CAN *Newsletter Online*

BAGGAGE ROBOT

Lending passengers a hand with CANopen

Leo the robot has been designed by Bluebotics for Sita. It speeds up bag drop by collecting passengers' baggage before they enter the terminal at the Geneva (Switzerland) airport.

Passengers arriving at [Geneva Airport](#) in the past few days have received help with their bag drop from Leo, an innovative baggage robot developed by air transport IT provider Sita, which is being trialed outside the airport's Terminal 1. Leo is a fully autonomous, self-propelling baggage robot that has the capacity to check in, print bag tags, and transport up to two suitcases with a maximum weight of 32 kg. It also has an obstacle avoidance capability and can navigate in a high-traffic environment such as an airport.

For the robot CANopen (CiA 402) motor controllers from Roboteq have been implemented. All of the controller's supported commands are mapped in a table, or Object Dictionary that is compliant with the CANopen specification. The controllers are directly interfaced with the CAN-capable [ANT lite+ navigation product](#) of Bluebotics.

Leo provides a glimpse into the future of baggage handling being explored by Sita Lab and is the first step to automating the baggage process from the moment passengers drop their bags to when they collect them. Using robotics and artificial intelligence, bags will be collected, checked in, transported, and loaded onto the correct flight without ever having to enter the terminal building or be directly handled by anyone other than the passengers themselves.

Leo is an autonomous baggage robot that can check in, print bag tags, and transport up to two bags (Photo: Bluebotics)

The ANT lite+ navigation product (Photo: Bluebotics)

Leo – named after the Italian Renaissance inventor and engineer Leonardo da Vinci who built what is now recognized as the world's first robot – comes to the assistance of passengers as they approach the terminal building. Touching Leo's [Scan-and-Fly](#) bag drop interface opens the baggage compartment doors to allow passengers to place their bags inside. After the passengers have scanned their boarding passes, the tags are printed and can be attached to the bag. With the bags loaded and tagged, the compartment door closes and Leo displays the boarding gate and departure time.

Leo then takes the bags directly to the baggage handling area where they are sorted and connected to the correct flight. The doors of the robot can only be reopened by the operator unloading the baggage in the airport. The use of robots such as Leo means that in future fewer bags and trolleys will enter the airport terminal, reducing congestion and making airport navigation easier.

Dave Bakker, President Europe at Sita said: "Through the innovative work of the Sita Lab we are able to tackle some of the key challenges that face airports today. Leo demonstrates that robotics hold the key to more effective, secure, and smarter baggage handling and is major step towards further automating bag handling in airports. Leo also provides some insight into the potential use of robots across the passenger journey in future."

Watch Leo in action:

Massimo Gentile, Head of IT at Genève Aéroport, said: "In a busy airport such as Geneva Airport, the use of a robot such as Leo limits the number of bags in the airport terminal, helping us accommodate a growing number of passengers without compromising the airport experience inside the terminal. Leo also proves the case for increased use of robotics to make passengers' journey a little more comfortable, whether it is checking in baggage, providing directions, or helping them through the security process."

Leo, which was built for Sita by Bluebotics, is part of Sita's showcase of technology at the 2016 Air Transport IT Summit taking place from 24 May to 26 May in Barcelona.

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