



## Leading the digital transformation of elevator service: thyssenkrupp extends the benefits of MAX, its predictive maintenance solution, to over 40,000 customers

- At StartupCon 2017, thyssenkrupp showcases the status of its digitalization vision for elevator service, which aims to reduce downtime by up to 50%
- Over 110,000 elevators worldwide are already MAX-connected. After the United States, Germany and Spain, South Korea is now also in the MAX network
- After equipping service technicians with Microsoft HoloLens to reduce service intervention times by up to 4x with mixed reality technology, the company is now exploring the possibility of improving the delivery of spare parts to job sites, initiating tests on driverless robots developed by start-up TeleRetail

As the challenges of urban mobility grow, thyssenkrupp continues to transform how it delivers service in the elevator industry, which transports over a billion people each day and is valued at \$US 44 billion/year. After teaming up with Microsoft in 2015 to launch MAX, the first predictive maintenance solution for elevators enabled by Microsoft's cloud platform Azure, thyssenkrupp has now connected more than 110,000 elevators with the IoT-based system, enabling the reduction in downtime for 41,369 customers across 48,340 sites. MAX collects and sends real-time data from connected elevators to the intelligent cloud, where the remaining lifetime of each elevator's key components and systems are calculated, determining which parts will require maintenance and when.

Speaking at StartupCon 2017 in Cologne, thyssenkrupp Elevator CEO Andreas Schierenbeck says, "We developed MAX because we knew that elevator service could be done much better than the industry norm. With an estimated unavailability of 190 million hours worldwide each year, we felt that the uptime of the world's 12+ million elevators could certainly be improved. And now the benefits from MAX are real: reduction of downtime for our customers, reduced service intervention times for our technicians, and in some cases we have been able to solve a problem before the customer even knows there is one. With M2M learning, the benefits of MAX will just keep getting bigger and better."

The over 110,000 connected units comprise approximately 10% of thyssenkrupp's global maintenance portfolio. After starting out in North America and Europe, Asia has now joined the MAX network with over 8,000 connected units in South Korea. While expanding in these regions, thyssenkrupp is also focusing on rolling out the end-to-end process to go fully predictive and planning launches in additional countries – namely Brazil and Portugal. Soon, MAX will also be offered for escalators and third-party elevators as well, ensuring

customers can benefit from maximum uptime regardless of whether they use a thyssenkrupp elevator or not.

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In combination with MAX, thyssenkrupp is steadily incorporating the use of Microsoft HoloLens in its field operations. Technicians are starting to work hands-free while on the job using the in-built Skype app in HoloLens devices, making remote calls to more experienced colleagues who can walk them through solutions and provide them with valuable on-site education. The result is significant savings in time and stress and improved customer service.

Joining Mr. Schierenbeck for a keynote presentation at StartupCon, Andre Kiehne, member of Microsoft Germany's management board, says, "Our longstanding partnership with thyssenkrupp shows how sharing a vision and bringing together technology and expertise results in the revolution of an entire industry. The journey of thyssenkrupp is a role model – even beyond manufacturing – on how companies digitalize their businesses successfully."

Building further on the advantages presented by cloud-connected technologies, thyssenkrupp is also working to improve its service logistics. Teaming up with Swiss-based start-up TeleRetail, it is initiating tests of driverless delivery robots to move spare parts from warehouses to job sites faster, more flexibly and with less impact on the environment. The advantages: The delivery robots are just 85 cm wide and suitable for traveling on sidewalks, thereby avoiding road congestions. They can also reach inner-city areas where vehicular transport is limited and carry payloads weighing up to 35 kg. Moreover, information on delivery status can be obtained quickly via an online Logistics Automation Platform.

Schierenbeck added, "We are exploring next-generation technology as we believe there are significant efficiency gains to be achieved in the service business, and the delivery of spare parts to job sites is a time-consuming aspect that has large scope for improvement." He concluded by saying, "The incorporation of each of these innovations helps us to remain the best multi-brand service provider in the industry. Of the more than 1.3 million units under thyssenkrupp maintenance, over one-third consists of third-party equipment and we are always working to ensure we offer customers a one-stop-shop for all their urban mobility service needs."

Images can be downloaded here:

[https://transfer.thyssenkrupp.info/public/s49366z\\_21a162b2a9e4791e4e4d5a](https://transfer.thyssenkrupp.info/public/s49366z_21a162b2a9e4791e4e4d5a)

About us:

#### **thyssenkrupp Elevator**

thyssenkrupp Elevator brings together the Group's global activities in passenger transportation systems. With sales of 7.5 billion euros in fiscal 2015/2016 and customers in 150 countries,

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Chairman of the Supervisory Board: Dr. Heinrich Hiesinger, Executive Board: Andreas Schierenbeck (Chairman), Ercan Keles, Gabriele Sons  
Company domicile: Düsseldorf, Commercial register: Düsseldorf HR B 47444

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.

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### **thyssenkrupp**

thyssenkrupp is a diversified industrial group with traditional strengths in materials and a growing share of capital goods and services businesses. Around 156,000 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 2015/2016 thyssenkrupp generated sales of around €39 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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