

# ORINOCO: THE VERSATILE MOVING WALK FOR EXTENDED TRAVEL



# ENHANCING URBAN MOBILITY: WITH ESCALATORS SINCE 1906

One World Trade Center's flying escalator, USA

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January 2018 marked the 125th anniversary of the first-ever escalator. It was more or less invented by accident. Jesse Reno had been trying to create New York's first double-decker subway but ended up with a moving stairway traveling at a 25° angle for a mere seven feet (2.13 m). But in just two weeks it carried some 75,000 passengers at the Old Iron Pier on Coney Island. A global success story was born.

### In escalators since 1906

We were soon into the escalator business with our first model installed at a department store as long ago as 1906. 115 years of engineering excellence go into our velino 100, 200 and 300 models.

### As diverse as they come

We build mobile escalators for boarding and disembarking aircraft, restaurant escalators with just one moving handrail for waiters with only one hand free, and suspended escalators that crisscross the open space of an atrium. You name it, we build it.

### Remarkable locations

Our underwater installation at Shanghai's Ocean Aquarium ensures visitors enjoy spectacular sights.

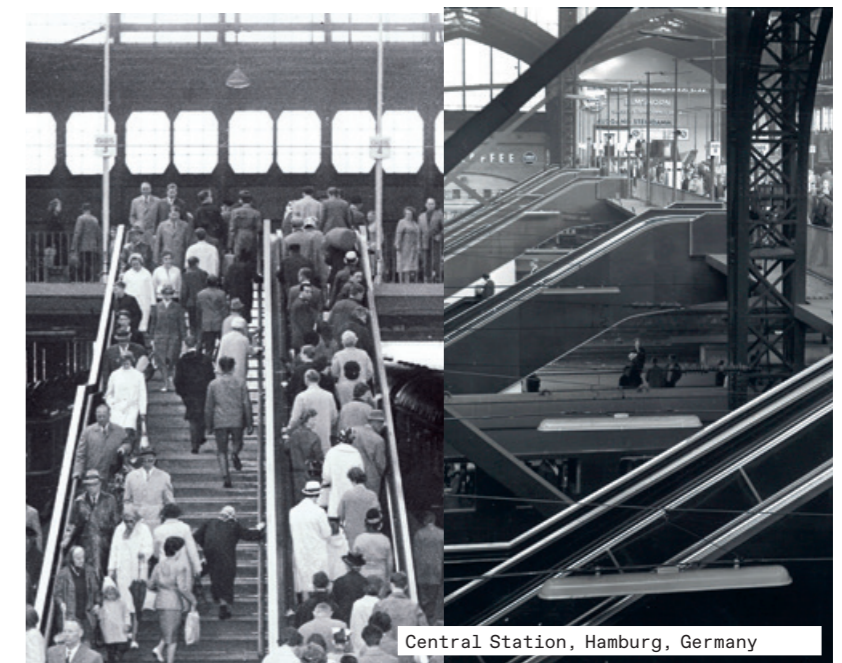
The One World Trade Center in New York has 12 of our escalators and 71 elevators. We also equipped the world's largest department store in Busan. Higher, bigger, better – escalators from TK Elevator.

### Myth debunked

"Stand on the right, walk on the left" actually slows down passenger flow. Studies show that escalator capacity increases by about 30% if nobody walks. At TK Elevator, we know the escalator business like the back of our hand and it's this expertise that makes our new velino series so special.



North Station, Shenzhen, China



Central Station, Hamburg, Germany

## Base parameters

### Horizontal

Length	200 m
Inclination	0°-6°
Pallet width	800   1,000   1,200   1,400   1,600 mm
Speed	0.5   0.65   (0.75) m/s
Environment	Indoor   Outdoor

### Inclined

Max. rise	≤ 9 m
Inclination	10°   (11°)   12°
Pallet width	800   1,000 mm
Speed	0.5   0.65 m/s
Environment	Indoor   Outdoor

### Designed for:

#### Horizontal

Airport  
Metro-Links  
High-traffic areas

#### Inclined

Department stores  
Shopping malls  
Congress centers  
Super and hypermarkets

# THE MOVING WALK THAT TAKES YOU FURTHER

With its impressive versatility you can count on our orinoco moving walk to meet your needs. And when we say versatility, we really mean it: extended travel distance, convenient pallet width, inclined and horizontal configurations, as well as indoor or outdoor traffic or commercial applications. With orinoco you can always be sure of just the right configuration for your project.



### Enhanced connectivity

Since orinoco carries passengers up to 200 meters, you can enhance mobility and connectivity in airports and metro stations worldwide.



