

INTERIORS_STYLE_ARCHITECTURE_DESIGN

PERSPECTIVE

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透視

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We explore Light+Building Frankfurt 2010, talk to Electrolux Asia-Pacific design director Pernilla Johansson, marvel at the new Shanghai International Cruise Terminal and chill out at Kamalaya in Koh Samui

+ The Poggenpohl Brain Trust:
Technology and creativity
in architecture
設計智庫：建築的科技與創意

法蘭克福燈光展2010照亮未來
專訪伊萊克斯家電亞太區設計總監Pernilla Johansson
上海港國際客運中心氣魄宏大
蘇梅Kamalaya度假村悠然舒坦



LOOKING
AHEAD
放眼向前望

*"Architecture is the learned game,
correct and magnificent,
of forms assembled in the light"*
Le Corbusier

Down by the river

Shanghai's new international cruise terminal offers spectacular views of the Bund to the south and the skyscrapers of Pudong on the opposite side of the Huangpu River

TEXT: SUZANNE MIAO
PHOTOGRAPHY: COURTESY OF SPARCH

In early 2004, Sparch was appointed to master plan the site for Shanghai's new International Cruise Terminal (SICT). This 800m-long riverfront site is located north of the historical Bund centre of the city, able to accommodate up to three 80,000-tonne cruise ships at any one time, with an expected passenger flow of more than 1.5 million people per year.

The Shanghai authorities, seeking to address the urgent requirement for 'breathing spaces', set down a target to free up 30 per cent of the municipality as open space for its citizens to enjoy, ahead of the Shanghai World Expo in 2010, the theme of which is 'Better City, Better Life'.

