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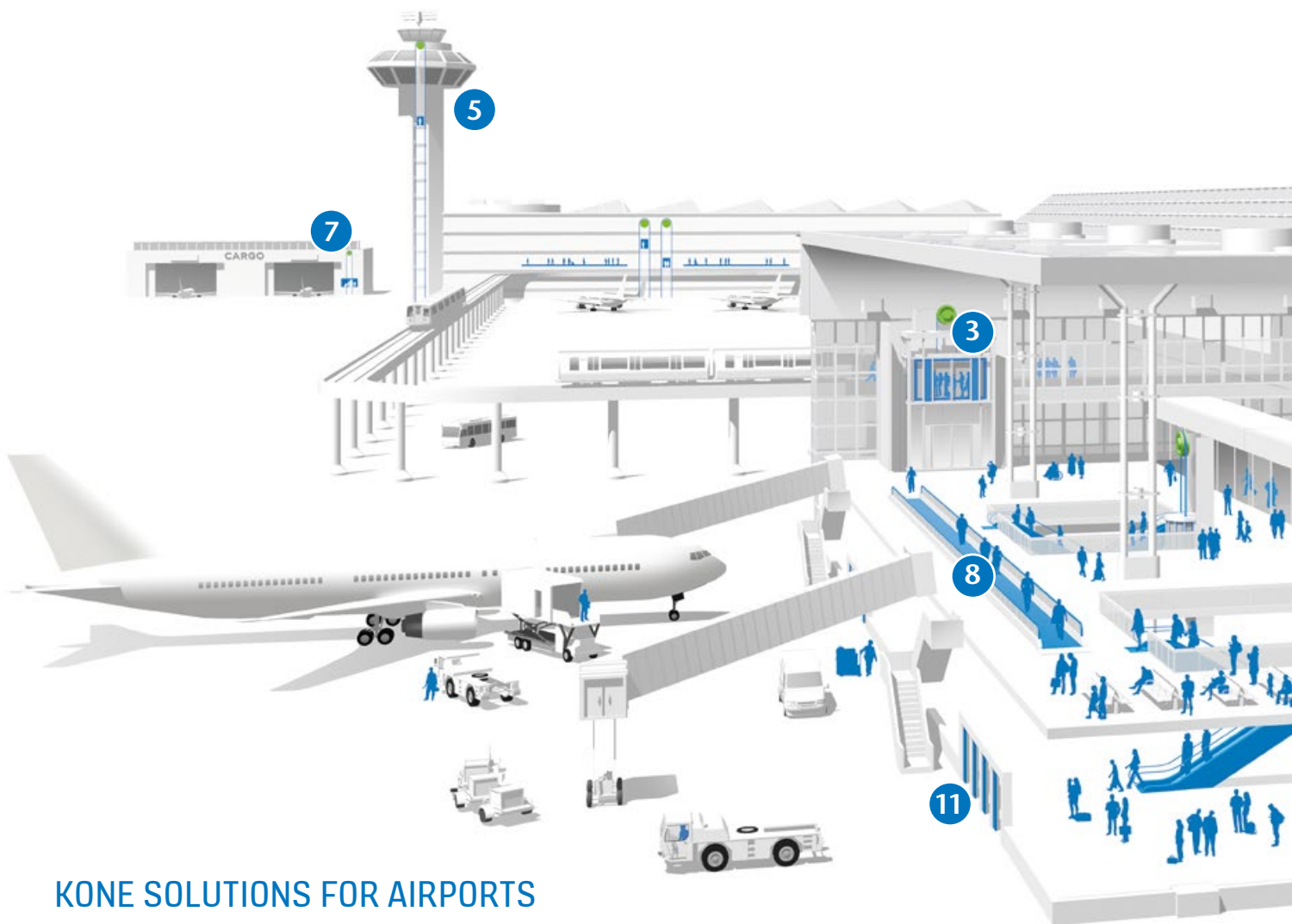
KONE



