

VERTICAL INSPIRATION

2nd edition, 2023

Uptown Tower

Dubai, UAE

A new benchmark for technology and innovation, elevated by Schindler R.I.S.E and our talented, diverse workforce

Manapōuri Power Station

Southland, New Zealand

An awe-inspiring underground modernization of the deepest elevator in the country

Scotia Plaza

Toronto, Canada

Modernizing our own double-deck elevators and bringing a postmodern landmark into the future

Bank of America Tower

Charlotte, USA

Reaching new levels of safety with OEO, allowing tenants to evacuate by taking the elevators in an emergency

Challenges and solutions, innovations and teamwork
Inspiring stories from landmarks around the world



Schindler



01 | Editor's letter

02 | Bank of America Tower
New tech,
safer cities

10 | Ping An Finance Center
Going beyond
the usual limits

20 | Expo 2020 Dubai
Extraordinary
times

30 | Gallery:
Expo 2020 Dubai

40 | Uptown Tower
Rise up!

50 | Scotia Plaza
Back to
the future

58 | Manapouri Power Station
Underground
modernization

68 | Hiranandani Quantum
Thinking beyond
tomorrow

78 | THE ICON VIENNA
Three towers,
one icon

88 | CapitaSpring
A dream
come true

In this edition,
we take you

500+m
above the horizon

2000+m
underground



Editor's letter

Responding to crises with resilience

Since we released the first edition of Vertical Inspiration in 2021, the world has been in a state of constant flux. As we write this, the COVID-19 pandemic continues to loom. The large project business has already felt the impact of many of these challenges.

The question now is perhaps not so much how to build more high-rises, but how to respond with resilience and flexibility in these turbulent times. Cities will continue to shoulder the future of humanity. As a mobility partner, it's our role to help make that urban future safer, more efficient, and more sustainable.

In this edition, we've collected stories of projects we're truly proud of – stories where our spirit of innovation and teamwork shine through: the offline mega-event Expo 2020 Dubai held in 2022; the fifth tallest building in the world and one of the latest 500-meter-plus buildings in China, the Ping An Finance Center; Uptown

Tower in Dubai, where we deployed our revolutionary robotic installation system for elevators, Schindler R.I.S.E; and the modernization of a 40-year-old elevator under Lake Manapōuri in New Zealand – just to name a few.

Most of these projects were carried out amid the pandemic, with some delivered against extremely tight deadlines. All required a commitment to excellence. This edition is an opportunity to look back at these incredible projects, as we continue to help shape the cities of tomorrow. We hope this edition will inspire you to join us on this adventure.

Charlotte, USA

Bank of America Tower

New tech,
safer cities

For most people, 'use the elevators' might seem like a surprising instruction in an emergency. But, at Bank of America Tower, the elevators equipped with 'Occupant Evacuation Operation' (OEO) can evacuate people quickly and safely. This landmark tower is in the rapidly growing city of Charlotte, North Carolina. The safety of the city's future passengers is in our hands – as we help build its tallest buildings with the latest technology.

Challenges and client brief

- New tall building code requirements for safe evacuation following 9/11
- Pioneering installation of cutting-edge tech
- Growing market for tall buildings

Schindler solutions

- Occupant Evacuation Operation (OEO)
- Integrated new tech in real world application
- Expanding to serve new clients

Owner
Highwoods Properties

Developer
Lincoln Harris LLC

Architect
LS3P

General Contractor
Gilbane Building Company
Shelco Inc.



Project overview

2019

Construction end year

11

Schindler 7000 elevators

7

Schindler 5500 elevators

2

Schindler 330A hydraulic elevators

Schindler PORT Elevator control

145 m

Max travel height

3.56 m/s

Max speed

Occupant Evacuation Operation (OEO)

Innovation employed

Faster & safer



Real-world adjustment

Our client asked for state-of-the-art OEO technology and sustainable operation in their LEED (Leadership in Energy and Environmental Design) Gold certified building. The elevators at Bank of America Tower are capable of regenerating power, feeding it back to the building grid and lowering overall energy consumption, a signature Schindler sustainability feature in normal operation. However, OEO testing revealed that too much energy could cause a power overload during an emergency operation. To address this, our Schindler team worked closely with the general contractor and the building's electrical design team to eliminate potential power surges, thus ensuring the elevators run smoothly when operating on the emergency generators. OEO in the Bank of America Tower provides the perfect example of how we can adapt new technology to fit real-world situations.

OEO controls and monitoring systems for emergency responders and building management provide clear communications - and of course a classic red American emergency phone.

Project highlights

OEO – getting people out faster

Everyone knows that taking the elevator in a high-rise building is usually faster than the stairs, especially for less mobile people who might also slow down movement in a crowded stairwell. Occupant Evacuation Operation (OEO) technology uses the elevator system to manage the evacuation of people from high-rise buildings safely and efficiently. When OEO is activated in an emergency, building occupants are directed to assemble in fireproof landing areas and then guided by live messaging signage to specific emergency-equipped elevator cars. Given the significant cultural change in asking people to jump in an elevator when the alarms are going off, occupant training and communication are essential to ensure the entire process proceeds smoothly. Industry studies show that OEO allows for up to 50% faster evacuation in comparison to exclusively using the stairs. OEO is also safer

and more secure, especially for less-mobile building occupants.

Technology like OEO is essential in creating safer and more sustainable cities. Christopher Mason, a 34-year Schindler veteran and tech guru, helped to develop OEO for the entire industry, starting in 2009. Changes were made to high-rise building safety protocols in the International Building Code following lessons learned from 9/11. Today, any building over 420 feet (128.02m) in the USA must have OEO-enabled elevators or an additional emergency stairwell. Mason consulted on the OEO installation at Bank of America Tower, Schindler's pioneering OEO project in the USA. Mason believes that in future many more buildings will feature OEO, as its benefits get more widely recognized and accepted. "Eventually people will ask, 'Why doesn't this building have elevator evacuation operation?'," he said.



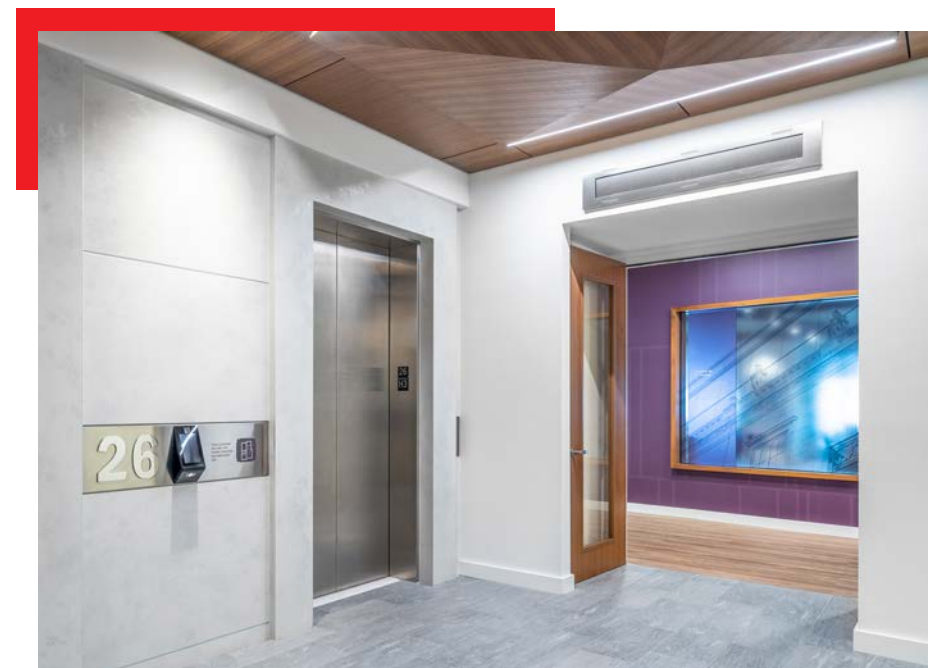


Kick-start an entire market

Building the city of Charlotte

Small and medium-sized cities like Charlotte are booming all across America, proving a viable alternative to sprawling metropolises. We are happy to contribute to this growth, in Charlotte and beyond. The Bank of America Tower is part of the Legacy Union development, a new center for Charlotte. Bank of America Tower is just the beginning. This 33-story skyscraper is capped with

a 30-meter LED lit-glass pyramid – a beacon for Charlotte. Cities get built project by project, and more buildings mean more people. In less than five years, our Schindler Charlotte installation team has grown from six to 26, as we've helped our clients build the city. With localized knowledge and industry expertise for even the most demanding projects, we'll continue to shape cities like Charlotte for many more years to come.



“ We are witnessing significant population growth and economic expansion in cities like Charlotte. These new urban centers provide improved quality of life that leverages new technologies and new ways of thinking. Schindler is thrilled to be leading the way with innovative, safety-oriented vertical transportation solutions for progressive clients like Bank of America. ”

Rick Piovano
Director Key Accounts for Schindler Large Projects in North America



Owner & Developer
Ping An Financial Center
Construction &
Development

Main Contractor
China Construction

Architect Design
KPF

Shenzhen, China

Ping An Finance Center

Going beyond the usual limits

The Ping An Finance Center towers over the Shenzhen skyline – standing at 599 meters, it's over 150 meters taller than its nearest rival in the city and was one of the last mega-tall skyscrapers to be completed before China restricted buildings to a 500-meter limit in 2021. During construction in the early 2010s, all the elevator suppliers who were involved faced unprecedented challenges due to the extreme height of the building. But – by pulling together expertise from across our organization – we delivered what we had promised and more.

Challenges and client brief

- World-renowned supertall building and fierce competition
- First Schindler double-deck project in Shenzhen with demanding specifications
- Shaft structure unfit for conventional anchoring
- Challenging maintenance

Schindler solutions

- Assembled the best team and best products
- Gathered experts from across our organization to deliver excellent ride quality
- Stud welding by trained technicians
- Excellent on-site maintenance team providing extensive service



Project overview

2016

Year construction ended

33

Schindler 7000
double-deck elevators

218.6 m

Max travel height

7.0 m/s

Max speed

Schindler
PORT

Control system

Schindler double-deck
elevators

Innovation employed



Jonathan Huang
Schindler Master Installation Trainer
Internally known as 'Mr. Ride Quality'



Project highlights

"Competition is the permanent theme," said Mr. Ride Quality.

Like all large projects, the Ping An Finance Center required a huge number of elevators and escalators, and the client contracted four major E&E suppliers for the project. We won the lion share of the business – 33 double-deck elevators, our first double-deck project in Shenzhen.

The skyscraper is home to the headquarters of Ping An Insurance, so an excellent ride quality was a must-have – so much so that it was stipulated in our contract that we must limit ride vibrations to under 10 milli(g). With a maximum travel height of over 200 meters for each unit, this was no simple task.

"We have a saying in our trade," said Jonathan Huang, Schindler Installation Master Trainer, "30% of ride quality comes from the products, 70% comes from the installation." Jonathan oversaw the installation of our elevators at the Ping An Finance Center for three years. During installation, most parts of a high-rise elevator are assembled on-site. For a double-deck elevator there are a lot more parts than a normal unit, so the process is significantly

more complicated. Just getting all the components on-site – which came in from across China, Switzerland, and other parts of Europe – was complex logistics task. But in less than two years, more than 1,600 tons of material and machinery had arrived safely.

When it came to installation, we pulled together an all-star team: Jonathan, known internally as 'Mr. Ride Quality', teamed up with several experts from our Customer Design Engineering (CDE) teams in Suzhou and Switzerland. They had to consider the usual factors such as noise and vibration, while being mindful of additional issues that can occur with mega-tall projects like building sway and building shrinkage. In the end, they delivered a ride quality that consistently maintains single-digit milli(g) vibrations, even while travelling a 7m/s max speed – no mean feat.

"It's one of the tallest buildings in the world, and it rounds up four major industry players, but we want to be the best," said Jonathan. "Our experts across the whole organization joined forces and walked the extra mile as one team – a team dedicated to our customer."

“It's one of the tallest buildings in the world, and it rounds up four major industry players, but we want to be the best.”

Jonathan Huang
Schindler Master Installation Trainer

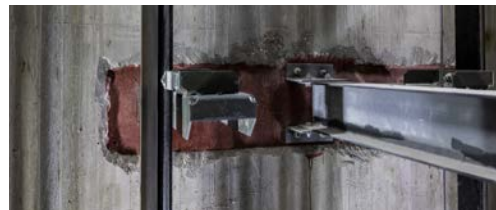


A first in China

Typically, when installing guiderail brackets in an elevator shaft in China, holes will be drilled directly into the body of the core in which anchor bolts will then be set – a process known as ‘anchoring’. But in shafts that are over 200 meters tall, having that many holes in the structure can create points of weakness that can be subject to distortion as the building ages.

To avoid this, our team opted for stud welding – a process where the guiderail bracket is welded directly onto the steel structure of the shaft with a metal stud. This forms a much stronger bond than anchoring, as the steel, the bracket, and the bolt cool to become one.

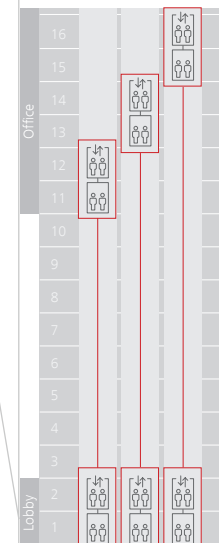
This was the first-time stud welding had been used in an elevator installation in China. The process requires highly skilled technical welders, but it’s also much faster than drilling holes – which allowed our team of more than ten certified welders, to set over 60,000 studs all within the tight project timeframe.



10+ certified welders **60,000+** studs

Schindler PORT shuttle mode

57% more traffic capacity



Unimagined traffic

“The number of trips for one elevator in a year here is on average 600,000 – that’s three times the normal number in other high-rise projects,” commented Maosheng You, our On-site Maintenance Manager.

The building was much more densely tenanted than had previously been estimated, with peak traffic volume twice as much as the number we used in our traffic simulations. This initially led to elevator queues and longer waiting times, and of course, complaints.

Our transit management experts in Switzerland helped solve this issue. By reviewing the building traffic flow data, they were able to dedicate some of the elevators to specific office floors during the peak hours – we call this the shuttle mode.

By doing this, we managed to channel a substantial portion of the daily traffic more efficiently – the system now operates with 57% more traffic capacity during the midday peak time. This was all managed through our transit management system, Schindler PORT, which was already installed in the building. Needless to say, there were no more complaints!



Prepared for even the most unlikely scenarios



Prepared for any scenario

Given the extraordinarily high traffic and the world-renowned status of this skyscraper, we also took precautions against all potential scenarios – no matter how unlikely.

After several discussions with our customer, we installed an additional Schindler PORT system, to ensure uninterrupted passenger flow in the highly unlikely scenario that the main system breaks down.

Another precaution we took was a bit more complex – it involved building a safety device for one of our safety devices!

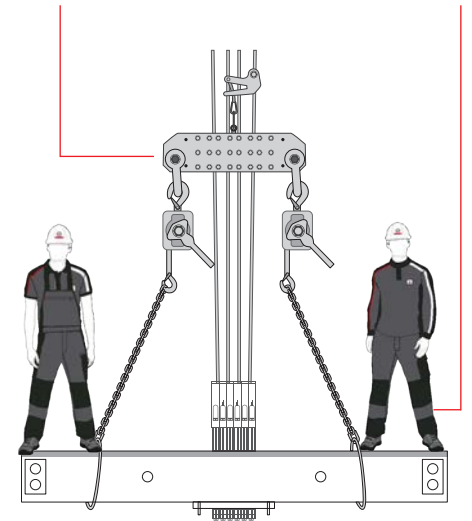
All our elevators are equipped with safety gears. Safety gears can stop an elevator in the event of an emergency. We provided both car and counterweight safety gears to fulfill building and code requirement. After they have stopped the elevator safely, extra forces are needed to release them: usually by lifting the car or the counterweight upwards using the traction of the machine.

