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Europe Special Issue: 2013 London Conference

Case Study: The Leadenhall Building, London

Building Tall in a 2,000-Year-Old City

Office vs. Residential: Tower Economics

Engineering Tall in Historic Cities: The Shard

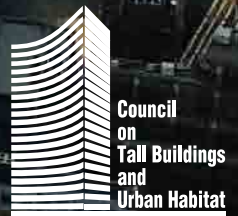
Limiting Tall Buildings to City Outskirts?

Talking Tall with Irvine Sellar and Kent Gardner

Tall Buildings in Numbers: Europe

Special Issue
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This Issue

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Front cover: *The Leadenhall Building, London.* © British Land/Oxford Properties

Back cover: *The Leadenhall Building under construction.*
© Terri Meyer Boake



This year marks the 100th anniversary of the completion of the Woolworth Building, Cass Gilbert's neo-Gothic masterpiece in New

York. It was specifically designed to be the world's tallest building in the early teens, and even though its 241-meter height has been eclipsed many times over in the ensuing century, both by its immediate neighbors and rivals around the world, its stepped-back, pinnacled shape continues to mark it as a building defined by its "tallness." It reaches for the sky using the most advanced steel-frame construction of the period, while alluding to the stone Gothic ecclesiastical and commercial towers of centuries before.

Because it was rooted in both the ambition of the future and the glories of the past, even when it was built, and addresses the street as well as it does the sky, the Woolworth Building has been preserved well beyond its original purpose. The Woolworth, now being partially converted to residential use, has endured as an icon, if not as the headquarters of a major corporation.

The self-proclaimed "cathedral of capitalism" reflected the opulence and optimism of America's ascendancy as a global industrial power. Now that U.S. ascendancy has at the very least come into question, the Woolworth continues to be celebrated, and protected by both nation and city as an exemplar of both height and heritage.

I choose these words deliberately, as "Height and Heritage" is the theme of the conference that many of you are attending in London this June. That city, of course, has its own proud commercial and architectural history, and is now experiencing an unprecedented flurry of tall-building construction.

In 1913, the tallest building in London was also a cathedral – the 111-meter St. Paul's Cathedral. It had held this title since it was built in 1710. It continued to endure as a symbol of the city during some of its darkest hours, including the *blitzkrieg* of 1940. Thus it

is unsurprising and understandable that recent tower construction has eyebrows raised in London, especially as these towers in recent years have edged ever-closer to Wren's venerable dome. Protectors of Britain's built heritage aren't about to let views of the 300-year-old Cathedral be obscured in peacetime when it has evaded obliteration for so long. Additionally, early postwar tower-block schemes in the British capital left much to be desired, aesthetically and functionally.

However, the commercial, social, and environmental pressures of our era – limited building space, the need to conserve energy in both buildings and in transportation, and the need to create buildings that will satisfy challenging pro formas – are compelling cities to consider what their next 300 years of heritage will look like. Blessed by gently rolling terrain, a navigable river and an excellent rail transport system, London has mostly spread horizontally through its history. But the threshold has now been reached. If London is to grow further, it must build tall.

Efforts to reconcile the preservation of built heritage while still meeting commercial maxims have resulted in creative accommodation of view corridors as well as attentiveness to the street experience. The Shard, 20 Fenchurch (The Walkie Talkie) and the Leadenhall (the Cheese-grater) have already earned affectionate nicknames that can be uttered in the same breath as "Big Ben."

If the caliber of the new projects in London, the CTBUH Conference program and its attendees are any indication, I have every confidence that the heritage of this generation will be known for much more than height. In 300 years, perhaps the preservationists' aim will be preserving view corridors to and from the skyscrapers of today.

All the best,

Timothy Johnson, CTBUH Chairman

Europe's universities at a glance: If a traditional and institutional system is doing nothing very badly, but also does nothing in its ability – captured by our categorization of the sector. Conference – ask what is special about this role in Europe? How can a diverse country incorporate all findings into its heritage and culture, while responsibly creating financial resources to do so? What can Europe learn from others, and how can the conference of leaders talk about it?