A PLEASANT FLIGHT BEGINS
AND ENDS AT THE AIRPORT

KONE solutions for airports

MANAGING THE FLOW OF PEOPLE AND GOODS THROUGH AIRPORTS SMOOTHLY AND EFFICIENTLY

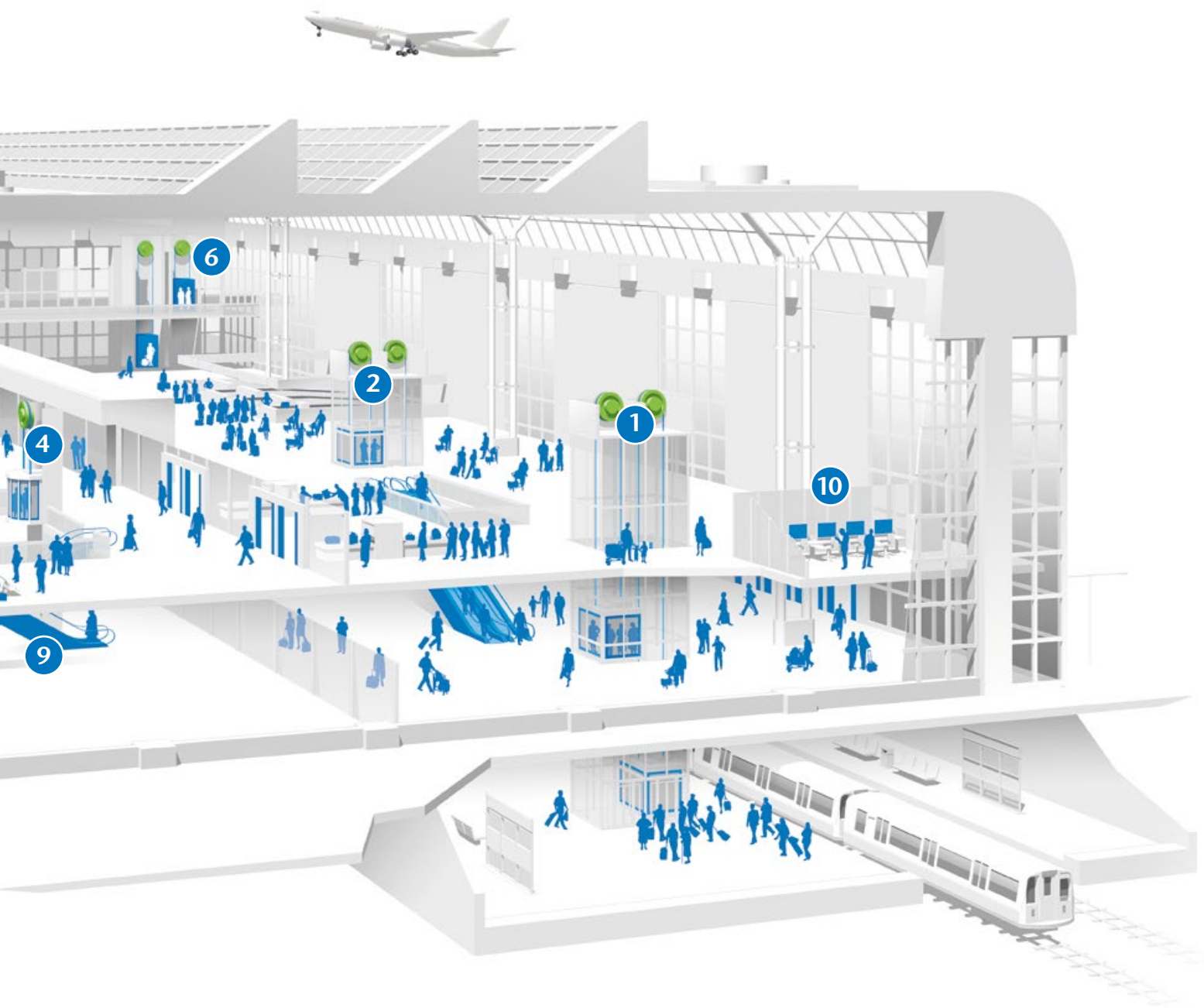


KONE SOLUTIONS FOR AIRPORTS

1. Heavy-duty elevators
2. Mid-duty elevators
3. Large elevators for APM stations
4. Low-duty elevators
5. Air traffic control tower elevators
6. Service elevators
7. Freight elevators
8. Autowalks
9. Escalators
10. Monitoring systems
11. Automatic building doors
- (12. Self-standing KONE Steel Shafts)

An airport is more than just a place to land or take off. It provides a comprehensive experience with shopping centers, restaurants, and hotels, as well as connections to trains and metros. KONE supplies a complete range of People Flow™ solutions for demanding airport environments, including passenger and service elevators, escalators, autowalks, and automatic building doors – and keeps them running efficiently and reliably for the lifetime of the airport.