Considering the weight of the whole double-deck system, we developed a powerful rope clamp device which can be installed along the traction ropes on top of the car. It can provide the force necessary to release the safety gears in case both car and counterweight safety gears remain engaged – a very, very small chance. Once installed, the device will use the traction ropes as a lifting point, allowing the elevator car to be safely hoisted up to release the safety gears – the standard evacuation process can then take place.

Our device has been tested by an independent, third-party company, TÜV Rheinland, who confirmed that our ingenious device not only works but does so without damaging the traction ropes.

A customized rope clamp device, powerful enough to lift the heavy double-deck system

Certified evacuation technicians



Elevator car



Maintaining the fifth tallest building in the world

Delivering excellent ride quality is one thing, but maintaining it, with such a huge volume of traffic, is just as important. To do this Maosheng You and his team spare no effort. They perform extensive maintenance checks weekly and also conduct a special inspection monthly, which includes cleaning and lubricating the traction ropes – providing an excellent level of service.



To ensure the building is operating in a sustainable manner – the Ping An Finance Center is LEED-platinum certified – our Schindler 7000 motors feed power back into the grid, maximizing energy efficiency.

Since becoming China's first Special Economic Zone in 1980, Shenzhen's population has skyrocketed from approximately 300,000 people to become a megacity of over 12.5 million – the iconic Ping An Finance Center epitomizes the city's growth – innovative, future-ready, and reaching for the sky.

Mr. Maosheng You (left), Schindler On-site Maintenance Manager, conducting checks with his team



Dubai, UAE

Expo 2020 Dubai

Extraordinary
times

Dubai Expo 2020 kicked off a year later than originally planned, due to the COVID-19 pandemic. As much of the world went into lockdown, the six-month-long offline mega-event served, in contrast, as a standing display of hope and innovation – and we're proud to have contributed to its success. Over the three years of project execution, we didn't record a single accident, fulfilled our promise to 11 major pavilions, and received an official letter of appreciation, all while helping the Swiss pavilion to scoop the Best Medium-sized Pavilion Award – in short, our expertise was on full display on the world stage.

Challenges and highlights

- Complex regulations on safety, security, and logistics
- A time of uncertainty
- New product installation; customized solutions

Schindler solutions

- Dedicated logistics team and extra-mile efforts
- Stamina and unfailing fulfillment
- Master trainer from HQ supervising on-site



Project overview

2021

Construction end year

11

Pavilions

83

Elevators

43

Escalators

25 m

Max travel height (for elevators)

0.5 m/s

Max speed (for escalators)

Schindler Digital Media Services (DMS)
Schindler CleanMobility solutions
Linea 800 SmartTouch car operating panel

Innovations employed

Project highlights

“It was like orchestrating a symphony every day,” said Mohammed Iqbal.

To say that Dubai Expo was a challenging project is an understatement. We provided 129 units of equipment for 11 large pavilions and took over the maintenance for over 50 third-party mobility solutions.

Overseeing several large projects simultaneously, under tight security conditions, was never going to be easy. But our project manager, Mohammed Iqbal, took up the challenge. His work involved – among other things – liaising with over 50 stakeholders to keep things humming along.

The Expo grounds spanned 5,000,000 m², divided between 190 pavilions. The Expo had its own Delivery Management System to regulate the flow of vehicles entering and leaving the site. Each freight delivery was assigned only a 30-minute window to enter the Expo grounds – but coordinating this event alone could take a whole day. Local regulations, like the compulsory mid-day break during the summer to avoid exposure to high temperatures, forced us to coordinate between different teams spread across the Expo site, complicating the task further.

“ Challenging, of course, but we didn’t miss a note. ”

Mohammed Iqbal
Schindler Project Manager for Expo 2020 Dubai



129
units

11
large pavilions

50+
third-party maintenance contracts

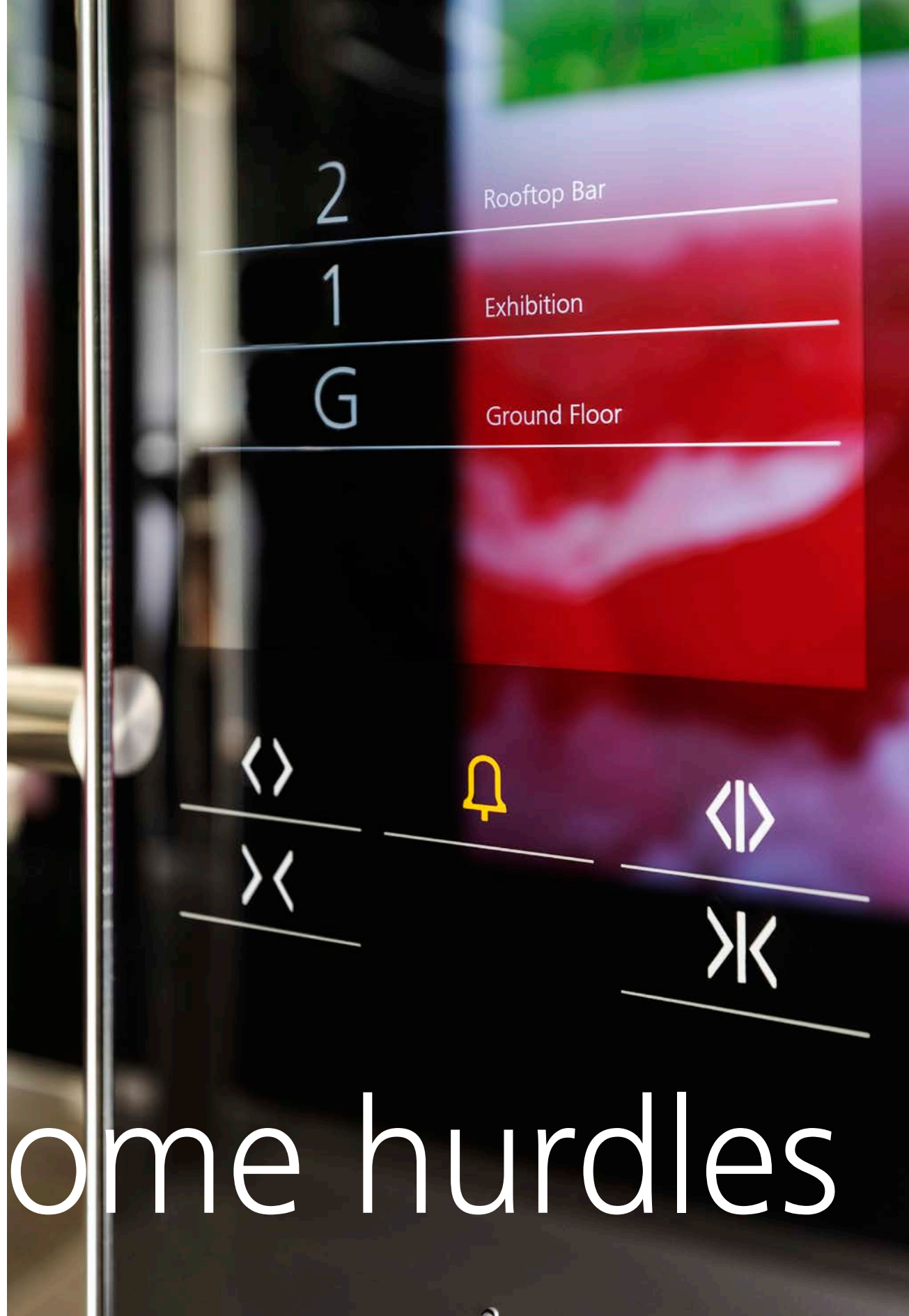
To stay on schedule, meet our customers’ demands, and take good care of our workers, we stationed a dedicated logistic team on-site and assigned two project managers for the first phase of the project execution. “It was like orchestrating a symphony every day,” said Mohammed. “Challenging, of course, but we didn’t miss a note.”

Stamina in a time of uncertainty

In March 2020, the first positive COVID case appeared on-site, leading to days of shutdown and to a string of new rules and regulations. A few months later, in September 2020, a few civil contractors involved in the construction of Dubai Expo filed for bankruptcy.

It wasn't enough to discourage our crew, who were quick to adapt to the new rules and who kept the work going. Their attitude proved to be the right one: within a few weeks, new contractors had come in and taken over the construction contracts.

Another challenge came from the nature of the products our teams had to install at the Dubai Expo. Many of these innovations were so cutting-edge that our teams had never laid their hands on them before. Fortunately, the team could count on the support of our headquarters: our Installation Master Trainer, Subhish Subran, spent two weeks in Switzerland learning from the best, before heading to the Expo to pass on his newly acquired knowledge and to supervise the work.



Linea 800 SmartTouch car operating panel



Our teams had to overcome other hurdles along the way – some of them more tech-intensive than others. A brand new customized 65-inch Schindler Ahead AdScreen – a mirror doubling as a TV screen – was to be installed in an elevator car. The only problem: it was too tall to fit through the elevator car doors. To avoid damaging the product, the team had to remove the car doors, before inching the screen in, bit by bit, and securing it into place on the car wall. The process took an entire day.

Each pavilion wanted to provide a unique experience to its visitors – run-of-the-mill products wouldn't cut it. Many of our products had been tailored to the unique pavilions they were housed in: Switzerland had requested escalator handrails engraved with snowflakes; India had wanted its elevator passengers to revel in the views of Taj Mahal at sunset; Belgium had envisioned an escalator encased in a tunnel of light, as if to propel visitors toward the future. We came through each time (check out our special gallery on p.30).

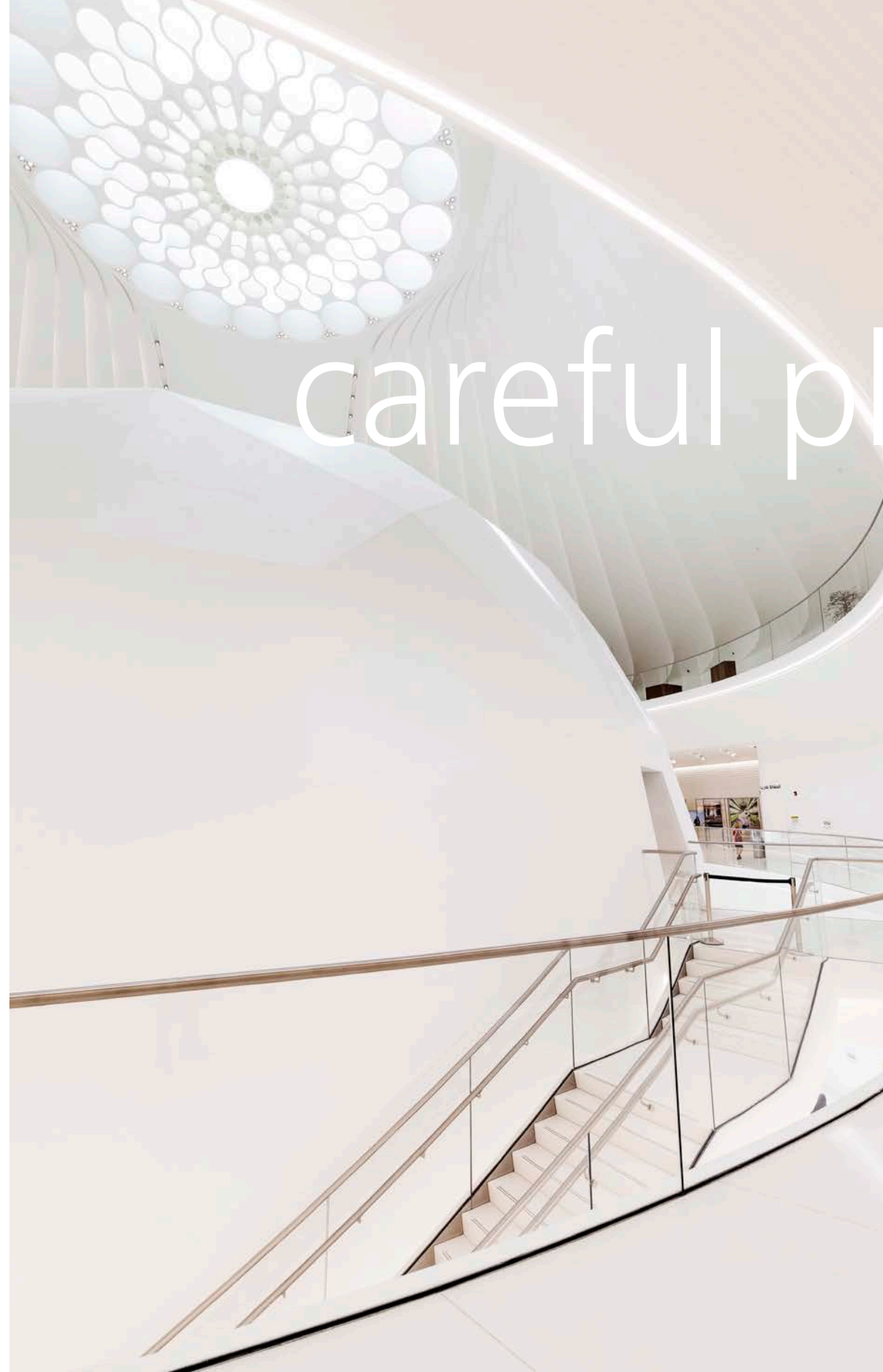
Overcome hurdles



Demanding fulfillment requirements

Among the customized solutions that we engineered, two stood out: the white-themed full-glass car interior designed for the UAE pavilion and the black-themed full-glass car for the Mobility pavilion. They perfectly matched the esthetics of the pavilions, while providing a unique user experience.

This didn't happen just like that. This took grit, careful planning, and agility. Take for example the white elevator car for the UAE pavilion. Our customers had wanted to try out different combinations of materials, which would have meant working with several international suppliers – something that proved extremely challenging amid acute international shipping delays. We were quick to pivot: we sourced local suppliers, tried various design possibilities, and developed a prototype that we thought best captured our client's requirements. When pavilion stakeholders came to examine the car, it was love at first sight: the car matched perfectly with their vision.



Grit careful planning agility

Three months before the grand opening, all Expo premises underwent a thorough security sweep. For us, it meant giving the Dubai police access to all our equipment, including elevator shafts – at any time of the day and night.

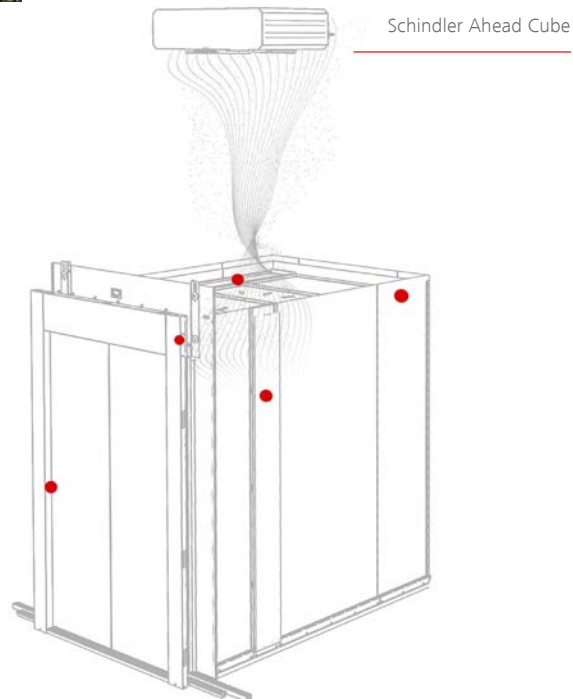
All our equipment was operational a month before the official opening. "As some pavilions were scrambling to be ready on time, all our elevators were fully ready for operation and waiting to serve visitors from all around the world," said Mohammed Iqbal.



