Social Sustainability and the Adaptive Reuse of Heritage Buildings: a Global Survey

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Are museums a sustainable new use for revitalising heritage buildings?

博物館是否活化歷史建築的可持續性用途？

SPATIAL REQUIREMENT

Specialised Display and Storage Space 展覽與存儲空間 – $$$

Does the place have sufficient space not only for the display, but also for the storage of collections, in accordance with the requirements of the accreditation organization?

Space required: 40% of the building for public collection space (display)
20-30% for non-public collection space (storage and conservation)

Exhibition-storage ratio: 1 : 1 for large or national museums
3 : 1 for medium or general museums
4 : 1 for small or local museums

Source: Barry Lord, Gail Dexter Lord and Lindsay Martin (eds.) *Manual of Museum Planning*, 3rd ed. (Lanham, Maryland: AltaMira Press, 2012), section 7.1.)





Image source: www.bruynzeel.co.ukk; www.constructor-storage.com

TECHNICAL REQUIREMENT

Environmental Control & Security 濕溫控制與保安系統 – $$$$$$

Is the place able to meet the international museum standards for relative humidity and temperature control as well as security?

RH and temperature set points: historical annual average for permanent collections or 50% RH with the temperature between 15 and 25˚C.

Source: David Grattan and Stefan Michalski, "Environmental Guidelines for Museum," article on the website of the Canadian Conservation Institute (2 March 2012) at: www.cci-icc.gc.ca/caringfor-prendresoindes/articles/enviro/index-eng.aspx#ft1aa

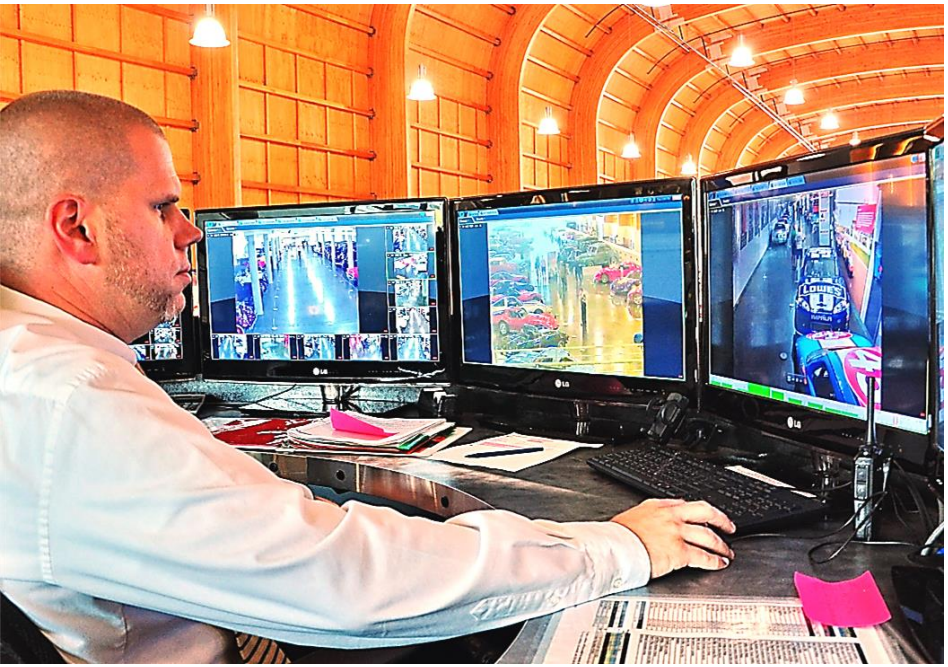




Image source: www.genetec.com; www.cci-icc.gc.ca

EDUCATIONAL & MANAGEMENT REQUIREMENT

Collection and Specialised Professional Expertise 藏品與專門專業技術 – $$$$$$$$$

Is it a museum with its own collection, or an exhibition venue displaying on-loan items?

A museum has to have its own collection (otherwise, it's an exhibition venue 展覽場地) as well as the resources to hire professional staff to carry out programming (for public programmes), curatorial (for exhibitions), research (for publications) and management (for inventorying, maintenance and conservation) for the collection.





Image source: archaeologicalmuseum.jhu.edu; larzanderson.org

PROFESSIONAL REQUIREMENT

Complying with Professional Standards & Guidelines 附合專業標準 – $$$$$$$$$$$

Does the museum operation meet accreditation standards and guidelines, such as those laid down by professional museum accreditation bodies?

ICOM's standards and guidelines supply models to museum professionals in order to facilitate the implementation of their good practices in terms of objects acquisition, personnel, conservation of art objects and museum specialism.

- Running a Museum: a practical handbook (2004)
- The CIDOC Conceptual Reference Model (CRM, 2001)
- Interpreting Musical Instruments in Museum Collections: Guidelines (1998)
- Guidelines for Costume (1998)
- Handbook of Standards Documenting African Collections (1996)
- International Core Data Standards for Ethnology/Ethnography (1996)
- International Guidelines for Museum Object Information: the CIDOC Information Categories (1995)
- Recommendations for the Application of Accession Numbers (1995)
- Registration Step by Step: When an Object Enters the Museum (CIDOC Fact Sheet 1, 1993)
- Labelling and Marking Objects (CIDOC Fact Sheet 2, 1993)
- Guidelines for Disaster Preparedness in Museums (1993)
- CIMENT: Uniform Procedures for Data Element Description in CIMCIM Database Systems (1991)
- Recommendations for Regulating the Access to Musical Instruments in Public Collections (1985)
- ICOM Guidelines for Loans (1974)

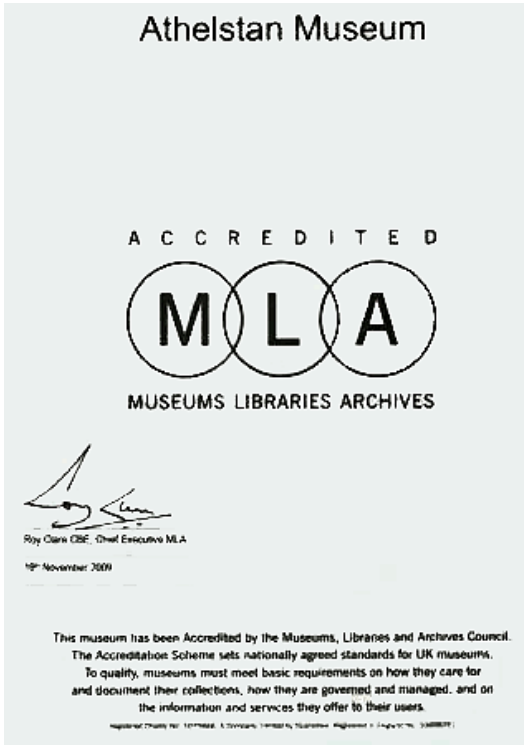
Image source: icom.museum

PROFESSIONAL REQUIREMENT

Accreditation 專業認證 – $$$$$$$$$$$$$$

Is the place a self-styled "museum" or an accredited museum?

A museum, as a public educational institution, has to meet the accreditation requirements of a national museum accreditation organization, such as, Arts Council England, American Alliance of Museum, and follow the standards set by an international museum organization, such as the International Council of Museums (ICOM) 國際博物館協會.



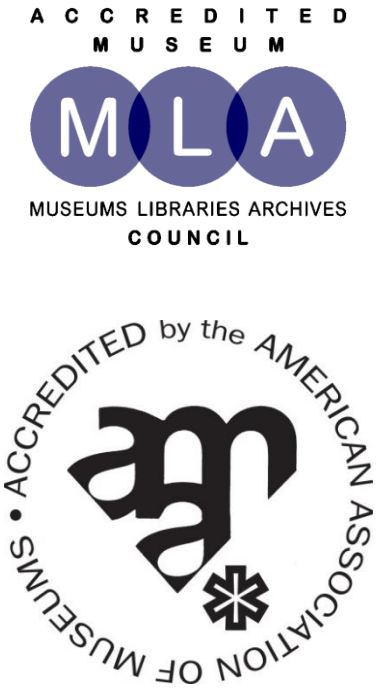




Image source: www.athelstanmuseum.org.uk; www.bris.ac.uk; learn.michenerartmuseum.org; shellmuseum.org

FINANCIAL REQUIREMENT

Funding Sources 資金來源 – $$$

Does the museum have stable funding sources to sustain operation and development?

Unlike public museums that are fully funded by the government, private museums keep their operations going by cobbling together a mosaic of funding sources, from government sources, from the private sector and, increasingly, from earned income (mostly through renting out spaces for private events and retailing, as well as investments).

Source: Ford W. Bell, "How are Museums Supported in the U.S.?",
article on the website of the U.S. Department of State, Bureau of International Information Programs (published March 2012) at:
http://photos.state.gov/libraries/amgov/133183/english/P_You_Asked_How_Are_Museums_Supported_Financially.pdf

Average Mix of Funding Sources for U.S. Museums (2009)



Government support (all levels) 24.4%

Private (charitable) giving 36.5%

Earned income 27.6%

Investment income 11.5%

Image source: photos.state.gov

"The quickest way to bankruptcy is to set up a museum!"

Dr. Joseph Ting, former Chief Curator of the Hong Kong Museum of History

「想快啲破產，最好就係搞博物館！」

前香港歷史博物館總館長丁新豹博士

The debate - conservation = preserve everything; change nothing?

爭議 - 保育 ＝ 原汁原味；一個不少?

