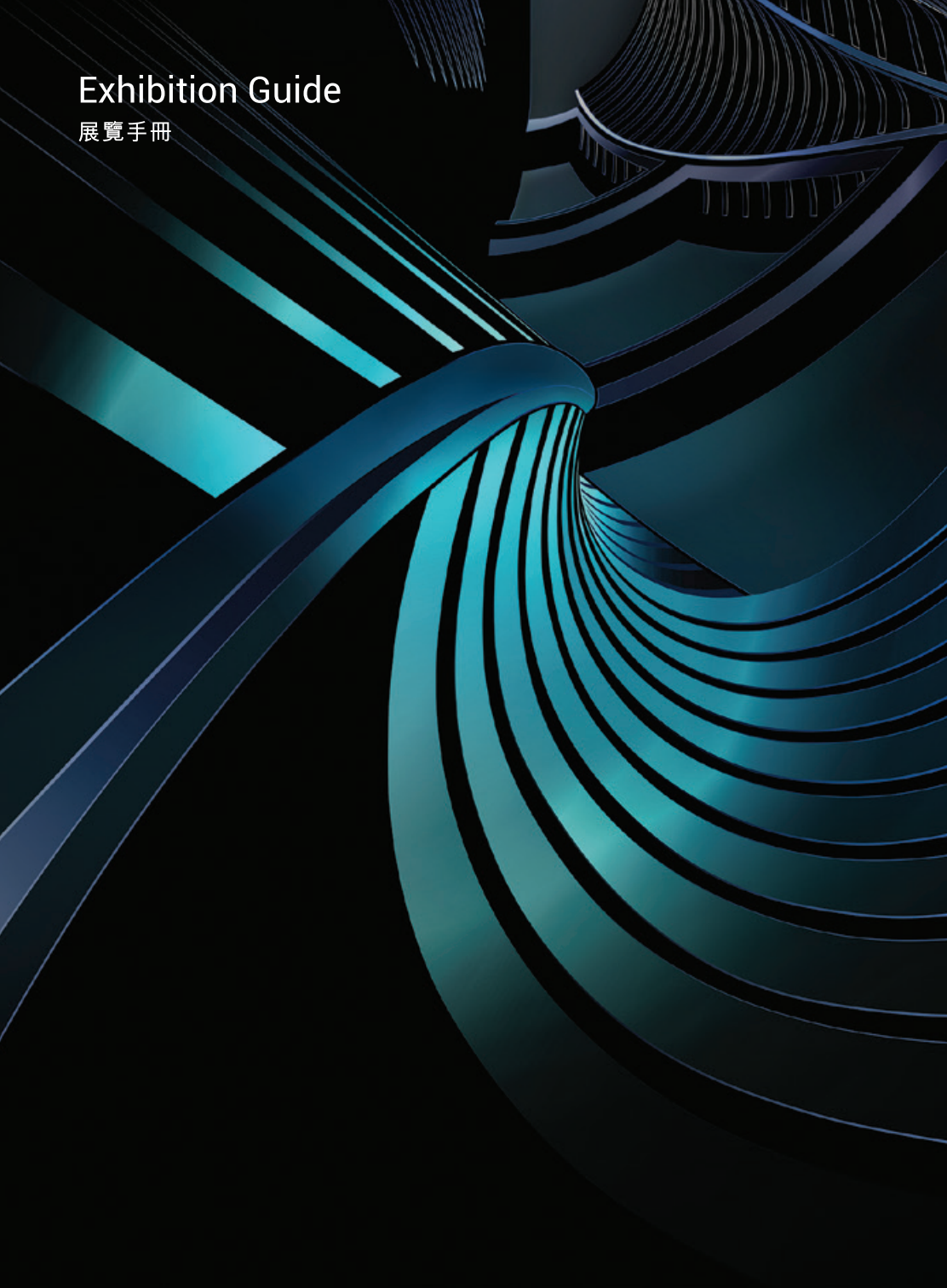
# Exhibition Guide

展覽手冊



19 Jan –
1 May 2022

10am – 8pm

Closed on Tuesdays
逢星期二休館

## HKDI Gallery

Hong Kong Design Institute
3 King Ling Road, Tseung Kwan O, NT
新界將軍澳景嶺路3號香港知專設計學院

FREE 免費入場

hkdi.gallery
www.hkdi.edu.hk/hkdi_gallery

Exhibition Website
展覽專屬網站

# Zaha Hadid Architects
# Vertical Urbanism
## 垂直都市主義

The investigative spirit on which Zaha Hadid based her career continues in Zaha Hadid Architects' ground-breaking work around the world. 'Vertical Urbanism', curated by Zaha Hadid Architects (ZHA) for the Hong Kong Design Institute, showcases this exploration on the theme of urbanism by presenting a range of design strategies taken by ZHA to create vibrant and sustainable community orientated spaces within dense urban conditions, opening up a dialogue around urbanism in the 21st century.

The exhibition begins with an overview of the ongoing research and development within the studio, often incorporating collaborations with renowned scientific institutions developing innovations in robotics, artificial intelligence, and digital fabrication which in turn informs the studio's design process. A selection of key projects by ZHA is then presented via a large-scale projection. The presentation reveals series of architectural models, highlighting the studio's range of work across culture, sport, transport, campus + headquarters, and masterplan projects.

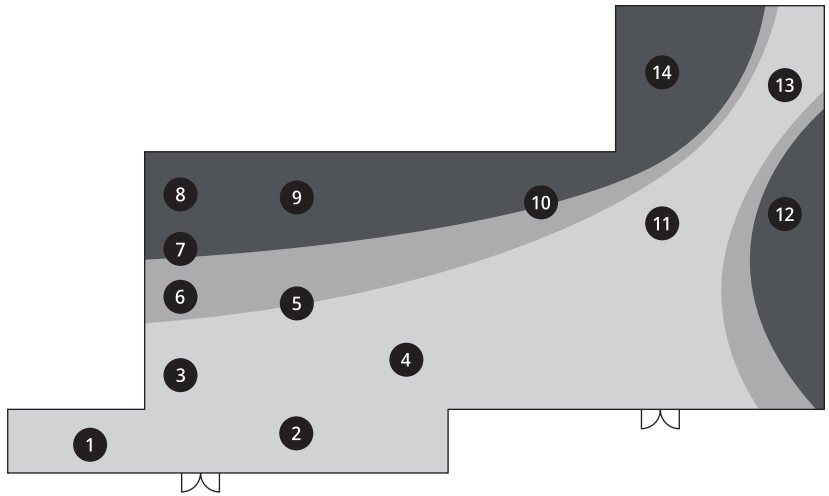
The exhibition culminates with an in-depth presentation of tall buildings designed by ZHA over the past 15 years. Design strategies related to the urban context are highlighted as ways in which to facilitate a more sustainable and vibrant urbanism for the vertical city: density, ground interface, atria + bridges, façade, and sustainability.

