

Kai Tak Cruise Terminal Building

Kai Tak is a name that elicits fond memories. As a legendary airport, Kai Tak touched the lives of people in Hong Kong and around the world. It had been the gateway to Hong Kong for many years, and now, it is about to enter a new chapter in its development.

(Views of the old Kai Tak Airport)

The cruise market in the Asia Pacific Region has been growing quickly, and Hong Kong is well-positioned to benefit from this growth. Hong Kong government is committed to develop Hong Kong into a leading regional cruise hub with a world-class state-of-the-art facility, continuing Kai Tak's tradition of connecting with people, transforming Kai Tak from an aviation hub to a cruise hub.

(Views of Kai Tak Cruise Terminal from the sea)

Kai Tak will again become the gateway to Hong Kong with the arrival of cruise liners from around the world, helps establishing Hong Kong as a major cruise hub in the region.

(Views of Kai Tak Cruise Terminal from the sky)

The building was constructed on a 7.6 hectare site at the southern end of the former Kai Tak Airport runway and was planned to be completed within 3 years.

(View of the site location plan)

Contract Signing Ceremony was held in May 2010. The contract sum of the project was HK\$4.9 billion.

(Scenes of the contract signing ceremony)

Cruise Terminal Building is iconic and highly functional, together with its sustainable features, it can facilitate the operator to provide world-class services to cruise passengers.

In fact, it is not only for the cruise passengers, but for the city, for the residents, for the visitors, it's about leisure, cultural occasions, wonderful park along the length of this great building, it's for everybody.

(Overall views of the Kai Tak Cruise Terminal)

In order to create a welcoming experience for passengers and establish an iconic image for Hong Kong, the building is planned for ultimate functional flexibility and user-friendly operation. It is also sustainably designed to achieve HK Beam Plus Platinum Rating and Merit in the Green Building Award 2012. Its unique structural design has received the Grand Award of the Structural Excellence Award 2014 granted by The Hong Kong Institution of Engineers.

(A series of the award certificates)

The three-storey terminal building is designed and built by Dragages HK under the project management of Architectural Services Department, with Foster + Partners as the lead design consultant and Wong Tung & Partners as the architectural design consultant. International cruise operators are consulted in the design process and operation experience is introduced to the design. The terminal has two berths each of which can accommodate the world's largest vessel and its immigration and customs facilities can handle 3,000 passengers per hour.

(Views of the building external)

The building is 850m long and 70m wide, comprises 3 floors and a roof deck.

The ground floor is dedicated to ground transportation including coaches, taxis or minibus. Ample drop-off spaces and coach staging areas can ensure efficient traffic flow. Private vehicle and taxi drop-off area is centrally located to minimise walking distance for passengers heading to the check-in and waiting area.

(Views at ground floor)

The first floor is designed for taxi and private vehicle pick up, parking and other back of house functions. Also, there is a 675m long concourse that will receive the passenger boarding bridge that connects to the cruise vessels.

(Views at first floor)

The passenger check-in, waiting and immigration facilities are located on the second floor.

(Views at second floor)

On top is the Kai Tak Cruise Terminal Park for public enjoyment.

(Views at roof)

The design of the building is unique and has been granted the Grand Award of the Structural Excellence Award 2014 by The Hong Kong Institution of Engineers.

(The announcement of the award)

The use of wide span building structures can bring a remarkable degree of spatial and planning flexibilities. With a 42m clear span and an 8.5m floor-to-floor height, allowing maximum spatial flexibility in terms of passenger flow and terminal operations.

(Views of the long span structure)

Efficiency and passenger convenience is the key objective, thus design attention has been focusing on efficient operation and passenger experience.

The design of the building layout has a very clear logistical sequence behind, once the embarking passengers enter the building, they can move seamlessly to the Passenger Check-in and Waiting Halls on the second floor, where immigration counters, e-channels and security screening are

located. When the cruise vessels are ready for boarding, passengers will follow the effective signage and travel to the concourse. By using the bi-directional travelators, passengers will reach the boarding bridge and board the corresponding vessels. This 675m long concourse allows flexibility for the boarding bridge to connect to the building at any point along its length. Based on this well designed arrangement, all procedures can be done in a very clear, simple and intuitive manner, passengers will be satisfied with the experience for sure.

(Interior views along the embarkation route)

The disembarkation process will work similar but in the reverse manner. To cater for simultaneous embarkation and disembarkation of two or more cruise vessels, the building has two clusters of passenger halls and baggage handling facilities with a shared custom, immigration, police and health quarantine facility centrally located. This allows each half of the building to operate independently.

