

Dedicated to People Flow™



LONDON, UK

## Reinventing high-rise

Boasting the largest and fastest suite of panoramic elevators ever, the Leadenhall Building offers arguably the world's most breathtaking elevator ride. Only 30 seconds are needed to whisk passengers from ground level to the top floor, offering a memorable view of London and its historic surroundings.

# KONE References

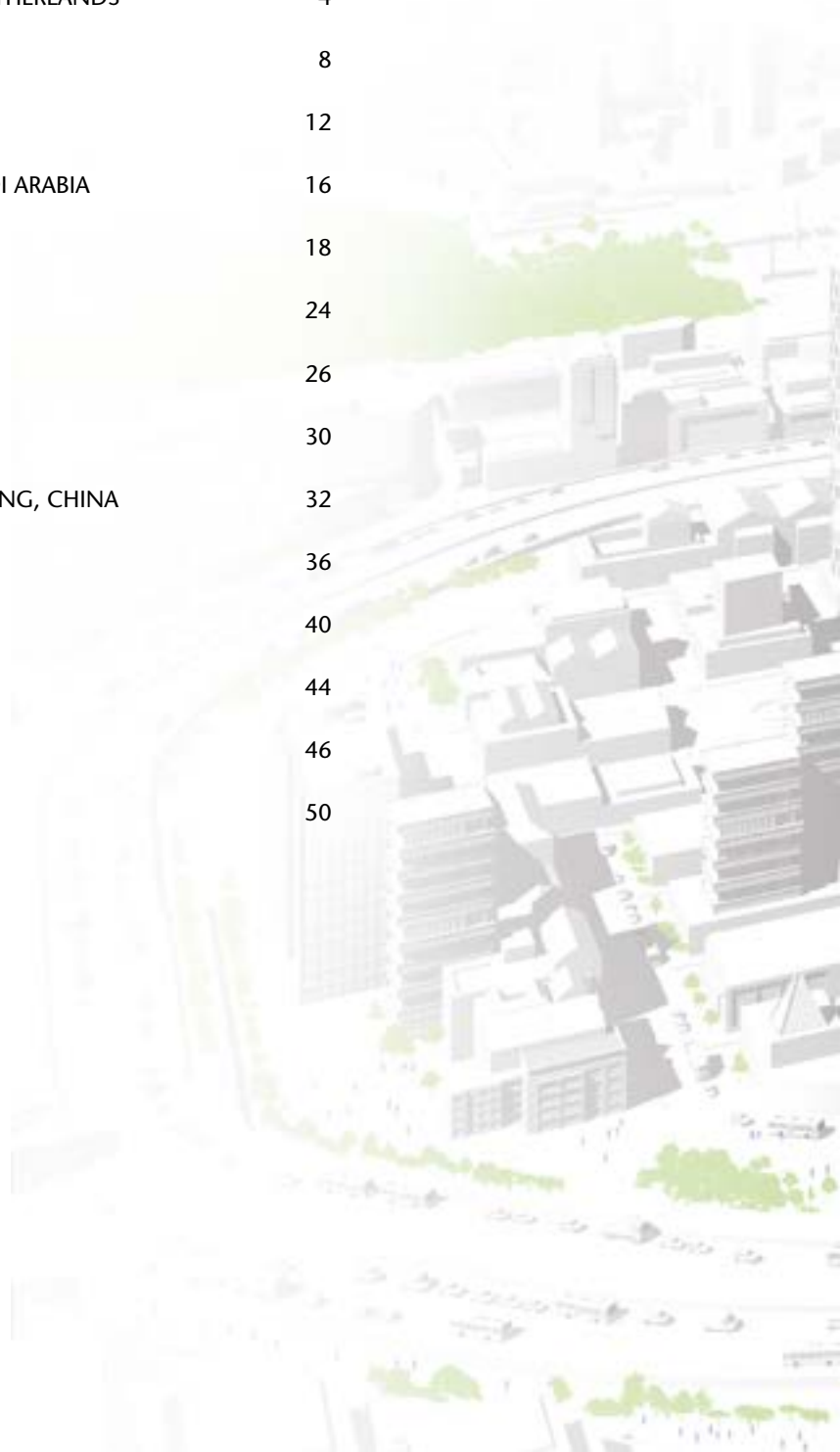
2014

# KONE References

KONE is proud to present these selected achievements from around the world. Join us on a journey through 2014.

Enjoy your visit.

MARKTHAL ROTTERDAM – ROTTERDAM, THE NETHERLANDS	4
GROUPAMA ARENA – BUDAPEST, HUNGARY	8
122 LEADENHALL – LONDON, UK	12
HEADQUARTERS BUSINESS PARK – JEDDAH, SAUDI ARABIA	16
PORTA NUOVA – MILAN, ITALY	18
JEM® – SINGAPORE	24
NORWEGIAN GETAWAY	26
METRO DE MADRID – MADRID, SPAIN	30
PHOENIX INTERNATIONAL MEDIA CENTER – BEIJING, CHINA	32
LE ROYAL HOTEL – AMMAN, JORDAN	36
NANJING METRO LINE S8 – NANJING, CHINA	40
METROTOWER III – VANCOUVER, CANADA	44
DEBENHAMS DEPARTMENT STORES – UK	46
KINGDOM TOWER – JEDDAH, SAUDI ARABIA	50









MARKTHAL ROTTERDAM – ROTTERDAM, THE NETHERLANDS

# Architecture with life

Seven million visitors are expected to enter the spectacular arch of Rotterdam's new indoor food market annually. A steady stream of fresh produce meanwhile is transported from the dispatch center located on the lower ground floor.









A mesmerizing array of sights and fragrances unfolds at the entrance to Markthal Rotterdam, the first indoor food market in the Netherlands. The horseshoe-shaped food empire lies in the Soho of Rotterdam, a hotspot for hip bars and boutiques. Under a futuristic dome decorated with 3D images of food, visitors can go one-stop shopping for fresh organic produce from more than 100 stalls, or grab a bite at any of the dozens of specialty eateries.



The project is a hybrid of new urban planning. Under the same roof one will find a cooking school, gourmet boutiques, a supermarket, and apartments. Rotterdam is the first city in the world to offer residential space above a market, with over 200 apartments housed in the arch itself. The car park is the largest in downtown Rotterdam, with underground parking space for 1,200 vehicles. Spacious elevators and escalators smoothly transport shoppers straight from the basement to the market hall, providing an unhurried start to their shopping day.

### Seeing is believing

The market's logistical hub lies on the lower ground floor, with ultra-modern refrigeration, storage and preparation areas contained in a dispatch center served by six KONE freight elevators that transport products up to the hall in a matter of minutes. KONE elevators and escalators play a critical role moving both people and goods quickly and smoothly.

"We are proud to have been involved in this unique visual landmark for Rotterdam. The building has a very unique shape and volume which has received a great deal of media attention worldwide," says **Thomas de Gruijter**, KONE Sales Manager for Major Projects.

Demonstrating the added value of KONE solutions was a key factor to winning the prestigious contract. "We invited the developer on a sightseeing tour of our recent major projects in Rotterdam. Provast's decision was easy after seeing our solutions in the city's newest skyscrapers: the Maastoren, Montevideo and New Orleans," adds de Gruijter.

### Critical timing

Working on such a complex multifunctional building in the busy heart of Rotterdam was a challenge, especially with numerous teams working on site simultaneously, notes KONE Project Manager **Raymond Jansen**. An extensive logistical plan was required to make sure that all material arrived on site just in time.

"We worked with two different constructors during the build, one handling the construction from below ground to floor level, as the subterranean levels are constructed from special underwater concrete. We faced challenges getting our materials into the shafts because of the very narrow corridors in the basement, but there were no problems that couldn't be solved quickly," concludes Jansen.