Zaha Hadid Architects（ZHA）延續扎哈・哈迪德（Zaha Hadid）的探索精神於不同的建築項目。是次 ZHA 為香港知專設計學院（HKDI）策「Zaha Hadi Architects：城市境築」展覽，向觀眾現在人口稠密的大都會裡，如何以不同策略開闢充滿生機且符合可持續發展社區理念的城市空間，開啟廿一世紀都市主義為題的對話。

展覽概述 ZHA 現正進行的研究及發展計劃，包括與知名科研機構合作，開發機械人、人工智能及數位製造等技術範疇，並把相應科技運用到建築設計方案上。展覽包含大型投影及建築模型，展示 ZHA 在文化、體育、運輸、園區及總部、以及總體規劃等範疇的重要項目。

展覽重點將聚焦於 ZHA 過去十五年所設計的高樓大廈項目，深度剖析與城市環境息息相關的設計策略，探討它們如何從建築密度、地面交界、中庭與連廊、建築幕牆和可持續發展等方面，在以垂直高樓為主的空間裡，建立起可持續發展的活力大都會。

# Routing map

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*Hong Kong / Tokyo / New York / Paris*
**流動藝術－香奈兒現代藝術展館**
香港 / 東京 / 紐約 / 巴黎

**HEYDAR ALIYEV CENTRE**
*Baku*
**阿利耶夫文化中心** 巴庫

**LONDON AQUATICS CENTRE**
*London*
**倫敦水上運動中心** 倫敦

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**山頂俱樂部** 香港

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**INFINITUS PLAZA**
*Guangzhou*
**無限極廣場** 廣州

**OPUS**
*Dubai*
**奧普斯大廈** 杜拜

**UNICORN ISLAND MASTERPLAN**
*Chengdu*
**獨角獸島總體規劃** 成都

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*Melbourne*
**文華東方酒店** 墨爾本

**LIBERTADOR APARTMENTS**
*Buenos Aires*
**解放者公寓** 布宜諾斯艾利斯

**OPPO HEADQUARTERS**
*Shenzhen*
**OPPO總部大樓** 深圳

**TOWER C**
*Shenzhen*
**深圳灣超級總部基地C塔大樓** 深圳

**MERCURY HOUSE**
*Paceville*
**水星大廈** 帕斯維爾

**CECEP SHANGHAI CAMPUS**
*Shanghai*
**中國節能環保集團上海園區** 上海

**YULON**
*Taipei*
**裕隆城** 台北

**JOCKEY CLUB INNOVATION TOWER**
*Hong Kong*
**理工大學賽馬會創新樓** 香港

**D'LEEDON**
*Singapore*
**麗敦豪邸** 新加坡

**NANJING INTERNATIONAL YOUTH CULTURAL CENTRE**
*Nanjing*
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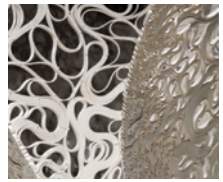
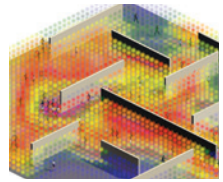
**新濠天地摩珀斯酒店** 澳門

# ZHA Research
## ZHA 研究組

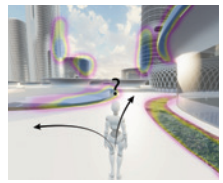
**5 ZHA-CODE | ZHA-CODE 設計組**
Collaborating with respected scientific institutions and developing innovations in robotics, artificial intelligence and digital fabrication.
與知名科研機構合作，開發機械人、人工智能及數碼製造等技術領域的創新技術。



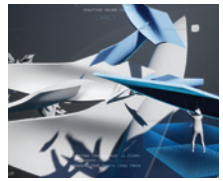
**6 ZHA-SOCIAL | ZHA-SOCIAL (社區研究) 設計組**
Integrating social interactions within designed environments, agent-based simulations and decision processes within the design process.
採用模擬器的仿真模擬，選擇不同的智能體和決策流程，對設計中的環境實施預期社交互動流程的調研。



**7 ZHA-AI (ANALYTICS + INSIGHT) | ZHA-AI (分析與洞察) 設計組**
Data analytics and human behaviour modelling to design healthy and productive working environments tailor-made to encourage wellness.
使用數據分析和人類行為模型為客戶量身定制健康高效的工作與生活環境。



**8 ZHA-VR | ZHA-VR (虛擬實境) 設計組**
Exploring immersive technologies and how architects can collaborate on design in augmented reality.
借助沉浸式技術，建築師能在增強現實中開展設計合作，展現出設計的非凡可能性。



# ZHA Portfolio
## ZHA 作品簡介

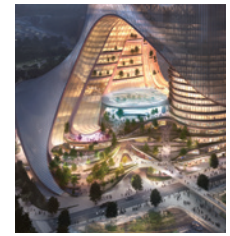
**10** Zaha Hadid Architects redefines architecture for the 21st century with a repertoire of projects that have captured imaginations across the globe for decades. Founded in 1979, ZHA's work weaves form and space within the structure of buildings presented here in a selection of projects ranging from transport, culture, sport, mixed-use, corporate headquarters to masterplanning.

