

Dedicated to People Flow™



MAKKAH

People Flow® like no other

Certain building types have distinct peaks in People Flow and require solutions that can transport passengers as safely and smoothly as possible in a short period of time. It is estimated that up to 75,000 people will depart the Makkah Clock Royal Tower Hotel within 30 minutes or less for prayer five times per day. KONE solutions meet these complex People Flow requirements.

KONE References

2011

KONE References

KONE is proud to present these selected achievements from around the world. Join us on a journey through 2011, as well as catch a glimpse into our future.

Enjoy your visit.

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TOUR FIRST – PARIS, FRANCE

Majestic transformation along the Seine River

Tour AXA, originally built in 1974, is located in the heart of La Défense, the business district of Paris. After three decades, it was time for a major change. The previous owners, AXA Real Estate and Beacon Capital Partners, wanted to break the continuity of the skyline and revive the area with a soaring new building.





Their plan was ambitious. The changes needed to be dramatic, but done quickly in a congested area of Paris. Rather than demolish the existing tower, the building would be stripped down and a new tower designed and constructed around the old metal framework. All this was achieved in remarkable time – just four years, from 2007 to 2011.

“KONE showed its expertise and proactively sought a complete solution that met all of the customer’s goals,” says **Jean-Louis Sinigre**, Project Manager at KONE France.

Well-managed vertical flow

The new tower, renamed Tour First, has a completely different, modern look, with several additional floors and more landscaping around the tower. With such a large undertaking in a short time period and with limited space on site, the project demanded excellent teamwork and cooperation among the different players.

“The site is in the middle of the busy business district with no easy access,” explains Sinigre. “Equipment and supply deliveries had to be quick and efficient. On some days as many as 40 trucks came to the site.”

On-site storage was one of the biggest challenges. KONE used a vertical storage method to reduce the area needed for the equipment and carefully planned the installation tasks to minimize handling.

Timing and delivery of equipment were excellent, keeping the entire project on target. As much as 50 percent of the tower’s real estate could be marketed even before the project was completed.

“KONE delivered outstanding products, and the communication between KONE and the builders was extremely good,” says **Jean-Marc Besson**, President of Beacon Capital Partners France.

Green principles

Standing at 231 meters, Tour First is now France’s tallest skyscraper. The building also has very high goals for eco-efficiency, following the Haute Qualité Environnementale (HQE) standard for green buildings in France.

KONE implemented its latest innovations in eco-efficiency to help meet the strong environmental requirements. Power regeneration was a key factor.

Twelve elevators and the two freight elevators use KONE regenerative drive technology. Energy otherwise lost during braking is recaptured and fed back into the main supply network. KONE also implemented a standby mode solution to further reduce energy consumption by turning off car lighting and floor signalization when not in use.

Beating the rush

As the business district of Paris grew over the years, so too did the number of people heading in and out of the old Tour AXA. Especially during the lunch time rush, handling capacity was an issue. Because the new building would use the same elevator shafts, another solution had to be utilized through means other than adding new elevators.

To achieve the required increase in people flow, KONE implemented its KONE Polaris™ Destination Control System (DCS) with excellent results to the passenger elevators. The DCS uses intelligent assessment of vertical travel needs based on the floor selections of users to minimize the number of stops and optimize the vertical flow in the building.

KONE’s solution delivered excellent eco-efficiency while nearly doubling the number of people who move throughout the tower.



SUMMARY

Challenge

- Major modernization of an existing structure in the busy Parisian business district, demanding highly eco-efficient solutions and increased people flow

Solutions

- Efficient deliveries and an on-site vertical storage system minimized handling
- High-speed and energy-efficient elevators, optimized with KONE Polaris DCS, transport almost 50 percent more passengers


FAST FACTS

Tour First

- Completed: 2011
- Height: Tour AXA (old tower) 162 m; Tour First (new tower): 231 m
- Floors: Tour AXA (old tower) 40; Tour First (new tower) 51
- Total floor area: 80,000 sqm
- Architect: Kohn Pedersen Fox and SRA
- Building owner: Beacon Capital Partners; AXA Real Estate (previous owner)
- Developer: Altarea Cogedim
- Contractor: Bouygues Bâtiment Ile de France
- Tenants: Ernst & Young and Euler Hermes (member of ALLIANZ)

KONE Solutions

- 18 KONE MiniSpace™ passenger elevators
- 2 KONE MiniSpace™ freight elevators
- 1 KONE MonoSpace® elevator
- 3 KONE MonoSpace® freight elevators
- 4 KONE MonoSpace® parking elevators
- 2 KONE TravelMaster™ 110 escalators
- KONE Polaris™ Destination Control System



MAKKAH CLOCK ROYAL TOWER HOTEL – MAKKAH, SAUDI ARABIA

Royal landmark

When compared to everything else in the world, the Makkah Clock Royal Tower Hotel can only be described in superlatives: the tallest hotel, the tallest clock tower, the largest clock face, the largest indoor space (1.6 million square meters for the total project), and on the list of tallest buildings, it currently holds second place.



Soaring above the clock is a beautiful glass dome that houses the lunar research center and cosmology center with some of the biggest telescopes in the world.

Building for the masses

The holy city of Makkah is home to the world's largest mosque, the Masjid Al Haram. The mosque can hold up to 600 000 people and is currently undergoing expansion to increase the total size to accommodate an additional one million people.

The Makkah Clock Royal Tower Hotel project provides high quality accommodation and recreation for visitors to the Masjid Al Haram, situated directly adjacent to the hotel. The structure is made up of seven towers, which all rest upon a 15-story podium that includes a retail area. The three towers on either side of the clock tower are between 200 and 300 meters tall. The clock tower stands at 601 meters. In one of its grandest undertakings, KONE delivered a People Flow® solution like no other.

Moving the masses

"Visitors to Makkah normally practice formal prayers five times per day," says **Tarek Elnaggar**, Senior Vice President at KONE who was regional director for KONE Middle East during the project. "The goal of the customer is to ensure that up to 75,000 people can exit all 7 buildings through the podium in an organized and timely manner every prayer time."

This required a thorough study for optimum people flow solutions, resulting in an extraordinary amount of equipment: over 100 escalators and more than 180 elevators in the podium and clock tower alone. In addition, KONE implemented special group control software with artificial intelligence capabilities to learn and track passenger traffic patterns in order to optimize people flow. The elevators include large shuttles that can hold 54 passengers each and take visitors up to the 15th level, one of the sky lobbies of the tower.

Particularly stunning are the elevators that take visitors up to the astronomy floors. The cars incorporate computer screens behind glass walls. Travelers see a realistic simulation, including the sky above, of what the view would be if they were in scenic elevators traveling on the outside of the building.

Success factors

With a building of this size, the environmental footprint is significant. Eco-efficiency was naturally important to the customer. "We were able to demonstrate that we could save 30 percent on their energy bill with our equipment, compared to the traditional equipment of our competitors," says Elnaggar.

"Another key factor in winning the project was the KONE team. We built up a strong team, pulling top-notch experts from all over KONE. I don't think KONE has ever gone through such a rigorous design process, which lasted about 15 months."

Since the early '80s, KONE has had equipment in the Masjid Al Haram mosque. KONE installed hundreds of extra heavy-duty escalators to withstand outdoor weather elements. These escalators have proven to be extremely reliable, and of the highest quality, contributing to KONE's selection for the clock tower project.

"There is nothing that comes even close to the people flow challenge in Makkah," explains Elnaggar. "When you are in the mosque during peak times, all you see are rivers of people going up or down the escalators, before and after prayers."

