

Dedicated to People Flow™



FULL ESCALATOR MODERNIZATION

# KONE EcoMod™ 2

# How important is nonstop people flow for your business?

If you run an airport, a metro station, or a shopping mall, you probably don't want to close it down for an escalator modernization.

## Stay open for modernization

KONE developed the KONE EcoMod™ solution so you can stay open during modernization. KONE EcoMod is a full escalator or moving walk modernization without removing the truss. You can eliminate costly structural modifications. You can forget about special crane hoisting or removal of the building facade. You can preserve existing building décor. In parallel installations, you can modernize one escalator at a time and keep people moving on the other one. So you can reduce the total project costs, and you can stay open for business during a modernization.

KONE EcoMod is a unique innovation in escalator modernization. Now, with KONE EcoMod 2, we've made it even better.

## Start with a complete inspection



*Before beginning a major modernization, begin with a thorough inspection. KONE Care for Life™ is an assessment of the condition of your escalator, showing the risks and development areas.*





## When is KONE EcoMod 2 the right solution for you?

### When working in hard-to-access sites

In a metro station, for example, it may be impossible to get crane access in order to hoist a new truss into place. With KONE EcoMod 2, there is no need to have access for a crane. With modular installation, parts are delivered just in time to the site, ready to be installed.

### When you want to retain existing architecture

In a hotel or department store, for example, you may want to retain the existing appearance of the building. With KONE EcoMod 2 there is no need to demolish floors, roofs and building facades. There's less noise and dust, and less refinishing work required.

### When you need nonstop people flow

The noise and dust associated with full replacement, including the truss, usually mean that the site must be closed. With KONE EcoMod 2, you can stay open for business. KONE has completed many projects in airports and metro stations, for example, while the site continued to operate.

### KONE EcoMod 2. What's new?

With the KONE EcoMod 2 solution, you get an escalator that is more reliable and more eco-efficient, and requires significantly less time for maintenance. There are many small improvements and four big ones:



