



# people flow

## Innovate or die

+

INNOVATING FOR FUTURE SUCCESS  
THE ELEVATOR THAT READS YOUR MIND  
PUTTING ELEVATORS TO THE TEST  
WHEN SMART BUILDINGS BECOME SMARTER  
UNDERSTANDING THE CONNECTED WORLD



## A vision for innovation

**W**ith the speed of change brought about by new technologies and digitalization, it shouldn't be a surprise that KONE continues to accelerate and develop its innovation approach.

In a business which has been mainly driven by advances in mechanical engineering for over 100 years, new processes, new technologies, and new benchmarks for customer service are changing the game.

In today's environment, companies with a purposeful mission and vision are more likely to push forward with research into new products, technologies, and services, thanks to the clarity of direction.

This year at KONE, we have sharpened our mission and our vision, and you will begin to hear much more from us on how we can bring even more value to our customers and the people who use our equipment.

Our mission is to improve the flow of urban life. And our vision is to deliver the best people flow experience. Together, I believe this is inspiring, and will have a positive impact for our customers and our employees around the world.

Urbanization is generating new needs for buildings and infrastructure, for living standards, for safety and for sustainable societies. The increasing pace of urbanization is also transforming how all of us live, at an unprecedented rate. However, we believe the need to improve and modernize existing cities to accommodate a growing population provides the potential for new innovation.

By understanding fundamental needs for smart urbanization; providing insights and by focusing on improvements for people, there are excellent opportunities to create value for customers and wider society.

It will be these needs which are at the heart of the next wave of innovations in the elevator and escalator industry. And at KONE, we can all be excited by the role we have in creating better buildings, better cities and a better world.

**HENRIK EHRNROOTH**  
PRESIDENT & CEO, KONE CORPORATION

### KONE IN BRIEF

KONE is one of the leaders in the elevator and escalator industry. The company has been committed to understanding the needs of its customers for the past century, providing industry-leading elevators, escalators and automatic building doors as well as innovative solutions for modernization and maintenance. The company's objective is to offer the best People Flow® experience by developing and delivering solutions that enable people to move smoothly, safely, comfortably and without waiting in buildings in an increasingly urbanizing environment. KONE is present in close to 60 countries with more than 47,000 dedicated employees and distributors to serve you globally and locally.

# people flow



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KONE Hockenheim 2016  
Pekka Sivonen  
Industry

# Innovate or die

Just as a shark drowns if it stops swimming, a company that stops moving forward is doomed to sink. In the digitized world, organizations sail ahead by embracing a culture of innovation.

TEXT SILJA KUDEL PHOTO KARL VILHJÁLMSSON & KONE

**D**utch State Mines (DSM) was formerly a coal mining company with a future about as bright as the average dodo's. Today DSM is a highly successful multinational specializing in cutting-edge solutions in health, nutrition and materials.

'Radical' hardly begins to describe DSM's portfolio transformation. Had they stuck with mining, they would have followed the path of the dodo. But by consciously choosing a different future, they pushed into new terrain – and survived.

DSM embraced a 'culture of innovation', which is becoming a condition of survival in the new digital landscape. Today, organizational success has more to do with ideas and emotions than traditional models of production.

"Innovation is to sustainability and growth in the 21st century what the steam engine was to the industrial revolution. Organizations will either come to understand this and engineer innovation states, or they will be left behind," affirms innovation consultant **Henry Doss**, Managing Partner at Rainforest Strategies LLP in North Carolina.

## CULTURAL (R)EVOLUTION

Companies that are consistently innovative don't so much 'do' things differently as encourage everyone to 'be' different.

"The difference between innovation and non-innovation is culture. This is a factor of leadership, role models, and of an intentional focus on cultivating value systems – social contracts – that encourage the 'behavior' of innovation: risk-taking, trust, paying it forward and so on," says Doss.

"What gets rewarded, what kinds of behavior are seen as exemplary – if you ask that question about any company, you can get a sense of their innovation status."

As the word 'culture' suggests, this isn't something that changes overnight. Doss describes culture as "a state of being" that comprises two components: hardware and software. The hard assets include such things as processes, metrics and governance, while the soft include values, attitudes and emotions. The 'culture' is the sum of all these factors – and all must move forward in alignment.

Moving forward doesn't have to involve radical, game-changing transformation – it's also about consistency, says **Daniel Roos**, principal at Arthur D. Little's Gothenburg office, the leading innovation consultancy in the Nordics.

"It can also be about small, incremental improvements. Being successful comes down to improving all the time, year after year. You have to constantly ask: how can we keep on finding new ways to create value and better services and business models to consistently stay on top," says Roos.

#### APING APPLE?

Apple, Google, Amazon and other Silicon Valley giants are the companies that most people mention when asked to name exciting innovators.

“They are all great examples, but there is more than one way to measure innovation success. The prerequisites differ from one industry to another,” says Roos.