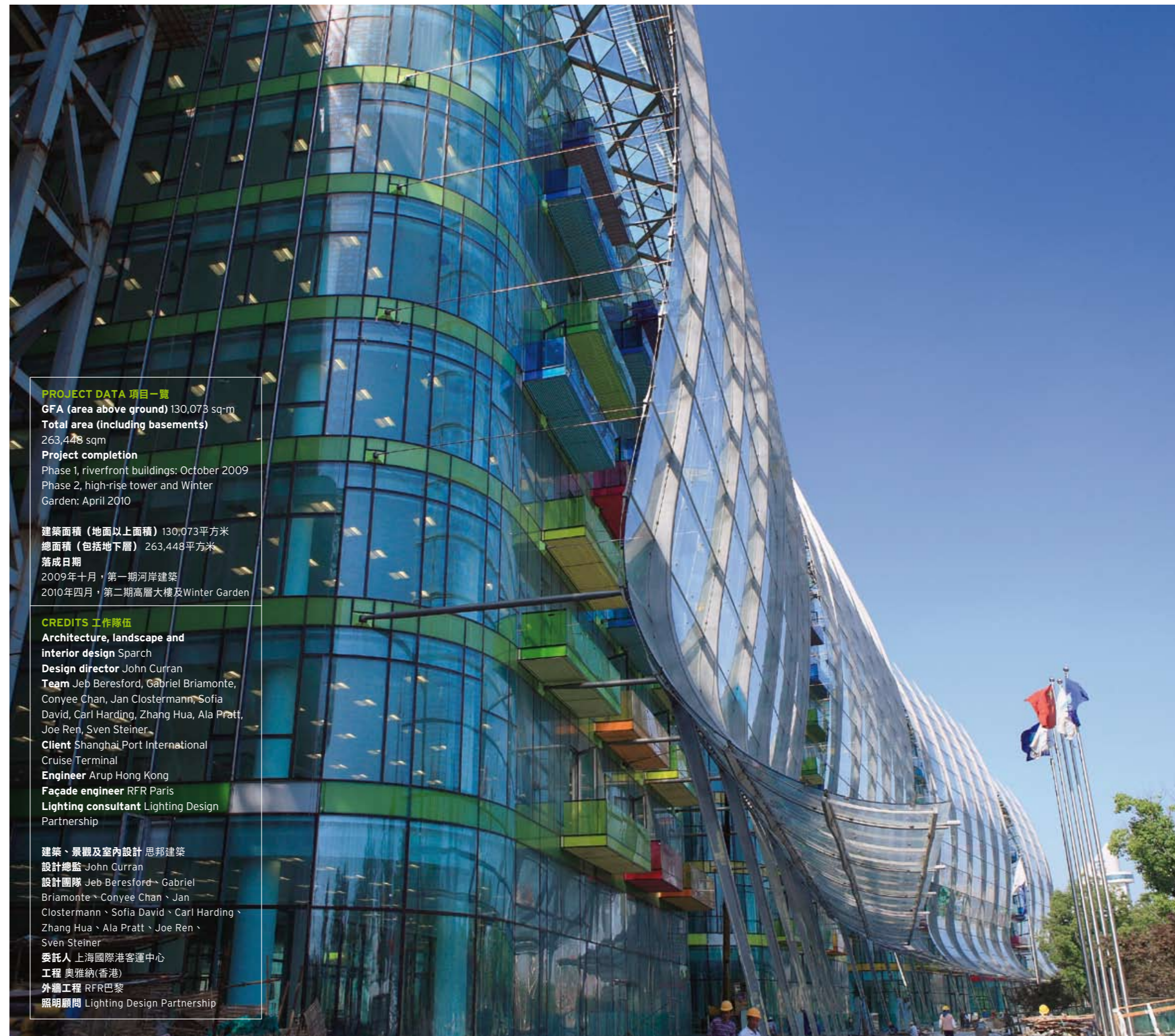
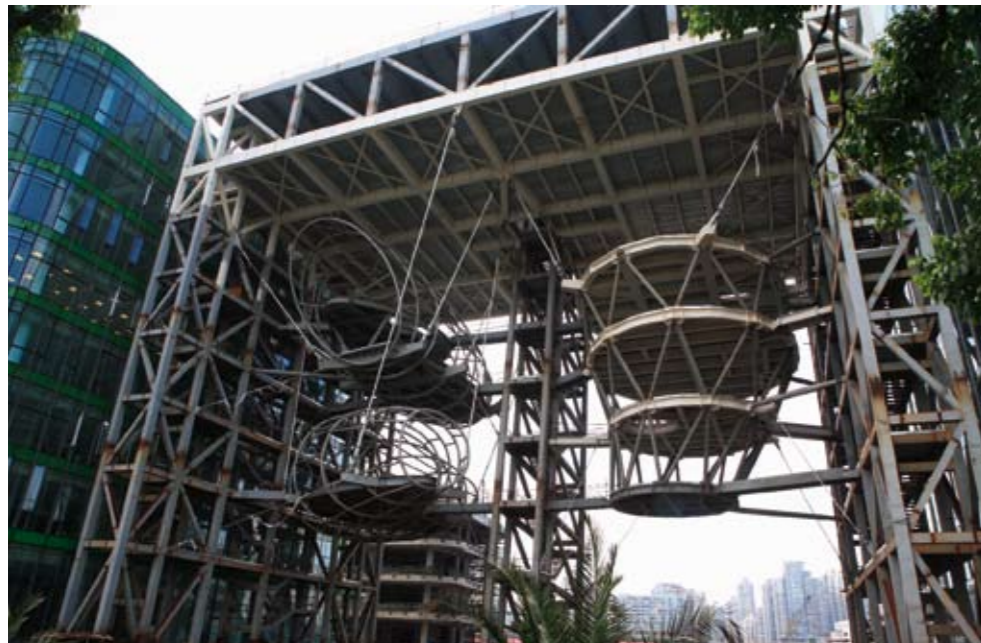
The SICT site forms part of this vision to create a green corridor along the Huangpu River, eventually extending as far south as the Expo site itself, between the Lu Pu and Nan Pu bridges.

The design of the SICT architecture considered the Herculean scale of the cruise ships that will dock alongside. The total construction area is 260,000 sq-m, but the brief required that 50 per cent of this be placed underground, including the cruise terminal passenger facilities (planned by Frank Repas Architects), thus freeing up most of the site as a green park terracing down to the water's edge.

Sparch's challenge was how to deal with the 'under world' as well as the architecture rising out of it. The solution was to create ambiguity as to where the ground plane is, by opening up a honeycomb of sunken courtyards. The buildings appear to disappear into these sculpted holes, providing abundant opportunities to explore connections between the ground and 'lower ground' levels.

"The lower level does not feel like a basement, since every part has a direct line of sight to a green sunken garden, flooding the interiors with natural daylight," explains Sparch design director John Curran.

