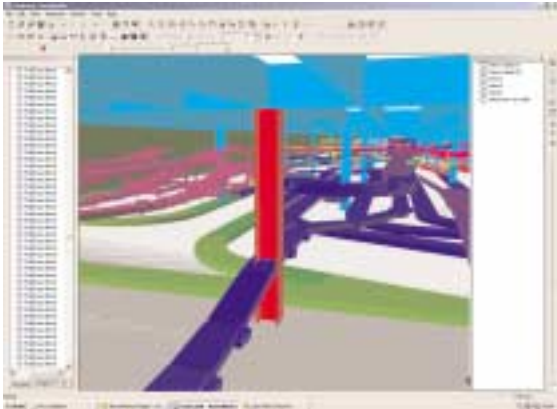


Casestudy

BAA plc uses NavisWorks in drive to cut Heathrow Terminal Five construction costs by 10%

British success on a global scale

BAA plc is the world's largest airport company and a dynamic and globally oriented plc. In addition to London Heathrow, the world's busiest airport, BAA owns seven other UK airports, has management



contracts or stakes in twelve airports outside the UK, and has retail management contracts at two airports in the USA. Almost 130 million passengers passed through BAA airports last year and the company expects to spend nearly £9 billion in airport

development in the next ten years. The construction of Heathrow's Terminal Five (T5), worth £4 billion, is one of the UK's highest-profile construction projects and one of the most logistically complex in Europe. BAA has set itself the target of using technology to reduce this cost by 10% or £ 375 million. This will be achieved in large part by creating a single 3D computer model that BAA and its project partners will use to design, build and ultimately maintain the terminal building. BAA and its partners in the T5 project are already using NavisWorks as a process checker and to view, review, detect clashes and extract information from the project's Autodesk® Architectural Desktop single building model.

Target: 10% savings

BAA is spearheading this project. Mervyn Richards, CAD Technology Manager at Laing O'Rourke, one of BAA's framework partners, has been a key member of the BAA team since 1996, advising on and implementing 3D strategies. Richards sees the need, "...to ensure that everybody concerned with the T5 project is collaborating. Not just communicating but sharing

"NavisWorks is now crucial to everything we do."

Andrew Manington,
BAA T5 Production
Support Manager



information.” Richards explains, “The use of technology on this project was to enable a full collaborative environment with all of BAA and its 42 Framework partners.” Collaborating this way created the opportunity to overcome some of the main difficulties that have faced construction projects in the past. According to Richards, “Generally, too much construction information is ambiguous. For example, the architect may indicate that he wants a column in a particular place, but subsequently, the civil engineer may reposition it slightly as a result of his calculations. There will then be two instances of one object – the architects and the civil engineers. Items coordinated to one instance may well clash when installed to the other instance.” These clashes may not be noticed until actual construction. Correction on site means putting manpower and materials on site, eating up precious program time and increasing costs. If projects are not delivered on time, the consequential costs can grow enormously because BAA cannot operate its business until the building is ready.

NavisWorks as process checker

Nigel Stroud is CAD Manager on the BAA T5 project. Seconded to the project by Excitech, the Autodesk Systems Centre that supplies software, staff and support to the project, Nigel says, “My team produces the project procedures for the generation and use of CAD data. We make the processes work and run smoothly. What we are doing for T5 will become the standard for all new BAA projects.” Nigel recalls, “NavisWorks was already in use by

“Using NavisWorks as a process checker means that if a clash is detected, someone has not followed the procedures.”

Mervyn Richards, CAD Technology Manager, Laing O’Rourke

Framework partners such as Mott McDonald and Amec. It was being used as a viewer, but I could see that there was a much more to gain by using it as a

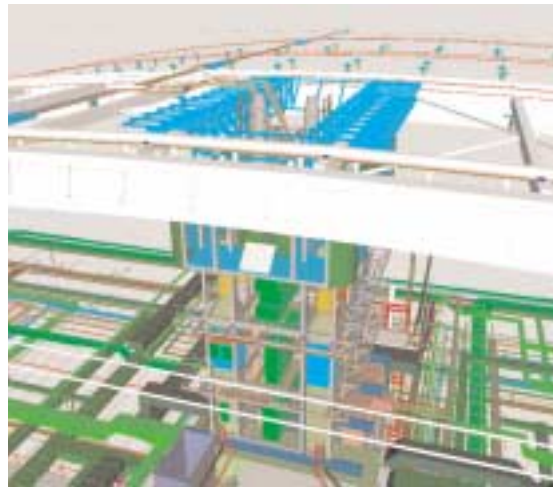
design review tool and process checker.” Richards adds, “Using NavisWorks as a process checker means that if a clash is detected, someone has not followed the procedures. We can then address the issue and make sure it does not happen again.”

A standard tool in the industry

In Nigel’s experience, “It always takes time and effort to introduce new technology into a busy and complex environment, but NavisWorks has proved to be the exception. It really has really taken off. The demand is now so high that we are now running familiarisation session for 50 users at a time. It is so easy to use

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Nigel Stroud, BAA T5 CAD Manager



that engineers can start using it straight away.”

He adds, “NavisWorks is a standard tool in the industry and was the only tool we could find at the time that fitted the bill.” Andrew Manington, BAA’s Production Support Manager for T5, goes further, “NavisWorks is now crucial to everything we do. It allows all of the non-CAD literate users to interface with the model. They can’t change the model, but they can view it and can extract information from it.”

Currently, the T5 project uses 130 NavisWorks Roamers, 70 NavisWorks Publishers, and 25 NavisWorks Clash Detectives. There are plans to introduce NavisWorks TimeLiner and link it to Microsoft

Project for construction sequencing. NavisWorks Freedom, the free-of-charge NavisWorks nwd file viewer will be introduced on all desktops.

The whole industry benefits

The lessons learned by BAA are being disseminated to the rest of industry. The Construction Project Information Committee has published the Code of Practice for Production Information (CPIC), which contains the processes and protocols developed for T5. The process is scalable, so that small organisations can take advantage, too. The code is aimed at the 2D majority with the objective of making it easier for them to advance to 3D. The government is committed too. It has already invested £750,000 in a ‘Partners in Innovation’ project to promote collaborative working, largely based on the lessons learned at T5 and including the CPIC code.

Links

www.baa.com
www.navisworks.com

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W O R K S

NavisWorks Ltd.

NavisWorks is a privately owned limited company based in Sheffield, UK with a wholly owned subsidiary, NavisWorks Inc, in Arizona, USA. NavisWorks seeks to satisfy the need for interactive viewing technology that enables the exploitation of the benefits of 3D design. Our technology is sold worldwide through a reseller channel and to complementary software partners.

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