

COMPANY  
**Urban Renewal Authority**

PROJECT  
**Revitalization of Shophouses at 600-626 Shanghai Street, Mong Kok**

LOCATION  
**Mong Kok, Hong Kong**

TYPE  
**Revitalization and Preservation**

SCHEDULED TIME OF COMPLETION  
**2018/2019**

# REVITalisation of Shophouses at Shanghai Street

“BIM is a tool to assist URA to enhance our design coordination and avoid crashes in construction, and hence improve the quality of our buildings. To work with the GIS, it facilitates our studies on townscape, environmental performance and assessment for our re-planning of urban areas. Whereas, the as-built models could also improve the operational efficiency of our facilities management for all buildings.”

—Anderson Leung  
 General Manager,  
 Urban Renewal Authority

BIM PARTNERS  
**Chau Lam Architects & Associates Architects & Engineers (Hong Kong) Limited**  
**Ben Tse & Associates Limited**  
**Far East Consulting Engineers Limited**  
**China Point Consultants Limited**  
**Beria Consultants Limited**  
**Team 73 HK Limited**  
**Vircon Limited**  
**Wan Chung Construction Company Limited**



Enabling a more efficient building life cycle through the use of Building Information Modelling  
 Image courtesy of Urban Renewal Authority

Hong Kong is heading its development towards smart city by enhancing innovation and technology in our living and business environment

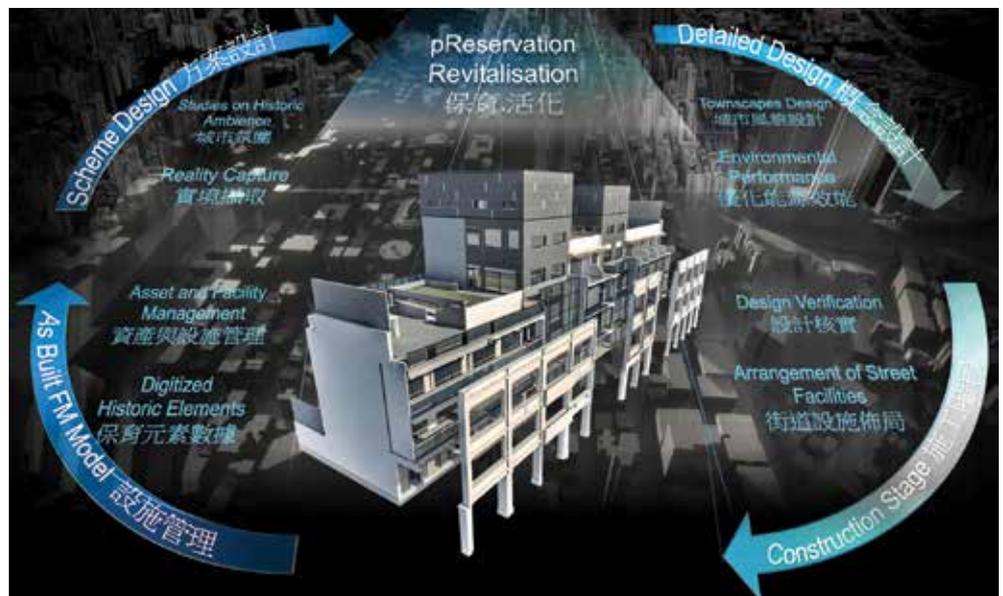
public body, begins to use BIM in its development projects.

## Revitalization at Shanghai Street

One of the Smart Government’s initiatives is to adopt the use of BIM in the building life cycle: Design, Build and Operate.

The Shanghai Street project is a conservation cum revitalization project to cover a cluster of Grade 2 pre-war shop houses at 600 - 626 Shanghai Street, Mong Kok.

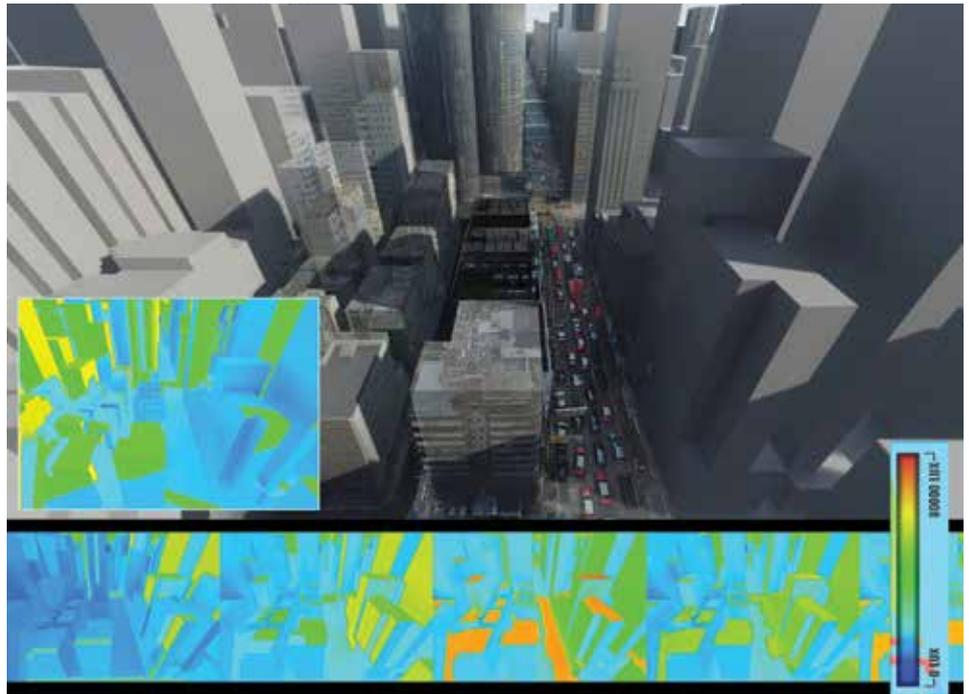
The Urban Renewal Authority, being a



To adopt the use of BIM in the building life cycle: Design, Build and Operate  
 Image courtesy of Urban Renewal Authority

“The application of BIM technology enables a smooth planning and design process in this project. We could see the whole district virtually, with light and shade, and hence to evaluate the setting of entrances, street facilities and even townscapes.”