It can be measured, for instance, as the renewal rate of products, the number of filed and granted patents, or the cost savings achieved through new processes, technologies or ways of working. Depending on which metric you choose, different industries will be favored. For example, it will be fast-moving consumer goods companies if you focus on the renewal rate or ICT companies if you are looking at patents.

Even a public institution can be a radical innovator. One example is the Pentagon’s Defense Advanced Research Projects Agency (DARPA), which has produced an unparalleled number of breakthroughs with its ‘special forces’ model of innovation.

Its recent inventions include an ultralight metal nanomesh that is nearly 100 times lighter than Styrofoam. In developing this groundbreaking material, DARPA clearly defined its ‘grand challenge’ and put high-caliber teams in place to solve it, forcing them to compete against each other as well as collaborate.

“The teams were pushed hard, constantly having to validate their chosen path. This high-stress state of constant creative tension obviously isn’t for everyone, but for

innovators it’s a great learning experience – and they really pushed the envelope,” says Roos.

#### THE GOOGLE WAY

Although organizations differ in their styles of innovation, those that remain consistently innovative have one thing in common: a clear vision and strategy. This applies across all geographies.

“Successful innovators define why they need to innovate, what their focus is, and how they plan to get to their envisioned future. DSM for instance made their innovation strategy their whole business strategy to drive change – and it paid off,” says Roos.

Strategy comes first, but it must be supported by efficient decision-making, adds Roos. Sometimes moving forward requires tough choices: divestments, closures and project cancellations.

“Google offers a good example: they try out hundreds of ideas and force them to fail fast so they can learn what works and what doesn’t.”

The third crucial driver of innovation is a leadership style that energizes people to try out new ideas. As **Steve Jobs** famously said: “Innovation has nothing to do with how many R&D dollars you have. It’s about the people you have, how you’re led, and how much you get it.”

“You can’t force change,” Roos says. “You have to make people want it. Here leaders need to be role models – and what they do is more important than what they say. If

‘innovation’ is the last item on your meeting agenda and you run out of time before you get to it, you communicate that it’s not important. Innovation must be top of the agenda and woven through everything you do.”

#### PROUDLY FOUND ELSEWHERE

Can the risks, costs and payoffs of innovation be balanced – can you innovate *and* play it safe at the same time?

“Innovation isn’t about balance. Balance represents the status quo, while innovation means *challenging* the status quo. There will always be risks, but it’s a matter of

“Innovation isn’t about balance. Balance represents the status quo, while innovation means *challenging* the status quo.”



understanding the nature of those risks and aligning your priorities and investments.”

DARPA’s strategy of appointing parallel teams that each pursue a different research track is a form of risk hedging: the logic is that at least one team is bound to succeed. Another approach is to finance small steps instead of investing a huge sum on one enormous, risky bet.

Roos shares the example of an automotive company that was investing billions in R&D, yet the fear of failure kept it from truly innovating.

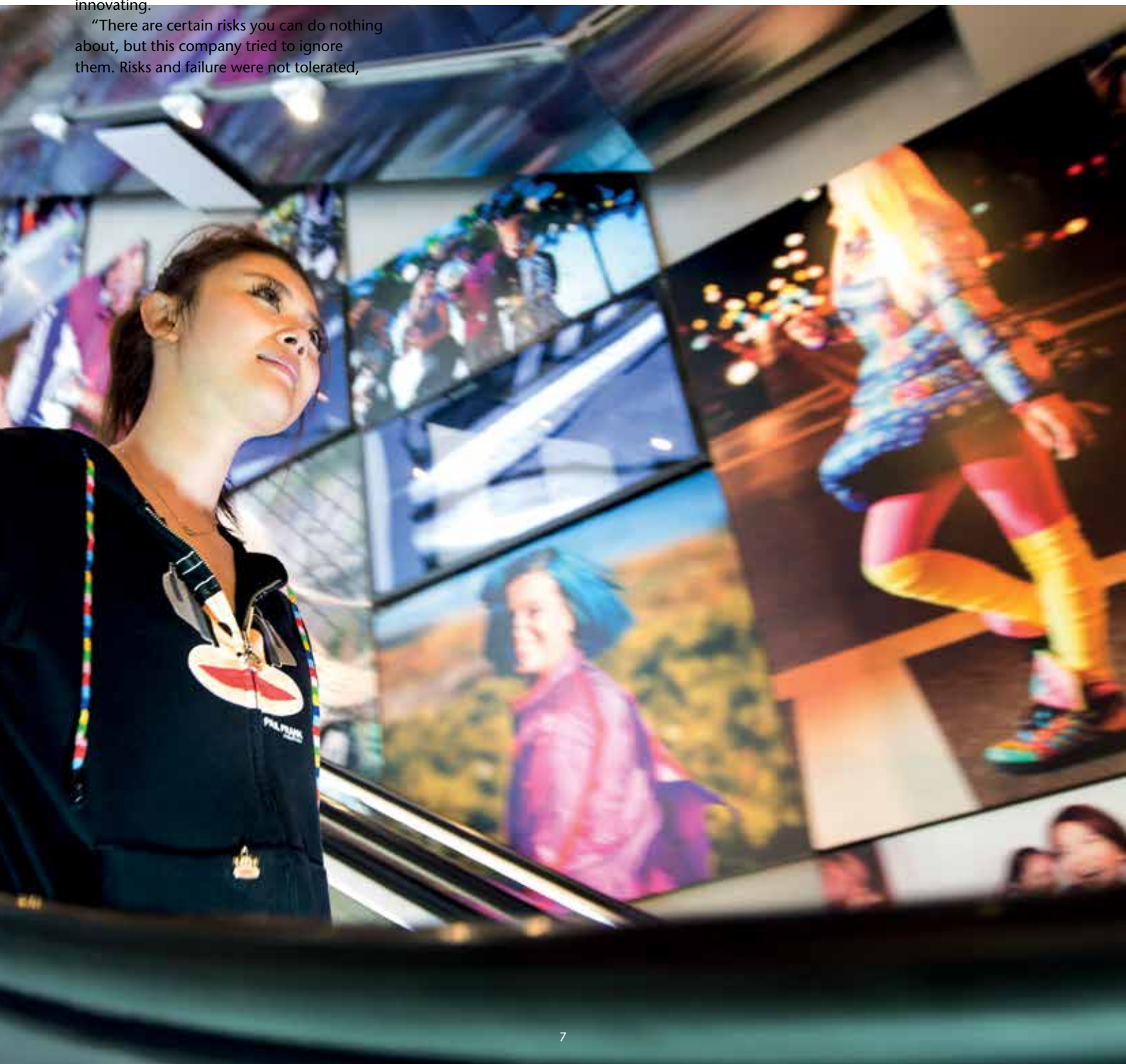
“There are certain risks you can do nothing about, but this company tried to ignore them. Risks and failure were not tolerated,

