72.2 %

51 µ

322

11 mm

72.2

34.3.

Business challenge

Leading elevator and escalator manufacturer and service provider KONE Corp. saw that global connectivity and real-time data provision could help improve "people flow" in some of the world's busiest buildings.

Transformation

KONE chose IBM® Watson IoT™ running on IBM Cloud to connect, remotely monitor and optimize managing more than 1.1 million elevators and escalators in buildings worldwide. The business will use the system to analyze sensor data to help predict, identify and resolve issues, even before equipment breaks.

**Henrik Ehnrooth
President and CEO,
KONE Corp.**

Business benefits

1.1 million
elevators connected
to a cloud-based system that predicts maintenance needs

Improves
equipment availability
through reduced downtime, fewer faults and more detailed performance information

Fosters
third-party innovation
through application development to improve customer service and user experience

KONE Corp.

Improving "people flow" in 1.1 million elevators globally with IBM Watson IoT and IBM Cloud

KONE's mission is to improve the flow of urban life. As a global leader in the elevator and escalator industry, KONE provides elevators, escalators and automatic building doors, as well as solutions for maintenance and modernization to add value to buildings throughout their life cycle. Through more effective People Flow®, KONE makes people's journeys safe, convenient and reliable, in taller, smarter buildings. In 2016, KONE had annual net sales of EUR 8.8 billion, and at the end of the year over 52,000 employees.

"By working with IBM, new solutions like remote diagnostics and predictability mean we will deliver even better services to our customers."

—Henrik Ehrnrooth, President and Chief Executive Officer, KONE Corp.

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Managing "people flow"

Each day, billions of people use elevators and escalators to reach their work, shopping and home destinations, largely taking these conveyances for granted. But one elevator malfunction in a high-rise office building can cause untold headaches and inconvenience for multitudes of frustrated people, especially at peak times. Angry users generally don't think to blame the elevator manufacturer; rather, they vent their irritation at the building's management or at the retail outlet whose goods they can no longer conveniently access.

KONE, which has been a leading, global manufacturer and servicer of elevators and escalators for decades, knew that these unanticipated breakdowns and service interruptions could translate into lost business and great expense for the building owners

and facilities managers that compose its customer base. KONE's mission and vision are to create and add value for its customers, some of whom have worked with KONE for multiple decades. However, as buildings get taller and taller with the capacity to serve tens of thousands of users simultaneously, the pressure to keep people moving smoothly—a concept that KONE calls "people flow"—continues to mount.

KONE already provided traditional maintenance services for its more than 400,000 building owner and facilities management customers, but it sought cloud-based analytics technology to capture and use the vast amount of data generated by its elevator and escalator equipment worldwide to transform its service offerings. "We knew that digitalization was changing the industry, and we wanted to become a forerunner, not a follower in this development," says Markus Huuskonen, the Director of Maintenance Processes and Connected Services at KONE.

"We looked at the whole market and quickly realized that IBM is a leader in IoT (Internet of Things) and cognitive analytics," states Henrik Ehrnrooth, President and Chief Executive Officer (CEO) at KONE. Ehrnrooth saw that global connectivity and real-time information provision could become the foundation for new, innovative services to help KONE customers improve people flow and enhance the user experience.

Connecting to IBM Cloud

KONE chose IBM Watson IoT running on IBM Cloud to connect, remotely monitor and optimize managing more than 1.1 million elevators and escalators in buildings and cities worldwide. KONE will offer its "24/7 Connected Services" solution as part of its existing KONE Care customer service. The business will use the system to analyze the profusion of sensor data from its equipment to help identify and predict issues, minimize downtime, and personalize and improve the user experience.

Connecting all that equipment to IBM Watson IoT is a game changer, according to Huuskonen. "We have real-time visibility into what's happening, and we are then providing that visibility to our customers so that they have more information available. That makes their job easier, especially with their own customers, who are users of the equipment or tenants in the building."

Analytics embedded in the solution can predict equipment condition, thereby helping KONE customers better manage their equipment over its lifecycle. For example, instead of requiring a customer to call for a service engineer after an equipment breakdown, the solution helps KONE see imminent problems in real time, quickly dispatching a technician to resolve issues before they can cause system malfunctions or interruptions. In other words, KONE can fix things before they break.

Ehrnrooth asserts, "We operate in a connected world, and by working with IBM, new solutions like remote diagnostics and predictability mean we will deliver even better services to our customers and great experiences for the people who use our equipment." When problems do occur, IBM Watson cognitive technology aids in maintenance troubleshooting by suggesting solutions and giving advice to technicians based on the vast amount of historical data accumulated in the system. Ehrnrooth believes that, "What is great with IBM Watson is that it learns all the time. The more it sees a situation, the more intelligent it becomes."

The company worked with IBM Global Business Services® to implement IBM Watson IoT to monitor the equipment data generated and then stored in an IBM Db2® on Cloud data warehouse.

With the solution, KONE can also replace some scheduled maintenance with predictive and preventive maintenance using the IBM Predictive Maintenance and Quality solution.

KONE has entered into a multiyear relationship with IBM, opening expansive potential for developing applications and services that meet customers' specific needs.

Raising the IQ of buildings

With real-time insight into equipment operations, KONE plans to drive further innovation and develop new solutions and services to improve people flow in some of the world's busiest buildings. As the President and CEO states, "Customers no longer want to buy product features; they want to buy outcomes."

The KONE 24/7 Connected Services offering delivers outcomes to customers such as reduced equipment downtime, fewer faults, and more detailed information about equipment performance and usage. For the people who use the company's elevators and escalators, it means less time spent waiting for an elevator, fewer and shorter delays, and the potential for new, personalized experiences.

KONE expects to ease its own maintenance efforts by connecting the KONE global maintenance base of more than 1.1 million elevators and escalators to the IBM Watson technology-driven, cloud-based system that helps predict maintenance needs before equipment can fail. As Huuskonen notes, technicians have more information at their fingertips when they arrive at a service call, which speeds problem resolution and gets equipment back online quicker.

In addition, building owners and facilities managers can gain more information about and control over their assets. And in the future, they will be able to develop custom systems and applications that monitor, enhance or engineer traffic flows within their buildings. "Our customers will get services and outcomes that fit their exact needs," says Ehrnrooth.

Using open standards-based IBM Watson IoT, KONE plans to allow a vast developer ecosystem to build new applications using application programming interfaces (APIs) to create a smoother, safer and more personalized experience for building users. According to Huuskonen, the availability of open source application development was one of the selection criteria that inspired KONE to select IBM as its cloud partner.

New and innovative application and service offerings will help set KONE apart from its competition and allow its customers to better personalize their users' experience. "Today, the elevator is basically a stainless steel box," says Huuskonen. "Tomorrow, the walls of the elevator might be digital walls with plenty of information that can be shared with users as part of their journey of moving through buildings."

Solution components

- IBM® Cloud
- IBM dashDB®
- IBM Global Business Services®
- IBM Predictive Maintenance and Quality
- IBM Watson IoT™

Connect with us

Take the next step

To learn more about the IBM Watson IoT Platform, IBM Cloud, the IBM Predictive Maintenance and Quality solution, the IBM dashDB cloud data warehouse or IBM Global Business Services, please contact your IBM marketing representative or IBM Business Partner, or visit the following websites: **ibm.com**/Watson/IoT, **ibm.com**/cloud/, **ibm.com**/internet-of-things/iot-solutions/asset-management, **ibm.com**/us-en/marketplace/dashdb-for-transactions, **ibm.com**/services/us/gbs/consulting