Drive located outside the step band



Direct gear drive output to main shaft

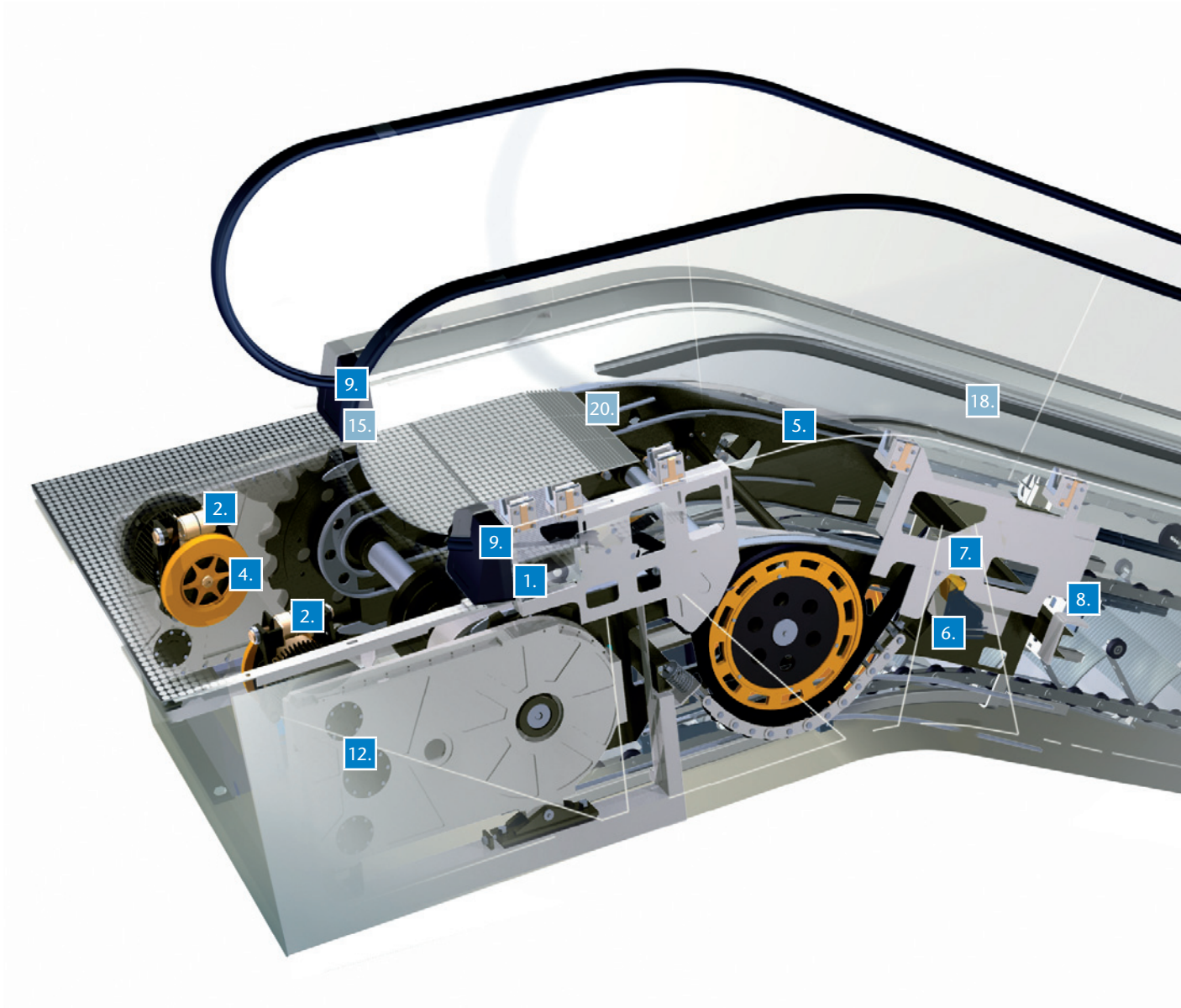


Based on KONE TravelMaster™/TransitMaster™ platform



Advanced installation method

# Four big improvements and a wide range of advanced features



## ➤ New Direct gear drive

KONE EcoMod™ 2 comes with direct gear drive output to the main shaft. There is minimal oil usage when using a lubrication-free step chain, so this is an eco-friendly solution as well. The direct drive also provides a superior level of ride safety and comfort for passengers.