With the clock tower project now completed, KONE turns its attention to the massive expansion project for the Masjid Al Haram mosque. KONE aims to deliver a People Flow solution for the mosque that will soon be so large that its capacity alone, over 1,6 million people, will rival that of many cities around the world.

SUMMARY

Challenge

- To provide a People Flow® solution for one of the largest structures that allows up to 75,000 people to leave the buildings in 30 minutes or less for prayers five times a day

Solution

- Special design team that met regularly with key stakeholders worldwide
- Specially recruited project team who were trained specifically for this undertaking
- Massive amounts of equipment to handle People Flow as seen nowhere else in the world

FAST FACTS

Makkah Clock Royal Tower Hotel

- Year of completion: 2012
- Clock tower:
 - Height: 601 m
 - Floors: 120
- Podium:
 - Height: 115 m
 - Floors: 15
- Architect: Dar al-Handasah Shair & Partners
- Developer: Saudi Binladen Group

KONE Solutions

- Clock tower:
 - 89 KONE MiniSpace™ elevators
 - 5 KONE MonoSpace® Special elevators
 - 16 KONE extra heavy-duty, high-efficiency Transvario escalators
- Podium:
 - 75 KONE MiniSpace™ elevators
 - 4 KONE MonoSpace® Special elevators
 - 111 KONE extra heavy-duty, high-efficiency Transvario escalators
- Adjacent towers:
 - 10 KONE MiniSpace™ elevators
 - 2 Helipad elevators
 - 6 KONE extra heavy-duty, high-efficiency Transvario escalators



LEATOP PLAZA – GUANGZHOU, CHINA

Modernist eco-tower

Piercing the sky like a glittering crystal, Guangzhou's Leatop Plaza is a symbolic landmark for environmentally-intelligent buildings.

Southern China's largest city is an economic powerhouse with high ambitions not only as a key trading port, but also as a green pioneer. Prominently located at the gateway of the Zhujiang New Town central business district of Guangzhou, Leatop Plaza is a futuristic office complex harnessing a wide spectrum of green technology.

Standing at 303 meters, it is the tallest building in China for which KONE has supplied equipment to date. KONE started the project with simulations and traffic flow analyses between the 64 floors, including five levels of underground parking. KONE MonoSpace® and KONE MiniSpace™ elevators, as well as KONE TravelMaster™ escalators all form part of a comprehensive solution to ensure the best possible flow of tenants and visitors.

"The reason we chose KONE as a partner was their customer focus, eco-efficient solutions and technologies," says **Jinfeng Fu**, General Manager of Leatop Real Estate.

Garnering eco-accolades

Designed by world-renowned architect **Helmut Jahn**, Leatop Plaza resembles an ice sculpture, its sparkling glass façade capturing nuances of sunlight. The skyscraper's modernist architecture is matched by its progressive energy-efficient solutions, including solar power, LED lighting, and the world's first sun-shading system using vertical shutters to block out light and thus reduce the need for air conditioning.

Leatop Plaza is the first building in Guangzhou to be granted the U.S. Green Building Council's Gold level of pre-certification under the Leadership in Energy and Environmental Design for Core and Shell (LEED-CS) program. KONE's eco-efficient equipment was a contributing factor toward LEED certification.

Leatop Plaza features KONE EcoDisc® hoisting units, which utilize regenerative drives to convert the excess braking energy into power. A regenerative system can save up to 30 percent of an elevator's annual energy consumption.

Sky-high requirements

As skyscrapers tend to sway in windy cities, the building's staggering height was a technical challenge.

"With safety as a priority, efficient teamwork and communication with the customer were crucial. We did thorough research and made detailed plans to ensure the safety of all installation stages, accumulating valuable knowledge for future high-rise projects," says KONE's Project Manager **Zhiqiang Hu**.

The specialized car design enhances both the safety and appearance of the elevators, and features stainless steel mesh-grid cladding. Other customized features include a KONE InfoScreen at the ground floor elevator landing notifying passengers of elevator-related data as well as building announcements.

To guarantee a high level of service, KONE installed the KONE E-Link™ monitoring system which connects all elevators and escalators to the building's facility management system. KONE will also support the life cycle of the equipment with a KONE Care™ Maintenance Service agreement.

"KONE's professional site management reassured the customer that KONE was the right partner. Leatop was KONE's first skyscraper project in Southern China. This successful handover is an opportunity for us to secure future orders in the region," explains Hu.



SUMMARY

Challenge

- To design and deliver a safe, high-speed vertical transportation solution for the tallest skyscraper KONE has ever supplied in China
- To set new benchmarks in eco-efficiency in a high-profile green project

Solution

- Eco-efficient elevators with advanced technology and regenerative drive systems
- Specialized car design enhancing both safety and appearance
- Close collaboration with the customer enabling safe and efficient installation

FAST FACTS

Leatop Plaza

- Year of completion: 2012
- Height: 303 m
- Floors: 59; 5 floors basement
- Total floor area: 160,133 sqm
- LEED Gold pre-certification
- Architect: Helmut Jahn
- Developer/Building owner: Guangdong Leatop Real Estate Investment Co., Ltd.

KONE Solutions

- 28 KONE MiniSpace™ elevators
- 5 KONE MonoSpace® elevators
- 2 KONE TravelMaster™ escalators
- KONE E-Link™ monitoring system
- KONE InfoScreen
- KONE Care™ Maintenance Service



MOSCONE CONVENTION CENTER – SAN FRANCISCO, CALIFORNIA

Powerful performance

At the Moscone Convention Center in San Francisco, California, it's always showtime. Smooth and efficient People Flow® is essential to the delivery of a memorable experience for hundreds of thousands of visitors each year.

One of the world's busiest convention centers, the two-story Moscone Center covers nearly a full city block. Home to hundreds of world-class events, the sprawling facility serves as many as 630,000 visitors annually. Bursts of 40,000 people are not uncommon as daily events open and close. Seamless transport between the two floors is the key to smooth operations and a successful visitor experience.

Need to modernize

Faced with four aging escalators in the facility's north wing, the building owner banked on a proven product for modernization: KONE EcoMod™ escalators. It was a decision based on previous experience. In 2003, KONE successfully installed 6 KONE EcoMod units in the oldest part of the facility in a project later honored in a global publication competition as "Elevator World, Project of the Year" under the category of Escalator Systems. This project would, however, be conducted in one-third the time allocated for that installation.

Modernization was planned during a time when no major events were scheduled. Through the combination of a proven product and solid experience, KONE met the demands of a five-week schedule and avoided disruption to any Moscone event. "KONE is the only company that could install dual-drive units with a 33-foot rise in an exceptionally tight time frame," says **Justin Shapiro**, KONE Senior Sales Executive.

Meeting the schedule challenge

To ensure success, KONE drafted an aggressive installation plan months in advance. Multiple crews worked around the clock for the duration of the project. Dedicated on-site project management ensured smooth transitions from one shift to the next. Thorough pre-project coordination with the general contractor ensured safe and efficient operations.

Additionally, because KONE's escalator modernization is essentially a self-contained process, the convention center was spared the disruption that would have resulted from new construction. With KONE's modernization process, no structural modification is required, trade interaction is minimal, and less facility-wide coordination is needed.

A dependable solution

The benefit of using the KONE EcoMod is that the product drops into existing trusses, requiring no major structural renovation, and the stainless steel cladding covering each truss remains intact.