In airports, passengers need to be able to move quickly and conveniently between the check-in areas and departure gates in order to reach their aircraft in good time. KONE solutions help manage the flow of people and goods into and through the airport safely, reliably, and efficiently.



KONE has a complete product portfolio for infrastructure environments. KONE equipment complies with EN 12015 and EN 12016 standards and thus fulfills Electromagnetic compatibility (EMC) requirements.

KONE ELEVATOR SOLUTIONS FOR AIRPORTS



KONE offers a full range of airport elevator solutions, ranging from heavy-duty passenger elevators to freight elevators for moving cargo.

Recommended elevator solutions for airports

- **Heavy-duty elevator.** Designed for normal operation with heavy traffic peaks, especially suitable for transporting passengers with baggage to and from the airport's train or metro stations.
- **Mid-duty elevator.** Typically used in shopping areas and terminal stations in combination with autowalks, as well as in car parks. These elevators usually have glass walls and shafts, providing a pleasant experience for passengers and giving them a panoramic view over the retail area or the entire terminal. The elevators can also be used as an architectural element in the terminal building's design.
- **Large elevator for APM (Automated People Mover) stations.** Large passenger elevator for moving passengers to and from APM trains.
- **Low-duty elevator.** Designed for infrequent or occasional use, these elevators provide access for passengers with special needs, such as those using wheelchairs.
- **Air traffic control tower elevator.** A specific elevator for air traffic control tower usage.
- **Service elevator.** Used by airport personnel and for transportation of the equipment and supplies needed in different parts of the airport.
- **Freight elevator.** Large-capacity freight elevators provide efficient and reliable transportation of cargo weighing up to 5,000 kg. KONE also has alternative solutions for heavier loads.

KONE elevators for airports are based on three different elevator platforms – the machine room-less KONE MonoSpace®, the KONE MiniSpace™ with its compact machine room, and KONE TranSys™ for heavy loads. All three platforms utilize the eco-efficient KONE EcoDisc® hoisting technology.

	KONE MonoSpace®	KONE MiniSpace™	KONE TranSys™
Load (persons)	Up to 33	Up to 54	Up to 67
Load (kg)	1000 - 2500	630 - 4000	1600 - 5000
Speed	1.0 – 2.5 m/s	1.0 – 3.0 m/s	0.5 – 1.0 m/s
Travel	24 floors / 60 m	24 floors / 60 m	24 floors / 40 m

BENEFITS OF KONE ELEVATORS

Safe, efficient, and reliable operation

- **Easy loading and unloading** is ensured with automatic, wide-opening doors, which also provide access for people with limited mobility, travelers with baggage, and children in strollers, for example.
- **The highly reliable gearless KONE EcoDis^c®** hoisting solution has an excellent track record, with more than 800,000 units operating globally.
- **Relevant safety and accessibility standards and regulations are met** and exceeded with all KONE equipment.

Eco-efficient and cost effective

- **KONE's regenerative solutions** can provide up to 30% energy savings by recovering the energy created when the elevator is used.
- **LED and eco-efficient fluorescent lighting** can reduce energy consumption by up to 80% compared to halogen lights.
- **Standby solutions** provide substantial energy savings by powering down the equipment when it is not in use.

Visually appealing

- **KONE offers a wide range of elevator design** choices and materials. EN81-71 cat 1/2 are codes to protect the cars and elevators from vandalism. KONE has materials that comply these codes.
- **Full customization of elevator design** is possible. KONE works with its visual design team to provide a design solution that is perfectly aligned with the architect's vision.