## SUMMARY

### Challenge

- To win a coveted contract for one of Rotterdam's widely publicized architectural landmarks
- To deliver elevators and escalators serving seven million customers annually, keeping visitor traffic separate from goods
- To carry out installation under challenging conditions, working with numerous specialized teams in narrow pit cut-outs

### Solution

- KONE demonstrated its competence by taking the customer on a personalized tour of its major projects in Rotterdam
- All KONE solutions are based on detailed capacity calculations, with KONE providing early-stage input
- Attentive project management guaranteed that installation was completed quickly and efficiently

### FAST FACTS

#### Markthal Rotterdam

- Completed: 2014
- Floors: 15
- Total sales space: 12,000 sqm
- Total floor area: 95,000 sqm
- Flow: 7 million people annually
- Building owner: several
- Developer: Provast
- Architect: Winy Maas
- Contractor: J.P van Eesteren

#### KONE Solutions

- 17 KONE MonoSpace® Special elevators
- 8 KONE freight elevators
- 10 KONE TravelMaster™ 110 escalators
- 17 operators for sliding doors
- KONE Care™ Maintenance Service



GROUPAMA ARENA – BUDAPEST, HUNGARY

# True to club colors

Shining like an emerald against the night sky, Budapest's newest soccer stadium has a strong Go Green theme, which matches the club colors of its home team, Ferencvárosi Torna Club.











Groupama Arena is home to Ferencvárosi TC, one of Hungary's oldest and most popular soccer teams. Guarding the entrance is a bronze eagle clutching a soccer ball, symbolizing the passion for the sport shared by the fans who cheer on their home squad. Now they have double reason to be proud: their stadium is the greenest in Hungary, with the club's signature colors displayed in every detail right down to the elevator operating panels.

With seating for 23,700 fans, the stadium is expected to bring an increase of 10,000 spectators per match. Housing a museum, fan shop and restaurant, the multi-purpose venue will host matches of the Hungarian national football team as well as conferences and cultural events.

#### **Change in game plan**

With thousands filling the stadium during peak usage, efficient elevators are critical for moving the masses. The general contractor, Market Építő Zrt., insisted on continuing its long-standing partnership with KONE, even though the elevators were initially planned by another elevator supplier. The last-minute switch posed a challenge for KONE, as all documentation had to be resubmitted and reapproved in double time.

"We already had a trusted relationship with the contractor based on previous successful projects," says KONE sales representative **Rudolf Soha**.

A decisive factor playing in KONE's favor was its superior track record in eco-efficiency. "We were able to provide the best solutions for BREEAM certification, including the latest energy-saving technology and thorough eco-calculations as well as data for every elevator," says KONE installation supervisor **Endre Sarlós**.

#### **Green to the last detail**

KONE's ability to provide a tailored visual solution was another strong asset in its favor. The club colors are highlighted in the color scheme of the elevators, featuring one-of-a-kind evergreen operating panels with white dot matrix displays.

The installation process required special attention, especially due to the aesthetic requirements of the panoramic elevator shafts.

"We had six service technicians working on the site continuously in close cooperation with the customer and industry specialists. The difficulties we encountered were resolved smoothly and the entire job was completed in less than four months," says Sarlós.

"The progress of the project was monitored carefully from tender stage to project completion. This is definitely one of this year's outstanding references for KONE in Hungary," adds Soha.





## SUMMARY

### Challenge

- To deliver eco-efficient technology qualifying the stadium for BREEAM certification
- To handle the last-minute takeover of the project as the elevators were initially planned by another elevator supplier
- To provide a unique visual solution matching the building's identity and club colors

### Solution

- Detailed eco-efficiency calculations were provided for all elevators, each of which is equipped with LED lighting and standby capability
- The project received high-priority attention from KONE to facilitate rapid documentation approvals and smooth installation
- All elevators feature customized green-and-white operating panels

## FAST FACTS

### Groupama Arena


- Completed: 2014
- Size: 75,494 sqm
- Capacity: 23,700 spectators
- Certification: BREEAM
- Building owner: Magyar Nemzeti Vagyonkezelő Zrt.
- Developer: Magyar Nemzeti Vagyonkezelő Zrt.
- Architect: S.A.M.O. Tervező és Ingatlanfejlesztő Kft.
- Contractor: Market Építő Zrt.

### KONE Solutions

- 7 KONE MonoSpace® elevators
- KONE Care™ Maintenance Service





An aerial photograph of London, UK, taken during the golden hour of sunset. The city is densely packed with buildings, and the warm light of the setting sun casts a golden glow over the entire scene. In the foreground, the distinctive cylindrical, glass-clad structure of the Gherkin (30 St Mary Axe) is prominent. In the background, the tall, slender tower of the BT London Eye is visible against the hazy sky. The overall atmosphere is one of a bustling, historic city embracing modern architectural innovation.

122 LEADENHALL – LONDON, UK

# Structural expressionism

122 Leadenhall is a building of world firsts, boasting the world's largest and fastest suite of panoramic elevators. But the real stunner is the mold-breaking design – nothing comparable has ever been attempted before.







The Leadenhall Building is the latest iconic addition to the London skyline. Designed by Graham Stirk of world-acclaimed architects, Rogers Stirk Harbour + Partners, the 45-story skyscraper is the tallest building in the Square Mile financial district, with 57,000 square meters of office space providing spectacular views across the Thames River and beyond.



No less breathtaking is the unusual tapering skyscraper fondly nicknamed The Cheesegrater. Incorporating enough glass to cover nine football fields, the structure is livened up by an array of 22 fully glazed scenic elevators that are highly visible behind the building's glass encasing. They are the fastest panoramic elevators in the world, taking only 30 seconds to whisk passengers from ground level to the top floor.

### **Bold reinvention of design**

A masterpiece in the making since 2011, this was one of the most challenging and rewarding projects for KONE.

The successful design and technical integration of the elevators was central to the architecture, affirms architect **Maurice Brennan** from Rogers Stirk Harbour + Partners. "We had a close working relationship with KONE. From the beginning, every component was under the radar. The visual design, technical solutions and strategy for delivery were developed in parallel. Any other methodology would not have achieved the unique world-class installation we see in the building today."

### **Vertical evolution**

"Every component is a one-off designed according to precise specifications," confirms KONE Senior Design Specialist **Duncan Mackie**.

The color accents of the minimalistic elevators match the signature elements of the architecture. Wrapped around the glazed car is an eye-catching sling in striking orange for passengers and bright green for goods, with integrated balustrades making the car appear taller. The secret to the clean look is the absence of trunking and electrification in the shaft. All wiring is subtly concealed in floor zones and interfaces adjacent to the elevator well.

"This is a world first," reveals KONE Senior Project Manager **Dean Ashby**. "The pedestrian traffic below can look up and see nothing but a perfectly empty shaft. It looks simple, but was massively complicated to achieve."

Another world first is the special auto-transfer software integrated in the KONE Polaris™ Destination Control System. "A passenger can transfer between the low-, mid- and high-rise elevator zones at the push of a single button. The elevator automatically allocates the designated car," explains Mackie.

### **Inside-out masterpiece**

The skyscraper has no real ground floor, but sits on stilts above a grassy public concourse. KONE escalators provide seamless transition into the reception area, and everyone who enters can see the internal components of the escalators moving and ticking.

The Leadenhall Building is truly a showpiece, as both the escalators and elevators are 100 percent visible from outside. "They are the front door of the building," says Brennan, who praises KONE's willingness to get the fine details millimeter-perfect.







