The inaugural winner of the CTBUH 10 Year Award, 30 St Mary Axe (The Gherkin), helped to define a modern, open, and progressive image for one of the world’s oldest financial centers and set a benchmark in architectural quality for a new generation of tall buildings. The Gherkin has also been extraordinarily embraced by the public. In 2012, 3,000 people attended the Open City event to look inside, some queuing from 2am, with twice that number turned away.

As well as appearing on a first-class stamp, the tower has been used extensively in the promotion of London through advertising, notably as the symbol of London on Olympic bid posters. Thus, the Gherkin more than satisfies the awards criteria for “contribution to culture/iconography.” However, the building is not only a cultural success, but a commercial one, consistently commanding higher rents than its peers in the City.

Under the engineering performance heading, the building’s tapering form and diagonal bracing structure
have afforded numerous benefits that continue today: programmatic flexibility, naturally ventilated internal social spaces, and ample, protected public space at the ground level.

The Gherkin has performed exceptionally well in high winds – its robust aerodynamic form counteracts the movement that would otherwise be felt in a building of its height. Environmentally, this form, which slims toward the base and the apex, creates external pressure differentials that are exploited to drive a system of natural ventilation during the summer months, and enabled the creation of a generous, comfortable plaza at street level, which is protected from high winds by the tower’s form.

The Gherkin’s accommodating structure has had follow-on benefits in the internal environment and occupant satisfaction category. Column-free floor plates, and a fully glazed façade open the building to light and views. Six radial fingers of accommodation on each floor, with light wells between, combine the benefits of both curvilinear and rectilinear configurations, maximizing the proportion of naturally lit office space. Atria between the radiating fingers of each floor link vertically to form a series of informal breakout spaces that spiral up the building. As the occupancy has shifted from sole tenant to more than 14 firms, these “green lungs” have continued to provide valuable internal social space within the dense medieval street pattern of the City of London.

The geometry of the tower demanded an innovative system for the fabrication of individual cladding panels, due to the high level of variation. The 3D computer model of the system was linked directly to the production line, with major implications for the subsequent construction of complex buildings around the world.

The design placed a high priority on flexibility. Every possible configuration within the building, from cellular...
Rarely does a single building have such a profound impact on the history of the high-rise as 30 St Mary Axe – The Gherkin. In just a few short years, the Gherkin not only launched the trend of affectionately naming London skyscrapers, it paved the way for the current generation of non-orthogonal tall buildings that now have become a quintessential feature of the city. The Gherkin showed us not only that skyscrapers could be more than the simple upward extrusion of a floor plan; it showed us that we could demand more from skyscrapers, and expect to receive it.

The Gherkin is both a response and contributor to its environment – the need to maintain historic view corridors and protect the street level from downdrafts fashioned a most unlikely icon, without which the London skyline already seems unthinkable. The Gherkin still stands out as a building admired by both occupiers and community. The quality of construction and the building’s environmental responsiveness mean that the Gherkin will continue to be an icon in the City of London for years to come.
offices to entirely open-plan floors, persists today. The widening and slimming profile generates a variety of floor plates that can respond to different sectors and markets.

The building is exemplary in terms of environmental and energy performance. The natural ventilation system operates by importing external air into the building through building management system (BMS)-controlled, motorized perimeter windows placed in each of the six light wells. The adoption of natural ventilation varies, depending on tenant layout and requirements. Approximately 50 percent of occupants currently use the system.

An active, ventilated façade is used across the whole building. This comprises a low-emissivity, double-glazed clear external unit to the outside and a single-pane interior glass, separated by a ventilated cavity. Within the cavity are solar control blinds operated by the BMS. A proportion of office extract air is passed through the façade cavity, which takes the intercepted heat reflected by the blinds from the façade back to the outside via on-floor air handling units. This minimizes solar gain in the offices and makes the façade effectively part of the office extract system.

The pitch angle of the blinds is fixed by individual, BMS-controlled dedicated motors to an optimum position to reduce solar gain within the office spaces at all times, while maximizing light transmission through the gaps in the blinds. Ten years on, this system is operational and effective in providing user comfort, while reducing energy demand.

The Gherkin is not just an icon; it also provides a contribution to the urban realm beyond itself. The outdoor space is another great success of the project, where the building’s contribution to the city has been most evident: the plaza is full of people in the summer, with food markets, city events, and a dynamic arts program illustrating its success.
Opposite: Interior view of the apex of the building at the 40th floor
Above: Views of the active public plaza surrounding 30 St Mary Axe
Right: Comparison of tapering floor plans (from top to bottom)—40th-floor private bar level, 33rd- and 21st-floor office levels, and ground floor