

Singapore

# Jewel Changi Airport

True to its name

Airports are transient spaces – people travel through them to get to their final destination. Jewel, the latest addition to the already famous Singapore Changi Airport, is flipping that notion on its head: with its many gardens and attractions shops and eateries, Jewel is a destination in its own right.

#### Challenges and client brief

- Elevators cars matching the aesthetics of Jewel
- New installations between operating terminals
- Predictive maintenance

#### Schindler solutions

- Customized panoramic cars
- Minimum disruption
- Schindler Ahead

**Client**  
Jewel Changi Airport Trustees Pte. Ltd.

**Investor**  
Changi Airport Group

**Developer**  
Changi Airport Group  
CapitalLand Mall Asia

**Architect**  
Moshe Safdie, RSP Architects  
Planners & Engineers

**General contractor**  
Woh Hup Pte. Ltd.



Project overview

2019  
Construction end year

35  
Schindler 5500  
elevators

4  
Schindler 5500  
panoramic  
elevators

67  
Escalators

60  
Moving walks

49.2 m  
Max travel height

1.6 m/s  
Max Speed

Schindler  
Ahead  
New technology employed

For Schindler, the story of Jewel is one of perseverance and innovation. Schindler's mobility solutions were designed to blend with Jewel's unique architecture; their installation was carried out without disrupting the airport's normal operation, and Schindler's predictive maintenance system Schindler Ahead ensured high uptimes.

# Panoramic elevators: no limit to your vision

Rendering images of the panoramic elevators, photo courtesy of Wittur



## Project highlights

**Elevator cars compatible with Jewel's aesthetics.** Jewel, with its dome glass structure, is a sight to behold: it is home to 2 000 trees and more than 100 000 plants, ferns, shrubs, as well as the world's tallest indoor waterfall. Here, elevators would need to be more than just a means of transport – each would offer a different vantage point to take in the views of Jewel. Standard elevators wouldn't cut it.

The architect firm behind Jewel, Safdie Architects (SA), knew exactly what it wanted: panoramic glass elevators with full-height glazing, allowing passengers to enjoy an uninterrupted

view of Jewel from every angle – and at all times. In technical terms, this meant full-glass cars with minimal visible joints and a shaft with minimal fixing points.

This was a first for Singapore, but that didn't deter the team. They accommodated SA's every request, coordinating tirelessly with Schindler's design partner in Italy, Wittur, to bring their vision to life. Each new iteration pushed the boundaries of creativity and engineering.

"Name it and you will have it," said Ivan Ho, Schindler Project Director for Jewel. Even when working under a tight schedule, the team stayed focused on realizing the customer's vision.