© The Leadenhall Building

## SUMMARY

### Challenge

- To create a one-off elevator concept that is visually and technically integrated with the architect's uncompromising vision
- To provide smooth transition between low-, mid- and high-rise elevator groups
- To oversee the challenging installation of the scenic cars, which had to be installed in one piece and delivered along a tight corridor

### Solution

- Successful technical and architectural integration was achieved during two years of intensive collaboration with the contractor and architects
- All three elevator groups adhere to a common design principle, with a unique brightly colored sling
- As the building has no concrete core, all wiring is concealed in the back wall and floor units, achieving a clean, minimalistic effect
- Special destination control software provides smooth automatic transfer at the push of a single button

### FAST FACTS

#### 122 Leadenhall

- Completed: 2014
- Height: 224 m
- Floors: 45
- Maximum speed: 8 m/s
- Building owner: British Land and Oxford Properties
- Developer: British Land and Oxford Properties
- Architect: Graham Stirk of Rogers Stirk Harbour + Partners
- Contractor: Laing O'Rourke

#### KONE Solutions

- 24 KONE MiniSpace™ scenic elevators
- 2 KONE MiniSpace™ elevators
- 6 KONE TransitMaster™ 120 escalators
- 2 customized platform lifts
- KONE Polaris™ Destination Control System
- KONE E-Link™ monitoring system



© The Leadenhall Building



# Plain sailing in Saudi

Towering above Jeddah’s North Corniche, the Headquarters Business Park stands like the sail of a dhow that has traversed the Red Sea coast for centuries – a fitting and iconic landmark for Saudi Arabia’s second largest city.

Jeddah is recognized as the number one commercial hub in the Middle East as well as one of the most innovative cities in the region. It is also the gateway to Islam’s most holy city, Mecca. With this in mind, the Headquarters Business Park was designed to be not only an exemplary building, but most importantly, one that is functional and intelligent.

Clad in glass and local limestone, the site comprises two towers. The 70-meter east tower houses a hotel; while the 250-meter west tower features offices, sky villas and a fine-dining establishment at the top. The towers are linked by an eight-story elevated parking podium, with landscaped rooftop on which the 52-story west tower is poised.

## Onwards and upwards

This building sits on a narrow strip of land that tapers inwards as it reaches the coast. “One of our initial challenges was the building’s location, and the difficulty in maneuvering materials to the site,” explains **Mohammad Odeh**, KONE’s Site Project Manager. “We navigated this early obstacle rather well, allowing us to meet the demanding construction schedule.”

To facilitate such a tight timetable, two construction time use (CTU) elevators were installed. KONE CTU elevators are permanent elevators, equipped with temporary signalization

and protective materials and used during the construction phase. These elevators speed up the transportation of workers, goods and tools, thus saving hundreds of man hours – plus use 30 percent less energy than external hoists. “The KONE CTU elevators were a major factor in the customer selecting KONE as a partner on this project,” says Odeh.

## Getting there – without wait

Odeh notes that the people flow criteria required limited access to certain floors. To determine optimal traffic flow, KONE experts conducted two people flow studies. Their recommendation was for three types of access levels that are integrated to the KONE Polaris™ Destination Control System (DCS).

“With DCS, we were able to incorporate touchscreen technology where the passenger uses a keycard to access the system and is then guided directly to a dedicated car, all the while maintaining a minimum wait at peak times,” explains Odeh.

“When I look at this building I see a prestigious KONE project. We were up to the challenge and delivered – for now – the fastest and tallest elevators in the area,” says Odeh.





## SUMMARY

### Challenge

- To meet a tight construction schedule in a logistically challenged site due to location and land dimensions
- To install elevators used during the construction process and then converted into permanent ones
- To incorporate intelligent solutions that meet the varying needs of the tenants

### Solution

- Providing construction time use elevators to ensure project completion with maximum efficiency
- High-speed 8 m/s elevators that include destination control to enable the best people flow experience

#### FAST FACTS

##### Headquarters Business Park

- Completed: 2014
- Size: 175,000 sqm
- Height: 250 m west tower; 70 m east tower
- Floors: 52-story west tower; 13-story east tower
- Maximum speed: 8 m/s
- Building owner: Adeem Alwataniah
- Developer: Al Dar Alkhassa (DK)
- Architect: Battley Partners
- Contractor: Freyssinet

##### KONE Solutions

- 13 KONE MiniSpace™ elevators
- 18 KONE MonoSpace® elevators
- 2 KONE TransitMaster™ 120 escalators
- KONE Polaris™ Destination Control System
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service





PORTA NUOVA – MILAN, ITALY

# Gateway to the new Milan

A high-rise hub worthy of Milan's reputation for style has sprung up in a formerly neglected space in the heart of the city. It is arguably the most ambitious urban renewal project Italy has ever seen and KONE played an integral role in three of its impressive new landmarks.

## FAST FACTS

### Porta Nuova Varesine

- Completed: 2012
- Floors: Building 1: 10, Building 2: 10; Building 3: 29
- Certification: LEED Gold
- Building owner: Hines Italia SGR S.p.A.
- Developer: Hines Italia SGR S.p.A.
- Architect: Kohn Pedersen Fox Associates
- Contractor: Covar (A.T.I. Cmb and Unieco)

### KONE Solutions

- 11 KONE MiniSpace™ elevators
- 15 KONE MonoSpace® Special elevators
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service





## SUMMARY

### Challenge

- To provide efficient people flow solutions in a multi-phase, multi-partner project of unprecedented scale in Italy
- To integrate the varying demands of the client, constructor, architects and other consultants
- To provide a unique customized visual solution for all projects

### Solution

- KONE's involvement in pre-design one year before securing the order and design support four years before construction
- Systematic project management with the designers and contractors to keep the schedule, while also ensuring safety on site
- Tailor-made elevator interiors and landing signalization to comply with architectural specifications

## FAST FACTS

### Porta Nuova development

- Completed: 2011-2015
- Size: 290,000 sqm



A cluster of stunning skyscrapers adds a unique edge to the Milan skyline as the city gears up to host Expo Milano 2015. After a long period of decline, Milan's Porta Nuova district has undergone a dramatic makeover in what is widely hailed as Italy's biggest-ever urban revitalization scheme.



Named 'New Gate' after the Napoleonic arch built on the site in the early 19<sup>th</sup> century, Porta Nuova is one of Europe's largest rehabilitation sites, comprising 290,000 square meters in the districts of Garibaldi, Isola and Varesine. Launched in the late 2000s, the project comprises prestigious office towers, high- and low-rise residential buildings, green spaces and pedestrian precincts that will connect Porta Nuova with Milan's oldest business district, the Centro Direzionale di Milano.

### High stakes, huge scale

Given the ambitious scale and tight Expo schedule, the customer insisted on working only with reliable suppliers. KONE was selected on the basis of a strong existing partnership with the contractors. Proven reliability and flexibility then led to KONE's deepening involvement in the project.

"Our previous cooperation made the difference from the onset, and our competence during the long fine-tuning process gained us further trust. We began providing design support four years before the start of construction," says **Danilo Cozzi**, New Equipment Business Director for KONE Italy.

KONE provided equipment and design support for the UniCredit Tower area in Garibaldi, the three buildings in Varesine and for the two Bosco Verticale residential towers in Isola.







#### FAST FACTS

##### Porta Nuova Isola – Bosco Verticale

- Completed: 2014
- Floors: Building D: 20, Building E: 28
- Certification: LEED Gold
- Building owner: Hines Italia SGR S.p.A.
- Developer: Hines Italia SGR S.p.A.
- Architect: Boeri Studio
- Contractor: Hines Italia SGR S.p.A. and Colombo Costruzioni S.p.A.

##### KONE Solutions

- 8 KONE MonoSpace® Special elevators
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service





### Tallest in Italy

“The main challenge was to match the expectations of the customer, the contractor and the consultants in terms of customization and system integration. Strong commitment and effective communication were critical to our successful cooperation,” notes Cozzi.

Porta Nuova’s crowning visual symbol is the UniCredit Tower designed by Pelli Clarke Pelli Architects. Incorporating offices, retail and a pedestrian zone, the mixed-use development comprises three towers. The 31-story asymmetrical glass-encased tower is the tallest in Italy, attracting the eye from miles around with its dynamic, spiraling shape.