## ⬆ New Drive located outside step band

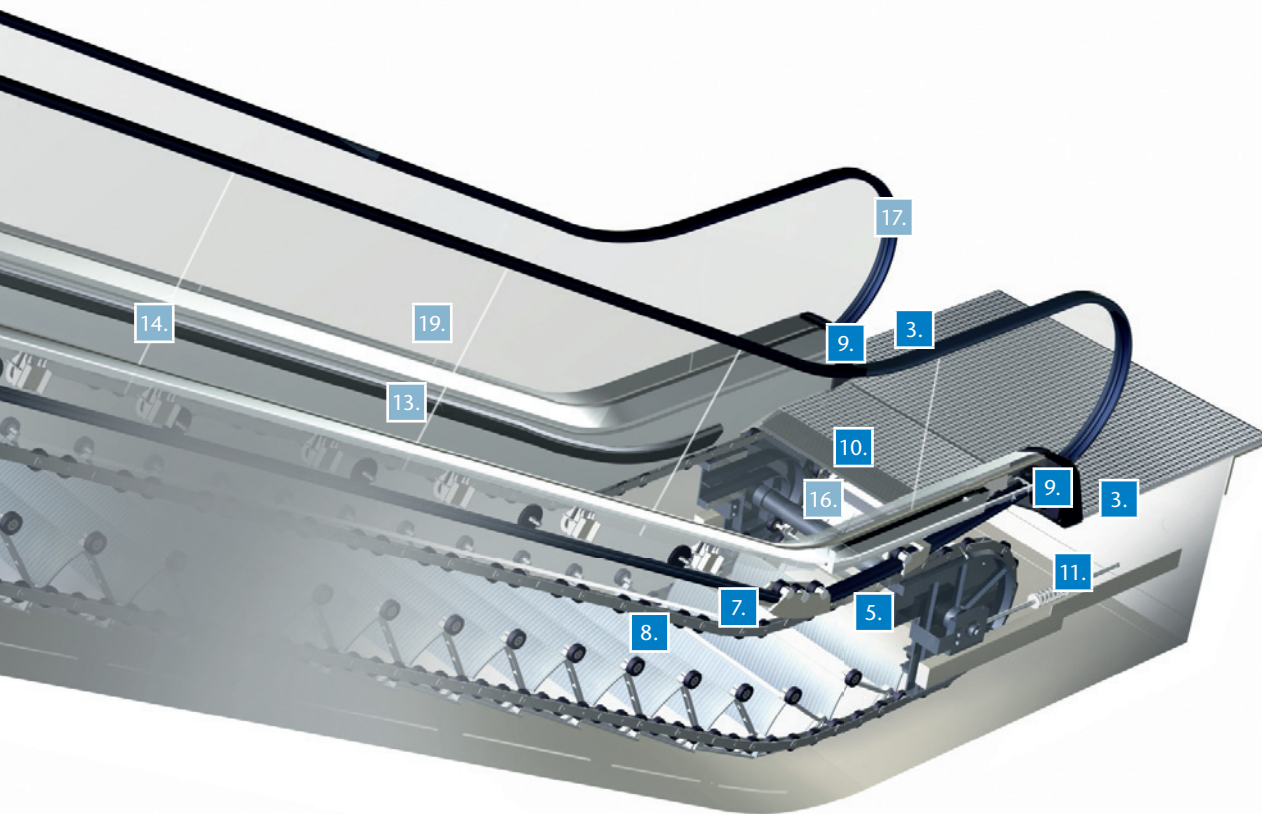
The drive is located outside the step band, so it is accessible from the truss pit. Maintenance can be performed without disassembling the steps, and access to the motors, brakes, bearings, seals and gears is easier and faster. If your site is being maintained by KONE, our service technicians can schedule regular maintenance during off-peak times, in order to minimize disruption.

**New** Advanced installation method

Parts are delivered just on time, properly labeled and ready for installation. This is particularly important when the site is in normal operation, since the parts and crates will not take up so much space on a metro station platform, for example.

**↓ New** KONE TravelMaster™/TransitMaster™ platform

KONE EcoMod 2 is based on the KONE TravelMaster/TransitMaster platform, which offers many attractive designs, with a wide range of aesthetic, lighting and eco-efficiency options. After the modernization, your escalator will work and look like a new one.



**Operational safety enhancements**

- |                                     |                              |
|-------------------------------------|------------------------------|
| 1. enhanced controls                | 8. step sag device           |
| 2. escalator brakes                 | 9. handrail entry device     |
| 3. pit covers switches              | 10. comb impact device       |
| 4. reversal stop device             | 11. broken step-chain device |
| 5. step up thrust device            | 12. KONE EcoStart (optional) |
| 6. handrail speed monitoring device |                              |
| 7. missing step device              |                              |

**Passenger safety enhancements**

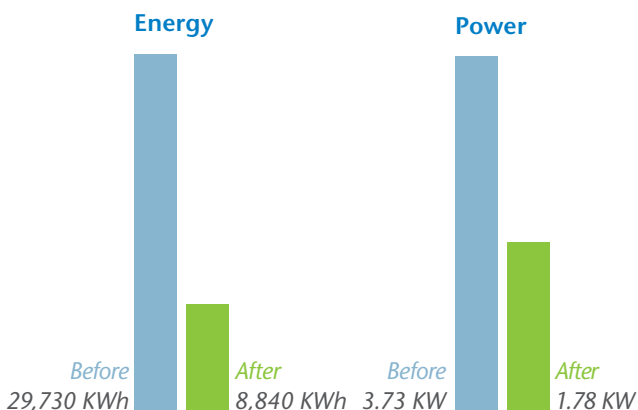
- |                                      |
|--------------------------------------|
| 13. skirt gap and stiffness          |
| 14. demarcation inserts              |
| 15. emergency stop buttons and alarm |
| 16. step demarcation lights          |
| 17. safety signs                     |
| 18. skirt brushes                    |
| 19. deck guards                      |
| 20. yellow comb segments             |

# Brand new gear solution

There are more than 85,000 escalators worldwide that are over 20 years old. Modernizing them with the KONE EcoMod™ 2 and GOSD (Geared Outside Step-band Drive) technology provides several major benefits.