Zaha Hadid Architects (ZHA) 通過不同的前衛且極具想像力的建築項目為21世紀建築賦予了全新定義，其設計項目融會世界各地文化。ZHA由扎哈・哈迪德於1979年創立，其作品在建築結構中編織了形式和空間，展覽展示一系列建築項目，包括從交通、文化、體育、綜合用途、企業總部以至總體規劃等領域。

# Vertical Urbanism: Design Strategies
## 垂直都市主義：設計策略

**12 DENSITY 密度**
Vibrant cities require density and legibility as metropolitan life is driven by connectivity. The urban fabric can be designed to be compressed and expanded, accommodating a richly integrated spatial organisation and porous type of density which provides navigation routes through the vertical city.
大都市生活講求彼此連結，活力的城市重視空間密度並且讓人一目了然。城市肌理的設計可以被壓縮和擴展，容納豐富的空間組織和多孔類型的密度，從而提供穿越垂直城市的人流導向路線。

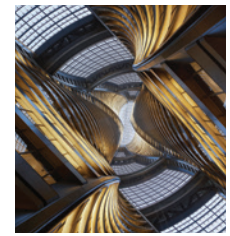
**GROUND INTERFACE 地面交界**
The connectivity of a vertical city depends on how its buildings interface with more public ground plane and with each other. The transition from the horizontal street level to the vertical core of a building can be designed to be actively utilised by incrementally layering floorplates and voids and incorporating mixed and cultural programming.
垂直城市的緊密程度建基於建築物自身、地面公共空間以及建築物之間的連接模式。由道路的水平面過渡到至高樓的垂直核心，建築物從中增加的分層樓面和空間，可積極應用於多元和文化規劃之中。



**ATRIA + BRIDGES 中庭與連廊**
Atria and bridges help to create pockets of urban space which transition across the horizontal and vertical, creating internal vistas and alternative circulation routes which benefits the interconnectivity and awareness across spaces and inhabitants.
中庭與連廊縱橫交錯，在橫向和縱向的都市空間中製造出空中的區域，創造內部景觀和人流路線，有利於跨空間和居民的互相聯繫和意識。

**FACADE 建築幕牆**
The design of the façade involves mediating external environmental factors with the interior, strategically improving the comfort levels for inhabitants while minimising the carbon impact of the building.
建築幕牆的設計需要協調內外的環境因素，而且為內部的用戶和外部地面的行人帶來舒適感，同時將對建築物的碳排放減至最少。

**SUSTAINABILITY 可持續發展**
The ambition at ZHA is to continue to play a leading role in resolving the crucial challenge of global warming by building on the studio's experience in delivering projects highly commended by environmental standards and developing the studio's design tools and process in close collaboration with globally recognised partners.
ZHA 希望透過不斷提升建築物的功能，繼續在解決全球暖化的問題上發揮主導作用。事務所從各個達到卓越環評標準表現的建築項目吸取經驗, 並致力與全球公認合作夥伴緊密合作，開發設計工具和流程。



# Vertical Urbanism: High-rise High-density

## 垂直都市主義：高層高密度

*Patrik Schumacher, London 2021*
帕特里克・舒馬赫，2021年 倫敦

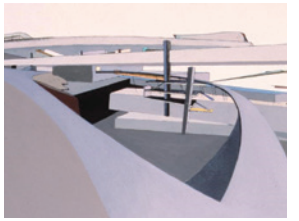
This essay argues for a vertical urbanism that delivers high-rise high-density as counterpart to the modernist strategies of low-rise high-density. It also seeks to address the wide spacing of high-rise buildings that still dominate planning orthodoxy. The agenda is two-fold: to maximise density and to maximise urban intensity in terms of communicative interactions. Density is not only a matter of space saving and the efficient sharing of services and amenities but – crucially – also a matter of knowledge exchange and cooperative integration within creative industry clusters in the knowledge economy. This requires a new high-rise typology as well as a new urban design. High-density urbanity can facilitate highly integrated lives rather than merely parallel lives, thereby contributing to creativity and productivity, and thus prosperity.

Zaha Hadid started her career by injecting a new level of dynamism into architecture. Her work has been explosive, fluid and boundless - forcefully questioning the need for urban fortifications in her drive to establish a continuous, active ground-plane. The fragments of the exploded built volumes drift across this agitated ground, seemingly defying gravity.

本文主要為垂直都市主義提倡的高樓層高密度理念辯解，一方面挑戰現代主義主張的低樓層高密度理念，另一方面審視在高樓層建築之間寬闊開放的空間布局，因為這套高樓層低密度的方式至今依然被奉為建築規劃的圭臬。提倡高樓層高密度理念目的為增強人與人之間的互動交流，方法有二：一是使建築密度提升至最高，二是增加城市密度。提升密度不只是為了節省空間和有效共享公共服務及生活設施，更關鍵的是促進知識的交換，以及知識型經濟體系中的創意企業間的合作交流。要達至上述目的，我們需要全新的高層建築和城市設計。新型的高密度城市使人們的生活不僅是擦肩而過，而是互相交疊，提升社會的創意和生產力，令社會繁榮興旺。



*Unicorn Island, Chengdu* 成都獨角獸島 *Courtesy of Zaha Hadid Architects* 照片由 *Zaha Hadid Architects* 提供

*Zaha Hadid, Hong Kong Peak, competition winning design, unrealised, 1982*
扎哈・哈迪德，香港山頂建築群獲選設計，惟最後未能落實建成，*1982*年
*Courtesy of Zaha Hadid Architects / Zaha Hadid Foundation ©*
照片由 *Zaha Hadid Architects / Zaha Hadid Foundation* 提供

Behind this spatial exuberance lies the real need to organize multiple, dynamic programmes within dense urban contexts. This leads to the rejection of closed forms and to the adoption of open-ended strategies of networking and layering. The horizontal was always the primary expansive dimension of this new dynamism. The Hong Kong Peak - metaphorically flipping the Hong Kong towers to generate a horizontal cluster of beams - was the paradigmatic early project of this first wave of work. The big public void, here carved out or captured and framed between the composition of horizontal beams, was thus a crucial intuition in the oeuvre of Zaha Hadid from the very beginning of her career. This idea of the void will reoccur again and again in this editorial.

Since then, the generative digital design tools that became available to our discipline were congenial to our concurrent pursuit of complexity and empowered radically new concepts and sensibilities that ushered in the movement and style of parametricism. Twenty-five years later we are impacting at scale, across all project types. The high-rise typology was the most resistant and last to open up to the impact of the new complexity and dynamism demanded and delivered by the digital revolution.

