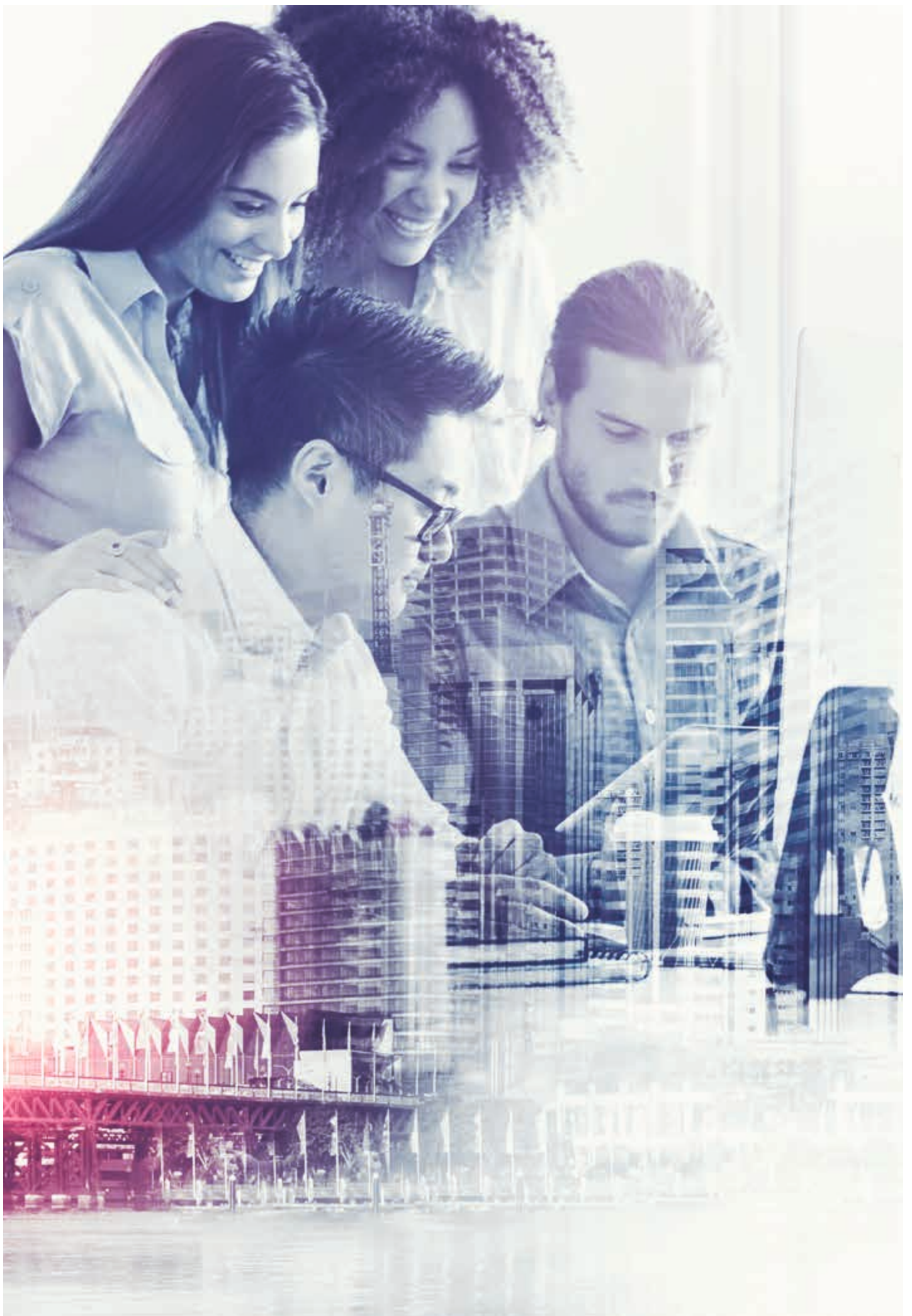


High-rise solutions – Install.
Pioneering new building methods.



