



TAKING OFF THE LOAD

Tackling baggage handling challenges at Changi Airport

Changi Airport typically handles around 23,500 bags per day (in 2013) for narrow-body aircraft and this number is expected to increase in future. As Singapore is expected to face nationwide manpower crunch, there is a critical need to improve

productivity levels in the baggage handling process by reducing the load, literally, that the baggage handlers will have to carry.

What happens when you drop your bag off at the check-in counter at the airport? This is often a process that is unseen and may be taken for granted by the departing passenger. In fact, there are many workers behind the scenes that are involved in the baggage handling process to ensure that the baggage are handled efficiently from the designated departing or arriving aircraft.

Many hands at work

Certain areas of the baggage handling process require manual intervention, hence making it very labour-intensive. This is particularly so for the loading and unloading of baggage for narrow-body aircrafts such as the Airbus A320 and Boeing 737. For these areas, up to eight baggage handlers are deployed to each departure flight and another eight baggage handlers for the arrival flight.

For any departing flight, after baggage reconciliation is done at the make-up carousel, the baggage handlers would physically lift and load each bag into a trolley assigned for the flight. Another handler would need to transport this trolley to the aircraft. Following which, the literally back-bending process of loading continues. The baggage would be manually removed from the trolley and loaded onto a conveyor belt loader leading into the aircraft's cargo hold. A handler would then be crouching in the narrow confines of the aircraft's cargo hold to receive and arrange these bags, including pushing them further into the cargo hold. The reverse process would apply for arrival flights.



Photos courtesy of SATS.

The job is tough, even for the strongest and fittest person. Not forgetting the hot and humid weather in Singapore which makes the handling process even more challenging. The job is also time-sensitive: Changi Airport takes a serious view in maintaining high service quality and efficiency in the baggage handling process.

Looking for a sustainable solution

Changi Airport typically handles around 23,500 bags per day (in 2013) for narrow-body aircraft and this number is expected to increase in future. As such, there is a critical need to reduce the load, literally, that the baggage handlers will have to carry and improve productivity levels in the handling process.

Aviation Challenge 1

To this end, CAAS introduced the first Aviation Challenge in July 2014. It is part of the S\$100 million Airport Productivity Package that comprises various programmes to accelerate the development and implementation of initiatives for raising labour productivity at Changi Airport. The first challenge seeks suitable proposals that can help automate the baggage loading and unloading process for narrow-body aircraft.

Aviation Challenge 1

CAAS would like to call for interested parties to submit proposals aimed to automate the baggage loading and unloading process for narrow-body aircraft.

Up to five proposals will be selected and S\$2 million in funding will be given to each selected proposal with a cash prize of S\$500,000 awarded to the winning prototype.

The selected proposals will be given 18 months each to develop the prototype. The deadline for proposal submission is 31 December 2014.

“With a vast market of technological expertise available, CAAS seeks to tap the intellectual capacities and creativity of the industry and the academia to come out with transformative and innovative solutions to tackle relevant problems in the aviation sector where there are no commercially-available solutions,” says Daniel Ng, Director of Aviation Industry Division at CAAS.

The challenge is launched as a series of competitions where the shortlisted proposals will receive funding support to develop a prototype and an extra cash prize for a winning prototype. CAAS hopes to spur the competitive and entrepreneurial spirit of the industry to inject new solutions for the aviation industry in Singapore.

Are you up for the challenge? Download the call-for-proposal document for the Aviation Challenge 1 [here](#).

For more information on the Aviation Challenge, you can write to CAAS at caas_ai@caas.gov.sg.