The skyscraper seems locked in the bygone Fordist paradigm of isolated segments and serial repetition. The tower typology is the last bastion of this bygone era and has so far largely

扎哈・哈迪德為建築界注入新的活力，奠定了自己的事業基礎。她的設計往往一鳴驚人，既是流動且充滿無限可能，她希望由此衍生出延綿不絕的地景，並藉此質疑城市需建成如堡壘般牢固又封閉的必然性，而她的設計挑戰了城市規劃的秩序守則，為當代建築美學提供新觀點。

在稠密的都市環境中，社會需要組織多元的活動，從而衍生建構多樣空間的需求。封閉式的建築會遭到淘汰，而城市設計會偏向採用開放式，且互連互通和層疊式的建築模式。在這種重視動態的嶄新理念中，橫向發展是重要的方向。香港山頂建築群的設計方案是扎哈・哈迪德早年的構思典範，概念是把向上發展的摩天大廈旋轉九十度，變成一道道的橫梁，在這些水平的樑狀結構中開闢出一個偌大的公共空間，這個建構空間的想法在扎扎哈・哈迪德的事業初期佔據了非常關鍵的位置，而本文亦將再三地探討她對空間的堅持。

現時，衍生式數位設計工具漸為建築界所用，正好配合建築師對複雜設計的追求，以及推陳出新的概念和鑑識水平的發展，預示著參數化時代的來臨。二十五年間，參數化設計不斷影響類型和規模各異的建築項目發展。數碼革命為建築設計注入前所未見的複雜性和動感，而面對參數化帶來的衝擊，高樓設計卻依然故我，並沒展示多大的轉變。

摩天大廈似乎還停留在陳舊的「福特」（Fordist）模式裡，充斥着重複性的間隔。高樓的數量仍然驚人，但結構設計仍抗拒加入任何複雜的空間，是舊時代的最後堡壘。這些摩天大廈純粹透過壓縮空間而產生樓面面積，然而其內部空間則是一層層千篇一律的樓面設計重複組成，就像一條垂直九十度直插地平面的走廊，盡頭則是基座（podium）。這

resisted the injection of any significant measure of spatial complexity. Towers are still driven by pure quantity. Their volume is generated by pure extrusion and their inner space is nothing but the multiplication of identical floorplates. They are vertical dead-end corridors, usually cut off from the ground-plane by a podium. This formula has been applied for seemingly good economic reasons. However, this economy, an economy of costs rather than benefits, is increasingly dubious.

The sky-scraper's organizational structure is too simple and too constricting. Towers are hermetic units, which are themselves arrays of equally hermetic units (floors). This feature of strict segmentation with its characteristic poverty of connectivity is antithetical to contemporary work patterns and business relations as well as to contemporary urban life in general. The time is ripe to challenge the standard tower typology and demand that it too participates in the general societal restructuring from Fordism to Post Fordism.

We are living in an era of unprecedented urban concentration. Contemporary urban life is becoming ever more complex, with divers, overlapping audiences, browsing through many simultaneous urban amenities. A dense proximity of complementary social offerings, and a new intensity of communication across different activities distinguishes contemporary life from the modern period of separation and repetition. Such a network of activities can evolve bottom up in an urban texture that offers the spatial connective freedom of urban channels and voids. What would it take to continue

樣看似從經濟角度考慮出發，然而，這種只重成本、不計社會效益的建築，已經愈來愈受廣泛質疑。

摩天大廈井井有條的結構流於簡單，亦太過侷促。高樓是密閉的建築單位，其內部亦充滿同樣密封的樓層。這種缺乏連繫的嚴格分割方式，與時下的工作模式和商業關係，甚至當代都市生活也嚴重脱節。挑戰標準高樓這建築類型的時機已經成熟，讓當代高層建築也從「福特」模式趕上「後福特」（Post Fordism）的社會潮流。

我們生活在一個史無前例的城市集約化時代。當代都市生活比從前複雜，各式各樣的人會同時使用不同城市公共設施。現在，無論是社區中互補的社區服務，還是在不同活動之間的互動交流程度，都是區分現今與過往分隔而又重複性的生活方式。在一個透過城市通道和空間達致自由連繫的城市裡，這種繁複的活動網絡引發由下而上的演變。如何可以促使這種城市化在建築物裡、以及在建築物之間不斷發展？答案分成三部分：密集的間距、空間和連廊。

一般的高樓樓層之間互不相通，只簡單地分成樣式一致的樓層，建築結構的核心筒則通常位於大廈中央，每一層樓的


*Bio-Medical Hub as part of the ZHA masterplan for One North district, Singapore, 2001* 生物醫藥研究中心，隸屬ZHA為新加坡年緯壹科技城（*One North*）總體規劃部分，*2001*年
*Courtesy of Biopolis, photographs by Ken Seet*
照片由 *Biopolis* 提供及由 *Ken Seet* 拍攝


*Atrium, Dominion Tower, Moscow, 2015*
莫斯科*Dominion Tower*中庭，*2015*年
*Photographs by Hufton + Crow.* 照片由 *Hufton + Crow.* 拍攝

such an evolving synergetic urbanity within and across buildings? The answer is three-fold: dense spacing, voids and bridges.

The typical tower typology stacks up floors that remain blind to each other. Due to the usually centrally located core, the usable surfaces on each floor are also highly segregated. Towers are big investments and economic pressures are brought to bear demanding cost efficiency. But costs are only one side of an economic appraisal. A proper appraisal includes both costs and benefits in a cost-benefit analysis. The problem is that the benefit of providing floor surface is obvious and its measurement is trivial. While the appraisal of benefits of navigability, inter-visibility and inter-awareness afforded by voids is not so trivial and cannot be as easily measured. It might therefore be overlooked. What is required here is entrepreneurial market leadership based on the intuitive appeal of spaces with superb visual connectivity that will draw in clients who are willing to pay the extra costs and more.

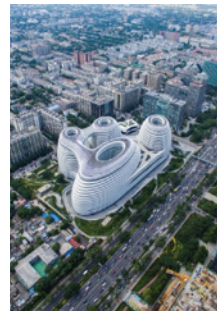
The idea could not be simpler: All buildings, especially towers, must become to a large extent empty, hollow, i.e., we must substitute usable floor surface with voids affording deeply penetrating internal vistas.

