



# POST AIRMAIL CENTRE HONG KONG INTERNATIONAL

Hong Kong

Redevelopment  
Feasibility Study

Hong Kong Post

Hong Kong Post plans to redevelop the existing Airmail Centre at Hong Kong International Airport and BNP was engaged to provide the consultancy services for a redevelopment feasibility study.

A key part of the design process was evaluating the impact of different technologies and handling methods for each step of the mail process. Two fundamentally different approaches were possible – bulk level handling and item level handling. Bulk level handling with pallet cages each holding several mail bags provides high storage density (which initially seems good in the limited building volume). However, bulk-level handling results in multiple handling and sorting steps and multiple technologies in the end-to-end process so that the benefit of high-density storage is dramatically offset by time and space used for multiple handling steps such as unloading and reloading pallet cages for OE destination sorting.

The principal challenge of the item-level approach is space-efficient storage of the individual bags, and for this a shuttle rack storage system (lift and run storage system) was selected. The shuttle rack systems have become common for e-commerce applications where fast response and high throughput are needed. The high throughput achievable with a shuttle rack storage system enables it to also function as a sorter, thereby eliminating an entire set of sorting equipment – the large items sorter, which for 200 OE destinations is either very big or requiring multiple sorting stages to complete the bag sorting.

Another key advantage of the shuttle rack storage system being also the sorting system is that there are no constraints on when sorting occurs throughout the day. For example, if a conventional cross-belt sorter is used, then dedicated timeslots for sorting different categories of mail are required. That is, ordinary mail bags cannot be sorted with registered mail bags unless additional pre/post sorting functions or manual processes are added slowing the process and increasing space requirements.



ASSOCIATES, INC.

## BNP PROJECT TEAM

Damien Breier, Principal  
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## SCOPE OF SERVICES

Analysis Study  
Conceptual Design  
Design Development  
Ergonomic Improvements  
Bid Documentation  
Construction Administration  
Testing & Commissioning