Our laboratory's insights in relation to the aircraft collision incident at Haneda Airport

We would like to express our deepest condolences regarding the aircraft collision incident at Haneda Airport. Our thoughts are with those who lost their lives, and we sincerely hope for the swift recovery of those who were injured.

Various media outlets have been discussing the accident's causes based on flight radar information and control records, which are publicly available through various sources. However, the detailed investigation into the causes of the accident is expected to be conducted by the Japan Transport Safety Board through a meticulous examination of control data and interviews. In this context, we will refrain from specific references and limit our remarks to perspectives from our research laboratory, which focuses on airport surface analysis and composite materials.

The runway involved in the accident, Runway C (34R), is a dual-use runway for both takeoff and landing operations, managed under highly complex air traffic control. Basically, the landing aircraft has priority, and the takeoff aircraft departs between landing aircraft. This accident was a collision between the landing and takeoff aircraft.

Currently, Haneda Airport operates a takeoff/landing every two minutes or less. In anticipation of the future increase in air traffic volume, we have been conducting research on the optimization of air traffic control. However, there are instances, such as the current disaster, where airports may become temporarily overcrowded due to additional flights. In disaster-prone Japan, it is imperative to streamline air traffic control and airport ground operations to address the challenges of overcrowding and enhance overall safety.

In addition, the aircraft involved in the accident, an A350, is a state-of-the-art aircraft that utilizes composite materials, constituting over 50% of its total weight. This aircraft, along with the B787, plays a crucial role in the future of air transportation. Especially, Carbon Fiber Reinforced Plastic (CFRP), a composite material composed of carbon fibers and thermoset resin, presents challenges in achieving fire resistance compared to traditional metal structures. In this incident, a significant portion of the fuselage was consumed by fire, making the safe evacuation of all occupants under such circumstances fortuitous. Enhancing flame resistance in resins is a prominent focus of our laboratory's research, as it directly contributes to improving safety.

The current aircraft collision incident reaffirms the responsibility and significance of our research laboratory's focus on aircraft materials and operations. We are determined to advance our research to contribute to aircraft safety.

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