Below Different levels to accommodate restaurants and bars can clearly be seen during the construction phase of the 'chandelier'
Right The standing crystal waves wrap over the buildings as a second skin that protects the commercial office spaces



PROJECT DATA 項目一覽

GFA (area above ground) 130,073 sq-m

Total area (including basements)

263,448 sqm

Project completion

Phase 1, riverfront buildings: October 2009

Phase 2, high-rise tower and Winter

Garden: April 2010

建築面積 (地面以上面積) 130,073平方米

總面積 (包括地下層) 263,448平方米

落成日期

2009年十月, 第一期河岸建築

2010年四月, 第二期高層大樓及Winter Garden

CREDITS 工作隊伍

Architecture, landscape and

interior design Sparch

Design director John Curran

Team Jeb Beresford, Gabriel Briamonte,

Conyee Chan, Jan Clostermann, Sofia

David, Carl Harding, Zhang Hua, Ala Pratt,

Joe Ren, Sven Steiner

Client Shanghai Port International

Cruise Terminal

Engineer Arup Hong Kong

Façade engineer RFR Paris

Lighting consultant Lighting Design

Partnership

建築、景觀及室內設計 思邦建築

設計總監 John Curran

設計團隊 Jeb Beresford、Gabriel

Briamonte、Conyee Chan、Jan

Clostermann、Sofia David、Carl Harding、

Zhang Hua、Ala Pratt、Joe Ren、

Sven Steiner

委託人 上海國際港客運中心

工程 奧雅納(香港)

外牆工程 RFR巴黎

照明顧問 Lighting Design Partnership

The concept also explored the idea of ripples in the landscape being amplified into standing crystal waves that wrap over the buildings. This augmented over time into a second skin that protects the commercial office spaces from their due south orientation, and is populated with semi-outdoor balcony spaces overlooking the Huangpu River.

The riverfront faces the city, and illuminates at night into a herringbone array of curved masts that tie the pavilion buildings together. A gap appears in the middle – a glazed table top supports amorphous pods on cables. One, two and four-storey pods contain cafes, bars and restaurants, hovering over a public performance space below.

According to Curran, among the key objectives agreed on with the client was to put in place a striking icon on the bank of the river that would symbolise Shanghai's innovation, creativity and energy.

"We call this icon the 'Shanghai Chandelier'," he says. "It's located above a future vehicle tunnel that will pass underneath the site and the Huangpu River, to connect to Pudong on the other side. In this location, it would not have been possible to construct a conventional building, and required an innovative design and engineering solution."

Thus, from this site constraint came the opportunity to create a floating architecture. "In

Europe, we have made projects where sculptural objects appear to float on legs," explains Curran. "But in Shanghai, we had the opportunity to push the boundaries further, and suspend the architecture on a web of cables. This structure bridges over the tunnel and suspends a number of cafes, restaurants and bars beneath it. This is the first suspended cable construction of its type in the world.

"Since the structure does not come down to the ground in the middle, it creates a sheltered space for public performances, festivals and other events – like a dramatic stage."

The client supported Sparch's proposal to create high quality public spaces that offer new experiences. Thus, visitors can rise up through a climbing frame of activities, passing through a series of 'egg' forms, to experience the views of Shanghai in a totally new way.

Sparch worked closely with engineers Arup Hong Kong and RFR Paris to figure out how to suspend the 'eggs' – the largest of which weighs 750 metric tonnes – on a web of cables. The design needed to be totally safe, to resist storm force winds and seismic forces, while retaining its delicate, light sculptural aesthetics.

"These eggs we compare to the Fabergé eggs, made by the famous Russian Fabergé family in the late 19th and early 20th century," Curran says. "We see the Shanghai Chandelier as our Expo pavilion that escaped to the Bund."



Above from left Artist's impression of the 'Shanghai Chandelier' — inspired by Fabergé eggs, the suspended pods contain dining facilities while providing an open performance and leisure space beneath. • With 50 per cent of the structure having to be placed below ground level, buildings appear to rise out of a honeycomb of sunken courtyards. Left Colours highlight the semi-outdoor balconies and create visual interest

Environmental innovation

綠色港口

All six office pavilions contain ventilated atria, topped with louvred skylights. Air circulates through the façades across the office spaces towards the central atrium, where it exhausts at the top. Pixelated window openings across the office façades provide local comfort cooling.