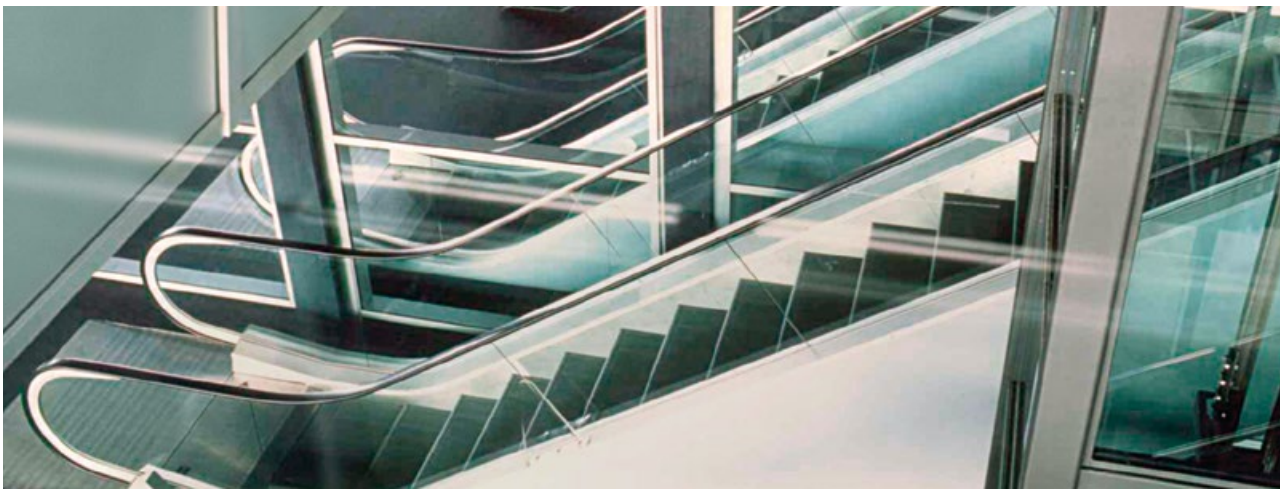


KONE's airport offering includes the self-standing KONE Steel Shaft frame with glass or steel walls.

- The machine room-less KONE MonoSpace is rated to carry loads of 1000-2500 kg at speeds of up to 2.5 m/s
- Drawings are made on a case-by-case basis once the elevator layouts are ready, ensuring the shaft and the elevator fit perfectly together
- Modular shaft: available up to 30 m travel
- CE-marking

KONE ESCALATOR SOLUTIONS FOR AIRPORTS

KONE offers a wide range of different escalator and autowalk solutions to meet all types of customer requirements in airports. All KONE escalators and autowalks are based on the same innovative, eco-efficient technology and have a harmonized visual design, making it easy to combine different types of solutions in the same building.



Recommended escalator and autowalk solutions for airports

- KONE TravelMaster™ 110 escalator is an efficient people flow solution suitable for both landside and airside traffic. It has a high number of design options.
- KONE TravelMaster™ 115 inclined autowalk is especially suitable for transporting passengers with baggage to and from the airport's train or metro stations.
- KONE TransitMaster™ 165/185 horizontal autowalk for traffic in transit areas to cut transit times and remove bottlenecks. It is designed for traffic between gates.
- KONE InnoTrack™ autowalk requires no pit and can offer the benefits of an autowalk on any floor. It is designed for traffic between gates.

	KONE TravelMaster™ 110	KONE TravelMaster™ 115™	KONE TransitMaster™ 165/185™	KONE InnoTrack™
Max rise / length	13 m	8 m	100 m ***	15–60 m
Inclination	30°, 35°	10°, 11°, 12°	0° – 6°	0°
Step / pallet width	600, 800, 1000 mm	800, 1000, 1100 mm	1000, 1200, 1400 mm	1000, 1400 mm
Balustrade height	900, 1000, 1100 mm	1000, 1100 mm	1000 mm	1000 mm
Operating environment	Indoor, semi-outdoor, full-outdoor	Indoor, semi-outdoor	Indoor, semi-outdoor	Indoor
Duty cycle	12 – 16 hours/day	Up to 12 – 16 hours/day	20 – 24 hours/day**	20 – 24 hours/day**
Transition radius	1.0/1.0, 1.5/1.0	6.0/0 and 6.0/10.0	–	–
Speed	0.5, 0.4* m/s/with inverter	0.4*, 0.5 m/s	0.4*, 0.5, 0.65 and 0.75 m/s	0.5 and 0.65 m/s