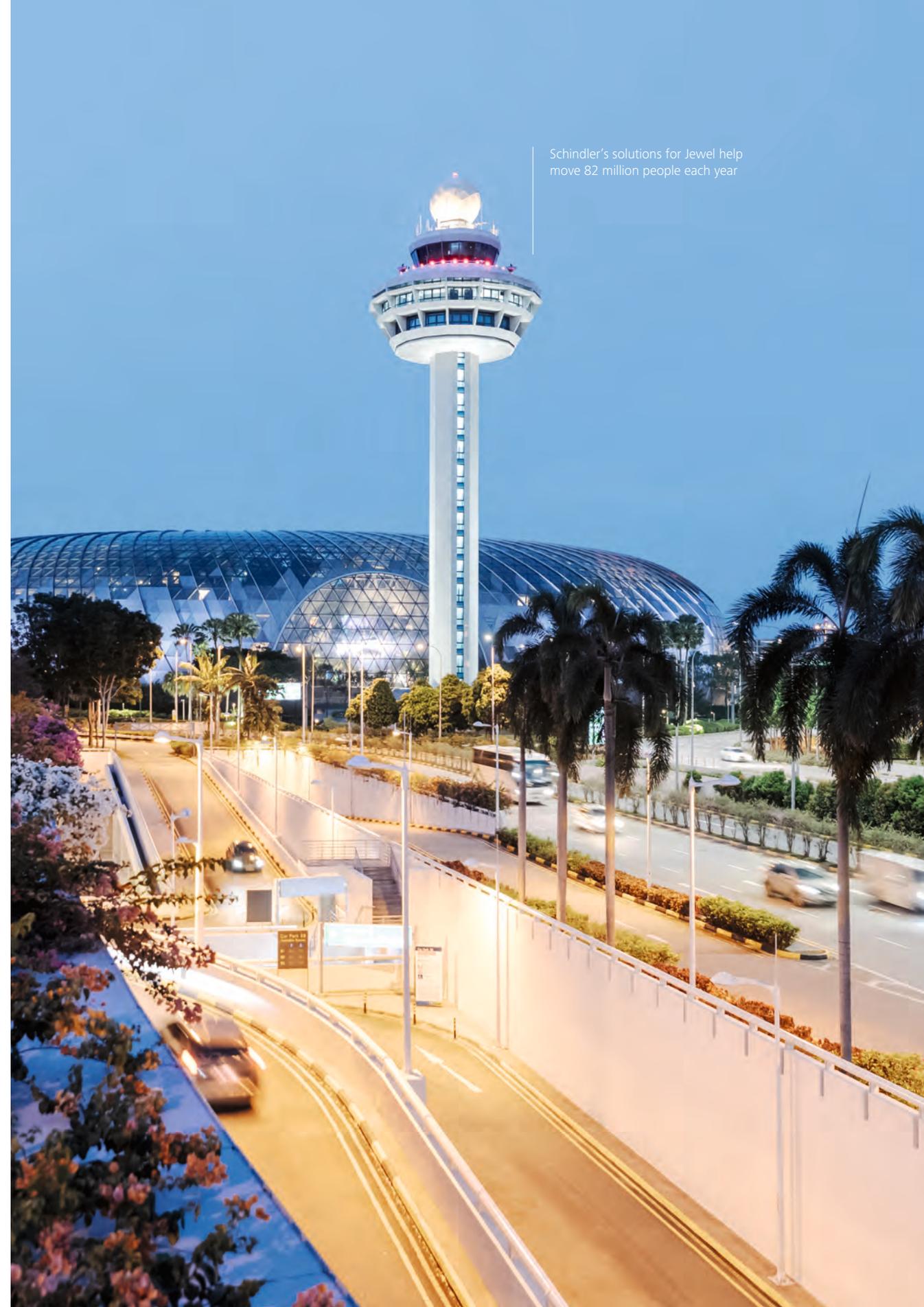
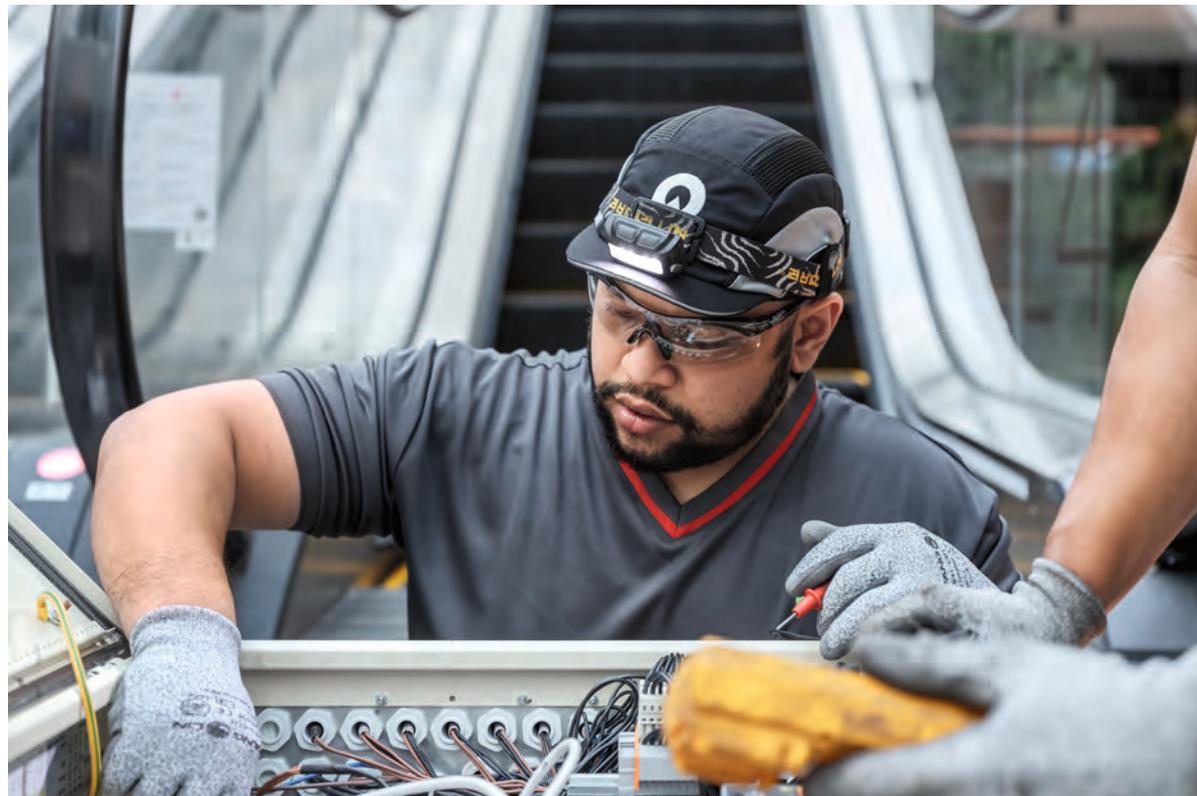
The hard work paid off: stunning frameless glass cars now move up and down a minimalistic shaft, blending effortlessly with their lush surroundings.

