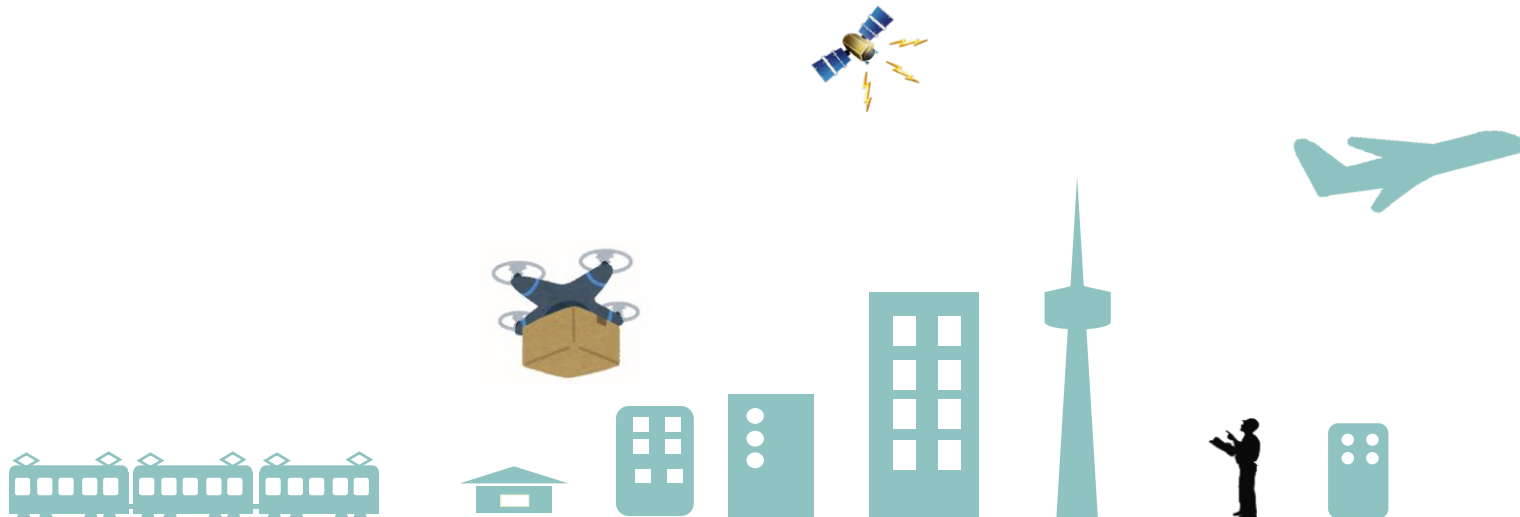


SURVEY ON SMALL UAS INVESTIGATION

— Information collected from investigative authorities —



Japan Transport Safety Board

APAC AIG/8, Webinar

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Summary

Japan Transport Safety Board (JTTSB) conducted a questionnaire survey on the status of investigation for accident or incident involving small unmanned aircraft system from several investigative authorities in this July and August.





1. INTRODUCTION

1.1 The small UAS has ushered in what we call “industry revolution in the sky”, opening up new opportunities through the utilization of small UAS.

Small UAS has already been used for a wide range of applications such as aerial photography, pesticide spraying and infrastructure inspection.





The usage of small UAS is expected to expand further into various fields like package delivery, patrol service and surveillance for agricultural management.

There are expectations for small UAS as a tool for solving social challenges, e.g., labor shortage and aging society with fewer children, and for creating new added value.





1.2 In Japan, the comprehensive discussion toward further expansion of its utilization has been hold by the government together with the private sector entities in order to establish an environment progressively from the perspective of technology and regulatory framework, aiming for small UAS operation over populated area beyond visual line of sight without visual observer in the target period of 2022.





1.3 Currently, the Japan **Civil Aviation Bureau** sets the rule for small UAS weighing 200 grams or more. Any person who intends to fly the small UAS around airports, in airspace at or above 150m, or above densely inhabited districts is required to obtain permission.





