

# THE MACHINE-ROOM-LESS ELEVATOR

KONE S MonoSpace®

# 100 YEARS OF ELEVATOR EXPERTISE AT YOUR SERVICE

KONE is the industry leader in elevator and escalator innovation. We have a long history of improving our customers' businesses and are Dedicated to People Flow™, creating the optimal solution to move people in your buildings efficiently, safely, and in comfort for generations to come.

## THE BENEFITS OF KONE MONOSPACE

- More building space and lower construction costs
- Impressive energy savings
- High-quality interior designs
- Full service throughout your building's lifecycle

### KONE MonoSpace® – The industry standard for machine-room-less elevators

Since its introduction in 1996, KONE MonoSpace has become the standard that other manufacturers aspire to. The first elevator without a machine room, our patented innovation provides a smooth quiet ride for passengers, gives more design freedom for architects, lowers construction costs, reduces energy consumption, and frees up building space that can be put to more profitable use.

To date, close to 500,000 KONE MonoSpace elevators have been installed worldwide – transporting millions of people every day. KONE MonoSpace is reliable, with years of dependable operation behind it.

### More space, lower costs

KONE MonoSpace requires only a single space – the shaft. The elimination of the machine room gives architects and developers greater design freedom and saves construction costs. And because KONE MonoSpace uses less space, you can lease more space. It also saves construction time and materials. For more information, turn to page 10.

### Better eco-efficiency

KONE MonoSpace elevators, powered by the KONE EcoDisc® hoisting motor, consume less energy and result in lower thermal losses than traditional machines. Find out how on page 6.





## ELEVATOR SPECIFICATION IN THREE SIMPLE STEPS

### Attractive interior design

Our elevator design concepts are the work of renowned professionals and designers, who unite attractive interiors with practical durability. See examples on page 8.

### Excellent service throughout your building's lifecycle

KONE offers full service throughout your building's lifecycle. Our expertise in traffic analysis means your building will have the right elevator capacity to ensure smooth People Flow. We also offer flexible KONE Care™ maintenance and modernization services to keep things running smoothly. Read more on page 12.

Specifying the optimal elevator solution for your needs takes just three simple steps:

- 1** Specify your elevator based on the expected People Flow™ and size of your building.
- 2** Choose a car design to suit your building interior from our professionally designed interiors or create a custom look and feel by choosing from the wide selection of materials in the KONE Design Collection.
- 3** Select additional options together with your sales representative to further enhance your elevator solution.

# THE KONE MONOSPACE® ADVANTAGE

The secret behind KONE MonoSpace is the permanent magnet, gearless KONE EcoDisc® motor. KONE EcoDisc weighs less than half of a conventional geared traction machine and is approximately twice as efficient.

KONE MonoSpace does not need a separate machine room, thanks to the KONE EcoDisc hoisting motor, which is so compact that it can be located in the shaft.

The elevator and all machinery are installed inside the shaft, simplifying the building interface and saving space for more profitable use.

## A smooth and quiet ride

With the low rotational motor speed of KONE MonoSpace, you get smooth ride quality and comfort. The V3F variable frequency drive ensures a superior acceleration/deceleration profile, better floor-to-floor travel times, and precision leveling. The modular LCE-M control system is designed by KONE and uses serial communication with self-diagnostic capability to offer excellent reliability. The end result is a ride experience that will help set your building apart.

## A wide range of applications

In addition to standard passenger elevators, KONE MonoSpace technology is used for special applications such as service, scenic and bed elevators.







### A focus on quality and safety

Quality is one of the key drivers at KONE. High quality People Flow™ solutions enable people to move smoothly, safely, comfortably, and efficiently. Reliable products maximize the performance of our customers' buildings. Our commitment to quality covers the entire product lifespan, from manufacturing and installation to ongoing maintenance.

### Industry standards and requirements

All KONE manufacturing units are ISO 14001 certified and meet all elevator industry standards and requirements, including:

- GB7588-2003 (EN81-1:1998)
- Singapore CP2 Code
- EN81-20
- EN81-70
- EN81-71
- EN81-73
- GOST and PUBEL codes

### KONE Destination – taking elevator performance to a new level

The KONE Destination control system improves the handling capacity of an elevator group during peaktimes. Guiding users to the most appropriate elevator means less crowded cars, shorter travel times, and fewer unnecessary stops.