Rajeshkumar Sekar, Schindler Service Leader

Schindler Ahead Cube makes our equipment smart and connected: it collects and relays data from the controller and sensors installed on our equipment to the loEE (Internet of Elevators & Escalators) cloud. Schindler technicians, who get real-time notifications, are able to analyze the data to determine if any actions need to be taken to avoid service interruption. In the event of unplanned shutdowns, our technicians know even before reaching the site what the matter is, and what they should bring and do to solve the problem as quickly as possible.

With advanced technology and timely support from our dedicated service team, our equipment didn't disappoint. During the 180 days of Expo, we received plenty of positive feedback (see the opposite page).



Flawless maintenance

When visitors came, they came in throngs. At the Swiss pavilion, 500 visitors on average used our elevators each day. Given the heavy foot traffic, our equipment required prompt maintenance if any problem surfaced.

Rajeshkumar Sekar, Schindler Service Leader, led a dedicated team of three technicians to maintain over 120 units on-site. Our team could reach all our units within 20 minutes for emergency cases and ensure normal operation resumed within an hour. Fast response is great. Fast resolution, however, demands more than boots on the ground: it requires up-to-date, in-depth insights into our equipment. And this is where Schindler Ahead Cube comes in.

The Schindler maintenance team was very supportive during the Expo. Even during the period of crises, the Schindler team acted proficiently and resolved issues on time. I thank them for their hard work and wish them best of luck.

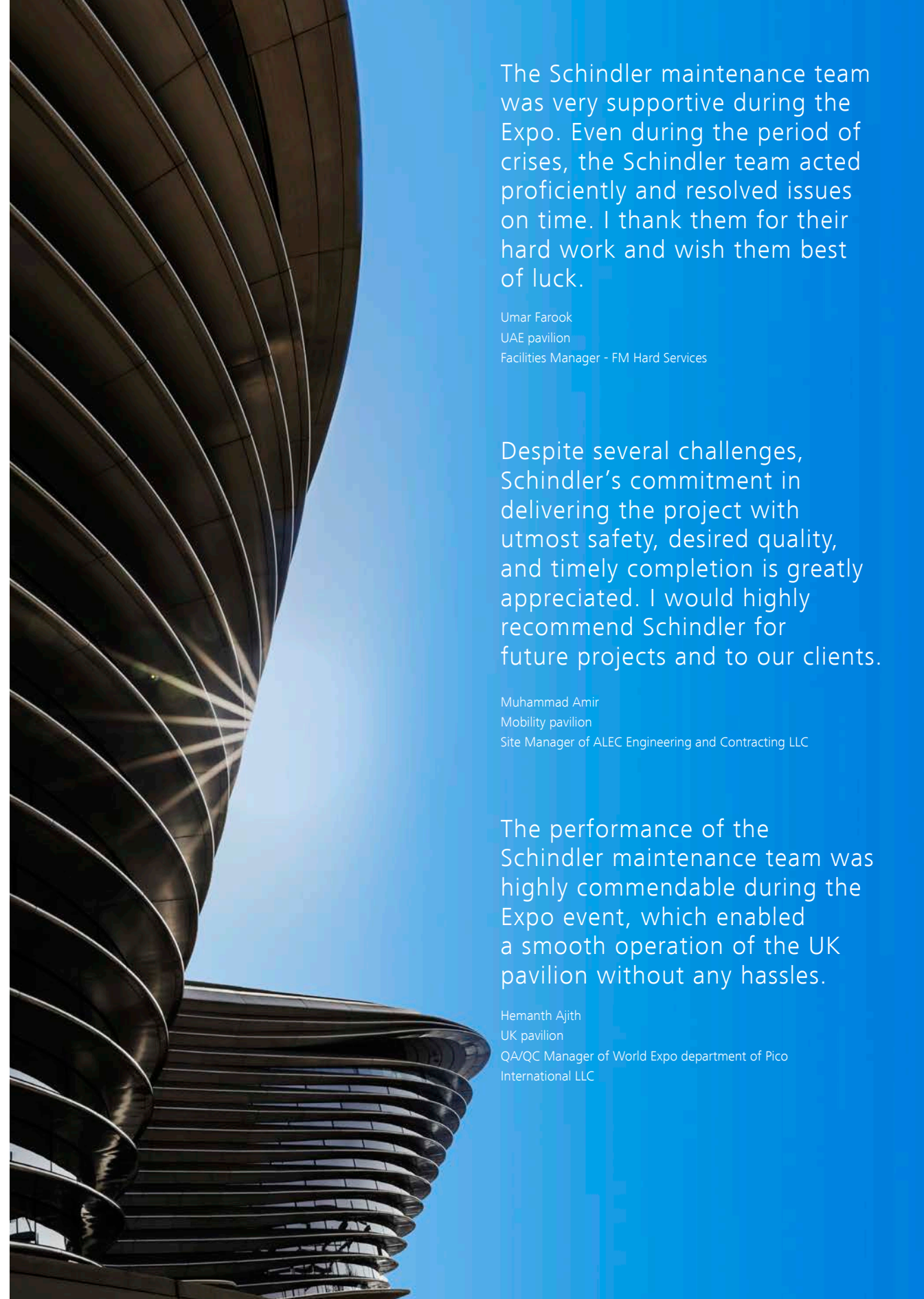
Umar Farook
UAE pavilion
Facilities Manager - FM Hard Services

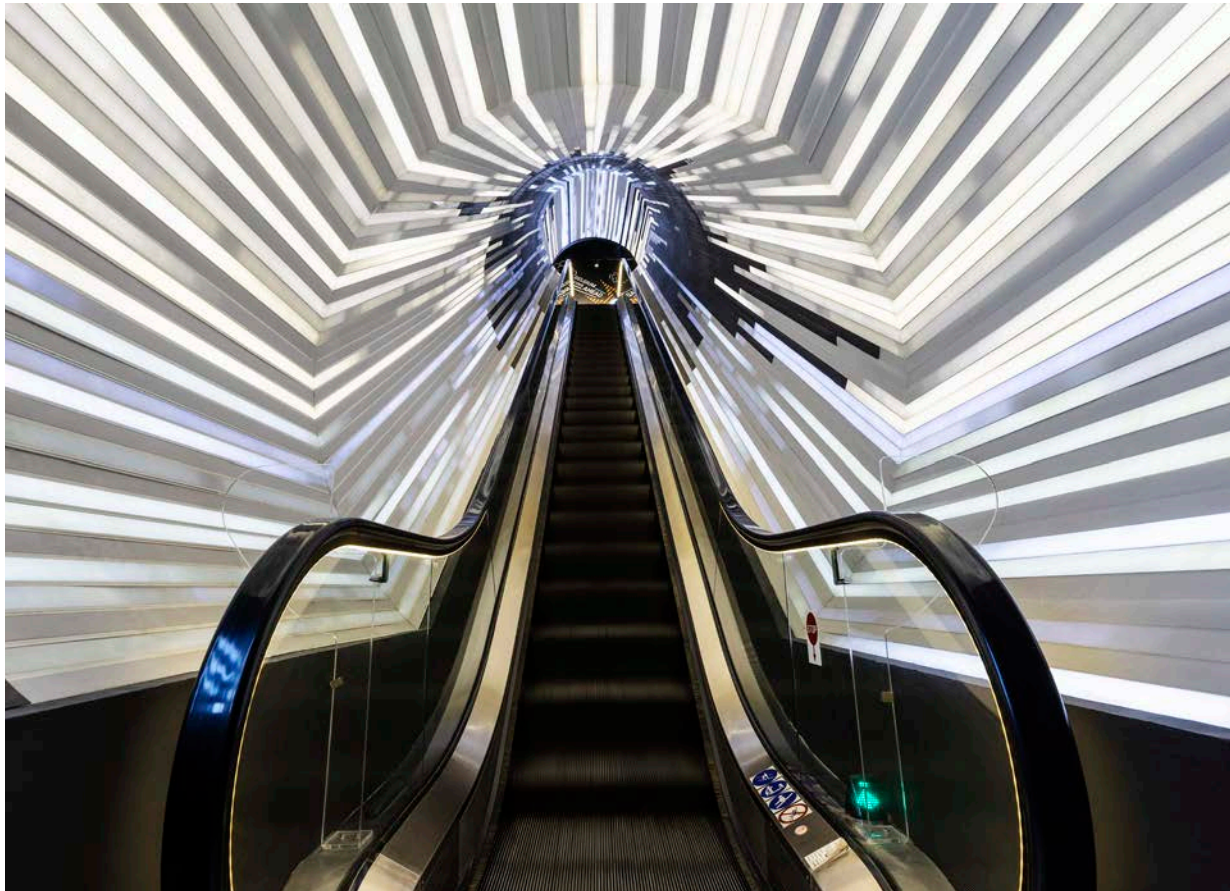
Despite several challenges, Schindler's commitment in delivering the project with utmost safety, desired quality, and timely completion is greatly appreciated. I would highly recommend Schindler for future projects and to our clients.

Muhammad Amir
Mobility pavilion
Site Manager of ALEC Engineering and Contracting LLC

The performance of the Schindler maintenance team was highly commendable during the Expo event, which enabled a smooth operation of the UK pavilion without any hassles.

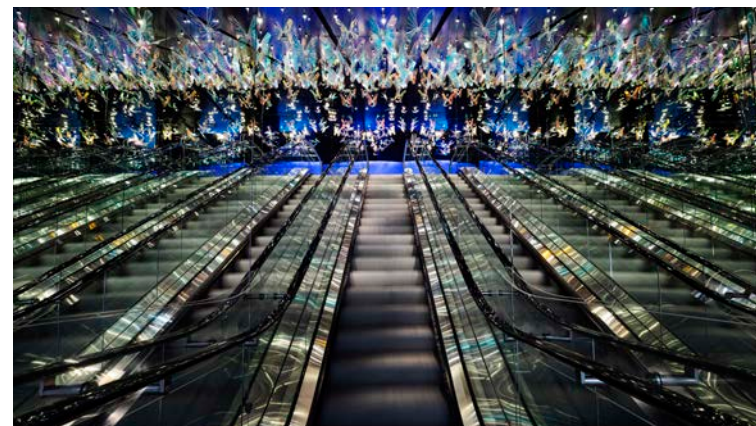
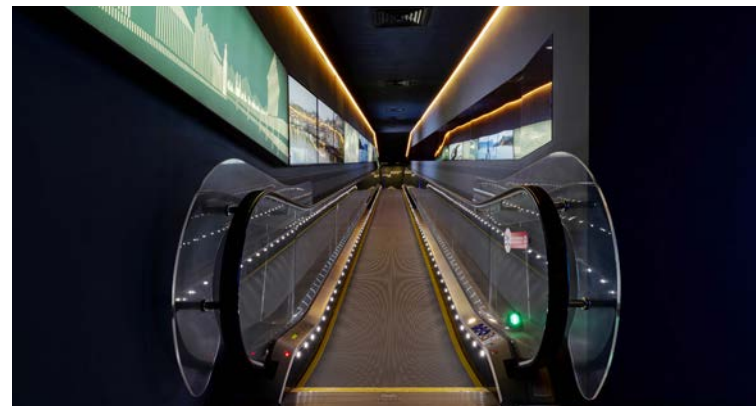
Hemanth Ajith
UK pavilion
QA/QC Manager of World Expo department of Pico International LLC





Expo 2020 Dubai

The first World Expo to be organized in the Middle East – Expo 2020 Dubai – concluded in March 2022. During that time, Schindler serviced 11 pavilions in total, eight of which were the largest pavilions at the Expo. We bring you a few highlights from our solutions at the event – Expo 2020 Dubai might be behind us, but the show goes on!



We were one of the main partners of the Swiss pavilion. Visitors hiked through a sea of fog and found themselves immersed in Switzerland's breathtaking scenery. Our futuristic and digital elevators led visitors to a fabulous rooftop.





SWISS pavilion



From top to bottom:

1. Schindler UV CleanAir uses UV-C light technology and sanitizes the air automatically on a routine basis

2. With Schindler ElevateMe App, users can call an elevator and select their destination using their own smartphone – the start of a touchless and seamless journey

3. Customized snowflake patterns on the escalator handrail

4. Schindler UltraUV Pro uses UV-C LED lighting technology to disinfect handrails, preventing the rapid spread of bacteria and viruses



UAE pavilion

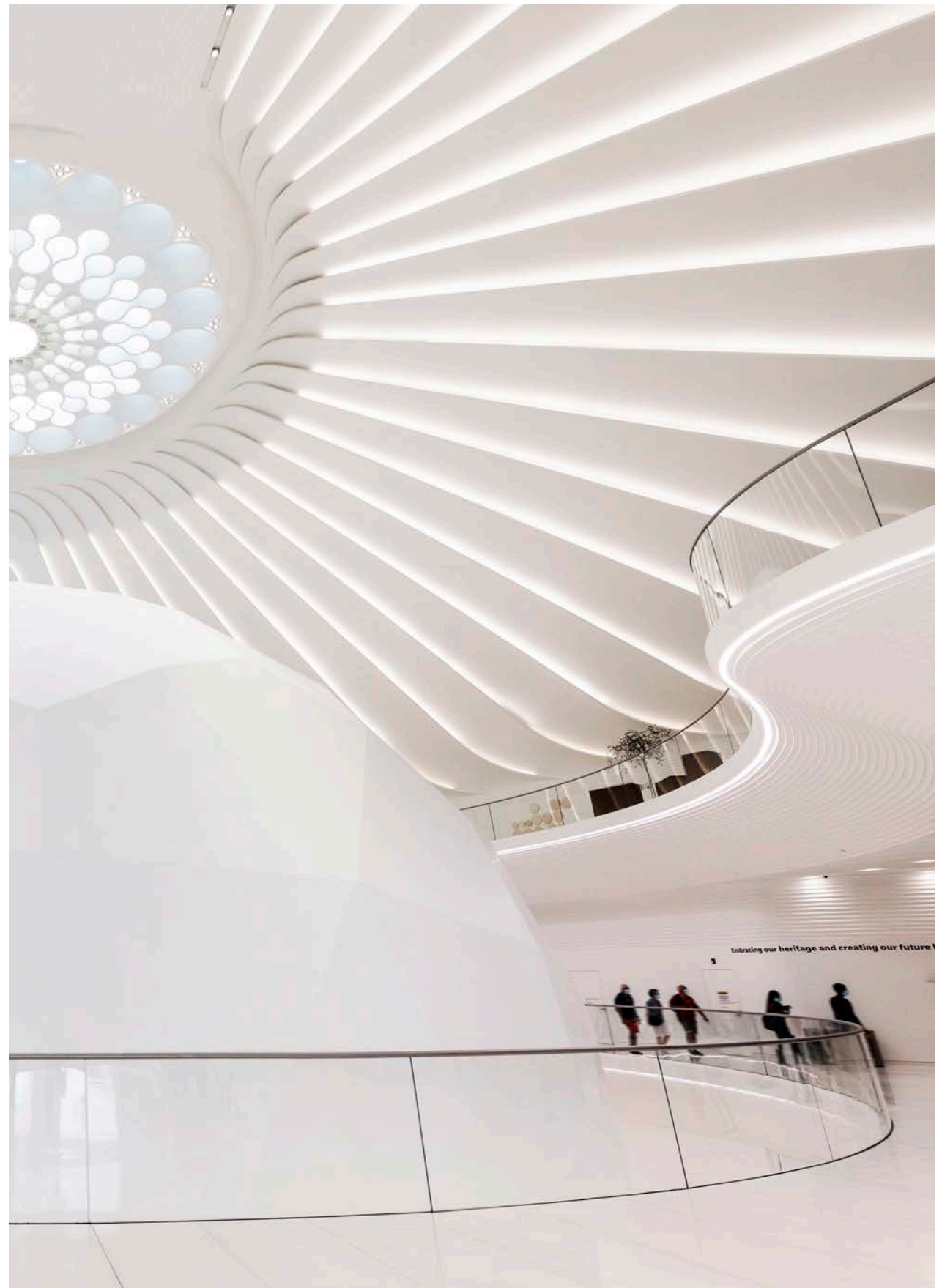
The UAE pavilion was designed taking inspiration from the country's national bird: the falcon. Our customized elevators complemented the esthetics of the pavilion: light, polished, ready to fly.

