

A comprehensive access solution for three unique towers

The Haitian Center represents an extensive and exciting construction and redevelopment project for Qingdao in China, all built around the famously spectacular sea views in Fushan Bay. Multiple individual tower structures provide a range of mixed-use facilities including two hotels, luxury residential accommodation, Class-A office space, high-end retail outlets, a business club, a convention centre and an observation deck.

CoxGomyl were called upon to develop effective building access solutions for buildings of varying sizes and forms, with each tower presenting its own unique access challenges. The project involved design and manufacture of a complete access solution capable of providing comprehensive facade coverage for three high-rise towers, one of which will become the tallest in Qingdao, surpassing the supertall mark at an impressive 369 metres.

The creative vision behind the buildings by Archilier Architecture drew inspiration from the natural beauty of their Fushan Bay setting and the fluid motion of the sea. The beguiling designs of the tower facades are intended to echo the rhythmic, softly rolling movement of the ocean itself. This bold aesthetic presented a range of challenges in terms of achieving practical and visually unobtrusive building access solutions for buildings with complex irregular facades, sloping surfaces and negative slopes. For a comprehensive access solution and complete coverage, no fewer than seven Building Maintenance Units were deployed across the three tower roofs.

The two smaller towers, themselves reaching 204 metres and 240 metres respectively, are each serviced by a two-BMU access system with one unit in a fixed position and a second mobile unit on twin tracks. All four BMUs for the smaller towers feature three stage telescopic jibs with the outreach required varying up to a maximum of 20.75 metres. Two of these BMUs also feature a telescopic mast. The third, supertall tower also presented the additional challenge of its complex form limiting the available space for a BMU to launch. This part of the project required three BMUs, all with telescopic masts and five stage telescopic jibs for an even further outreach of up to 27.25 metres, two of which also feature a telescopic mast. The third BMU for the supertall tower also provides the increased manoeuvrability of a knuckle jib design. Across every BMU in the system, soft rope restraints allow for safe horizontal movement of the cradle and provide access to the facade's complex, curving surfaces. In addition, the soft rope system for every BMU on the tallest tower is designed to allow the cradle to be securely pulled in towards recessed areas and provide access to negatively sloping surfaces.

Utilised in combination, the complete access system delivers all the necessary reach and flexibility demanded by the uniquely irregular facade surfaces while also navigating challenging building geography and avoiding the risk of collisions. CoxGomyl were selected for this huge project on the strength of the proposed system and their impressive portfolio of deployed access solutions in the region, which will be further bolstered by this impressive installation.

FACTS & FIGURES

Commencement	2017
Completion	2020
Building Height	369m
Floor Count	72
No. of BMUs	7
Outreach	27.25m
Building Type	Mixed

