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AM \_\_\_\_\_

MAR 29 2018



COOKE  
DOUGLASS  
FARR  
LEMONS  
ARCHITECTS  
  
ENGINEERS PA

cdfl.com  
601.366.3110  
3100 N State St  
Suite 200  
Jackson, MS  
39216

March 28, 2018

City of Vicksburg  
Post Office Box 150  
1401 Walnut Street  
Vicksburg, Mississippi 39181

Attention: Ms. Nancy Thomas

Regarding: **Vicksburg Convention Center  
Elevator / Escalator Renovations  
City of Vicksburg  
CDFL 17.124**

Dear Nancy:

The bid opening was held for this project on Monday, March 19, 2018 and we received two bids. We recommend awarding the project to Schindler Elevator Corporation for the base bid of \$892,500.00.

As part of the bid requirements, we requested a list of completed projects, proposed installation crews and references. Attached documents include: 9600 in-truss completed units, installation crews and two emails, one with escalator references and one with elevator references.

Of the six escalator references, I spoke with three of them and there are two with reference letters. I spoke with Curtis Jolly, Tom Bröyle and Scott Broder. All are satisfied with both the work and performance. None of them have had any major issues and each indicated that when they had small issues that the manufacturer and crews were very responsive. Mr. Broder indicated that they have escalators from multiple manufacturers and that he thought Schindler had the best in-truss product currently on the market.

The elevator references were provided and I spoke with Kelly Palmere at the Courtyard Marriott in Baton Rouge. I also spoke with Isaac Thomas and they are very satisfied with the elevator work and are currently having additional elevators upgraded. They had two elevators modified and are satisfied with the operation. He indicated that they did have some minor issues with the doors initially, but the team was responsive and all issues were corrected to their satisfaction.

Nancy Thomas  
Vicksburg Convention Center  
Elevator / Escalator Renovations  
City of Vicksburg  
Page 2

Schindler also provided two escalator modernization brochures for your use and reference.

Please contact our office if you have any questions.

Thank you.

Sincerely,

**Cooke Douglass Farr Lemons**  
**Architects + Engineers PA**



Gene Crager, AIA, CSI

CG/th

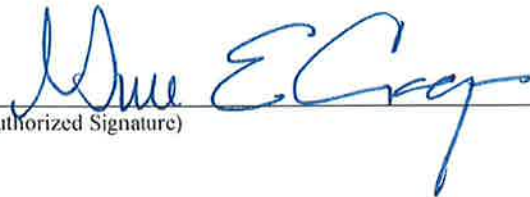


# CERTIFIED BID TABULATION FORM

Project #: 17.124	Bid Date: March 19, 2018	Time: 10:00 AM
Project Title: <b>Vicksburg Convention Center Elevator / Escalator Renovations</b>		
Owner: <b>City of Vicksburg</b>		
Professional: <b>Cooke Douglass Farr Lemons Architects &amp; Engineers PA</b>		

Contractors	Base Bid	Alternates
<b>Schindler Elevator Corporation</b> Certificate of Responsibility # <u>08276-SC</u> 5% Bid Security: <u>Fidelity and Deposit Company of Maryland</u> Addenda Received: (1X )	<u>\$ 892,500.00</u> CR Expires: <u>01/14/2019</u>	Not Applicable
<b>KONE, Inc.</b> Certificate of Responsibility # <u>01549-SC</u> 5% Bid Security: <u>Not provided</u> Addenda Received: (1X )	<u>\$ 1,101,126.00</u> CR Expires: <u>07/10/2018</u>	Not Applicable

I certify that this is a correct tabulation of all bids received for this Project on the date stated above. (Having checked the Contractor's name and certificate number with the Contractor's Board at [www.msboe.state.ms.us](http://www.msboe.state.ms.us)).

  
(Authorized Signature)

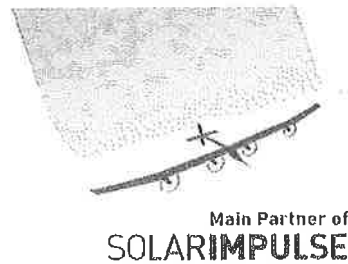
3/19/2018  
(Date)

# 9600 INTRUSS COMPLETED UNITS

PROJECT NAME	LOCATION	UNITS	UNIT TYPE	COMPLETION DATE
One Houston Center	Houston	1	Westinghouse Modular	Completed 7/3/13
		1	Westinghouse Modular	Completed 7/3/13
		1	Westinghouse Modular	Completed 7/3/13
		1	Westinghouse Modular	Completed 12/30/13
		1	Westinghouse Modular	Completed 12/30/13
		1	Westinghouse Modular	Completed 12/30/13
		1	Westinghouse Modular	Completed 12/30/13
		1	Westinghouse Modular	Completed 9/16/13
		1	Westinghouse Modular	Completed 9/16/13
PNC Indianapolis	Indianapolis	1	Westinghouse Modular	Completed 4/1/15
		1	Westinghouse Modular	Completed 4/1/15
Macy's Baldwin Hills	Los Angeles	1	Otis O	Completed 11/06/14
Macy's Baldwin Hills		1	Otis O	Completed 5/12/16
Austin Convention Center	Austin	1	Montgomery HR	Completed 11/2/15
Austin Convention Center		1	Montgomery HR	Completed 11/2/15
Austin Convention Center		1	Montgomery HR	Started Date 12/1/15
Austin Convention Center		1	Montgomery HR	Completed 2/29/16
Indianapolis Convention Ctr.	Indianapolis	1		Completed 11/25/15
		1	Haughton ED	Completed 11/25/15
875 3rd Avenue	New York	1	Westinghouse Modular	Completed 2/1/16
		1	Westinghouse Modular	Completed 2/1/16
		1	Westinghouse Modular	Completed 7/1/16
		1	Westinghouse Modular	Completed 7/1/16
TJ Max Brooklyn	New York	1	Kone E5000	Completed 7/14/16
		1	Kone E5000	Completed 7/14/16
San Francisco SFMTA	San Francisco			

