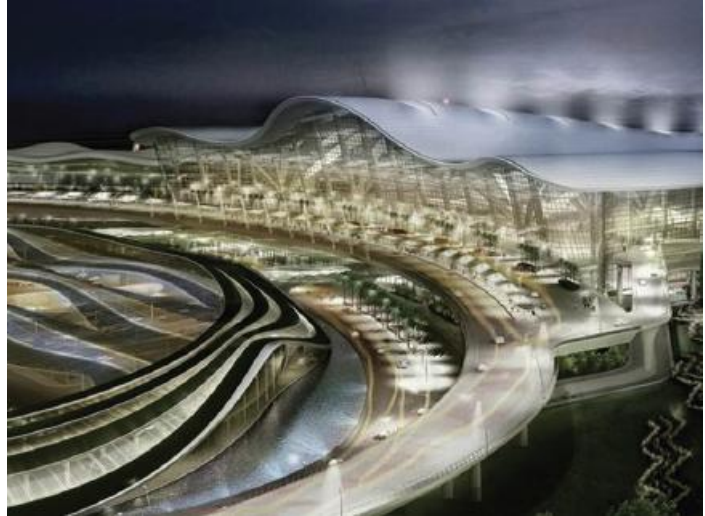


Midfield Terminal, Abu Dhabi Airport – BIM Beyond 2.0

PROJECT SUMMARY

The Midfield Terminal Building of the Abu Dhabi Airport (MTB-ADIA) is a \$3billion, 700,000-sqm development, providing a terminal building with passenger and cargo facilities, duty-free shops and restaurants for a total capacity of around 40 million people per year. Its unique X-shaped form consists of a six-storey central hub with four piers that provide access to the aircraft gates and is located between the two existing runways, giving the name 'Midfield'.



The use of BIM allowed TCA-JV to guarantee constructability, saving time, money, and effort.

STAKEHOLDERS

CONTRACTOR

Consolidated Contractors Company (CCC) is one of the largest engineering and construction companies in the Middle East that embraces the ambitions and welfare of over 130,000 employees, composed of more than 80 nationalities, in the Middle East, Africa, Europe (including Russia), CIS countries, the Caribbean, Australia and Papua New Guinea. At the end of 2012, CCC's total revenues were in excess of US\$ 5 billion dollars. The construction activities of CCC cover fields in Heavy Civil Construction, Water and Sewage treatment plants as well as buildings and Civil Engineering Works.

As the main contractor awarded for the Midfield Terminal Project, CCC, part of the TCA Joint Venture (TCA-JV) of TAV, CCC and Arabtec, faced the challenge to meet the key customer requirement of completing this design/build project using a **totally BIM-driven approach**.

ENGINEERING

Robert Bird Group is a global structural, civil and specialist construction engineering consultancy with 10 offices and hubs in Australia, the United Kingdom, the United Arab Emirates, and South East Asia. Since 1982, Robert Bird Group have built a reputation for expertise in the engineering of complex structural projects including high rise and waterfront developments, prestigious public buildings, transportation infrastructure, power and renewable energy.

For the Midfield Terminal Project, Robert Bird Group designed and modelled the supporting steel structures for **27 kilometers of baggage handling systems, utilizing BIM** to ensure seamless integration.

THE ROLE OF BIM AND 5D

Due to the complexity of the structure in both design and shape, the project was considered highly challenging in terms of engineering, construction and procurement. These complexities and challenges though inspired the owner to promote technologies and methods that would facilitate and enhance the delivery of the project through its full lifecycle. One of these initiatives was the requirement set by the client to the different stakeholders for of a totally BIM driven project, followed by a set of very demanding, ambitious and quite unique specifications.

The BIM Implementation had to cover Engineering & Design (clash mitigation, design coordination, RFI system, shop drawings), Project Controls and Planning (Scheduling, Cost Estimation, Progress, and 4D studies),

Contractual and Quantity Surveying (Quantity take-off and measurements) and Manufacturing (Digital Fabrication), even site logistics, temporary installation, scaffolding, and formwork were requested to be captured and managed within the BIM environment.

Utilizing BIM for the Midfield Terminal Project enabled a broad spectrum of benefits, including better collaboration and coordination of trades, reduction of clashes, reduction of lengthy approval processes and enabled integrated lifecycle data capturing, maintenance, management from design to handing over and as-built stage.

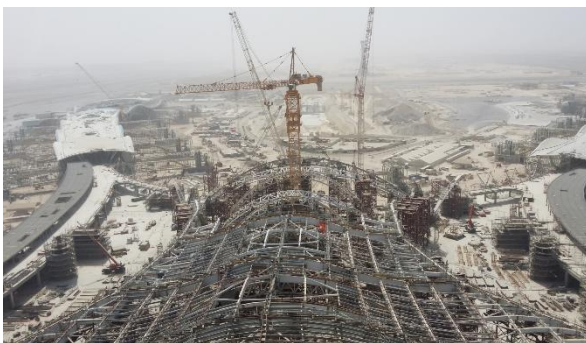
PRESENTERS

Issam El-Absi, Manager IS-Automation & Engineering (BIM, Civil and GIS) / General Manager BIM Centers - CCC Group / MTB Project BIM Manager

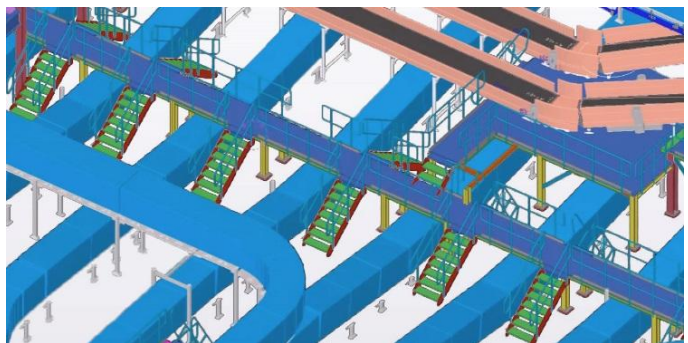
Raid Al-Mahaidi, Senior Engineer, Robert Bird Group



The Midfield Terminal Building project involved the design and construction of a complete terminal building including passenger and cargo facilities, duty-free shops, and restaurants.



The benefits of BIM extended to construction. For example, the construction team could forecast construction schedules, perform logistics studies, and validate resource requirements by leveraging information in ProjectWise.



Robert Bird Group utilized BIM and Tekla Structures to model and detail the supporting steel structures for 27 kilometers of baggage handling systems, enabling coordination with other trades and thereby a clash free model.