The challenging Moscone project required an exceptional approach, one that KONE delivered through thorough preparation at every level. "Success of this installation is attributable to the careful and precise pre-construction planning from the KONE project management team," says **Matt Paves**, Senior Project Manager, Webcor Builders, "and to the highly skilled and professional foremen who managed the work on-site."



SUMMARY

Challenge

- To modernize escalators in a world class convention center on an extremely tight schedule and without major disruptions

Solution

- Thorough pre-construction planning paved the way for smooth installation
- Dedicated on-site project management delivered unparalleled installation consistency in only five weeks

FAST FACTS

Moscone Convention Center

- Modernization completed: 2011
- Floors: 2
- Architect: HOK
- Building owner: City and County of San Francisco
- Contractor: Webcor Builders

KONE Solutions

- 4 KONE EcoMod™ escalators (2011 modernization)
- 4 MMS Hydro escalators (from 2003)

All under one roof

With its practical central location in Europe, Vienna International Airport is an important hub for travelers heading to Eastern Europe and the Middle East. Through rapid growth, the airport has become a major driver of Austria's economy.

Flughafen Wien AG, the operator of the Vienna International Airport, selected KONE to provide all elevators, escalators and autowalks for the new Skylink Terminal due to open in 2012.

The Skylink expansion includes a new pier that can handle up to 17 aircraft in parallel and a new terminal with additional check-in desks and baggage sorting, as well as shops and restaurants. The innovative design of the Skylink Terminal will reduce transfer times and increase the airport's total annual capacity to 28 million passengers.

Comfort and efficiency

Passenger flows were carefully planned for the different levels in Skylink to ensure distances remain manageable for travelers both in terms of comfort and time. The aim is to keep transfer times to as low as 25 minutes, making Vienna International one of the best airports in this respect.

Special attention was paid to comfort, quality and service in the design of the terminal to reduce stress and ensure passengers can enjoy their time at the airport. To facilitate a great people flow experience, there are eight KONE autowalks, 47 KONE escalators and 22 KONE elevators in the pier section.

SUMMARY

Challenge

- To provide efficient solutions ensuring flight transfer times in under 25 minutes

Solution

- Careful planning and regular communication with a large number of key stakeholders
- Install KONE eco-efficient machinery and drive systems

FAST FACTS

Vienna International Airport Skyline Terminal

- Year of Completion: 2012
- Land area: 147,000 sqm
- Architect: Arge Skylink WOP; P.ARC-Moser Neumann
- Building owner: Vienna Airport
- Developer: Freudensprung (Haustechnikplaner)
- Contractor: Hochtief and Swietelsky

KONE Solutions

- 37 KONE MonoSpace® Special elevators
- 6 KONE MonoSpace® elevators for the Office Park expansion
- 1 KONE TranSys™ freight elevator
- 61 KONE EcoMaster™ escalators
- 8 KONE InnoTrack™ autowalks

An additional 14 KONE escalators and more than 16 KONE elevators were installed inside the terminal building. The new installations nearly double the number of KONE units installed at the Vienna International Airport.

Eco-efficiency was also a key factor for Vienna International. Two glass layers are used on the Skylink façade to minimize heat loss and reduce the cost of energy for air-conditioning. KONE's eco-efficient solutions were a welcome addition to Skylink. "The energy efficiency of our equipment played a significant role in KONE winning this contract," says **Markus Veit**, Project Manager at KONE Austria.

Shaping the future

The project was a challenge from square one due to the sheer numbers. Delivering and installing over 60 escalators was a big undertaking for KONE Austria. "We also had a large number of stakeholders in this project, so effort and time went into communication and coordination," adds Veit.

Construction on the new terminal started in 2006, but due to changes in the project, the entire effort was put on hold. After a lengthy pause and much re-planning, the expansion project was finally restarted in 2010. "With perfect teamwork, good preparations, and exact calculations, we were able to complete this project exceptionally fast," says Veit.



The new terminal is a beautiful addition to a first-class airport. "The escalators look particularly modern with their own lighting system built into the balustrade," notes Veit.

Before the grand opening in 2012, the airport will conduct full-scale tests in the new terminal using volunteers to ensure everything is working as planned. From there, it's all systems go!



ROYAL CHILDREN'S HOSPITAL – MELBOURNE, AUSTRALIA

Greenest hospital down under

Green is the color of healing at Melbourne's
inspirational new Royal Children's Hospital.



In what was a historic occasion for the state of Victoria, the Melbourne Royal Children's Hospital (RCH) moved into state-of-the-art facilities in November 2011. The new RCH is Victoria's largest medical complex, featuring 85 percent single inpatient rooms, an integrated education center, and twice the research space as the old hospital it replaced.

Uniquely designed as a stimulating environment for children, the sun-flooded building offers additional services such as a two-story aquarium and a promenade with shops and cafés. Its inspiring design is matched by a range of advanced eco-features making it the greenest hospital in Australia.

Regenerative energy

The billion-dollar redevelopment is funded as a private-public partnership between the Department of Health, the RCH and the Children's Health Partnership consortium. KONE was chosen as a key equipment supplier for its ability to meet the requirements of the design specifications and its high-level focus on eco-efficiency.

Awarded a Green Star Rating by the Australian Green Building Council, the RCH produces 45 percent less greenhouse gases than a conventional hospital thanks to its energy-efficient solutions, including rooftop solar panels that provide 40 percent of the facility's hot water and an 800 kilowatt biomass boiler for renewable heating. KONE's elevators, which feature regenerative KONE EcoDisc® technology, complete the eco-efficient package.

Spotless safety record

Safety was a high priority for both the client and the builder. "All subcontractors were rated weekly. KONE maintained a top safety rating all the way through the project," says **Peter Caruana**, head of KONE's project management team in Australia.

One of the special units of equipment supplied by KONE is the super-sized elevator that travels from the helipad to all inpatient levels. Designed to enable life-saving procedures to be carried out while transferring emergency patients from the helipad to surgery, it is the largest hospital bed passenger elevator in the southern hemisphere.

For the kids

Other custom features delivered by KONE include digital cameras in the elevator cars, remote KONE E-Link™ monitoring connected to KONE's regional office via wireless technology, and special etched and painted glass interiors featuring children's themes.

Despite the aggressive schedule, the project was completed on time, with the builder and subcontractors working closely together to achieve a high-quality result.



"Our goal was to deliver the most advanced children's hospital in Australia, if not the world. The passion to complete the project to a high level of quality came from everyone involved, especially the installation crew on site. Everyone involved was doing it for the kids," says Caruana.

SUMMARY

Challenge

- To deliver safe and eco-efficient solutions, qualifying the building for a Green Star Rating
- To provide custom solutions for specialized medical transport and child-friendly visual appeal

Solution

- Close collaboration with the builder, with attention to safety and high quality at all stages of the project
- Custom features including innovative visual design and the largest passenger elevator ever installed in the southern hemisphere

FAST FACTS

Royal Children's Hospital

- Completed: Stage 1: Oct 2011; Stage 2: under construction
- Architect: Billard Leece Partnership and Bates Smart joint venture BLBS
- Building owner: State Government of Victoria Public Private Partnership
- Developer: Children's Health Partnership
- Contractor: Bovis Lend Lease

KONE Solutions

Stage 1

- 18 KONE Minispace™ elevators
- 1 KONE MiniSpace™ high-rise elevator
- 2 KONE MonoSpace® Special elevators

Stage 2

- 6 KONE MonoSpace® Special elevators
- 2 KONE MonoSpace® TranSys™ elevators
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service



In safe hands

Getting to or from a guest room with luggage and without delay is a crucial element of any hotel or resort experience – and one that is a reflection of the overall hotel brand impression.

