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Arrivals

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Taxi

Dedicated to People Flow™

**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

An airport is more than just a place to land or take off. It provides a comprehensive experience with shopping centres, 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 solutions for airports

- |  |                              |
|--|------------------------------|
| 1. Heavy-duty elevators                | 7. Freight elevators         |
| 2. Mid-duty elevators                  | 8. Autowalks                 |
| 3. Large elevators for APM stations    | 9. Escalators                |
| 4. Low-duty elevators                  | 10. Monitoring systems       |
| 5. Air traffic control tower elevators | 11. Automatic building doors |
| 6. Service elevators                   |                              |

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 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 utilise the eco-efficient KONE EcoDisc® hoisting technology.

	KONE MonoSpace®	KONE MiniSpace™	KONE TranSys™
Load (persons)	up to 33 persons	up to 54 persons	up to 67 persons
Load (kg)	1,000–2,500 kg	630–4,000 kg	1,600–5,000 kg
Speed	1.0–2.0 m/s	1.0–3.0 m/s	0.5–1.0 m/s
Travel	24 floors, 60 m	24 floors, 60 m	12 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 EcoDisc®** hoisting solution has an excellent track record, with more than 300,000 units operating globally.
- **Relevant safety and accessibility standards and regulations are met** and exceeded with all KONE equipment.

### Eco-efficient and cost effective

- **KONE EcoDisc® powered elevators** are 50–70% more energy-efficient than conventional traction 2-speed or hydraulic-powered elevators. Unlike hydraulic elevators, the KONE EcoDisc® requires no oil or hole drilling.
- **KONE's regenerative solutions** can provide 20–35% 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 customisation 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.

## 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™.



# 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 harmonised visual design, making it easy to combine different types of solutions in the same building.



## Recommended escalator and autowalk solutions for airports

- KONE TransitMaster™ 140 escalator for heavy traffic, in bottleneck areas like railway station to airport hall.
- KONE TransitMaster™ 120 escalator for medium traffic, for example to and from gates.
- 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 TravelMaster™ 115 inclined autowalk for medium traffic to move passengers to and from different levels.
- KONE InnoTrack™ autowalk requires no pit and can offer the benefits of an autowalk on any floor. It is designed for traffic between gates.

	TransitMaster™ 120	TransitMaster™ 140	TravelMaster™ 115	TransitMaster™ 165/185	InnoTrack™
Max rise / length	13 m	18 m	8 m	15–200 m	15–60 m
Inclination	27.3°, 30°	24.5°, 27.3°, 30°	10°, 11°, 12°	0°–6°	0°
Step / pallet width	800, 1000 mm	1000 mm	800, 1000, 1100 mm	1000, 1200, 1400 mm	1000, 1400 mm
Balustrade height	1000, 1100 mm	1000, 1100 mm	1000 mm	1000 mm	1000 mm
Operating environment	Indoor, semi-outdoor, full-outdoor	Indoor, semi-outdoor, full-outdoor	Indoor, semi-outdoor	Indoor, semi-outdoor, full-outdoor	Indoor
Duty cycle	20–24 hours/day	24 hours/day	Up to 12 hours/day	16–20 hours/day	16–20 hours/day
Transition radius	2.7/2.0	1.5/1.0, 2.7/2.0 and 3.6/2.0	6.0/0 and 6.0/10.0	-	-
Speed	0.5, 0.65 and 0.75 m/s	0.5, 0.65 and 0.75 m/s	0.5 m/s	0.5, 0.65 and 0.75 m/s	0.5 and 0.65 m/s



## Benefits of KONE escalators and autowalks

### Round-the-clock availability and reliability

- **Highly efficient heavy-duty drives** are used in KONE escalators and autowalks and are designed to last as long as required, even under high passenger load conditions and continuous usage.
- **Reduced total lifecycle costs** are the result of the high reliability of KONE heavy-duty escalators and autowalk solutions.
- **24 hour reliable operation** made possible by high product and service quality.
- **High escalator speed** ensures passengers move quickly to transit and baggage areas, and also to connecting flights.

### Low environmental impact

- **The lubrication-free step chain** saves oil, reduces chain wear, and decreases the risk of fire. The chain is also both water and dust resistant.
- **Efficient operation of the escalator** can reduce energy consumption by up to 50% by slowing down or stopping the equipment when it is not in use or by increasing the efficiency of the motor when traffic is low.
- **Regenerative solutions** reduce energy requirements by up to 60% by recovering the energy generated when the escalator is used.
- **LED lighting** consumes up to 80% less energy compared to conventional lighting technologies.