* 0.4 m/s is only available with an inverter

** 24 hours possible with additional maintenance

*** Longer units are available via order engineering. Please contact KONE for more information



BENEFITS OF KONE ESCALATORS AND AUTOWALK

Excellent eco-efficiency that cuts the carbon footprint of your building and reduces operational costs

- KONE Direct Drive is up to 20% more energy efficient than conventional drive solutions.
- The direct handrail drive saves energy and extends the lifetime of the handrail, reducing maintenance and operating costs.
- Smart operational modes and an all new inverter optimize energy consumption under different load conditions.

Piece of mind with the latest safety technology

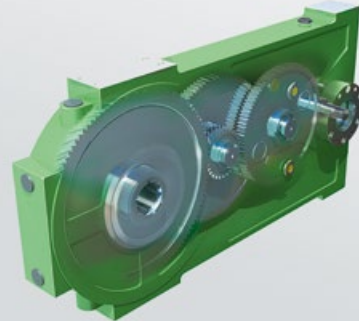
- Fiber-optic skirt monitoring covers the entire length of the skirt, immediately stopping the escalator when an obstruction is detected between the skirt and steps.
- New traffic signalization solutions and audible alarms provide clear guidance on escalator travel direction.

High quality visual design for the best possible user experience

- Innovative and attractive lighting solutions that also improve passenger guidance and safety.
- A wide range of design options to create stunning visual effects and perfectly match your building's architecture.
- High quality component finishes and a harmonized look and feel throughout the KONE product portfolio.

KONE Direct Drive

The KONE-designed Direct Drive helps cut both operating costs and your building's carbon footprint. By replacing the conventional worm gear drive with the KONE Direct Drive, mechanical losses have been minimized, reducing the drive's energy consumption by up to 20%.



KONE EcoMod™2

KONE EcoMod™2 is a comprehensive escalator modernization solution that replaces the entire workings of your existing equipment with our latest innovative and eco-efficient technology – without expensive and disruptive truss removal.

Benefits

- A new escalator in an existing truss
- Saves construction time and significantly reduces costs
- Reduces energy consumption and operating costs
- Faster, more cost-effective maintenance, with excellent spare parts availability

OTHER KONE SOLUTIONS FOR AIRPORTS



Automatic building doors

KONE offers a wide selection of automatic building doors for airport facilities. As well as various safety options, the doors can also be fitted with energy-saving solutions that reduce the loss of warm or cool air from the building, making the building's heating or cooling processes more energy-efficient.

Monitoring solutions

Because of the huge volumes of passengers passing through the terminal every day, exceptionally high equipment availability is essential. The KONE monitoring system enables remote monitoring of real-time equipment status, traffic, and faults.

It also produces valuable information for analysis and planning in order to fix minor malfunctions before they can cause larger problems. This not only increases the reliability and availability of the equipment, but it also increases the convenience and safety of passengers. KONE monitoring systems include: KONE E-link™ and KONE Remote Monitoring Services™.

SUPPORTING YOU EVERY STEP OF THE WAY

Choose a partner with over a century of experience in delivering pioneering elevator and escalator solutions. Get expert advice from professionals and enjoy the peace of mind that comes with comprehensive support. KONE is with you every step of the way – from planning and design, through installation and maintenance, to modernization – for the entire life cycle of your building.



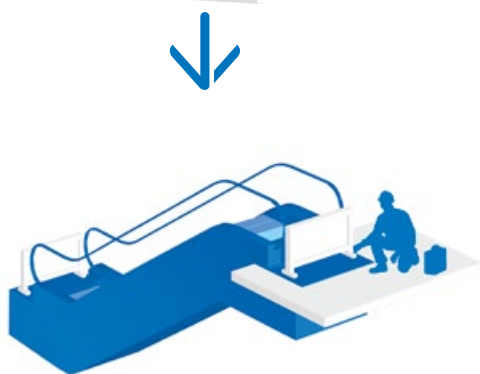
1 EXPERT DESIGN AND PLANNING SERVICES

- Expert planning advice helps you specify the optimal solution for your building.
- Easy-to-use online design tools save you time and effort during the design process by allowing you to create CAD drawings and 3D BIM models.
- Energy consumption calculations available for every individual solution.