None that Toler

It is difficult to come to a conclusion about the effectiveness of the new drug. Toler says that the results of the study are "inconclusive" and that the drug is "not yet ready for widespread use." He also says that the drug is "not yet ready for widespread use."

[illegible]

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used in thousands of applications, including as a building material. It is also the most abundant, most widely used of all building materials. The production of concrete is a very energy-intensive process, and the industry is working to reduce its carbon footprint. One way to do this is by using recycled materials, such as crushed glass, in the concrete mix. This not only reduces the need for virgin materials, but also helps to reduce the overall weight of the concrete, which can lead to energy savings in transportation and installation.

[illegible][illegible]

Do tall buildings dating in European cities?

There is a tendency to think of tall buildings as a modern phenomenon, but in fact many of the tallest buildings in the world are in Europe. The tallest building in the world is the Burj Khalifa in Dubai, but it is not a skyscraper. It is a tower. The tallest skyscraper in the world is the Empire State Building in New York City. It is a skyscraper. The tallest skyscraper in Europe is the Shard in London. It is a skyscraper. The tallest skyscraper in the world is the Burj Khalifa in Dubai. It is a tower. The tallest skyscraper in the world is the Empire State Building in New York City. It is a skyscraper. The tallest skyscraper in Europe is the Shard in London. It is a skyscraper.

Next to strong solar insulation to prevent excessive use of full building air conditioning, the city has been getting taller—and more interesting. For the last three years, about the same number of new buildings taller than 10 stories has been built in London as in the same period in New York City. London is an accepting place for all kinds of building designs, and even the tallest buildings.

[illegible]

Figure 1. A historical painting of the Battle of the Red Bank, showing a large fleet of sailing ships on a river with smoke from battle.



Figure 2. A historical painting of the Battle of the Red Bank, showing a large fleet of sailing ships on a river with smoke from battle.

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Figure 2: Input image (left), Ground truth image (middle), and Denoised image (right).

“A London tall building is generally considered to be ‘a building that is significantly higher than its surroundings’ – how open to interpretation is that? Visitors from Chicago, Dubai, or Hong Kong might question whether any buildings in London are tall at all.”

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Carl Fritsch (left) preserves their character and identity while enhancing the modern ball building process; **Tom Long** (right) has engineering team leader turned the "bad boys" of the industry into a world-class team to meet a unique project of a new historic and educational site of London.

[illegible][illegible]

April 3, the deadline for the awarding of the contract.

Figure 1 The blood vessel pattern in the brain of a normal adult male.

Figure 1 shows a normal brain with a normal blood vessel pattern. The blood vessels are shown in a normal distribution throughout the brain.

Figure 2 The blood vessel pattern in the brain of a patient with a brain tumor.

Figure 2 shows a brain with a tumor. The blood vessel pattern is abnormal, with a large, irregular mass of blood vessels in the center of the brain, indicating a tumor.

[illegible]

Limiting Tall Buildings to the Outskirts of Historic Cities?

Tall building construction is on the rise in historic European cities. As economic pressures mount to build taller in the central city, we ask, should that practice continue?

YES

Phillippe Chaix

General Director, EPADESA

In terms of architecture and urbanism, it is easier to build tower blocks outside a historic city center. In Europe, our cities are very old, and comply with a form of architecture that has become harmonized over the centuries and is thus hard to change. In Paris, Haussmannian and post-Haussmannian architecture have created a harmonious, uniform architectural fabric into which it would be hard to add high-rise buildings today.

Moreover, the general public sometimes has a negative view of skyscrapers, which cannot be built without serious consultations and major educational efforts with the local residents.