Hilton Worldwide, with more than 3,600 hotels, is one of the largest global hospitality chains. To help ensure that its vertical transportation is reliable, Hilton Worldwide has formed a strategic partnership with KONE that includes a variety of maintenance contracts. KONE currently works with over 400 Hilton Worldwide properties and franchise owners around the globe.

Uninterrupted operations

Hilton chose KONE as a strategic partner largely based on its maintenance offerings, including factors such as geographic coverage, response time and program management.

Safety and quality are top priorities for both companies. “Hilton’s expectations in terms of equipment maintenance are clear-cut: “We require a proactive and consistent approach,” says **Vicki Perry**, Global Account Director, Strategic Account Management, Hilton Worldwide.

She explains by example, “One of our flagship properties had recurring noise problems with two escalators maintained by another company. KONE stepped in, investigated the cause, and defined corrective procedures to fix both escalators.”

Customer orientation

Hotel escalators typically access convention areas, which are open to the public, making them particularly vital in regard to safety and operation.

KONE’s Modular Based Maintenance™ (MBM) method is the heart of KONE’s maintenance program, ensuring that elevators and escalators always operate at peak safety and performance. MBM guarantees that maintenance is done on a timely basis to avoid future problems.

Timely maintenance also means it is carried out at times that minimize inconvenience to hotel guests, meeting participants, and staff. Some of Hilton Worldwide’s luxury hotels and full-service hotels expect rapid 24/7 response time, so Hilton requires full-time call-outs be included as part of their maintenance contracts. In other categories, maintenance can be done during low-traffic times in the middle of the day, for instance.

To further limit downtime, the company stocks more than 150,000 spare parts, both from KONE and other manufacturers. If the right part is not in the KONE service technician’s van, it is swiftly delivered by one of the industry’s best distribution systems.

“KONE does a great job in communicating with the local hotel management teams,” says Perry. “Their maintenance programs are flexible and specifically tailored to each of our hotel’s requirements.”

“Communication is always the main ingredient,” notes **Brad Fleming**, Director, Strategic Accounts, KONE Americas. “In addition, our reporting systems, maintenance method programs, KONE field mobility, and our dispatching all play important roles in how we maintain and manage the equipment at each of the Hilton properties.”





SUMMARY

Challenge

- To provide a comprehensive maintenance program for a global customer

Solution

- Preventative maintenance solutions and a 24/7 service team to minimize disruptions

FAST FACTS

Hilton Worldwide

- Leading global hospitality company
- 10 brands including Waldorf Astoria Hotels & Resorts and Conrad Hotels & Resorts
- 615,000 rooms in 85 countries
- Approximately 14,000 elevators in service; over 4,000 in the U.S.

KONE Solutions

- Over 2,000 KONE service technicians in North America
- More than 150,000 spare parts in stock
- Over 50% of the equipment maintained is from manufacturers other than KONE
- Individually tailored maintenance packages for each Hilton hotel

CELEBRITY ECLIPSE

Every detail counts

For passengers, a cruise ship is an escape: an indulgent diversion from daily stress and routine. For those creating the experience, it is a demanding task to ensure the elements of the ship's interior match the ship's overall aesthetics from aft to bow.





es®

Celebrity **ECLIPSE**
Valletta

This poses many interesting challenges for KONE. Cruise ship elevators are in demand 24/7. They have peak usage with thousands of guests and their luggage embarking and disembarking in short period bursts. They must operate smoothly at high speeds in turbulent seas. And their materials and structure must be easy to maintain – as the ships are essentially always at sea.

Stage for drama and luxury

The Celebrity Eclipse, launched in 2010, is the third in a series of Solstice class ships in Royal Caribbean's Celebrity Cruise fleet. The Solstice class boasts magnificent architecture and design combined with advanced technology.

Scott Butler of Wilson Butler Architects designed the eight panoramic elevators to naturally serve the main vertical people flow function of the ship. He also designed the elevators to serve as miniature stages from which guests can see and be seen.

Judging by the number of videos and photos posted online by passengers riding the elevators on each cruise, their journey has been as exciting as their destination to another floor and activity. The eight scenic elevators travel up 15 decks and overlook the Grand Foyer. Halfway up, passengers view a floating tree.

Matching the vision

Unlike most other scenic elevators, Butler modeled these elevator car shapes to resemble a cut gem, to sparkle from the reflected light as they travel up and down the sunlit atrium.

KONE was able to recreate the architect's vision of these jewel-like elevators through full-scale prototypes created at a factory.

Butler and his team appreciated the structured process of review and refinement. "The most rewarding measure of teamwork is when a manufacturer understands a designer's comments and goes the extra distance. KONE substantially improved the original mock-up prior to our second inspection," notes Butler.





Better guidance, less wait

Signalization systems are the only user interface that passengers control to receive information regarding their journey. With eight elevators on each landing, it is essential for guests to identify correctly which elevator arrives first.

KONE and Butler jointly developed a unique signalization solution for the landing call stations that directs the passenger to the correct elevator, thus decreasing the wait time. Rather than relying on the standard signal arrows, an illuminated overhang of glass lights projects blue above each elevator landing door. When the elevator arrives at the deck, the lights change to red and remain red until departure – easily catching the passenger’s attention.

As evidenced by the positive reviews, the Celebrity Eclipse surpasses all expectations for design. KONE recognizes that quality design and engineering mastery of elevators at sea makes for satisfied designers and delighted passengers. It also makes for happy customers.

SUMMARY

Challenge

- To design panoramic elevators per the architect’s vision, combining engineering mastery with innovative synchronized guidance

Solution

- Close cooperation between KONE and the architect from the early design phase to ensure visually stunning elevators that serve the ship’s unique purpose

FAST FACTS

Celebrity Eclipse

- Completed: 2010
- Decks: 17
- Capacity: 2,850 passengers; approximately 1,270 crew members
- Cruise line: Celebrity Cruises
- Shipyard: Meyer Werft, Germany

KONE Solutions

- 8 KONE MiniSpace™ scenic passenger elevators
- 1 KONE MiniSpace™ service elevator
- 4 KONE MonoSpace® passenger elevators
- 8 KONE MonoSpace® service elevators
- 1 easy-access platform elevator
- 1 dumbwaiter



PARKHOTEL SCHÖNBRUNN – VIENNA, AUSTRIA

Fit for a king

The famous Austrian composer Johann Strauss, the Younger made his debut here. Countless waltzes have been danced here. The Parkhotel Schönbrunn offers modern transit comfort embedded in a showpiece of tradition.

Judging by appearances, little has changed at the Parkhotel Schönbrunn over the past century. Built in 1907 as a guest residence for **Kaiser Franz Josef I**, the hotel has preserved its royal atmosphere. Portraits of the Kaiser's family still hang in the hotel, as if keeping a watchful eye on tradition.

Conservation challenge

Located near renowned Schönbrunn Palace, the hotel forms part of a historically significant area. Designed by **Arnold Heymann**, it houses a traditional Viennese coffee house, deluxe hotel suites furnished with original Imperial furniture, and one of the few surviving classic ballrooms still in use in Vienna.

The modernization of such an esteemed site was a challenge tackled by experienced professionals. When the hotel's comprehensive renovation began in April 2010, KONE was awarded the contract to replace the antiquated elevators with efficient new transit technology.

Invisible facelift

A trusted six-decade partnership with the hotel's owners, the Hübner family, made KONE the obvious choice for this exacting task. The Hübner family and the current management, Austria Trend Hotels & Resorts, took utmost care to preserve all original detailing.