CONSERVATION APPROACHES

Preservation 完全保護

Conserve everything, change nothing, same appearance as found

Application: archaeological sites

Restoration 保育復修

Conserve existing, add missing parts, return to an earlier appearance

Application: national monuments, such as the Forbidden City

Adaptive Reuse 改做再利用 **/ Revitalization** 活化再用

Conserve selectively, allow changes for new use, appearance updated with new addition

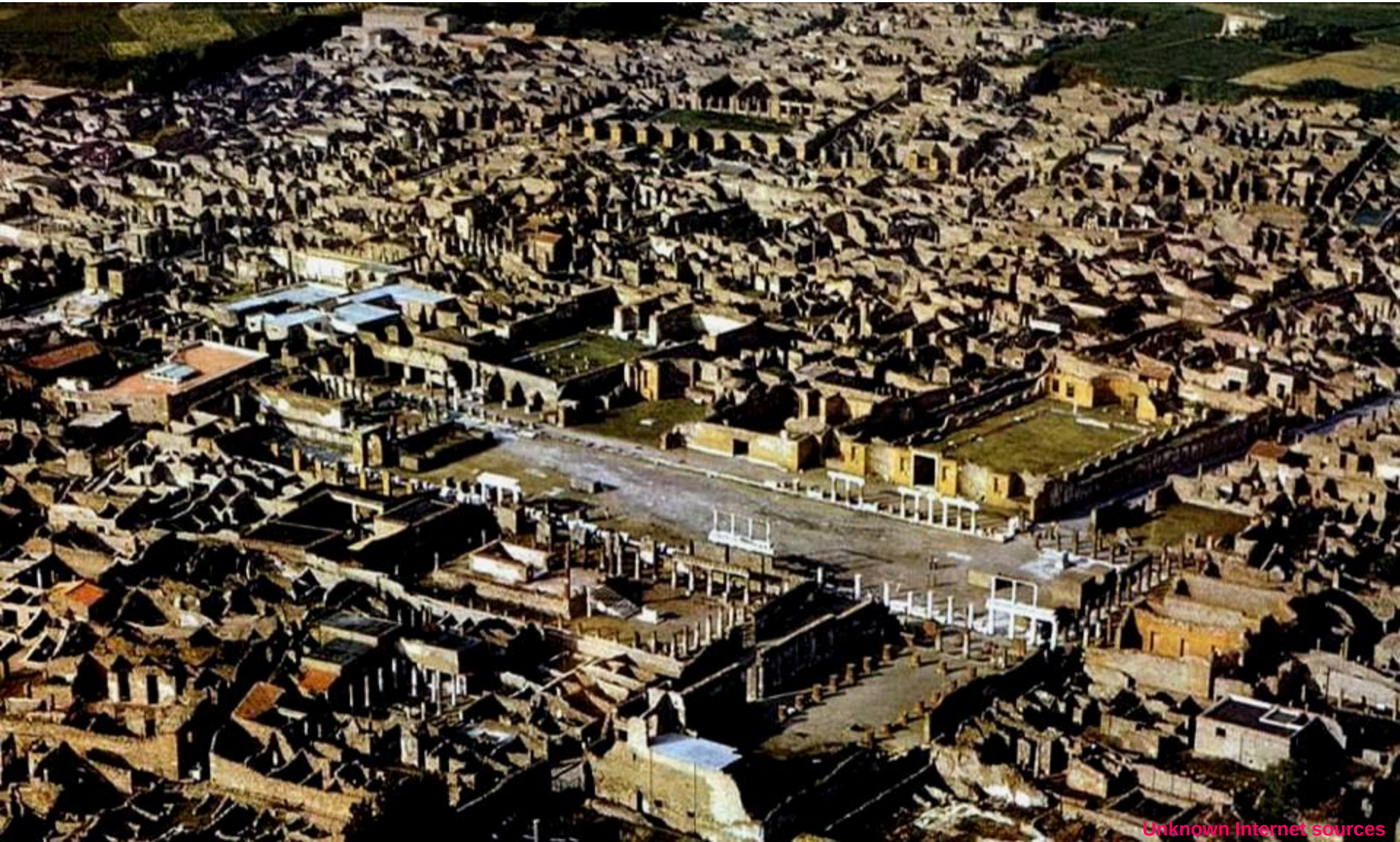
Application: heritage buildings that no longer serve the original use

Reconstruction 保育重建

Partially or completely replicate the old

Application: Murray House in Stanley, many places in Mainland China!

suitable for national monuments and archeological sites 適用於國寶、考古遺址



Unknown Internet sources

sometimes, changing nothing = a useless ruin 一成不變，有時只有一堆廢墟



The premise - conservation ≠ preservation

前提 - 保育並不等於一成不變

The premise - new design *is* necessary for reuse of old buildings

前提 - 再用舊建 必需有新

The question - how to integrate new design in old buildings?

問題 - 如何舊建加新？

pseudo-conservation: save the façade

偽保育：保立面





pseudo-conservation: imitate the past

偽保育：仿古



Central Pier, Hong Kong, 2006 (Civil Engineering and Development Department, Government engineers)



Lee Ho Yin

Central Pier, Hong Kong, 2006 (Civil Engineering and Development Department, Government engineers)

Lee Ho Yin



Heritage 1881, Hong Kong, 2009 (Cheung Kong Holdings, Hong Kong developer)

pseudo-conservation: save the façade and imitate the past
偽保育：保立面、仿古

sustainable conservation: innovate for the future!
可持續保育：創新造未來！

English Heritage's

Conservation Principles, Policies and Guidance

***for the Sustainable Management of the Historic Environment* (2008)**

139 The recognition of the public interest in heritage values is not in conflict with innovation, which can help to create the heritage of the future.

英國文化遺產機構

在2008年發表的「文物保護準則，政策與指引」

第 139 段　公眾對保育的訴求，與創新的設計，兩者並無矛盾；因為要有創新的建築，才會有未來的文物。

testq.com



The Louvre Pyramid, Paris, 1989 (I M Pei, American architect)



The Louvre Pyramid, Paris, 1989 (I M Pei, American architect)

Foster + Partners



Reichstag, Berlin, 1999 (Norman Foster, British architect)





Reichstag, Berlin, 1999 (Norman Foster, British architect)

a provocation

International Examples of Super Innovative Adaptive Reuse Projects

我挑釁你

超創意活化再用的國際例子

architecture must burn!



讓建築燃燒吧！

我們厭倦了建築仿古的面具，我們要更具創意的設計。
若要冷，就要如冰、若要熱，就要如火。讓建築燃燒吧！

一九八零年, 奧地利「藍天組」建築事務所的兩位憤青建築師,
為針對後現代仿古建築所發表的宣言



Rooftop Falkestrasse, Vienna, 1988 (Coop Himmelblau, Austrian architects)



Energy Roof (design), Perugia, 2010 (Coop Himmelblau, Austrian architects)



Energy Roof (design), Perugia, 2010 (Coop Himmelblau, Austrian architects)



Clark Quay, Singapore, 2006 (Will Alsop, British architect)

constructionweekonline.com



Clark Quay, Singapore, 2006 (Will Alsop, British architect)



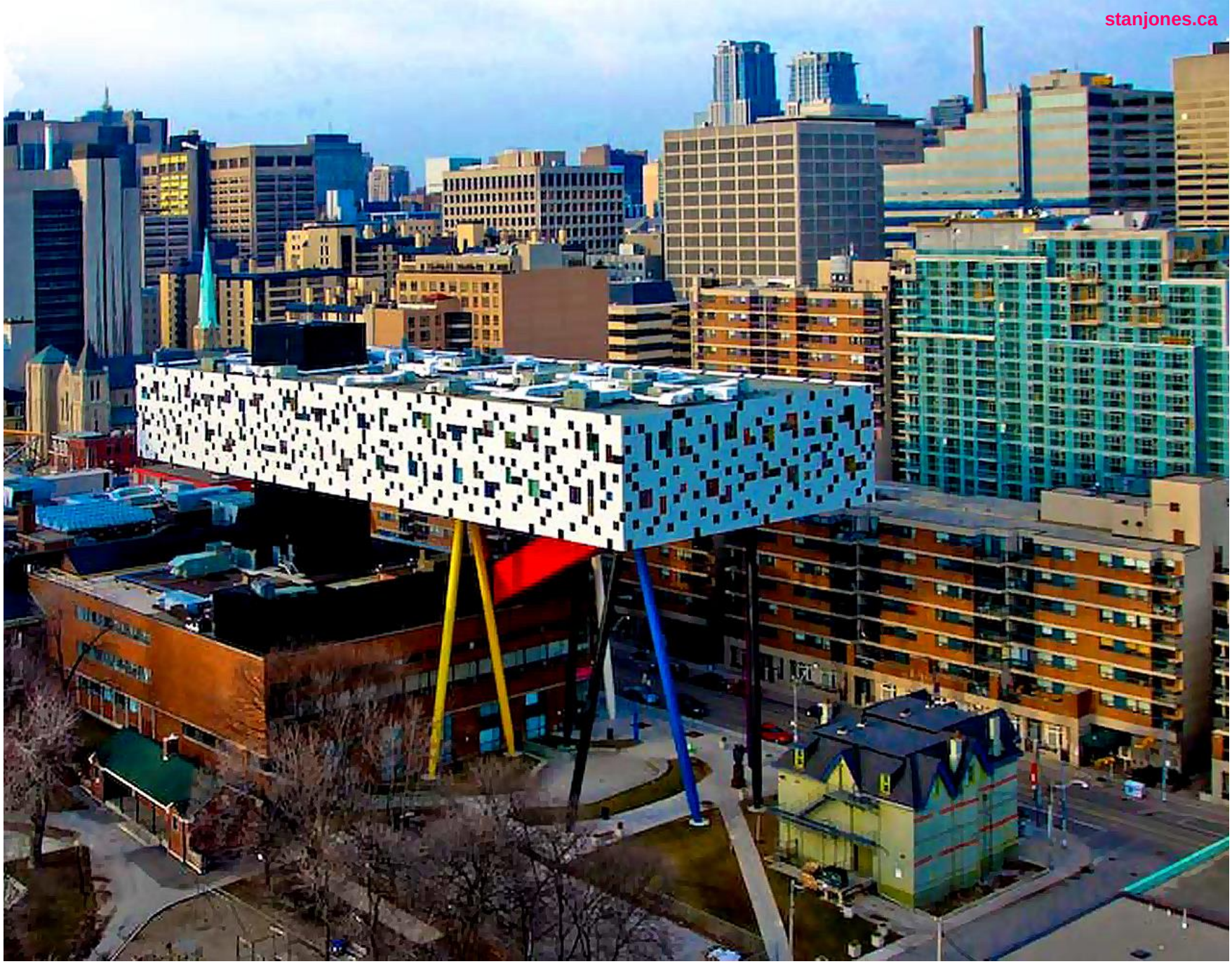
Clark Quay, Singapore, 2006 (Will Alsop, British architect)

alsoprmjm.com



Clark Quay, Singapore, 2006 (Will Alsop, British architect)

stanjones.ca



Ontario College of Art & Design, Toronto, 2004 (Will Alsop, British architect)