PROJECT NAME	LOCATION	UNITS	UNIT TYPE	COMPLETION DATE
Castro 4 (South Outdoor)		1	Westinghouse	Completed 4/22/16
Hallidie 2 (South Outdoor)		1	Otis OH	Completed 10/31/16
Hallidie 1 (North Outdoor)		1	Otis OH	Completed 10/31/16
Castro 3 (North Outdoor)		1	Westinghouse	Completed 10/28/16
Powell 1 (East Indoor Unit) W48NT		1	Westinghouse	Completed 3/27/17
Castro 2 (South Indoor Unit)		1	Westinghouse	Completed 3/27/17
Powell 2 (West Unit)		1	Westinghouse	Completed 8/28/17
Church 1 (Outdoor Unit)		1	Montgomery HR	Completed 10/27/17
DSW, Boston	Boston	1	O&K RTK-KBS	Completed 8/8/16
		1	O&K RTK-KBS	Completed 8/8/16
		1	O&K RTK-KBS	Completed 10/30/16
		1	O&K RTK-KBS	Completed 11/10/16
Wells Fargo, Charlotte	Charlotte	1	Hitachi 1200 V-N	Completed 5/30/16
		1	Hitachi 1200 V-N	Completed 5/30/16
Worldwide Plaza	New York	1	Westinghouse Modular	Completed 10/31/16
		1	Westinghouse Modular	Completed 10/31/16
		1	Westinghouse Modular	Completed 2/1/17
		1	Westinghouse Modular	Completed 2/1/17
Caesar Palace	Las Vegas	1	Kone HR	Completed 3/23/17
		1	Kone HR	Completed 6/9/17
		1	Kone HR	Completed 6/9/17
		1	Kone HR	Completed 6/9/17
		1	Kone HR	Completed 6/14/17
		1	Kone HR	Completed 8/31/17
		1	Kone HR	Completed 8/31/17
		1	Kone HR	Completed 9/15/17

PROJECT NAME	LOCATION	UNITS	UNIT TYPE	COMPLETION DATE
Dick's Sporting Goods	Los Angeles	1	Otis RB	Completed 4/7/17
		1	Otis RB	Completed 4/7/17
NFTA Buffalo	Buffalo			
Delavan 4 Buffalo		1	Westinghouse Modular	Completed 5/17/17
Delavan 3 Buffalo		1	Westinghouse Modular	Completed 10/13/17
DFS Hawaii	Honolulu	1	Kone E5000	Completed 5/19/17
KONE E5000		1	Kone E5000	Completed 5/19/17
		1	Kone E5000	Completed 9/6/17
		1	Kone E5000	Completed 9/7/17
		1	Kone E5000	Completed 12/21/17
		1	Kone E5000	Completed 12/21/17
Pacific Financial Center	Los Angeles	1	Westinghouse N	Completed 9/28/17
		1	Westinghouse N	Completed 9/28/17
Northrop Grumman	Baltimore	1	Otis	Completed 10/17/17
		1	Otis	Completed 10/18/17
Austin Convention Center Atrium	Austin	1	Schindler	Completed 10/16/16
Austin Convention Center Atrium		1		Completed 5/1/17
Austin Convention Center Atrium		1		Completed 8/16/17
Century City Shops	Los Angeles	1	Schindler SWU	Completed 4/7/17
		1		Completed 4/7/17
		1		Completed 5/22/17
		1		Completed 5/22/17



## VICKSBURG CONVENTION CENTER

### **InTruss Moderization Team:**

Scott Hall – Escalator Mod Specialist (Lead Mechanic), Las Vegas, NV

Rich Lefebvre – Mechanic-In-Charge, New Orleans, LA

Walter Gifford – Apprentice 4, New Orleans, LA

Scott Hall is one of several Mod Specialist that travels to project and oversee the installation and works with the local crews for the installation.

### **Hydraulic Moderization Team:**

Wayne Beard – Mechanic-In-Charge, Jackson, MS.

Joshua Lusick – Apprentice 4 – New Orleans, LA

### **COMPLETED MOD PROJECTS:**

1. 4021 Lafayette Plaza, Lafayette, La – 1 Otis unit – completed 6/15/16
2. Courtyard by Marriott, Baton Rouge, La – 2 Dover units – completed 12/15/17
3. Greenbery Bldg., Gretna, LA – 1 Dover unit – Completed 12/22/17



Gene Crager <gcrager@cdfl.com>

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## Fwd: InTruss Customer References for the Vicksburg Convention Center

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Richard Garrison <richard.garrison@schindler.com>  
To: "gcrager@cdfl.com" <gcrager@cdfl.com>

Wed, Mar 21, 2018 at 2:26 PM

Gene,

Here's references for the escalator Mod along with two letters from customers.