La Défense, started at the end of the 1950s, is the epitome of a high-rise district on the outskirts of Paris. We often assume that vertical neighborhoods are dense by default. This is a common error. The density at La Défense is lower than in the center of Paris. You can breathe, and public spaces hold a place of honor. It is also home to many residents who have taken full possession of this unique territory and thrive here.

Nowadays, high-rise districts fully comply with sustainable development standards, emphasizing land conservation. Access is an essential factor in the energy balance of a district such as La Défense, where 85% of users (employees, residents, visitors, etc.) arrive or leave via public transport.

Concentrating tower blocks outside the historic city also makes it possible to develop high-performance networks, such as heating and cooling systems, fiber-optics networks, and the like. This is not always the case in so-called “classical” cities.

The ideal solution would be to find a compromise between building tall in a dense historic city and building exclusively on the outskirts. The wealth of a city comes from its architectural mix, which needs to evolve over time with projects that reflect the times in which they were built. Tall buildings are part of this continuum.

NO

Sir Stuart Lipton

Chelsfield Partners

Despite the perpetual dynamism of cities, the central cores of cities in Europe have retained much of the magic of medieval street patterns and spaces. Historic districts contain much of a city’s character, social activity, civic and arts buildings, as well as a few interesting commercial buildings. These districts should be respected and maintained, but not without reconsidering the potential of areas around them as grounds for change. The juxtaposition of old with appropriately designed new buildings can further complexity and interest in civic life.

It is worth remembering that cathedrals were the tall buildings of their time. This juxtaposition of an iconic tower against the low-rise landscape often produced the

shock of the new, but over time became a landmark.

Cities are becoming denser for good reasons of environmental change. In the interest of sustainability and quality of life, people should be able to walk to work, live locally, and not be forced into long rail or car journeys. For this to happen, in many European cities the peripheral high-rise development—such as Paris La Défense or London Canary Wharf – now needs to come into town.

There are clear benefits of higher density. In the United Kingdom, it prevents some “greenbelt” fields from being developed. High density is already a way of life in Europe generally. Barcelona is an eight-story city and one of the densest in Europe. Paris is predominantly eight stories, while London is a five-story city. So the choice here is, “Do we spread our city or do we build upwards?”

There are social issues to consider as well. While low-rise buildings bring a certain urbanity and feeling of comfort, living in a high-rise building brings a feeling of optimism and aspiration, as well as the invigoration felt from natural light.

We need to bring modern technology and life into our cities, fostering a continually evolving built environment driven by innovation, surprise, and delight. High-rise buildings will become the norm in dense human cities, where personal interaction and ease of access with a range of amenities remains the rationale for their existence.



Middle East

The US\$1.2 billion project to build the world's tallest building in Saudi Arabia will be managed by the firm behind the construction of London's recently completed Shard. London-based Mace will take part in a joint venture with another British firm, EC Harris, to oversee the construction of the **Kingdom Tower** in Jeddah.

The skyscraper, which is expected to be more than one kilometer high, will be three times taller than the 306-meter Shard. The Adrian Smith + Gordon Gill-designed supertall is part of Prince Al-Waleed bin Talal's US\$19.6 billion redevelopment of the Kingdom City. Work on the tower is scheduled to begin in the middle of 2013.

Meanwhile, an experienced competitor has already announced intentions to build a taller tower!

The chairman and founder of real estate giant Emaar Properties, His Excellency Mohammed Ali Alabbar, is developing plans to build a one kilometer-plus tower, possibly in Asia. In an extensive interview with Arabian Business Magazine, the mogul detailed his ambitions to build the world's next tallest building, again.

Mr. Alabbar, who was also behind the Burj Khalifa, said this latest project would be "a little taller than the one in Saudi Arabia," although

he made no mention of a specific height or location.

"The answer is yes, I want to try," he said. "It is quite a task with safety issues and making sure it is done right. It is typical human progress."