### Greater convenience

At airports and other crowded public spaces orinoco's unique 1,600 mm wide pallets raise the bar on safety, convenience and capacity.



### Spatially efficient

Combining upper and lower horizontal runs creates the perfect configuration to maximise both convenience and space usage, especially as orinoco's compact truss also saves space.

moving walk: orinoco



## Designed for versatility

Whatever architecture orinoco is enhancing – airports, metro stations or retail environments – this moving walk is like a chameleon. The numerous design features and options enable it to blend in perfectly with its surroundings. That creates an inviting atmosphere while also leaving a lasting impression on shoppers or passengers.



### Aesthetic skirt lighting

Located above the skirt band, LEDs in light-diffusing channels, the full range of RGB colours and different modes of operation create attractive effects throughout your installation. Light barriers for automatic restart modes can also be seamlessly integrated into your moving walk.

### Comb plate safety light

Located at orinoco's entrance and exit, this comb plate light improves passenger safety. Available in white or green and red, it can also be used as a traffic light.

### Stunning pallets and pallet gap lighting

Black or silver pallets are available, both with the option of yellow demarcation lines. And if you want something more extravagant, we'll make sure you get that too. Optional blue or green pallet gap lighting enhances passenger safety and adds to orinoco's visual appeal.

### Eye-catching combs and covers

When combined with accentuating comb segments, the various patterns and colours available for our durable combs and cover plates increase user safety while ensuring a distinctive look.



### Unique front skirt

With its two-way flap system and additional skirt protector, orinoco's unique handrail inlet can withstand the daily abuse of trolleys and carts. Available in black synthetic or stainless steel, it eliminates unsightly brushes or rubbers and provides lasting good looks. What's more, a kick-resistant safety contact reduces stops to increase orinoco's availability.

### Distinctive balustrades

orinoco features four different balustrades: a slim glass version for a lighter, sophisticated look; a robust decking option for a more solid impression; a metal balustrade for a more industrial appearance; and a sandwich construction that's ideal for modern traffic applications. Several colours, finishes and LED lighting options increase the design possibilities.

#### Customisable features

To augment the unique ride experience, you can choose from additional features such as exclusive claddings, striking handrail colours or other lighting options. Traffic lights can be placed in a column, newel, decking or in front of the floor plate. For a finishing touch on inclined units you may also want to add a truss light combined with glass claddings or different kinds of soffit lighting.



## Smartly engineered for exceptional quality

orinoco's versatile performance and exceptional quality are the result of our best-in-class engineering, advanced production systems and carefully chosen energy-efficiency features.

### Pallet bolts – convenient and failsafe

Connecting the pallets and chain with bolts makes assembly foolproof and disassembly a snap for maintenance.

### Oil caps – clean and safe pallets

Oil caps at the end of the hollow axle prevent oil from leaking and polluting the pallet tread; and that keeps pallets clean and safe.

### No pallet chain axles – easier maintenance

The hollow axle eliminates the need for a pallet chain axis, providing easy access to the interior for maintenance purposes.

#### Pallet fastening engineered to perform

Our unique fastening concept uses hollow axles that connect the pallets and chain with solid bolts. The outcome is easier installation, operation and maintenance.



### Precise guide rails – even pallet run

The guide rails are precisely aligned using best-in-class adjustment jigs to achieve a perfectly even pallet run for the best possible ride comfort.

### Guiding rollers – reliable pallet run

The pallets are guided on the track through a nose profile to reduce wear and tear, noise emissions, and maintenance.

### Smooth run rails – jolt-free pallet run

The rails enable a smooth transition of the pallet chain rollers from the guide rails to the pallet chain sprocket, eliminating the polygon effect through the entire moving walk and thus enhancing ride quality.

#### Fit-to-purpose guiding system

Precise engineering and flawless manufacturing are critical in ensuring the best possible ride quality. orinoco's superior guiding system ensures exceptional passenger comfort certified to ISO 18738-2.

# Prioritizing sustainability and safety

## Sustainability pays off – with energy-efficient moving walk solutions.

Many people still think that green solutions are more expensive. Our orinoco proves that sustainability pays off. These moving walks put energy efficiency into operational practice to lower your building’s carbon footprint, improve your environmental image, and boost your bottom line.

