



Otis Elevator
gets a lift
from digital technology

- **Business Needs** - Better ways to connect with customers and elevators
- **Networking Solution** - AT&T Internet of Things technology collects data from elevators via its wireless network and shares it through an enhanced cloud environment
- **Business Value** - Improved performance, lower costs and better results for customers
- **Industry Focus** - Elevator and escalator manufacturer and servicer
- **Size** - 60,000 employees serving customers in nearly 200 countries

About Otis

Otis Elevator Company is the world's largest manufacturer and maintainer of people-moving products, including elevators, escalators and moving walkways – a constant, reliable name for more than 160 years. The company maintains more than 1.9 million elevators and escalators worldwide. Otis is a unit of United Technologies Corp., a leading provider to the aerospace and building systems industries worldwide.

The situation

Otis employs more than 31,000 service technicians to keep its equipment operating safely. Maintaining its complex machines is a herculean task, made more difficult because the technicians didn't always know what to expect before they arrived at a worksite. Otis needed a way to let employees know in advance the tools and parts they would need to service its advanced people-moving equipment.

Solution

Otis companies around the world use AT&T Internet of Things (IoT) technology to gather and analyze data collected and delivered via cell networks and share it via an enhanced cloud environment. AT&T's Global SIM card and IoT Services such as Control Center, M2X and Flow Designer enable Otis to access real-time equipment performance data, so technicians know in advance what to expect at each service location. AT&T has also become the primary mobility provider for Otis field operations, so technicians in the field will be able to access service manuals and other information from anywhere their assignments take them.

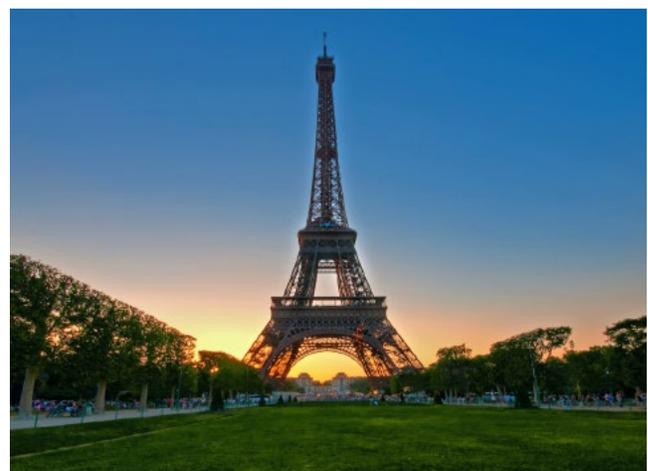
Inspiring confidence through exceptional service

More than two billion people every day are transported by an Otis elevator, escalator or moving walkway, thanks to the innovations of the company's founder more than 160 years ago. At the Chicago World's Fair in 1854, Elijah Graves Otis introduced his safety brake, which paved the way for skyscrapers, escalators and moving walkways. Otis Senior Vice President Tony Black says the invention revolutionized the way people live and work. "If that didn't happen, we wouldn't have the Manhattans, the Beijings and the other big metropolis cities that we have today," he said.

Elevators have changed a great deal since they were first introduced. During the 1860s, the first elevators in the U.S. were installed in first-class hotels, and riding them was an adventure in luxury. Elevator cars featured plush carpeting, fancy chandeliers and comfortable benches on which passengers sat while the steam-power cars transported them up and down.

Without elevators, city life would be impossible. Some historians even maintain that elevators have changed life in America as profoundly as automobiles. "Elevators might not sound so exciting," says Otis Senior Vice President Tony Black. "But it's a very exciting product." Glenn Brock, an Otis mechanic, agrees that many take elevators for granted. "A lot of times you get in them without even noticing," Brock said, "but they take you to work, they bring you home, they get you where you need to go."

Otis today is the world's leading manufacturer and service provider of elevators, escalators and moving walkways. Elijah Otis's values of innovation, safety and quality have guided the company's growth for more than a century and a half, Black said. During that time, Otis has supported the 8 of the 10 world's biggest skyscrapers, including Burj Khalifa in Dubai, at 2,716.5 feet the tallest building on the planet. Otis elevators also transport people in iconic locations like the Eiffel Tower, Balmoral Castle and the Kremlin, and the business continues to grow, Otis CIO Marcus Galafassi said. "We operate in more than 200 countries, and we have more than 1.9 million elevators in the field that we are sustaining every day," he said.