## Increased energy efficiency

Compared with a typical escalator installation from the 1980s, the KONE EcoMod 2 with the GOSD drive improves the efficiency of the drive typically by 15%. When using standby solutions that slow or stop the escalator when there are no passengers, consumption can be reduced by an additional 30%, depending on the traffic load. As the graph shows, the total energy savings can be as much as 70%, depending on usage and the previous technology.



The KONE EcoMod 2 can reduce electricity consumption by up to 70%, depending on usage\*.

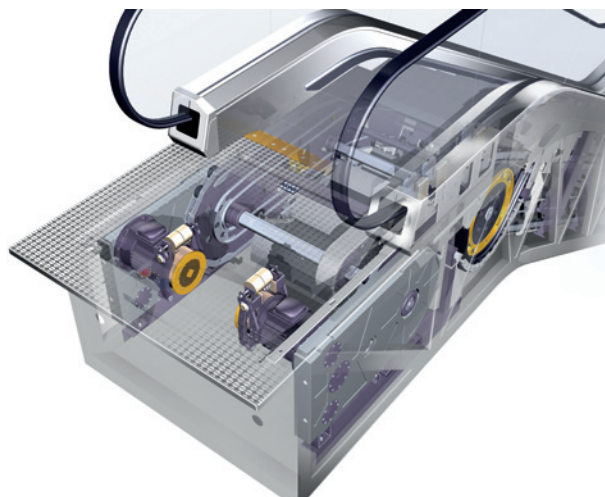
## Increased comfort and safety

The GOSD drive provides a smooth ride, which improves ride comfort and safety for passengers. New technology throughout the escalator provides higher levels of safety for end users and escalator maintenance workers.



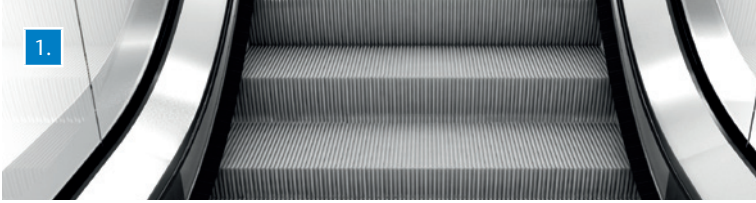
## Higher availability with faster maintenance

The GOSD drive provides better access for maintenance. Most maintenance procedures can be performed in the pit, without disassembling the steps.



\*Energy saving could be up to 70% depending on traffic load, original equipment technology and the maintenance history of the equipment.

# Features and benefits



## 1. Slim design

The slim design makes this solution ideal for modernization - you may be able to increase the step width from 600 to 800 mm, without taking any extra space.



