



The Hong Kong Infection Control Centre was built in just four months. XINHUA

COVID CENTER OFFERS NEW DNA FOR BUILDING SECTOR

Construction of the North Lantau Hospital Hong Kong Infection Control Centre, dubbed the temporary hospital at the airport, has been completed and it is now ready for operations.

This hospital facility, located adjacent to AsiaWorld-Expo with some 800 beds, will provide the much-needed capacity to serve Covid-19 patients, hopefully freeing up the negative-pressure wards in hospitals for other needy patients.

I was fortunate to have been invited to an informal tour of the facility and was thoroughly impressed by it.

Modular integrated construction and design for manufacture and assembly are no longer new to us, but the ability to build a medical facility to international standards in such a short time is certainly unique to Hong Kong.

Entirely conceived, designed and constructed in the mainland, the hospital took only four months to build, which must be a record. It showed us how construction periods can be shortened from about four years for a similarly sized hospital using conventional methods.

It is even more striking to note that, within this short period of construction, not only were they able to complete the shell and partitions of the hospital building, but they were also able to fit in the building services system and the hospital bedhead system.

Those include the oxygen supply system, bedside lighting, call bells and other essential hospital bed equipment, minimizing fitting-out time by the end-user.

All rooms, including ante-rooms for access to hospital wards, are equipped to operate at a negative pressure with 12 air changes per hour, ensuring safety to the environment from viral and bacterial infection. HEPA filters are also fitted to ensure air cleanliness.

The ward layout segregates clean passages from "dirty" ones to ensure that



Nuts and bolts

Edmund Leung

contaminants on ward personnel and materials is not spread to other hospital attendants and visitors. The layout of the rooms also enables easy access by wheelchairs and patients in beds.

It is most impressive that such complex ward layouts can be constructed in units compact enough to be transported to the site by road and sea, but when assembled form an integrated building that hides the joints between units from view.

What has yet to be proven is whether this modular construction system can be scaled up for multistory buildings with equal success.

Land availability is a critical issue in Hong Kong and this hospital was built on an exceptionally large piece of flat land that was uniquely available as it was part of land reserved for the development of the Lantau airport island.

What this project has demonstrated with this novice construction method is that it may bring a quantum change in the building construction industry in Hong Kong, as it can be effectively applied to build schools, public housing, community centers, libraries and many other applications.

It will also enhance quality control, as most of the fitting-out work – including building services equipment installation – is done in a factory instead of on-site.

This ensures a high level of workmanship at the factory instead of site standards and makes quality control and inspection a breeze to handle.

Hong Kong will benefit from modular integrated construction of many types of buildings where function takes priority over aesthetics and it will save us a lot of time and costs too.

Veteran engineer Edmund Leung Kwong-ho casts an expert eye over Hong Kong's iconic infrastructure