On the waterfront: the micro compact home is designed for short-stay living

臨水而居：這款迷你型住宅專為短期暫住而設計

靈活家居 Absolutely prefab

by AARON PEASLEY

They're economic, eco-friendly and easy to assemble. Step inside the smart structures designed to make anywhere feel like home

預製房屋設計精巧，既經濟、環保亦容易組裝，讓你可在任何地方擁有安樂窩

DISCOVER Design
發現設計

Dovetailing with rapid advances in technology, prefab architecture promised to revolutionise home construction, not just for far-flung destinations but for the average family. American mail-order business Sears, Roebuck and Company sold more than 70,000 kit homes between 1908 and 1940. That egalitarian ideal – how to make quality residential architecture accessible to everyone – and the design challenge it posed proved irresistible to architects such as Frank Lloyd Wright, Richard Neutra, Eero Saarinen and Charles and Ray Eames.

For many years prefab architecture seemed like a vestige of mid-century optimism. A daring building such as Moshe Safdie's Habitat 67 in Montreal seemed like the perfect backdrop for couture fashion shoots, but hardly a viable solution to today's housing needs.

Yet modern-day architects haven't abandoned the vision of prefab, and designers are counting on the promise of digital technology and green initiatives to realise their goal – and provide affordable housing for overpopulated and developing countries. At a time when we are keenly aware of our environmental footprint, prefab offers a sustainable, environmentally friendly response to global housing needs. Prefab architecture reduces waste and construction times, and is commonly crafted from recycled and reclaimed materials.

Among today's pioneering companies, North America's Homb produces 100-square-foot, triangular-shaped configurable modules that resemble a honeycomb, offering endless interlocking combinations. Like a number of other prefab companies, Homb uses green materials and practices designed to achieve the platinum rating of the United States Green Building Council's LEED (Leadership in Energy and Environmental Design) programme.

Prefab's potential to address humanitarian problems came to light recently when actor Brad Pitt's Make It Right Foundation unveiled a series of innovative and aesthetically daring homes for New Orleans residents displaced by Hurricane Katrina. The foundation commissioned 13 architectural firms to design affordable, super-green houses for the returning residents of the devastated Lower Ninth Ward. The FLOAT House, created by Pritzker Prize-winning architect Thom Mayne, consists of prefabricated panels and a polystyrene foam base, and is designed to remain buoyant in the event of a flood. The avant-garde house, designed to achieve LEED certification, can be mass-produced to meet the needs of other flood-prone, low-income areas.

Affordable, state-of-the-art prefab homes are being purchased by design cognoscenti worldwide. In Europe, the micro compact home (m-ch) developed by the Technical University in Munich and launched in Germany in 2005, has been a huge success. Like the architectural version of the smart car, the homes resemble a tiny cube with dimensions of just 2.6 metres. Manufactured in an Austrian factory and inspired by aviation and automotive design, the homes can be sited virtually anywhere in the world and cost about €38,000 (about HK$400,000) including delivery and installation.

A number of retail companies sell affordable prefab homes. In Japan, Muji, the popular retailer of addictively simple designs, has launched the Kazuhiko Namba-designed Infill house which can be ordered and customised online. North American furniture retailers Blu Dot and Design Within Reach have both introduced prefab architecture to their customers. Of course, Ikea, the Swedish retailer of affordable, fast design, got there first, premiering the BoKlok prefab home in Sweden in 1997. It has since sold more than 2,000.

With advances in green construction and software design, and a generation of global thinkers dedicated to the original vision, the future of prefab appears to be impressive. It may take a few more years, but that high-tech holiday house in the tropics could be closer than you think.

The honeycomb-like Homb (above) uses 100-square-foot units that can be arranged in different ways

宛如蜂巢的Homb組合屋（上圖），以多個面積100平方呎的單位連接而成，可創出不同造型

Photos, Homb: skylab architecture, aldc. FLOAT House: Iwan Baan. Habitat 67: Michael Harding – Arcaid/Corbis. Compact home (previous page): Sascha Kletzsch

多年來，預製建築宛如20世紀中期樂觀主義的餘韻。屹立於蒙特利爾的Habitat 67，是Moshe Safdie設計的大膽傑作，其獨特的外型是拍攝高級時裝宣傳照的最佳背景，但實質上卻無法滿足現代住屋需求。

然而，現代建築師並沒有放棄預製建築的理念；相反，他們利用數位科技和環保概念，逐漸落實預製建築當初的憧憬：為人口過多和發展中國家提供價錢不貴的房屋。如今，人們愈來愈關注人類對環境的影響，而預製建築正好為全球的房屋需求提供一個可持續發展、講求環保的應對方法。預製建築可以減少浪費、縮短建築時間，而且使用的材料大多是循環再造或回收物料。

在全球多家預製建築的業界先鋒之中，北美洲的Homb生產一款面積100平方呎的三角形組件單位，其外形跟蜂巢相似，可作出無窮無盡的連接組合。Homb及市場上其他多家從事預製房屋的公司，均採用環保物料建造組合屋，以達到美國綠色建築商會的節能與環保設計（LEED）認證白金級標準。

Foundation for success: FLOAT House (above right) is built to survive flooding

防患未然：專為抗洪而設計的FLOAT House（上圖）

Habitat 67 (below) shapes up nicely in Montreal

位於蒙特利爾的Habitat 67（下圖）是一座備受矚目的建築

預製建築近年更在人道救援行動中發揮作用。在颶風卡特里娜吹襲新奧爾良之後，影星Brad Pitt的Make It Right Foundation為痛失家園的災民送上一批新穎又美觀的房屋。基金會邀請了13間建築公司設計了一些便宜又環保的房屋，為災後重返受嚴重破壞地區Lower Ninth Ward的居民提供居所。普立茲克建築獎得主Thom Mayne的得意之作FLOAT House採用預建板塊和一個發泡膠基座，房屋遇上洪水時便會浮起。這款房子設計前衛，符合LEED認證，可以大量生產，供應給在其他受洪水威脅地區的低收入家庭。

全球有不少設計鑑賞家都購買了價錢相宜、設計一流的預製建築。在歐洲，慕尼黑Technical University研發的小型家居（m-ch）於2005年在德國推出後大受歡迎。就像是建築界的「smart car」，這間立方體小屋的長、濶、高均僅有2.6米，靈感正正來自飛機和汽車設計。小屋在奧地利的工廠建造，可於全球任何地方組裝，售價為38,000歐元（約400,000港元，連運費和組裝費）。

多家零售店舖亦相繼推出廉價的預製房屋。在日本，崇尚簡約的無印良品推出了由難波和彥設計、價錢實惠的Infill房子。顧客可透過無印良品網頁自由組合及訂購。北美家具零售商Blu Dot和Design Within Reach也為顧客提供預製房屋。以售賣平價設計家具著名的宜家當然不落人後，早於1997年已在瑞典推出BoKlok預製房屋，至今已賣出超過2,000套。

隨著環保建築技術的發展，設計軟件的進步，加上全球許多設計師均認同當中的基本理念，其發展前景非常樂觀。要在熱帶地區擁有一間高科技的度假屋，或許還要數年時間，但這一天會來得較你想像中快。