

**REQUEST #4100112**
**KLM Schiphol Automated Baggage Handling Challenge**
**Opportunity**

Total opportunity for this Challenge consists of up to €40,000 in cash plus a possible supplier contract for up to 30 Automated Baggage Handling Systems. Furthermore, there will be the opportunity to market and demonstrate successful solutions together with KLM and Schiphol to other airports.

**Timeline**

Opening Challenge:	January 19, 2015
Submission deadline:	March 24, 2015
Announcement of finalists:	April 10, 2015
Finals at Amsterdam:	April 20 to April 24, 2015
Announcement of winners:	May 1, 2015


**Financials**

- A maximum of four respondents, one per category, will be awarded cash prizes up to €10,000 each.
- Airfare and accommodation for finalists will be paid by KLM and Schiphol.
- Prize winning respondents can be invited to execute pilot projects with KLM and Schiphol. Successful pilot projects can result in supplier negotiations with KLM and/or Schiphol for acquisition of up to 30 Automated Baggage Handling Systems.
- Further funding opportunities may be available at the discretion of KLM and Schiphol.

**For questions and comments, you are welcome to contact us at the SOLUTION PROVIDER HELP DESK:**

Manager: Rafael Peset, Ph.D.

Email: [phd@ninesigma.com](mailto:phd@ninesigma.com)

Phone: +1-216-283-3901

**REQUEST DESCRIPTION**

NineSigma, representing **the KLM Royal Dutch Airlines and Schiphol Amsterdam Airport**, seeks submissions for **Automated Baggage Handling Systems to transport Baggage from the airport facilities to the airplanes and back**. The submissions should improve upon current approaches by avoiding manual interference and improving Baggage throughput.

**ABOUT THIS CHALLENGE**

Participants in this challenge will submit proposals for Automated Baggage Handling Systems for one or more of the four categories of this Challenge. KLM and Schiphol's current Baggage Handling System can be found [here](#).

Participants in this competition vie for up to four €10,000 cash prizes, one per category. Award winners will have the opportunity to engage with KLM and Schiphol in up to four pilot projects. The objective of these pilot projects is to demonstrate proof of concept of the proposed solutions.

Participants must complete the proposal and submit by March 24, 2015. The proposal submission will serve as the official entry in this Challenge. The submission should contain a non-confidential introduction to the respondent's handling concept, background and expertise.

Finalists will be selected by April 10, 2015, and be invited for in depth evaluation in the week of April 20 to April 24, 2015 at Schiphol; airfare and accommodation (up to 2 persons per finalist) will be paid by KLM and Schiphol. Award winners will be announced on May 1, 2015.

**DEFINITIONS**

The following definitions are important for the challenge. Additional information can be found [here](#).

- Baggage:** Items that are being transported on the Baggage Carts and Powerstow.
- Baggage Cart:** Mobile vehicle on which the Baggage for a flight is placed in order to transport it from the airport Baggage Handling System to the aircraft.
- Baggage Hall:** Area at the airport where the Baggage Handling System is situated
- Baggage Handling System:** The system at the airport that transports and sorts Baggage to the appropriate loading area for Baggage Carts
- Powerstow:** Mobile vehicle with an expandable conveyor belt system on it. The Baggage is loaded and transported from the Baggage Cart on the platform into the aircraft and vice versa using this system.

**BACKGROUND**

Baggage handling is an important aspect in air travel. After the passenger has checked in, the Baggage is transported from the terminal to the airplane and after landing it is transported from the airplane to the Baggage conveyor belts to be picked up by the passengers. This challenge addresses four steps in the Baggage handling process:

- Step 1:** Moving the Baggage from the conveyor belt onto the Baggage Cart in the Baggage Hall.
- Step 2:** Moving the Baggage from the Baggage Cart onto the Powerstow at the airplane.
- Step 3:** Moving the Baggage from the Powerstow onto the Baggage Cart at the airplane.
- Step 4:** Moving the Baggage from the Baggage Cart onto the conveyor belt in the Baggage Hall.

All these steps are currently carried out manually and are considered heavy labor. The challenge consists of four categories, each category addressing one step.

	<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>Category 4</b>
	Unloading conveyor belt onto Baggage Cart	Unloading Baggage Cart onto Powerstow	Unloading Powerstow onto Baggage Cart	Unloading Baggage Cart onto conveyor belt
Location	In the Baggage Hall	At the airplane	At the Airplane	In the Baggage Hall
System	Stationary or mobile	Mobile	Mobile	Stationary or mobile
Required (un)loading time of a Baggage Cart	<4 minutes	<4 minutes	<4 minutes	<4 minutes (preference for multiple carts simultaneously)
Maturity of solution	Up and running before end 2016	Up and running before end 2018	Up and running before end 2018	Up and running before end 2016

The goal of this challenge is to find proposals for baggage handling systems to carry out these steps fully automated.

**KEY SUCCESS CRITERIA**

KLM and Schiphol are looking for Baggage Handling proposals that are able to address one or more of these categories, and with the following properties:

- Does not damage Baggage
- Has sufficient speed – as mentioned in the table above
- Including safety measures to protect workers
- Credible partner with relevant capabilities and track record
- Can be demonstrated in a pilot project
- Can be up and running in 2 to 4 years

## POSSIBLE APPROACHES

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Possible approaches might include, but are not limited to:

- Robotics with or without computer vision, as shown for containers [here](#).
- Approaches that empty a complete Baggage Cart at once and place the content on the conveyor belt, as demonstrated for containers [here](#).
- Other approaches

## APPROACHES NOT OF INTEREST

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The following approaches are not of interest:

- Unable to deal with the variation in Baggage shape and size.
- Require substantial changes to conveyor belt, Baggage Cart and/or Powerstow
- Are too large to fit current infrastructure

## RESPONDING TO THIS CHALLENGE

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All entries must be submitted online at [NineSights](#), the NineSigma open innovation community, according to the online instructions. Supplemental files may be submitted as well. All that is submitted is part of the entry.

Entries from companies (small to large), research institutes, consultants, venture capitalists, entrepreneurs, or inventors are welcome.

Appropriate entries will respond online based on the template provided for this Challenge, and address the following:

- Description of proposed Baggage Handling System and its achieved performance
- Supporting data (videos and/or pictures if available)
- Team experience and background

By submitting a response, respondents agree to KLM Schiphol's Official Terms & Conditions and all of the following submission requirements, including confidentiality, selection, and the review processes:

Respondents agree to the submission terms described in the response form.

### **Confidentiality**

Respondents confirm that their submissions do not contain any confidential information.

### **Selection / Review Process**

Respondents acknowledge that KLM Schiphol reserve the sole and absolute right and discretion to award prizes as stated in the challenge, including awarding less than four respondents. The entry evaluation and award determination will be made by an internal KLM Schiphol team.

See [Terms and Conditions](#) for details. Challenge opens on January 19, 2015. Must submit at least one entry by March 24, 2015 to be eligible.