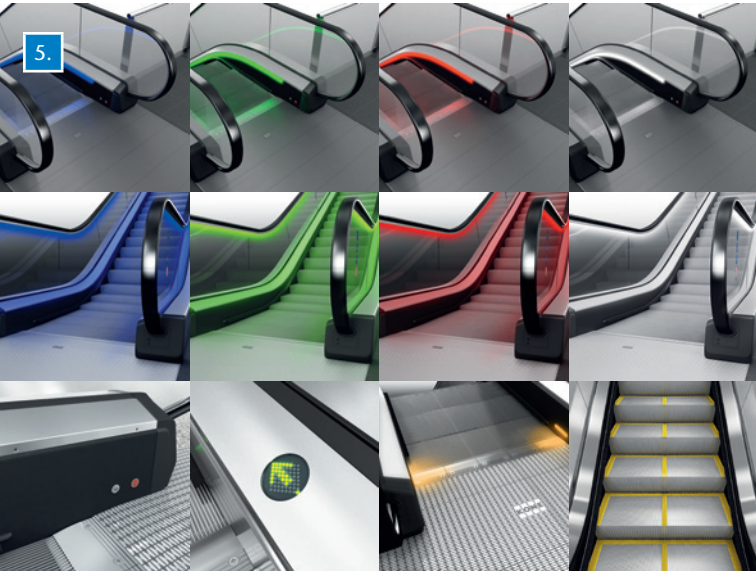
## 2. Safer and cleaner

KONE offers numerous safety options, such as a motor speed sensor, motor thermal protection, skirt deflector brushes, and handrail speed monitor. The lubrication-free step chain means there is less cleaning and maintenance, and reduced fire hazard. The KONE EcoMod 2 meets or exceeds worldwide escalator safety code requirements, including JIS, ASME, EN115, and B44.



## 3. Eco-efficient

The KONE EcoMod 2 includes several features and options that can dramatically reduce electricity consumption. LED lighting, for handrail, skirt or comb lighting, can significantly reduce energy costs. Standby operation reduces speed or stops the escalator when there are no passengers. The KONE EcoStart option can cut electricity costs by 20-40%.

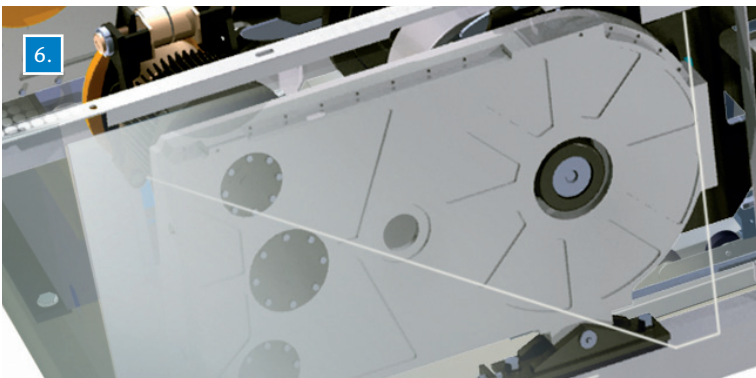


## 4. Cost-effective

There are fewer structural modifications and less refinishing of the building, so the total project costs are usually lower with KONE EcoMod 2 than for full replacement.

## 5. Aesthetics

You have a wide selection of handrail colors and step, cladding and decking finishes.



## 6. Spur and helical gears

The spur and helical gears provide high efficiency - more than 94% at rated load - reducing electricity consumption.

# Why modernize?

Take a look at the escalators in your facility. Do they cause:

- High maintenance and repair costs
- Limited spare parts availability
- Increased downtime and lost revenue
- Non-compliance with modern safety standards
- High liability risk
- Ecological non-compliance
- Poor ride comfort
- Constant cleaning and housekeeping needs
- An old-fashioned look and feel
- Passenger dissatisfaction

If you have experienced some of these difficulties, modernization with the KONE EcoMod™ 2 can improve service, safety and eco-efficiency, and the perceived value of your property.

## What about compatibility?

KONE EcoMod 2 is compatible with all KONE escalators and moving walks, and with most escalators from other brands. For other brands a survey would be conducted to assure compatibility, but KONE has modernized the following truss types with KONE EcoMod: O&K, Montgomery, Westinghouse, Otis, Schindler, Thyssen, Hitachi, Goldstar, Fujitec, Peele, FIAM and more.



## KONE EcoMod 2 or full replacement?

Depending on your requirements, KONE will offer the most suitable solution. In some cases, full replacement will be required, but often KONE EcoMod 2 is the most cost-effective solution.

