

Press Release

thyssenkrupp Elevator

18.05.2016

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Automating the future: thyssenkrupp's artificial vision-based technology to revolutionize airport ground handling services efficiency

- Smart Docking Assist will improve passenger flow at airports
- artificial vision to automate the bridge-to-aircraft docking process and improve safety during airport operations
- brings park assist solutions from the automotive industry to Passenger Boarding bridges

thyssenkrupp is this week showcasing its expertise and innovation in airport Ground Handling Services, presenting its Smart Docking Assist (SDA) for Passenger Boarding Bridges at the 29th International Air Transport Association (IATA) Ground Handling Conference (IGHC), in Toronto, Canada. The technology, which uses artificial vision to automate the bridge-to-aircraft docking process, allows more precise measurement of the risk variables involved during docking and minimizes damage to the airplanes that is often a consequence. Whilst significantly reducing maintenance and repair costs in ground handling services, SDA can also improve the safety of passengers when boarding and disembarking from airplanes.

SDA has been developed following significant R&D investments from thyssenkrupp, wherein algorithms and machine learning processes were used to measure and test reactions to identify the most efficient performance of the technology. The results of these tests were extremely positive, reporting that with SDA, the efficiency of trajectories is more predictable and accurate, and the repetition ensures a reduction of variability in the docking and undocking process.

The SDA innovation is set to revolutionize ground handling services in airports across the world. Javier Sesma, General Manager of the thyssenkrupp Elevator Innovation Center in Gijón, Spain presented the technology at a high-level speaker session at the IGHC conference on Monday, May 16th, entitled Ground Support Equipment (GSE) Innovations to Reduce Ground Damage.

Sesma comments: "At thyssenkrupp we have a long record of providing innovative solutions to challenging problems, and the SDA technology is a great example of this. Our main goal was to create an automatic docking process that was easy to repeat time and time again, to reduce ground damage and increase the time that aircraft are in the air and transporting people from A to B as intended."

Enhanced safety whilst aircraft is on the ground is another key deliverable of the SDA. According to IATA, the incidents to the aircraft created by ground handling equipment have an impact of 4 billion US dollars per year for the airline industry. The automation of Passenger Boarding Bridges simplifies this process and removes the potential for human error that can occur during manual connections, creating the opportunity to reduce aircraft damage in the process. Passenger safety is a major priority in airports and the SDA can improve this aspect when passengers are getting on and off the plane, and also speed up the time it takes for them to leave the aircraft and pass through the airport.

Javier Sesma adds: “Automated Docking Assistance systems like SDA are already being used to great effect in the automotive industry, where park assist solutions have been helping to streamline and increase safety in vehicle maneuvers. Our vision is to replicate this automation model for the airport industry, to minimize equipment damage, ensure seamless operations, improve safety, and facilitate better planning and efficiency in the whole ground handling process.”

thyssenkrupp is presenting the SDA solution as part of a project called INTERACTION (Innovative Technologies and Researches for a new Airport Concept towards Turnaround coordination); this project is developed by a pan-European consortium to improve turnaround processes and their coordination, facilitating people flow in airports and developing solutions to aid mobility in buildings and cities in response to the increasing pressures of globalization and urbanization. The project is funded by the 7th Framework Programme of the European Union, and integrates 11 partners including Airbus and Indra, among others.

This technology adds another service to thyssenkrupp Elevator’s extensive portfolio of mobility solutions that are already improving efficiency and safety in airports. iwalk – the company’s moving walkway technology – has been installed in airports in four continents. Other breakthrough innovations, such as the accelerated people mover ACCEL and the world’s first horizontal/vertical rope-less elevator system MULTI, are also pushing the boundaries and raising the bar of passenger mobility in urban hubs across the world.

International airports featuring thyssenkrupp Elevator technologies include Toronto Pearson, London Heathrow, New York’s JFK, Dubai, Bangalore and Kuala Lumpur, amongst others.

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thyssenkrupp Elevator brings together the Group's global activities in passenger transportation systems. With sales of 7.2 billion euros in fiscal 2014/2015 and customers in 150 countries, thyssenkrupp Elevator built its position as one of the world's leading elevator companies from scratch in a mere 40 years' time applying thyssenkrupp unique engineering capabilities. With more than 50,000 highly skilled employees, the company offers smart and innovative products and services designed to meet customers' individual requirements. The portfolio includes passenger and freight elevators, escalators and moving walks, passenger boarding bridges, stair and platform lifts as well as tailored service solutions for all products. Over 900 locations around the world provide an extensive sales and service network to guarantee closeness to customers.

thyssenkrupp

thyssenkrupp is a diversified industrial group with traditional strengths in materials and a growing share of capital goods and services businesses. Around 155,000 employees in nearly 80 countries work with passion and technological expertise to develop high-quality products and intelligent industrial processes and services for sustainable progress. Their skills and commitment are the basis of our success. In fiscal year 2014/2015 thyssenkrupp generated sales of around €43 billion.

Together with our customers we develop competitive solutions for the challenges of the future in the areas Mechanical, Plant and Materials. With our engineering expertise we enable our customers to gain an edge in the global market and manufacture innovative products in a cost- and resource-friendly way. For us, technical progress and innovations, allied with the combined strength of the Group, are key factors enabling us to meet current and future customer and market requirements around the world, grow on the markets of the future, and generate strong and stable earnings, cash flows and value growth.

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