The author has confidence that this will succeed within our contemporary knowledge economy with creative industry firms. Here real estate costs are only a small fraction of

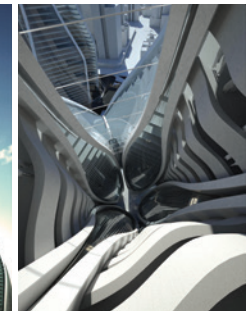
可用面積也會被分割開來。建造高樓是一項巨額投資，投資方承受極大的經濟壓力，需要不斷控制成本。然而，成本只是經濟評估的其中一個層面。在合理的成本效益分析當中，成本與效益均是重要的衡量因素。雖然增加樓面面積的好處顯而易見，而且實行容易；但是空間帶來的通達性，以及增加人與人之間交流溝通和認識的機會等這些好處，則是不能輕易實施及量度，並往往因此遭到忽略。我們需要具企業眼光及具領導能力的建築師，他們要意識到，擁有高度視覺連通的空間會吸引客戶，令他們願意為建築付出額外的成本和費用。

構思其實非常簡單：所有建築物，尤其是高樓，內部結構必須變得空曠開闊。換言之，我們必須以可以探視建築內部的空間去代替互不相通的樓面。

我可以自信地說，此構思將於當代知識型經濟體系下各創意產業公司之中取得成功。在以產業營運而言，房地產的成本只佔人力資源成本的一小部分，提升創意知識型人才的生產力所獲得的好處，足以值得讓公司捨棄密密麻麻的樓層和工作枱，以換取更大空間。視覺上的密度比物理上的密度更重要，因為視覺上的密度提升了溝通上的交集程度。




*Soho Galaxy, Soho China, Beijing, 2008-2012*
北京*SOHO*中國旗下的銀河*SOHO*，*2008-2012*年
*Courtesy of Zaha Hadid Architects* 照片由 *Zaha Hadid Architects* 提供

*Cluster Tower with Mega-atrium, Competition for Beijing CBD, 2012*
北京商業中心*Cluster Tower*超級中庭，*2012*年
*Courtesy of Zaha Hadid Architects* 照片由 *Zaha Hadid Architects* 提供

human capital costs, and the prospect of increasing creative knowledge worker productivity will be worth the expense of cutting voids into the dense packing of floors and desks. Visual density is more important than physical density because it facilitates density of communication. This is not only a matter of facilitating actual encounters, conversations, exchanges, and collaborations. It is successful already via the thrill and stimulation of being viscerally immersed within a cluster of creatives. This sense of stimulation has its own intuitive rationality: the prospect of encounters, of learning opportunities, of collaborative ventures – all productivity and thus life enhancing – attracts those of us eager to thrive professionally.

What is the point of agglomerating thousands of people within a headquarters tower, if not the facilitation of cooperation, planned and unplanned? Post Fordism implies that workers are no longer chained rigidly into an assembly line. Production is automated via reprogrammable robotic systems. This new technological era ushered in by the combination of computation and networking, and now further enhanced via AI, has an enormously expanded capacity to absorb innovations. Production robots can be re-programmed just in time and new service apps uploaded to billions. The same applies to software updates. The Fordist mechanical assembly lines had very little ability to take on product innovations on the fly. Here cycles of innovation were counted in years or decades rather than months and weeks. In any case, the workers were still locked into the assembly chain as well. In contrast, all work is now able to focus on continuous innovation: R&D, marketing, financing. As workers become creative knowledge workers, they must become self-directed nodes in a continuous process of network self-organisation. There is no way that this can be planned from above. The leadership is busy building open platforms that might allow this self-organisation to flourish. Buildings are one important type of platform that can make a difference. The costs of creating or renting these spatial communication platforms dwarf in comparison to the costs of the human capital that fills these buildings. A building that wastes and stunts this human capital is damaging the economy, irrespective of its own construction costs. All the

這不但有助人與人的認識、對話、交流和合作，還有助沉浸在創意環境中，刺激思維。這體現了直覺化的理性考量：人們會期待擴闊人際網絡、學習新知識並展開各種合作關係，一切都與提升生產力和生活質素息息相關，對希望建立成功事業的人具有強大吸引力。

倘若不是為了便利有計劃或無計劃的交流和合作，把數以千人集中在一個總部大樓裡又有何意義呢？「後福特主義」意味著工人不再被困在生產線上，生產過程由可改編程式的自動化機械人系統控制。電腦與網絡的結合孕育出科技新時代，而透過人工智能，系統進一步擴展以容納更多創新設計和發明。生產機械人的程式可以適時重新編寫，然後透過應用程式，即時將新服務上載到數十億部機器裡。同樣地，此亦可應用到軟件更新方面。「福特」模式下的機械生產線很難追上產品創新的發展，因為創新發展通常數以年計或十年計，並非幾個月或星期之能內改的事情，因此，傳統生產線仍舊依賴工人。相比之下，研發、推廣、金融服務等工作則專注不斷創新發展。當工人變成創意知識型人才，他們必須在自發運行的網絡中，成為具獨立思考與決斷力的聯繫節點。這種模式絕不是計劃出來的，企業領導層著意建立及提供各種開放式平台，讓這些自發工作網絡能蓬勃發展。建築物是能夠帶來改變的重要平台之一。與僱用建築物裡員工的人力資源成本相比，建造或租賃這些工作室及建築物的費用微不足道。無論建造成本是多寡，任何浪費或窒礙人力資本的建築物都會引致經濟上的損失。人才若不能匯聚到同一個空間，定必削弱構思概念、創意和富有成效的合作，這些都是建築項目預算最大的機會成本。可惜，城市規模的對比分析，卻證明了城市經濟學家所說的聚集經濟效應。

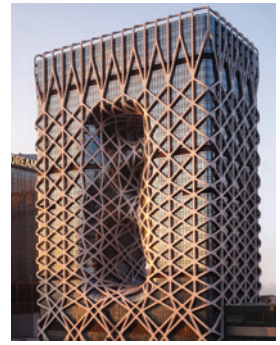
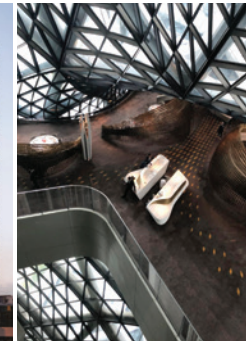
ideas, innovations and productive collaborations that might have been the result of bringing thousands of smart people together, are the invisible opportunity costs that are missing from the calculations of each project budget. However, comparative analyses on the urban scale have demonstrated what urban economists call agglomeration economies.

Parametricism has matured and is delivering sophisticated state of the art products at scale. The following projects demonstrate the experiential and communicative value that a vertical urban architecture with voids and bridges can deliver for the new global network society. More than ever, the task of architectural design will be about the transparent articulation of relations for the sake of orientation and communication. Differentiation, interfacing, and navigation are joined in a clear agenda that will require a sophisticated, versatile language of architecture. An expressed contemporary structure, like an optimized exoskeleton, helps naturally to differentiate the tower along its vertical axis. The exoskeleton also takes pressure off the core and allows more freedom for interior voiding. The voids which are strung along the vertical axis might fuse into a mega-atrium that also affords panoramic elevators to fly through a navigation space, functioning like a vertical urban street. An example for this is Zaha Hadid Architects' Morpheus tower in Macao.