2 SAFE AND EFFICIENT INSTALLATION

- Highly efficient installation methods result in considerable cost savings for our customers and minimize disruption to other construction work.
- Strict quality criteria for each phase of installation ensure that it's right the first time, every time.
- Continuous training, site audits, safety passports, and proven methods ensure maximum site safety.
- Eco-efficient installation processes maximize waste recycling.



3 QUALITY ASSURANCE AT HANDOVER AND PROFESSIONAL MAINTENANCE

- KONE's own reliability laboratory tests and approves every component used in our escalator solutions.
- We are the only company to provide in-depth ride quality testing of each elevator before handover.
- Our global spares center stocks over 150,000 parts and offers 24-hour delivery for the most commonly requested parts.
- Preventive KONE Care® maintenance solutions – including a comprehensive new online service-reporting system – make it easier to monitor and budget for elevator, escalator and door maintenance.

KONE MAJOR PROJECTS

With large building projects in particular, there is a fundamental need for a complete solution that includes expert support services and efficient process solutions – all designed to match customers' project planning, design, and construction processes and schedules. KONE Major Projects is KONE's global team of experts, providing dedicated solutions to help customers during every stage of the building process, anywhere in the world.

REFERENCES



O'HARE, CHICAGO, USA

O'Hare, one of the world's busiest airports, recently upgraded its escalator equipment. KONE modernized 23 escalators with the KONE EcoMod™ solution that allows for modernization of escalators without replacing the truss. The airport operated normally throughout the project and the solution saved both construction time and money.



HEATHROW, LONDON, UK

Heathrow is the world's largest airport in terms of international passenger numbers. To help passengers move smoothly from the car park or train station to their departure gates at Heathrow's new Terminal 5, KONE supplied a total of 230 elevators including KONE MiniSpace™, KONE MonoSpace® and KONE TranSys™ elevators, escalators, and autowalks.



SCHIPHOL, AMSTERDAM, THE NETHERLANDS

Schiphol handles almost 48 million passengers a year, and almost 20 million of them are transit passengers. At Schiphol, KONE introduced the KONE InnoTrack™, launching a new era in autowalk design and giving architects the freedom to direct and change the people flow as needed. In addition to KONE InnoTrack™, KONE also supplied 76 elevators, including KONE MiniSpace™, KONE MonoSpace® and KONE Transys™, 48 KONE TransitMaster™ escalators and 45 TransitMaster™ autowalks.



VIENNA INTERNATIONAL AIRPORT SKYLINE TERMINAL, VIENNA, AUSTRIA

With its practical central location in Europe, Vienna International Airport is an important hub for travelers heading to Eastern Europe and the Middle East. KONE installed eight autowalks, 47 escalators and 22 elevators in the pier section of the Skylink Terminal expansion. An additional 14 KONE escalators and more than 16 KONE elevators were installed inside the terminal building. The new installations nearly doubled the number of KONE units installed at the Vienna International Airport.



BEIJING, CHINA

Beijing Capital is a major airport serving more than 40 million passengers a year; and is also a radial center for the Chinese civil aviation network. KONE installed 202 KONE MonoSpace® elevators, 8 KONE EcoMaster™ autowalks and 17 KONE EcoMaster™ escalators at the airport. Service of the elevators, escalators, and autowalks is based on KONE Modular Based Maintenance™. Beijing airport is also equipped with the KONE E-link™ monitoring system.



HONGQIAO, SHANGHAI, CHINA

Shanghai's Hongqiao International Airport is the city's second international airport and currently the fourth busiest in China, serving a rapidly growing metropolis with a population larger than that of many countries. The connected ground transportation center acts as an interchange station for five different metro lines, a bus terminal, and the high-speed train line to Beijing. KONE provided 64 KONE TransitMaster™ escalators and 40 KONE TransitMaster™ horizontal autowalks, as well as a 24/7 preventive maintenance service and a centralized monitoring system with remote access capabilities.

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®, KONE NanoSpace™ and KONE UltraRope®.

KONE employs close to 50,000 dedicated experts to serve you globally and locally.

KONE Corporation
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