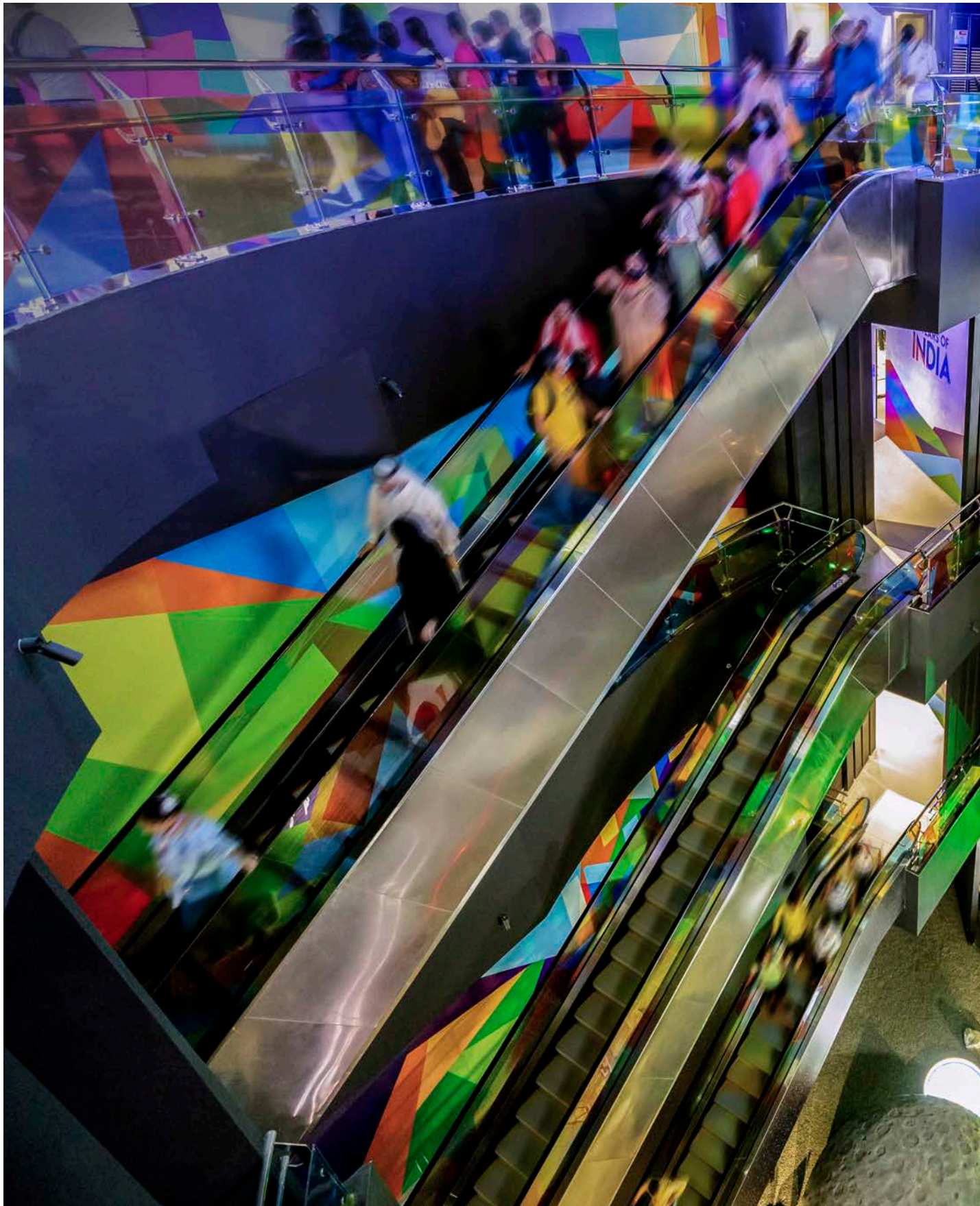
During construction, in the summer of 2019, a fire broke out at the pavilion. Fortunately, due to the quick thinking of our technician Badrudeen Chalil, he was able to extinguish it before it caused any significant damage. In appreciation our client awarded him a safety certificate.

From top to bottom:

1-2. Fully customized elevator interiors

3. Customized **Linea 800 SmartTouch** car operating panel





With its massive four-floor space, the India pavilion oozed vibrancy and creativity. Our escalators and elevators were an integral part of this colorful journey.



Dubai, UAE

Uptown Tower

Rise up!

A project completed on time amid a global pandemic, precedent-setting quality throughout, and a human-machine collaboration – the new installation at Uptown Tower exceeded expectations.

Challenges and client brief

- COVID-19 pandemic as a global backdrop
- Emerging new city area important to Dubai and the Gulf
- High-profile project perfect for innovation in construction

Schindler solutions

- On-site and virtual teamwork between humans and robots
- Project logistics, global teams, and double-deck elevators
- Schindler R.I.S.E – the latest in construction tech

Client
DMCC

Investor
DMCC

Developer
DMCC

Project Management
TiME (Turner International Middle East)

Architect
Woods Bagot

General Contractor
BESIX



Project overview

2022

Construction end year

317 m

Max elevator travel height

8

Schindler 9300 escalators

14

Schindler 7000 elevators

13

Schindler 5500 elevators

6 m/s

Max elevator speed

Schindler R.I.S.E, Schindler PORT
Schindler double-deck elevators

Innovations employed



3,500

people go into
the building each day

9

Schindler 7000
double-deck elevators

2,000+

meters of shaft in total

Project highlights

Pandemic response

The pandemic has changed our world since it started in early 2020. This coincided with the busiest construction phases of Uptown Tower, a 340-meter tower in the south of the city. When the pandemic hit in early 2020, the construction of the Uptown Tower was in full swing.

The installation team at Uptown was resilient and quick to react. They moved from

public accommodation into designated private housing, set out to limit possible contagion and allow quarantine. As many activities as possible went online.

Constant communication and coordination within the Schindler team and with all the other project partners allowed work to continue. Despite the challenges, Uptown Tower was still completed on time.

Growing Dubai

Uptown Tower sits at the heart of a new development in the south of the city. Developer DMCC is positioning Uptown Tower as a new node for Dubai – and as a gateway to Abu Dhabi, the bordering emirate. The entire complex was constructed sustainably; even the construction site was powered by solar panels on the parking lot roof. The tower is designed to achieve LEED Gold certification, to bring more sustainable construction to the fast-growing desert city.

Offices, residences, and a five-star hotel, along with retail, restaurants, and services will bring up to 3,500 people into the building each

day. To handle this complex range of human traffic, Uptown Tower has Schindler 7000 double-deck elevators, a first in the Middle East. The client wanted a solution that could serve peak periods as efficiently as possible. Our solution was to use nine Schindler 7000 double-deck elevators as the spine of the building circulation. The two heavy-duty Schindler 7000 machines sit in the 78th floor machine room, each one weighing over two tons.

Uptown Tower has over two kilometers of elevator shaft in total. Most people think of land-based horizontal transportation distances, but we know that vertical transport can also take you far.

Schindler R.I.S.E Robot

Unmatched efficiency, safety, & accuracy



Schindler R.I.S.E Robot rides UP

We believe in the potential of technology and innovation to help build cities of the future. We invented the Robotic Installation System for Elevators (Schindler R.I.S.E) for smart cities – and smarter construction. We named the one we used in Uptown ‘Sarah’. Sarah and our other Schindler R.I.S.E robots make up the first and only mobile robotic system for elevator installation in existence today.

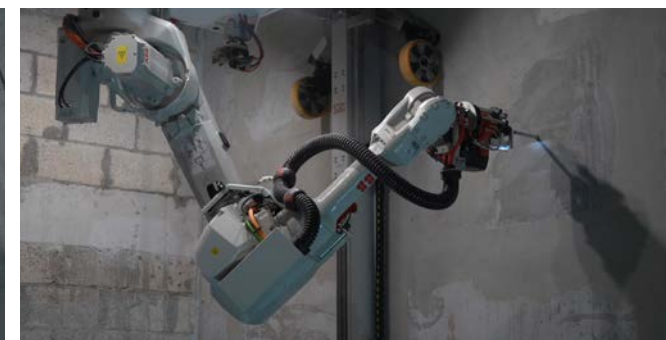
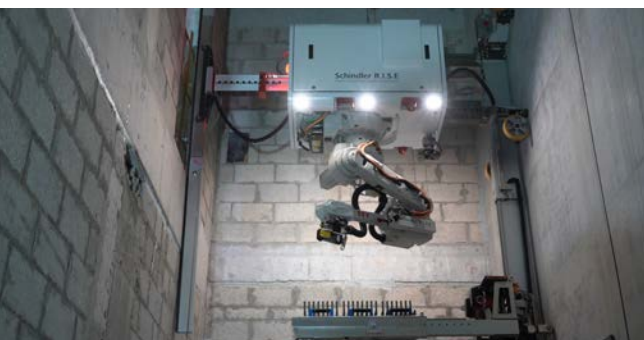


The first and only mobile robotic system for elevator installation today

“Teamwork between talented engineers, project staff, and robots is the future,” commented S. Haydar Icli, Product Manager of Schindler R.I.S.E.

Schindler R.I.S.E helped us to drill holes and set anchors with unmatched efficiency, safety, and accuracy at Uptown Tower. The use of Schindler R.I.S.E at Uptown Tower resulted in such a smooth ride, our customer did not realize their elevator was actually moving the first time they rode in it. The ride quality is an amazing 4 milli(g) – a new precedent. Ride quality is measured in milligal, or milli(g). Anything under 10 milli(g) is considered superior. Ride quality for our double-decks comes in at an impressive 4 milli(g) – elevator movement is hardly perceptible.

Sarah is designed for speed, precision, and safety. It can operate in difficult conditions – whether in confined spaces or in extreme temperatures – taking over repetitive tasks, while advancing the safety of our workers on-site.



Climate and logistics

Dubai has a harsh climate, regularly reaching 40°C with 90% humidity in the summer. Consequently, working hours are restricted for human safety. It is a simple but brutal challenge to construct buildings in the desert. Uptown Tower was a perfect deployment for the Schindler R.I.S.E Robot, which can operate in nearly any climate. We integrated it into our team and our planning. “Project logistics is the most important factor for success in large projects,” Uptown Tower Project Manager Sultan Hazeem commented.



Heights of collaboration

Tall buildings and large projects always require careful on-site collaboration, but the pandemic made meeting in person more complex. Yet at Uptown Tower, these challenges brought out the best in everyone. We worked even more closely – but still socially distanced for safety (of course!) – with the entire site management group. “We had one option to get the project done: going ‘all hands on deck’ and doing it together,” said Project Director Rami Youssef with a smile.





Schindler teams

We take teamwork seriously. Rami and Sultan, with nearly three decades of Schindler experience between them, had teamed up on many projects throughout the Gulf region before joining forces on Uptown Tower.

Remi is one of a handful of globally certified Project Directors, an exclusive team of leaders around the world. He was trained by some of our veterans. Many Schindler employees stay

with the company for a long time, some for their entire working lives.

This means we have a huge collective knowledge base. "The best part about Schindler is that someone, somewhere in the organization always has an answer if you have a question or challenge," Sultan commented. At Uptown, this was useful for everything from mundane 'nuts and bolts' questions to ongoing guidance for the Schindler R.I.S.E Robot!

Global culture

Dubai is a glittering global hub, famously glamorous and full of tall towers. We're working with people from around the world to help build the Dubai skyline. It's also one of the most internationally diverse places to live and work in the world. "It's a challenge – we have 70 or 80 different nationalities working in Dubai," explained Sultan. "It's also a benefit. Projects like Uptown prepare people to work internationally, with different working styles and cultures," he added.

Collaboration and empathy mean productive teamwork is possible, regardless of our individual differences. Building and sharing knowledge and skills makes our operations socially sustainable, across cultures and geographies. This supports our global operations from the ground up, one building site at a time.

Toronto, Canada

Scotia Plaza

Back to
the future

Modernization of vertical transportation is essential in maintaining building value – and making cities more sustainable. Better performance, optimized functionality, and energy savings brought Scotia Plaza, one of Toronto’s signature high-rises, a new lease of life – for today and tomorrow.

Challenges and client brief

- Urban icon ‘Schindler’ building in need of renewal
- Bring Class-A level modernization with minimal disruption
- Contribute to sustainable building operations

Schindler solutions

- Upgraded existing Schindler system to achieve dramatic performance improvements
- Meticulously planned and phased multi-dimensional modernization
- Deployed energy-efficient equipment and systems

Owner
KingSett Capital

Building Manager
BentallGreenOak

Architect
WZMH Architects

Elevator Modernization Consultant
Solucore Inc.



Project overview

1988

Construction end year

2014 - 2022

Duration of modernization

287 m

Max elevator travel height

22

Schindler 7000
double-deck elevators

297

Schindler PORT
interfaces

0

Net building carbon
emissions

Schindler modernization
Schindler PORT

Innovations employed

Project highlights

Postmodern icon

Scotia Plaza is one of Toronto's most iconic high-rises. At 275-meters tall, with a spectacular 40-meter-high atrium, the slim, red-granite postmodern tower stands out from the crowd in the heart of downtown Toronto. This is especially impressive as Toronto is home to the highest concentration of skyscrapers in the Americas, outside of New York and Chicago.

Scotia Plaza was a future-forward building when it was completed in 1988, featuring some of the earliest double-deck elevators in the Americas. These were Schindler elevators, which we installed and have maintained since the building first opened over three decades ago.

When it came time to modernize the building's vertical transportation, we were proud to upgrade this iconic 20th century building with our latest 21st century technology.



275m
tower height

40m
atrium height

Complex win

Although we are part of the building's history, winning the contract to modernize Scotia Plaza was far from being a given. We still took part in a rigorous multi-year, multi-tender selection process.

Leading the charge to modernize Scotia Plaza was the 30-year industry veteran John Egan, Vice President of Field Quality and Excellence at Schindler Canada. "This was the project of a lifetime for many of us involved," said John. His breadth and depth of experience helped us every step of the way.

Through meticulous planning, long consultations and reviews, our team was able to put together a detailed plan of action for the client. A key feature of our proposal was the integration of Schindler PORT Technology, our industry-defining destination control system, into the project. The promise of reduced waiting times, optimized operations overall, and energy efficiency gains won over our customer, making Scotia Plaza one of the first buildings in Toronto to be kitted out with our Schindler PORT technology. This helped to demonstrate why we were the right choice to bring Scotia Plaza back to the future.

Fitting the new in the old

In the three decades since Scotia Plaza first opened its doors, the world around it has changed. One of these changes is how elevators are powered – with the AC (alternating current) standard having now replaced the outdated DC (direct current) standard. This change in standards has resulted in more powerful and efficient drives housed in significantly smaller machines.

While the machine rooms at Scotia Plaza are small, they were originally built for the larger DC machines. This meant that with the new AC technology we could fit 'more' machine into the same space – though sometimes with only a few centimeters to spare.

The old machines had been set in place at Scotia Plaza using tower cranes, but during

modernization everything had to move through the occupied building. Additionally, the machine room floors were not designed for the movement of heavy loads. To solve the problem, we cut the old machines into pieces and removed the parts using a custom-built wall-mounted suspension rail system to avoid any contact with the floors.