Issues to be considered	KONE EcoMod 2	Full replacement
Structural access for complete new unit	not needed	needed
Building can stay in normal use	yes	not fully
Impact on traffic flow	minimum impact	large impact
Impact on cost of doing business	small	large
Amount of structural work required	minimal	large
Impact on existing building finishes	none	large
Clean installation surrounding	clean	protection
Better ride comfort as built on site	yes	case dependent
Installation sequencing and budget	flexible	one time



# Modernization process

Modernizing an escalator is not a decision you want to make overnight. Before you get started, we want to help you make sure that KONE EcoMod 2 is the right solution for you. We have been involved in many projects in airports, shopping centers and transit centers that remained in operation, so we understand the importance of maintaining continuous people flow during the project. Our job is to anticipate your needs and ensure that the project proceeds as smoothly as possible - for you and your customers.

Your project is in good hands - when modernizing with KONE EcoMod, KONE has won the “Elevator World” modernization project of the year award, five years in a row.

## Site analysis



Every escalator is different. The first step is an analysis of your equipment and the special features of the site. Site analysis assesses the best method of dismantling the old installation and installing the new equipment. It also includes an analysis of people flow. KONE has developed tools to analyze people flow in a building, to help maintain normal flow during the project. In side-by-side installations, one of the escalators can remain in operation while the other one is being modernized.

## Project plan



KONE develops a tailored plan for each project. The main issues are scheduling, safe routes for building users, and installation phases. KONE can schedule work during off-peak periods, for example on weekends or at night, in order to minimize disturbance to passengers. Parts are delivered as needed, ready to be installed, in order to reduce the amount of equipment storage on site and minimize obstruction to passengers.

## Installation and handover



The escalator modernization is protected with barriers to minimize any safety risk for passengers. KONE keeps the customer and end-users informed about the progress of the project and the installation phases. KONE also takes care of the safe, environmental recycling or disposal of the old equipment. After handover, we can ensure that your modernized escalator continues to operate reliably in the future, with regular, preventive KONE Care™ maintenance.

*“We selected KONE to replace our escalator for two key reasons: the exceptional value that they provide and the minor disruption of service during construction.”*

-Bob Kingston, Assistant Director, Department of Aviation - Facilities, Clark County, Nevada, USA

# References worldwide

Since the introduction of the KONE EcoMod™ in 2002, KONE has modernized more than 700 escalators in metro and railway stations, airports and retail centers worldwide.

## Europe

Frankfurt Metro (VGF), Germany  
Hannover Metro (Üstra), Germany  
Ruhrgbiet Metro (VRR), Germany  
Rotterdam Tram (RET), Netherlands  
Rome Metro, Italy  
Dortmund Railway, Germany  
WH Smith, UK  
Marks&Spencer, UK  
Sainsbury, UK  
Boots, UK  
DLSC, Ireland  
Helsinki Railway, Finland