I'm still working on the hydro mod references which hopefully will not be a problem, hydro mod are very common work.

Thanks Richard

Richard Garrison  
Senior Sales Rep Modernization  
Phone 601-923-3344  
Mobile 601-238-5834  
Fax 601-923-3371  
[richard.garrison@us.schindler.com](mailto:richard.garrison@us.schindler.com)  
Schindler Elevator Corporation  
5251 Greenway Drive  
Jackson, MS 39204

Begin forwarded message:

**From:** "Dale Brodbeck" <[dale.brodbeck@schindler.com](mailto:dale.brodbeck@schindler.com)>  
**To:** "Richard Garrison" <[richard.garrison@schindler.com](mailto:richard.garrison@schindler.com)>  
**Cc:** "Kirk Offerman" <[kirk.von.offerman@schindler.com](mailto:kirk.von.offerman@schindler.com)>  
**Subject:** InTruss Customer References for the Vicksburg Convention Center

Rich,

Per your request, customer references:

### 1. World Wide Plaza – New York, NY

Nuala Gioia, Director of Facilities and Purchasing Cravath, Swaine & Moore LLP  
212-474-1001, [NGioia@cravath.com](mailto:NGioia@cravath.com)

### 2. Austin Convention Center – Austin TX

Curtis Jolly, Convention Operations Manager  
512-404-4300, [curtis.jolly@austintexas.gov](mailto:curtis.jolly@austintexas.gov)

### 3. Indiana Convention Center & Lucas Oil Stadium, Indianapolis, IN

Tom Boyle, Director of Operations



317-262-3421, [tom.boyle@icclos.com](mailto:tom.boyle@icclos.com)

**4. MUNI – San Francisco, CA**

Scott Broder, Manager – SFMTA Mechanical Systems

415-509-6929, [scott.broder@sfmta.com](mailto:scott.broder@sfmta.com)

**5. Kellogg's – Battle Creek, MI**

Mark Wilson – Capital Projects Manager

269-961-9174. [mark.wilson2@kellogg.com](mailto:mark.wilson2@kellogg.com)

**6. Caesars Entertainment, Las Vegas, NV**

Andrew Kesler, VP Strategic Sourcing

702-777-2341

I also attached two customer letters validating our performance with the escalator modernizations we completed in their buildings. Let me know if you need any additional information.

---

Dale Brodbeck | Product Line Sales Manager MOD  
Phone 301-419-7761 | Mobile 301-787-9982 | Fax 301-419-7769  
[dale.brodbeck@us.schindler.com](mailto:dale.brodbeck@us.schindler.com)

Schindler Elevator Corporation | InTruss Modernization  
6800 Muirkirk Road | Beltsville, MD 20705-1227, USA  
[www.us.schindler.com](http://www.us.schindler.com)

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Please consider your environment.

Schindler supports sustainable urban development with  
safe, reliable and ecologically sound mobility solutions.

\*\*\*\*\*

Notice: The information contained in this message is intended only for use of the individual(s) named above and may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you are not the intended recipient of this message you are hereby notified that you must not use, disseminate, copy it in any form or take any action in reliance of it. If you have received this message in error please delete it and any copies of it and notify the sender immediately.

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**4 attachments**



**Nuala Giola - Cravath.pdf**

162K



**ATT00001.htm**

1K

4-7-17

Dear Schindler team,

We sincerely appreciate the incredible job you did on the initial Caesars Palace convention escalator modernization. Each of you played a valuable and important role in supporting us, for which we are very appreciative. You surpassed our expectations in every regard crushing the initial schedule and executing flawlessly while still providing gracious customer service. Additionally the level of detail and accountability you demonstrated on this project, and the way you conduct business as a whole here in Las Vegas is greatly appreciated – HUGE shout out to you Val Garfield for always pushing your team to perform and exemplify the customer care you have become famous for. We have, and will continue to recommend your service to other companies and contacts. Our team could not be more satisfied with your service, and we look forward to continuing this relationship.

Here is the response from the President of Caesars Palace upon learning the escalator was complete prior to the most important convention Caesars Palace hosts each year:

*"Great news! Congratulations all and thank you. This is nothing short of a business miracle"*  
Gary Selesner  
President  
Caesars Palace

*Thank you all again.*

Warm regards,

Andrew Kesler



Andrew Kesler | VP Strategic Sourcing  
O 702-777-2341 | F 702-892-2758  
3700 West Flamingo Road | Las Vegas, NV  
[www.caesars.com](http://www.caesars.com)

2-2-17

Good Morning:

Congratulations! Yesterday the West Lobby passed the NYC DOB Test! Today is the 145th day of this project which started on September 10th. The super technicians hard work and dedication throughout this project was amazing. Thank you for all of your efforts and support with making "Mission Possible" a huge success.

**Nuala V. Gioia** | Director of Facilities and Purchasing  
Cravath, Swaine & Moore LLP  
(212) 474-1001



Gene Crager <gcrager@cdbl.com>

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## Fwd: InTruss Customer References for the Vicksburg Convention Center

---

**Richard Garrison** <richard.garrison@schindler.com>  
To: "gcrager@cdbl.com" <gcrager@cdbl.com>

Fri, Mar 23, 2018 at 8:58 AM

Gene,

Here's two names for the Hydro Mod installation.