**New installations at an operating airport.** The customer had requested that the installation not cause any damage to the existing structure. As the dome had already been completed, using a crane was not an option. The team engineered a hoisting beam just to lift escalators up to level 5. They used several thick layers of floor protection when transporting heavy equipment – not a scratch was left behind.

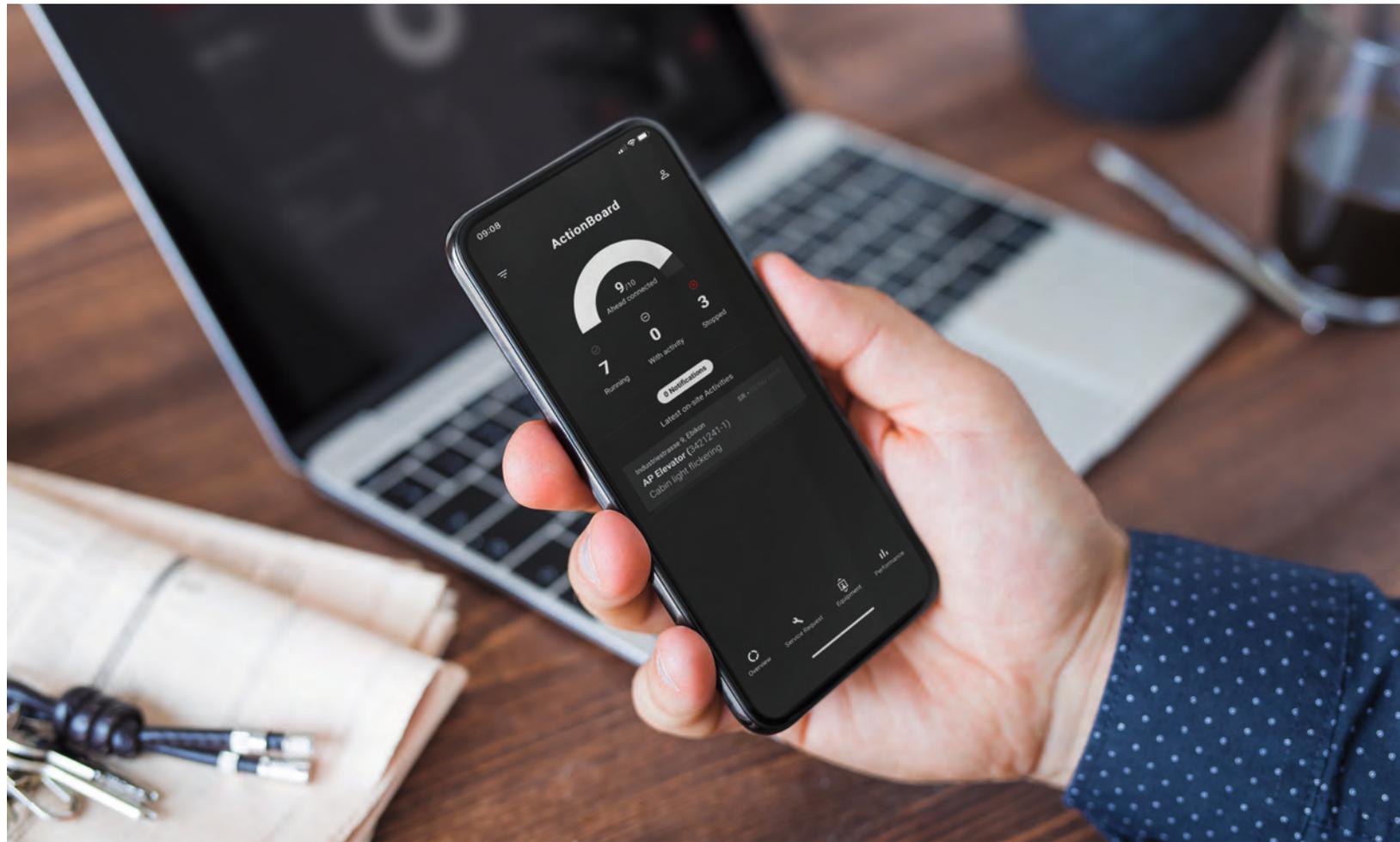
Jewel is linked to the airport's three passenger terminals, making it a critical transit hub for the airport. Schindler was asked to avoid disrupting the airport's daily operation. For the installation of the moving walk units on the two link bridges located just beside the Skytrain track, the team had only a window of a few hours each day. For almost five months, they carried out on-site work from 1:00 am to 4:00 am. All installations were completed on schedule.



Jewel is like a second home for many Schindler employees: they know every component of every Schindler installation



Schindler's solutions for Jewel help move 82 million people each year



Schindler Ahead ActionBoard provides timely insights to the building owner anytime, anywhere

**Schindler Ahead.** Jewel is a sprawling ten-story building spanning an area of 135 700 m<sup>2</sup>, featuring 280 retail stores and eateries. This means any service downtime would not only affect circulation within the airport, but would also have a negative impact on retail activity. But not under Schindler Ahead's watch: Remote-monitoring and predictive-maintenance system Schindler Ahead ensures higher uptime and a better visitor experience overall.

Schindler Ahead is an intelligent closed-loop system that connects service technicians and property stakeholders to the Internet of Elevators

and Escalators (IoEE), providing them with timely insights. "It is like having an engineer looking at the controller event log and analyzing 24/7", Edwin Tan, Manager of Schindler Ahead Sales and Operations, explains. This way, all anomalies are detected in time to avoid unnecessary service interruptions. In a recent customer satisfaction survey, Jewel rated Schindler a high 9 out of 10.

“Jewel Changi Airport is an architectural wonder. It is a combination of innovation, retail offerings, food paradise, leisure attractions, and lush green spaces. We value all partners who helped to see Jewel to its fruition and Schindler was one of them.”

Kelvin Tan  
Jewel Changi Airport, Head of User Experience