

PRESS RELEASE

October 11, 2011

Integrated Robot Loading at Amsterdam Airport Schiphol wins interTERMINAL Award 2011

New "Baggage on demand concept" (pull-concept) for baggage handling conceived by Amsterdam Airport Schiphol for the 70MB program and implemented by Vanderlande Industries and Grenzsbach Automation awarded innovation prize at industries' biggest event in Munich, Germany.

The Integrated Robot Loading concept that was implemented at Amsterdam Airport Schiphol's South baggage hall to create a smarter baggage system, has been chosen as the most innovative of 27 submissions for this award. The "Baggage on Demand concept" or pull-concept using batching and automatic baggage loading robots gives airports the ability to manage the growing amount of baggage in an ergonomic and cost efficient way.

The award ceremony took place on Tuesday morning 11th October during the first day of the *inter airport* Europe exhibition, taking place in the Munich Exhibition Centre in Germany. The award was accepted by Dr. Joachim Döhner, Director Airport Logistics, Grenzsbach Automation, and Mr Pieter Havenaar, Managing Director Baggage Handling, Vanderlande Industries, on behalf of all the partners that have brought this new concept to life.

Mr Döhner commented "what initially was a smart idea from Schiphol, has lead to a common vision. After several years of hard work this vision has been successfully realized, thanks to the creativity, enthusiasm and perseverance of all the people involved, including specifically also our partners and Amsterdam Airport Schiphol who have joined us on this journey."

Mr Havenaar expressed his gratitude towards Amsterdam Airport Schiphol who enabled the development of this innovative baggage handling concept in the best possible circumstances and in partnership with the airport. "The cooperation between the partners in this project has led to a significant step forward in the way we approach the baggage handling process."

Baggage make-up is the loading of ramp-carts and containers, which are driven to an airplane just before departure. In the Baggage on Demand concept, all baggage from check-in and transferring bags are first buffered in a storage facility, and then sent to a robot on demand. The robot loads the ramp-carts and containers automatically. The LTM (Logistics Transport Manager) manages the baggage flows in the system, and the robot replaces the muscle power of the workforce. This concept has first been deployed as part of the 70MB program at Amsterdam Airport Schiphol, is future-proof, and is intended primarily to raise efficiency and reduce heavy manual labour. The Baggage on Demand operation handles the bulk of the daily baggage volume.

The combination of several innovations and developments make Integrated Robot Loading a unique product, resulting in more productivity per square meter building and per handling operator while greatly improving the working conditions, process quality and bag security at the same time:

- Managing flight make-up based on so-called batches from a crane-racking Early Bag Store (EBS) that guarantees individual, energy efficient retrieval per bag.
- Using fully automated robots to load bags in a predetermined sequence onto carts and into containers (first trials date back 5 years, but development and fine tuning of concepts and system components have resulted in drastic improvements, supporting efficient and robust operation).
- Measuring each individual bag on its characteristics, like dimensions and weight, to determine an optimal loading/stacking pattern inside the robot cell.
- Performing the majority of the heavy work of lifting bags in ramp carts or ULDs with robots. Each robot cell can load 24,000 kg per shift of 8 hours and can be operated by one operator. All with much better working conditions and a so-called NIOSH value beating the normative target of the Health and Safety regulator.

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About Vanderlande Industries

Vanderlande Industries provides automated material handling systems and accompanying services. It focuses on improving its customers' business processes and strengthening their competitive position. The Company is active in the markets for Baggage Handling at airports, Distribution Centres and Parcel and Postal sortation facilities. The Company implements and maintains material handling systems of all sizes, ranging from local sorting depots, airports and distribution centres to the world's largest facilities. The company ranks is world market leader in baggage handling.

In every case the emphasis is on close partnership with the customer, extending from initial analysis of the underlying business processes through to total life-cycle support. To achieve this, the Company possesses core competences, ranging from design and build to operate and maintain. Relevant disciplines are project management, system design, engineering, supply chain, manufacturing, ICT, system integration, operation and maintenance. The company has net sales of more than EUR 600 million and employs almost 2000 people.

Vanderlande Industries is a global player with a presence in all key regions of the world. The company has subsidiaries in the Netherlands, Belgium, Germany, France, Great Britain, Spain, Canada, PR China, India, South Africa and the USA. These Customer Centres handle all key business functions and maintain direct contacts with customers.

About Grenzsbach Automation

Grenzsbach Automation, located in Karlsruhe, Germany, is part of the successful and globally active Grenzsbach Group and focuses on developing technology for the automation of logistic processes and handling tasks. Core expertise includes robotics, vision technologies, material flow automation and application-specific handling systems.

In the airport context, Grenzsbach Automation is a leading supplier of automation solutions providing innovative, yet reliable and efficient equipment to close the remaining automation gap between the baggage conveyor and the apron.

The Grenzsbach group is a well-established manufacturer of production and handling technology for flat glass, building panel, veneer and other industries. With production capabilities in three continents and a professional 24/7 service organization with locations in all relevant time zones Grenzsbach is always close to you. The family-owned company with its global footprint employs about 1,500 persons around the world.

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