4021 Lafayette Plaza – Issac Thomas – 337-319-4245

Courtyard by Marriott – Kelly Palmere – 225-924-6400

Let me know if you have questions or require additional information.

Thanks Richard

---

**From:** Richard Garrison  
**Sent:** Wednesday, March 21, 2018 2:26 PM  
**To:** [gcrager@cdbl.com](mailto:gcrager@cdbl.com)  
**Subject:** Fwd: InTruss Customer References for the Vicksburg Convention Center

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### 4 attachments



**Nuala Gioia - Cravath.pdf**  
162K



**ATT00001.htm**  
1K



**Andrew Kesler - Caesars.pdf**  
426K



**ATT00002.htm**  
1K



## Schindler InTruss Modernization


A complete escalator upgrade

Schindler Modernization



**Schindler**

# Schindler InTruss is an innovative solution for escalator upgrade

A woman in a red dress is riding a modern Schindler InTruss escalator. The escalator has a sleek, contemporary design with dark handrails and a light-colored step surface. The background shows a modern building interior with large windows and a high ceiling.

» Minimizes building disruption  
Retention of existing truss allows the building to continue normal operations during installation.

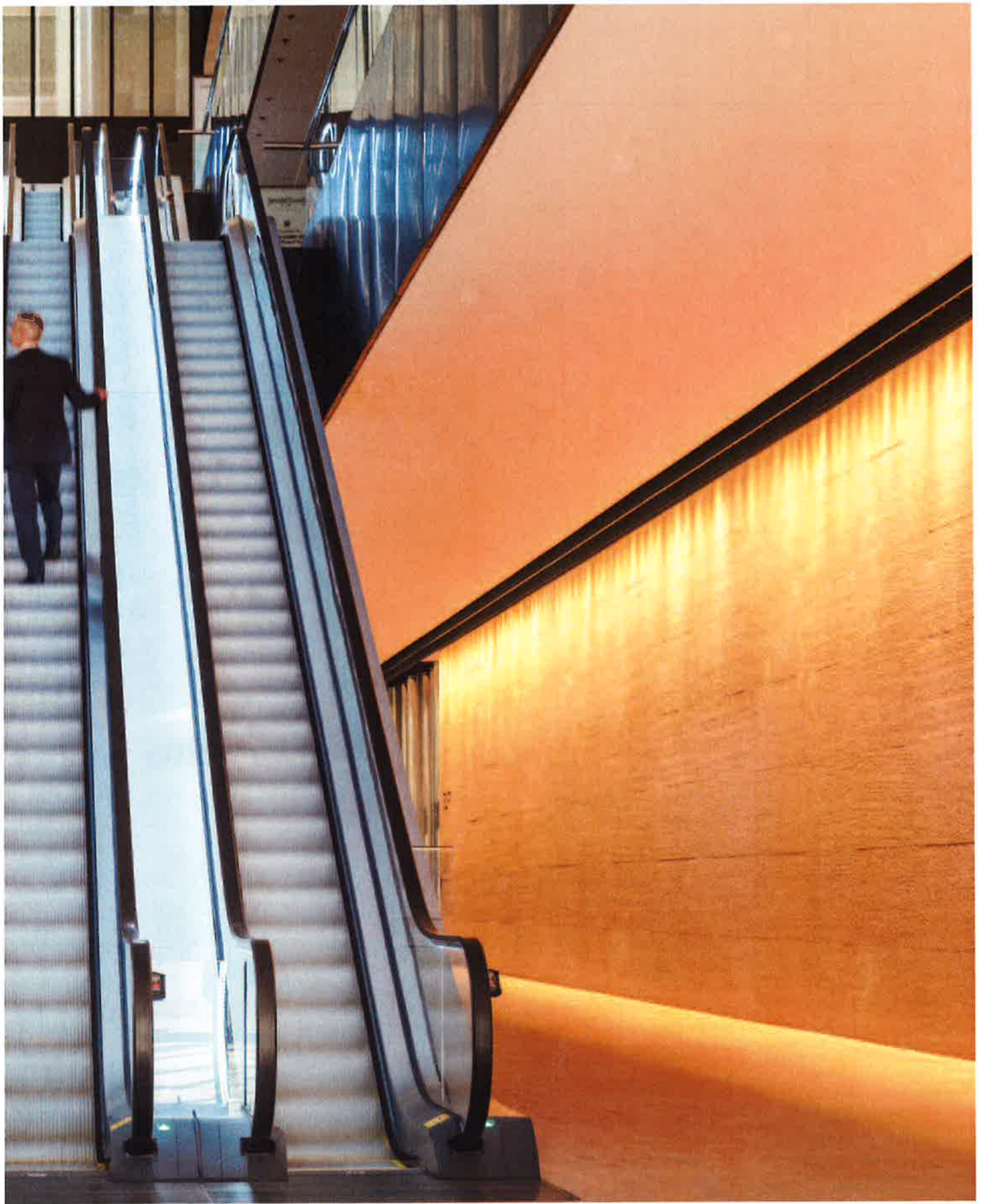
» Reduces tenant inconvenience  
Shortened lead and completion time returns escalator to normal service faster.

» Enhances escalator performance  
New components and technology improve passenger comfort and safety as well as equipment reliability.

» Improves aesthetics  
Contemporary design and stylish materials create a bold, fresh look.

» Increases energy efficiency  
Technology upgrades significantly lower energy consumption.