SUMMARY

Challenge

- To modernize elevators in a structure-sensitive building under historical protection

Solution

- Space-efficient elevators ensure maximum comfort and optimal space utilization, preserving the building's architectural heritage
- Proactive People Flow analysis and efficient project management were instrumental to the timely completion of the project

FAST FACTS

Parkhotel Schönbrunn

- Modernization completed: 2011 (originally built: 1907)
- Floors: 7
- Rooms: 314 (18 suites and 7 barrier-free rooms)
- Architect: ACC Ziviltechniker GmbH
- Building owner: Hübner Hotel Betriebe Komm. Ges.

KONE Solutions

- 1 KONE MonoSpace® Special elevator
- 6 KONE MonoSpace® elevators
- 1 KONE TranSys™ elevator
- KONE Care™ Maintenance Service

The period architecture has been restored to its full glory, discreetly retrofitted with new equipment meeting the comfort standards of sophisticated hotel guests. Contemporary KONE MonoSpace® elevators are seamlessly integrated inside the old shafts, looking as if they were always there.

Sense of space

“As we replaced very old elevators within the existing structures of a historically-protected building, space efficiency was a key issue,” says KONE Project Manager **Eva Welker**.

“This is a high-end hotel, so the client naturally expected efficiency, reliability and the very best People Flow® experience. One key challenge was to understand the diverse guest requirements of the hotel. Despite the tight seven-month schedule, we excelled thanks to our proactive approach and the skilled communication of our team,” adds Welker.

The Kaiser himself would be proud of the results. The Parkhotel Schönbrunn combines old Viennese charm with the superior comfort of new elevators and reliable service guaranteed by a KONE Care™ Maintenance Service agreement.



ONE NEW CHANGE – LONDON, UK

Clear view of success

External scenic elevators at the One New Change shopping center in the City of London do more than deliver a spectacular view of an architectural landmark. They also transport thousands of visitors every day to a dazzling new public space in the heart of the city.



One of the largest shopping destinations in the City of London, One New Change is a blend of retail and office space in the city's financial district. The horseshoe-shaped structure faces St. Paul's Cathedral; a public space on its roof offers a stunning view of the cathedral's dome and the city's skyline. A spacious terrace and rooftop restaurant draw crowds from 6 a.m. to midnight, seven days a week.

Matching design integrity

Design and installation of two KONE MiniSpace™ exterior scenic elevators represented significant challenges in design and engineering. Housed in an external steel structure, the scenic elevators are fully exposed to outside weather elements. Specific design considerations associated with the building's modernist glass façade required a uniquely customized solution.

KONE responded with water-resistant landing entrances and a specialized glazed canopy. The custom-designed, oversized cars are clad in glass and stainless steel. All cars also feature air conditioning systems and a car-to-car transfer system, which in an emergency, enables the rescue of passengers trapped in one car using a bridge system from the adjacent car.

Installation logistics

During construction, extensive upgrades to the surrounding transportation infrastructure took place. Multiple road closures associated with the work demanded coordination among all construction parties. And a high-profile opening day ribbon-cutting ceremony underscored the need for a smooth handover by deadline.

Because the building's glass façade was constructed in phases, installation work required flexible scheduling. KONE developed a project management system that reassessed priority needs and facilitated the exchange of relevant information. Efficient planning and a quick response to shifting schedules kept the installation on track and eliminated distractions and delays.

SUMMARY

Challenge

- To design and install external scenic elevators in a high profile shopping center following specific design considerations

Solution

- Custom-designed cars met the needs of a unique engineering application and architectural design
- Smooth project management ensured on-time completion for each phase of the building life cycle

FAST FACTS

One New Change

- Completed: 2010
- Architect: Siddell Gibson
- Contractor: Bovis Lend Lease

KONE Solutions

- 6 KONE MiniSpace™ office elevators
- 2 KONE MiniSpace™ external scenic elevators
- 5 KONE MonoSpace® passenger elevators
- 9 KONE MonoSpace® freight elevators
- 5 KONE MonoSpace® fire elevators
- 2 KONE MonoSpace® bicycle elevators
- 3 special-needs platform elevators
- 11 KONE E3C escalators
- 2 E3H external escalators
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service

Meeting the challenge

New construction in a historic district created an additional challenge. KONE demonstrated responsiveness to special planning and zoning restrictions while designing and installing elevators and escalators throughout the office and retail areas.

The customer's confidence in KONE served as a foundation for a design that complements the building's architectural aesthetics. Serving a rooftop public area, the scenic elevators are the single most important element to the commercial operations. Marked by superior ride quality, the elevators at One New Change are a highly effective blend of form and function.



Scoring green goals

Packed one day, empty the next, sports stadiums must adapt to peaks in crowd flows. After the fans go home, Poland's eco-efficient National Stadium goes into hibernation until the next event.

Eastern Europe has a great football tradition, but has lacked a world-class sports arena. That void has now been filled. The National Stadium in Warsaw is the single largest investment for the Union of European Football Associations (UEFA) 2012 European Football Championship hosted jointly by Poland and Ukraine.

With a retractable roof covering two-tiered seating capacity for nearly 60,000 fans, this multi-purpose

complex will become part of Poland's National Sport Center, hosting not only football matches but also a variety of high-profile sports and entertainment events.

All about the flow

Working closely with the architects and contractors in the pre-planning stages, KONE calculated traffic capacity to assess crowd behavior and people flow patterns. When excited fans enter, exit or move around the venue,



both horizontal and vertical transportation must flow seamlessly and safely at all times, even at full capacity. Allocation of sufficient escalators, elevators, and dedicated routes minimizes the congestion and risks related to moving large crowds through the complex.

“One key challenge was the timing, as the stadium needed to be completed before Euro 2012 kick-off,” says KONE Business Development Director **Janusz Bernfeld**. “Work had to be fast and efficient, as the escalators had to be installed before the roof was elevated. KONE drafted a precise phased timetable and offered a convenient cascading solution, using cranes to minimize installation time.”