Morpheus is a luxury hotel that plugs into Macau's City of Dreams complex. The project deploys the device of an

時至今日，參數化主義已經成熟，不少新穎先進的設計圖都變成了實物，成為城市天際線的一部分。以下的建築項目將逐一論證，附有空間和連廊的垂直都市建築物，能夠為新型的全球網絡社會提供額外的體驗和交流價值。為了確立目標定位與促進溝通，建築設計比昔日更加著重簡單明確的結構關係。要同時達到劃分、交匯和導航三個目的，建築師需巧妙地採用一套精密靈活的建築語彙。一座富有表現力的當代建築物就像就一副完美的外骨骼，沿著垂直軸線將高樓自然劃分成不同區域。外骨骼還可以分散建築物核心所承受的壓力，更容易騰出空間。沿著垂直軸線開闢的中空空間可以融合成一個超級中庭，電梯在其中穿梭導航，讓人飽覽這個功能有如垂直城市街道的全貌。Zaha Hadid Architects 設計的澳門摩珀斯酒店就是上述形容的絕佳範例。

摩珀斯是屬於澳門新濠天地建築群的奢華酒店。酒店設計採用外骨骼結構，使內部可以自由地騰出複雜的空間。訪客可以乘搭180度透明觀光電梯，在這個令人目眩神迷的空間裡自由穿梭。建築物空間有連廊連接，連廊內設有咖啡室和餐廳等社交空間，向外眺望能欣賞到城市景觀。

*Morpheus at City of Dreams, Macao, 2019*
澳門新濠天地摩珀斯酒店 · *2019年*
*(Left) Courtesy of Melco Resorts and Entertainment* (左) 照片由新濠博亞娛樂提供
*(Right) Courtesy of Zaha Hadid Architects* (右) 照片由 *Zaha Hadid Architects* 提供


*Leeza Soho Tower, Beijing, 2019*
北京麗澤SOHO · *2019年*
*Courtesy of Zaha Hadid Architects* 照片由 *Zaha Hadid Architects* 提供

exoskeleton that gives ample freedom to the complex void unfolding inside. This vertiginous space of flying can be traversed via 180 degree glazed panoramic elevators.
The void is negotiated by bridges that host social spaces like cafes and restaurants. Vistas open out into the urban context.

Zaha Hadid Architects' Soho Leeza tower in Beijing offers collaborative office space for hundreds of small and medium enterprises gathered around the world's tallest atrium. The Mega-void cuts right through the tower in a continuous spiralling move that opens the tower to its urban context. The smooth trajectory of the void is punctuated by trusses that stich the two slices together.

The twisting surfaces of the atrium give rhythm and dynamism to the space and also facilitate and vary the view up and down the atrium, revealing more than a straight wall would. The sky bridges serves as structural ties and punctuate the free flow of the space.

Leeza SOHO's atrium acts as a public square for the new business district, visually linking all spaces within the tower and creating a new civic space for Beijing that is directly connected to the city's transport network. The atrium brings natural light deep into the building and acts as a thermal chimney with an integrated ventilation system that maintains positive pressure at low levels. This limits air ingress and provides an effective clean air filtration process within the tower's internal environment.

As with our Macao project, it is important that the mega-atrium is not a hermetic space but visually connects with the surrounding urban fabric. This reduces vertigo and enhances the sensation of freedom. Entering this space delivers a viscerally uplifting experience, reminiscent of the tallest Gothic cathedrals.

The view from the neighboring urban spaces and towers into the communication void is as important as the views across the void and from inside out. The void draws its audiences in and up the tower. It reveals to each floor what goes on across many more floors, above and below, inspiring inter-awareness

Zaha Hadid Architects主理的北京麗澤SOHO匯聚了幾百間中小企業，並擁有全世界最高的中庭。巨大的螺旋形連續空間縱穿整座高樓，將內部的活動與外部的城市脈搏互相接通。大樓骨架將建築物左右兩邊接合連起，形成中間優美的鏤空空間。

中庭旋轉扭曲的表面為空間增添韻律和活力，同時也促進和改變了中庭上下的視野，比垂直牆面展現更多。而大樓之間的空中天橋則作為整體結構的紐帶，為突顯建築空間的自由流動。

麗澤SOHO的中庭作為新商業區的公共廣場，在視覺上把大樓裡所有的空間連成一體，為北京市創造了一個與城市交通網絡直接相連的新市民空間。中庭將自然光引入大樓深處，建築構造仿如一個帶有集成通風系統的熱煙囪，令低層空間維持正壓水平，限制空氣流入，為大樓的內部環境提供一個有效的空氣淨化程序。

一如澳門的摩珀斯酒店項目，其中重要的是巨型中庭並非構造一個密閉空間，而是在視覺上與周邊的城市肌理融為一體。這種設計可以減少身處高層建築當中的眩暈，同時增強自由的感覺。這類空間提供一種聖潔並振奮人心的體驗，令人恍如置身高聳入雲的哥德式教堂。

從城市各處和毗鄰的高樓所望到的景致與從建築內部各處眺望到的風景同樣重要。建築內部空間的設計吸引觀眾走進建築，而觀眾可看見建築內展示不同樓層的活動，讓大家意識到彼此的存在，奠定社交生產力的基礎，以及展示廣闊的城市生活。

將人流導向作為高樓設計的關鍵元素這一想法，總離不開於建築物的垂直軌跡中注入一定程度的差異化和複雜性。然而重複的空間間隔則無需特殊設計來促

as a first step to productive social interaction. It also provides awareness of the urban life beyond.

The idea of explicitly introducing navigation as a key agenda to be considered in the design of towers goes hand in hand with the attempt to inject a certain measure of differentiation and complexity into the vertical trajectory of the tower. The repetition of the same does not require a special design effort to facilitate orientation. And usually, the navigation of towers is simple: just step into the elevator and select the required floor. As the complexity of the tower increases and public functions start to penetrate the tower, navigation becomes an issue. Navigation means much more than mere mechanical circulation. Navigation is the perceptual and conceptual penetration of a deep space. A legibly configured navigation space is called for that affords a certain visual penetration and mental map. Floors are no longer segregated black boxes.