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Glenn Brock, Otis Mechanic

Elevator mechanics don’t work in an office

Keeping this equipment in good working order is a full-time job for Otis’ 31,000 global technicians. Providing excellent service is the cornerstone of Otis’ vision: the company works to inspire its customers’ total confidence and become the recognized leader in service excellence worldwide. To further enhance its legendary customer service, Otis wanted to give its mechanics better information before each service visit.

To diagnose any problems, workers had to be onsite to download data directly from the equipment’s computers. This meant they didn’t always have on

hand the information or equipment they needed to perform the necessary service, said mechanic Brock. “Elevator mechanics don’t work in an office. The motor room is our office. The top of the car is our office,” he said. “That’s where we need the information, that’s where we need the tools.” Otis needed a way to let employees know in advance everything they would need to service its people-moving equipment.

Enhanced efficiency, communication and flexibility

For more than 15 years, Otis has used AT&T Network Services in its commercial business, so it was natural that Otis officials turned to AT&T when it wanted to enhance its technicians’ ability to gather the information they need to complete each assignment. AT&T recommended using the Internet of Things (IoT), the global network of connected devices, to enable Otis’ equipment to communicate directly with its mechanics by way of an enhanced cloud environment.

IoT technology now gathers data from Otis elevators, escalators and mobile walkways using cell networks. AT&T’s Global SIM card and IoT Services such as Control Center, M2X and Flow Designer give mechanics performance data on the company’s equipment. These mobility tools put more information in the hands of Otis’ customer-facing employees and deliver enhanced efficiency, communication and flexibility to customers.

CIO Galifassi said the solution eliminates the need for mechanics to physically connect a cable into an elevator’s motherboard to diagnose any problems. “We wanted to have the wireless technology connected to the sensors of the elevator, and stream

that data to the cloud,” he said. “Now when they arrive on the site, they know exactly what has to be done.”

Otis’ relationship with AT&T will enable technicians in the field to access service manuals and other resources as needed from their worksites.

“Connectivity is key,” Galifassi added. “AT&T allows us to be connected globally.”

Responsive new service solutions

The reliable connectivity of the AT&T wireless network provides a significant advantage for Otis, Senior Vice President Black said. “The connectivity is twofold – it’s connected to our mechanics, and to our elevators as well,” he said. “AT&T allows us to really connect with our mechanics. They’re the face of Otis.” The connectivity helps Otis to continue to get people where they need to go. “We have two million elevators that we service around the world. If we’re not connected, we can’t do that,” he said.

Otis mechanics appreciate the connectivity, Brock said. “Working on elevators requires you to be onsite at the building. We don’t always have the information books or libraries that you’d normally have if you were working in an office,” he said. “So having connectivity through a phone is very important to the job I do.”

Otis President Philippe Delpech said company officials are impressed by the possibilities that Otis’ collaboration with AT&T portends. “We strongly believe that a new generation of elevators will be defined by new digital tools that better connect our people with our customers – and our customers with their equipment,” he said.

Delpech also sees an opportunity for his company to develop responsive new service solutions. “This will give Otis employees more autonomy and Otis customers more control over their equipment and buildings,” he said, “by leveraging the AT&T IoT technology to harness data generated by the nearly 2 million elevators currently under Otis service contract.”

This most recent collaboration between AT&T and United Technologies is an excellent example of visionary organizations exploring ways to harness the power of digital technologies and communications networks to improve performance, lower costs and deliver better results for customers in building systems and aerospace. Experts at AT&T are helping Otis accelerate efforts to create buildings with more seamless security and transportation systems that are invisible to the tenant or resident and are more efficient and reduce building energy use.

Brock said Otis employees are gratified to help move people ever upward. “We really take a lot of pride in making sure that we keep the city up and running,” he said.

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Philippe Delpech, Otis President