(Interior views along the disembarkation route)

The 42m wide span column free layout has allowed for maximum flexibility in the utilisation of the large passenger check-in and waiting area on the second floor, which can be configured in many different layouts.

The check-in and waiting halls can be converted for other uses, such as art fairs, car shows, banquet, or even trade exhibitions and conferences. The multi-purpose design maximises business opportunities and the potential from this prime location, especially during the off-peak cruise periods.

(Views of the waiting halls)

To create this wide span structure, a construction methodology similar to that of a large span bridge is being adopted, which is pioneering and flexible that can overcome challenges.

Mobilisation for the construction works started in May 2010.

Construction works started with piling and was in full swing in August 2010.

Targeted for completion when the terminal's first berth is commissioned in June 2013. It is a fast track project, therefore precast concrete elements have been widely used in order to meet the construction timeline.

(Views of the building under construction)

There are off-site precast yard in Mainland and on-site precast yard right next to the building. Prefabrication not only accelerates construction progress but also ensures a better finish of the concrete and minimises the risk of working at height.

(Views of the precast yard)

The main building structure consists of 13 hollow primary beams per level, also known as box beam. Each beam measuring 65m long by 16m wide by 3m high, precast secondary beams are installed between the main beams and each of them involves heavy lifting.

The installation of the precast elements greatly facilitated a fast track construction programme.

The design of the mega box beams allows easy maintenance and replacement without affecting the operation of terminal, different types of pipework and electrical services are tidily installed inside the box beam.

(Views of the beams under construction)

There are over 2,500 workers at the peak of construction, meanwhile, Architectural Services Department is working closely with the main contractor, consultants and end users. Meetings and workshops were held regularly to discuss and integrate requirement from all different users and stakeholders.

For this iconic project, success is also driven by the expertise, commitment and passion of all staff and partners. From the first concept to completion, the dedication of everyone, mutual respect, open communication and professionalism are all essential.

(Views at the construction site)

To facilitate discussions between Architectural Services Department and its end users, a mock up was created at site, featuring the façade and different function areas. Enabling end users to better understand the design intention and proposed materials to be used. Valuable feedback received can allow the team to further improve the design and offer the best possible solutions to the end users.

(Views of the mock up)

Sustainability is also a key aspect of the building's design and operation, Cruise Terminal Building is integrated with design strategies that can fully optimise the building's performance, its sustainable features can turn the building into a successful and energy efficient enterprise in the long run.

Cruise Terminal Building has achieved HK Beam Plus Platinum Rating, which is a Hong Kong's well-established building assessment tool recognised by the Hong Kong Green Building Council. Cruise Terminal Building is among one of the first projects in Hong Kong receiving this highest rating since the establishment of BEAM Plus. Six aspects have been achieved namely site aspects, energy use, indoor environmental quality, materials aspects, water use and innovations & additions.

(Views of the building envelope)

The building provides facilities for best environmental practice.

Provisions have been built into the building to facilitate future installation of on-shore power supply for vessels at berth. This can reduce air pollutants, gas emissions and noise, thus a better port environment and working environment on board can be resulted.

Also, on-shore sewage reception facilities are available, sewage can be delivered to there for further treatment instead of discharging it into the sea.

(Views of a mega cruise vessel at berth)

The building has 4 levels including a roof deck, threading vertically through all four floors of the building are four light-filled atria, where uninterrupted daylight would penetrate to the deepest part of each floor, giving good quality interiors and a lively arrival and departure environment. Serving as the vertical circulation hubs and providing people with a good sense of orientation within the building and therefore better way-finding. Lifts and escalators carry passengers and visitors through the building in a clear and efficient manner, the experience will be clear, logical and efficient.

(Views of the environmental features)

The atria also provide opportunities for natural ventilation, with an air flushing effect, acting as a chimney to exhaust air from different floors, like the car parking area, to the roof.

Skylight are located in the ceiling above check-in and waiting area, natural lighting provides a calm ambience for the passengers and promotes a healthy and vibrant atmosphere with natural way finding, while use of artificial lighting can be reduced.

(Views of the environmental features)

Energy saving design is adopted. The building envelope is designed as a response to environmental and functional needs. One very good example is the triangular window, the lower half of each window is widened, in order to give better view of the great Victoria Harbour. While narrowing the top half with glare control blinds would shield the interiors from excessive sunlight.