Emaar has also recently released the design of **The Address Residence Sky View**, a mixed-use scheme that will include hotels, residences, and apartments. Construction of the Skidmore, Owings, and Merrill-designed pair of 50-story towers will begin in the fall of 2013 in downtown **Dubai**. The main feature of the project is a sky bridge, which will span the towers at the top.

Elsewhere in Dubai, Paramount Pictures is partnering with developer Damac Properties to build a hotel project. **The Damac Towers** project is Paramount's first venture into the hotel and real estate industry and will include four 250-meter towers. Construction is already underway on the cluster of rippling towers,

which will sit on a multi-level podium where retail and resident amenities will be located. One of the four towers will feature a 540-room Paramount Hotel and Residence, while the other three will house 1,400 serviced apartments.

Africa

The Kenya Reinsurance Corporation (**Kenya Re**) plans to develop a commercial high-rise in **Nairobi**. The building will be constructed on a site in the city's Upper Hill neighborhood and is designed to alleviate the scarcity of parking and office space in the city.

About 40 miles from Nairobi, Kenya has launched the **Konza Technology City**, a US\$14.4 billion "pop-up city." Nicknamed the "African Silicon Savannah," Konza was master-planned by SHoP Architects and is part of Kenya's Vision 2030 vitalization plan. This city, which will include a series of tall buildings, will "spur massive trade and investments as well as create thousands of

THEY SAID

“Waste is a moral issue. Towers have great potential but we have to be adventurous in how we refurbish them.”

Peter Murray, Chairman at New London Architecture on post-war towers' demolition. From "High-rise Demolitions are Unsustainable, Say Architects." www.bdonline.co.uk. April 22, 2013.



Kingdom Tower, Jeddah. © AS+GG



The Address Residence Sky View, Dubai. © Emaar Properties PJSC

Case Study: The Leadenhall Building, London

Tall, Light, and Handsome

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Andy Young joined Rogers Stirk Harbour + Partners (then Richard Rogers Partnership) in 1996 and was made an Associate Partner in 2011. He has led the Leadenhall team as Project Architect since 2005 and previously worked on a number of high profile projects, including 88 Wood Street and the Lloyd's Register of Shipping, both Stirling Prize-nominated. Andy has also been involved in expanding the practice's work into the Middle East, working on projects in Beirut, Lebanon.

Nigel Annereau has worked for Arup for 26 years and is a director within one of the London building teams. He has been working on Leadenhall since 2005, initially looking at the demolition of the original structure, then leading the basement design phase, and subsequently providing day-to-day leadership of the structural project team.

Andy Butler has worked for more than 30 years in the UK construction and property industry, and has a diverse, proven capability that ranges from managing commercial development at every stage, including delivering large-scale prestigious developments from funding through occupation. In addition to his commercial development roles, Andy plays a key role in the technical development of innovation within our organization and in the wider construction industry environment. He is a leading mentor for graduate, postgraduate, and executive development programs within the Laing O'Rourke Group.

Brian Smith is a director within the London Commercial team at Davis Langdon, an AECOM company, and has led the cost consultant team on Leadenhall since 2006. In more than 17 years of leading and delivering a variety of projects within central London and abroad, including work on tall buildings around the world, Brian understands the key drivers for delivering large-scale developments. He is also member of the company's tall buildings group, leading collaboration with other regions around the world.

The Leadenhall Building leans back to make way for views to St. Paul's Cathedral and other historic sites in a crowded section of the City of London, but it also springs forward with an innovative structure and a dynamic street presence. Stopped once during the economic downturn, the tower is rising again under a new joint venture. Scheduled for completion in 2014, the 224-meter-high building was more than 50% leased before topping out. Members of the design, engineering, and construction team here detail the thinking process that led to the building's unique tapering shape – the components of which were largely built off-site – that is making the “Cheese-grater” stand out from the crowd as both an icon and a lucrative investment property.