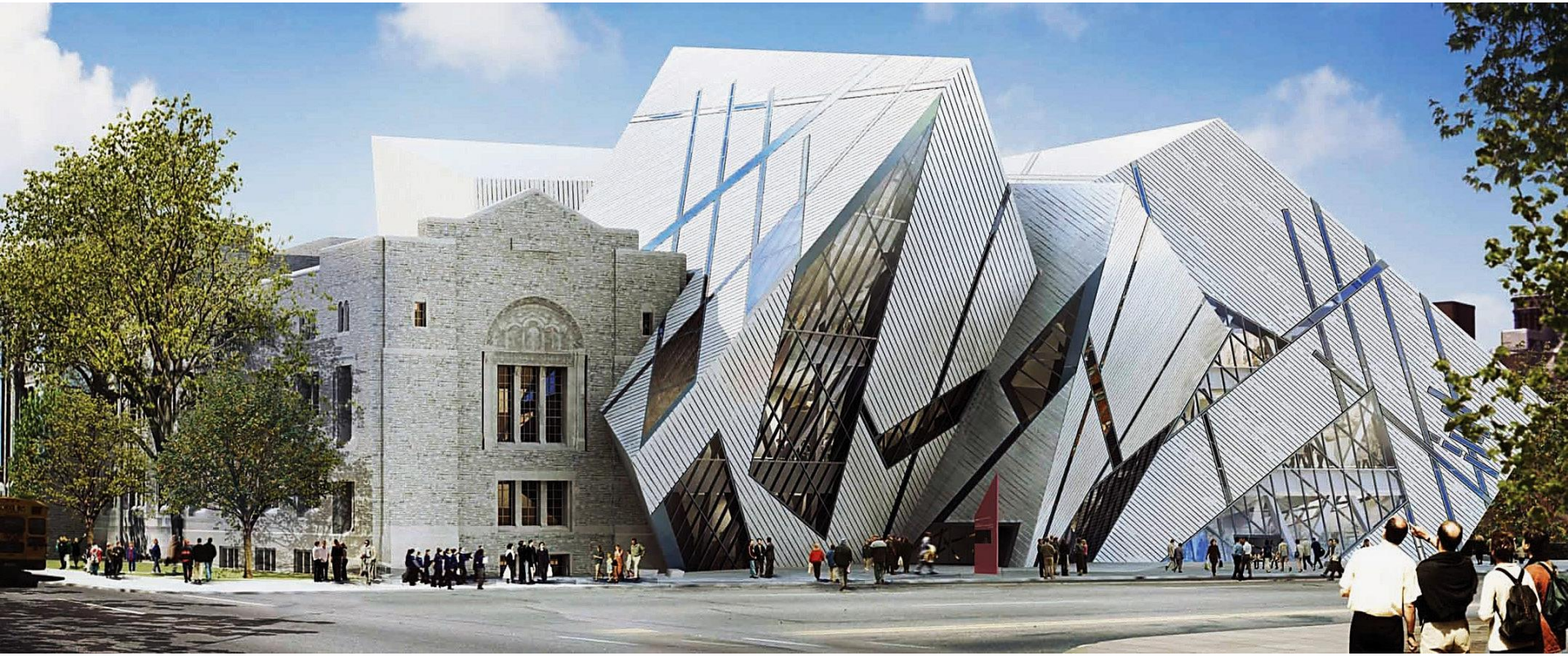


The architectue of Daniel Libeskind (American architect)

dcnonl.com



Royal Ontario Museum Extension, Toronto, 2007 (Daniel Libeskind, American architect)

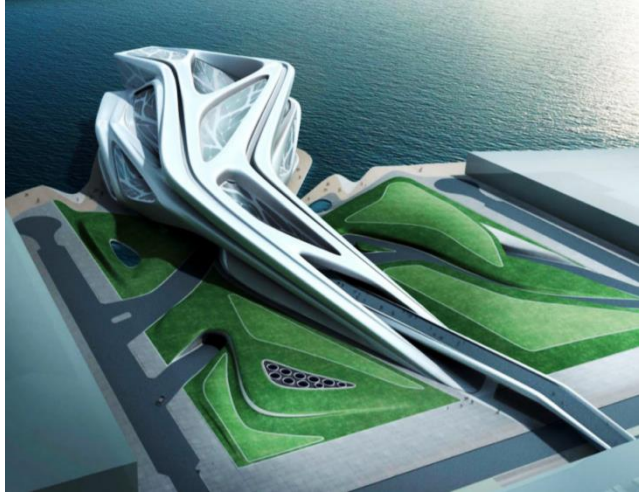


Royal Ontario Museum Extension, Toronto, 2007 (Daniel Libeskind, American architect)

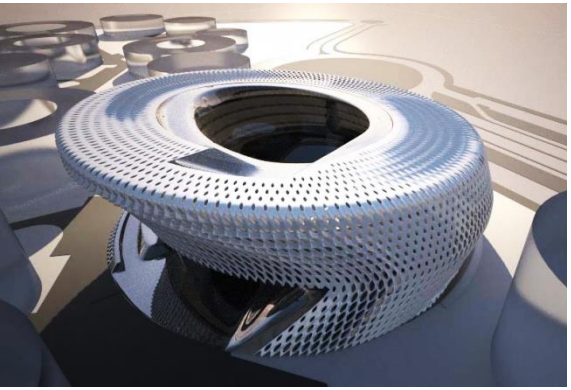
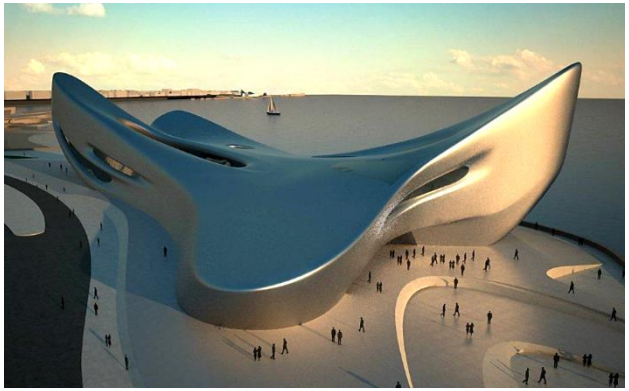
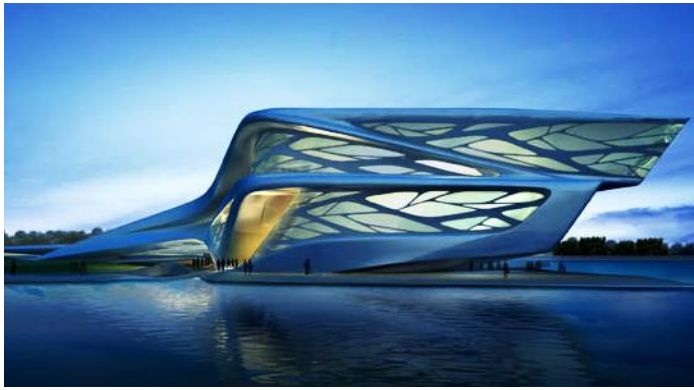




Military History Museum, Dresden, 2011 (Daniel Libeskind, American architect)



The architecture of Zaha Hadid (British architect)

www.maroc.nl

"The jury / board of directors finally opted for the proposal by Zaha Hadid Architects, because: the design preserves as much as possible of the dignity of the present building as a monument, adding a new [landmark] object to the site."



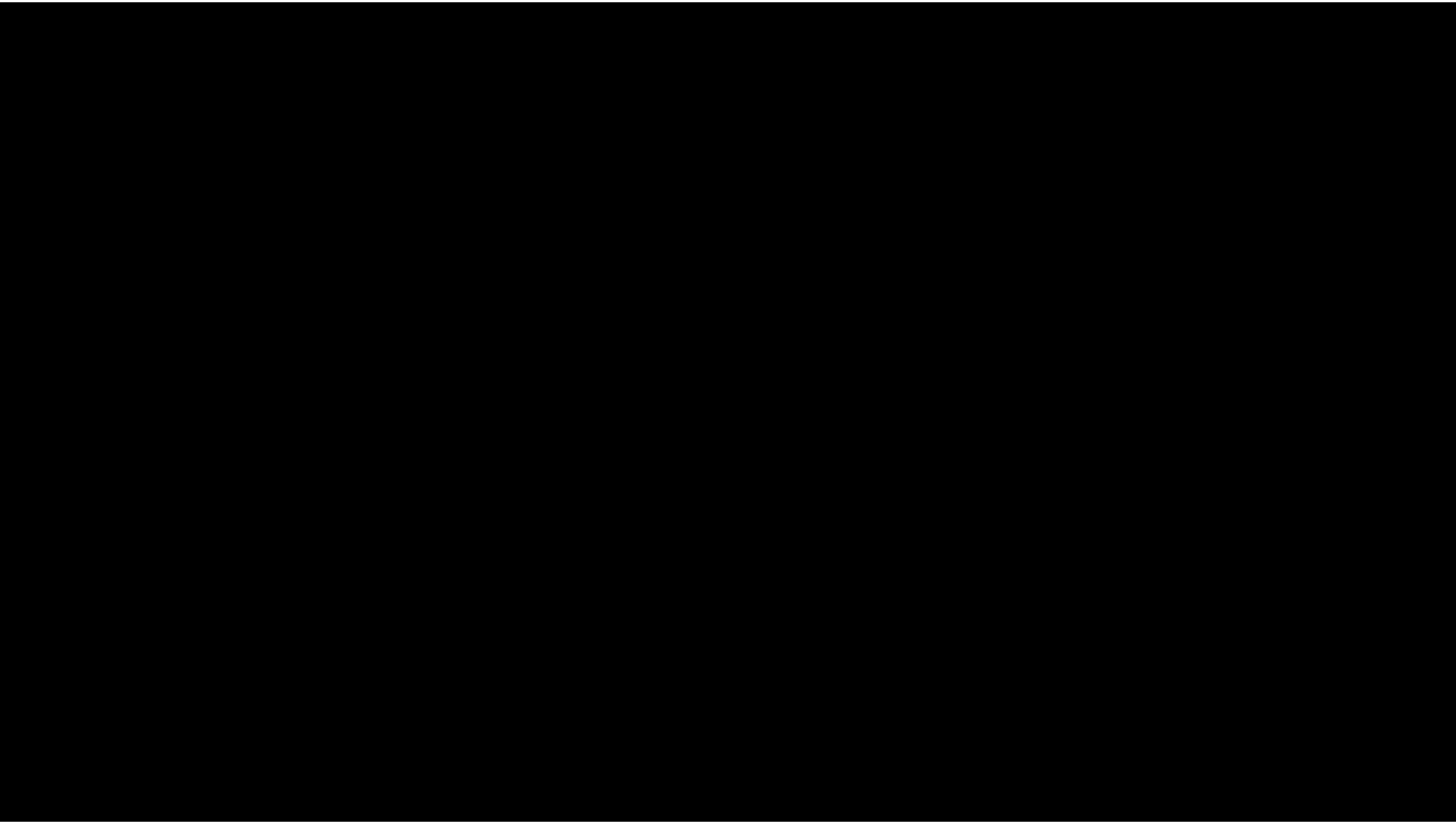
2009 Winning Competition Entry for Port House, the new headquarters of the Antwerp Port Authority (under construction; to be completed in 2015), Antwerp (Zaha Hadid, British architect)

thesuperslice.com



Reversible changes: 2009 Winning Competition Entry for Port House, the new headquarters of the Antwerp Port Authority, Antwerp (Zaha Hadid, British architect)