### A flexible, safe and visually appealing passenger experience

- **Extended balustrades enhance safety and convenience** for passengers by guiding people onto the escalator. LED lighting for the skirting, balustrade, and soffit further enhances the safety and visual appearance of an escalator or autowalk.
- **Stylish design solutions** help architects to specify an escalator solution that is an integral part of the overall interior of the airport.

### Eye-catching media

With KONE MovingMedia™, the escalator step riser can be used to display highly visible messages. KONE MovingMedia™ messages are eye-catching, distinctive, and easily replaceable. They are especially useful for guiding passengers to connecting flights or baggage claim, for example. They are also ideal for displaying safety messages.



### KONE EcoMod™ escalator modernisation solution

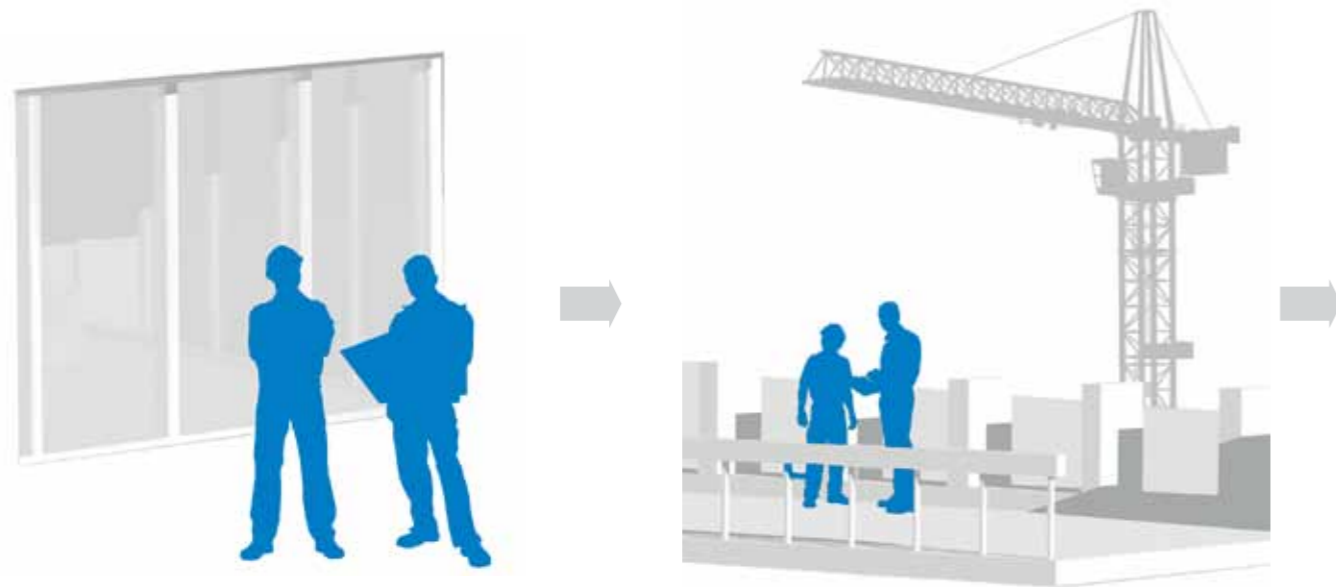
KONE EcoMod™ is a complete escalator modernisation solution that offers an innovative and eco-efficient technology for replacing the entire workings of your escalators – without expensive and disruptive truss removal.

#### Benefits of KONE EcoMod™

- A complete new escalator in an existing truss
- Saves construction time
- Significantly lowers total project costs
- Reduces energy consumption and operating costs

# At your service, in every phase of your building's lifecycle

KONE provides services to support our customers in every phase of their building's lifecycle – from designing and constructing the building to maintaining and modernising it.



## Design services

### Project planning and specification

KONE's experienced traffic analysis and planning team can help customers define the optimal amount of equipment and layout for any type of public transportation facility. We continually develop our competences and tools through systematic customer studies and research.



### Solution design

KONE provides easy-to-use tools and CAD drawings to help customers design the right solution for their needs. Customers can choose from a wide range of high quality materials to create an elevator or escalator that suits any type of architecture. KONE can also help customer to create fully customised solutions.

## Construction services

### Project management and installation services

KONE's experienced project management teams guarantee smooth coordination with all parties involved in the project.

