equipped with a function to send package receipt e-mails
		The way to remove package	Enter the PIN number indicated in the parcel receipt e-mail on the touch panel to open the slot and retrieve the parcel.
		Power source	Single phase AC100V, 1.5kVA
Drone	<p>'ACSL-PF2' manufactured by ACSL</p> 	Total length (including propeller)	1,173mm
		Height (excluding antenna)	526mm
		Ground speed	10m/s
		Maximum endurance	29minutes (payload 0kg)
		Maximum payload	2.75kg
		Maximum takeoff weight	9.8kg
		Wind resistance performance	10m/s

(2) Operational Flow of Drone Ports



(3) Cooperation

IHI Transport Machinery
 St. Luke's International Hospital
 SHOWA University Koto Toyosu Hospital
 Cancer Institute Hospital of JFCR
 Tokyo Rinkai Hospital

2. Results of the Demonstration

During the demonstration period, approximately 40 hospital personnel visited the booth to experience pharmaceutical delivery using a drone port. Among them were individuals such as Dr. Goto, the president of the Tokyo Hospital Pharmacists Association from St. Luke's International Hospital, Dr. Kashiwabara from SHOWA University Koto Toyosu Hospital, Dr. Yamaguchi from Cancer Institute Hospital of JFCR, and Dr. Katsuta from Tokyo Rinkai Hospital. Many participants expressed their desire to have compact drone ports installed in spaces such as the rooftops of hospitals. Dr. Goto, president of the Tokyo Hospital Pharmaceutical Association, commented "In addition to receiving pharmaceuticals, if it becomes possible to ship them out from hospitals, it will enable returns and emergency transfers between hospitals. Furthermore, If the drone port can be used for pharmaceutical delivery at night, it will contribute to labor reduction during low-staffing periods for both hospitals and pharmaceutical wholesalers.

Regarding the social implementation, the need for drone ports of appropriate sizes for installation sites, the need for system integration between drone ports and drones, and the demand for drones capable of landing with high accuracy and carrying larger payloads were recognized. Based on the



Dr. Goto
 President, Tokyo Hospital
 Pharmacists Association,
 Vice President, Pharmaceutical Dept.,
 St. Luke's International Hospital

issues and expectations identified through this demonstration, efforts will be made to realize pharmaceutical delivery services in Tokyo in the future.



Hospital personnel observing the demonstration

3. Future Developments

The technical, operational, and business challenges identified through this demonstration and previous pharmaceutical delivery verifications will continue to be examined. The focus is on establishing a safe operational system and a viable business model for the drone-based pharmaceutical delivery service. In addition, there are plans to conduct a long-term drone service demonstration with Level 4 drone flights in Tokyo in FY2024. In the future, the goal is to advance demonstrations towards the realization of drone-assisted urban development and the expansion of diverse services, including logistics.

(Reference)

■Past efforts toward social implementation of drone logistics

<FY2021>

The first drone food delivery and pharmaceutical delivery in a manned zone in Tokyo was carried out to verify the operational and business feasibility closer to real life.

- Press release on November 11, 2021 (Only in Japanese)
[Tokyo's first trial of drone food delivery in a manned zone was conducted at WATERS Takeshiba on November 20, 2021, for the first time in Tokyo.](#)
- Press release on February 1, 2022
[First in Tokyo, Drone to Cross Eitai Bridge and Other Bridges in Pharmaceutical Delivery Experiment](#)

<FY2022>

In addition to conducting a one-month medical supply delivery experiment using remote autonomous drone flights to verify safety, efforts were also made to increase awareness and understanding among community residents by holding drone classes at elementary schools.

- Press release on January 24, 2023
[Demonstration of long-term drone operations with a view to future Level 4 flights in Tokyo](#)

<FY2023>

Japan's first (*) demonstration of Level 4 drone flight for the transport of medical supplies was carried out, and through a one-week operation rather than a one-day operation, technical, institutional, and operational issues were identified for the actual operation.

