

Baggage Handling

The PLC and SCADA Integrator
Automation Software Engineering Ltd.

Case Study

New Departure for Baggage Handling

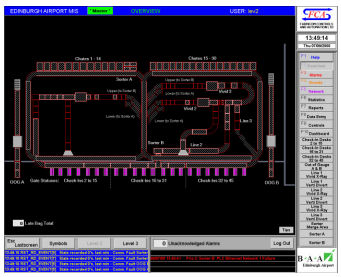
Have you ever boarded an aircraft, just hoping and praying that your baggage has also made it safely onto the same flight?

Background

It's a dilemma airport authorities increasingly face, especially as statistics show that more and more people are taking to the skies. The problem is further compounded by stringent security checks on baggage in an effort to combat air terrorism! Such considerations were taken into account by the management of East Midlands Airport during the planning phase of a new £10 million, state-of-the-art Departures Terminal. They wished to increase the airport's capacity from 1.9 million to 3 million passengers a year, but retain the operational effectiveness of one of the UK's leading domestic/international airports. To handle the additional major volume of people, the new Terminal was equipped with 32 check-in desks, airline offices and the most advanced baggage handling system of its kind. Consisting of 150 conveyors, 100% Hold Baggage Screening (HBS) and 'smart' screening - **the whole arrangement is a world first!**

Something airline passengers take for granted and can cause a lot of aggravation when it goes wrong.

The Solution



Main contractor, Logan Fenamec drew upon parent company, the Fabricom Group, and, in particular, the systems integration skills and experience of Automation Software Engineering (ASE) for the software engineering tasks. It was ASE's responsibility to provide bespoke software for the FactoryLink package, and for ensuring the system worked to its optimum level of baggage throughput, separation and screening. ASE's initial task was to produce a MIMIC of the conveyor actions, alarm logs and report information from the original Logan Fenamec line build drawings. The 150-conveyor system was drawn on AutoCAD and exported as DXF files. This eased development time in building an animated image of the systems' layout, as ASE took full advantage of their knowledge of FactoryLink by converting the DXF files to GX files and to FactoryLink standard. The conveyor animation was fully tested by ASE engineers ahead of its installation at East Midlands, a major benefit for electrical engineers in commissioning the main control panel. They were able to rely on the SCADA system's animated images to prove the functionality of the system, especially helpful, as some of the conveyors were difficult to access for visual inspection.

ASE provided the EMA management with a daily (24 hour) summary report of hourly operational information on the system, such as number of bags coming off the conveyors and availability of the system

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Benefits

- Reduction in lost baggage
- Mis-directions almost eliminated
- Efficient system integration
- Faster repairs
  - Remote monitoring
  - Remote diagnostics

Project Statistics

- £10m Departure Terminal
- 32 Check-in desks
- 150 Conveyers
- 100% Hold Baggage Screening
- Smart screening
- A world first

System Characteristics

- FactoryLink SCADA System
- 10 SCADA terminals
- Schneider PLC's
- Ethernet network