KONE worked closely with the architect to design wide cars with customized interiors and stylish landing signalization, featuring glass blade lanterns that were assembled according to the architects’ fastidious specifications.

“Our solutions were optimized to meet the needs of the architects. We offered flexibility, reliability and safe, smooth people flow combined with superior ride comfort, including access-integrated solutions and a KONE Destination Control System.”

The Porta Nuova complex is LEED Gold certified. The towers are equipped with eco-efficient KONE elevators, all with energy-conserving regenerative drives.

“We are really pleased to have taken part in this milestone project on the eve of Expo Milano 2015,” adds Cozzi. “Our solutions, expertise and Major Projects management capabilities made a definitive contribution to its success.”







#### FAST FACTS

##### Porta Nuova Garibaldi - UniCredit Tower

- Completed: 2012
- Floors: Tower A: 32, Tower B: 23, Tower C: 12
- Certification: LEED Gold
- Building owner: Hines Italia SGR S.p.A.
- Developer: Hines Italia SGR S.p.A.
- Architect: Pelli Clarke Pelli Architects
- Contractor: Colombo Costruzioni S.p.A.

##### KONE Solutions

- 13 KONE MiniSpace™ elevators
- 18 KONE MonoSpace® Special elevators
- 3 KONE TranSys™ elevators
- 8 KONE TransitMaster™ escalators
- KONE Polaris™ Destination Control System
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service



# Crown jewel of Jurong

Jem® is the first lifestyle hub in West Singapore to integrate shopping, entertainment and offices under one roof.



Jem® is Singapore's third largest suburban mall, housing 241 apartments atop 76,000 square meters of retail space on six levels, comprising a large cinema multiplex, flagship department stores, food courts and specialty retailers. Office accommodation sits above the retail area, and can be accessed from a separate entrance.

The complex is the winner of numerous prestigious awards recognizing its sustainable design, including the Singapore Property Award 2014 in the Sustainable Development category. The space-efficient, energy-saving solutions offered by KONE represented an important advantage for Jem® in their aspiration to attain Platinum-level Green Mark certification for the building.

## Smart people flow

"All of Jem's elevators are equipped with regenerative drive technology that returns power back to the building's grid. The customer also appreciated our can-do attitude and the strong technical support we provided throughout the planning process," says KONE Key Account Manager **Lynn Er**.

The smooth flow of retail traffic is more than just a symptom of the Singaporean penchant for order. KONE specialists worked closely with the customer to optimize the people flow experience in this lifestyle hub.

"We performed extensive traffic studies during the design phase to determine the ideal number and capacity of elevators and escalators and the correct sizing of the shafts," explains Er.

The office section is equipped with a sophisticated KONE Polaris™ Destination Control System (DCS), which carries peak-hour crowds to the various floors as quickly and efficiently as possible. The DCS frees up space and saves energy, as it can handle more passengers using fewer elevators than a conventional system.

## Planning pays off

Jem® has a unique look matched by the customized glass elevators in the retail mall. KONE worked with an interior designer to perfect the appearance of the car interior and blend the doors with the crisp lines of the lobby.

The installation was completed on an extremely tight schedule, with KONE teams working around the clock, seven days a week.

"Plenty of effort, manpower and resources were put into the execution. This project once again demonstrated the advantages of early involvement and professional project management. Our positivity has earned us a strong partnership with Lend Lease," concludes **Anthony Tan**, Managing Director of KONE Singapore.



## SUMMARY

### Challenge

- To provide energy-saving solutions qualifying the building for Platinum-level Green Mark certification
- To ensure that shoppers and office workers are able to move around the building smoothly and efficiently, especially during peak hours

### Solution

- Elevators are equipped with regenerative drive technology and a full range of eco-features
- KONE provided a complete range of tailored solutions meeting the needs of this mixed development, including intelligent destination control for optimal traffic handling in the office tower

### FAST FACTS

#### Jem®

- Completed: 2013 (retail); 2014 (office)
- Total retail space: 76,000 sqm
- Floors: 6
- Certification: Platinum-level Green Mark
- Building owner: Lend Lease
- Developer: Lend Lease
- Architect: SAA Architects Pte Ltd.
- Contractor: Lend Lease

#### KONE Solutions

- 8 KONE MiniSpace™ elevators
- 12 KONE S MonoSpace® elevators
- 6 KONE S MonoSpace® (Class) elevators
- 5 KONE TranSys™ elevators
- 39 KONE TravelMaster™ 110 escalators
- 6 KONE TravelMaster™ 115 inclined autowalks
- KONE Polaris™ Destination Control System
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service





NORWEGIAN GETAWAY

# Smooth sailing

The Norwegian Getaway, one of the largest cruise ships in the world, offers passengers a breathtaking escape from the ordinary. Boasting an industry-first ocean-side walkway, unique entertainment venues and 28 dining options, the Getaway is an extraordinary megaresort in a class by itself.











Accommodating nearly 6,000 passengers and crew on seven-day cruises out of Miami, USA, the Getaway is a triumph of technology and efficiency. In the marine industry, reliability is the gold standard. KONE delivers on this through on-time delivery and relentless commitment to quality.

### Flowing cooperation

Involved early on in the design process, KONE helped Norwegian achieve a balance of on-board people flow solutions – enough to deliver efficiency, but not at the expense of valuable space. Unique software meets complex logistical needs, such as disembarkation, food service and laundry.

“Customized programs linking passenger elevators in groups create highly efficient people flow in compact quarters,” says **Georgios Mavrelis**, Norwegian’s Fleet Electrical Director. A designated gangway button, for instance, delivers passengers directly to the appropriate deck, eliminating bottlenecks during disembarkation.

Planning is also what set KONE apart in this project. Construction schedules are particularly critical in the shipbuilding industry. All service elevators must be completed two months before the ship is released for delivery; while passenger elevators must be completed one month in advance of delivery. KONE worked closely with the shipyard to ensure all schedules were met. “We know we can count on KONE to meet these deadlines,” says **Hanno Buss**, shipbuilder Meyer Werft Project Manager (Outfitting).

“KONE has a separate project unit specifically for elevator and escalator solutions in marine applications, and that resource is invaluable. Through extensive collaboration between KONE and our shipyard, we are able to meet the challenges of an expanding shipyard, larger vessels and tight deadlines.”

### Attention to detail

Cruise ship elevators can make as many as one million starts a year, nearly one every 30 seconds. To ensure consistent performance in a 24/7 environment, KONE uses local installation crews who specialize in marine installations.

KONE Regional Director **Jörn Wienholz** notes, “Norwegian’s operational staff knows we understand their needs and they trust us to provide elevators that are dependable and easy to service, even in the middle of the ocean.”

Such reliability is complemented by eco-efficiency. Industry-leading KONE technology delivers reduced fuel consumption, an important concern in a highly competitive industry. Through the use of regenerative drives, excess energy is converted into electricity that is returned to the ship’s power grid, generating expected energy savings of more than 250,000 Kwh per year.







## SUMMARY

### Challenge

- To design innovative and reliable on-board solutions that enable smooth people flow in a demanding 24/7 environment
- To provide intelligent solutions that deliver improved serviceability and maximize eco-efficiency

### Solution

- Early involvement in design and installation of elevator and escalator packages
- Customized solutions to meet the unique needs of marine applications
- Dedicated local marine project and installation teams

## FAST FACTS

### Norwegian Getaway

- Year built: 2014
- Capacity: 3,963; Crew: 1,640
- Gross Register Tonnage: 145,655
- Overall Length: 324 m
- Number of decks: 18
- Cruise speed: 22.5 knots
- Ship owner: Norwegian Cruise Line
- Shipbuilder: Meyer Werft
- Architect: Tilberg Design (for passenger cabins)

### KONE Solutions

- 14 KONE MiniSpace™ elevators
- 16 KONE MonoSpace® elevators
- Gangway button solution for elevators
- 2 KONE escalators
- KONE E-Link™ monitoring system
- KONE InfoScreen displays





METRO DE MADRID – MADRID, SPAIN

# Lifeline of Madrid

When a relationship lasts 15 years, the chemistry must be right. KONE's partnership with Metro de Madrid assures a smooth ride for three million daily commuters in the Spanish capital.