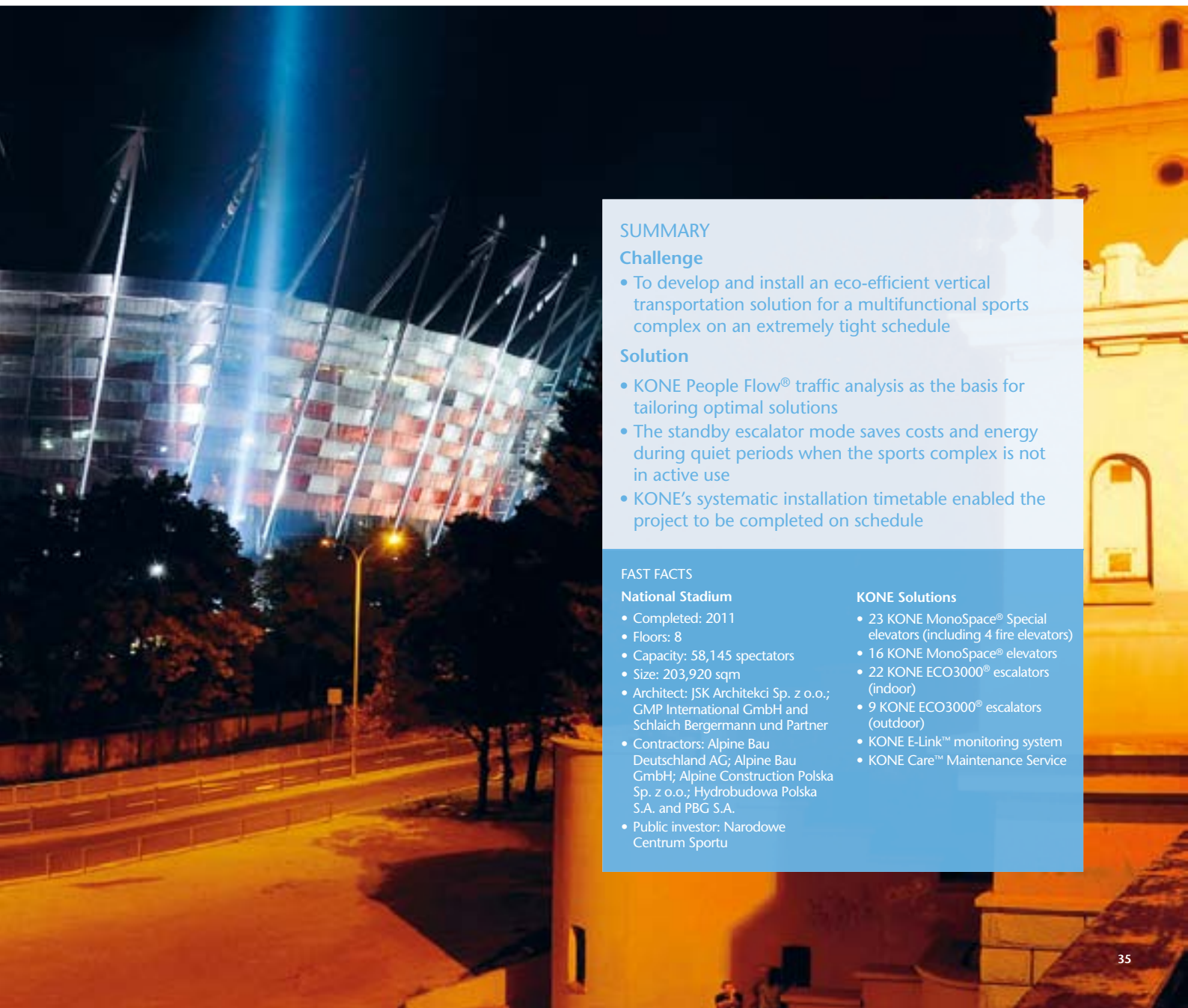
KONE also contributed to the safe ride of the equipment. “Our suggestion to extend at both ends the escalator balustrades created a functional system in the central part of the stadium,” Bernfeld states. “Passengers can easily grasp the handrail before setting foot onto the safety zones.”

Sleeping beauty

Poland’s National Stadium is the newest in a series of eco-stadiums that have sprung up around the world. With its wavy façade of red and white strands woven to resemble a fluttering Polish flag, it offers not only visual appeal, but an advanced range of eco-efficient features.

These include the escalator standby system and a passenger detection feature developed by KONE. Standby speed operation is recommended for stadium usage where the duty cycle is short but with peak loads. As the main section of the stadium is used for events, the equipment goes into “hibernation mode” until the crowds start arriving again. Benefits also include reduced wear on the moving parts as well as energy savings of up to 40 percent depending on passenger flow.

“Low energy consumption and low starting energy ensure savings in every situation: when the escalators are in active use, when nobody uses them, and also when they start up,” explains Bernfeld.



SUMMARY

Challenge

- To develop and install an eco-efficient vertical transportation solution for a multifunctional sports complex on an extremely tight schedule

Solution

- KONE People Flow® traffic analysis as the basis for tailoring optimal solutions
- The standby escalator mode saves costs and energy during quiet periods when the sports complex is not in active use
- KONE’s systematic installation timetable enabled the project to be completed on schedule

FAST FACTS

National Stadium

- Completed: 2011
- Floors: 8
- Capacity: 58,145 spectators
- Size: 203,920 sqm
- Architect: JSK Architekci Sp. z o.o.; GMP International GmbH and Schlaich Bergermann und Partner
- Contractors: Alpine Bau Deutschland AG; Alpine Bau GmbH; Alpine Construction Polska Sp. z o.o.; Hydrobudowa Polska S.A. and PBG S.A.
- Public investor: Narodowe Centrum Sportu

KONE Solutions

- 23 KONE MonoSpace® Special elevators (including 4 fire elevators)
- 16 KONE MonoSpace® elevators
- 22 KONE ECO3000® escalators (indoor)
- 9 KONE ECO3000® escalators (outdoor)
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service



ZHENGZHOU EAST RAILWAY STATION - HENAN, CHINA

Heart of China's railway network

As the largest interchange train station in Asia, building the Zhengzhou East Railway Station was a massive undertaking. Expected to handle as many as 7,000 passengers per hour, the station is a true indicator of its inspiration: the gate of the city.

At first glance, the Zhengzhou East Railway Station looks more like an airport than a train station. Its five levels have been designed to make the constant flow of passengers as smooth and efficient as possible. As in airports, passengers enter and depart from the higher levels and arrive, transfer and exit through the lower levels.

Covering 350,000 square meters, the station is a new traffic hub that will handle all the main public transportation options: metro, railway and bus. KONE is the main supplier of equipment for the project, with 38 elevators for the train station alone.

Designed to perfection

Both the Chinese government and Ministry of Railways placed emphasis on creating a first-class railway station, with safety and ease of use as critical factors.

As a result of detailed People Flow[®] calculations, KONE was able to plan the location of elevators according to the analysis of passengers during rush hours.

Customized KONE MonoSpace[®] scenic elevators were installed throughout the station. The clear glass elevator shafts are practical in terms of safety, while allowing passengers a view of the impressive station. The components have been painted to blend in with the aesthetics of the glass elevator design, and the Maintenance Access Panel (MAP) is integrated with the landing call buttons.

All elevators are fitted with correctly positioned control panels on the side walls to meet the needs of passengers with impaired mobility.