Zaha Hadid Architects at https://www.youtube.com/watch?v=_djWKB7C2_o



Reversible changes: 2009 Winning Competition Entry for Port House, the new headquarters of the Antwerp Port Authority, Antwerp (Zaha Hadid, British architect)

Reversible and non-reversible changes
可還原 與 非可還原 的改建

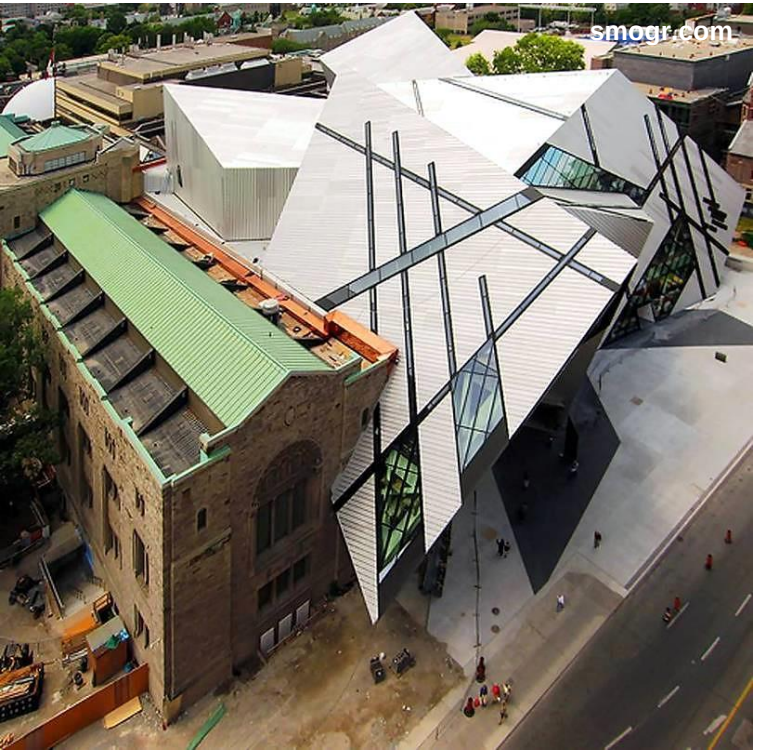




Reversible changes: Ontario College of Art & Design, Toronto, 2004 (Will Alsop, British architect)



Reversible changes: Clark Quay, Singapore, 2006 (Will Alsop, British architect)





Reversible changes: Royal Ontario Museum Extension, Toronto, 2007 (Daniel Libeskind, American architect)

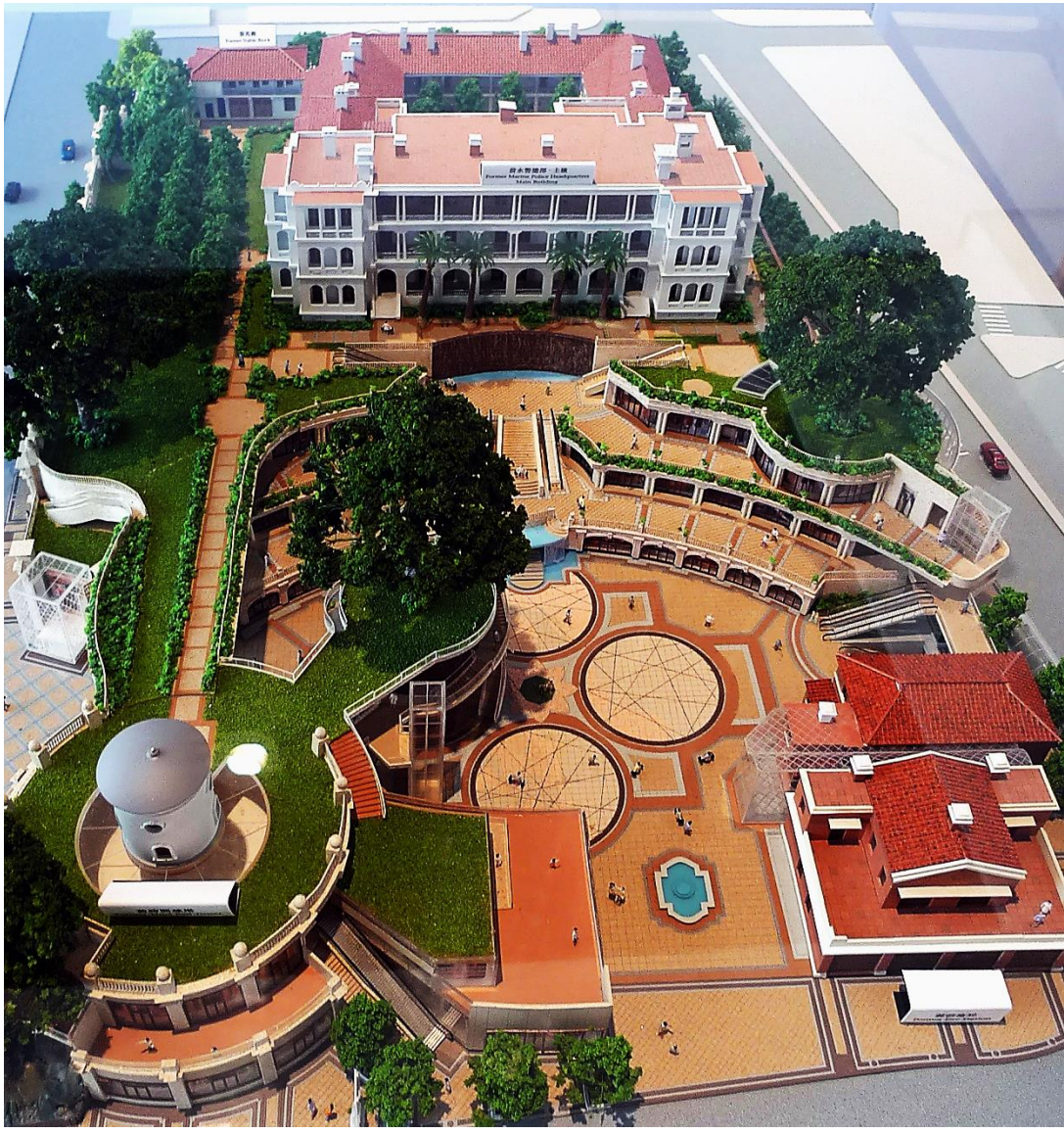


Reversible changes: Military History Museum, Dresden, 2011 (Daniel Libeskind, American architect)

S. B. Ng of Ming Pao Weekly





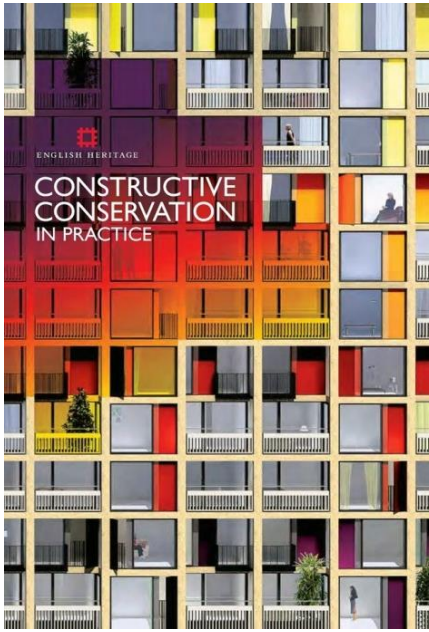


Non-reversible changes: **Heritage 1881, Hong Kong, 2009** (Cheung Kong Holdings, Hong Kong developer)

UK English Heritage's Constructive Conservation (2008, 2013)

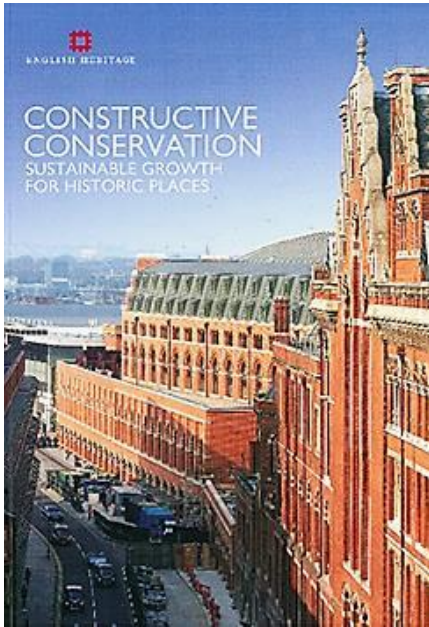
Constructive Conservation In Practice (2008)

"The aim is to recognize and reinforce the historic significance of places, while accommodating the changes necessary to ensure their continued use and enjoyment."