Opened in 1919, Metro de Madrid keeps the city on track, serving 47 million commuters every month, from six in the morning until 1:30 at night. Covering 293 kilometers and 300 stations, the subway is the eighth longest in the world, and its rapid expansion over the past two decades places it among the world's fastest-growing rail networks.

Making sure Madrid's main artery remains in running condition is a challenging task handled by a team of KONE specialists. In a close partnership that is still strong after 15 years, KONE has supplied Metro de Madrid with 334 new escalators and 122 new elevators, as well as handling the servicing, modernization and repair of 334 escalators, 355 elevators and 25 automatic doors.

## Responsive to needs

"The metro system has grown significantly over the last few years. There is strong trust between us, which has been won through customer focus, hard work and honesty," says KONE Key Account Manager **Javier Rodríguez**.

Equipment availability is all-important. If equipment fails, it impacts directly on Metro de Madrid's image and business, notes Rodríguez. Elevator downtime is especially challenging for groups with special needs, such as disabled commuters or families with children.

In the event of a problem, KONE's dedicated team is ready to act to get the equipment back in service as rapidly as possible, carefully registering every action and keeping Metro de Madrid informed of any malfunctions. In addition to the Key Account Manager, the team comprises 18 escalator service technicians, eight elevator service technicians, one supervisor and two administrative back-up personnel.

## Learning curves

KONE's role is not only to keep equipment in service, but also to offer the best user experience to commuters. Various tailored services are offered to optimize equipment availability, including daily analysis of call-out reports, monthly meetings with the customer to review key performance indicators, and regular safety audits.





### SUMMARY

#### Challenge

- To provide efficient and reliable elevator and escalator solutions during the rapid expansion of Metro de Madrid's subway network
- To help the metro constantly improve its equipment availability and offer commuters the best possible user experience

#### Solution

- KONE has supplied 334 new escalators and 122 new elevators for the expansion of the metro, as well as carrying out extensive modernizations and repairs
- A KONE team provides dedicated maintenance and rapid call-out service, in an effort to enhance the commuter experience

### FAST FACTS

#### Metro de Madrid

- Year of completion: 2007; maintenance ongoing
- Flow: 3 million passengers daily
- Coverage: 13 lines, serving 300 stations
- Owner: Metro de Madrid
- Property manager: Metro de Madrid

#### KONE Solutions

- 334 new KONE escalators; KONE maintains 174 escalators in total for Metro de Madrid.
- 122 new KONE elevators; KONE maintains 355 elevators in total for Metro de Madrid
- KONE Care™ Maintenance Service

Certain units of equipment are maintained directly by Metro de Madrid, in which case KONE provides back-up advisory services. KONE also advises when a new project is in the design phase, suggesting new solutions for optimizing people flow.

"Metro de Madrid is a customer that constantly challenges us and makes us grow. During our long-standing relationship, we have learned a great deal from working in this demanding environment, always striving to provide the best possible service and solutions for this long-term partner," concludes Rodríguez.







PHOENIX INTERNATIONAL MEDIA CENTER – BEIJING, CHINA

# Steel nest of the Phoenix

As awe-inspiring as the mythical bird after which it is named, Beijing's Phoenix Media Center lifts China into an unprecedented era in steel innovation.









Designed by the Beijing Institute of Architectural Design, the Phoenix International Media Center lies in Chaoyang Park, part of East Beijing's central business district hosting the city's leading media organizations. Phoenix is an open, multifunctional building providing 65,000 square meters of space for television production, media communication and commercial exhibitions.

One of the most important public buildings to rise in Beijing since the 2008 Olympic Games, the Phoenix Media Center has an unusual shape that posed challenges in the installation of KONE elevators and escalators. KONE was chosen for the project based on its reputation in working with steel constructions, having successfully supplied equipment for key projects in China including the world-famed Beijing National Stadium, also known as the Bird's Nest.

#### **Living Mobius strip**

The irregular hilly shape of the Phoenix Center is based on the mathematical model of a Mobius strip. The complex steel structure comprises thousands of components of varying radii and lengths, which presented huge difficulties in both the design and installation of the equipment. Accurate calculations were required during the design phase in order for the equipment to fit into the complicated steel structure and layout. The bending and curving shapes necessitated resourceful shaft design, and the dense, net-like steel structure was a major obstacle to the smooth delivery of equipment to the site.

KONE overcame these challenges through close cooperation with the customer, starting from the early design phase through to the prompt delivery of the project with professional installation.

#### **Soaring dragons**

Among the most eye-catching elements in the building are two KONE escalators with a vertical height of 20.3 meters, which are the longest commercial escalators delivered by KONE in China. Phoenix is also the first construction in China to connect two separate buildings with escalators, linking the 9<sup>th</sup> floor south building and the 5<sup>th</sup> floor north building.

Hoisting and fitting the huge escalators through the steel jungle was difficult and complex. KONE used a crane to solve this problem. Custom-made trusses were installed to support the two customized escalators, which look like a pair of dragons soaring into the sky.

#### **Noise control pilot**

To keep the overall shape of the building smoothly intact, KONE provided customized machine-room-less elevators with a car height of 2.8 meters. They travel at 2.5 meters per second, a speed that only KONE can provide in China. To satisfy the customer's special noise control requirements, KONE added noise insulation materials to the cars and piloted special motor noise control technology.



## SUMMARY

### Challenge

- To provide customized elevators and escalators for a uniquely shaped steel building
- To connect two buildings with commercial escalators of a vertical height greater than ever before accomplished in China
- To meet the media company's special noise control requirements

### Solution

- Accurately designed and customized solutions assure a perfect fit in the building's complex steel structure
- Flexible solutions enabled the installation of two escalators with an extremely high vertical lift
- Creative noise reduction solutions efficiently minimize noise during operation

## FAST FACTS

### Phoenix International Media Center

- Completed: 2014
- Height: 55 m
- Total floor area: 64,973 sqm
- Land area: 18,821 sqm
- Building owner: Phoenix Satellite Television Holdings Ltd. (East) Beijing
- Developer: Phoenix Satellite Television Holdings Ltd. (East) Beijing
- Architect: Un-forbidden office, Beijing Institute of Architectural Design

### KONE Solutions

- 15 KONE MonoSpace® elevators
- 7 KONE TravelMaster™ 110 escalators
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service



LE ROYAL HOTEL – AMMAN, JORDAN

# Le Royal goes green

Amman – capital of the Hashemite Kingdom of Jordan – is a city steeped in history that other ancient cities seem young in its shadow. When construction on the Le Royal hotel was completed in 2002, it was ultra-modern, yet its tower-like structure sits comfortably in a metropolis whose history stretches back more than 3,000 years.









The ability of Amman to adapt over the years has seen the city survive where others have fallen. Le Royal is no different in that sense. When owners of the five-star hotel decided to do a full upgrade with 32 completely new elevators, careful attention was paid to the environmental impact of the new project.

### Green scene in the desert

Amman's position in the hilly northwest of Jordan means that while the city can bask in hot summers, winter temperatures can drop to near freezing – and snowstorms are a common occurrence.

The hotel is also home to a shopping mall and spa, so as modernization began in winter, the project was executed in two stages – prioritizing guest and visitor comfort and accessibility to services at all times.

"It's challenging enough to work in a single shaft with three elevators," explains **Khalaf Almaddan**, General Manager of Petra Elevators, KONE's distributor in Jordan. "We knew that we would see some rough weather during the installation, so we had to first seal off shafts, doors and the machine room with customized plastic sheeting to keep the cold out and the heat in."