Fortunately, our new AC elevator machines are modular. They are split into 17 main components. We moved them piece by piece into the machine room using the suspension rail system. They were then assembled in place – a considerable feat when the components weigh multiple tons.



more powerful,
efficient, and robust



Double-time

Scotia Plaza lies at the center of a major transport hub in Toronto. Just below the building's street-level entrance, the city's extensive underground walkway network, PATH, meets the subway. Access on two levels by two transit modes make the project perfect for our double-deck elevators. During the modernization, the original double-deck elevators were replaced with Schindler 7000 double-deck elevators. They are now the quickest elevator cars in Toronto, operating at up to eight meters per second. Standard controls were replaced by Schindler PORT Technology. The winning combination of double-deck elevators and Schindler PORT has dramatically improved passenger handling efficiency and ride experience.

Along with the new elevators, several other upgrades were made, including the installation of new roller guides, in order to deliver top-of-the-line passenger comfort. Vibrations during an elevator ride can be measured in milli(g). In new installations, anything under 10 milli(g) is considered superior ride quality. Some readings from our elevators at Scotia Plaza were even in single digit milli(g), an outstanding result in a modernization project.



“ It was an exercise in being invisible.”

John Egan

Vice President of Field Quality and Excellence at Schindler Canada

Shhhhh! People are working

The tenants of Class-A offices expect Class-A working conditions. The elevators at Scotia Plaza therefore had to continue running throughout the modernization without interruption and at a high level of performance. As the new elevator system came online, and the old system was still in operation, so we had to run two systems simultaneously.

We worked consistently behind the scenes, to minimize inconvenience to the tenants. This was made possible thanks to our meticulous operations plan, fine-tuned day by day – as we worked floor by floor. “It was an exercise in being invisible,” said John Egan with a smile.

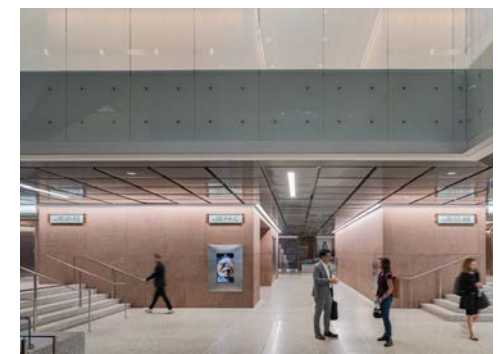
Sharing sustainability

Scotia Plaza is Canada’s largest zero carbon certified building and is LEED Platinum certified. Buildings account for around 40% of global energy consumption and produce about a third of carbon emissions. Schindler technology helps to optimize power usage at Scotia Plaza, contributing to its certified sustainable operations.

Our current series of Schindler 7000 elevators is 30% more energy efficient than the previous generation before and significantly more efficient than Scotia Plaza’s original 1980s DC machines.

By replacing the old machines and adding Schindler PORT, we made significant upgrades to Scotia Plaza’s operations in terms of sustainability. But it’s not just nuts, bolts, and volts: “Schindler’s strength comes from its people,” said Lisa Konnry, Schindler Canada’s President. “This was an ambitious project, and everyone on our team delivered impressive results.” It was this team effort that saw our modernization of Scotia Plaza win Elevator World’s ‘Project of the Year’ in 2022.

Through a combination of teamwork and technology, Scotia Plaza is now a ‘modern’ postmodern icon, ready for the future.



Client
Meridian Energy

Southland, New Zealand

Manapōuri Power Station

Underground
modernization



Photo courtesy of Meridian Energy Ltd.

Manapōuri Power Station is New Zealand's largest hydro-electric power station, situated on the western arm of Lake Manapōuri in Fiordland National Park, in the South Island of New Zealand. The vast machine hall, blasted out of solid granite, sits more than 200 meters underground, connected to the lake's surface by an elevator. Water from the lake above constantly seeps through the bedrock into the shaft, corroding everything in its path. It's the deepest elevator and second tallest in the country – and we've just modernized it.

Challenges and highlights

- A modernization 200+m underground
- Extremely wet conditions
- Remote location

Schindler solutions

- Tailored modernization solutions coupled with experienced crew
- Quarterly extensive maintenance service
- Schindler Ahead RemoteMonitoring

Project overview

1971
Construction end year

2019
-2021
Duration of
modernization

1
Upgraded
underground elevator

Updated,
conventional
Elevator control

-219 m
Max travel height

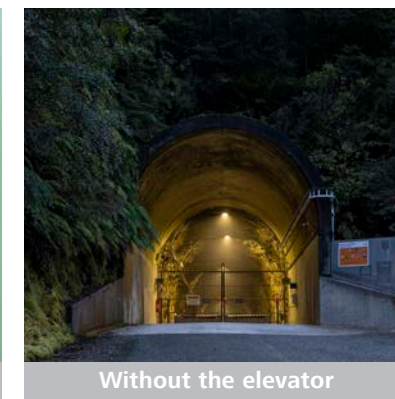
1.75 m/s
Max speed

Schindler Ahead
RemoteMonitoring
Innovation employed

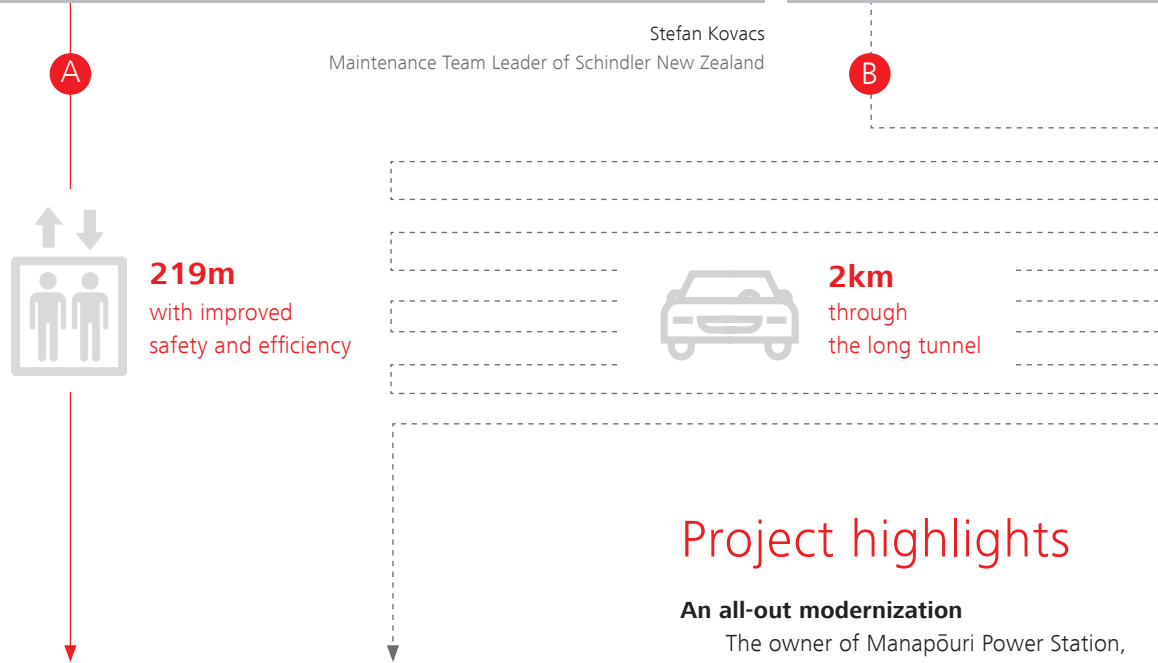


An all-out modernization

Replacing the elevator car, landing doors, machine, and controller



Stefan Kovacs
Maintenance Team Leader of Schindler New Zealand



Project highlights

An all-out modernization

The owner of Manapōuri Power Station, Meridian Energy, approached us after one of the elevator's hoists ropes had snapped. Up to this point, employees at the station had used the elevator for over 40 years. With the elevator now out of order, employees had to drive through a 2km-long tunnel to get to the machine hall.

We proposed a complete modernization of the elevator system to improve its safety and efficiency, and to ensure it complies with the latest building standards. This included replacing the whole elevator car, landing doors, machine, and controller with our innovative new technologies and, in the process, future-proofing this geographically remote equipment for many years to come.





The humid shaft environment

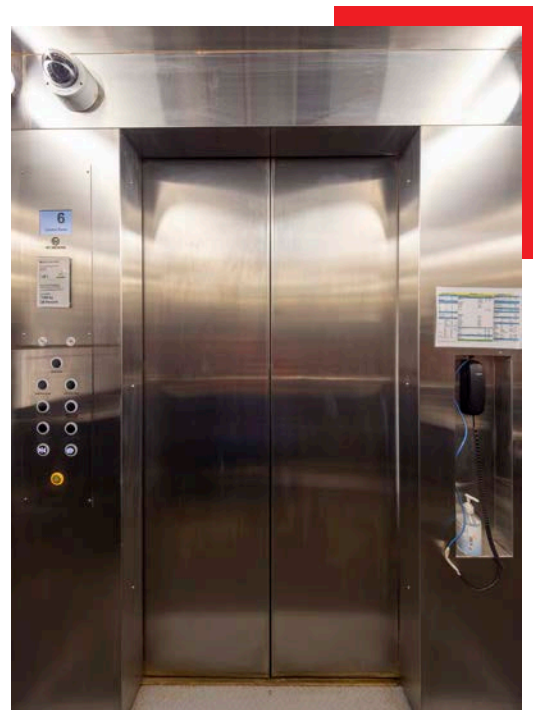
A constant battle against corrosion

Our first challenge was to design new hoist ropes that could withstand constant contact with water. Craig Player, an experienced Schindler Engineering Manager, led these efforts. Craig’s team set out to develop the best rope solution possible for the project, taking into account factors such as rope length, stress tolerance, water resistance, rust prevention, and recyclability. They could count on the support of Schindler Global Large Projects and Brugg Lifting, a company specializing in elevator ropes. The team tested a range of options to ensure they installed the most water-resistant and resilient rope for this environment.

When the project started, the Installation Manager took our core installation crew down to the elevator pit – all dressed in raincoats! He recalled: “It was just like standing outside in the rain. Needless to say, no standard elevator equipment is built for this environment!”

To prevent fast corrosion, we applied rust prevention on all exposed steel parts and built a working platform above the elevator car as a semi-roof. In the machine room, we installed a heat pump and a dehumidifier.

But that was just the hardware part – we also put together our best team: Schindler Project Manager Fabio Fadigas, who led a ten-member team averaging 20 years of experience. Before becoming branch manager in Wellington, Fabio had led large projects in South America and Asia for over 12 years.



A constant battle against corrosion



Photo courtesy of Meridian Energy Ltd.

Look out far, look in deep

There’s no road to access the power station. To get there, our team had to take a plane from Wellington to Queenstown, then drive for three hours, and finally take a ferry or a 50-min barge ride across the lake, where the dam is located. The trip alone takes two days, so our team would spend two weeks at a time at the station, bringing much of their kit to cover any unforeseen challenges.

The unique conditions experienced in the underground shaft also brought its fair share of challenges. Snow, rain, water, mosquitoes – all were part of daily life on-site. Special hoisting methods were also designed. For instance, to install the elevator hoist motor, We had to use special hoisting methods to install the elevator hoist motor. We used a special truck fitted with a huge crane to lower the motor all the way down the 219-meter shaft to the machine hall.

Once the installation phase was over and our experienced crew had left the station, it was time to hand over to Schindler Ahead to take ongoing care of the equipment.

An equipment health check report generated by Schindler Ahead RemoteMonitoring



Schindler Ahead is an intelligent closed-loop platform that connects service technicians and property stakeholders to the Internet of Elevators and Escalators (IoEE). Among its many tools, Schindler Ahead RemoteMonitoring enables predictive maintenance. By installing the IoEE Cube in the controller on top of the car at Manapōuri, our maintenance team in Wellington are able to monitor the operation and status of the elevator remotely. If there are any signs of malfunction, they will be able to run basic diagnostics through the cube and coordinate with Meridian’s service team to solve the problem immediately.

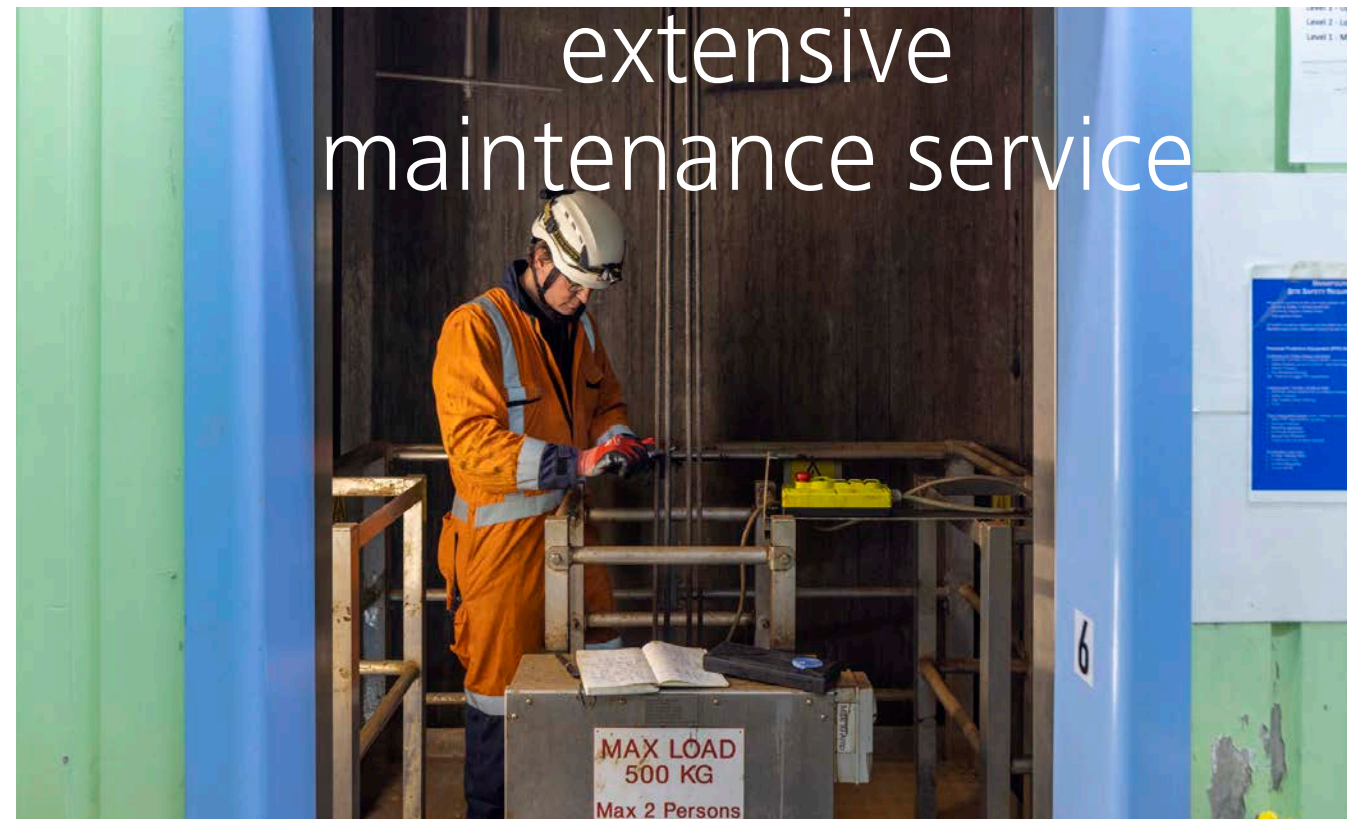
Given the high wear and tear caused by the unusual environment, our service technicians carry out an extensive maintenance service every quarter. Stefan Kovacs, a Schindler veteran with


over 36 years of experience, leads the service team for the site. “We go over everything, lubricate all the necessary components and work to combine our visits with possible repairs and improvements,” he said. “It takes two of our technicians two entire days to complete the whole process.”