### Energy-efficient lighting

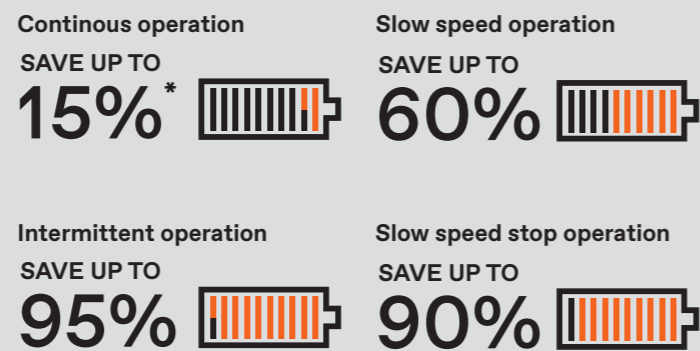
State-of-the-art LED technology lasts longer than conventional lighting and is up to 80% more energy-efficient than halogen lighting.

### Energy-saving operations

Depending on your load cases, operational modes such as standby or sleep mode and the regenerative drive option can help make your moving walk more energy-efficient.

### Lower environmental impact

By continuously improving our moving walk solutions, we minimise their environmental impact in product life cycle assessments.



## Energy efficiency

**A+++**

## ISO 25745-3

\* Only applicable with Star-Delta

## Safety first – it’s in our DNA

Since safety is a top priority in your building, we put safety first in designing orinoco. Around 50 standard or optional safety features mitigate the risk of incidents and injuries. Our portfolio includes an extensive range of motion safety devices and other important features to secure building interfaces. All this plays a key role in ensuring passenger safety – day in, day out.

### Motion safety

A orinoco moving walk is designed with user behaviour in mind. That is why our optional safety features go beyond the requirements of local codes. The auxiliary brake on the main shaft, for example, stops the step band in the unlikely event of a disconnection between the motor and drive chain to prevent any uncontrolled downward movement of the steps and reduce the risk of falls.

### Proactive safety

Fall protection is one of our proactive safety features. Safety curtains, which can be installed parallel to the balustrades and are higher than them, further reduce the risk of passengers climbing over the side of a moving walk.

### Component safety

We strive to enhance user safety and product reliability by building durable components that meet first-class manufacturing requirements. Our proprietary step design, for example, offers utmost reliability combined with minimal breakage risk.

### Building interfaces

To enhance the safety of the interfaces between an moving walk and a building, we offer diverse solutions, e.g. deflectors for ceilings or crisscross arrangements.



# YOUR SERVICE PARTNER: ALWAYS THERE



## Ensuring continuous people flow

### On-schedule installation

Our expertise in planning and project management, the vigorous process we employ to select suitable installation teams, and the regular training all our personnel go through are the reasons why we can deliver installation on time – anywhere in the world and in any kind of commercial building.

### Maximising equipment uptime

Our service goal is quite simple: maximise your moving walk uptime. When you need support, our highly trained service technicians will be quickly on hand with the right spare parts and know-how to ensure your orinoco stays running smoothly or is back operating again in the shortest possible time.

### Tailor-made service packages

Choose from a variety of service and maintenance packages ranging from basic maintenance to EN 13015 through to comprehensive support. As our service technicians are all specialists in specific application areas, we work closely with you to understand your needs and come up with a customised service concept. That will not only enable you to meet your reliability and safety goals but also give you cost transparency and budget security.

Whatever your commercial operation, you need a moving walk that is installed on schedule and, once running, ensures people can get where they want to go quickly and effortlessly. Our installation expertise will make sure your orinoco starts operating on time. Our technical and service support will keep it running smoothly from then on.

## MAX – the game changer that keeps people moving

Introducing MAX: the elevator industry's first real-time, cloud-based predictive maintenance solution. Our smart, machine learning Internet of Things (IoT) solution dramatically increases elevator availability by reducing out-of-service situations through real-time diagnostics.



Data gathering



Precise diagnostics



Predictive intervention

MAX is only available in selected markets. Consult your TK Elevator sales representative for further information.



More details about MAX are available via this QR code.

## Interesting numbers

4,500,000,000

passengers per day

7,000

average number of passengers per unit per day

637,000

numbers of units worldwide

## Design tools: making your life easier

We supply you with a number of state-of-the-art tools so your architects, engineers and construction specialists can efficiently plan, design, construct and manage your building and infrastructure.



### eSlider: Easier preliminary planning

Our eSlider tool enables you to generate your moving walk specifications online. This will make your preliminary planning that much easier.



More details of the eSlider tool are available via this QR code.

### BIM: Building Information Modeling

BIM is an intelligent 3D model-based process that provides the insights and tools for a seamless information flow from design to execution. At TK Elevator we work with the world's leading BIM content platform, BIMobject®, where you can download our orinoco BIM.



More details of the BIM tool are available via this QR code.

## YOUR INNOVATION PARTNER

elevators and escalators under maintenance

countries of customers

1,200,000 100+

employees

50,000+

service available for customers

locations

24/7 1,000+

service technicians

24,000+





[www.tkelevator.com](http://www.tkelevator.com)