and this became a blockage. We helped them develop a new way to identify and talk about risks to get the creative juices flowing again.”

With digitization changing the ball game, organizations are increasingly moving from a ‘not invented here’ to ‘proudly found elsewhere’ mindset.

“When you push into new territory, you need new skills. Sometimes the shortest route to get there is open innovation. Successful companies are increasingly embracing open innovation ecosystems,” notes Roos.

“Innovation is and will be the driver of change in the years to come. Embracing a culture of innovation gives companies an edge over competitors and helps them stay ahead of the curve. But culture is an omnivore; it eats everything for breakfast. A poor or great culture is both the cause and the effect of innovation performance,” he says. /



# Innovating for future success

In a highly competitive environment, innovation is a key currency that successful organizations use to maintain advantage in constantly shifting markets. KONE too is changing its approach toward innovation to cover more ground and create distinct value.

TEXT DENISE WALL ILLUSTRATION iSTOCK / KruUUA

**W**e want to disrupt the industry," says **Teppo Voutilainen**, Head of KONE's New Services and Solutions Division. His team has a mandate to prospect for completely new businesses and models that may not even exist today.

"We have permission to look at things out of the box and create a new environment to innovate," he says, brimming with excitement.

This enthusiasm stems from KONE's renewed approach to innovation. The confluence of competition, digitalization and increasing urbanization has created new opportunities for the company. And KONE aims to harness its potential to introduce unique solutions, and fulfill its mission – to improve the flow of urban life.

"We want to create a consistent People Flow experience from the moment a person leaves home to the moment he or she returns in the evening," says Voutilainen.

To be able to innovate consistently requires insight and a deep understanding of the needs created by urbanization.

## KEEPING COMPANY WITH INNOVATION LEADERS

KONE already has an impressive innovation pedigree. In 2015, Forbes business magazine ranked it among the world's top 50 innovation leaders, where it keeps company with the likes of Tesla, Amazon and Apple.

Some of KONE's past innovation credentials include MonoSpace, a machine-room-less elevator invented in 1996, and UltraRope™, a lightweight rope with carbon fiber that made high-rise travel possible. Both of these groundbreaking technologies redefined innovation in the industry.

But nothing stands still. Changes in market dynamics and technologies mean the company needs to explore new areas for growth. So instead of basking in the glory of past achievements, KONE wants to ensure it remains at the leading edge of technological development into the future.

"Cloud technologies, faster networks, computing power and sensor technologies are all critical pieces," says KONE Chief Technology Officer **Tomio Pihkala**, mindful of how digitalization and its related technological disruptions are driving innovation.

"We are able to offer some services to customers in a much easier way than before through the cloud and by using mobile solutions, and that will have a significant impact on our industry," predicts Pihkala.

## BUILDING A COLLABORATIVE ECONOMY

To stay ahead of the curve, KONE is implementing a program of innovation acceleration. Internally, it has formed a new Technology and Innovation unit, which will bring together KONE's Research & Development and IT functions, to cater to the fast-changing technological landscape. Apart from emphasizing cross-functional teams and underscoring field expertise, it is betting on productive partnerships – like the one with IBM.