Our teams completed the elevator upgrade in less than a year. Now, the 16 employees at Manapōuri Power Station can enjoy the convenience and safety of a new state-of-the-art elevator.

It’s a uniquely challenging and fascinating project. As Fabio put it: “If it wasn’t for the loyal people who’ve been working hard for us for a long time, we wouldn’t be able to pull it off.”

Schindler Ahead RemoteMonitoring + extensive maintenance service



An aerial photograph of a hydro power station nestled in a lush, mountainous valley. A large reservoir of water is visible, surrounded by steep, forested slopes. In the foreground, there are several buildings, including a large industrial structure, and a parking lot with several vehicles. Power lines and towers are visible on the left side of the image. The sky is filled with dramatic, golden-hued clouds, suggesting a sunrise or sunset. The overall scene is a mix of natural beauty and industrial infrastructure.

“ Replacing New Zealand’s second highest elevator was not a straightforward task. The elevator shaft is not a normal working environment as there is constant water coming through the rocks and out into the elevator shaft. The elevator is vital to our daily operation: Schindler customized the entire solution and made its modernization a success. ”

Blair Falconer
Site Manager, Manapōuri Hydro Power Station

Client
Roma Builders Pvt. Ltd.

Developer
Hiranandani Developers Pvt.
Ltd.

Architect
Hafeez Contractor

General contractor
Bhanu Constructions

Thane, India

Hiranandani Quantum

Thinking beyond
tomorrow

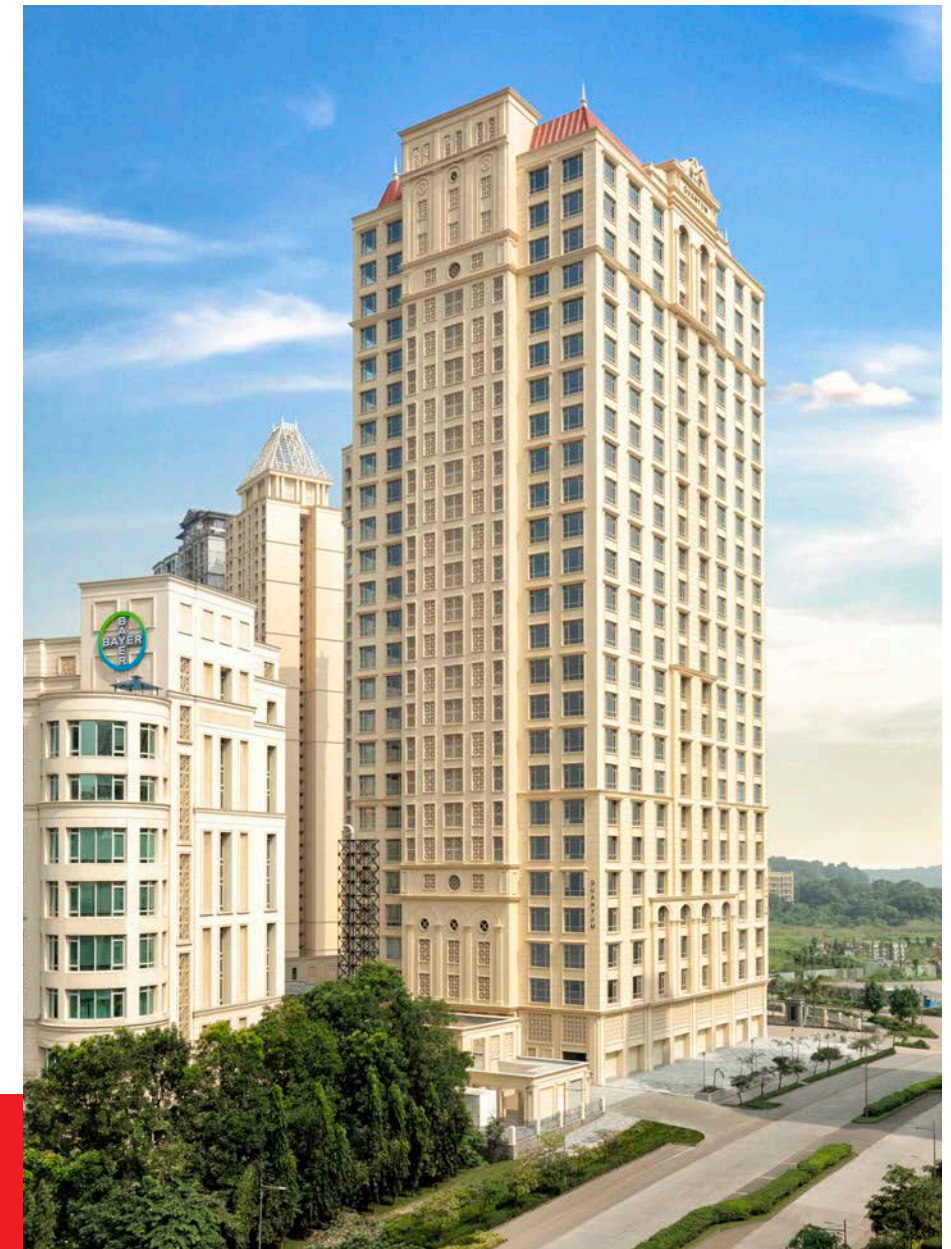
In India, a promise is a promise – no matter what. Our customer, Roma Builders Pvt. Ltd., the construction company behind the Hiranandani Quantum Project, had assured the future building's tenants, all high-profile companies, that the Grade A office building would be operational by the end of 2020. So even the COVID pandemic and a two-month nationwide lockdown wasn't going to derail their timeline. We helped our customer come through on their promise – against all odds.

Challenges and client brief

- Tight deadline in a time of COVID
- 'Serve the end users'
- Transparency and connectivity

Schindler solutions

- Two project managers; fitters worked in shifts; arranged accommodations close to the site
- Illuminated designation plates
- Schindler Ahead Cube



Project overview

2021

Construction end year

12

Schindler 7000
elevators

4

Schindler 5500
elevators

Schindler PORT

Elevator control

114.3 m

Max travel height

4 m/s

Max speed

Schindler Ahead Cube

Innovation employed

7
6
months
16
elevators
2
project
managers
60
fitters

Project highlights

Move mountains to meet the deadline

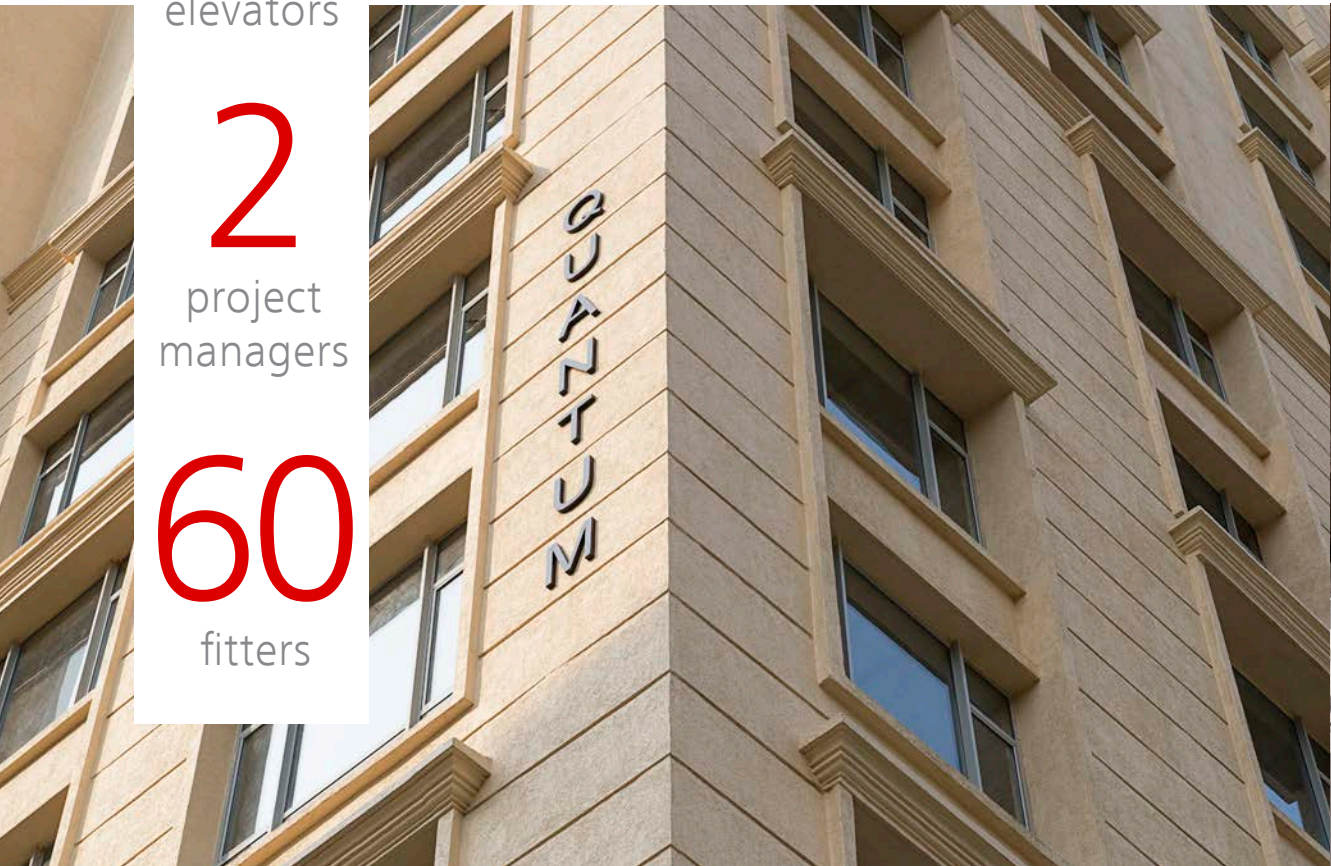
After the two-month nationwide lockdown, our workers were finally allowed to go back on-site in June 2020 – merely six months away from the deadline. There was no time to lose. We had 16 elevators in total to install, as well as our Schindler PORT system.

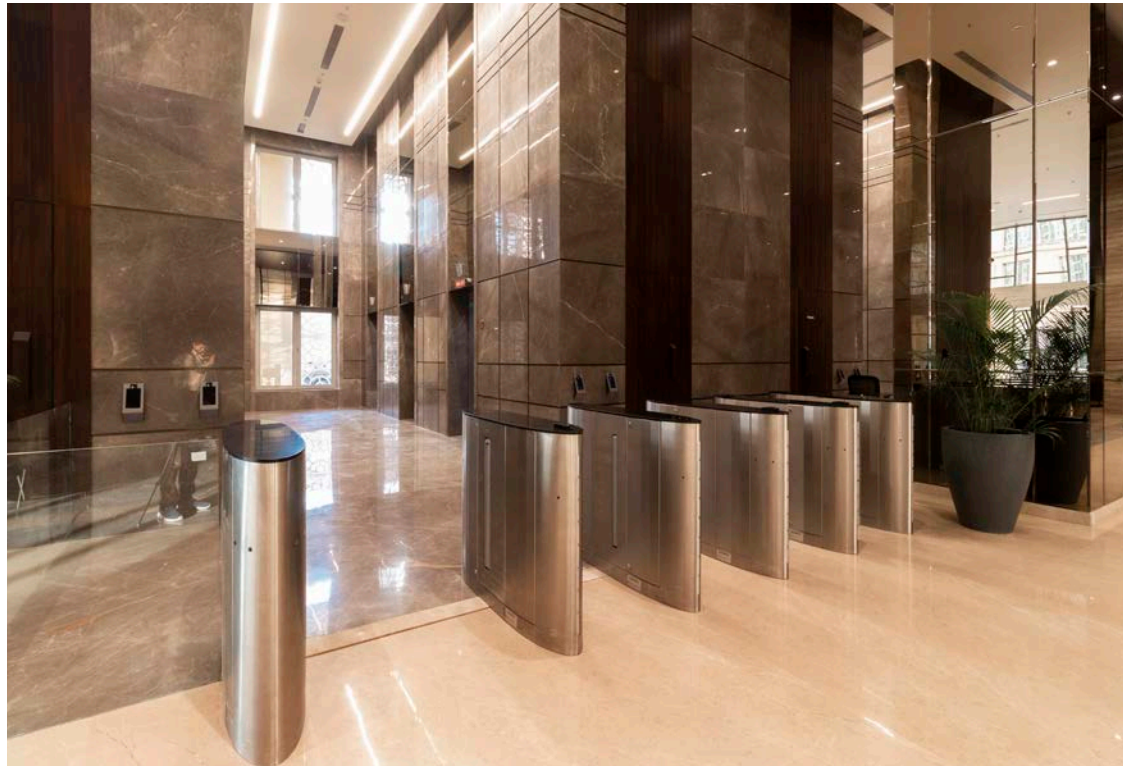
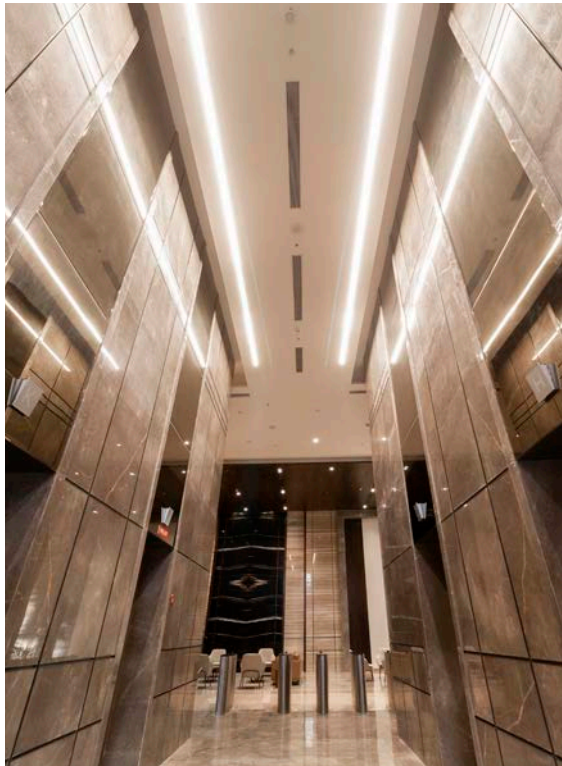
To move the project at full speed, two project managers were brought in: Suresh Chile focused on local procurement of resources, while Abdulgaffar Patel oversaw installation activities and on-site logistics.

To stay on the already tight schedule, our installation team worked in multiple shifts, which was no easy task during a time of changing local regulations. To make sure our 60 fitters got enough rest and had easy access to the site, they were put up in local accommodation.

The whole area, Hiranandani Business Park, had been developed by our customer, and we had earned their trust with a previous large project. Our customer offered six flats nearby for our fitters to live in – an act of generosity that went a long way in helping the project move faster.

Full speed





We also proposed illuminated designation plates, a practical and stylish addition to the landing lobby. Connected with Schindler PORT, the plate above the designated elevator lights up when the car arrives.