### Performance monitoring solution

The KONE E-Link™ monitoring solution provides an accurate view of the transportation status, demand, performance, and availability of elevators in the building. This helps you ensure that the equipment delivers the best possible performance at all times. KONE E-Link has an open interface to allow integration with other facility management systems.

#### KONE MONOSPACE® ELEVATOR RANGE

Max travel: Up to 48 floors and 120 meters of travel

Max load: Transport up to 2500 kg

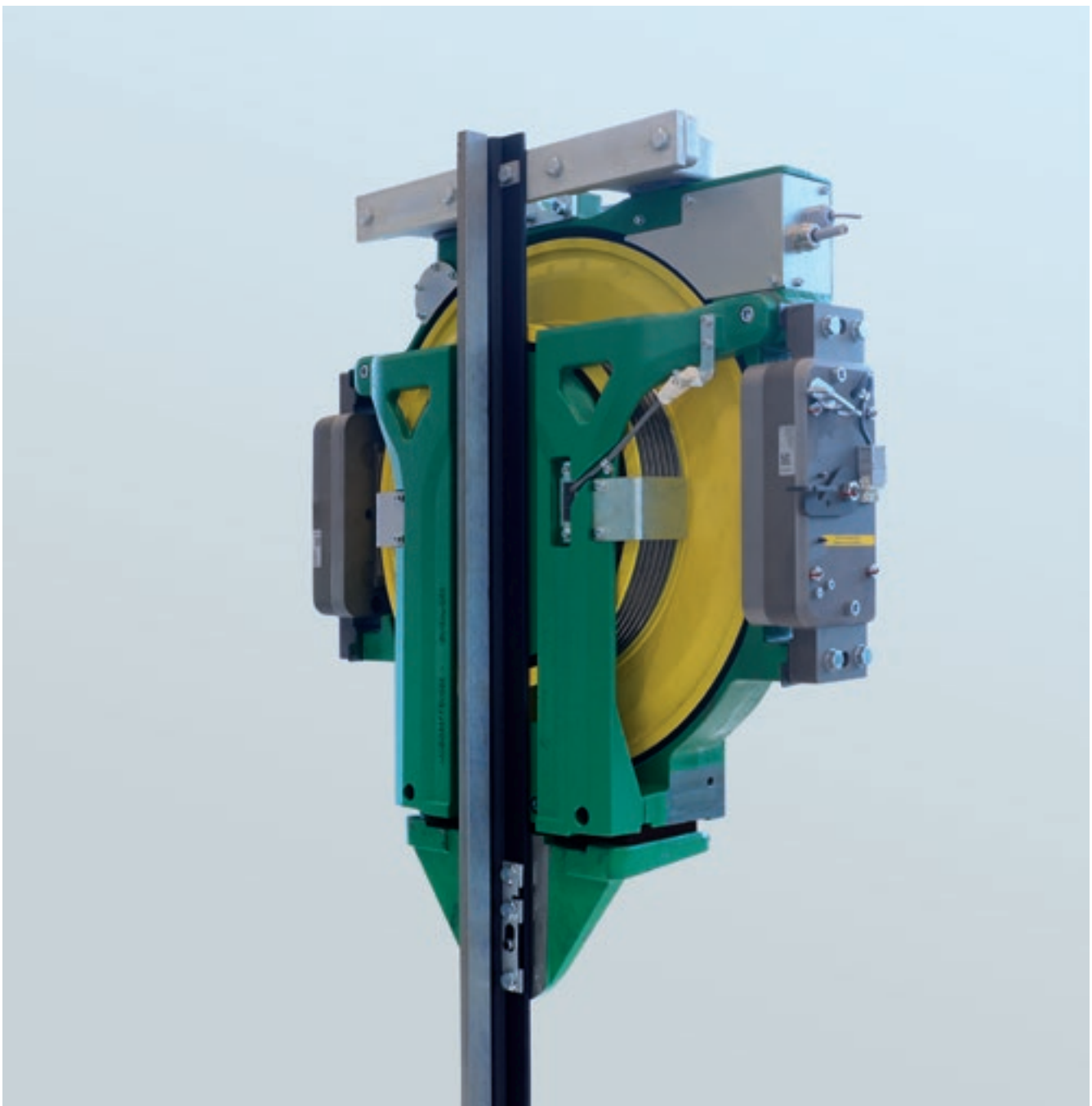
Max speed: Up to 3.0 m/s

Group size: Up to 6 cars in 1 elevator group

# TAKING ECO-EFFICIENCY TO NEW HEIGHTS

Save energy and costs. It is a simple calculation with impressive results. KONE MonoSpace® elevators, powered by the KONE EcoDisc® hoisting motor, consume less energy than other gearless elevators. KONE EcoDisc also creates less thermal losses than traditional machines, which brings direct savings in cooling and ventilation costs.