Schindler



Vision.

For your jobsite.

Schindler's high-rise track record is proof of our experience. You can count on our global network of high-rise experts which offers you – throughout the whole life-cycle of your building – an unprecedented level of service and quality. Our solutions are specified to suit every stage of the building:

Design

Bringing form and function to life.

Install

Pioneering new building methods.

Operate

Optimizing the stream of people and goods.

Maintain

Revolutionizing performance with intelligent engineering.

This refreshing perspective of 'Install' leads to a well-founded and carefully considered vision for your building:

- Safe, efficient and independent installation methodology
- All time transportation during the construction phase with Schindler CLIMB Lift
- Years of experience and know-how in large project management, supported by the Schindler Top Range Excellence (TREX) program
- Hassle-free jobsite work process

Top Range Excellence TREX.

Makes your vision come true.

In the elevator and escalator industry, the delivery comprises not only the product, but also the onsite assembly, installation and handover of the product to the customer.

TREX is Schindler's project management system specifically designed to guide our large projects from tender to handover.

Large projects are complex, involving proper execution of countless tasks by people in many different roles all around the world. Top Range Excellence helps to ensure alignment, regardless of whether you are a sales manager establishing a contract or a project manager running a large project. TREX is not the result of a top-down process but of a close analysis of our very best work. We have selected processes from our global operations, bringing together many of the best practices of a wide range of projects.

The unique large project management system TREX allows us to track your project phase by phase and give you a clear on schedule, costs and responsibilities.

With this system, we can assure that all work is done within a trackable framework, and all of this is moved in to the digital age with full access via web and phone portal at any time. TREX also contains a global Quality System which assures that every project will be executed according to the highest company standards.

TREX is structured into 5 main steps:

- A.** Tender
- B.** Award
- C.** Pre-Site
- D.** Site Execution
- E.** Handover

The embedding of INSTALL into TREX

Pre-Site / Site Execution / Handover



Step A:
Tender

This is where Schindler studies the tender information and prepares, based on simulation, the best possible solution for our customers.

Step B:
Award

After tender submission, this is where you choose Schindler as your preferred partner for your large project.

Step C:
Pre-Site

- Handover from sales to the project manager (PM)
- Initial site meeting (introduction of project manager to customer)
- Engineering review (safety management, project cost report, project plan, purchase order management, engineering review meeting checklist)
- Project financially secured
- Authority to start work (site pre-check, confirm labor availability, prepare site execution)

Step D:
Site Execution

- WIP (work in process) review meeting minutes
- On-going Quality Check (QC)
Fulfillment Checklist, to assure a SAIS first pass:
QC1: Guide rail alignment
QC2: Landing door alignment
QC3: System Check
- Variations tracking sheet
- Perceived Quality Check to assure a quality handover to maintenance department and customer
- Claim management
- SAIS (Schindler Acceptance Inspection Standard) Report
A successful SAIS acceptance inspection confirms, demonstrates and proves a safe elevator according Schindler's highest global safety standards and allows the elevator to be put into service from an internal point of view.

Step E:
Handover

- Handover to existing installation (EI) team and customer (temporary use of elevators, prepare for handover)
- Project closing (demobilization, customer satisfaction survey, post-job review)

Training and Certification.
Professional project management.