Large doors open onto balconies along the south side, within a double-skin façade, overlooking the Huang Pu River. This façade prevents UV heat from entering the buildings in the summer, and acts as an insulating blanket during the winter.

Arup Engineers designed a river water cooling system – a first in Shanghai for a commercial application – which draws water from the Huang Pu River and combines it, via heat exchangers, with the HVAC system. This system will greatly reduce the energy consumption of the buildings during the summer months.

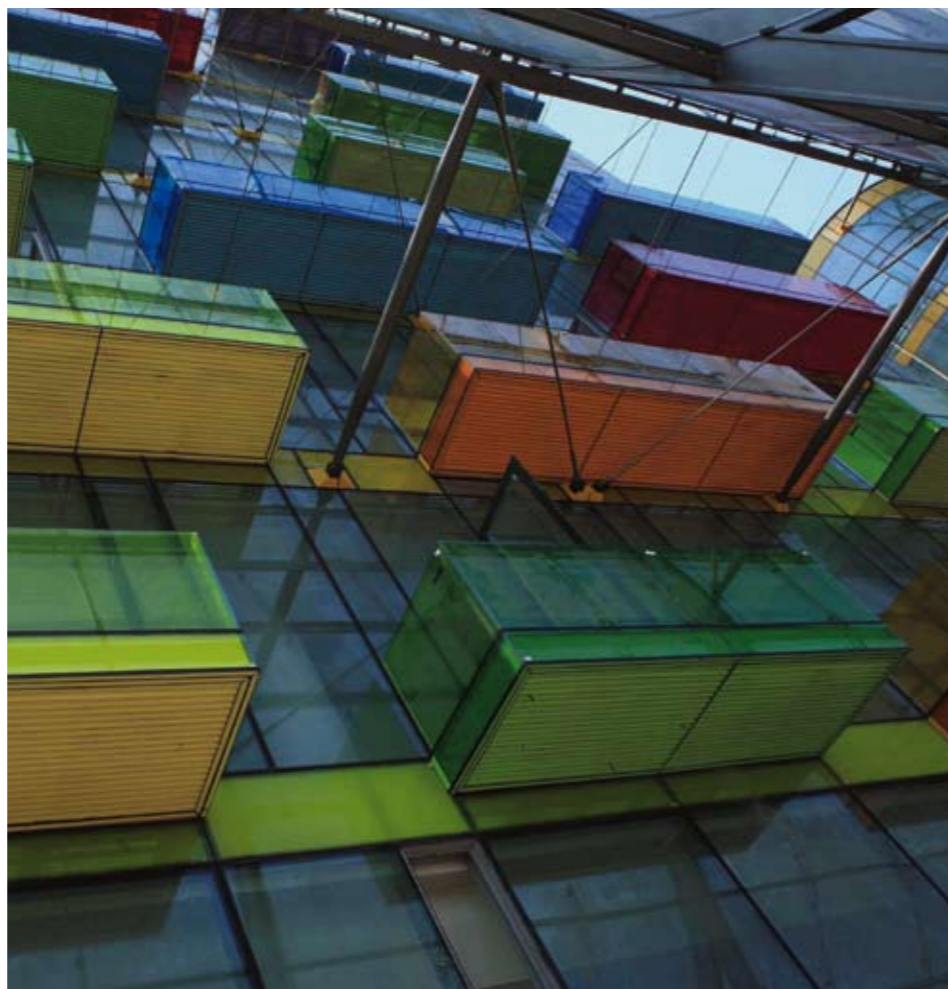
The canopies hovering above the office pavilion roofs will be carpeted in a photovoltaic membrane, sized to offset the energy requirement of lighting the landscape and public spaces in the evenings.