KONE will use IBM's technology to harness the potential of digitalization and the Internet of Things (IoT). IBM's Watson IoT Cloud Platform will help collect and store equipment data, build applications, and develop new solutions and new experiences for KONE's customers.

Meanwhile, tapping into the buzzing start-up scene also gives KONE the legroom to experiment.

"We've organized hackathon events where we invite 15 startup teams to work 48 hours. We feed them problems to be solved and they come up with ideas," Pihkala explains.

Increasingly, many companies are exploiting digital platforms and engaging in industry-wide cooperation to bring new technologies and platforms to the market. KONE is also looking to tap into the collaborative economy as part of its innovation strategy.

"Innovations will happen as ecosystems and partnerships network. More so, within global networks, and increasingly with customers who are leading the industry," Pihkala points out.

Voutilainen agrees. "We will be in very active and open dialogue with customers and front lines, and will also be working very closely with R&D," he says, highlighting KONE's strategy.

"We started getting many good partner proposals from countries but, I want to see a bigger tsunami."



#### GEARING UP FOR A TSUNAMI OF INNOVATIONS

One key theme at KONE has involved moving away from a centralized approach to scouting for innovation opportunities. "We need to immerse ourselves in opportunities," says Pihkala. For KONE, this means inspiring all of its 50,000 employees to use their personal and professional networks to prospect for ideas.

"We started getting many good partner proposals from countries, but I want to see a bigger tsunami," says Pihkala, whose ambitions are not restricted to certain geographies. "We need to tap into Silicon Valley, into southern India and into Shanghai," he says drawing a quick wish list for KONE.

The ultimate compass for the company's innovation journey is its innovation strategy. At KONE, this has also brought about improvements in areas such as sales, finance and other key functions that make the company more competitive and improve customer value. /

# The elevator that reads your mind

While everyone talks about the Internet of Things, few have put it into practice. That could change with the ‘telepathic elevator’ that uses big data to enhance People Flow – the winning concept from Streamr that won KONE’s first hackathon.

TEXT ANN TÖRNKVIST PHOTO KARL VILHJÁLMSOON

As participants shared the floor with top KONE executives, representatives of heavyweight companies such as IBM and ABB exchanged ideas with start-up entrepreneurs – all while the 15 teams competing in KONE’s first hackathon got to work. The three-day event was a petri dish of sorts, where theoretical innovation could flourish in a hands-on environment.

“I’d dare say the hackathon was even better than I’d expected,” says **Samu Salmelin**, KONE Head of Services and Solutions R&D, about the event held in Hyvinkää at KONE People Flow Center this March.

Salmelin says KONE could not, despite its substantial investment in R&D, be expected to cover all new technology with potential application for its People Flow concept.

“There are just so many new areas that are part of the digital transformation,” he says. “We can’t have them all in-house, which is why hackathons are such a great forum,” Salmelin adds.

“Novelty is the whole point of a hackathon.”



### THE KEY CHALLENGES

One of the main tasks at hand was to find new ways to improve the way people experience KONE's equipment. The hackers were also asked to consider how to make life easier for service engineers and building supervisors, and in general how to make a building 'smarter'.

Helsinki-based Streamr was among the competitors who pondered over what kind of data was trickling in from the elevators. "Different data has different qualities," says Streamr's **Juuso Takalainen**. "When you combine them you often get a bigger picture that's more valuable than the original data."

And with the right tweaks, that "bigger picture" morphed into the concept of a telepathic elevator, which knows where a building resident, for example, wants to go before they've reached over to press the button. "The telepathic elevator was just one of the crazy ideas that felt the most kind of doable," says Takalainen.

### FICTION VS REALITY

Doable is a key word. That's why competitors on day two were given the chance to get feedback on their first host of ideas. "The sessions were organized to make sure no one was barking up the wrong tree, and the ideas actually deliver expected improvements to users and facility managers and ease technicians' daily work," Salmelin points out.

Fantastic ideas are one thing, feasible ones quite another. The buzz around 'the Internet of Things' is a perfect example, because while the chatter has grown louder, there have been few concrete and easy-to-commercialize ideas. Streamr would like to help change that.

"Data in, data out, then do something sensible with it; that's what the Internet of Things is supposed to do, but while the concept shows promise, it's yet to deliver," says Takalainen. "Maybe the telepathic elevator will be the big breakthrough for the elevator industry."

### THE WINNING STREAK

On day three, KONE announced there were five finalists – and Salmelin points out that KONE would like to keep the dialogue open with all of them, as they presented solid ideas for the future. But in the end it was Streamr, not least thanks to its "really striking" idea presentation, that took home the top gong.

"It's a unique idea that will enhance People Flow, have true commercial value, and above all, is doable," says Salmelin. Riding on the success of the first hackathon, tentative plans are underfoot to hold similar competitions in KONE's key growth markets India and China.