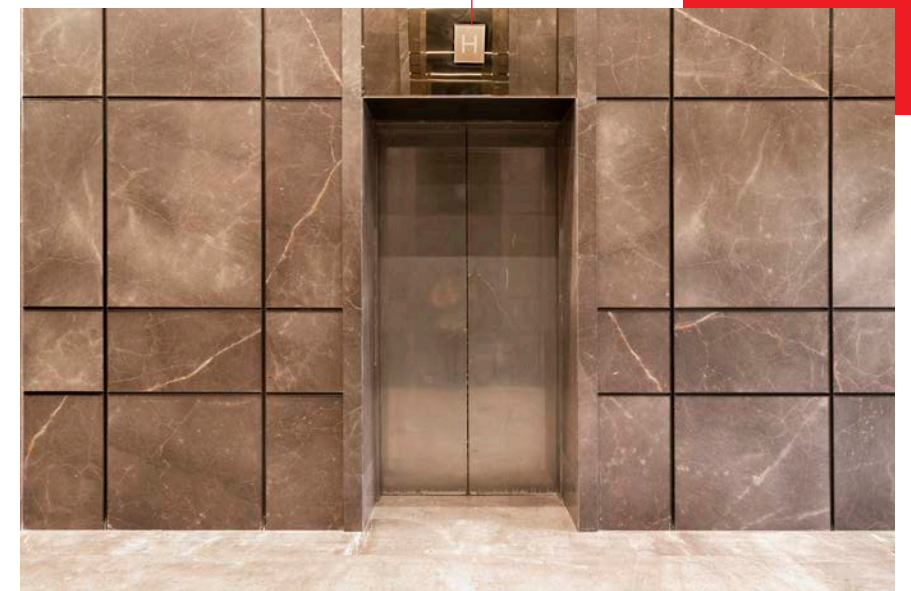
Options of illuminated Schindler PORT designation plates

Secure & smooth

For our customer, but also for the end users

Among Quantum’s tenants are some of the most prominent blue-chip companies, banks, and multinational corporations. Inside the 25-story building, an estimated 9,900 white-collar workers and visitors come and go every day. An intelligent management system was therefore a must to provide secure access and ensure a smooth flow of traffic through the building.

To accurately estimate the elevator capacity needed to handle the inflow, outflow, and inter-floor traffic, we carried out a comprehensive traffic simulation, a methodology we’ve practiced since 2007 and which has since been endorsed by ISO as an industry standard. We tailored our offering accordingly – providing 12 Schindler 7000 elevators and four Schindler 5500 elevators, complete with our robust destination control system Schindler PORT.



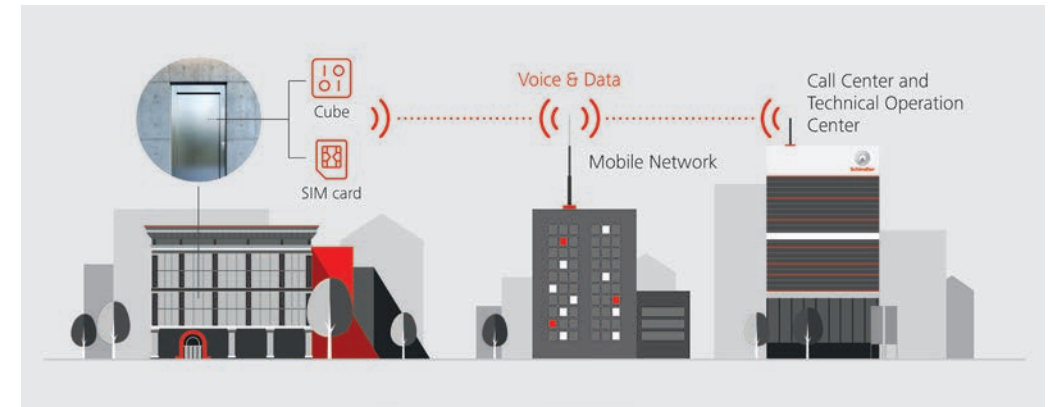


Illustration of how Schindler Ahead Cube works to help ensure higher uptime

Literally ahead

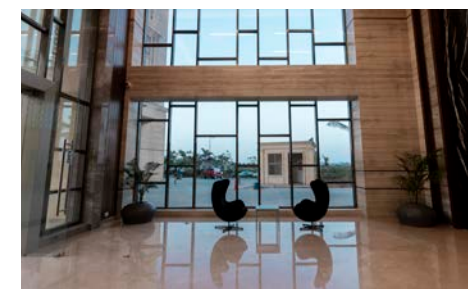
Schindler Ahead Cube – thinking beyond tomorrow

For a 12-elevator group running in a densely populated office building, high uptime is paramount. We installed Schindler Ahead Cube, which connects our equipment to the Internet of Elevator and Escalators (IoEE) and sends timely insights to our technicians. This way, technicians get notified of symptoms and can attend to the equipment proactively, so problems are solved before they become issues.

We did encounter a few hurdles along the way: Schindler Ahead Cube usually comes with one antenna, but the connection to the IoEE was not steady enough due to the weak signal of the local SIM card service provider. We probed our Schindler Ahead experts at our headquarters: the issue was solved swiftly by switching to an M2M (machine-to-machine) solution, by using two antennas instead of one.

Schindler Ahead Cube now works like a dream. Not only does it provide relevant data to our technicians through its Remote Monitoring Platform (RMP), but it also offers the opportunity for the building to integrate with an entire suite of digital products.

“Elevators used to be just a steel box, but now customers are expecting so much more,” said Ankit Ahuja, Deputy Manager of Digital Business India, who has been in the IoT (Internet of Things) business for more than a decade. “We’ve been applying Schindler Ahead since 2018,” he said. “So, as we’d like to say, we’re literally ahead.”



“ Having worked with Schindler before, we knew we could entrust them with Quantum. We were impressed with their professionalism, quality, safety standards, timely delivery, and high team involvement from top to bottom, even during the tough times of pandemic. ”

Chandrashekhar Mate
VP - Projects
Roma Builders Pvt. Ltd.



Vienna, Austria

THE ICON VIENNA

Three towers,
one icon

There's no better place for a new landmark than Vienna Central Station – THE ICON VIENNA is a modern and exciting addition to the UNESCO World Heritage global city, merging towers, transit, and technology.

Challenges and client brief

- Central, high traffic transit hub location
- Desire for state-of-the-art interfaces and seamless access
- Construction elevator as operational permanent system

Schindler solutions

- Security and destination control
- Schindler Ahead and myPORT in operation
- Schindler CLIMB Lift adapted to mid-rise use

Client
Allianz Real Estate

Investor
Allianz

Developer
SIGNA

Architect
HNP Architects

General Contractor
SIGNA



Project overview

2018

Construction end year

22

Schindler 5500
elevators

3

Schindler 9300AE
escalators

96.99 m

Max travel height

3 m/s

Max speed

Schindler PORT

Elevator control

Schindler CLIMB Lift
Schindler Ahead Digital Media Services (DMS)

Innovations employed



Project highlights

Vienna's technological wonder

The three towers of THE ICON VIENNA rise over Vienna Central station, one of the busiest transport hubs in Austria. The office towers – standing at 9, 17, and 24 floors tall respectively, are interconnected at the ground level by a large public space with a variety of retail and catering areas – lie at the heart of a new district taking shape in the center of Vienna.

THE ICON VIENNA opened in 2018, providing premium office space to legions of bankers, diplomats, and government workers. Everyone enters THE ICON VIENNA towers through the architecturally stunning ground floor shopping area, where sunlight pours in from geometric skylights. The three tower entrance halls are outfitted with perforated metal paneling. The elevator landings, doors, and cars give off a futuristic, high-tech vibe. There's nothing misleading there: THE ICON VIENNA is a technological wonder.

The latest in tech

Fulfillment

Schindler CLIMB Lift
For 22 Schindler 5500 elevators

Operation

Schindler PORT & myPORT
with 120 access doors
& 188 elevator terminals

Maintenance

Schindler Ahead Cube
Schindler Ahead RemoteMonitoring & ActionBoard

Schindler Ahead Digital Media Services (DMS)

Schindler Ahead AdScreen 10 pcs.
Schindler Ahead MediaScreen 4 pcs.

Over 300 easy access points with Schindler myPORT

Imagine keyless, seamless access: people breezing through turnstiles, doors, and elevator landing floors. THE ICON VIENNA leverages myPORT to let occupants and visitors in through the building's entrance turnstiles, with a single tap of their smartphone running the Schindler myPORT app.

After a change of ownership in 2018, the new owners of THE ICON VIENNA like the Schindler myPORT system so much that they asked us to install it throughout the building. The system now covers 120 access doors and 188 elevator terminals. Occupants and visitors can now request elevators directly from their smartphone anywhere in the building, and move through all secure areas seamlessly.

To make this possible, a network of Radio Frequency Identification (RFID) beacons operate behind the scenes, coupled with fully customizable access profiles granting users entry to specific floors during specific hours. The only thing users notice is the ease with which they move through the building.



120 access doors
188 elevator terminals

188

connected by Schindler myPORT



Secure access is a must for any premium office space. Michael Schadl, Schindler Austria's tech wizard and Head of IoEE and Schindler PORT, integrated the building's security access system with Schindler myPORT. "It was possible for us to bring security and access together with one card, one system, and one company – no other interfaces needed," he said. Our customer was won over by the simplicity of it all.

Smart & connected interfaces

Next-level integration

THE ICON VIENNA had been designed and built with technology at its core – and we were able to make it even more high-tech after the building itself was sold. The vision that the new owners had for THE ICON VIENNA was of a tech-enabled building using the best of what the Internet of Things had to offer. Schindler Ahead fit into that vision perfectly, allowing for the building’s elevators to be remotely monitored and maintained, while providing smart and connected interfaces for the building’s management and tenants. Elevators were also fitted with Schindler Ahead Digital Media Services (DMS) displaying fully customizable image and video content.

The Schindler Ahead Digital Media Services (DMS) at THE ICON VIENNA show train, tram, and bus connections in real time. The building is therefore integrated into Vienna’s urban mobility system, linking vertical and horizontal mobility. “When I get in the elevator to go home, I can see if I need to run for my train or if I have time to visit the grocery store,” commented an occupant.

The screens can also be used to broadcast a wide variety of information and can generate revenue through advertising sales. Schindler Ahead was adapted to each elevator car at ICON, with ten large size Schindler Ahead AdScreens, and four smaller Schindler Ahead MediaScreens in the fire elevators.

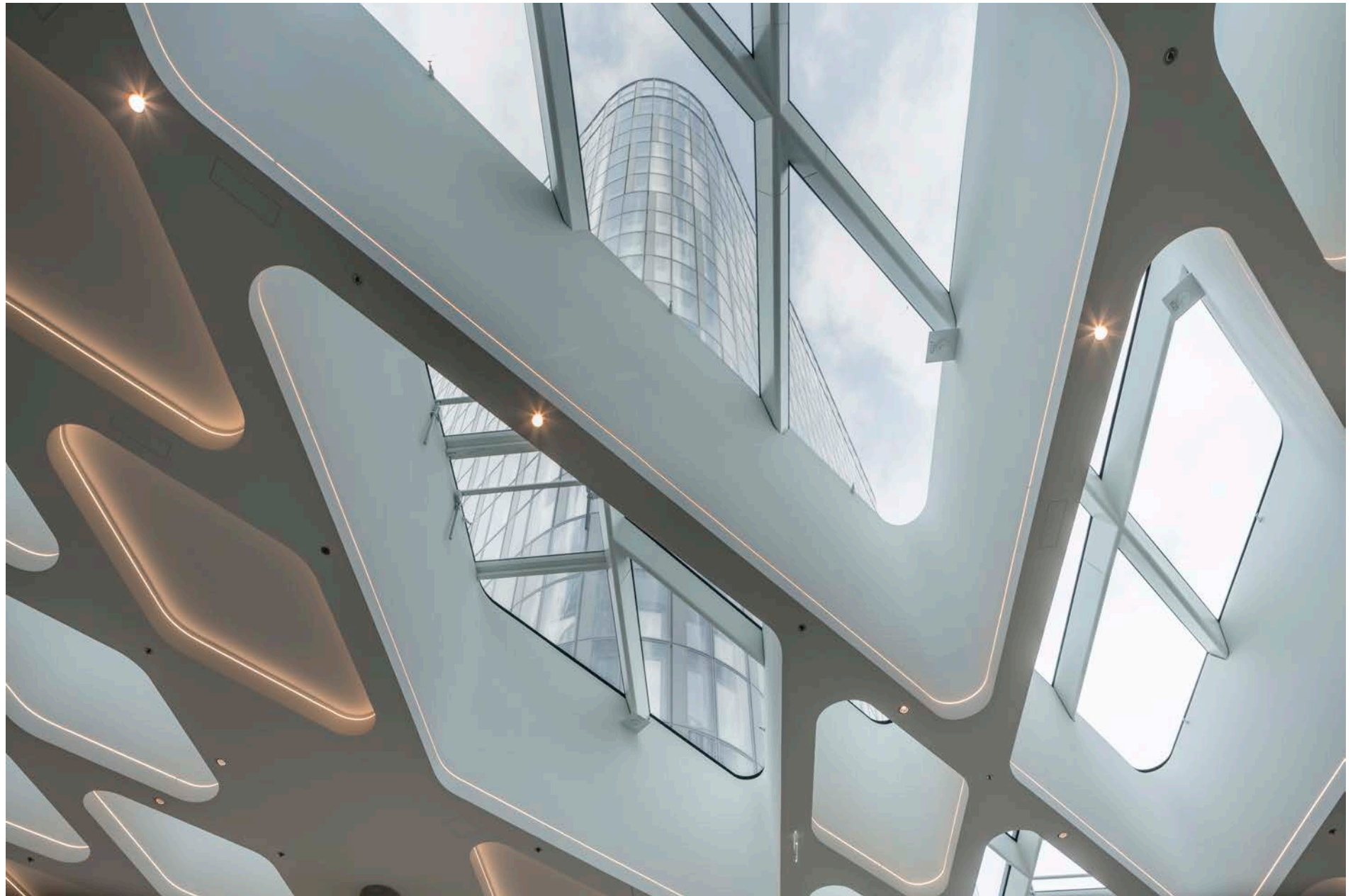


Schindler Ahead DMS

providing train, tram, and bus info in real time

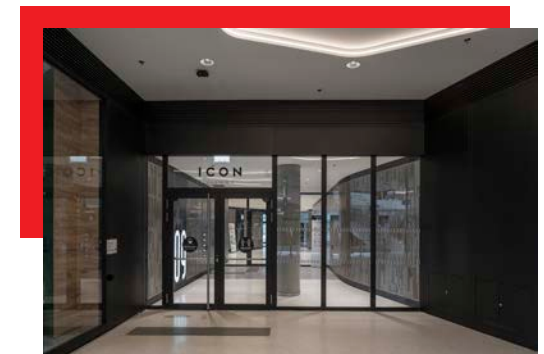
Up faster – Schindler CLIMB Lift

THE ICON VIENNA went up fast, with our Schindler CLIMB Lift helping to speed up construction. Schindler CLIMB Lift removes the need for temporary, slow construction elevators – instead the elevator system grows in-situ, floor-by-floor, as the building is constructed. Once construction is complete the ‘work’ elevator remains as a permanent fitting. This results in significant time and costs savings, helping to increase the efficiency of how people and goods move through the building during construction. Prior to THE ICON VIENNA, Schindler CLIMB Lift had only been used in high-rise projects, so more than just a few tweaks were needed. “We collaborated with our Ebikon headquarters and could leverage the experience of our colleagues in Sweden who were using Schindler CLIMB Lift with the Schindler 5500 series,” Gerhard Ockermüller, THE ICON VIENNA project manager, explained. “We perfected the system and met the tight project schedule.” THE ICON VIENNA also set a precedent for us – opening up the use of Schindler CLIMB Lift technology to a wider range of global projects.



“ We perfected the (Schindler CLIMB Lift) system and met the tight project schedule. ”

Gerhard Ockermüller
Schindler Project Manager for THE ICON VIENNA



Client
CL Office Trustee Pte. Ltd.

Architect
RSP Architects Planners
& Engineers (Pte) Ltd.

