28Nov,2022

JAL conducts demonstration of drone implementation model to support island life

～Making steady progress toward implementation and commercialization in Amami Setouchi-cho in fiscal 2023～

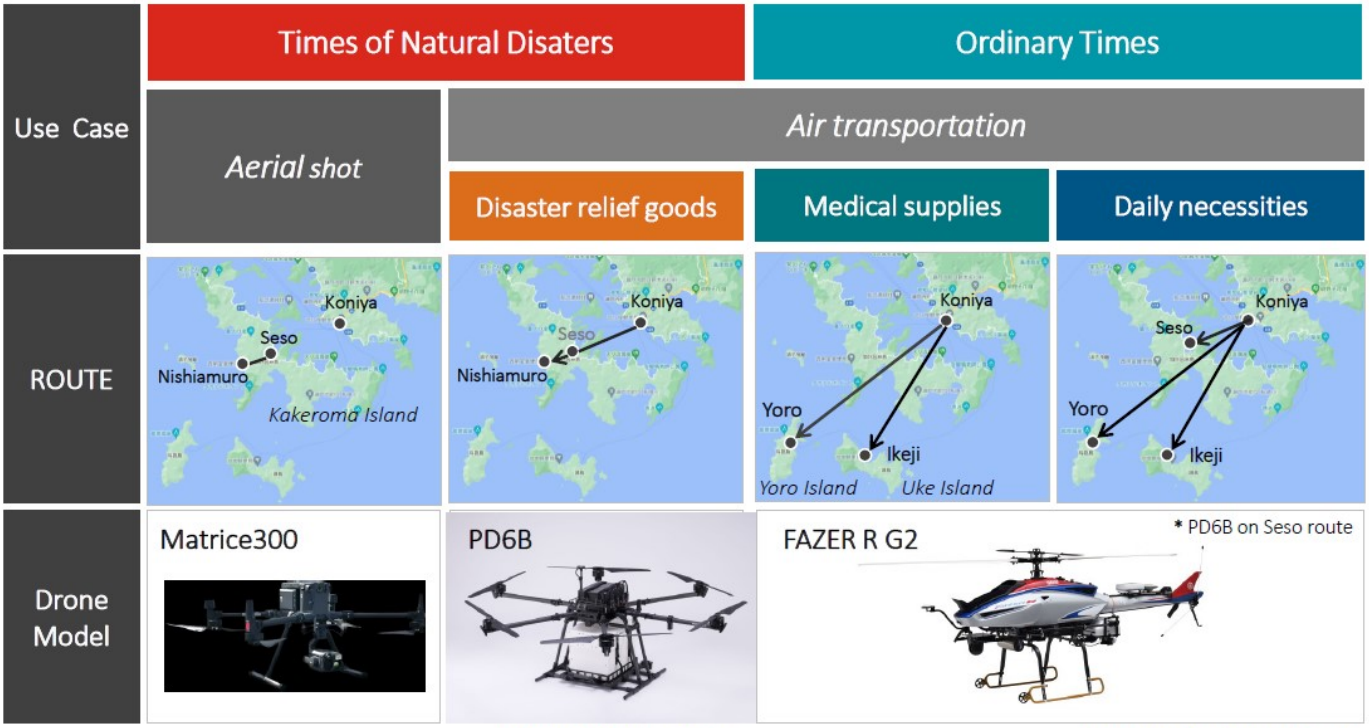
Under the ESG strategy of "Solve social issues and create sustainable flows of people, and sales and distribution channels" the JAL Group is promoting the Amami Islands Sustainable Project,which aims to permanently increase the number of people involved by using the distinctive traditions, culture and climate (the Village Project) and solve local problems using drones (the Drone Project).

In the drone project, we concluded a partnership agreement (*1) with Setouchi-cho, Oshima County, Kagoshima Prefecture, which aims to solve regional problems using drones, and have been studying the "transportation of relief goods to isolated communities in times of natural disasters" and "transportation services for daily necessities and medical supplies."

This fiscal year, we are also participating in the "Smart Town Promotion Project Using Drones" by Setouchi-cho, and have conducted demonstrations to build an implementation model for remote island regions using drones during disasters and ordinary times by combining drone operations with ICT such as smartphone apps.

Outline of the demonstrations

From October 24 to 27th, in collaboration with Setouchi-cho, we verified the use of drones during disasters and ordinary times on the routes connecting Kakeroma Island/Yoro Island/Uke Island (secondary remote islands). Because these remote islands face challenges in responding to natural disasters and maintaining stable maritime logistics, we set up scenarios for solving these problems with drones and conducted demonstrations with the participation of residents of each community, local governments, and related organizations and companies.



Courtesy of Prodrone Co., Ltd.

Courtesy of Yamaha Motor Co., Ltd.

1. Time : Monday, October 24, 2022 - Thursday, 27th

2. Place: Koniya, Setouchi-cho, Amami, Seso and Nishiamuro (Kakeroma Island), Yoro (Yoro Island), Ikeji (Uke Island)

3. Key points of the demonstrations

① **Operation control of multiple drone models depending on the use case at the centralized operation center**

We used multiple models of drones depending on the use case of disasters and ordinary times, as well as for aerial shot and air transportation, and performed centralized remote control at the operation center set up in Koniya, Setouchi-cho. We verified our operational management system to be able to respond quickly to changes in the local operating environment, not only during disasters but also during ordinary-times operations.

② **Stable operation of long-haul routes connecting to Yoro/Uke Island**

Logistics on Yoro/Uke Island is a challenge because the ship's service rate depends largely on the weather. Assuming that existing logistics could be supplemented by delivering medical supplies and daily necessities by drones, we operated large drones on the direct routes of Koniya-Yoro, and Koniya-Ikeji (each approximately 20 km one way). On the day of the demonstration, we were able to transport approximately 20 kg of goods even under weather conditions with wind speeds exceeding 10 m/s.

③ Using drones combined with ICT

Assuming a disaster, we used drones to take aerial shots to assess the damage situation and airlift relief supplies.

The Disaster Response Headquarters set up at the Setouchi-cho Town Hall was attended by the Self-Defense Forces/firefighters/police, who confirmed the flight position of the drone for photography and the high-resolution images taken, and received information from residents gathered through a dedicated smartphone app. In addition, all disaster information and requests for relief supplies from residents were centrally consolidated and displayed as a dashboard. The combination of drones and ICT was used to quickly assess the disaster situation, discuss countermeasures, and make decisions.

We also tested a service model that combines the ordering of products with a dedicated smartphone app for the use case of daily necessities deliveries.

Based on these demonstrations, we will proceed with the implementation and commercialization of the Setouchi-cho remote island model in fiscal 2023.

Further use cases are expected as the region works together to promote the use of drones.

JAL will continue to build on its expertise in more advanced drone operations (Beyond Visual Line of Sight (BVLOS) flight (Level 4 Operation), One-to-Many Drone Operation, etc. (*2), and will support to realize these cases by leveraging its operations, technology and knowledge in the air transport business such as safety management and operation control.

(*1) October 14, 2020 Setouchi-cho, Japan Air Commuter, JAL, Mitsui Sumitomo Insurance, MS&AD InterRisk to Collaborate in Drone Utilization on Remote Islands
URL: https://press.jal.co.jp/en/release/202010/005815.html

(*2) Aug 26,2022 KDDI and JAL to launch Initiative to Realize One-to-Many Drone Operation
URL: https://press.jal.co.jp/en/release/202208/006924.html