Japan Airlines and KDDI SmartDrone Partner to Support Post-earthquake Damage Assessment in Noto Peninsula

March 12, 2024
Japan Airlines Co., Ltd.
KDDI SmartDrone Co., Ltd.

We extend our heartfelt sympathy to all those affected and evacuated due to the Noto Peninsula earthquake in January 2024.

Japan Airlines Co., Ltd. (Headquarters: Shinagawa-ku, Tokyo, President and Group CEO: Yuji Akasaka, hereinafter JAL) and KDDI SmartDrone Co., Ltd. (Location: Minato-ku, Tokyo, President: Masafumi Hirono, hereinafter KDDI SmartDrone) participated in support activities to survey the damage using drones from January 19 to February 7, 2024, under the coordination of the Japan UAS Industry Development Association (JUIDA) in Ishikawa Prefecture's Suzu City and Wajima City.

As the construction of temporary housing was being rushed In Suzu City, it was necessary to quickly assess the damage situation at potential construction sites. In response to the request from Suzu City, aerial drone photography was conducted in each area, including Horyu-machi, capturing oblique and vertical images creating orthoimages (*1) overlaid on maps. Additionally, maps overlaying orthoimages and tsunami inundation areas were provided to the local governments to clarify the relationship between potential construction sites and the extent of tsunami inundation, facilitating timely decision-making and implementation of emergency measures.

In Wajima City, the earthquake caused various damages, including cracks in roads, thereby requiring inspections of more than 400 bridges. To promptly assess the safety of the bridges, emergency bridge inspections using drones were conducted.
The utilization of drones enabled the immediate assessment of damages to components such as the undersides of floorboards, supports, bridge piers, and abutments, which are difficult to visually inspect. Furthermore, the quick preparation of equipment resulted in reduced on-site workload and contributed to mitigating secondary disasters.

JAPAN AIRLINES

KDDI SmartDrone

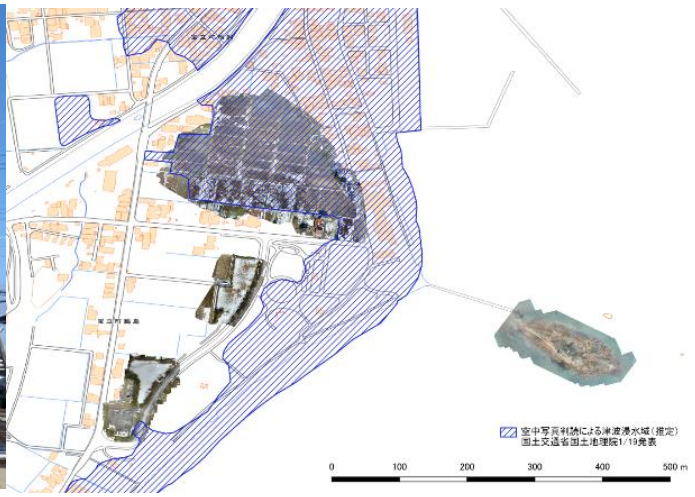
【Details of Support】

Date	January 19, 2024	January 30-31, 2024	February 6-7, 2024
Roles	JAL: Coordination with relevant local governments, organizations, and groups	JAL: Coordination with relevant local governments, organizations, and groups, drone operation, orthoimage creation KDDI SmartDrone: Orthoimage creation	JAL: Coordination with relevant local governments, organizations, and groups KDDI SmartDrone: Drone operation
Locations	Suzu City and Wajima City, Ishikawa Pref.	Suzu City, Ishikawa Pref.	Wajima City, Ishikawa Pref.
Contents	Survey of drone requirement	Survey of temporary housing construction site conditions	Survey of bridge damage conditions
Drone	-	Mavic 2 Zoom 	Skydio 2+ 

*1 Orthoimages are created by capturing continuous photos directly from above, with 90-70% overlap in the shooting range. These images are then analyzed using photogrammetric techniques and accurately overlaid onto existing maps. They are utilized for situational analysis by overlaying them with various other information on the map.

【The situation survey of the temporary housing construction site in Horyu-machi, Suzu City, Ishikawa Pref. on January 30-31, 2024】

The drone capturing aerial photography to create orthoimages



The map overlaying orthoimages with tsunami inundation areas

【The situation survey of bridge damage in Wajima City, Ishikawa Pref. on February 6-7, 2024】

JAL and KDDI SmartDrone employees checking the drone flight

Skydio 2 + flying for inspection of floorboards and support

JAL and KDDI SmartDrone aim to accelerate the social implementation of drones, leveraging this initiative to expand the utilization of drones for assessing post-disaster damages and addressing the challenges of aging social infrastructure. They also stive to establish a safe and secure operational management system, promoting the accelerated integration of drones into society.