But the hoisting motor is not the only thing that can reduce the total energy consumption of an elevator. KONE has analyzed every function and option in order to reduce the total energy consumption.



The eco-efficient KONE EcoDisc hoisting system

### A green hoisting system

The KONE EcoDisc® hoisting system made hydraulic and geared hoisting units obsolete. With this highly efficient drive system, KONE MonoSpace® has become the industry leader in elevator energy efficiency.

### Regenerative drive

When the car is descending with a heavy load (or ascending with a light load), it contains potential energy. The regenerative drive recovers this energy, saving up to 20% of the total energy consumed by a typical 13 person KONE MonoSpace elevator.

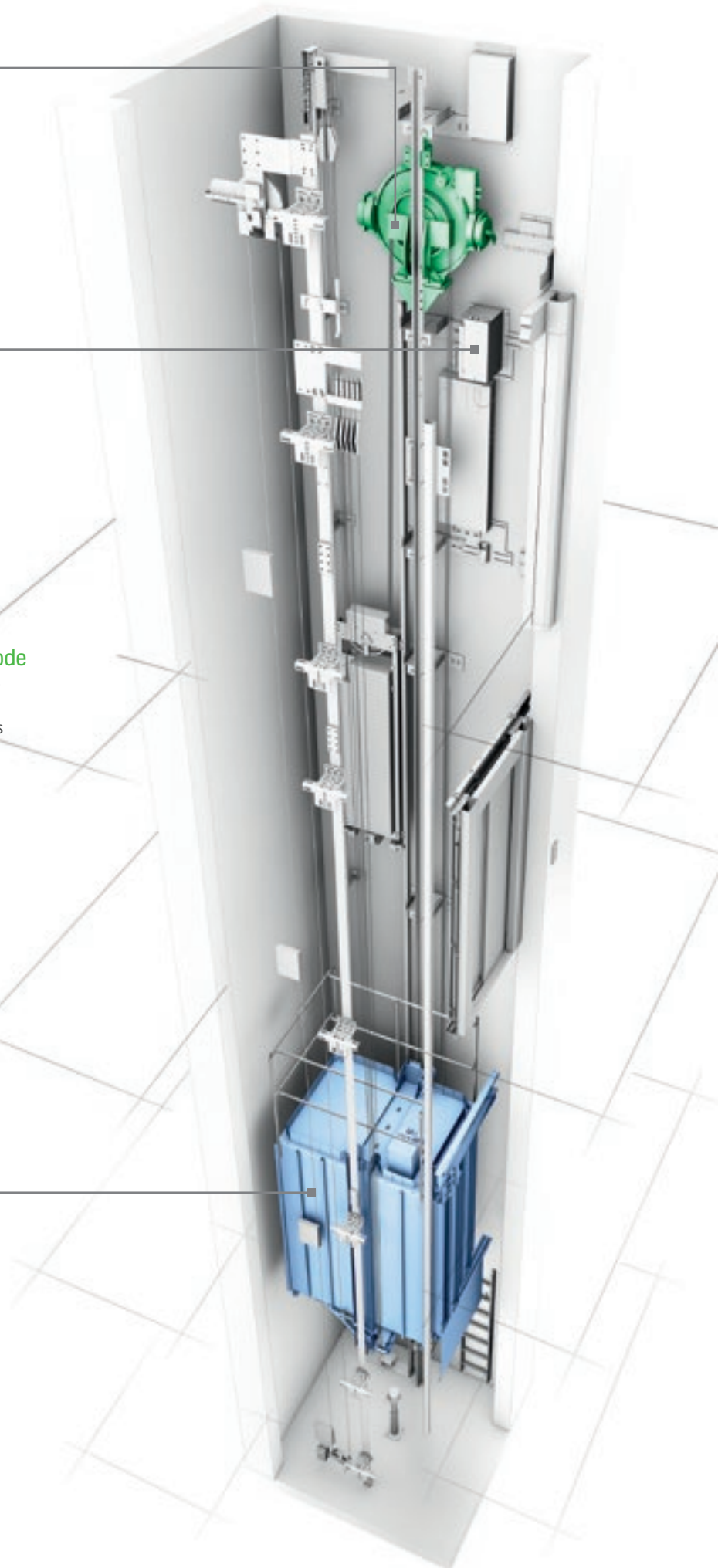
### Further energy savings with standby mode