"Novelty is the whole point of a hackathon," says Takalainen. "If you want a specific solution, you'd hire a consultant. With a hackathon, you're solving problems before people realize they have a problem." /

## FAST FACTS

- 65 hacker teams applied to take part in the competition
- 15 teams, ranging from university students to existing start-ups, were selected for the three-day event
- Programmers used KONE- and IBM-enabled APIs
- What Takalainen refers to as the "quick and dirty fashion" of hackathons helps innovation flourish



# Putting elevators to the test

Whatever the future of high-rise technology might hold, KONE has the facilities to test them. The Kunshan Test Tower is purpose-built for a single mission: testing elevators to make them better, smarter and faster.

TEXT SILJA KUDEL PHOTO KONE

## SUMMARY

### FAST FACTS

- Completed: 2015
- Height: 235.6 m
- Floors: 36
- Architect: Suzhou Industrial Park Design & Research Institute Co., Ltd
- Building owner: KONE
- Developer: KONE
- Contractor: JiangSu Wannian Construction Group Co., Ltd

### KONE SOLUTIONS

- KONE DoubleDeck elevators
- KONE UltraRope™ technology
- KONE service elevator for R&D activities
- A variety of new KONE solutions will be tested in the reconfigurable elevator shafts

Welcome to the Silicon Valley of high-rise technology. The KONE Park manufacturing and R&D center in Kunshan, China, is where cutting-edge high-rise innovations undergo rigorous testing.

In the middle of it all, towering 235 meters above the flat landscape, is the newly inaugurated 36-floor Kunshan Test Tower. This is literally a skyscraper like no other: You'll find no offices, apartments or commercial space inside, only a vast machine room and 12 elevator shafts. And – here's the twist – what you'll find inside those shafts is liable to change from one month to the next.

"The whole tower is basically a technical chameleon. The elevators in the test shafts will be constantly reconfigured. We'll be dismantling and installing new elevators, or at least new components, on a monthly basis," says **Antti Hoppania**, Director for Reliability and Quality KONE Technology.

#### TECHNICAL CHAMELEON

Among the few permanent installations is a super-fast 10 m/s double-deck elevator which carries visitors from the ground level to the sky lobby and showroom. This is the world's very first double-deck elevator to feature KONE UltraRope™ super-light rope technology.

Another permanent fixture is an industrial elevator that travels the full distance up to the height of 235 meters and is reserved solely for R&D activities. The tower, tallest among KONE's eight global testing facilities, also provides KONE with a unique location to invite customers to see its latest innovations in action.

Having the test tower located in the middle of an existing R&D and production park will significantly boost KONE's agility. "Now that we have even more capacity, muscle and speed, we'll be able to deliver new products to market faster than ever before," says Hoppania.

The Kunshan Test Tower is the 'Asian twin' of the KONE high-rise laboratory in Tytyri, Finland, where the underground testing facility is 305 meters deep, allowing the

company to test elevators at speeds up to 17 m/s – the only testing facility in the world where such speeds can be reached.

"We needed additional capacity and capability to support our high-rise testing efforts. Earlier, we were dependent on our Finnish unit and smaller test shafts in Kunshan, but their heights were nothing compared to this," explains Hoppania.

#### NEW HEIGHTS IN R&D

The geographical location is ideal, as it unites KONE's two research units in Finland and China. "Now we are physically closer to our Asian customers and have two teams working as a close-knit unit across the eastern and western hemispheres," he adds.

"KONE is a major player driving technological development in the mid- and high-rise market. This new landmark dedicated exclusively to R&D is a visually powerful symbol of our commitment to taking elevator technology to truly new heights." /

"The whole tower is basically a technical chameleon. The elevators in the test shafts will be constantly reconfigured."

# When Smart Buildings Become Smarter

Cloud-based maintenance, robotic room service and lobbies that already know you're on the way – the latest trends in smart building functionality are turning yesterday's sci-fi dreams into reality.

TEXT STEVE ROMAN PHOTO KONE & GREEN BUZZ AGENCY/FEATURE PHOTO SERVICE FOR IBM



The 75-story  
condominium tower  
One Bloor in downtown  
Toronto, Canada, is  
equipped by KONE.



“Once you get people into elevators, the information flow can be tailored to who the person is and what their purpose is in the building.”

**W**ith rapid urbanization putting ever-increasing demands on infrastructure, buildings around the globe are by necessity growing taller and becoming more functional in nature. Thanks to those same demands, and the rise of new technologies, buildings are also become progressively smarter in ways that would have been hard to predict even a decade ago.

KONE Americas Executive Vice President **Larry Wash** is a passionate advocate and trend-watcher in the area of smart building development. He says many of the more fundamental changes go far deeper than what an end user

would notice on the surface. “The way buildings are being designed, the way they’re being constructed and the way they’re being managed are all changing, with more smart technology being introduced into each of those processes.”

