

An aerial photograph of London, UK, taken during the golden hour of sunset. The city is densely packed with buildings, and the warm light of the setting sun casts a golden glow over the entire scene. In the foreground, the distinctive, curved, glass-clad facade of the Gherkin (30 St Mary Axe) is prominent. In the background, the tall, slender London Eye is visible against the hazy sky. The overall atmosphere is one of a bustling, historic city at the end of the day.

122 LEADENHALL – LONDON, UK

Structural expressionism

122 Leadenhall is a building of world firsts, boasting the world's largest and fastest suite of panoramic elevators. But the real stunner is the mold-breaking design – nothing comparable has ever been attempted before.



The Leadenhall Building is the latest iconic addition to the London skyline. Designed by Graham Stirk of world-acclaimed architects, Rogers Stirk Harbour + Partners, the 45-story skyscraper is the tallest building in the Square Mile financial district, with 57,000 square meters of office space providing spectacular views across the Thames River and beyond.



No less breathtaking is the unusual tapering skyscraper fondly nicknamed The Cheesegrater. Incorporating enough glass to cover nine football fields, the structure is livened up by an array of 22 fully glazed scenic elevators that are highly visible behind the building's glass encasing. They are the fastest panoramic elevators in the world, taking only 30 seconds to whisk passengers from ground level to the top floor.

Bold reinvention of design

A masterpiece in the making since 2011, this was one of the most challenging and rewarding projects for KONE.

The successful design and technical integration of the elevators was central to the architecture, affirms architect **Maurice Brennan** from Rogers Stirk Harbour + Partners. "We had a close working relationship with KONE. From the beginning, every component was under the radar. The visual design, technical solutions and strategy for delivery were developed in parallel. Any other methodology would not have achieved the unique world-class installation we see in the building today."

Vertical evolution

"Every component is a one-off designed according to precise specifications," confirms KONE Senior Design Specialist **Duncan Mackie**.

The color accents of the minimalistic elevators match the signature elements of the architecture. Wrapped around the glazed car is an eye-catching sling in striking orange for passengers and bright green for goods, with integrated balustrades making the car appear taller. The secret to the clean look is the absence of trunking and electrification in the shaft. All wiring is subtly concealed in floor zones and interfaces adjacent to the elevator well.

"This is a world first," reveals KONE Senior Project Manager **Dean Ashby**. "The pedestrian traffic below can look up and see nothing but a perfectly empty shaft. It looks simple, but was massively complicated to achieve."

Another world first is the special auto-transfer software integrated in the KONE Polaris™ Destination Control System. "A passenger can transfer between the low-, mid- and high-rise elevator zones at the push of a single button. The elevator automatically allocates the designated car," explains Mackie.

Inside-out masterpiece

The skyscraper has no real ground floor, but sits on stilts above a grassy public concourse. KONE escalators provide seamless transition into the reception area, and everyone who enters can see the internal components of the escalators moving and ticking.

The Leadenhall Building is truly a showpiece, as both the escalators and elevators are 100 percent visible from outside. "They are the front door of the building," says Brennan, who praises KONE's willingness to get the fine details millimeter-perfect.





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SUMMARY

Challenge

- To create a one-off elevator concept that is visually and technically integrated with the architect's uncompromising vision
- To provide smooth transition between low-, mid- and high-rise elevator groups
- To oversee the challenging installation of the scenic cars, which had to be installed in one piece and delivered along a tight corridor

Solution

- Successful technical and architectural integration was achieved during two years of intensive collaboration with the contractor and architects
- All three elevator groups adhere to a common design principle, with a unique brightly colored sling
- As the building has no concrete core, all wiring is concealed in the back wall and floor units, achieving a clean, minimalistic effect
- Special destination control software provides smooth automatic transfer at the push of a single button

FAST FACTS

122 Leadenhall

- Completed: 2014
- Height: 224 m
- Floors: 45
- Maximum speed: 8 m/s
- Building owner: British Land and Oxford Properties
- Developer: British Land and Oxford Properties
- Architect: Graham Stirk of Rogers Stirk Harbour + Partners
- Contractor: Laing O'Rourke

KONE Solutions

- 24 KONE MiniSpace™ scenic elevators
- 2 KONE MiniSpace™ elevators
- 6 KONE TransitMaster™ 120 escalators
- 2 customized platform lifts
- KONE Polaris™ Destination Control System
- KONE E-Link™ monitoring system



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