Constructive Conservation: Sustainable Growth for Historic Places (2013)

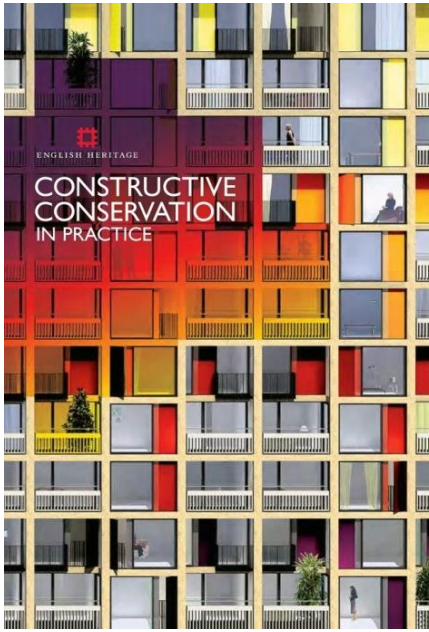
"… these case studies emphasise the balance between understanding significance and accommodating necessary alterations to ensure the continued use and enjoyment of historic buildings, monuments and landscapes."



UK Constructive Conservation vs HK Revitalisation Scheme

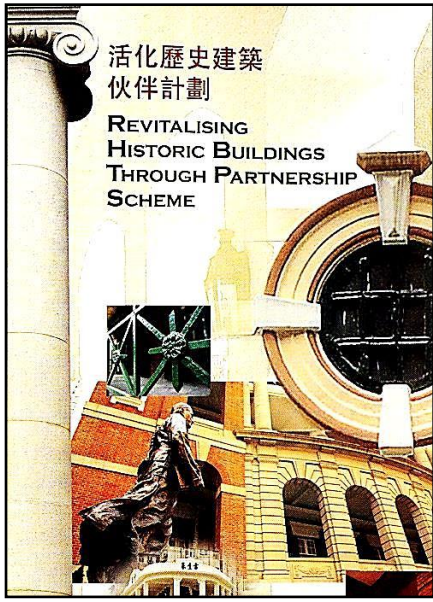
Constructive Conservation In Practice (2008)

"The aim is to recognize and reinforce the historic significance of places, while accommodating the changes necessary to ensure their continued use and enjoyment."



Revitalising Historic Buildings through Partnership Scheme (2008)

"Through good adaptive reuse of our historic buildings, we aim to give these buildings a new lease of life for the enjoyment of the public."



The HKSAR Chief Executive's 2007 Policy Address



Heritage Conservation 文物保育 (paragraphs 49-56, the longest ever!)

51. In my view, revitalisation, rather than preservation alone, should be pursued to maximise the economic and social benefits of historic buildings. This is in line with the concept of sustainable conservation.

51. 我認為歷史建築物不應單單保存，而是應該活化，發揮它們的經濟及社會效益，這樣才符合可持續保育概念。

Image: www.gov.cn / Xinhua

Constructive Conservation / Revitalisation / Adaptive Reuse

South China Morning Post 南華早報
PROPERTY
THU Jul 10, 2014 Updated: 9:44pm

PROPERTY • HONG KONG & CHINA • DESIGN

Preserving the past in new buildings is back in fashion

Adaptive reuse is taking off, allowing developers to cut down on waste, retain a building's character and even save money on construction costs

Peta Tomlinson
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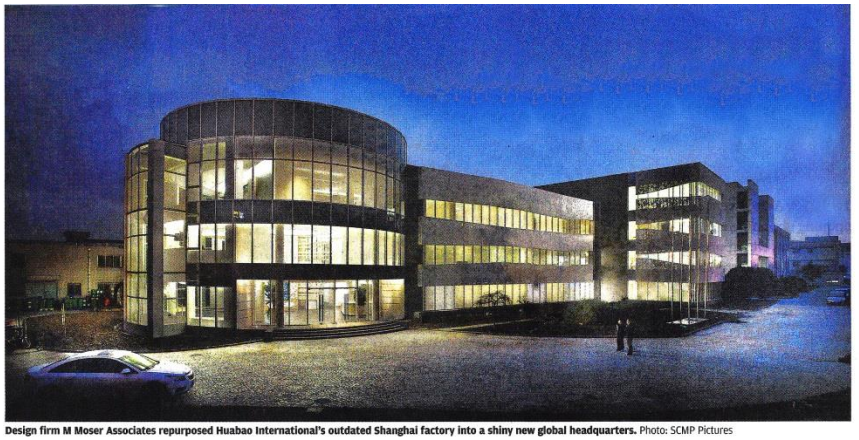
Design firm M Moser Associates repurposed Huabao International's outdated Shanghai factory into a shiny new global headquarters. Photo: SCMP Pictures

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Giving new life to old buildings is one thing, but if it is not useful in the end, it will not be sustainable - and even buildings need to pay their way.

Repurposing, on the other hand, may achieve that. Using architectural innovation to make an existing structure viable again seems preferable on many levels: it retains some linkage to the past, saves construction waste and, sometimes, can even be more cost-effective than starting from scratch. Architects call this "adaptive reuse". And if it has not yet come to a neighbourhood near you, chances are it is not far away.

Repurposing of old buildings has been practised throughout history, says Teresa Jan, associate architect at global design firm M Moser Associates.



Design firm M Moser Associates repurposed Huabao International's outdated Shanghai factory into a shiny new global headquarters. Photo: SCMP Pictures

REPURPOSING BUILDINGS LAYS FOUNDATION FOR PRESERVATION

Adaptive reuse is taking off, allowing developers to cut down on waste, retain a building's character and even save money on construction costs

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Repurposing of old buildings has been practised throughout history, says Teresa Jan, associate architect at global design firm M Moser Associates. It has come into vogue across America as people relinquish the suburban dream and move back into cities. In Hong Kong and, even occasionally, on the mainland the trend is catching on.

"Hearst Tower in Manhattan is a great example of juxtaposing a 1928 cast stone façade with a modern steel frame skyscraper, reviving the original vision of William Hearst," Jan says. "The High Line is a public park repurposed from a defunct railway elevated above the streets of Manhattan; and the old San Francisco ferry terminal was repurposed as offices and shops after the Bay bridge was built."

Jan also sees evidence of this here, citing projects including the repurposing of a heritage prison on Mount Davis for the Hong Kong campus of US business school Chicago Booth, scheduled to open in 2017, and the Sham Shui Po campus of Savannah College of Art and Design, transformed from the decommissioned North Kowloon Magistracy building (by international architecture firm Leo A Daly).

On the mainland, the trendy galleries, boutiques and restaurants making up Beijing 798 Art Zone were, in a former life, factories and warehouses. The abandoned remains of an old steel factory in Hongqiao have been turned into Red Town, which comprises museums, galleries, studios and boutiques. And while Paris has its revitalised Les Halles and New York its famous Meatpacking District, Old Millfun in Shanghai – once the municipal slaughterhouse – has been reborn as an upscale landmark of Bund 18, housing fashion, art, and corporate events.

Corporate consciousness is awakening to the potential. For Huabao International, a mainland manufacturer of flavour and fragrance additives, a quandary was what to do with its outdated Shanghai factory. The solution, by M Moser Associates in Shanghai, was to repurpose the old building into a shiny new global headquarters, reflecting the company's rise to global prominence.

To create it, the site's existing office building was transformed inside and out. The original façade was replaced with glass curtain walls, stone cladding and distinctive perforated screen wraps. Inside, the maze-like layout was supplanted by collaborative open-plan spaces in a palette of natural colours and materials.

In a design that has its conceptual roots in nature, perforated metal ribbons installed over the glazed outer walls mimic the sun-dappled effect of sunlight filtering through foliage. They also serve to camouflage the building's irregularities, which included subsidence in some areas.

The original interior layout presented a further challenge. To begin its transformation into something more flexible and contemporary, the team gutted the building. "All that was left were the four floor slabs," said M Moser's project director, Nabil Sabet.

Inside, the feeling of nature is recreated in a soaring, cylindrical main entrance and reception, meeting room and training spaces. This part of the building was also designed with a future addition in mind.

Adaptive-use projects such as these are aligned with the environmental efforts of recycling, Jan says, adding: "This might not always equate to a cost saving, however, it saves the embodied energy of an existing structure from being defunct."

In the case of the Tai O fishing village on Lantau Island, the repurposing of just one building has also injected life into an entire community. The Grade II historic former marine police station had lain empty for years before its transformation into a nine-room hotel, creating jobs for villagers and boosting trade for local businesses. Occupancy has exceeded 90 per cent since Tai O Heritage Hotel opened in February 2012.

Philip Liao, the project's design architect, says this was a classic example of a building that had outlived its purpose, yet still had inherent value.

"There are difficulties in adaptive reuse," concedes Liao, founder of the firm Philip Liao and Partners. "Old buildings were built for a certain purpose, according to the technology and specifications of the time. Time changes requirements for space and equipment such as air conditioning and lifts."

Trying to preserve the integrity of the façade, to suit how people live these days, is challenging, though not insurmountable, he says. "Old buildings are important, and when correctly repurposed, they can be both a reminder of the past, and a celebration of the future."







Huabao International's original building (above), and the Tai O Heritage Hotel (below).

Adaptive Reuse / Revitalisation / Constructive Conservation

We advocate

- **ADAPTIVE REUSE**: integrating the old with the new to make a building of the past relevant to the needs of the present, and continuing it to the future.