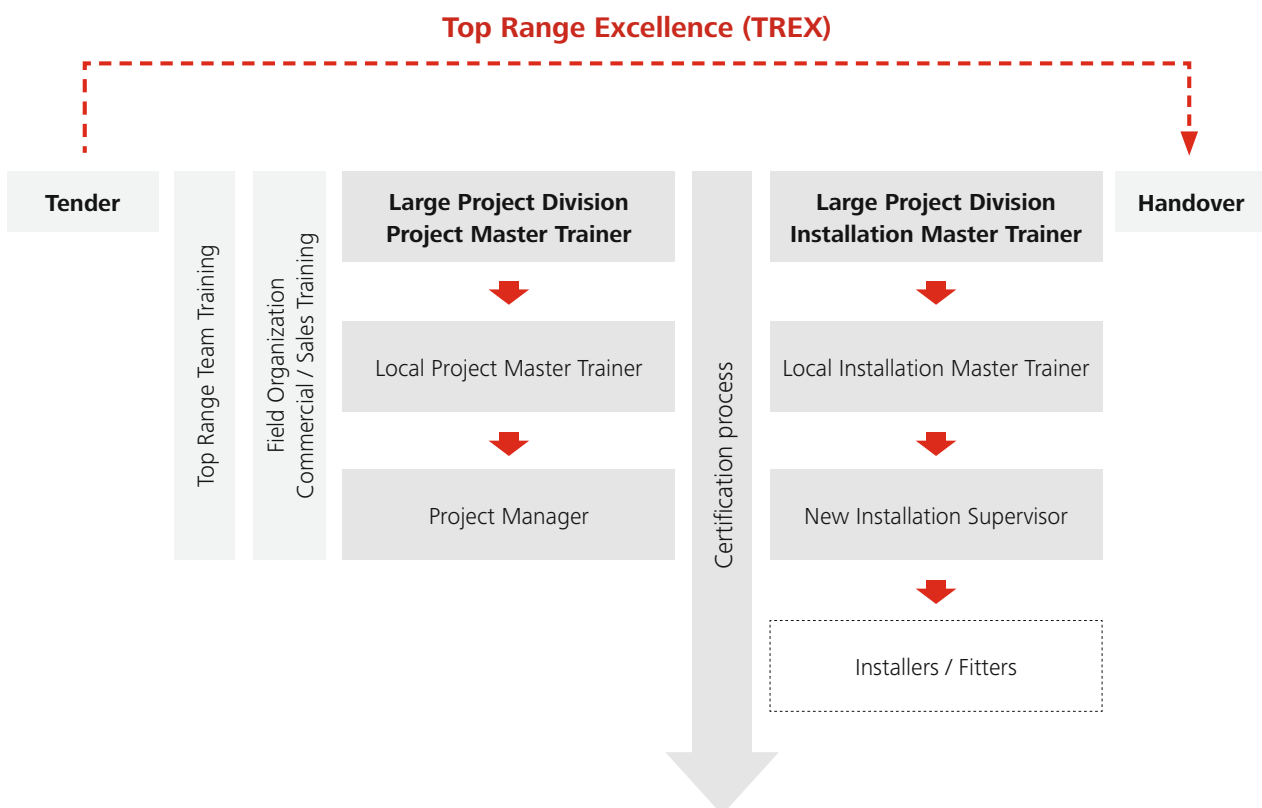
TREX training is designed to deliver all the necessary elements step by step to provide first-class service to the customer. The training is as innovative as the project management system itself.

Using Top Range Excellence, Schindler project managers can seamlessly take over ongoing projects, because they will find identical conditions and procedures regardless of the country and culture. This is important because we are globally active and it's imperative that Schindler applies the same professional approach everywhere in the world.

TREX training and certification focuses on having only well-trained and certified professionals on site.

The benefits:

- Master trainer (acting worldwide)
- Certified project manager and Schindler 7000 new installation supervisors
- Worldwide presence of specialized fulfillment teams
- Independent SAIS inspectors
- Training centers all over the world





Schindler SLIM.

The scaffold-less installation methodology.

Scaffold-less installation methodology

This method is the new globally used installation process. The method covers the complete application range of the new Schindler 7000. It provides a safe environment – with a safety standard never seen before in the industry – for our installation teams. This allows the installation to start with a very high degree of independence regarding the builder's readiness.

The installation methodology embedded into TREX, combined with enhanced installation-friendly components, enables fulfilment to execute the project with high efficiency. Up to 30% savings in installation time is the result.