**INTELLIGENT DESIGN AND CONSTRUCTION**

The benefits of smart building innovation can already be felt in a building’s design phase, well before the first shovel hits the ground.

Universal advances in the area of smart design have come in the form of BIM, or Building Information Modeling. “For us, that’s a complete digital representation of the physical and functional characteristics of an elevator,” Wash explains.

In addition to providing a shareable 3D blueprint for a





project, the latest BIM models now integrate the fourth dimension: time. This allows planners to properly schedule each of the individual works to be carried out during construction, anticipating roadblocks and conflicts that might result in costly delays. “By sequencing those trades in the most optimal manner, you can actually reduce the time it takes to build a building,” Wash says.

“KONE is working with architects on next-generation toolboxes that have innovative BIM models at their core to not only let them understand the future capabilities of our elevators, which are getting more sophisticated and smarter, but also how to actually construct the building,” he adds.

A high-profile example of this cooperation is One Bloor, a 70-story, mixed-use retail and residential building in the

heart of Toronto. KONE provided the elevator ‘objects’ used in the BIM model. “We used BIM with the contractor to accelerate the design and the sequencing of the trades,” Wash says.

Meanwhile, the building process is also getting a boost from smart innovations like KONE UltraRope (a carbon-fiber elevator rope that replaces the steel rope traditionally used for elevators) and KONE JumpLift (a construction elevator that uses the building’s internal hoist and runs at speeds that are two to three times that of an old-fashioned outside hoist). For tall buildings in particular, these innovations can lead to substantial energy savings from eliminating tons of steel from the load equation, and productivity gains of one to two hours per worker per day, as personnel won’t be waiting so long for a ride.

**CLOUD'S-EYE VIEW**

Once a smart building is up and running, issues of maintenance, efficiency and functionality come to the forefront. It's in these areas that recent developments like cloud computing, the rise of the smartphone and the Internet of Things are making the largest impact, according to Wash. This is why he predicts that KONE's agreement, inked early this year, to adopt IBM's Watson IoT Cloud Platform will be a true game changer.

The most immediate benefit of the cloud will be on monitoring of elevators and escalators. "IBM's IoT platform

will allow us to connect all of our elevators in the next several years. It will also allow us to analyze the trends across those millions of elevators to understand things like reliability issues and how the customer is using the product, and provide advanced warning to proactively fix problems before they occur," Wash explains.

**UP, CLOSE AND PERSONAL**

But this advanced monitoring is only the beginning of what the cloud can do. Imagine a building that that already knows who you are before you even walk in the door,

“Where smart buildings are going is understanding the customers and putting data control even more in the users’ hands.”

information [relevant] to who that person is, because now you know who they are. The information flow can be tailored to who the person is and what their purpose is in the building.”

This individualization could mean, for example, having monitors that tell you which of your favorite dishes is available in the cafeteria today or whether your train home is running on time.

#### FRINGE BENEFITS

In the case of a hotel or retail building, smart lobbies could be part of an overall brand experience, Wash notes. Elevators could direct people to retail space, generating more revenue for the tenant.

“Smart lobbies will be the merger of brand with the flow of people in the lobby, merging mobile and wireless technology to optimize, customize and individualize a user’s experience,” he says. Thanks to Watson’s machine learning capabilities, the possibilities for how that will happen are unlimited.

“One of the reasons we went to the IBM IoT Watson platform is that not only is it a platform for advanced monitoring, but it’s a development platform for partners who can very quickly spin up new services and applications in smart lobbies. We’re working with certain partners to do that,” Wash points out.

The Hilton hotel chain is a case in point. It has used IBM Watson as the basis for a set of automated services. These include a robot called Connie being piloted at the Hilton McLean hotel in Virginia. Stationed at the reception desk, Connie can greet guests, guide them around the hotel and help visitors find restaurants and tourist attractions in the area. Perhaps one day, the ‘bot may even make deliveries to hotel rooms.

Connie is just one example of how the IQ (Intelligence Quotient) of smart buildings is expanding to cover far more than basic facilities management and allowing humans to interface with buildings on levels never before seen.

“Smart buildings not only are being run better and have greater uptime and greater transparency of how all the assets are performing, but where smart buildings are going is understanding the customers and how they’re using the building, putting data control even more in the users’ hands and delivering the particular experience that end user desires,” says Wash. /



Robot Connie, at Hilton McLean Hotel in Virginia, greets guests and acts as a guide to the visitors.

calls the elevator for you when you reach the lobby and sends you through access control because it has identified you through a fingerprint. Imagine using a smartphone app to let the building know you’re a block away so it can anticipate your arrival, or have your hotel recognize that you’ve arrived and automatically issue you a room key. This latest trend in smart buildings, integrating access control with People Flow and other helpful features like remote calling is termed ‘smart lobbies.’