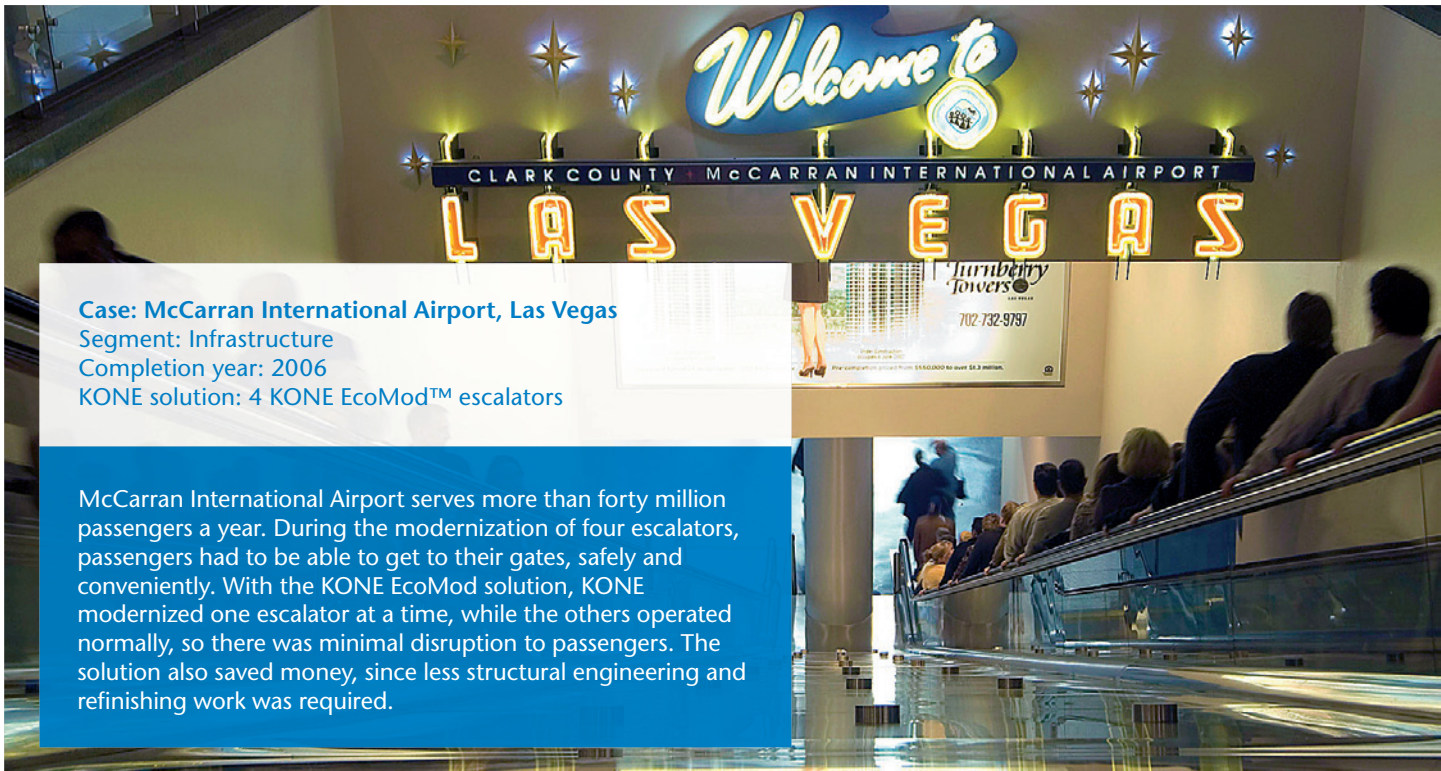
## North America

Moscone Convention Center, San Francisco  
O'Hare Int. Airport, Chicago  
McCarren Airport, Las Vegas  
WMATA, Washington  
SEPTA, Philadelphia  
Dillards Shopping  
Hyatt Hotels  
BMCC, New York