The Scaffold-less Installation Methodology offers a flexible, safe, and tailor-made solution, assured to meet the project specification, allowing the customer to have the building ready for market as early as possible.



Crash deck

Overhead protection for a safe working area

GRIK top frame

Material hoist

For lifting material

Suspension beam (certified, safe)

Hoistway platform

Safe working-platform to install the top GRIK frame and material hoist. Enables Schindler to do staged installation.

Protective canopy

Hoistway entrance protection

Suspended platform

Triple safety protection and ergonomic working space. Comfortable for hoistway components installation (guide rail, landing door etc.).

Pit set and lower GRIK frame

GRIK (guide rail installation kit including line keepers) is our tool for precise hoistway plumbing, efficient and accurate guide rails (car and counterweight) installation.

The main benefits of the new installation methodology



Work safety

Thanks to the crash deck, the hoistway platform, the suspended platform (false car), the hoistway entrance protection, and more available space in the pit, there is a safe working environment for the installation teams.



High independence and flexibility

Schindler's installation methodology allows a very high degree of independence regarding the builder's readiness. As the installation is self contained, installation can begin as soon as we have the first section of shaft available.



Reusable material

Schindler is committed to continuous improvement of the environmental impact of its products and processes. So all installation material is pre-engineered, adjustable and reusable.



Adjustable for all dimensions

The scaffold-less installation methodology is adjustable for all hoistway dimensions and travel heights.



Precise guide rail and door alignment

A very efficient and precise alignment of guide rails and doors, using the GRIK tool (Guide Rail Installation Kit). This unique tool also allows accurate and correct installation and realignment of the guide rails first time.



Tailored solutions for individual site situations

Staged installations: Fast execution, since the installation kit rises with the construction of the building.

Topped out installation: Out of final machine room with optimized tool kit.

Schindler CLIMB Lift.

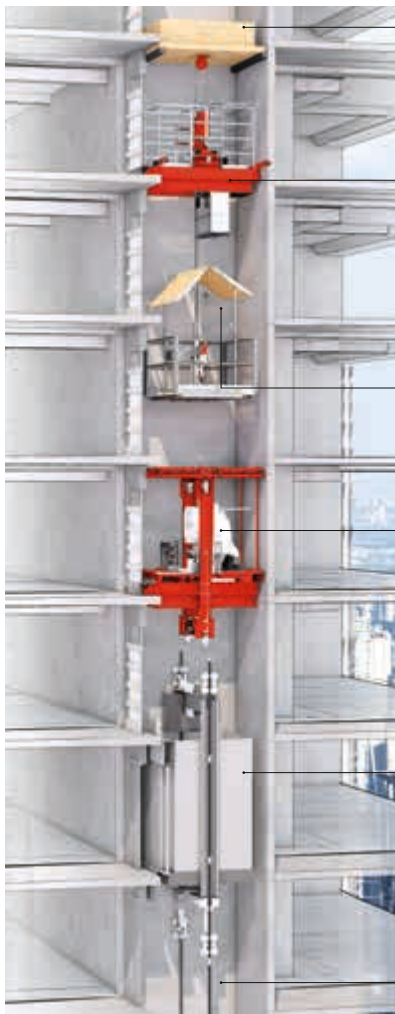
Efficient installation meets perfect operation.

Schindler CLIMB Lift

The Schindler CLIMB Lift is a certified self-climbing vertical transportation system which is used during the construction phase of the building. Directly installed in the final elevator hoistway, the Schindler CLIMB Lift allows the permanent machine room and permanent elevator cars to be operational in considerably less time, increasing productivity and site progress, allowing the building to be opened much sooner.

The Schindler CLIMB Lift is located within the core of the building, offering optimized site logistics for people and material transportation. The enhanced working environment allows 24/7 service and a better cost efficiency from the beginning.