# Fully modernized escalators without the hassle

Using your existing truss, the Schindler InTruss escalator modernization can make your old, outdated escalators comparable to a new Schindler 9300 AE, the industry's premier commercial escalator.

## **Modernized vs. new**

In an occupied building, it's not always feasible to remove old escalators and install new ones. It can be more expensive if removing the old truss requires extensive general contracting work. And, while no two projects are exactly the same, an in-truss modernization can sometimes be completed in less time than installing a new escalator in the same building.

## **When modernizing is the best choice**

For commercial escalators with a vertical rise of up to 40 feet, Schindler offers a systematic modernization that can turn any leading brand of escalator into a fully modernized Schindler unit. The Schindler InTruss escalator modernization delivers performance, safety, reliability and styling that is comparable to our industry-leading Schindler 9300 AE escalator.

## **Let Schindler show you the way**

As a global leader in escalators, you can rely on our expertise to help you determine the best course for upgrading yours. Our experienced team will help you weigh your options and provide the best solution for transforming your old escalators into new, state-of-the-art mobility systems.



The Schindler team is ready to help make your escalator upgrade a smooth and simple process. We'll be with you from initial planning to new system startup.



**An upgrade is advisable when your escalators:**

- Are frequently not working requiring service
- Incur higher than normal maintenance costs
- No longer meet current safety standards
- Deliver a noisy, rough ride
- Show visible signs of wear
- Reflect an outdated appearance.

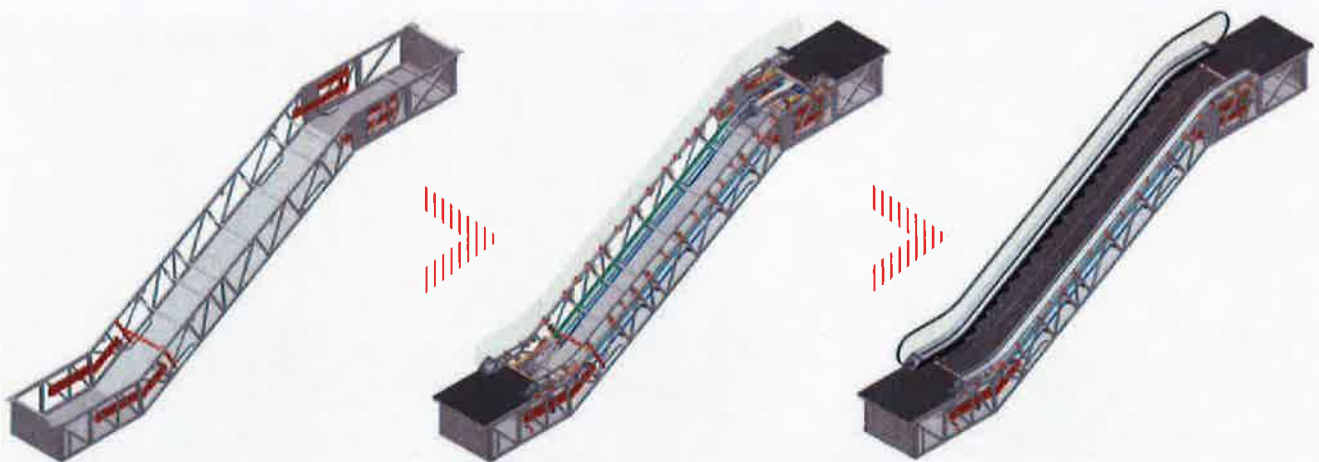
**The benefits of a Schindler InTruss escalator modernization include:**

- Getting a new escalator within your existing equipment footprint
- Improving performance, reliability and aesthetics
- Achieving full compliance with current safety codes and regulations
- Extending service life with all new components.

**Advantages include:**

- No structural changes to the building
- Building remains in normal operation during construction
- All new components are manufactured in our award-winning escalator plant
- Orders are processed and shipped quickly
- All parts meet current safety codes
- The modernization is performed by a team of specially trained technicians
- All components are welded directly to the truss
- Technicians adhere to strict safety procedures to help ensure their safety and the safety of anyone in the vicinity of their work.

## Schindler InTruss Modernization Process



1. The existing truss is stripped of all old components and cleaned. Old x-members are replaced with new ones.

2. The old truss is repainted and all new components are securely fastened to the new x-members.

3. Once completed, your stylish new Schindler escalator is ready for years of smooth, reliable and safe operation.

# Minimizes building disruption

For populated buildings in daily use, modernizing escalators offers distinct advantages.

## **No structural changes means normal operation**

Leaving the existing escalator truss in place eliminates the need to physically detach and remove it from the building. That process can be intrusive, noisy and messy. In most commercial or retail environments, it is highly desirable to avoid this kind of imposition on the building's tenants and visitors. Schindler's InTruss modernization can be a far more tenant-friendly solution. The escalator is systematically dismantled and rebuilt in place. All work stays confined to a designated work area.

## **A safe work environment**

Careful steps are taken to isolate the work area from the normal flow of building traffic to help ensure everyone's safety during the modernization. It also gives installers the freedom to manage their workflow and adhere to the most efficient work schedule.



# Reduces tenant inconvenience

Schindler's InTruss modernization is not only less disruptive; it may return your escalators to service sooner.

## Plan for success

Thanks to a step-by-step installation process that doesn't require significant structural changes, your building can remain open during the entire modernization process. Neither you nor your tenants need to incur any expenses as a result of lost business.