In addition, any person who intends to fly small UAS at night, beyond visual line of sight or at event sites, or for the purpose of transporting hazardous material or dropping off objects from small UAS is required to obtain approval.

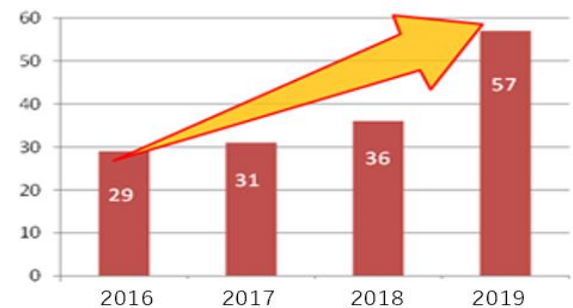
The owner is to be required to register detailed information about their small UAS.





1.4 In fiscal 2019, the number of permission and approval for small UAS operation reached around 50,000, nearly five times as much as the number in fiscal 2016.

As the operation grows rapidly, the occurrences associated with these operations such as incursion into the airspace around the airport and minor injuries to people on the ground are increasing year by year.





1.5 At present, small UAS related accident or incident is not subjected to the investigation by JTSTB in Japan.

Given the expansion of small UAS operations such as those beyond visual line of sight without visual observer, JTSTB acknowledges that small UAS needs to be considered as the subject of the investigation conducted by JTSTB.





With a view of better understanding the investigation in other investigative authorities and using as a reference to study the regulatory framework of small UAS investigation, JTSTB conducted a survey on the status of investigation for small UAS with the cooperation of several selected investigative authorities.





2. DISCUSSION

2.1 In ICAO, the current scope of remotely piloted aircraft system (RPAS) considered for SARPs development by the RPAS Panel or other panels is limited to RPAS operating internationally within controlled airspace under instrumental flight rules (IFR) in non-segregated airspace or at aerodromes. This scope does not necessarily include small UAS operation outside the controlled airspace.





2.2 The amendment to Annex 13 has already been adopted to expand the definition of accidents and serious incidents to include UAS related accidents and serious incidents.





Note 3 of 5.1.2 to Annex 13 states that “in the case of investigation of an unmanned aircraft system, only aircraft with a design and/or operational approval are to be considered”, which provides flexibility for cases where an individual investigative authority decides to investigate an occurrence involving small UAS.





2.3 With a view of better understanding the investigation in other investigative authorities and using as a reference to study the regulatory framework of small UAS investigation, JTTSB decided to conduct a survey related to the investigation for small UAS in other investigative authorities, mainly focusing on the criteria for determining whether specific occurrence involving small UAS are to be investigated.





2.4 JTTSB recently sent a survey to several investigative authorities, requesting responses to a series of questions related to small UAS investigation.

A questionnaire is provided in [Attachment A](#).

The survey has completed with the great cooperation of these investigative authorities.

The outcome of the survey is outlined in [Attachment B](#).





2.5 The preliminary comparative analysis of the outcome of the survey found as follows.

- a) A majority has the regulation or policy to investigate occurrence involving small UAS and has an experience of the investigation for small UAS.





b) The criteria applied to decide whether to investigate specific occurrence involving small UAS varies between the authorities.

At least, small UAS related accident in which any person is fatally or seriously injured may be subjected to the investigation.



c) Some investigative authorities have quantitative criteria such as aircraft maximum mass, which is used as a threshold when deciding whether to investigate.



d) The level of investigation varies.

Some investigative authorities apply scalable response to small UAS investigation, ranging from full investigation to record only investigation.

e) In some investigative authorities, small UAS investigations are conducted by aircraft accident investigators who have acquired knowledge specific to small UAS.



On the other hand, no special investigation equipment are used other than PC application software for small UAS.



2.6 JTTSB also recognizes that a key area is the capability of small UAS investigation.

Small UAS specific training may need to be developed to support this investigation.





3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Take note of the results of the survey on small UAS related investigation that was conducted by JTTSB

b) Encourage to work closer to share knowledge and experience with other investigative authorities





Thank you.