Lights, signalization and ventilation can consume a considerable amount of energy even when the elevator is not moving. In a residential elevator this can represent a considerable portion of yearly energy costs. KONE offers the following options to minimize energy consumption:

1. Automatic car light operation turns off the lights when the car is not in use and on again when the car is called.
2. Corridor illumination control automatically controls the light on the destination floor.
3. The power stage of the drive is set to sleep mode when not in use.
4. Signalization displays are dimmed when not in use.
5. The car fan is turned off when the elevator is not in use.

### Eco-efficient car lighting

LED car lighting lasts up to 10 times longer than traditional halogen bulbs and use up to 80% less energy.





# AWARD-WINNING DESIGN

THAT HELPS YOUR BUILDING STAND OUT

## WHAT SETS KONE DESIGN APART

### 1 Easy selection of car interiors

A collection of 52 functional and visually appealing designs created by KONE's award-winning design professionals.

### 2 The most flexible and versatile offering

100 different materials and accessories that can be combined freely and used in all elevator products, for both new buildings and modernization projects.

### 3 The most innovative materials

The combination of unique textured, patterned, and 3D-effect wall materials with novel lighting solutions creates a stunning visual effect.

### 4 Award-winning design

KONE's elevator and signalization design concepts have received both Red Dot and Good Design awards.







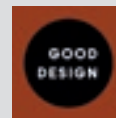
## KONE DESIGN COLLECTION

Regardless of the type of building you are developing, the elevator you choose should complement your building's look and feel, create a lasting impression on passengers, and make your building attractive to potential tenants. Your elevator also needs to be functional – it should be accessible for all, well lit, user-friendly, easy to clean, and resistant to wear and tear.

The new KONE Design Collection – created by our award-winning design team – offers you a versatile set of contemporary, themed interiors to choose from.

You can also create your own unique look and feel by mixing and matching our wide range of materials and accessories.

For more design inspiration take a look at the complete KONE Design Collection and use the KONE Car Designer tool together with a KONE sales representative.



reddot design award  
winner 2012

2 Good Design awards  
4 Red Dot design awards

## ACCESSORIES DESIGNED TO IMPROVE USER EXPERIENCE

Our wide range of accessories is designed to give passengers a great elevator experience with every trip.

As well as adding the finishing touches to your elevator's interior, they make using the elevator even easier and more convenient for passengers.

1. KDS 330 COP
2. KDS 220
3. KDS D COP
4. Info screen



1



2



3



4



# FASTER INSTALLATION WITH LOWER COSTS





## HOW KONE MONOSPACE SPEEDS UP CONSTRUCTION

- Minimal or no support required from builder during lift installation (this is subject to completion of the Site Absolutes)
- Scaffold-less installation
- Construction Time Use elevators provide safe and fast weatherproof transportation

### Easy and cost-efficient installation

Due to the compact size of the KONE MonoSpace® machine-room-less solution, support is required only from wall-mounted brackets and a simple supporting structure on the guide rail. Installation is easier as there is no need for extensive support.

The whole installation process is both safer and faster. KONE has devised scaffold-less installation methods using special tools to erect the elevator. KONE has defined 5 Site Absolutes for what needs to be done on the building site before elevator installation can begin. When these requirements are met, the installation process is non-stop and requires minimal or no assistance from the builder.