Introduction

At 47 stories and 225 meters high, The Leadenhall Building will contain the highest office floors in the City of London on completion. In addition to its distinctive tapering shape, it is remarkable in many ways. It is built to the edges of its 48 x 62 meter plot and incorporates significant new public space at the ground level Galleria.

From a structural perspective, the building is unusual for a building of its height. There is no central core; instead, the building makes use of a “tube” structural perimeter envelope, with an external support core, that allows for open floor plates (see Figure 1). In addition, 85% of the building's construction value will consist of prefabricated and off-site construction elements.

On the site of the City's ancient Roman center, this distinctive building sits across the road from the Lloyd's Building. This earlier building, completed in 1986, at 25 years old became the youngest UK structure to be awarded a Grade 1 listing, the highest level of protection for historic buildings. Other high-profile neighbors include the Sir Norman Foster-designed 30 St. Mary Axe tower, and several protected historic buildings, including a former bank designed by Lutyens, and two Grade 1 protected churches, from the 12th and 16th centuries, respectively (see Figure 2).

The project was started by BritishLand in 2001. Design development followed, and planning permission was granted in 2005. Two years later, demolition of the existing 14-story, 1960s P & O (Peninsular & Oriental) headquarters building was underway simultaneously





Figure 1. The Leadenhall Building, London with St. Andrew Undershaft at front. © British Land/Oxford Properties

with construction of the new building (see Figure 3). By spring 2009 the global economic downturn had bitten deep, and with construction still at basement level, the project was put on hold. Work re-commenced in 2011 as a joint venture between British Land and Oxford Properties. Following a competitive tender, Laing O'Rourke was appointed under a design and build contract, which is due for completion in mid-2014.



Figure 3. P & O headquarters being demolished from ground up. © BritishLand/Oxford Properties

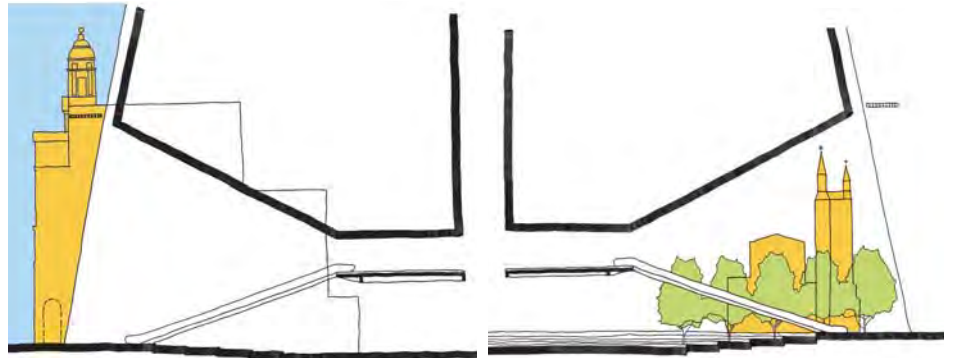


Figure 2. The Leadenhall's design concept responded to the existing historic structures. © RSH+P

Design Evolution

Built as a speculative office building particularly suitable for insurance or banking occupiers, the brief included creating a distinctive building, with a major new public space for the City, while also achieving the maximum floor space for the plot.

The Leadenhall Building is firmly rooted in the practice's family of structures that goes back to the nearby Lloyd's Building and includes Lloyd's Register of Shipping and 88 Wood Street. And, like these buildings, it combines a distinctive approach to its context, with provisions for highly flexible and open office space.

The Leadenhall Building comprises a tapering, perimeter-braced diagrid structure containing the office floors and adjoins a northern support core, which houses all passenger and goods lifts, service risers, on-floor plant, and lavatories. Office floors are connected to the structural tube, termed the "mega-frame," at every floor, without the need for further perimeter columns.

In the lower portion of the tower, the office floors are rectangular in plan, 48 meters wide and up to 43 meters deep, and virtually column-free. At 16 x 10.5 meters, the large column grid means that only six internal columns are required on the largest floors (see Figure 4). Floors range from 1,950 square meters to 557 square meters, enabling a wide range of occupiers' requirements to be met.