- Press release on January 24, 2023
[First ever Demonstration of Level 4 Drone Flights for Pharmaceutical Delivery in Japan](#)

(*) Based on research by KDDI, KDDI Smart Drone, Japan Airlines, East Japan Railway Company, Weathernews, and Mediceo; as of December 8, 2023.

■About KDDI SmartDrone Corporation

KDDI SmartDrone Corporation is building a service that enables safe remote and long-haul flights by controlling drones using mobile communications such as 4G LTE. KDDI SmartDrone is working to realize new businesses with drones and to provide agile services that meet customer needs in various fields such as inspection, logistics, surveillance, agriculture, and surveying.

*Company profile (Japanese): <https://kddi.smartdrone.co.jp/>

■About the Air Mobility Business of Japan Airlines Co.Ltd.

JAL aims to realize a society in which next-generation air mobility, as typified by drones and eVTOLs, is utilized in various regions of Japan by leveraging the knowledge and technology cultivated in the air transportation business. To date, we have actively participated in demonstrations and surveys in various regions of Japan, and have made steady progress toward commercialization; in FY2023, we launched a drone business in the Amami Islands. In November 2023, we entered into a capital and business partnership with KDDI SmartDrone Corporation. We will accelerate the social implementation of drones by jointly working to realize and expand the use of advanced drone applications, including Beyond Line of Sight operations and other remote autonomous flights.

*Company profile: <https://www.jal.com/en/>

■About East Japan Railway Company “TAKANAWA GATEWAY CITY”

East Japan Railway Company(JR East) is promoting the development of "TAKANAWA GATEWAY CITY". Inheriting the historical background of the city's role as the gateway to Edo (old Tokyo) and the memory of innovation in the area where Japan's first railroad line ran, JR East has adopted the development concept of "Global Gateway" and aims to create a city where new business and culture will continue to be born as a "testing ground for enriched lifestyles 100 years from now. The project aims to create a town where new business and culture will continue to emerge as a "testing ground for enriched living 100 years from now.

Complex I and the area surrounding Takanawa Gateway Station will open at the end of fiscal 2024 (March 2025), and the other buildings (Complex II, Cultural Creation Building, and Residential Building) and the area surrounding each building will open during fiscal 2025.

In this city, further demonstrations will be conducted with the aim of implementing drones in various scenes within the city.

*Official Website: <https://www.takanawagateway-city.com/en/>

■About Weathernews, Inc.

Weathernews was born from the founder's passionate desire to "protect the lives of sailors" after experiencing a maritime accident in 1970. Since then, Weathernews has taken on the challenge of delivering weather information to those who truly need it, as information that can be used as a response. The weather service market, which began at sea, has expanded to the sky and land, and with the slogan, "We want to help people in times of emergency," we currently provide risk communication services 24 hours a day, 365 days a year to customers in approximately 50 countries around the world. Weather information is essential for drone flight safety. Weathernews' Aviation Meteorology Business Division supports flight safety by leveraging its 38 years of expertise in weather and dynamic information support for manned aircraft such as airliners and helicopters.

*Company profile : <https://global.weathernews.com/>

■About Mediceo Corporation

Mediceo supports the healthy lifestyles of the Japanese people as a member of the MEDIPAL Group, whose business field is "medicine, health and beauty". As Japan's birthrate declines and the population ages, people's needs for healthy lifestyles are increasing. In this environment, we, as a social infrastructure company that stably supports the distribution of "medicine, health, and beauty," play a role in accurately and efficiently connecting the wishes of those who manufacture products with the wishes of those who wait for the products they need. Furthermore, in order to best for all supply chain, we are pursuing and realizing logistics that is lean, highly satisfactory to customers, and strong in case of emergency, and at the same time, we are working on various innovations such as developing and nurturing new businesses with high social value.

As a wholesaler that provides safe, stable, and valuable distribution that meets the expectations of society and our customers, we will continue to evolve in line with our management philosophy of "contributing to the health of people and the development of corporate citizenship activities through the creation of distribution value. We will continue to evolve further in line with our management philosophy of "contributing to the health of people and the development of society through the creation of distribution value.

*Company profile (Japanese): <https://www.mediceo.co.jp/>