### Save time with Construction Time Use elevators

KONE's Construction Time Use elevators (CTU) allow safe, weather-proof and fast transportation of people and goods during the construction phase compared with an exterior hoist used on building sites.

Construction Time Use elevators are simply the permanent elevators equipped with temporary signalization and protective materials so they can be used during construction time. They can save hundreds of man-hours every day. After the completion of your project, KONE Construction Time Use elevators are quickly converted into the building's permanent elevators.

# KONE CARE™ MAINTENANCE

An elevator needs regular maintenance to ensure optimal performance. Our global network of service specialists ensures that even the most complex technical challenge is resolved quickly and effectively. We provide flexible maintenance options to meet your specific needs.

## Excellence in service around the clock

Our KONE Care maintenance programs take into account the type, age, and usage of your equipment to maximize reliability and safety and minimize downtime and maintenance costs. KONE provides you with service excellence 365 days a year, 24 hours a day.

## KONE CARE

- **KONE Care Standard** is a cost-effective solution for reliable and top-quality maintenance that ensures compliance with safety laws and standards.
- **KONE Care Plus** simplifies maintenance management by making maintenance expenditure more predictable and providing real-time information on maintenance work.
- **KONE Care Premium** is the recommended solution if disruptions to people flow would have a major impact on your business. The solution provides a first-class level of service and rapid response times. Maintenance costs are also fully predictable.





# REPLACING AN EXISTING ELEVATOR WITH KONE MONOSPACE®

When you replace an existing elevator with KONE MonoSpace, you not only gain benefits – such as eco-efficiency, a smooth ride, and reliable operation – you also increase space efficiency and accessibility.

## Two choices for replacement

Full replacement can be done in two ways. With traditional full replacement, all of the equipment, including the landing doors, is replaced, giving you a completely new elevator. On the other hand, if the landing doors are still in good condition, you can keep them and replace all of the equipment inside the shaft. This eliminates the cost of dismantling and replacing the landing doors and finishing as well as cleaning the landings.

## Two types of space efficiency

KONE MonoSpace uses building space more efficiently in two ways. Firstly, it is a machine-room-less elevator, so you can use the space in the old machine room for another purpose. Without the need for a machine room on the roof, the elevator can also serve the top floor or attic of the building. Secondly, the size of the car can be flexibly designed in order to produce the largest possible car with the existing shaft dimensions. In many cases it will be possible to increase the car size in order to carry more passengers, or to allow building residents to carry large items such as furniture or bicycles.

## Wide-opening door

A large range of landing doors is available in order to provide the widest opening doors for the size of the existing shaft. This provides greater accessibility for passengers – especially important for people pushing baby carriages or those in wheelchairs. In a busy office building, for example, a wide-opening door allows passengers to enter and exit the elevator more quickly.



# AWARDS AND CERTIFICATIONS

**09/2016** KONE ranked as one of the world's most innovative companies for the sixth year running, by the U.S. -based business magazine Forbes. KONE's ranking is now 56<sup>th</sup>, and out of all European companies listed this year, KONE was ranked an impressive eighth. KONE is the only elevator and escalator company featured on Forbes' list this year.

**10/2011** KONE features for the first time in the Carbon Disclosure Project's (CDP) Nordic Carbon Disclosure Leadership Index.

**08/2011** KONE is the only elevator and escalator company to make the top 50 of US-based business magazine Forbes global list of the 100 most innovative companies in the world.

**07/2010** KONE becomes the first company in the elevator and escalator industry to achieve an A-class energy rating according to the VDI 4707 standard, for the KONE MonoSpace® elevator.

**06/2009** KONE awarded a Prime Award for Eco-Business by Prime Magazine. Co-organized by Prime Magazine and the Business Environment Council, the award is given to companies who demonstrate outstanding achievements in environmental protection.

**01/2008** KONE chosen as one of the 2007 Annual Top 10 International Brands for China Energy-Efficient Buildings by the China Ministry of Construction.

**12/2007** KONE awarded 2007 Best Real Estate Supplier at the China International Real Estate & Architect Fair (CIHA F). KONE MonoSpace® recommended as one of the 2007 Recommended Components & Products for Energy-Saving Construction.