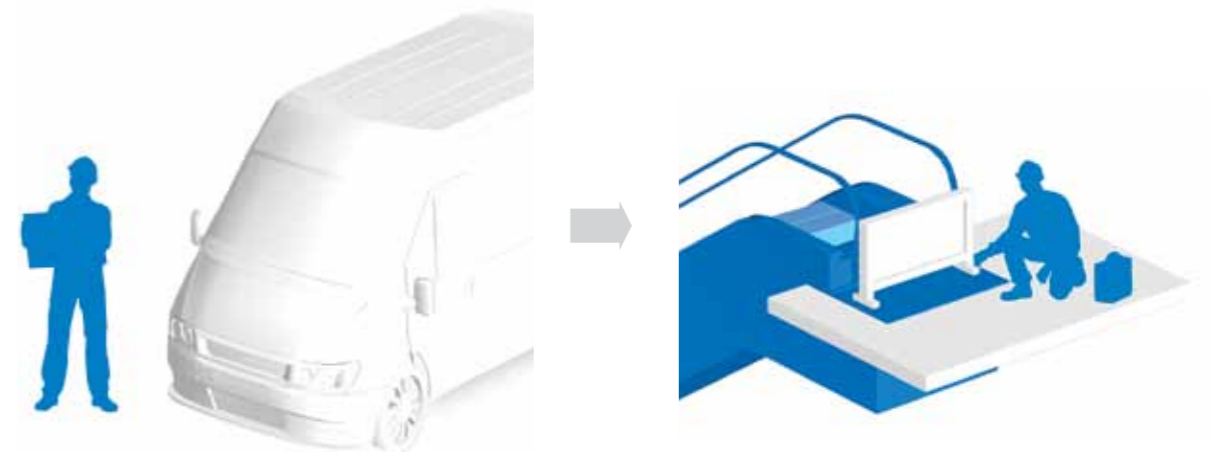
### Expert teams customised for each project

KONE sets up customised teams for each project with the optimal combination of global and local resources, bringing together global best practices and experience as well as extensive knowledge of local conditions and requirements.



## 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 designed to match customers' project planning, design, and construction processes and schedules. KONE Major Projects is KONE's global team of experts who provide dedicated solutions to help customers during every stage of the building process, anywhere in the world.



## Maintenance services

### Maintenance and monitoring

KONE's maintenance and monitoring solutions maximise reliability and safety while minimising downtime and costs. KONE Care™ maintenance solutions are based on preventive maintenance methods, the aim being to fix faults before they develop into bigger problems. The KONE Customer Care Centre™ offers round-the-clock



service and tracks equipment operation information, service records, and technical data.

### Spare parts

KONE stocks a wide range of spare parts for its own elevators and escalators, and can also supply parts for other manufacturers' equipment.

## Modernisation services

### Equipment assessments

KONE Care for Life™ helps customers determine when and how to modernise equipment with a thorough inspection of the safety, accessibility, performance, energy efficiency, and aesthetics of a building's escalators and elevators.

### Modernisation solutions

Depending on the customer's needs, KONE provides modernisation solutions ranging from small repairs and modular modernisation through to full replacement.



# References



## O'Hare, Chicago

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

## Montreal

Montréal-Trudeau Airport has been undergoing a major expansion since 2000 to increase capacity and service. KONE has been a long-term partner in this project, taking part in all four expansion phases in 2003, 2005, 2006 and 2008. KONE has provided 39 elevators, 30 escalators and 9 autowalks. The airport also has a long-term maintenance agreement with KONE.



## Schiphol, Amsterdam

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.

## Heathrow, London

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.



## Beijing

Beijing Capital is a major airport serving more than 40 million passengers a year; and is also a radial centre 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

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 centre 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 centralised monitoring system with remote access capabilities.





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

Our commitment to customers is present in all KONE solutions. This makes us a reliable partner throughout the life-cycle of the building. We challenge the conventional wisdom of the industry. We are fast, flexible, and we have a well-deserved reputation as a technology leader, with such innovations as KONE MonoSpace®, KONE MaxiSpace™, KONE InnoTrack™ and KONE UniDrive™. You can experience these innovations in architectural landmarks such as 30 St. Mary Axe and Broadgate and 201 Bishopsgate buildings, BAA Terminal 5, Emirates Stadium, Brunel University, Citigroup, Jubilee Line and St. Georges Wharf.

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

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