

Kuala Lumpur, Malaysia

Exchange 106

A crowning
achievement

Imagine a 450-meter-long avenue lined up with hundreds of offices and shops. Now turn it upright and you get a rough idea of what Exchange 106 – the tallest skyscraper by roof height in Malaysia – feels like.

Challenges and client brief

- Construction-time-use (CTU) elevators asap
- Getting machines into the crown structure
- A flexible and integrated transit management system

Schindler solutions

- CTU elevators + customized Schindler SLIM
- Special lifting devices
- Schindler PORT + independent optical-fiber backbone

Investor
Mulia Property Development

Developer
Mulia Property Development

Architect
Mulia Group Architects

Structure contractor
China State Construction
Engineering (Malaysia)



Project overview

2019

Construction end year

52

High-zone
elevators

6

Mid-zone
elevators

10

Escalators

413.5 m

Max travel height

6.0 m/s

Max speed

Schindler PORT &
conventional

Elevator control

Despite the epic proportions of the project, the Schindler team had to work within an extremely tight timeframe – a project of that scale would usually require double the time, or longer. This ambitious project, which lies at the heart of the upcoming financial district Tun Razak Exchange, was rife with challenges. Schindler was always on hand to help our customer solve them.

Schindler SLIM

A faster installation method

Project highlights

Schindler SLIM for faster progress.

Because of the ambitious construction timeline, one of the customers' first requests to Schindler was to install at least one construction-time-use (CTU) elevator in each of six construction site zones to transport workers and materials efficiently. In the end, Schindler provided more than 18 CTU elevators.

But we did much more than that: we applied Schindler SLIM (Scaffold-less Installation Methodology), which greatly reduced the installation time of our Schindler 7000 elevators. The teams used false cars in the elevator shafts (see illustration on the opposite page) to carry out the installation of hoistway equipment – a safer and more efficient method.



- 1 Crash deck
- 2 Material hoist
- 3 Hoistway platform
- 4 Suspended platform
- 5 Pit set and lower GRIK frame

Lifting a 10.5-ton machine 400m above the ground into the crown. Exchange 106 houses the tallest elevators in Malaysia, with 100 stops. Getting the elevator driving machines (two gearless 10.5-ton FM710) into the machine room inside the crown – the structure atop the building – was no easy task.

Just before the driving machines were delivered on-site, the Schindler team were informed of a major change of plans: the crown structure, it had been decided, would have a tapered design – becoming narrower at the top. This seemingly small change had far-reaching consequences: the driving machines could not be installed before the crown structure was completed. At the same time, waiting for the crown to be completed would mean that the

team couldn't use the building's crane sitting atop the building to lift the driving machines into the crown, as that would run the risk of damaging the façade. There was no easy way out of this, it seemed.

The team brainstormed all possibilities (using a Russian heavy-lift helicopter was even considered for a while). Eventually, the machines were lifted using the builder's tower crane to the level below the current machine room. The tower crane was then dismantled to allow the construction of the crown structure; once the crown was completed, the team used a structural steel stand specially manufactured for the occasion, along with several chain blocks and hydraulic jacks, to haul the machines to their final location.



One of the luxurious lobbies in Exchange 106, equipped with Schindler PORT devices

Optical-fiber backbone cabling to support Schindler PORT. Exchange 106 is predominantly an office building – although its bottom five floors are for retail use and its six underground floors are used as parking space. To manage the complicated traffic flow efficiently and safely, the customer uses both Visitor Management System (VMS) and Building Management System (BMS) technologies. Our Schindler PORT was able to interface with these third-party systems through our latest API (Application Programming Interface) solution. By recording and analyzing traffic patterns on each floor, it optimizes traffic performance and reduces waiting times.

The teams were confronted with another challenge: they needed to install an optical-fiber backbone that could enable Schindler PORT to communicate with our connected units. After months of testing and commissioning, the teams designed and installed an optical-fiber backbone, connecting all eight machine rooms in a



powerful network stretching from the building’s basement, with its 36 lanes of turnstiles spread across four lobbies, to the highest machine room 450 meters above ground.

Looking back on Exchange 106

Like all the project stories featured in this publication, Exchange 106 wouldn't have been possible without the hard work, professionalism, and dedication of our teams. Malaysia's new iconic building stands tall in the skyline, with our mobility solutions at its heart.

“ I could tell that our workers were enjoying the moment at the end of a tiring day when they sat on top of the building, facing the skyline of Kuala Lumpur, which is now crowned with Exchange 106. ”

Siti Salwani Ab Rahim
Schindler Project Manager
for Exchange 106