項目的六座辦公大樓均設有通風天井及玻璃屋頂。新鮮空氣穿過大樓外牆進入室內空間，經過中央天井從屋頂離開。外牆窗戶密密麻麻的，交流通風製造涼快的效果。

座落南邊的大樓採用雙層外牆設計，廣闊的露台大門遠眺黃浦江景觀。特別設計的外牆使室內冬暖夏涼，夏天時能抵抗紫外光入侵，冬天時則發揮保溫儲熱的效果。

奧雅納（香港）工程公司設計了河水冷凍系統，是上海首次將這技術應用於商業項目，從黃浦江抽取河水，配合換熱器及HVAC系統。在夏天，這系統能大大減少建築物的能源耗量。

此外，覆蓋辦公大樓樓頂的天幕裝有太陽能光板，可發電供應晚上街道及公共空間照明之用。



上海新岸

剛落成的上海港國際客運中心位於黃埔江岸，南臨外灘美景，北方與浦東摩天地建築群隔江相對，為現代城市天際線添上新一筆

撰文：SUZANNE MIAO
攝影：SHARON HUI

零 四年初，思邦建築落實為上海港國際客運中心做總體規劃設計項目。臨岸的港口地總長度八百米，位處上海歷史區外灘的北部，將可以同時接待三艘八萬噸大型郵輪和每年超過一百五十萬名旅客。

上海市政府一再強調在城市建设過程中，迫切需要更多開放的「呼吸空間」，於是訂下目標要在世界博覽會開幕之前，建造三成開放空間供市民享用，以配合世博主題「城市，讓生活更美好」。

故此，上海港國際客運中心也期望能夠化身黃浦江邊的一道綠色長廊，一直向南伸延至位於鹿埔南浦橋之間的世博場地。

上海港國際客運中心的設計，能容納體積巨大的客運郵輪停泊江邊。項目總建築面積二十六萬平方米，近一半為地下面積，包括客運中心設施（由 Frank Reeds 建築事務所規劃），將沿岸的大片區域節省出來作為綠色公園，並向江邊層層推進。

思邦面對的最大挑戰，就是如何兼顧項目獨特的「地下世界」及地面的建築物。建築師採用了大量的地下工程，利用蜂巢式窪地將建築物隱藏在地下，將地面及地底兩個世界渾然一體的連合起來。

思邦建築設計總監 John Curran 補充：「地下層沒有身處地牢的感覺，因為這兒的窪地綠色花園，得到充沛的天然光照射。」

此外，建築物在景觀設計上採用了帶狀分布的概念，利用建築的玻璃幕牆形成更動感的水晶波浪。同時，在建築物之外設置了第二層幕牆，保護朝南的商務大樓，配合大樓半戶外的小露台，靜觀黃浦江的景色。

入夜，六棟商務大樓及外幕牆一根根由度如魚骨的輪廓線，配合著燈光效果，也將組成江岸

主要的景觀帶。此區域的規劃宛若魚骨，區域中央是承托著纜索網絡的玻璃結構，作為主幹由此起接通其它分區。一樓及四樓設有咖啡廳、酒吧及餐廳，樓下則是公共表演空間。

John 表示，委託人希望佔據江邊的客運中心能成為地標建築，象徵上海的創新、創意及活力。

他說：「我們稱之為上海水晶宮，地下是未來的行車通道，將接連水晶宮、黃浦江及浦東。這地點並不適合興建傳統的建築物，需要另尋創新的設計及工程構思。」

最終，我們設計出一幢彷彿漂浮著的建築物，解決了場地的局限。John 說：「在歐洲，我們興建不少驟眼看似凌空飄浮的雕塑建築。不過，在上海，我們則更進一步，把建築置於用纜索構築而成的網絡上。建築物恍若浮在空中，騰空跨越下面的行車道及咖啡廳、餐廳及酒吧。這座凌空的纜索結構開創了全球先河。」

「由於該結構是整片凌空在上，因此為樓下創造了理想的公共表演、節慶及其他演出項目的空間，媲美戲劇舞台。」

委託人取納思邦建築的建議，營造了高級的公共空間，為市民提供全新體驗。訪客可以藉著欣賞一流的表演項目及一系列變化多端的「蛋型建築」，從全新的角度品味上海。

思邦建築與奧雅納（香港）工程公司及巴巴黎合作，設法找出最理想的方法把這些「雞蛋」利用纜索承托，其中最巨型的一枚重達七百五十公噸。所選的方法必須絕對安全，擁有良好的抗風及避震功能，結實穩固，而且材質輕巧。

John 說：「在我們的心目中，這些蛋型建築就像費伯奇彩蛋，十九世紀末二十世紀初費伯奇俄羅斯皇室的藝術彩蛋。在我們心目中，它是設在外灘的一個世博展館。」