Such a space invites roaming rather than merely the seeking out of a pre-planned, known destination. While maintaining a strong sense of orientation, a strategic browsing should be made possible, affording unplanned but non-random encounters, just like in a buzzing city fabric. This is the idea of 'interior urbanism'. The question is: Can the idea of interior urbanism be applied to towers? One solution is the idea of the mega-atrium, the tower as a continuous void that can bring thousands of potentially inter-relevant activities into mutual view. An example of this is Zaha Hadid Architects' headquarters design for the Tai Kang Conglomerate in Wuhan.

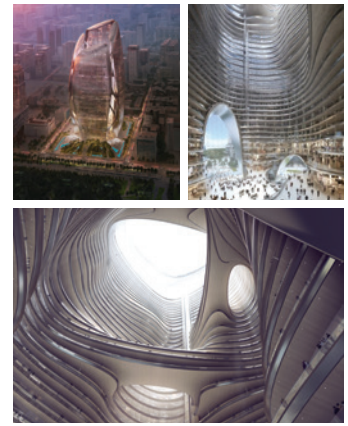
This massive void gathers the many firms of the conglomerate, plus retail spaces and a small business hotel. This is a 21st Century city square, a truly urban interior. The dramatic spectacle of this interior urbanism delivers a thrilling sensation. But this sensation makes productive sense. The visceral attraction is signalling the anticipated richness of productive encounters.

These spaces express and facilitate the complexity, dynamism, and communicative intensification of urban life in our 21st Century Network Society. Buildings must become porous and urbanised on the inside, allowing for increasing

進定位。一般來說，高樓的人流導向系統非常簡單：就是走進電梯，揀選目的樓層。隨著高樓結構漸趨複雜，公共功能開始滲透到高樓之中，人流導向系統面臨挑戰。人流導向不僅是純粹的刻板的人流路線，而是對一個深層空間所作的感知和概念的滲透。配置清晰的導航空間應運而生，並提供一定的視覺滲透和心理地圖，各樓層不再是彼此相隔的的黑盒子。

這樣的空間鼓勵人們到處探索，而不只是尋找已計劃及確定的目的地。在保持良好方向感的前提下，建築物應該引導有意識的遊覽，以製造在繁忙城市當中出乎意料、但並非胡亂安插的相遇。如此正是「室內都市主義」的概念。問題是，室內都市主義能否應用到高層建築當中？巨型中庭是其中一個解決方案，它為高樓提供連續空間，將數以千計的潛在相關活動納入共同視野。Zaha Hadid Architects設計的武漢泰康總部正是這種概念的實踐。

其中龐大的中庭空間把眾多企業匯聚一堂，另設零售商店和一間小型商務酒



*Mega-Atrium, Tai Kang Headquarters, Wuhan, 2016-2022*
武漢泰康總部超級中庭，*2016-2022*年
*Courtesy of Zaha Hadid Architects*
照片由 *Zaha Hadid Architects* 提供

inter-visibility between the diverse social activities brought together, to maximize co-location synergies and to facilitate a browsing navigation. Another example of this is Zaha Hadid Architects' Dominion Tower in Moscow where a synergy cluster of creative industry firms have naturally found each other.

The motivation to move into cities, ever larger and denser, and into larger buildings, is clear: we come together to network, to synergize knowledge, to exchange and to cooperate. The built environment becomes an information-rich, empowering and exhilarating 360 degree interface of communication and networking. However, it thereby also becomes an experience. Lose yourself and discover yourself!

The taller the tower, the more important becomes its mode of interfacing with the ground-plane. A large amount of traffic coming down from the tower usually occasions spatial provisions on the ground floor. For instance, in the case of a hotel tower, all additional facilities like lobbies, restaurants, bars, retail stores, etc. are located on the ground floor or near to the ground. Tall residential towers, as well as office towers, also demand ground level expansion. Usually these additional space requirements are catered for by means of discrete podium blocks that separate the shaft of the tower from the

店，匯聚成二十一世紀的城市廣場，是名副其實的室內都市。建築物的內部結構令人嘆為觀止，並同時提升生產力。內部的縱橫交錯正好象徵著業務合作的成功。

這些建築空間呈現出二十一世紀網絡社會下，都市生活的複雜結構、活力和交流，並與之配合發展。建築物必須發展成多孔洞結構，並從內部進行都市化，提升各種社會活動之間的能見度和互相合作的機會，最大化場地共享的效益，並方便使用者進行空間探索。另外由 Zaha Hadid Architects 設計的莫斯科 Dominion Tower 亦是典例之一，大樓裡自然而然匯集了不同的創意公司，形成一個彼此相輔相成的產業簇群。

我們搬進更稠密的城市，以及更大的建築物，其原因不言而喻：我們聚集到一起互相認識，分享所學所知，彼此交流合作。建築物變成充滿信息的空間，好比一個360度的立體溝通介面和社交機器，讓人不自覺地充滿力量。建築亦因此變成一部供人體驗的機器，走進去，就能忘乎舊我，發掘新我。

*OPPO Telecommunications Headquarters, Shenzhen, 2020 – 2025 (left) and 'Tower C' at Shenzhen Bay Super Headquarters Base, Shenzhen, 2020 – 2027 (centre & right)*
*OPPO深圳總部，2020-2025年（左）及深圳灣超級總部基地C塔大樓，2020-2027年（中及右）*
*Courtesy of Zaha Hadid Architects 照片由 Zaha Hadid Architects 提供*

ground. One of our key ambitions has been to find convincing alternatives to the 'tower on podium' typology. Alternatives that avoid the intervention of a discrete third element between the ground surface and the tower itself. One such strategy is the sunken retail podium, as executed in ZHA's Leeza Tower in Beijing. The last two projects featured here offer further solutions for an intensified, layered interfacing of towers with the public ground surface.

Zaha Hadid Architects' design for a new headquarters for the telecommunication company Oppo places a cluster of towers on a terraced plinth that functions like a podium but integrates the tower with the public ground rather than cutting it off.

The second relevant scheme currently on our drawing boards is a mixed-use twin tower scheme for Shenzhen – Tower C – located within Shenzhen's Super Headquarters Bay. This scheme pushes the landscape-like terraced layering and multiplication of the ground to a new level, taking full advantage of the adjacent park. The would-be podium bleeds into the park, inviting visitors up into its depth via multi-level exterior access. The multi-level bridge connection offers another expanse of semi-public interaction space higher up the towers. Again, atria are also used within this deep would-be podium.