我們 提倡

- 改做再利用：以新舊合一，使到過去的建築能迎合現今所需，從而延續到未來。

Overseas examples
外地例子

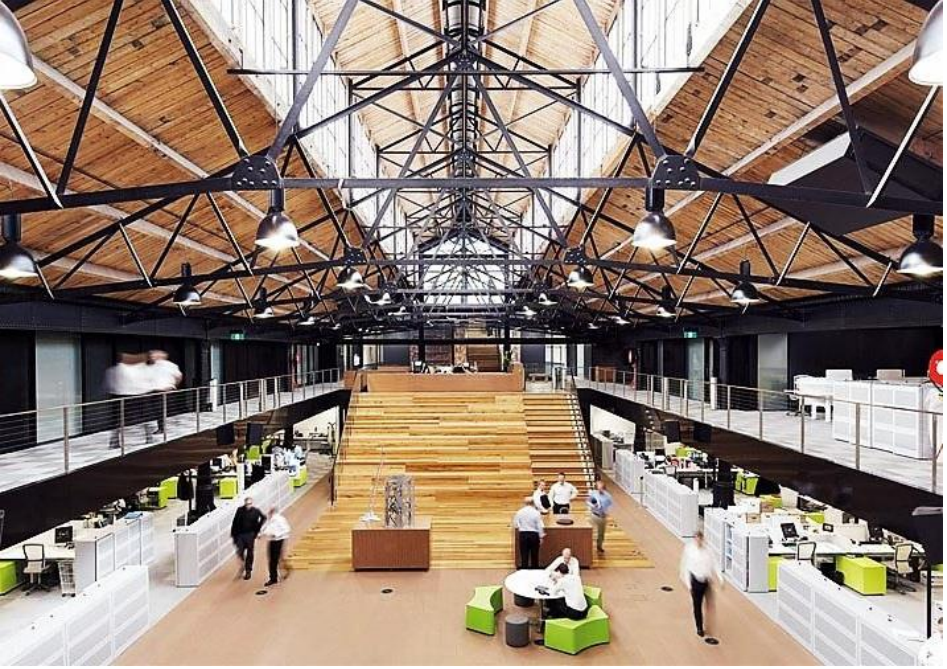




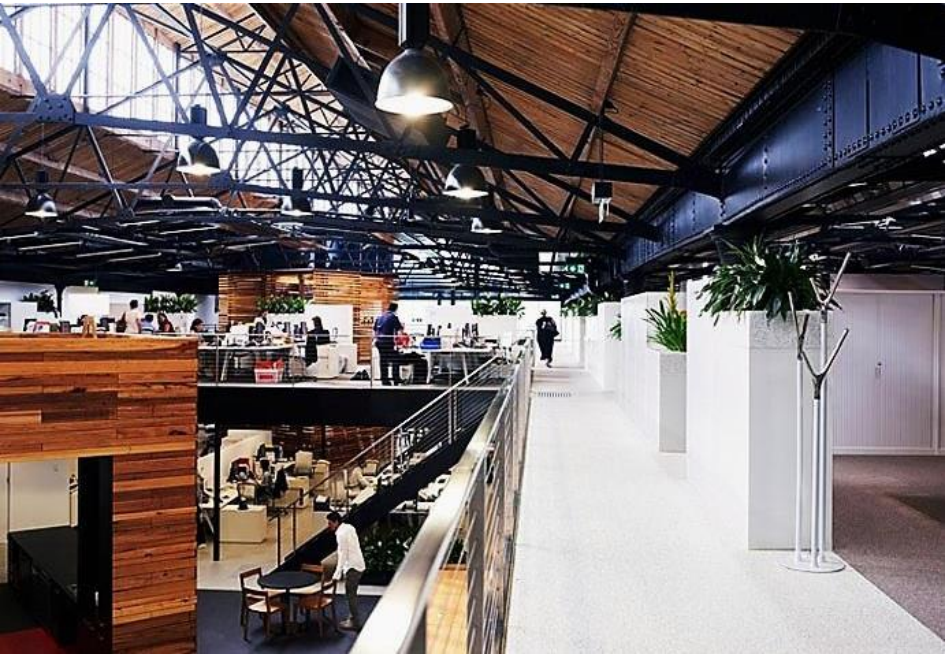


30 The Bond: old gas works + new commercial development

Sydney, 2004 (Tanner Architects, Australia)







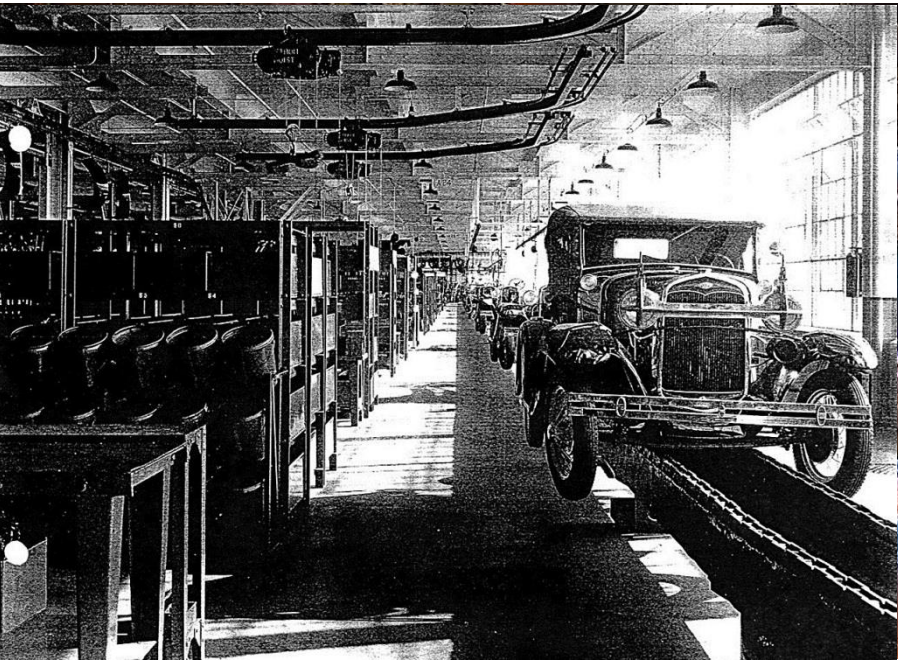


Goods Shed North: old railway goods shed + new commercial development

Melbourne, 2009 (BVN Architecture, Australia)





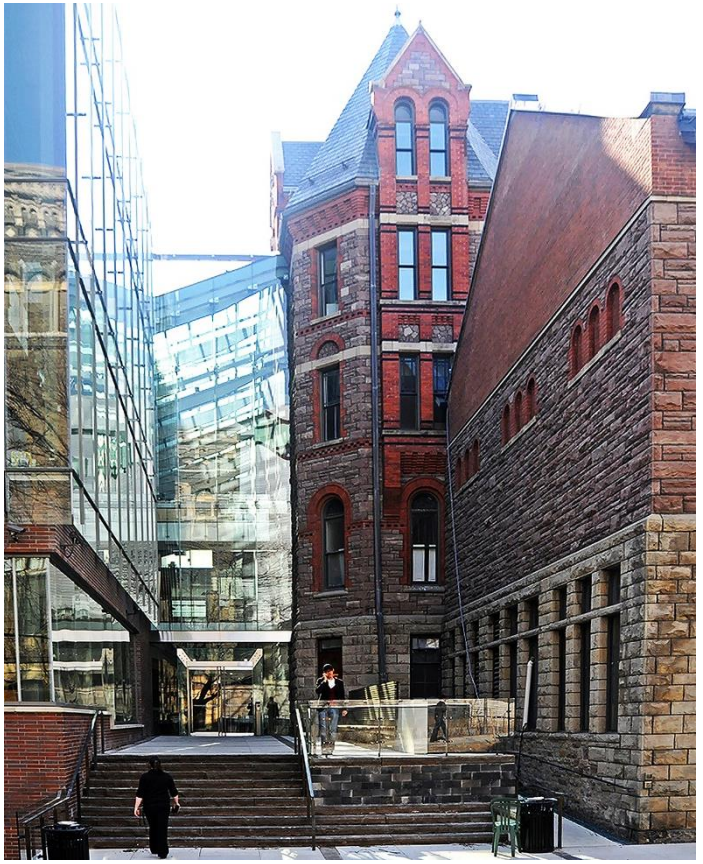




Craneway Pavilion: old Ford assembly plant + new community centre
Richmond, California, 2009 (Marcy Wong Donn Logan Architects, USA)

Eduard Hueber at www.archdaily.com; ChrisD at www.connect2edmonton.ca





Royal Conservancy TELUS Centre for Performance and Learning: old music halls + new music centre
Toronto, Ontario, 2009 (KPMB Architects, Canada)









Waterhouse at South Bund（水舍）: old Japanese army HQ + new boutique hotel

Shanghai, 2010 (Neri & Hu Design and Research Office, USA)









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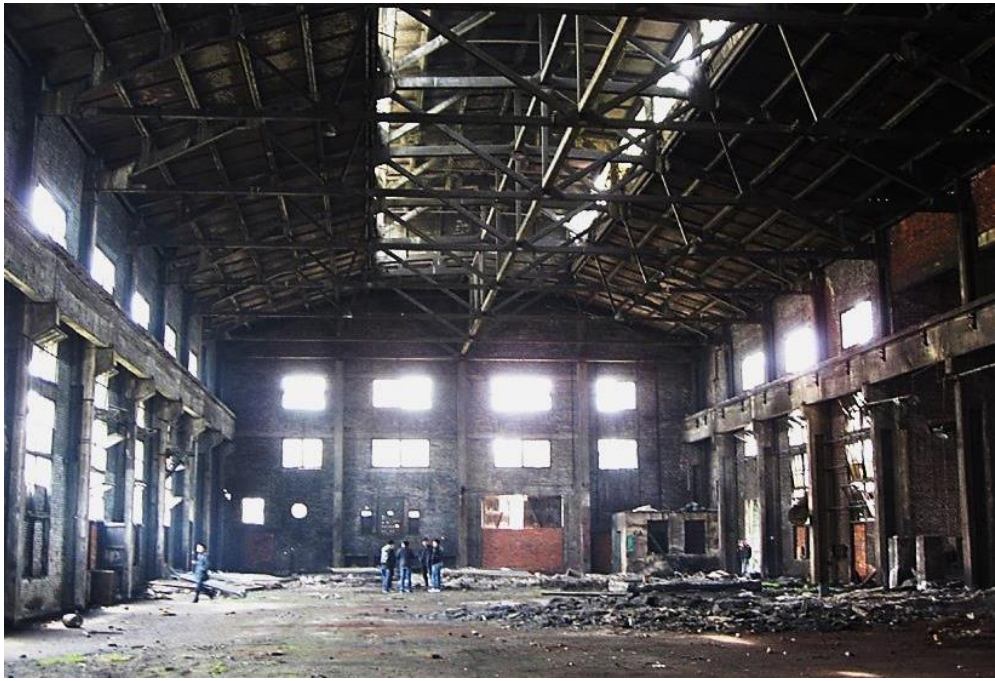