Unusually, the perimeter columns are outside the cladding line, and almost all of the

services and lifts are located in the north core, with two secondary fire-fighting and escape cores located at the northeast and northwest corners of the main office floors – all features that make the floors extremely flexible for internal space planning. The contrasting colors of the expressed steelwork show the division between office and service space. The expressed triangulated mega-frame is divided into eight "mega levels" of 28 meters high, each containing seven floors, apart from the first, which is five floors (see Figure 5).

The distinctive wedge shape of the building evolved as a design response to two main issues. The first was the desire to ensure that the form of a tall building on the site would not significantly affect the silhouette of the dome of St. Paul's Cathedral from a viewpoint

“Leaning away from St. Paul's, the building's tapering silhouette means less of the mass emerges above surrounding buildings, the key view of St. Paul's remains unaffected...”

The Special Nature of the European Skyscraper

European architecture is at a crossroads. Its commercial and environmental realities are driving buildings ever-higher, but not all are convinced. In this article – contributed by various speakers at the London Conference – we ask: What is special about building tall in Europe? How can a diverse continent incorporate tall buildings into its heritage and culture, while sustainably meeting financial imperatives at scale? What can Europe learn from its history, and from the experiences of building tall elsewhere?

Name that Tower



Peter Rees, City Planning Officer, City of London

In addition to its role in international commerce, the City is the historic core of London. There has been trading in goods and services at this location since pre-Roman times,

more than 2,000 years ago. The economy of that time was just as dependent on transport links and sustainable development as it is

today. The highest navigable point on the River Thames for sea-going vessels coincided with a hill which was large enough to provide a flood-free site for a trading settlement. The Romans came and went, and were followed by the Saxons, Vikings, and Normans. Since medieval times many more of the world's cultures have visited and settled here, producing what is now the most cosmopolitan metropolis on the planet, and, at its center, a very crowded one at that.

In 1986, the City's financial services were deregulated and opened to international

ownership. As the 21st century approached, it was obvious that the City of London, just one square mile, was running out of space. If it was to continue to be the world's leading financial and business center, it needed more offices. The only way to provide them was to build tall.

So, how do you build a cluster of commercial skyscrapers in an historic city? The answer is, "carefully." We have to respect important protected views of St. Paul's Cathedral, the Tower of London, and other important historic landmarks. We also check the impact of proposed new developments upon the smaller

Heron Tower, London – the City's Tallest Building

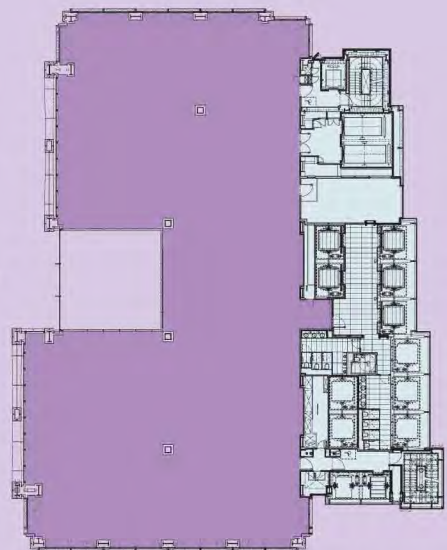
Heron Tower is the City of London's newest completed skyscraper. The developer, Heron International, aimed to create an iconic landmark building at the heart of London's financial district, offering exceptional quality in terms of sustainability, service, design, and finish. The

brief was to create a special building that gave a sense of understated quality, but that also responded to tenants' business requirements by being efficient, sustainable, and easy to work in. The developer was also keen to offer advantages to the public, by improving the areas around the building and including bars and restaurants for everyone to enjoy.