—Catherine Lau  
 Manager,  
 Urban Renewal Authority



Virtual 3D simulated platform for interactive visualisations and performance analysis  
 Image courtesy of Urban Renewal Authority



Reality Capture with laser scanning, photogrammetry and point cloud technologies  
 Image courtesy of Urban Renewal Authority



Streamline the photographic surveys  
 Image courtesy of Urban Renewal Authority

“Balancing between redevelopment and conservation of old buildings is always a challenging issue,” says Anderson. “The aim is not only to conserve the historic elements but also the streetscape for adaptive re-use.”

### Modelling the District, and Compact Interiors

The use of BIM can help to visualize the buildings environmental by simulating and analysing it in a virtual 3D platform. “We could see the whole district virtually, with light and shade, and hence to evaluate the setting of entrances, street facilities and even townscapes.” says Catherine. With a click, the solar light on any elevation or interior wall at any time can be displayed instantly for detailed design of shading screen, wall finish, even light and shade, etc.

### Review of Building Design

“BIM can enable the management and other stakeholders to understand the building design and its relationship with the historic elements in a 3D model or walkthrough, and make more informed decisions,” says Catherine.

“We could review the position of all the building services installation in the BIM model and avoid crashes in construction, which is very useful for this conservation project with headroom constraint.”

### Reality Capture and Digitized Historic Elements

With laser scanning, photogrammetry and 3D modelling technologies, capturing reality for digital record is much easier, unlike the traditional on onsite measurements and photographic record taking. “We have a wish to allow



Enable different stakeholders to understand more and make more informed decisions, especially on the surrounding built environment  
 Image courtesy of Urban Renewal Authority



Interface of the entrance, covered cloister, finishes of old and new façade can be evaluated easily  
Image courtesy of Urban Renewal Authority

the future users and visitors to view the historic elements by using mobile devices, and to appreciate the historic ambience and Tong Lau way of life,” says Catherine.

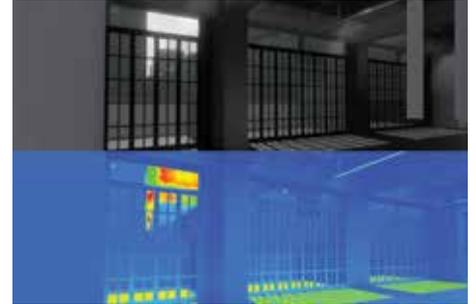
### Facility Management

While BIM benefits in design and construction, the URA also regards the facility management as the major part of building life cycle. The employment of BIM at different building stages will

generate continuous data.

“With the accumulation of BIM-related knowledge, we are aiming to use the as-built BIM models in our assets management,” says Catherine.

Integrating data from BIM and the building management system will provide digital information for the efficient operation and maintenance of the building.



Solar studies on any elevation, or any wall, at any time can be analyzed instantly  
Image courtesy of Urban Renewal Authority



Interface between historic elements and added facilities of modern buildings  
Image courtesy of Urban Renewal Authority

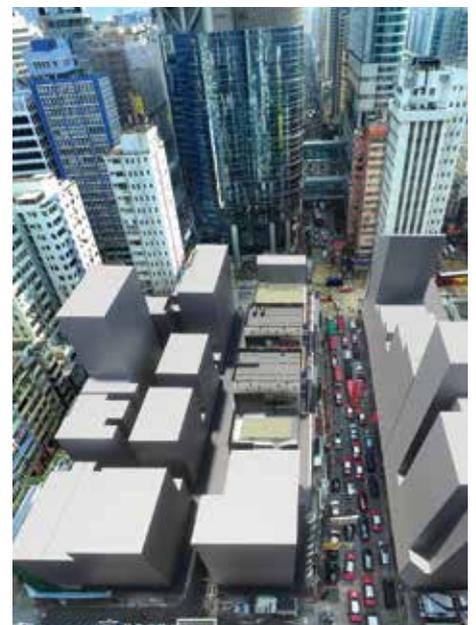
“We are glad that the use of BIM will bring tangible benefits to the project, the team, users and the community as a whole,” says Anderson, “URA will further adopt BIM in development projects to improve the buildability and constructability of the development works.”



Enhanced Design Communication, Closer Collaboration and quality of the buildings  
Image courtesy of Urban Renewal Authority



3D digital representation of building data  
Image courtesy of Urban Renewal Authority



Visualize the built environment by simulating and analysing it in a virtual 3D platform  
Image courtesy of Urban Renewal Authority



To work with the GIS, it facilitates our studies on townscape, streetscape and street facilities  
Image courtesy of Urban Renewal Authority

## About Urban Renewal Authority

The Urban renewal Authority was established in May 2001 under the Urban Renewal Authority Ordinance enacted in July 2000, having the responsibility of improving the standard of housing and the built environment of Hong Kong by undertaking, encouraging, promoting and facilitating urban renewal. A comprehensive and holistic approach should be adopted to rejuvenate older urban areas by way of redevelopment, rehabilitation, revitalisation and heritage preservation (the 4R business strategy).