Design Consultant
Bjarke Ingels Group (BIG)

Singapore

CapitaSpring

A dream come true

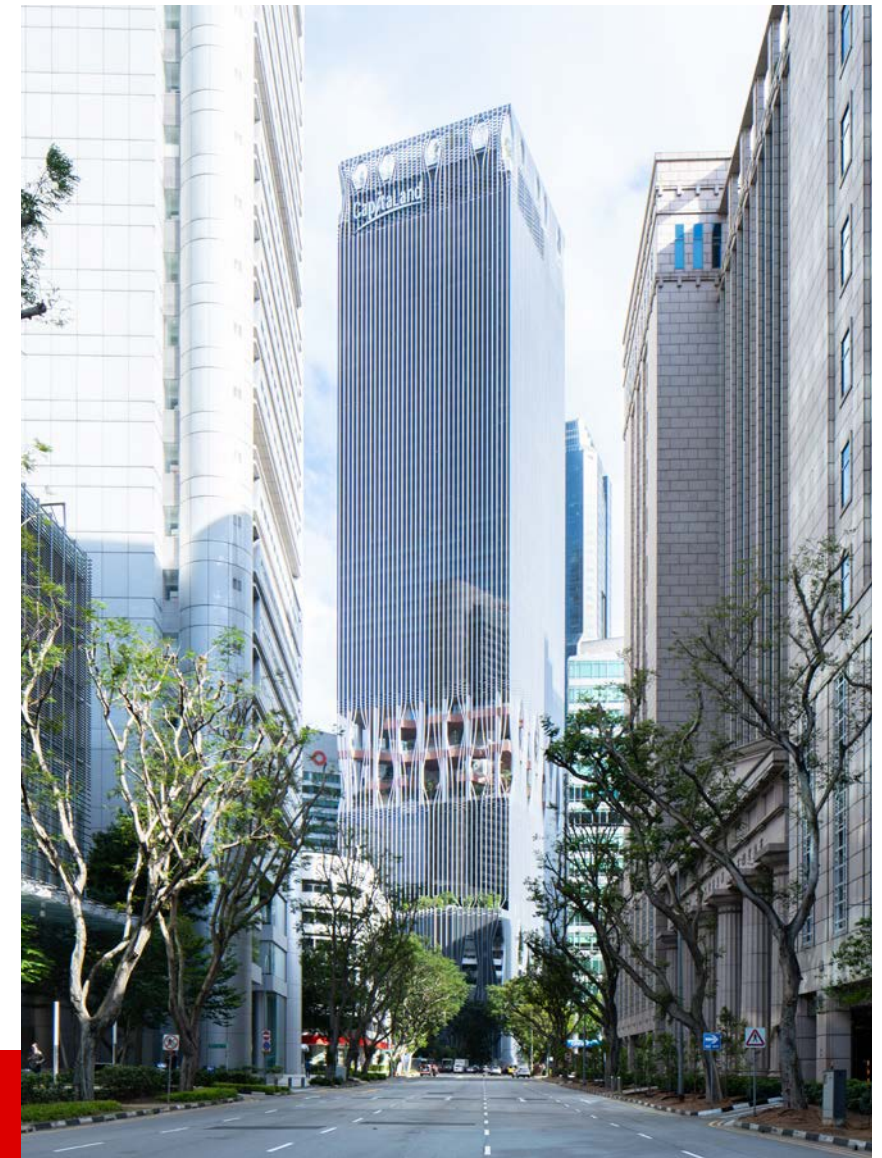
When news about a new skyscraper by CapitaLand began to circulate, the project sounded almost too good to be true. CapitaLand is one of the most prominent developers in the region and when word got round that they wanted to use the latest groundbreaking innovations to create the ultimate seamless journey – we were excited as this is exactly our forte.

Challenges and client brief

- New high-rise in a small footprint
- Panoramic elevator with a change in design
- Seamless journey

Schindler solutions

- Schindler CLIMB Lift to boost efficiency
- Expert team and stamina
- One-stop API-integrated solution Schindler BuilT-In and Schindler PORT



Project overview

2021

Year construction ended

247.35 m

Max travel height

9 m/s

Max speed

1

Panoramic Schindler 5500 elevator

12

Schindler 5500 elevators

23

Schindler 7000 elevators

4

Schindler 9300 escalators

Schindler PORT

Elevator control

Schindler CLIMB Lift
Schindler BuilT-In

Innovation employed

5m/s

average speed of a Schindler CLIMB Lift

Project highlights

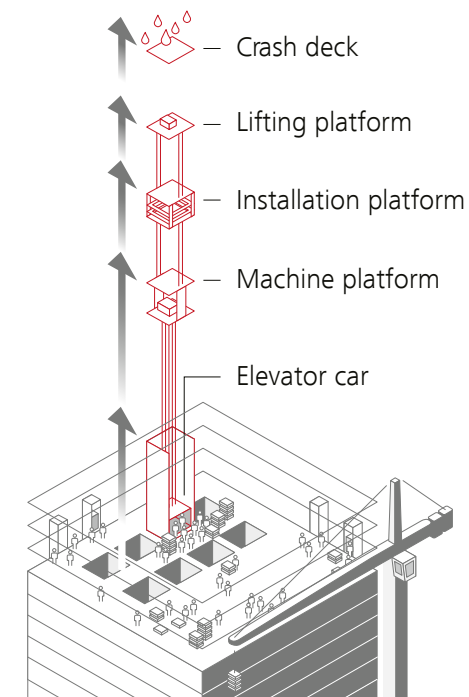
Building Singapore's second tallest building within a tight footprint

If you search for CapitaSpring on Google Maps, you'll see that the stretch of land it occupies is surrounded on all sides by busy streets and commercial buildings. It's located in the heart of Singapore's CBD. "It's the city's equivalent of downtown Shanghai or Lower Manhattan in New York," said Anthony Lim, Schindler Sales Manager for CapitaSpring.

To raise a skyscraper in this concrete jungle was never going to be easy – often work has to be done during the night just to avoid the traffic. To navigate these tight constraints, we installed two Schindler CLIMB Lifts. Fitted permanently into the elevator shafts, Schindler CLIMB Lifts grow with the building, rising incrementally to service higher floors as the building gets taller. As such, it provides the benefits of a permanent elevator from the very beginning of construction. With an average speed of 5 m/s, Schindler CLIMB Lifts are faster than traditional hoist elevators, helping to improve site logistics and increase productivity. As internal elevators, they are available for operation in all-weather conditions, and they provide a secure working platform, helping to increase site safety.



How does a Schindler CLIMB Lift work?



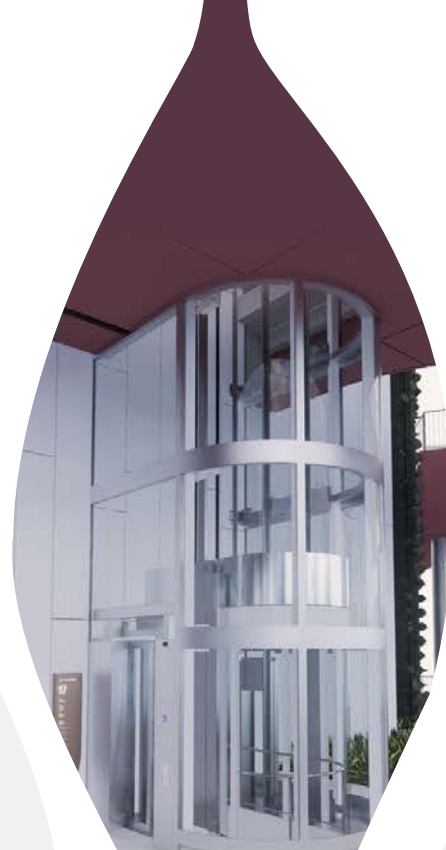
Another perk of Schindler CLIMB Lift is that it's not affected by the building shape or the readiness of the building façade. A key signature of CapitaSpring's architecture is its 'Green Oasis' from level 17 to 20. The aluminum façade has wider openings here to allow the lush greenery inside to thrive on sunlight. Traditional external hoists would have struggled with the irregular-shaped façade and would certainly have delayed its completion; but as an internal elevator, this open-air design concept posed no obstacle to our Schindler CLIMB Lifts.

Throughout the construction of CapitaSpring, our two Schindler CLIMB Lift units did their part, easing the burden of logistics and hastening the project forward. The building has been completed, their cars and landing doors continue to work as permanent fixtures, delivering maximum efficiency with minimum waste.

Customized panoramic elevator, with a drastic change in design

For the Green Oasis, our customer requested a customized glass elevator so passengers could enjoy a view of nature within the city. The initial plan was for the panoramic glass elevator to have front-opening doors. Subsequently, there was a request to change the design so that the elevator would have a side-door opening. Due to the car's unusual, customized bullet shape, the change in the door position meant altering the design of almost the entire car.

We took it in stride. Halim Draman, Project Director for CapitaSpring, who has been with Schindler for over 30 years, knew exactly where he could find the support he needed. He reached out to Derek Roberts, the head of our Schindler Engineering Center in Hong Kong, who's been dealing with customized elevator requests for 40 years. With his guidance and that of his team, we were able to customize an elevator that met all our customer's expectations. "Somewhere in Schindler, you can always find the help you need", reflected Anthony with a smile.



“ Somewhere in Schindler, you can always find the help you need. ”

Anthony Lim
Schindler Sales Manager for CapitaSpring

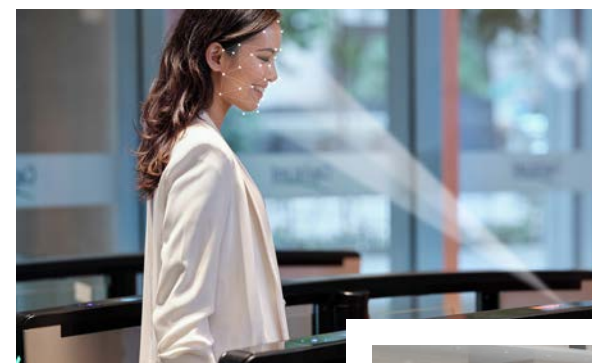




Schindler Built-In: a one-stop API solution for the ultimate seamless journey

The 280-meter-tall CapitaSpring has 51 stories, divided between Grade A offices, luxury apartments, and retail space. On a busy day, the development draws as many as 5,000 people – a mix of shoppers, office workers, and tourists.

To handle that kind of foot traffic, our customer was looking for a state-of-the-art mobility system – one that would incorporate an intelligent API with multiple secure access methods to enable efficient transit throughout the building. It was important that the system be future-proof, so that additional features could be added when needed. Above all, our customer needed a mobility partner who could commit to their vision and help make it a reality.



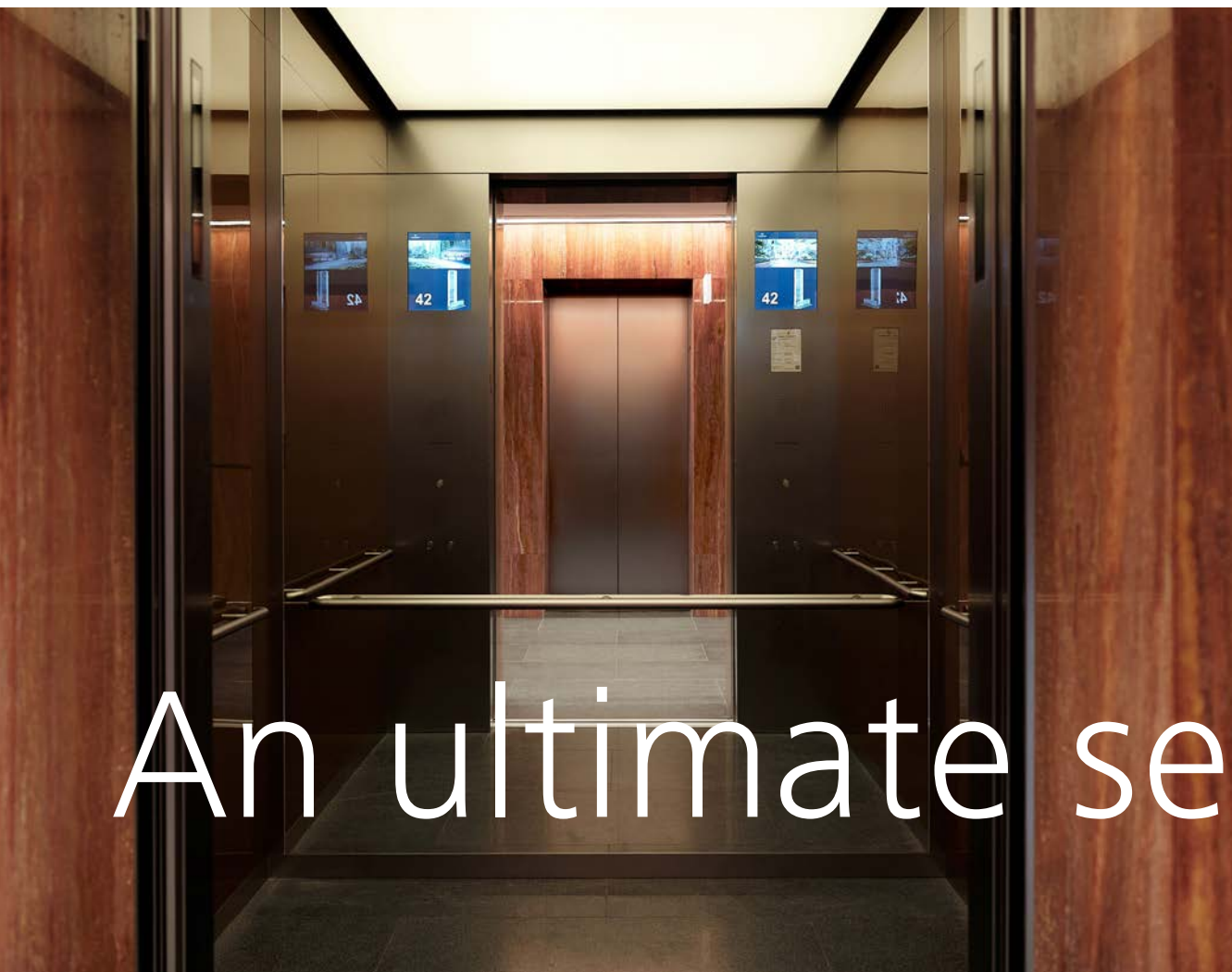
Enter



Call



An illustration showing the seamless journey Schindler Built-In could provide throughout a building



The initial plan had us focusing on Schindler PORT and the vertical transportation system. But during one of the early design meetings, it became clear that there was a gap between our customer’s vision and what the different suppliers involved in this project could effectively deliver.

To bridge this gap, we suggested that Schindler PORT serve as the central nervous system for CapitaSpring. It wasn’t a simple task. In addition to the elevators, Schindler PORT now had to integrate turnstiles, robots, facial recognition technology, QR code readers, surveillance cameras – just to name a few.

“It’s a roller-coaster story,” reflected Lok Fung, head of Schindler Transit Management Competency Center (TMCC), who’s been with Schindler for 23 years. “Post-tender changes are not unusual, and we’re always happy to accommodate changes or new requirements.” One of the key features of our API solution is how customizable it is, allowing us to cater to even very detailed specifications. What simplified the process further was that instead of collaborating with a multitude of suppliers, now our customer only needed to contact us.

An ultimate seamless journey



To handle the workload, Lok and his team chose to customize our Schindler Built-In API solution. Originally developed by Jardine Schindler, the solution had already proved its worth in projects like Hong Kong Science Park, delivering excellent performance results. Integrating effortlessly with Schindler PORT and the latest technologies on the market, Schindler Built-In API supports real-time database synchronization of the building's mobility and security systems. The system also continuously optimizes its performance with deep-learning algorithms.

It took Lok, his team and our pool of experts the better part of half a year to customize the solution. This was multidisciplinary team effort drawing on our experts from Business Development, Operations, and Software Development. Throughout the whole process, our team worked closely with CapitaLand, meeting with them frequently to help fine-tune design details and keep the project on track.

Now our bespoke Schindler Built-In system delivers the ultimate seamless journey throughout CapitaSpring, helping to make it one of the most future-ready buildings ever built – a dream come true.

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