The agenda of communicative intensification within and between densely spaced high-rise structures, via the combined strategies of clustering, bridges and atria, will articulate a new paradigm for the design of high-rise urbanism. On this basis the tower typology will receive a new lease of life in the central metropolitan societies, where the desire for connectivity (rather than pure quantity) drives urban density. In the future, even more than is evident already now, this super-dense build up will be a mixed-use build up, where multiple life-processes intersect. These life-processes need to be ordered in intricate ways that nevertheless remain legible and thereby empowering.

高樓大廈越高，地面樓層的設計亦愈加重要。高樓形成了大量流向低層的流動人群，導致底層樓面需要特殊的空間規劃。例如酒店內的大堂、餐廳、酒吧和零售店舖都集中在地面或地面附近的樓層，高層住宅及商業大廈的地面樓層亦要加大面積。一般而言，建築師會藉由隱秘的平台結構來容納這些額外空間，以便將高樓的軸線與地面分開。我們的一大目標，是希望為這種「基座平台上的高樓」模式另覓他法，避免地面與高樓之間受到隱秘的第三者結構干擾。北京麗澤SOHO沉入地面的零售樓層就是一個很好的例子。本文最後討論的兩個建築項目也示範了如何在高樓與公共地面之間，製造功能更廣、層次更多的連接空間。Zaha Hadid Architects 為電訊公司OPPO設計的深圳總部，將高樓集中起來，置於階梯般的基座上，此基座的功能類似平台，但卻有效地將高樓與公共地面互相融合，而不是將兩者關係切斷。另一個例子是坐落於深圳灣超級總部基地，人稱「C塔大樓」的多用途雙子大樓。這個項目利用鄰近的公園，把梯田般的結構和多層地面的極限推至全新高度。將建成的平台會融入公園之中，吸引訪客沿著外部不同樓層的入口走進建築。高樓之間的連廊則在半空為建築增加了另一個半公共空間。在這個深入大樓腹部的基座同樣設有中庭。

透過群集模式、連廊和中庭結構，加強稠密高層建築內部和建築之間的連繫，能夠為高層都市主義設計開拓一個新模式。位處大都會社會核心的高樓將會以這個模式為基礎，讓全新的生活進駐入內，滿足社會對與人連結而非單單擦身而過的渴望，促進都市密度發展。即使現時已可見雛形，相信高層高密度的多用途建築將在未來有更長遠的發展，人類生活的各方面亦將在這些建築裡縱橫交匯。生活有數不清的橫切面，錯綜複雜，我們卻需要將它們清晰地梳理好，使它們享有更充裕的成長空間。

# Zaha Hadid Architects

Zaha Hadid Architects (ZHA) redefines architecture for the 21st century. Their repertoire of projects has captured imaginations globally. Founded by Zaha Hadid in 1979, ZHA's work weaves form and space within the structure of buildings. They combine their unwavering optimism for the future of urban design with concepts of social integration. Through their belief in the power of invention they have brought culture, sport, transport, corporate headquarters, and master planning under one roof.

ZHA's first completed building in Asia was the Guangzhou Opera House (2010). The New York Times described it as '*The most alluring opera house built anywhere in the world in decades.*'

The company opened a studio in Hong Kong in 2012 while developing the Jockey Club Innovation Tower for the Hong Kong Polytechnic University School of Design (2014) and the Morpheus Hotel and the City of Dreams, Macau (2018).

ZHA have successfully married the latest advancements in digital design with sustainable materials and construction practices. ZHA does not consider disparate parts, but rather works to understand them as a whole.

Zaha Hadid Architects（ZHA）項目遍佈全球，其作品極具想像力，為21世紀建築賦予了全新定義。ZHA 由扎哈·哈迪德 於1979年創立，其作品展示了設計團隊對未來城市設計的樂觀展望及信心，並致力將設計融入社區。憑藉設計團隊對於創新意念的堅持，以及對文化、體育、交通、企業總部大樓和總體規劃等各類建築項目在概念上的連接和整合，創作了各式各樣的形態和空間。

ZHA 於亞洲完成的首個建築項目為2010年落成的廣州大劇院，此項目被《紐約時報》讚譽為「幾十年來世界上最迷人的歌劇院」。ZHA 於2012年在香港開設工作室，並於2014年為香港理工大學設計學院設計賽馬會創新樓，及後再於2018年在澳門設計出新濠天地摩珀斯酒店。

ZHA 將最尖端的數位化設計，與可持續物料應用及實際建築施工技術結合。設計團隊將不同考慮及因素視作一個貫徹的整體來理解和操作，以制定設計方案。

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# HKDI GALLERY

**HONG KONG DESIGN INSTITUTE**

Affiliated to Hong Kong Design Institute (HKDI), HKDI Gallery is a dynamic exhibition space with unique vision, with a track record of engaging with parties at home and abroad, including internationally acclaimed museums, designers and curators. With contemporary design as the cornerstone, HKDI Gallery presents a series of top-notch exhibitions every year ranging from graphic design, architecture, fashion, product design, multimedia and so on, including the retrospective for the Pritzker Prize-winning Spanish architect Rafael Moneo, the solo exhibition for the renowned Japanese designer Dai Fujiwara, the solo exhibition for the Oscar-winning artist Tim Yip, the retrospective for Hong Kong design legacy KAN Tai-Keung, the Asian debut largest solo exhibition for one of the most influential German industrial designer Konstantin Grcic, the exhibition of Japanese posters in 20th century, etc. Conjoining the design expertise of Hong Kong Design Institute, HKDI Gallery inspires tomorrow's creative talents and promotes design education & creativity to everyone by staging museum-standard exhibitions and education workshops.

隸屬香港知專設計學院（HKDI），HKDI Gallery 為一充滿活力及視野的展覽場地。每年我們均會與海內外不同單位，如國際知名博物館、設計師、策展人等合作，以當代設計為議題，舉辦涵蓋平面設計、建築、時裝、產品設計及多媒體等類別的一系列頂尖展覽。例如西班牙國寶級建築師 Rafael Moneo 回顧展、日本知名設計師藤原大個人展覽、奧斯卡得獎者葉錦添個展、香港著名設計師靳埭強個展、德國工業設計師 Konstantin Grcic 亞洲個展及日本二十世紀平面海報展等。我們結合學院於設計教育的專長及優勢，以展覽及工作坊形式，拓闊大眾及學界的設計視野，激發設計思維。

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