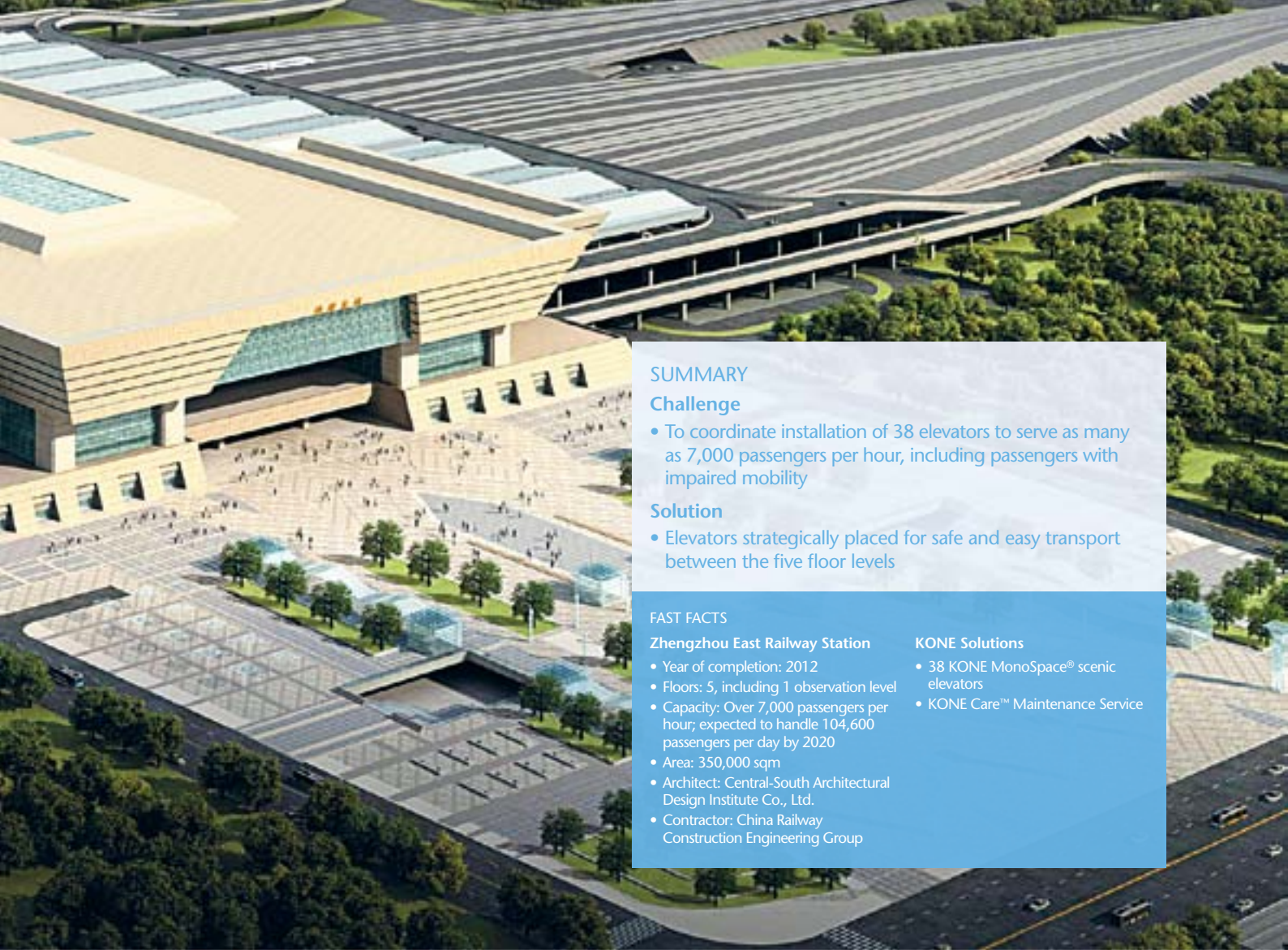
To further highlight the glass aesthetic, the 2,000 square-meter waiting room was fitted with a glass roof which helps save energy by using as much natural light as possible.

Speed and precision

The station is an important step in China's rapidly expanding transportation network. Zhengzhou will exclusively serve high-speed trains that average over 250 kilometers per hour.

The project moved as fast as the trains it serves. Changes were frequent and demanded careful coordination among many parties. KONE put together a team of highly experienced professionals to manage every detail along the way. KONE Project Manager **Luo Zhiming** adds, "This project was quite challenging due to continually changing architects and construction schedules. We gained great project management practices from which our customers will benefit in future projects."

Scheduled to open in 2012, the Zhengzhou East Railway Station has already been a great success for KONE and is sure to benefit rail travel in China. With a KONE Care[™] Maintenance Service agreement in place, travelers can rest assured that their People Flow experience will be smooth.



SUMMARY

Challenge

- To coordinate installation of 38 elevators to serve as many as 7,000 passengers per hour, including passengers with impaired mobility

Solution

- Elevators strategically placed for safe and easy transport between the five floor levels

FAST FACTS

Zhengzhou East Railway Station

- Year of completion: 2012
- Floors: 5, including 1 observation level
- Capacity: Over 7,000 passengers per hour; expected to handle 104,600 passengers per day by 2020
- Area: 350,000 sqm
- Architect: Central-South Architectural Design Institute Co., Ltd.
- Contractor: China Railway Construction Engineering Group

KONE Solutions

- 38 KONE MonoSpace® scenic elevators
- KONE Care™ Maintenance Service



THE RIVER – BANGKOK, THAILAND

Living in harmony

Just as in many great cities, the pulse of Bangkok runs right through its river, the Chao Phraya. Taking inspiration from its waterfront address, The River condominiums are poised to become one of Bangkok's most prestigious and interesting addresses.





Soaring above some of Bangkok's most luxurious real estate, the two towers that make up The River are the newest stars on the city's skyline. Bringing contemporary design to inner city living, their curved glass façades and stunning interiors add luxurious new apartments to an upscale neighborhood.

Standing at 252 meters, The River South Tower is one of Bangkok's tallest structures. Its "little sister", The River North Tower, rises to 150 meters. Facilities include a wide range of services, from entertainment and dining in the podium, to fitness centers, rooftop gardens, and much more.

Exclusive design

KONE collaborated with the building's designer, Stephen J. Leach Jr. + Associates Limited, to create a custom car interior worthy of the suites crafted by the renowned French interior architects J+H Boiffils.

Car interiors have been designed to create an aesthetically pleasing experience while delivering a smooth ride that is as seamless and luxurious as the towers themselves.

Specifications from the KONE Design signalization series include a Car Operating Panel (COP) with multimedia keypad and a matching landing signalization device. The signalization panel accommodates building-specific information and functions, bringing usability to a new height.

With such high caliber residencies, passenger waiting times need to be minimal, if not eliminated completely. KONE's traffic analysis and planning tools helped to define a fully optimized People Flow®.

Each tower includes seven KONE MiniSpace™ elevators and one KONE MonoSpace® elevator in the podium that connects the two towers. All KONE solutions are equipped with KONE EcoDisc® hoisting machines which help reduce energy consumption by using 50 percent less energy than conventional traction machines.

