

SYDNEY AIRPORT 2000 – Automated Baggage Handling System



OWNER

SYDNEY AIRPORT CORPORATION
LIMITED

OWNER'S REPRESENTATIVE

MR. ROBIN TAYLOR

BNP PROJECT MANAGER

DAMIEN BREIER

LOCATION

SYDNEY, AUSTRALIA

COMPLETION DATE

2000

ENTIRE PROJECT AMOUNT

US \$275 MILLION

BHS CONSTRUCTION AMOUNT

US \$35 MILLION

REFERENCE

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SCOPE OF SERVICES

CONCEPTUAL DESIGN
DESIGN DEVELOPMENT
CONTRACT DOCUMENTS
BIDDING AND PROCUREMENT
CONSTRUCTION MONITORING

RELEVANCE

AUTOMATED BAGGAGE HANDLING
SYSTEM WITH HOLD BAGGAGE
SCREENING

In 1997 BNP was hired to perform a concept study to expand the Baggage Handling System as part of the Sydney Airport 2000 Project, an overall International Terminal and Airfield expansion project required to accommodate the 2000 Summer Olympics in Sydney. BNP was uniquely qualified for this work having been the consultant for the International Terminal's original automated baggage handling system put into operation in 1989. BNP's original scope was expanded to include production of tender documents, tender evaluation and construction monitoring services with full time site supervision. Approximately one year prior to completion, the implementation of new Australian laws required that Hold Baggage Screening be included in the system. Since the system had originally been designed for the future implementation of Hold Baggage Screening, this additional requirement, which represented nearly 50% of the cost of the original supply contract, was implemented within the rigid project completion deadline (the 2000 Summer Olympics).

The system design presented several challenges to BNP including how to ensure constructability, expandability and simple retrofitting of integrated Hold Baggage Screening. Because the system was constructed in a busy and constrained operational facility, BNP developed a detailed construction phasing plan that did not reduce capacity levels at any time during construction. The system design allows for future expansion of make-up and check-in areas as well as connections to future systems if/when required.

Once the new system became operational, the overall system capacity will increase to be over 15,000 bags per hour, more than double the original system capacity. The new system is fully integrated with the existing system allowing sortation between the two systems and both systems are controlled by a single control system. The new system starts with three segment check-in conveyors feeding take-away and transport conveyors. Vertical sort conveyors are used to sort the flow of baggage to either of the two bagrooms and, once in the new bagroom area, to either of two tilt trays. The core of the new system is the dual, redundant tilt tray sorters fed by high speed induction conveyors. The system employs tracking from check-in and automated bar code scanning resulting in extremely high sortation efficiency.