(Views of the triangular windows)

Combining with the curvilinear form of our building section, the façade also provides a self-shading function that can limit solar heat from entering the building. Part of the façade is wrapped around forming a generous overhang which provides shading to the visitors on the landscaped deck.

(Views of the building façade)

Some other examples of energy conservation features include service-on-demand control for escalators and travelators, automatic on/ off switching of lighting and ventilation fans inside the lifts. Cruise Terminal Building is also the first major building connected to the District Cooling System for air-conditioning, which can promote energy efficiency and reduce carbon dioxide

emission. Photovoltaic system and solar water panels are also installed to generate energy out of the blue. Also, there are energy efficient fluorescent tubes and LED type signage; air supply and ventilation fans in car park; automatic demand control of chilled water circulation system; heat wheels for heat energy reclaim of exhaust air and heat pumps for hot water/space heating.
(Views of the energy saving installations)

The extensive landscaped deck at roof level expands urban greenery and enhances the natural beauty of the building. It is currently the largest green roof deck of 23,000sqm in Hong Kong, which reduces the heat island effect and contributes positively to the ecological value. The overall planting selection offers a wide variety of native and exotic species of minimal maintenance requirement. Trees of small to medium sized, salt and wind tolerant are chosen to suit the exposed conditions.

The landscaped deck improves the insulation of the building and reduces internal cooling load. Rainwater can be collected through the roof drainage system and stored in underground tanks. After filtration and sterilisation, the stored rain water will be pumped back to the landscaped deck for irrigation.
(Views at the landscaped deck)

In the past, many people came to the former Kai Tak Airport to watch planes come and go. Now, the Cruise Terminal Building will continue this tradition of connecting with the public. The Kai Tak Cruise Terminal Park has created an iconic new urban oasis for the people of Hong Kong. It is a great spot for families and friends to meet and enjoy the spectacular view of the great Victoria Harbour.

The landscape design originates with the concept of “Hills, City and Waterfront” from the interpretation of the site and creates interesting walking experiences through the activity programs and zoning within a landscape framework of helix foot path circulation. The Kai Tak Cruise Terminal Park consists of three sections with landscaped gardens along the side closer to Kwun Tong, which is the “Hill”, the main activity zones in the central section “City Centre” including Central Lawn, Water Garden, Park Plaza, Lawn Area, Fountain Plaza, Sitting Out Area, Flagpole Platform etc, Viewing Steps and Viewing Platforms at the “Waterfront” facing Victoria Harbour for the enjoyment of harbour view.
(Views of the landscape)

Complemented with some commercial areas for retail and dining purposes and being lush and vibrant, the park is an ideal place for Tai Chi enthusiasts in the morning, space for photo taking for some ceremonial occasions, festivals or cultural event in the evening and a variety of other activities.
(Views of the landscape)

Sitting at the tip of the old Kai Tak Runway, the building is highly visible from many points along Victoria Harbour. Literally, the building will be seen by over millions of people every year. Therefore, a lot of effort is being given to create the best connection between the building and the surrounding environment. The feature roofs at the two ends of the building are the highest points and amplify the cantilevered ends, creating a sense of gateway and welcome.

(Views of the building external)

The south end architectural roof feature in particular rises up to meet with the radar tower creates the climax of the building's form. The height of the feature roof has been carefully considered and designed to maximise the view out from the roof deck for the public to enjoy the harbour front and minimise its impact to the surroundings.

(Views of the roof features)

The architectural lighting of the building highlights the articulation of the façade and integrates the building with the rest of the harbour's Symphony of Lights, demonstrating the energy, spirit and diversity of Hong Kong.

(Views of the external lighting)

After 3 years of construction, on 12 June 2013, the Kai Tak Cruise Terminal Building welcomed Mariner of the Seas on her maiden call to the Kai Tak Cruise Terminal. This signified the readiness of Hong Kong to receive mega cruise ships from now on – an important milestone for Hong Kong in her dedication to become Asia's cruise hub.

(Scenes of the first berthing)

Kai Tak was the site of our legendary airport, and she is now turning a historic page by connecting Hong Kong with the rest of the world through the seven seas.

This highly functional and sustainably designed building will continue Kai Tak's tradition of connecting with the public. In time, it will become a best-loved venue for Hong Kong people to enjoy and take pride of our Victoria Harbour and create new memories for many years to come.

(Scenes of the first berthing)

(A collection of progress photos during construction)