KONE experts justified that elevator modernization was an opportunity to save on energy consumption; with both a positive environmental impact and an obvious reduction in running costs. The KONE EcoDisc® motor was the perfect solution, offering 50 to 70 percent more energy-efficiency than standard two-speed or hydraulic hoisting technology, as well as the utilization of LED lighting and standby solutions – for lights, door operation, fans and signalization – which offer extra savings.

### Essential aesthetics

Keeping with KONE's design philosophy, an elevator experience is more than a ride – it should incorporate emotions.

"The architect envisioned an elevator that offers guests a breathtaking view, along with an elegant internal decor," says Almaddan. "Use of the KONE MiniSpace™ scenic elevator means that panoramic elevator travel was possible, as required by the new specs. The doors required a special design which was achieved by our supplier by using titanium nitrile paneling with multi-directional etching."

But as Almaddan adds, this was a large job by any standards: "We modernized 32 elevators of various loads and speeds to fit the building's requirements. The KONE Care™ Maintenance Service contract is a good testimony to the customer's satisfaction."







## SUMMARY

### Challenge

- To modernize 32 elevators where services must be maintained throughout the project timeline
- To meet aesthetic and environmental requirements in a landmark building

### Solution

- Carefully planned installation process executed in two stages, minimizing disturbance to guests and visitors
- A large-scale upgrade achieved with energy-efficient elevators that also provide a breathtaking view of the area

## FAST FACTS

### Le Royal Hotel

- Modernization completed: 2014
- Height: 105 m
- Floors: 32
- Building owner: General Mediterranean Consultants
- Developer: General Mediterranean Jordan
- Architect: Martinet Architecture
- Contractor: Mid Contracting Company

### KONE Solutions

- 19 KONE MiniSpace™ elevators
- 2 KONE MiniSpace™ scenic elevators
- 5 KONE MonoSpace® elevators
- 3 KONE MonoSpace® scenic elevators
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service



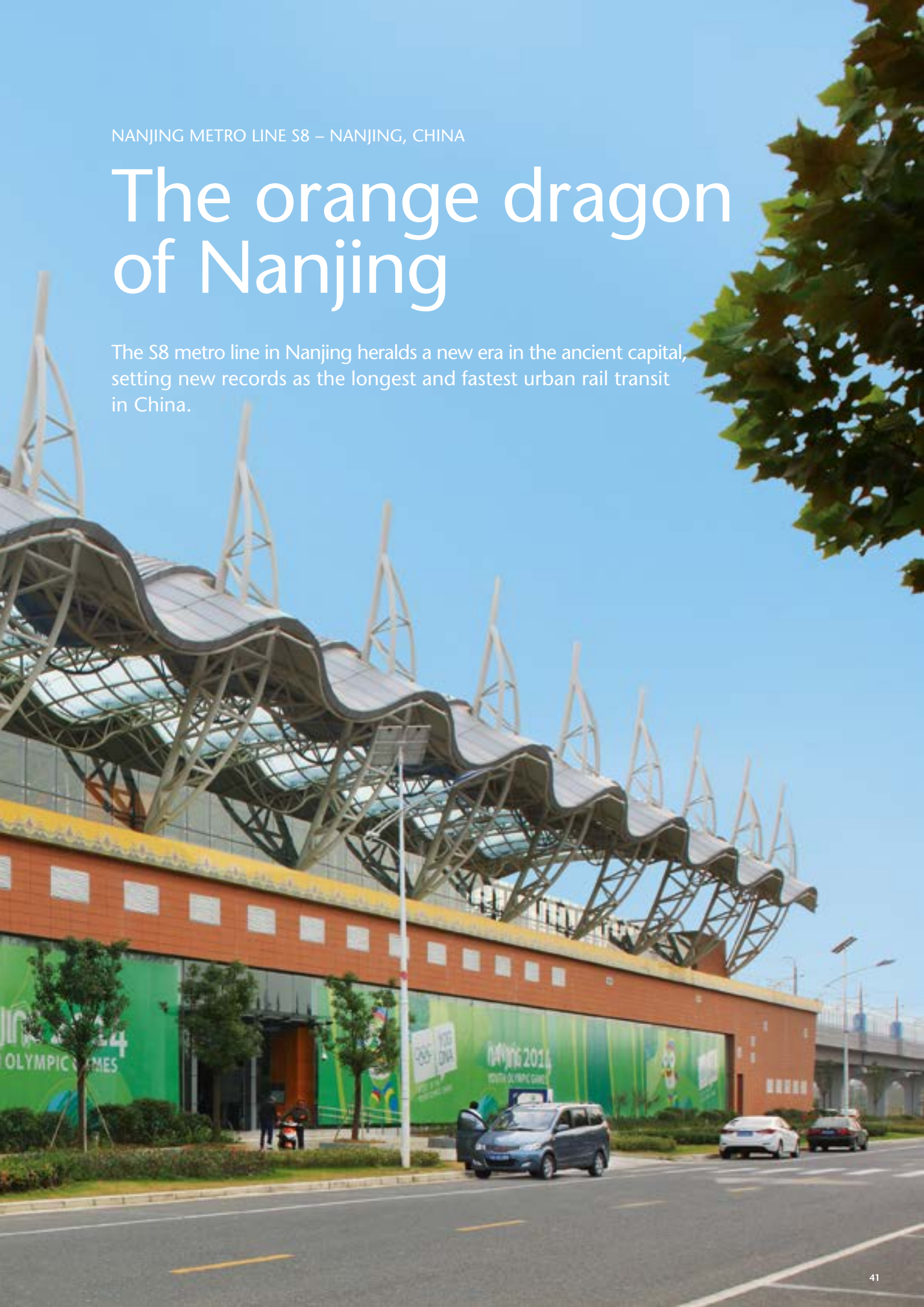




NANJING METRO LINE S8 – NANJING, CHINA

# The orange dragon of Nanjing

The S8 metro line in Nanjing heralds a new era in the ancient capital, setting new records as the longest and fastest urban rail transit in China.





With the recent opening of Nanjing's S8 metro line, a complex subway network now covers the entire historic city. Spanning 45 kilometers and 17 stations and trains at a maximum speed of 120 kilometers per hour, the line is the longest and fastest in China. Flying through the city like an orange dragon, it winds a scenic route from Taishanxincun Station to Jinniu Lake.



Built for the 2014 Nanjing Youth Olympic Games, S8 is the first line in Nanjing located north of the Yangtze River. In this significant project supporting the infrastructural and economic development of northern Nanjing, KONE was selected as the sole supplier of the line's 37 elevators and 75 escalators.

#### **No crowd too large**

To ensure the project's completion before the opening of the Youth Olympics, the KONE team faced a time disadvantage, with only one year to carry off the complex task. To cope with the enormous workload, KONE maximized manpower inputs, carried out multiple tasks at different locations simultaneously, and managed to deliver the equipment safely and on schedule.

On the opening day of S8, all passengers were offered a free trip to the scenic Jinniu Lake terminal. Millions flooded into the station, with traffic peaking at times to over 300,000 passengers. KONE assured them all a safe, smooth and very special trip with its people flow handling capacity.

#### **A first in China**

This was the first project in China to utilize escalators equipped with the KONE Direct Drive, a reliable and eco-efficient escalator drive solution that has proven its merits in many KONE infrastructure projects. The chainless design avoids common risks such as chain breakage and oil leakage. Replacing the chain drive with a gear drive also consumes 20 percent less energy and requires less space and preparation for installation, which makes it the ideal solution for public transportation projects.

#### **Olympic spirit**

As the only metro line serving the sailing venue of the Youth Olympics, S8 carried an extreme peak of passengers during its first month of operation. To guarantee the constant operation of equipment during the event, KONE established an emergency response team of 20 experts who remained on standby for 15 days, checking, adjusting and maintaining equipment and communicating safety knowledge to passengers.