In addition, the Schindler InTruss modernization process often achieves a shorter completion time. Careful planning and a structured approach help accelerate component ordering and delivery. This, combined with thoroughly trained and experienced technicians, helps to expedite a smooth and uninterrupted installation.

## Value added feature

Schindler remote monitoring provides around-the-clock monitoring of the escalator's operational status. In the event of system interruption, your Schindler technician will be able to quickly identify the precise source of the problem and return the escalator to service. Less downtime will mean fewer tenant complaints.



The Schindler InTruss escalator modernization incorporates the latest technological advances, turning your old escalators into better than new condition. Our systematic approach allows this to happen while your building remains open. Normal activities and business can be conducted throughout the entire process.

# Enhances escalator performance

One look and passengers will see your escalator's visual transformation. One ride and they'll feel the improvements in quality. You'll enjoy knowing they are also safer.



Escalators are in every sense of the word a "moving" experience. The Schindler InTruss modernization improves everything a rider sees, hears and touches. Your new escalators will be quieter, smoother, safer and more reliable.

## Looks and feels like new

Everything that riders see and touch is new including:

- Steps
- Handrails
- Balustrades
- Skirts, and more.

They will also notice your modernized escalators have a much smoother, quieter ride. This is made possible by new components like:

- Rollers
- Full-mesh gearbox
- High-performance drive
- Adjustable comfort start feature.

## As safe as new

You can relax knowing your modernized escalator meets the latest safety standards and incorporates all the safety features found on the Schindler 9300 AE escalator. They include:

- Controlled stop braking system
- Step-to-skirt gap guidance system
- Continuous roller monitors
- Lower-friction handrail guidance system
- Foot deflector brushes on skirts
- Yellow safety combfingers at step entrance and exit
- Step demarcation lighting
- Signage reminds passengers of safe-riding rules.

▶ The Schindler InTruss escalator modernization will bring your escalators into full compliance with the safety and safeguards required on new escalators by ASME A 17.1.



# Improves aesthetics

A stylish modernized escalator creates a striking visual impact in any building.

## Favorable first impression

A full modernization can transform the look of your old and worn escalator. With the Schindler InTruss escalator modernization you can even add new optional upgrades that can take your escalators to the highest levels of contemporary styling.

- Attractive, robust deckings in a choice of finishes
- Optional lighting for visual impact and safety
- Color choices for steps, deckings, skirts, newel end caps and handrails
- Colorful powder-coated balustrades are also available.

Using standard variants and options available in the Schindler InTruss modernization, you can completely transform the dated look of your older escalators.

Optional LED lighting can add both sophistication and safety to modernized escalators.



# Increases energy efficiency

In addition to meeting your highest expectations for performance, safety, and reliability, your modernized escalators will help lower your operating costs.







## New technology means savings

There are three ways to reduce power consumption of escalators and Schindler employs all three:

- **More efficient drive systems.** An optimized, compact drive system is perfectly matched to the demands of the rise to reduce power consumption by up to 30 percent.
- **Components requiring less power.** Components like our single piece aluminum steps are designed to be

strong yet lightweight. Aluminum steps achieve a total weight reduction of 40 percent compared to steel steps so they require less energy to move them.

- **Intelligent power management software.** Schindler's ECOLINE power management packages can reduce power consumption by up to 36 percent compared to conventional operating systems.

ECOLINE Power Management Packages*			
ECOLINE	ECO	ECO Plus	ECO Premium
			
Energy Consumption	<b>–3,001 kWh</b> <b>–25%</b> 	<b>–4,273 kWh</b> <b>–36%</b> 	<b>–3,888 kWh</b> <b>–32%</b> 
Operation Mode	Continuous operation with ECO power feature: – Motor power adjusts based on passenger load	Stop-and-go operation with ECO power feature: – Escalator stops when no passengers are on it	Slow-speed operation with ECO power feature: – Escalator slows down when no passengers are on it
Application	For continuous medium to heavy passenger traffic	Intermittent flow including periods of zero passenger flow Non-commercial applications	Intermittent flow including periods of zero passenger flow Commercial applications
Benefit	<ul style="list-style-type: none"> <li>– Maintains passenger flow</li> <li>– Power consumption reduced by up to 25%</li> <li>– Reduced power plant CO2 emissions</li> <li>– Short amortization period</li> </ul>	<ul style="list-style-type: none"> <li>– Power consumption reduced by up to 36%</li> <li>– Reduced power plant CO2 emissions</li> <li>– Increased escalator lifespan</li> </ul>	<ul style="list-style-type: none"> <li>– Passenger flow maintained, as escalator is in motion when passengers are approaching it</li> <li>– Power consumption reduced by up to 32%</li> <li>– Reduced power plant CO2 emissions</li> <li>– Reduced wear &amp; tear on components</li> </ul>
CO <sub>2</sub> Footprint	Minus 4500 kg per year	Minus 6410 kg per year	Minus 5830 kg per year
Amortization	3 months	16 months	24 months

### \*Notes

- 1.) Values based on theoretical calculations for one Schindler 9300AE-10 escalator. Average value for up and down operated escalator pair: 4.5 m. Step width: 1000 mm. Speed: 0.5 m/s. Load profile: 11 hours per day, 365 days per year. 2.5 hrs – 0%. 7 hrs – 25%. 1 hr – 50%. 0.5 hrs – 75%. 0 hrs – 100%.
- 2.) Standard Operation Mode: 11,967kWh, 100% continuous running.
- 3.) ECOLINE packages are available where permissible by code. Please contact your Schindler representative for availability in your area.