**12/2005** KONE MonoSpace cited by Legambiente Lombardia (Environmental Coalition of Lombardy), the government of the Region of Lombardy, the Technical University of Milan, and Bocconi University for environmental friendliness at the fifth annual Friend of the Environment Awards for Innovation. These awards are given for Efficiency in Consumption and Eco-design: solutions for sustainable development.

**06/2005** 100,000<sup>th</sup> KONE MonoSpace elevator installed in the National Grand Theater, Beijing, China.

**07/2003** KONE wins Premio Quartrium Award for originality, Spain.

**03/2000** KONE solutions chosen for Thermo-Staete, the most energy-efficient office building in the Netherlands.

**04/1999** KONE wins Construmat 1999 Prize for Innovative Technology, Barcelona, Spain.

**02/1999** KONE solutions chosen for "Eyecatcher", a Swissbau showcase green building, Switzerland.

**03/1998** KONE wins Electrical Industry's (SET) Annual Award, Finland

**10/1997** KONE wins Top Prize for Innovation at the SAIE '97 Fair, Bologna

**06/1997** KONE wins the Grand Prix '97 at the CONECO fair, Bratislava, Slovakia

**09/1996** KONE wins the Grand Prix at the Building Fair, Prague

## KONE MONOSPACE® MILESTONES

**03/1996** KONE MonoSpace announced

**1998** World's longest test shaft (329 m), Tytyri Elevator R&D Center, Finland

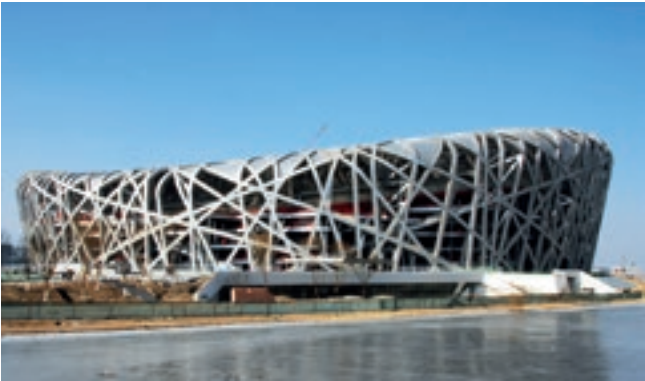
**01/2007** The latest KONE TranSys™ (a goods elevator based on MonoSpace technology) loads up from 2000 kg to 5000 kg

**01/2007** Additional speeds up to 3.0 m/s for KONE MonoSpace Elevator

**04/2008** 200,000<sup>th</sup> KONE MonoSpace elevator delivered



# KONE REFERENCES



National Stadium, Beijing, China



National Grand Theater, Beijing, China



South Wharf, Melbourne, Australia



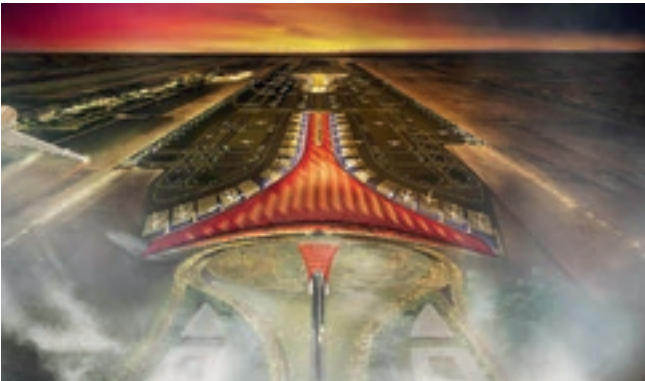
Suvarnabhumi Airport, Bangkok, Thailand



Centrepoint, Ho Chi Minh City, Vietnam



Doha High Rise, Doha, Qatar



Beijing Capital Airport, Beijing, China



Hongqiao International Airport and Transportation Junction, Shanghai, China

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 managing the smooth flow of people and goods throughout buildings.

This makes us a reliable partner throughout the life cycle of buildings. We are fast, flexible, and we have a well-deserved reputation as a technology leader, with such innovations as KONE MonoSpace®, KONE NanoSpace™ and KONE UltraRope®.

KONE employs over 55,000 dedicated experts to serve you globally and locally.

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