The building's design is based on a series of "villages" – ten groups of three stories and one group of six stories – each arranged around a central atrium. This affords programmatic flexibility and allows enhanced levels of natural light, creating an optimum working environment. The offset core on the south side prevents the office floors from getting hot on a sunny day, and the south façade is covered with photovoltaic cells, which generate energy to reduce the building's electricity consumption.

Stretching 230 meters into the city skyline, the 46-story Heron Tower has the distinction of being the tallest building in the Square Mile, but it is unique in many other ways. The triple-height lobby features Britain's largest privately owned aquarium, which has been used to teach children from local schools and embodies feng shui principles, which is an important consideration for some international tenants. The building also includes high-speed, fully glazed, double-deck lifts.

Just as importantly, Heron Tower strives to provide a real sense of community for people who work there. A concierge service is on hand to cater to tenants' every need, and bars and restaurants on the ground floor and at the top of the building give those working at Heron Tower – as well as members of the public – somewhere to socialize with friends, family, colleagues or clients. The bar on the ground floor has



Heron Tower – typical atrium plan. © Kohn Pedersen Fox Associates

a window enabling guests to look into the aquarium, while those at the top of the building enjoy some of the best views across London. Such amenities highlight that the Heron, and the City in general, have become much more than just a place to work.

Steve Evans,
Development Director, Heron International



Heron Tower, London. © Kohn Pedersen Fox

scaled streets and lanes in the surrounding area. It is often the latter which house the pubs, restaurants, and shops that play an essential part in the life of the business community – as the centers of gossip. With sensitive planning and a lot of negotiation with property developers and their architects, the first few towers of our new cluster began to emerge.

There was considerable suspicion in the media over the impact of these new structures on the famous London skyline, which had been dominated for centuries by the dome of St. Paul's. Our few earlier post-war towers had not captured the public imagination. Thus, when an unusually shaped circular tower designed by Lord Foster was proposed by insurance company Swiss Re the press reacted by giving it a derogatory nickname – the "Erotic Gherkin". In spite of this, the public were captivated by this novel structure emerging on the skyline, quickly adopted it as a new icon of London and shortened its nickname to the "Gherkin" as a sign of affection.

After this, there was a general curiosity about the location, design, and nickname of the next towers to be planned. Thus Lord Rogers' building in Leadenhall Street became the "Cheese-grater" – inspired by the kitchen equipment of his restaurateur wife, Ruth. Rafael Viñoly's tower in Fenchurch Street acquired the nickname "Walkie Talkie" on account of its resemblance to a mobile communications device. Subsequently, mid- and low-rise buildings have begun to acquire nicknames such as the "Can-of-Ham" by Foggo Associates, and the "Stealth-bomber," next to St. Paul's, by Jean Nouvel.

The City of London now features on the itinerary of architectural tourists keen to see the best examples of 21st-century commercial buildings. The world's most acclaimed architects now beg to design a City office building. Whereas 25 years ago office buildings were anonymous workplaces, the latest examples are objects of public and professional admiration. It gives me the greatest pleasure to see tourists frequenting them.

CityLife, Milan

CityLife is the company engaged in the redevelopment of the historic trade fair area of Milan. It is among the biggest regeneration projects currently underway in Europe and one of the most relevant urban renewal projects in Milan.

CityLife covers an area of more than 360,000 square meters and involves an articulated and balanced mix of public and private spaces, including residential accommodation, office space, shops and services, a big public park, and other public facilities. The area is in a strategic position within Milan, close to the city center and easily accessible from airports and close to the motorways. It is already served by an excellent existing public transport network, which will be enhanced by the new Metro Line 5 with a station in its central square.

The development is unique and innovative in many aspects. First, it is driven by a strong ecological logic, beginning from the decision to create an entirely pedestrian area with zero emissions and widely covered by public greenery. CityLife will be Milan's biggest car-free area and one of the largest in Europe, thanks to the decision to move traffic and car parks underground. With the addition of 168,000 square meters of green areas, representing Milan's third largest park, the district will feature extensive cycle paths.