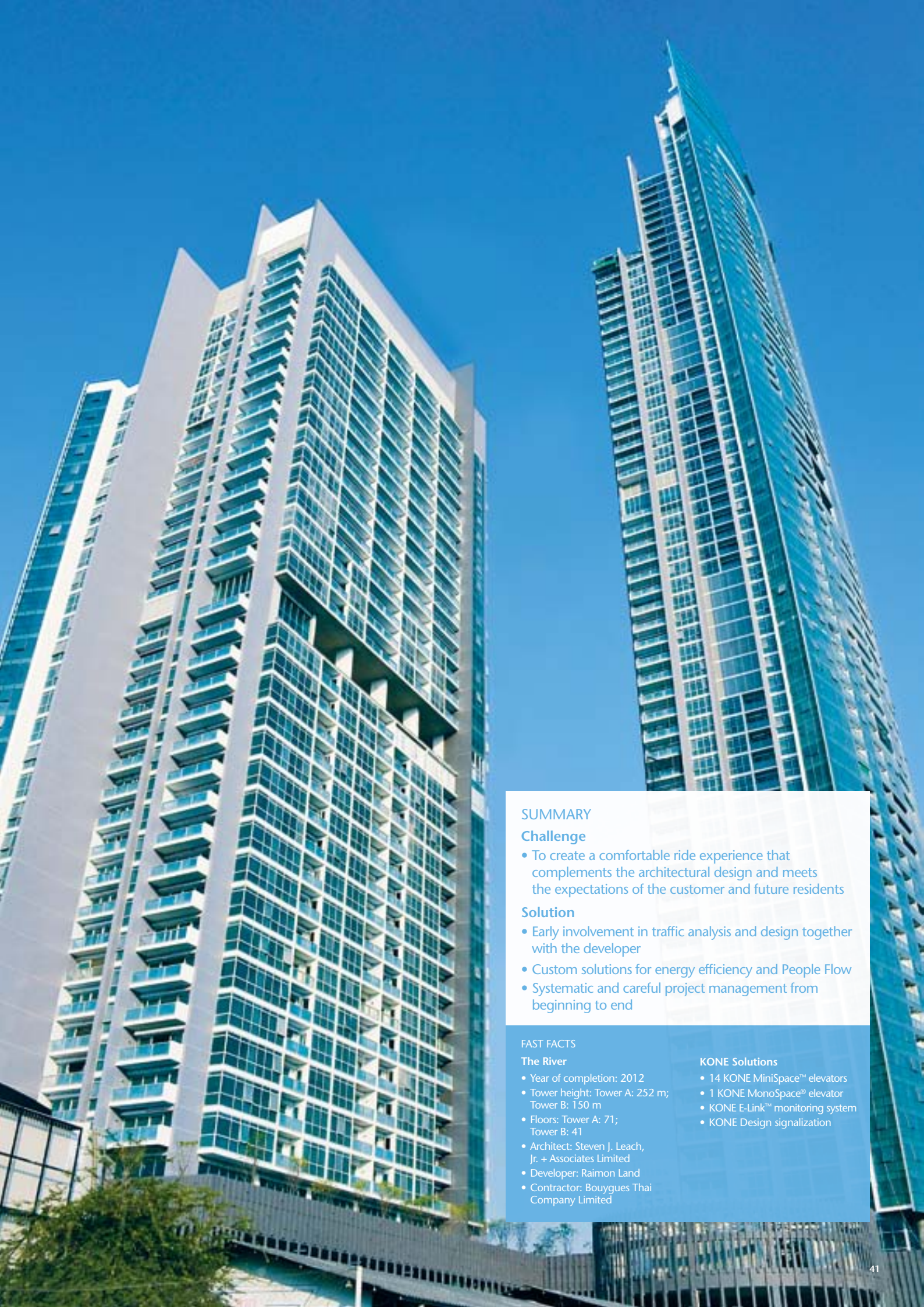
To further maximize people flow and reliability, KONE elevators are connected to the KONE E-Link™ monitoring system, and provide real-time information on the status of the equipment and statistical reports on performance.

Commitment to customer

"We have a strong relationship with the developer, Raimon Land, and were involved early on in the budgeting and design stage," says **Jirasakdi Sarayodhin**, Field Operations Director for KONE. "We also appointed a designated project management team to make sure the project ran smoothly and all installation goals were met." Such systematic project management allowed KONE to meet the high standards of the project.

When the towers are completed in 2012, the project will represent four years of detailed analyses, meticulous planning, and precise execution.





SUMMARY

Challenge

- To create a comfortable ride experience that complements the architectural design and meets the expectations of the customer and future residents

Solution

- Early involvement in traffic analysis and design together with the developer
- Custom solutions for energy efficiency and People Flow
- Systematic and careful project management from beginning to end

FAST FACTS

The River

- Year of completion: 2012
- Tower height: Tower A: 252 m; Tower B: 150 m
- Floors: Tower A: 71; Tower B: 41
- Architect: Steven J. Leach, Jr. + Associates Limited
- Developer: Raimon Land
- Contractor: Bouygues Thai Company Limited

KONE Solutions

- 14 KONE MiniSpace™ elevators
- 1 KONE MonoSpace® elevator
- KONE E-Link™ monitoring system
- KONE Design signalization

Plaza on the playa

Along the Corniche, a scenic coastal boulevard in Abu Dhabi, rises the new Capital Plaza. The multipurpose development consists of a four-story basement and an eight-story podium atop which stand five towers ranging from 37 to 49 floors each. Facing the sea, Capital Plaza offers beautiful and picturesque new real estate.

Four hundred sixty-nine luxury apartments accompany the five-star hotel tower and a 25,000 square meter office tower. The podium serves as the main entrance as well as ten floors of parking.

A total of 30 KONE elevators are spread throughout the towers, podiums and basements with four KONE escalators in the podium entrance levels.

Regenerating savings

“The biggest impact of our solutions came from our compact, eco-efficient machinery,” says **John Mearns** of KONE Netherlands, who was project manager for KONE Middle East at the time.

Eco-efficiency was a strong element of the Capital Plaza design. With KONE EcoDisc® technology, the machine rooms are considerably smaller and generate significantly less heat than conventional hoisting mechanisms.

Regenerative drives were also implemented for the high-rise elevators. The regenerated electricity is fed back into the building, making the elevators a source of energy for the building.

The office tower is also home to the first double-deck elevators in the United Arab Emirates. KONE created a customized solution comprising four KONE DoubleDeck elevators and the KONE Polaris™ Destination Control System (DCS).

“These were not in the original requirements,” notes Mearns, “but with double-deck elevators and DCS, we were able to keep the number of elevator shafts at four, even with the addition of four floors to the original specifications. This kept the amount of floor space needed for elevators to a minimum.”

Overcoming the odds

“This was a big project,” adds Mearns. “All the towers and the podium started to go up at the same time. This required careful planning on our part. The amount of materials arriving at the site at the same time was a challenge.”

Arabian Construction Company Contracts Manager, **Ashraf Bazzouni** was pleased with the site planning. “KONE’s Middle East team handled this stage professionally and diligently.”

Halfway through the project, there was a major design change: four floors were added to the top of all the towers. The operator of the hotel also changed during the project, with the new operator bringing in new requirements. Much of the finishing for the hotel had already been done, but it all required changes with the new operator. Despite this, KONE maintained its commitment and flexibility, responding to the new challenges as they came.

The location of the building site added to the challenge. Congestion and little space made the construction particularly complex. “You couldn’t deliver equipment in advance and then wait for the installation moment,” explains Mearns. “Deliveries and installation had to happen just-in-time.”

Now, with just a few final touches left, Abu Dhabi is ready for a grand new experience on the stunning Corniche seafront.

SUMMARY

Challenge

- To deliver an elegant, eco-efficient People Flow® solution for a new luxury complex in Abu Dhabi

Solution

- Custom KONE DoubleDeck elevators using KONE Polaris DCS
- Careful planning and just-in-time deliveries of space-saving, eco-efficient equipment

FAST FACTS

Capital Plaza

- Completed: 2011
- Tower height: 210 m
- Floors: 5 towers ranging from 37 to 49 floors; 8-floor podium; 4-floor basement
- Architect: CRSS International Inc.
- Developer/Building owner: Reisco (Real Estate Investment & Services Company)
- Contractor: Arabian Construction Company (ACC)

KONE Solutions

- 20 KONE MiniSpace™ elevators
- 6 KONE MonoSpace® elevators
- 4 KONE DoubleDeck elevators
- 4 KONE ECO3000™ escalators
- KONE E-Link™ monitoring system
- KONE Polaris™ Destination Control System



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KONE provides innovative and eco-efficient solutions for elevators, escalators and automatic building doors. We support our customers every step of the way; from design, manufacturing and installation to maintenance and modernization. KONE is a global leader in helping our customers manage the smooth flow of people and goods throughout their buildings.

Our commitment to customers is present in all KONE solutions. This makes us a reliable partner throughout the life cycle of the building. We challenge the conventional wisdom of the industry. We are fast, flexible, and we have a well-deserved reputation as a technology leader, with such innovations as KONE MonoSpace® KONE MaxiSpace™, and KONE InnoTrack™. You can experience these innovations in architectural landmarks such as Capital City in Moscow, Hongqiao Transport Hub in Shanghai, North LaSalle in Chicago and Tour First in Paris.

KONE employs on average 35,000 dedicated experts to serve you globally and locally in over 50 countries.

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