## SUMMARY

### Challenge

- To complete installation of elevators and escalators before the opening ceremony of the Nanjing Youth Olympic Games
- To ensure that all elevators and escalators on Line S8 operated reliably to create smooth people flow

### Solution

- Manpower and material input was increased and resource allocation was optimized to complete the installation on schedule
- An emergency response team was established during the Nanjing Youth Olympic Games to provide all-round service to ensure reliable equipment operation

## FAST FACTS

### Nanjing Metro Line S8

- Completed: 2014
- Track length: 45,216 km
- Stations: 17 (6 underground, 11 above ground)
- Operator: Nanjing Metro Operation Co., Ltd.
- Developer: Nanjing Metro Operation Co., Ltd.
- Architect: Beijing Urban Engineering Design & Research Institute Co., Ltd.
- Main Contractor: China Railway Electrification Bureau Group Co., Ltd.

### KONE Solutions

- 37 KONE MonoSpace® elevators
- 75 KONE TransitMaster™ 140 escalators
- KONE Care™ Maintenance Service



# Built for tomorrow

Metrotown Properties – a dazzling commercial development in Vancouver – is reinventing Canada’s urban experience. The complex is flanked by high-rise developments and Metrotower III, a 29-floor LEED®-certified Platinum “AAA” Class office building, is at the heart of it all.



The tower’s blend of design and technology sets the pace in this vibrant commercial district. Surrounded by water features and natural landscaping, the iconic glass structure provides a comfortable working environment for its tenants.

## Progressive technology

Metrotower III is the first project in British Columbia to implement the KONE Polaris™ Destination Control System (DCS). Relying on smart technology to detect calls and passenger information over a period of time, it anticipates traffic, and adapts elevator operations accordingly.

Nine high-speed KONE elevators – 5 meters per second – deliver smooth and reliable transportation from the underground parking to the lobby. The energy-efficient KONE EcoSystem MR™ elevators reduce total energy consumption – car lighting and electrification – helping the building meet LEED certification requirements plus decreasing the building owner’s on-going operational costs.

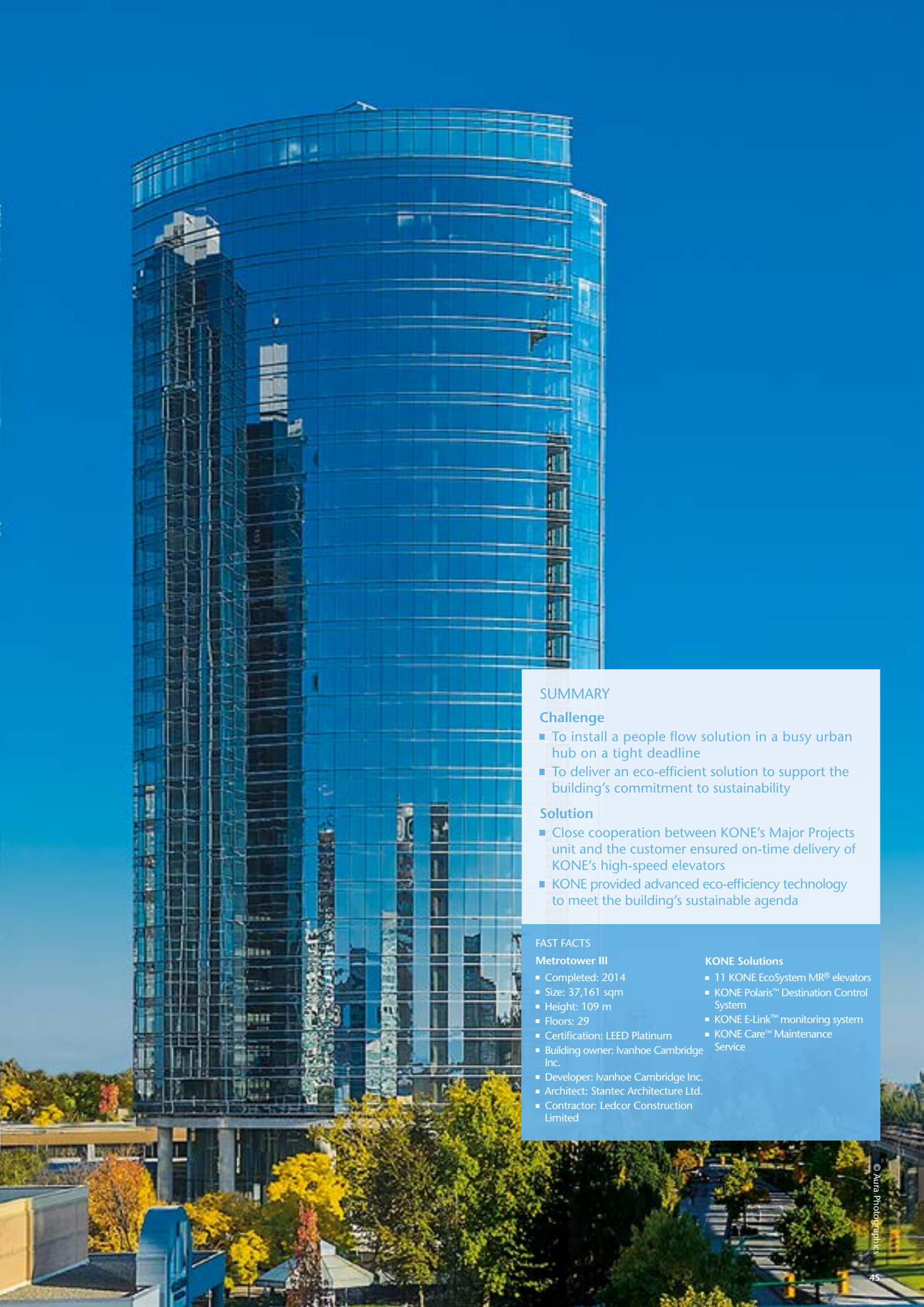
## Solid partnership

The developer’s construction schedule included no margin for error. Completion of the commercial-use elevators was carefully timed to coincide with the removal of a construction skiplift. “The contractor had several critical milestones on this project,” explains **Dennis Viehweg**, District Manager for KONE in Western Canada. “We wanted to make sure that we met the schedule and that installation proceeded without problems. If we failed, our customer would miss their occupancy dates.”

KONE Major Projects worked closely with Developer Ivanhoe Cambridge Inc. and Contractor Ledcor Construction Ltd. to ensure an on-time delivery. A detailed traffic analysis and planning process provided clarity early in the design phase. “We helped our customers to understand the project’s challenges and complexities before the work started,” Viehweg says, “and that allowed us to meet the milestones they set.”

A dedicated on-site project manager guided the project, tracking schedules and providing constant communication. “The intensity of that singular focus ensured that everyone was kept informed,” Viehweg adds.





## SUMMARY

### Challenge

- To install a people flow solution in a busy urban hub on a tight deadline
- To deliver an eco-efficient solution to support the building's commitment to sustainability

### Solution

- Close cooperation between KONE's Major Projects unit and the customer ensured on-time delivery of KONE's high-speed elevators
- KONE provided advanced eco-efficiency technology to meet the building's sustainable agenda

## FAST FACTS

### Metrotower III

- Completed: 2014
- Size: 37,161 sqm
- Height: 109 m
- Floors: 29
- Certification: LEED Platinum
- Building owner: Ivanhoe Cambridge Inc.
- Developer: Ivanhoe Cambridge Inc.
- Architect: Stantec Architecture Ltd.
- Contractor: Ledcor Construction Limited

### KONE Solutions

- 11 KONE EcoSystem MR® elevators
- KONE Polaris™ Destination Control System
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service





DEBENHAM'S

animal

BLUE  
CROSS  
SALE





DEBENHAMS DEPARTMENT STORES – UK

# No stopping the shopping

Getting shoppers where they want to be is serious business for a retailer serving millions of customers in its stores annually. Debenhams' multi-level people flow systems ensure that both its customers and revenues keep flowing.