At the heart of CityLife is the Business & Shopping District, which encompasses the three office towers and a wide shopping area. The Business District is made up of three towers designed by Arata Isozaki, Zaha Hadid, and Daniel Libeskind respectively: three outstandingly iconic

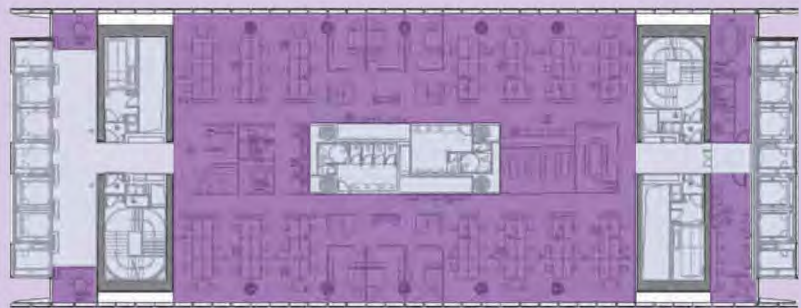


CityLife, Milan – the three towers. © CityLife

buildings that enhance the whole city skyline. They form an office district able to accommodate up to 10,000 people. Three eco-sustainable buildings confirm the "green" approach of the entire CityLife project: Torre Isozaki (202 m) and Torre Hadid (170 m) obtained the LEED Gold pre-certification. Torre Libeskind (150 m) will follow the same certification process.

The CityLife Residences, designed by Zaha Hadid and Daniel Libeskind, are immersed in the park and benefit from the wide range of CityLife services: shopping, cultural and leisure facilities, restaurants and transport. The apartments are of a very high standard of quality and livability, with prestigious materials and fittings, sizes that easily meet a wide range of living requirements, and extensive terraces, affording with spectacular views of the Alps and the city.

Patrizia Repossi, CityLife Development



Torre Isozaki – typical plan. © Arata Isozaki

Do Tall Buildings Belong in European Cities?



Simon Thurley, Chief Executive, English Heritage

There is no denying the glamour and seductiveness of tall buildings. For architects at the pinnacle of their profession, the chance of producing that world class skyscraper

has to be the ultimate ambition. Prizewinning designer Will Alsop, for example, is clearly a great fan of towers. They "give a very metropolitan feeling, they give excitement," he says. For him, "London is an extraordinary city, but if it is going to maintain itself as a world city, it's got to move in that direction."

No less enthusiastic is Daniel Rochard, who argues "How dull cities would be if they had one flat roofline with no landmarks, a kind of suburbia, suburbia, suburbia."

About the Council

The Council on Tall Buildings and Urban Habitat, based at the Illinois Institute of Technology in Chicago, is an international not-for-profit organization supported by architecture, engineering, planning, development, and construction professionals. Founded in 1969, the Council's mission is to disseminate multi-disciplinary information on tall buildings and sustainable urban environments, to maximize the international interaction of professionals involved in creating the built environment, and to make the latest knowledge available to professionals in a useful form.

The CTBUH disseminates its findings, and facilitates business exchange, through: the publication of books, monographs, proceedings, and reports; the organization of world congresses, international, regional, and specialty conferences and workshops; the maintaining of an extensive website and tall building databases of built, under construction, and proposed buildings; the distribution of a monthly international tall building e-newsletter; the maintaining of an international resource center; the bestowing of annual awards for design and construction excellence and individual lifetime achievement; the management of special task forces/working groups; the hosting of technical forums; and the publication of the CTBUH Journal, a professional journal containing refereed papers written by researchers, scholars, and practicing professionals.

The Council is the arbiter of the criteria upon which tall building height is measured, and thus the title of "The World's Tallest Building" determined. CTBUH is the world's leading body dedicated to the field of tall buildings and urban habitat and the recognized international source for information in these fields.

Council on Tall Buildings and Urban Habitat



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