## Asia

Harbour Front Centre, Singapore  
Carlingford Court, Australia





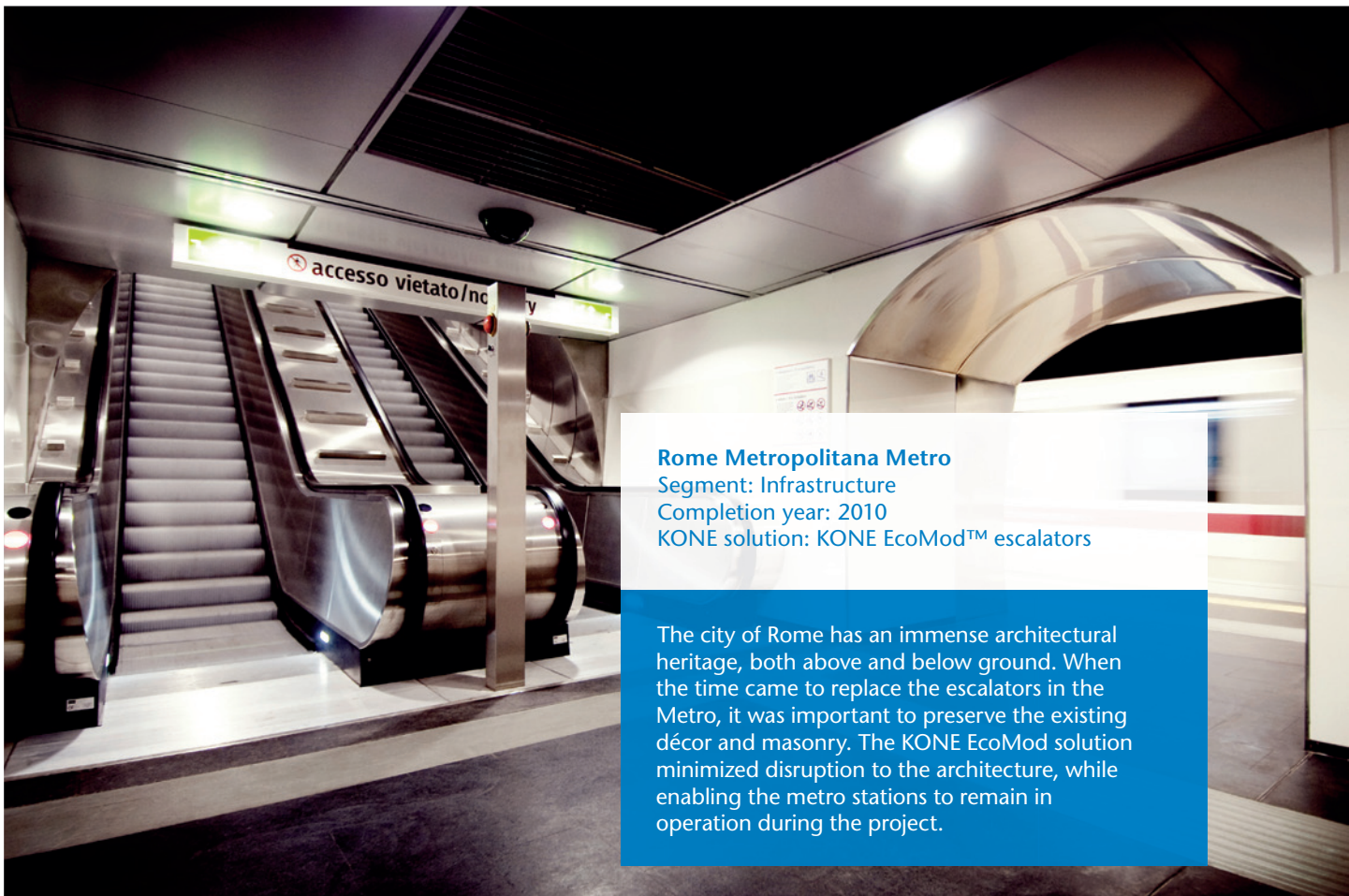
**Case: McCarran International Airport, Las Vegas**

Segment: Infrastructure

Completion year: 2006

KONE solution: 4 KONE EcoMod™ escalators

McCarran International Airport serves more than forty million passengers a year. During the modernization of four escalators, passengers had to be able to get to their gates, safely and conveniently. With the KONE EcoMod solution, KONE modernized one escalator at a time, while the others operated normally, so there was minimal disruption to passengers. The solution also saved money, since less structural engineering and refinishing work was required.



**Rome Metropolitana Metro**

Segment: Infrastructure

Completion year: 2010

KONE solution: KONE EcoMod™ escalators

The city of Rome has an immense architectural heritage, both above and below ground. When the time came to replace the escalators in the Metro, it was important to preserve the existing décor and masonry. The KONE EcoMod solution minimized disruption to the architecture, while enabling the metro stations to remain in operation during the project.



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

Our commitment to customers is present in all KONE solutions. This makes us a reliable partner throughout the life-cycle of the building. We challenge the conventional wisdom of the industry. We are fast, flexible, and we have a well-deserved reputation as a technology leader, with such innovations as KONE MonoSpace®, KONE MaxiSpace™, and KONE InnoTrack™. You can experience these innovations in architectural landmarks such as the Trump Tower in Chicago, the 30 St Mary Axe building in London, the Schiphol Airport in Amsterdam and the Beijing National Grand Theatre in China.

KONE employs approximately 34,000 dedicated experts to serve you globally and locally in over 50 countries.

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