Sino-Ocean Taikoo Li Chengdu (成都遠洋太古里) : old temple complex + new commercial development (shopping, boutique hotel & service apartments) development **Chengdu, 2015** (Oval Partnership, Hong Kong)







Hangzhou XinTianDi Factory H: **old machine factory + new commercial development**

Hangzhou, under construction (Serie Architects, UK)

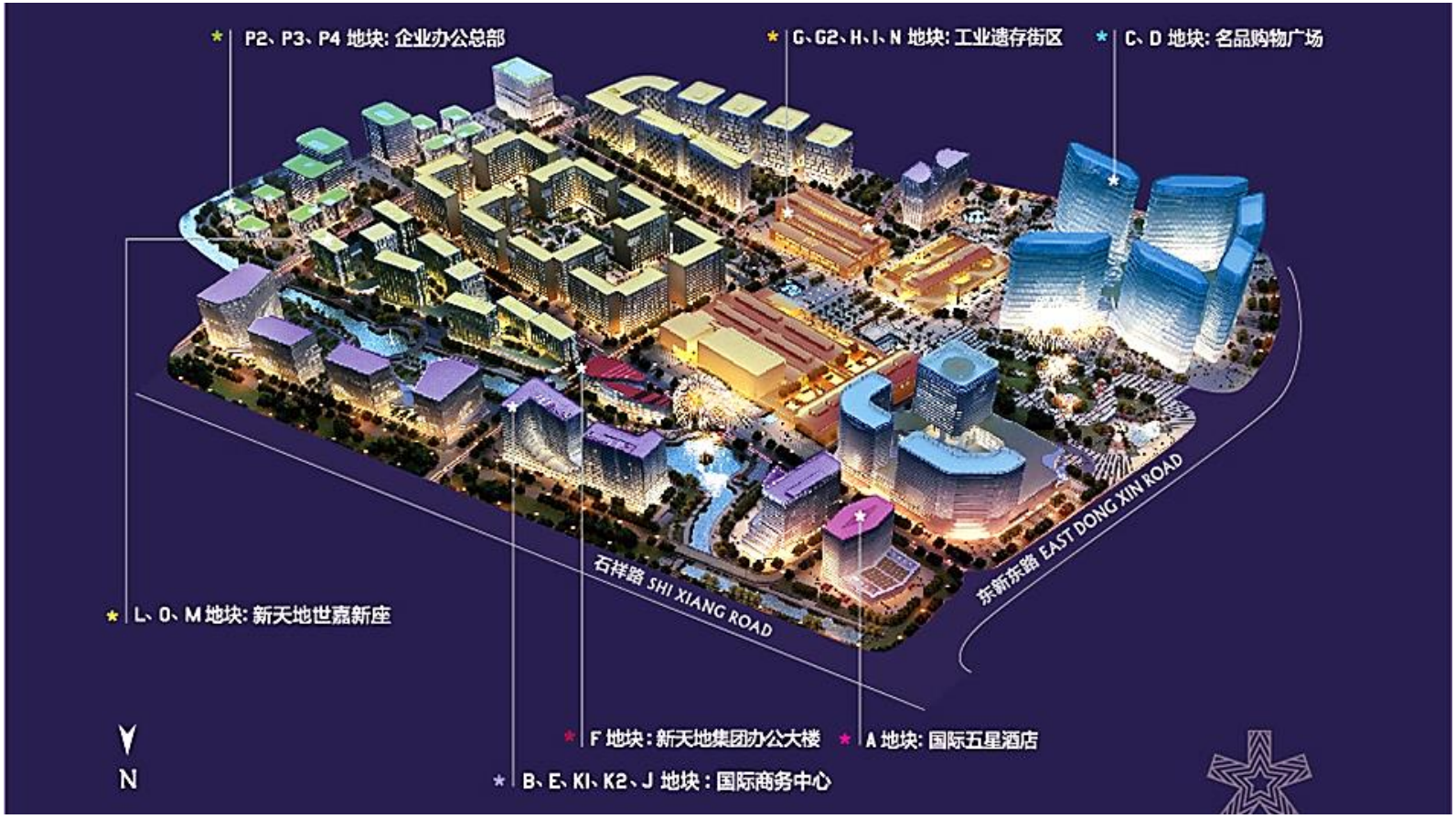
150万方·超级城市中心区

HANG ZHOU XINTIANDI

杭州新天地是新天地集团斥资百亿打造的中国第一个以工业遗存为核心的城市综合体，杭州市十大重点工程之一。
项目位于武林广场东北，距西湖仅为6公里，坐镇秋石快速路、德胜快速路、上塘中河高架、石祥路四大快速路构成的“井”字形交通核心，杭州地铁3、4号线交汇处，是杭州罕见的双地铁上盖物业。

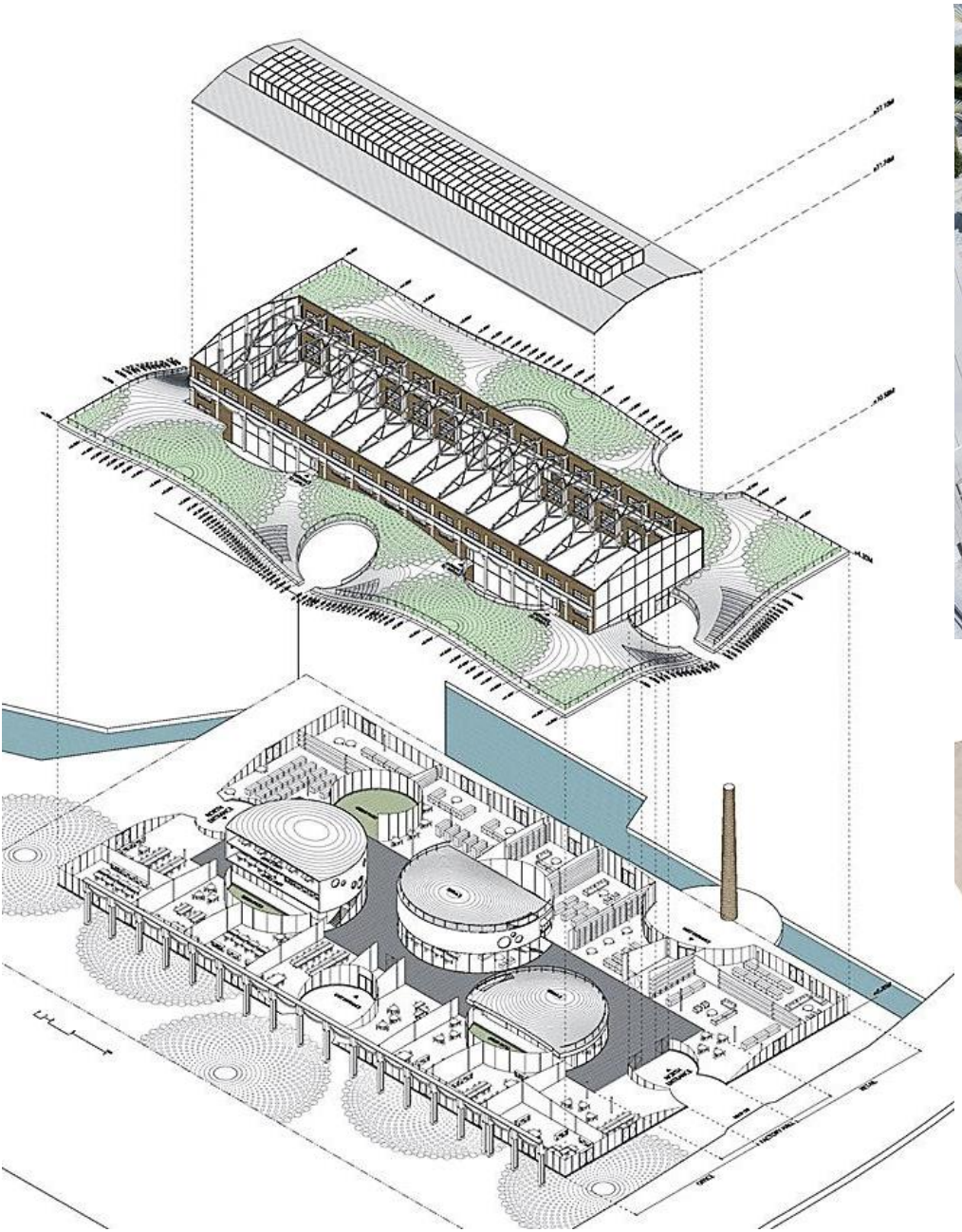
新天地规划用地800余亩，总建筑面积150万方，力邀3位世界建筑大师、8大国际顶尖机构联袂规划设计，保留了原杭州重机厂风格独特的工业建筑，以前瞻性的规划设计，赋予旗舰级巨型商业中心、复合型国际资本群、工业遗存街区、亚洲第一大IMAX影院、新天地世嘉新座等丰富业态，为杭州开创新的活力中心。