Synchronized from construction work, CLIMB Lift has the additional advantage of using the permanent elevator components. The temporary protective cladding used inside the car during construction is easily removed thereby reducing final refurbishment time.



Waterproof crash deck

The waterproof crash deck provided by the main contractor protects the Schindler CLIMB Lift and people working underneath from falling objects.

Lifting platform

In self-climbing mode, the lifting platform provides independence from the tower crane. It hoists itself up using a dedicated suspension point provided at the crash deck.

Installation platform (optional)

Machine platform

The machine platform contains the elevator machine, the overspeed governor and the main controller. The platform is hoisted up either with the tower crane or with the optional lifting platform.

Elevator

Below the machine platform, the permanent elevator car is in operation, fitted with a temporary cladding.

Rope spools

The spare traction ropes are stored on spools in the elevator pit (not shown here).

The main benefits of Schindler CLIMB Lift



Work safety

The Schindler CLIMB Lift is as safe as a permanent elevator. It fulfills all the latest international elevator standards.



Earlier facade closing

The building facade can be closed much earlier than with traditional exterior hoists. The Schindler CLIMB Lift does not affect your specific building exterior or facade design as the transportation system is now located in the core of building.



Optimized site logistics

The Schindler CLIMB Lift can be operated up to 4 m/s, 4000 kg nominal load and 400 m travel height providing smooth vertical transportation. Since the Schindler CLIMB Lift is located at the center of the building, movement of people and materials is optimized and cost effective from the beginning.



Reduced waiting times

The Schindler CLIMB Lift allows faster transportation of material and people to the desired destination. This means the number of hours wasted in moving workers using the slower external temporary transportation hoists is reduced significantly.



Site progress

The Schindler CLIMB Lift moves in multiple stages up to the machine room. From the beginning of the installation, the permanent elevator and its equipment is fitted. The elevator installation progresses with the building construction and enables the elevator to be ready for normal operation in less time. With all these factors, Schindler CLIMB Lift optimizes the traffic throughout the building and therefore the site progresses much faster (earlier return on investment).



All-weather operation

Exposure to external weather conditions is reduced by vertical transportation in a dry and windproof hoistway centrally located at the core of the building.

Supply Chain Management.

From anonymous to prominent.

This new concept will introduce state-of-the-art processes and technology in the high-rise business. Besides the important factor of design, it is equally vital to master the processes with a high level of professionalism.

In a world where components are produced in various factories, with the goal to be installed and perform in a Schindler high-rise elevator, supply chain management becomes crucial, also by enabling a seamless interaction between the main fields of interest.

The new Supply Chain concept distinguishes components from the anonymous mass of delivered boxes and raises components in a prominent, just-in-time fashion, to align with the progress of the installation.

In accordance with this unique identification concept, every single box shipped to site is marked and labeled individually, providing information such as:

- Unique ID number per elevator
- Handling & storage information to protect the goods
- Logistic label for identification of project and destination allows efficient pre-distribution on jobsite
- Detailed site label
- Logistic indicators for quality measures
- Schindler label

For added convenience and visual identification, a pictogram has been designed which provides detailed product information without words even in poorly lit conditions.

In addition to all of this, the new Schindler 7000 Supply Chain also provides:

- Logistic requirements
- Design rules for packaging
- Test methods for packaging
- Packaging guidelines per components
- Storage space calculation
- Quality check instruction
- Claim process definition

Our guiding ethos.



right **product**



right **time**



right **place**



right **quality**



right **costs**



Pioneering the future of building installation.

Robotic installation

The future is here, today. Imagine that in the near future high-rise elevators all over the world will be installed by machines. This robotic technology will bring to life the process of mounting brackets in the hoistway with an artificial-intelligence system which is self-climbing and self-adjusting on each project site.

This will require less human intervention on the job, thereby enhancing safety, as well as allowing greater accuracy and flexibility regarding installation time requirements.





Schindler 7000.

We pulse the skyline.



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