“This is the ultimate area of innovation” says Wash. “Once you get people into elevators, you can push

# Understanding the connected world

The increasing amount of data collected by sensors embedded in elevators, buildings, cars and even appliances in our homes will change the way we live. The ability to analyze vast streams of data will dictate the nature of change. KONE is meeting this challenge with the help of IBM's intelligent IoT and cloud development platforms, which will mean new benefits for its customers.

TEXT DAVID NIKEL PHOTO ISTOCK / LEONARDO PATRIZI

An estimated 29 billion devices and sensors are currently embedded in everyday objects from cars to buildings and bridges. Household items like toasters and refrigerators, items of clothing and even parts of our bodies are being connected to the Internet.

The amount of equipment going online continues to rise exponentially, and there is no doubt there will be a significant impact on the entire People Flow experience in buildings and cities. The need to manage, understand and analyze constant streams of data is the driving force behind the coming together of two industry leaders to create and improve services for KONE's customers and end users.

KONE will use IBM's IoT and cloud development platforms to gather data from various sensors and systems connected to KONE's elevators, escalators, doors and turnstiles used by around a billion people each day.

## NEW SERVICES AND EXPERIENCES

IBM's advanced analytics engine will be used to make sense of that data and deliver new services and new experiences to KONE's customers, explains IBM's Harriet Green.

"Our systems reason and create hypotheses about what may be happening, and, crucially, they learn. That means, the more data these

systems ingest, the better they get. In KONE's hands these technologies will help engineers to figure out in advance when a part in an elevator may need servicing or replacing, enabling predictive maintenance," she says.

Overall, people's journeys in buildings will be personalized, faster, secure and better. Putting a flexible platform in place means the list of potential benefits is only limited by the customers' imaginations. "Another quick win for building managers is to figure out which floors of a building may need elevators waiting in advance at certain times of day," adds Green.

#### **MACHINE LEARNING**

IBM's Watson platform uses natural language processing and machine learning to reveal insights from large amounts of unstructured data. It became world famous in 2011 when it successfully competed against human contestants in the general knowledge game show *Jeopardy*.

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"A quick win for building managers is to figure out which floors of a building may need elevators waiting in advance at certain times of day."

For KONE, Watson will help us and our customers realize the true potential of the connected world by transforming rich data into actionable insights. This will create huge opportunities for transformation and innovation and allow KONE to extend its leadership in People Flow technologies.

Antti Koskelin, CIO at KONE, explains why the platform was chosen. "By utilizing the Watson IOT platform, we can dramatically improve the reliability, the uptime of elevators and escalators, and bring a better experience, shorten journey times and improve the flow of people in big cities. Our differentiation will come from how we can best utilize the insights to improve our service to our customers."

#### **POSSIBILITIES FOR CUSTOMERS**

Improvements in performance and being able to resolve potential problems before they occur are areas where new types of predictive services come into play. But this is only the beginning, says Koskelin, as he outlines other questions customers are beginning to ask.

"We are looking at new services and new business models. For tenants and people in apartments there are a lot of things we can do to make lives easier for people and bring peace of mind. Services for courier companies, for instance, or services that make it more simple and more secure for residents to leave and enter a building.

"Apartment buildings are locked for long periods of time. But as a resident, if you are expecting a package to be delivered, can you remotely open the door to a delivery driver, or give them access to a specific room in your house?" he says.

Thanks to the IBM partnership, KONE plans to encourage a vast developer ecosystem by opening Application Programming Interfaces (APIs) which means new applications can be built and different types of equipment and services can be connected – creating a smoother, safer and more personalized People Flow experience for building users.

"A KONE business partner could develop an app for communities of users enabling people to pre-order elevators during the busiest times of the day," explains Harriet Green. "Restaurant staff could be alerted when there are large numbers of people heading their way, enabling them to make provision for more diners. Building managers could optimize their action plans for evacuations during emergencies," she adds.

This partnership is expected to transform KONE's operations and technology capabilities around the world over the next few years. With so much data available and the right platform in place to manage it, analyze it and personalize it, even down to an individual level, it means urban life can change for the better. Moving from home to elevator, to escalator – through buildings and cities – will become easier and more enjoyable.

KONE and its partners are working hard to make sure the technology and the platforms running in the background make the most of a world where the Internet of Things continues to grow. /

## KONE's UltraRope in Melbourne's high-rise

The latest in luxury apartment living in Melbourne, the 100-floor building called Australia 108, will become the city's first super-tall skyscraper, measuring 319 meters.

Featuring three levels of world-class residential amenities, including two infinity pools located 210 meters above ground, the building will house more than 1,100 apartments, making it the

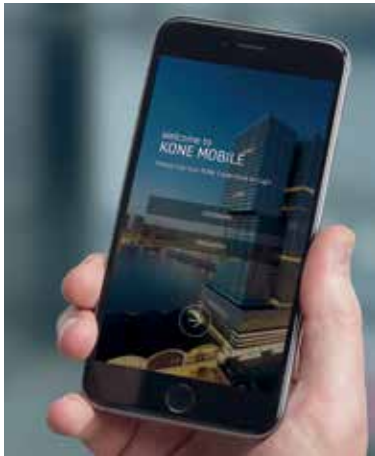
tallest apartment building in the southern hemisphere.

