

< Joint Release >

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

## *First-ever Demonstration of Level 4 Drone Flights for Pharmaceutical Delivery in Japan*

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 JAL 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) partnered to conduct a demonstration of Level 4 drone flights\* for pharmaceutical delivery in Japan. This demonstration took place from December 14 to December 20, 2023, in Hinohara Village, Tokyo, marking the first time such flights were conducted in Japan. This demonstration is based on the “Demonstration Project for the Promotion of Drone Logistics Service Implementation in Tokyo”, and aims to accelerate the social implementation of drone logistics services in Tokyo.

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



< Image of the demonstration >

Clinics and hospitals often rely on mail services to deliver pharmaceutical products, including prescribed medications during online medical consultations. However, with a growing shortage of manpower in logistics, the use of drones for delivery is gaining greater attention.

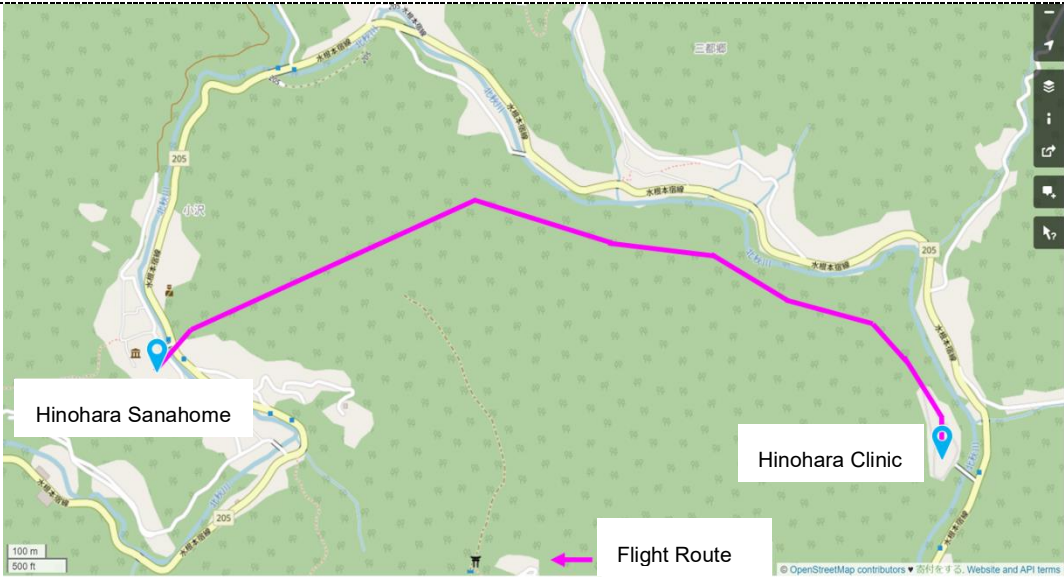

The recent amendment to the Aviation Act, effective December 2022, legalized Level 4 drone flights, allowing

them to fly over residential areas. This regulatory change opens the door to drone delivery services, enabling the transport of pharmaceutical products without being impacted by traffic conditions, road congestion, or disasters. The objective of this demonstration is not limited to a single-day event, but rather a week-long operation to identify and address technical, regulatory, and operational challenges towards practical implementation. This demonstration aims to contribute to the societal implementation of drone delivery services.

**■ About the Demonstration**

**1. Overview**

During the weekdays in daytime from December 14th to December 20th, 2023, Level 4 drone flights were conducted for pharmaceutical delivery services. The flight route connected Hinohara Clinic and Hinohara Sanahome Special Nursing Home, including the airspace over populated areas covering a round trip of approximately 4.8 kilometers. Autonomous drone flights showcased the transportation of pharmaceutical products.

<p>Flight Route:</p>														
<p>Drone:</p>	<p>PF2-CAT3(ACSL)</p> 	<p>Only aircraft that has obtained Type Certification of the first class based on PF2.</p> <table border="1" data-bbox="815 1473 1458 1870"> <tr> <td>The total length (including the propeller)</td> <td>1,174mm ×1,068mm</td> </tr> <tr> <td>Height:</td> <td>601mm</td> </tr> <tr> <td>Maximum Flight Speed:</td> <td>10m/s(horizontal)</td> </tr> <tr> <td>Maximum Endurance:</td> <td>17.5 minutes (at maximum takeoff weight)</td> </tr> <tr> <td>Maximum Payload</td> <td>1.0kg</td> </tr> <tr> <td>Maximum Takeoff Weight (including payload)</td> <td>9.8kg</td> </tr> </table>	The total length (including the propeller)	1,174mm ×1,068mm	Height:	601mm	Maximum Flight Speed:	10m/s(horizontal)	Maximum Endurance:	17.5 minutes (at maximum takeoff weight)	Maximum Payload	1.0kg	Maximum Takeoff Weight (including payload)	9.8kg
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<p>Verification Items:</p>	<ul style="list-style-type: none"> <li>• Extracted the organizational structure and operational challenges required to obtain Level 4 flight permission</li> <li>• Extracted the organizational structure and operational challenges required for compliance with pharmaceutical delivery guidelines</li> </ul>													

## 2. Roles of Each Company

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
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 verification of procedures for pharmaceutical delivery using drones

## 3. Collaboration

- Hinohara Village
- Hinohara Clinic
- Hinohara Sanahome
- Hinohara Mori no Omocha Bijutsukan (Hinohara Forest Toy Museum)
- FUREAI GLAMPING & BBQ
- Hinohara Village Lumber Industry Cooperative

## 4. Future Developments

After the completion of this demonstration, drone ports enabling automatic takeoff and landing are planned to be introduced by the end of fiscal year 2023. Further demonstrations will be conducted to validate the safety and unmanned operations of drone logistics services. In addition to the service validation through this demonstration, an evaluation will also be conducted on the required safety and operational systems, as well as business models, to ensure sustainable drone flights.

Looking ahead to fiscal year 2024, long-term service demonstrations of Level 4 drone flights in urban areas are intended to be conducted, aiming to realize drone-based urban development through the expansion of various services, including logistics.