# Committed to performance, sustainability and safety

## Redefining reliability

Schindler is redefining reliability to reduce service calls and maximize your equipment availability. Using structured maintenance routines, real-time dynamic scheduling, and 24/7 remote monitoring on all brands, our highly trained technicians provide the service you need when you need it — because life is a moving experience.

## Sustainability and safety

At Schindler, we are continually working to develop products that are energy-efficient and highly recyclable. We are also committed to enhancing customer and employee safety. We see the protection of people and the environment as essential components of our corporate responsibility and our position as an industry leader.

For further information, including location of the Schindler office nearest you, please contact:

U.S. Headquarters. Morristown, New Jersey  
Tel. 973.397.6500  
**[www.us.schindler.com](http://www.us.schindler.com)**

Canada Headquarters. Toronto, Ontario  
Tel. 416.332.8280  
**[www.ca.schindler.com](http://www.ca.schindler.com)**



Schindler is a member organization of the U.S. Green Building Council.



Schindler has received renewal to ISO 9001 and ISO 14001 certificates.



Schindler prints with vegetable-based ink on paper containing post-consumer waste fiber.





Performance is not a question of consumption.

The Schindler E3 approach to escalators and moving walks:

- Energy
- Efficiency
- Ecology





# E<sup>3</sup> – One objective and three ways to increase energy efficiency

## Responsibility and sustainability

At Schindler, we design products that are as energy-efficient as possible and are highly recyclable. Reduced power consumption means lower utility bills and less environmental impact associated with power plant greenhouse gas emissions. We are an ecologically aware company oriented to helping ensure a better, greener future.



## Lowering the impact

Around 85% of the greenhouse gas emissions associated with the life cycle of an escalator are emitted during the escalator's lifetime (the power plant that supplies electricity for the escalator's drive unit, control unit and lighting produces greenhouse gases). Using efficient drive systems, intelligent power management systems and low-power components helps minimize power consumption and thus greenhouse gas emissions.

## Sustainable materials

We place particular emphasis on using environmentally friendly materials in the manufacture of our escalators. The components and materials used in our escalators do not contain any hazardous materials. Schindler escalators are mainly made of ferrous metals (steel and cast iron) and nonferrous metals (mainly aluminum and copper). Once an escalator reaches the end of its service life, about 90% of these metals can be recycled.

## Use the power when its needed

There are three ways to reduce the power consumption of escalators and moving walks: Use more efficient drive systems, use components that require less power and use intelligent power management software. Schindler employs all three of these methods to reduce power consumption.



E1



E2



E3



### E<sup>3</sup> – The energy-saving approach

From production, to using efficient technology and smarter operating modes in daily operation, Schindler's E3 is a holistic approach that saves energy and lowers environmental impact.

### E1 – Efficient drive system

Our escalator drive system is efficient at maximizing energy use. It lowers consumption and costs, and delivers improved performance.

### E2 – ECOLINE power management

ECOLINE options are "energy smart". They can reduce overall energy use by up to 36% during operation.

### E3 – Ecological design

Schindler can help make your building greener by design. Our products use lighter components so less energy is needed to move them. They are more efficient and don't waste electricity.



# E1 – Total drive efficiency within all details



<sup>E1</sup> While some other manufacturers address the challenge of gearbox efficiency only, Schindler focuses on total drive efficiency, namely efficiency in the gearbox as well as the motor.

## **Optimized environmental performance**

With Schindler optimized standard motors and worm gears with Cavex technology, you'll be able to lower your utility bills. And by consuming less power, you'll also reduce the environmental impact (greenhouse gas emissions) of the power plants which generate your power.

## **Maintenance by Schindler**

Choose Schindler to service and maintain your escalator, and you can be confident it will stay in excellent working order.



Standard escalators on the market:

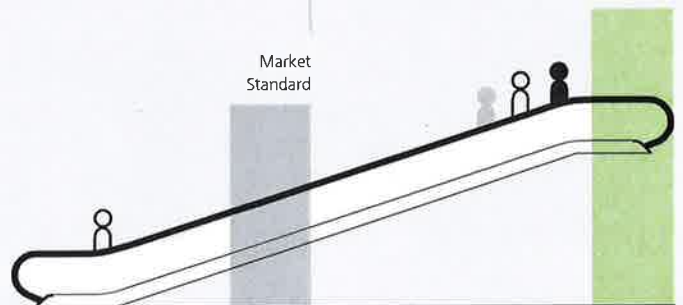
68% efficiency

Schindler Standard:

Optimized standard motors and worm gears with Cavex technology, for 76% total drive efficiency