KONE has won an order to supply 13 elevators to this project. Its People Flow solutions will complement Australia 108's luxury design and high-quality facilities, and ensure smooth and safe traveling for its residents. The use of KONE UltraRope for this impressive project speaks volumes about the interest from high-rise customers for KONE's innovative hoisting technology. /

### IT'S ALL ABOUT A ROPE!

- UltraRope sets a new benchmark for high-rise buildings.
- Provides unrivaled elevator eco-efficiency, reliability and durability,
- Improves elevator performance.
- Eliminates the disadvantages of existing steel ropes – high energy consumption, rope stretch, large moving masses, and downtime caused by building sway.
- Enables future elevator travel heights up to 1,000 meters.





## Mobile App – a force to reckon with

Thanks to KONE's new Mobile App, facility managers and building owners will receive equipment service updates for the entire maintenance process on their smartphones. The new digital service for maintenance customers provides transparency and allows customers to receive real-time notification on the arrival of a service technician and completion of work.

Information fed into the Field Mobility App by service technicians will be made available to customers via this KONE Mobile App. The new app also complements the Internet-based KONE Care® Online service, which gives customers the historical data on service response and equipment performance. With the use of KONE Mobile App, customers can now check maintenance data and schedules, review equipment performance, identify equipment that may benefit from modernization, and use critical data for future budgeting.

Designed for two-way communication, this app will let customers make a service request and contact a KONE representative with a single tap. KONE Mobile app is available for customers with Apple® and Android™ smartphone devices in 21 countries in Europe and North America as well as Australia and New Zealand. /

# Sustainability at its best

The United Nations 2015 report says the world population is expected to reach 9.7 billion by 2050 and 66% of this population will live in urban environments. And in order to build sustainable cities it is crucial to take into account all the elements that make a difference. KONE, for instance, is not only designing eco-efficient solutions for buildings, it is also improving its operations to reduce environmental impact, since sustainability is embedded in everything KONE does.

Let's look at KONE's Sustainability Report 2015 for details. It says KONE's operational environmental work focuses on reducing carbon footprint and improving energy and material efficiency, lowering water consumption and waste amounts, and minimizing the use of hazardous substances.

According to KONE's Life Cycle Assessment data and products ordered in 2015, 90% of the materials used for manufacturing and packaging KONE elevators and escalators comprise metals that can be recycled. KONE's equipment contains neither harmful substances – like asbestos, paints containing lead or cadmium pigments – nor chemicals that deplete the ozone layer, such as chlorinated solvents or CFCs.

In terms of water usage and wastage, the report notes, KONE's manufacturing units (excluding GiantKONE) in 2015 released 17 tonnes of wastewater effluents into the municipal waste water systems compared with 20 tonnes in 2014.

The share of green electricity increased to 22% in 2015 from 20% in 2014. Here's why. 100% of the electricity consumed by KONE's corporate head offices and the whole manufacturing and R&D site in Finland is produced by wind power. While 5% of the electricity consumed by KONE's manufacturing unit in Slimpa, Italy, is produced by a solar energy system, 30% of the electricity consumed by KONE US Operations Center in Moline, Illinois, comes from more than 1,300 solar panels.

Over and above the usage of renewables, KONE is using fuel-efficient vehicles, introducing electric vehicles, rightsizing them and monitoring driver

performance to reduce the carbon footprint of KONE's vehicle fleet. Even in the area of logistics, KONE optimizes transportation networks, improves space utilization ratio in loading, and minimizes the use of air freight by increasing railway and waterway transportation usage.

In order to reduce the need for travel for KONE employees, it encourages personnel to use virtual meeting tools such as video conferencing equipment. That's perhaps why its greenhouse gas emissions related to air travel decreased by 4.5% in 2015 from 2014.

For other such insights, go to [kone.com/sustainability/](http://kone.com/sustainability/)



### A TYPICAL WORKING DAY FOR KONE:

400,000  
customers served

400–500  
orders booked

~ 1.1 million  
units in service

50,000  
maintenance visits

~ 10,000  
packages through our  
distribution centers

An aerial night view of a city, likely Singapore, showing a dense cluster of skyscrapers and a complex network of roads and highways. The buildings are illuminated with various lights, and the roads show light trails from traffic. The overall scene is vibrant and modern.

# A BRAND NEW WORLD FOR KONE.COM

Our website has undergone a facelift. It now brings you stories and conversations that engage, educate, and entertain visitors. From the latest on what's happening in our industry, to trends in technology, or stories from people around the world who live an urban life, it promises something for everyone.

Visit [KONE.com](https://www.kone.com) to explore our company and our world. Follow us on Twitter, LinkedIn, and Facebook to get the latest updates.