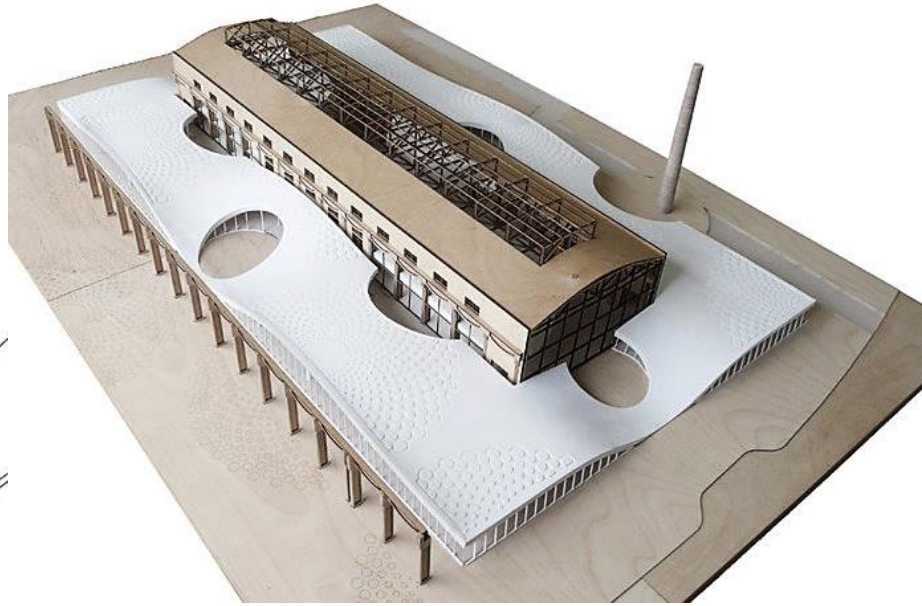


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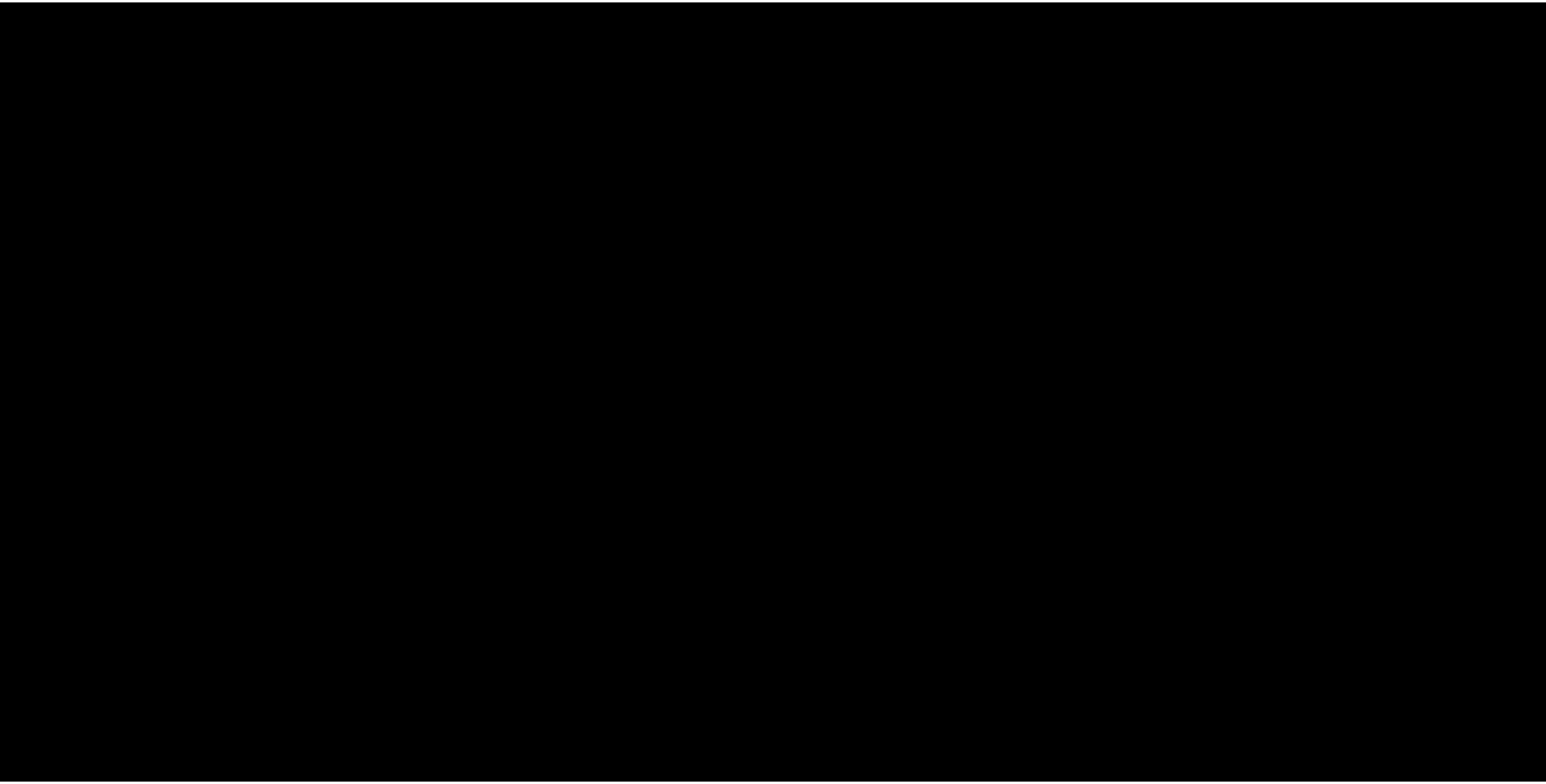






Hangzhou XinTianDi Factory H: old machine factory + new commercial development

Hangzhou, under construction (Serie Architects, UK)



Video at: http://vimeo.com/15801909

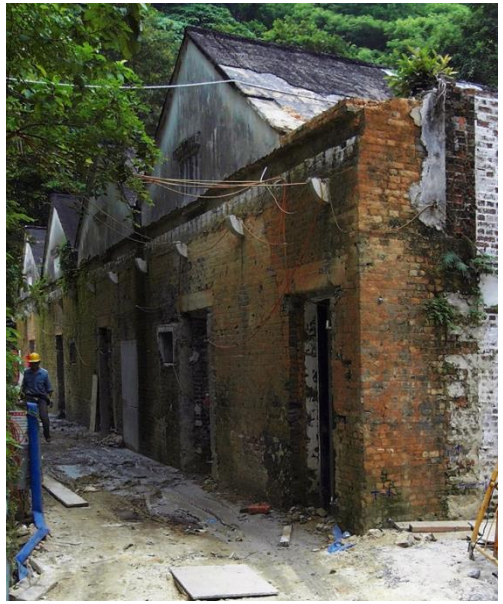
Hangzhou XinTianDi Factory H: old machine factory + new commercial development
Hangzhou, under construction (Serie Architects, UK)

Local examples
本地例子

tumblr.com; tumblr.com; Lee Ho Yin; Ming Pao









Asia Society Hong Kong Centre: **Former Explosives Magazines + new cultural centre**
Admiralty, Hong Kong, 2012 (Tod Williams Billie Tsien Architects, USA)

Lee Ho Yiin



Comix Home Base: old shophouses + new creative industry facilities

Wan Chai, Hong Kong, 2013 (Urban Renewal Authority / Aedas, HK)

Innovative design in revitalization – HK is now at a critical juncture

有創意,具創新的活化再用建築文物: 香港正處於關鍵時刻







Hong Kong Place; Lee Ho Yin



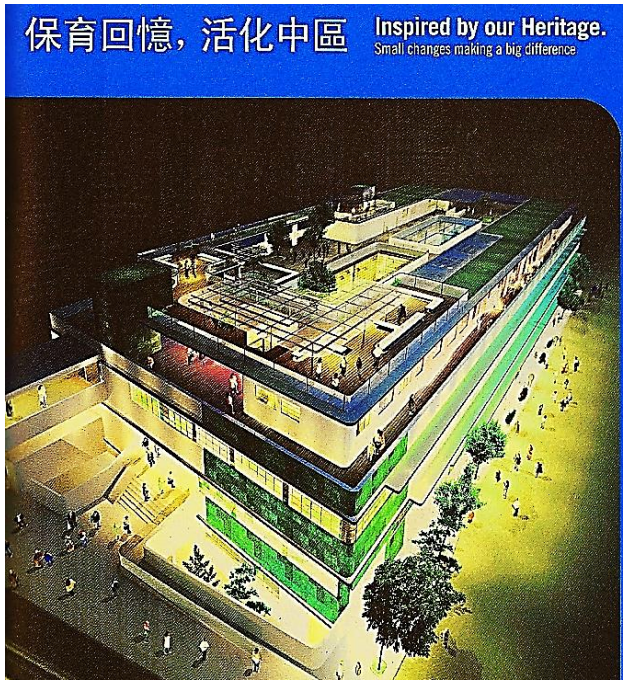




Provocative concept proposals for the URA's Revitalisation of Central Market, Hong Kong, 2009 (Lee Ho Yin of ACP, HKU)

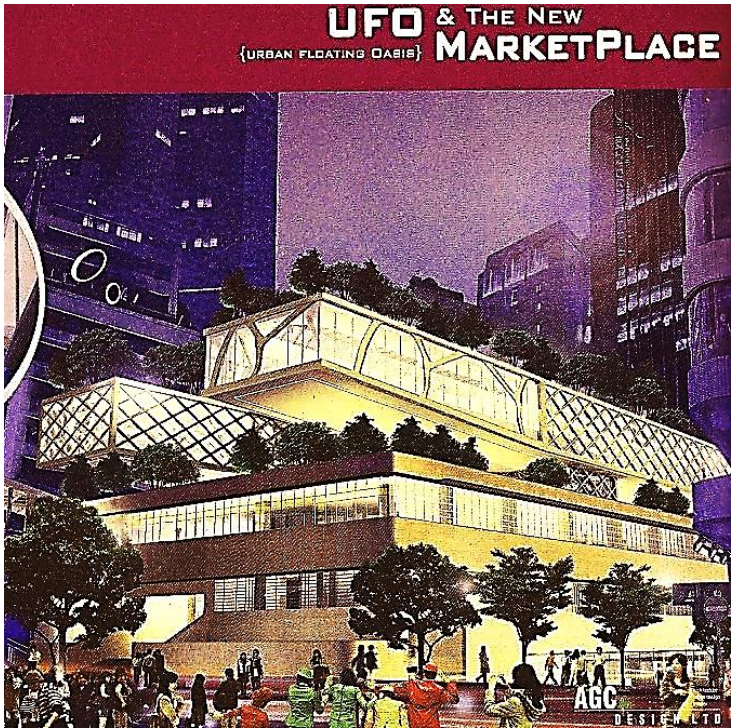
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"Urban Floating Oasis (UFO)" by AGC Design Ltd. 由創智建築師有限公司設計的「漂浮綠洲」



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YouTube at www.youtube.com/watch?v=sxVSw4K-es8



SUMMARY 總結

We advocate

- NO! to preserving old buildings as museum objects
- YES! to revitalizing old buildings with innovative design for new uses needed by communities

我們 提倡

- 說不：僵化舊建成為古董
- 說得：活化舊建，創新設計，實際用途，有利社區

Thank You

謝謝