**+11%**

Market  
Standard



# E2 – Smart power management with clever eco-options



E2

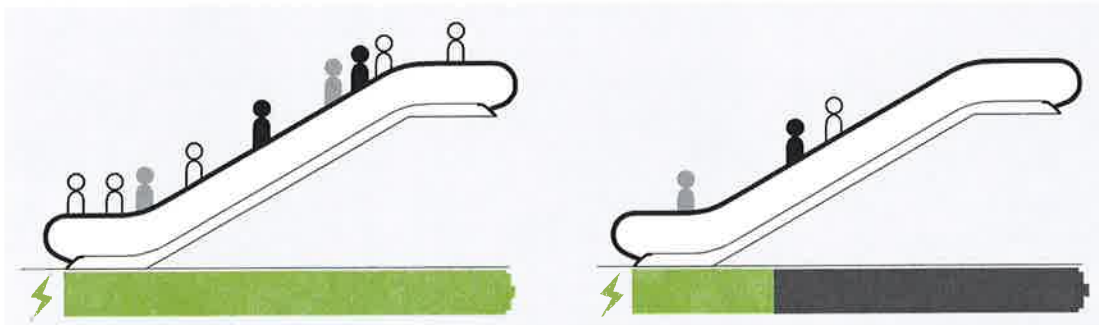
In commercial applications such as shopping malls, periods with low or no passenger traffic are common.

## **MICONIC F 4 power management system comes as standard**

Schindler has been using microprocessor-controlled power management systems for over 20 years, significantly longer than some other manufacturers. Our MICONIC F controller is now in its fourth generation and comes as a standard feature.







## **ECOLINE power management packages, including customizable operating mode**

Schindler's goal is to optimize energy efficiency without compromising passenger flow. Depending on the power management package, power consumption can be reduced by up to 36% relative to continuous operation.



Remarkable power saving due to Schindler's smart power management

## E2 – Premium in efficiency for low cost in operation

ECOLINE Power Management Packages*			
ECOLINE	ECO	ECO Plus	ECO Premium
			
<b>Energy Consumption</b>	<b>-3,001 kWh</b> <b>-25%</b> 	<b>-4,273 kWh</b> <b>-36%</b> 	<b>-3,888 kWh</b> <b>-32%</b> 
<b>Operation Mode</b>	Continuous operation with ECO power feature: Motor power adjusts based on passenger load	Stop-and-go operation with ECO power feature: Escalator stops when no passengers are on it	Slow-speed operation with ECO power feature: Escalator slows down when no passengers are on it
<b>Application</b>	For continuous medium to heavy passenger traffic	Intermittent flow including periods of zero passenger flow  Non-commercial applications	Intermittent flow including periods of zero passenger flow  Commercial applications
<b>Benefit</b>	<ul style="list-style-type: none"> <li>– Maintains passenger flow</li> <li>– Power consumption reduced by up to 25%</li> <li>– Reduced power plant CO<sub>2</sub> emissions</li> <li>– Short amortization period</li> </ul>	<ul style="list-style-type: none"> <li>– Power consumption reduced by up to 36%</li> <li>– Reduced power plant CO<sub>2</sub> emissions</li> <li>– Increased escalator lifespan</li> </ul>	<ul style="list-style-type: none"> <li>– Passenger flow maintained, as escalator is in motion when passengers are approaching it</li> <li>– Power consumption reduced by up to 32%</li> <li>– Reduced power plant CO<sub>2</sub> emissions</li> <li>– Reduced wear &amp; tear on components</li> </ul>
<b>CO<sub>2</sub> Footprint</b>	Minus 4500 kg per year	Minus 6410 kg per year	Minus 5830 kg per year
<b>Amortization</b>	3 months	16 months	24 months

**\*Notes**

- 1.) Values based on theoretical calculations for one Schindler 9300AE-10 escalator. Average value for up and down operated escalator pair: 4.5 m. Step width: 1000 mm. Speed: 0.5 m/s. Load profile: 11 hours per day, 365 days per year, 2.5 hrs – 0%, 7 hrs – 25%, 1 hr – 50%, 0.5 hrs – 75%, 0 hrs – 100%.
- 2.) Standard Operation Mode: 11,967kWh, 100% continuous running.
- 3.) ECOLINE packages are available where permissible by code. Please contact your Schindler representative for availability in your area.

# E3 – Low power components for increased environmental performance



## Schindler aluminum steps

At 10.5 kg, Schindler's aluminum steps are the lightest in the industry. Using aluminum steps results in a total weight reduction of 40% relative to steel steps, and an improvement of 5% in total escalator efficiency.

Aluminum steps have a longer lifetime than steel steps and a lower CO<sub>2</sub> footprint.

They also have a superior safety record, 2 times above the less economical sheet metal compound steps.



## Schindler LED lighting

Using LED lights reduces power consumption by up to 80% relative to conventional light sources. LED lights have up to 100% longer lives than conventional alternatives.

Schindler offers attractive LED design options for balustrade, skirt, comb, step and truss lighting.



# When vision meets discipline Schindler partners with Solar Impulse



Schindler has delivered many industry benchmarks in innovation, including a state of the art 2-channel safety circuit, short-pallet moving walks, and the very latest development, a comprehensive energy-efficiency concept for escalators and moving walks.

Schindler is supporting the Solar Impulse, a project to fly a zero-fuel airplane around the world propelled by solar energy only.

By embedding its engineers in this challenge, Schindler remains at the cutting edge of technology for clean and sustainable mobility.

**[www.solarimpulse.com](http://www.solarimpulse.com)**

Read more on Schindler's sustainability efforts:

**[www.schindler.com](http://www.schindler.com)**

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Schindler has received renewal to ISO 14001:2004 and ISO 9001:2008 certificates.



Schindler is a member organization of the U.S. Green Building Council.



Schindler prints with vegetable-based ink on paper containing post-consumer waste fiber.