Leading UK department store Debenhams relies on KONE to keep its transit equipment in working order. A trusted partnership covering maintenance, modernization and new equipment guarantees a relaxing, one-stop shopping experience for the thousands of customers that pass through its doors daily.



The history of Debenhams dates back to 1778, and today it is one of the UK's premier department stores in high-end fashion and beauty retail. At the heart of its success lies the ability to provide stress-free shopping in all 172 of its stores.

### That personal touch

Working behind the scenes to keep everything functioning is KONE, a partner for Debenhams since 1998. KONE is entrusted with the task of servicing and modernizing the entire chain's escalator, elevator and back-of-store equipment under an on-going national framework agreement in 2007.

"KONE understands how important the customer shopping experience is to us and to them. Over the years, we have formed a strong relationship built on trust and dedication," says a spokesperson for Debenhams.

Under the tailor-made agreement, KONE has appointed a dedicated national account manager as a single point of contact for Debenhams. **Anthony Brogan** spends at least one day a week in person at the Debenhams main office and at customer sites. Such regular face-to-face contact has brought measurable benefits. Breakdowns have decreased year-by-year and equipment availability has consistently exceeded 99 percent over the past year.

"If a single elevator is out of service, it immediately affects the store's business. We go the extra mile to provide immediate technical backup, information and reports – they never even have to log on to our system," says Brogan.

### Easy to be green

With a portfolio of over 1,500 units of equipment, "something is always being modernized somewhere at Debenhams," says Brogan, whether due to altered legal requirements or technology updates. Brogan is available any time Debenhams needs support with planning, engineering consultation or cost-efficiency analysis.

"My close ties with the customer enable me to explain the options that best match their needs and what benefits we offer."

Eco-performance is one area in which Brogan provides expert consultation. "I get together regularly with the Debenhams Energy Manager to provide energy-efficiency statistics and any information they require to support their efforts to reduce emissions."

All units replaced and modernized by KONE are equipped with the latest energy-efficient technology to help Debenhams reduce its carbon footprint and eliminate energy inefficiencies. Soft-start units reduce power consumption in 400 existing escalators and all new elevators are equipped with regenerative drives returning power to the grid.

"We understand our responsibility to environmental sustainability and work hard with partners like KONE to make sure our carbon footprint is reduced and our eco targets are met. KONE has a history of innovation. They continually develop ways of further reducing environmental impact for their customers," notes Debenhams management.





## SUMMARY

### Challenge

- To plan and maintain uninterrupted movement of people and goods through 172 department stores across the UK and Ireland
- To upgrade all Debenhams people flow systems in line with consistent nationwide standards as cost-efficiently as possible
- To help the customer honor a commitment to reduce its carbon footprint

### Solution

- A proactive and tailor-made maintenance solution for the entire Debenhams equipment portfolio minimizes downtime and maximizes transit efficiency
- A dedicated support system in the modernization and replacement of elevators, escalators and back-of-house units
- All new units come equipped with advanced energy-efficient solutions

### FAST FACTS

#### Debenhams

- Modernization and maintenance: ongoing
- Facilities maintained: 172 retail stores in the UK and Ireland
- Building owner: Debenhams

#### KONE Solutions

Modernization equipment for 172 retail stores in the UK and Ireland:

- 675 elevators
- 630 escalators
- 60 dock levelers
- 55 scissors elevators
- 77 compactors
- New equipment includes KONE MonoSpace® elevators and KONE TravelMaster™ escalators
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service



# The rise of a supertall

Soaring to a height of more than one kilometer, Kingdom Tower will be the tallest building in the world when completed in 2018. The glittering centerpiece in Jeddah, Saudi Arabia, will house offices, a hotel and serviced apartments, luxury condominiums, and the world's highest observation deck.

The process for a project of this scale requires the input of dozens of people working in various units. And it is through remarkable team effort that Kingdom Tower will be equipped with state-of-the-art KONE solutions.

## Global resources, local assets

Tapping into extensive global resources, KONE played a strong role in early design talks," says **Tarek Elnaggar**, who was head of KONE's Major Projects Business when it won the Kingdom Tower order. "Experts from all over the world collaborated at a high level, winning the developer's confidence in the process. We made it our business to know every detail of the project inside and out."

That thoroughness was complemented by full involvement of the local team. Members of that group have extensive experience in large projects in Saudi Arabia, creating a distinct advantage. KONE also took care to communicate fully with all stakeholders of the project, not just the customer.

"Through an outstanding relationship, we gained good insight at every stage about the real focus areas and needs," explains **Haytham Halaseh**, Managing Director of KONE Saudi Arabia.

## Future-proof technologies

For a building with such unprecedented height, KONE will deliver uniquely advanced technology: the world's fastest and highest double-deck elevators and the latest People Flow Intelligence solutions. The double-deck elevators will travel at more than 10 meters per second, and at 660 meters, the elevator rise will be the world's highest.

Hoisting will be provided by the revolutionary KONE UltraRope™, a new high-rise elevator technology that is set to break industry limits and enable future elevator travel heights of up to one kilometer – twice the distance currently feasible. KONE UltraRope technology eliminates the disadvantages of conventional steel rope and opens up a world of possibilities in high-rise building design.

Kingdom Tower will be equipped with 57 KONE elevators, all with tailor-designed car interiors and landing doors. Intelligent building solutions will include the KONE Polaris™ Destination Control System, KONE InfoScreen displays and the KONE E-Link™ monitoring system.

"We have been highly impressed with KONE's innovative solutions for high-rise buildings," says **Mounib Hammoud**, CEO of Jeddah Economic Company. "This is another cornerstone for a development of this magnitude and we look forward to creating this landmark building in all standards."



© Adrian Smith and Gordon Gill Architecture



## SUMMARY

### Challenge

- To provide an innovative solution for fast vertical transportation in the world's tallest building once completed
- To provide a premium people flow solution for a high-profile building, featuring a full range of intelligent solutions

### Solution

- Strong collaboration between global resources and experienced local experts
- Revolutionary new elevator rope technology that will enable a 660 meters elevator rise
- Industry-leading technology that delivers a smooth experience, including the KONE Polaris™ Destination Control System, KONE InfoScreen displays and the KONE E-Link™ monitoring system

## FAST FACTS

### Kingdom Tower

- Year of completion: 2018
- Construction area: 530,000 sqm
- Total gross floor area: 258,000 sqm
- Height: over 1 km
- Apartments: 530
- Hotel rooms: 200
- Maximum elevator speed: above 10 m/s
- Building owner: Jeddah Economic Company
- Developer: Jeddah Economic Company
- Architect: Adrian Smith and Gordon Gill Architecture
- Contractor: Saudi Bin Laden Group
- Construction supervisor: Dar Al Handasa
- Project management: E.C. Harris / Mace JV

### KONE Solutions

- 29 KONE MiniSpace™ elevators
- 21 KONE MonoSpace® elevators
- 7 KONE DoubleDeck elevators
- 8 KONE TravelMaster™ 110 escalators
- KONE UltraRope™ technology
- KONE Polaris™ Destination Control System
- KONE InfoScreen displays
- KONE E-Link™ monitoring system
- KONE Care™ Maintenance Service







KONE provides innovative and eco-efficient solutions for elevators, escalators, automatic building doors and the systems that integrate them with today's intelligent buildings.

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<sup>®</sup>, KONE EcoMod<sup>™</sup> and KONE UltraRope<sup>™</sup>.

KONE employs on average 47,000 dedicated experts to serve you globally and locally.

**KONE Corporation**  
**[www.kone.com](http://www.kone.com)**