IfM

UNIVERSITY OF CAMBRIDGE

Optimised airport operations in the information-enabled environment

As air traffic continues to grow, fuel prices rise, security remains strict and capacity is stretched to the limit, the need for efficient airport operations is at an all-time high. The problems created by poorly run systems are felt by everyone involved in air travel – in terms of delayed flights, long queues, lost baggage, wasted time and rising costs.

Dramatic improvements if data is shared

The University of Cambridge has already conducted pioneering research into airport operations, with a specific focus on aircraft turn-around. Many different groups play a part in the processes that take place between the time a plane lands and the moment it takes off again. This research provided new insights into this critical period and identified, among other factors, the potential for dramatic improvements in aircraft turn-around time if data is shared by those involved – principally airlines, ground handlers, fuelers and caterers[1].

New project launched

Industry demand led to the launch of a new phase of this research, aiming to:

- redesign and pilot robust turn-around practices that will eliminate unexpected delays
- build partnerships that bridge common business processes and promote information sharing
- demonstrate the economic value of such innovation in airport operations

The project will last 20 months starting from November 2008. The main activities will be to:

- audit the critical areas of ground-based asset management, aircraft line maintenance, baggage handling and passenger transit
- develop more efficient uses of airport ramp capacity and facilities
- explore new partnership models between airlines, ground handlers, fuelers, caterers, airport authorities and systems integrators
- pilot more integrated information systems
- trial the deployment of innovative technologies such as auto-identification
- expand the benchmarking exercise beyond its original focus on short haul flights, to include long haul and air cargo

1 This initial research was partially funded by the International Air Transport Association - IATA and by telecommunications and systems provider SITA.

Getting involved

This project is led by the Distributed Information and Automation Laboratory (DIAL) at the University of Cambridge Institute for Manufacturing (IfM). Funding is provided by a consortium of sponsors. Those involved will have the opportunity to influence the direction of the research, take part in key technology trials and receive early access to its findings. We welcome contact from organisations interested in joining the consortium.

For further information please email:

Alan Thorne
turnaround@autoidlabs.org.uk

Or visit: www.aero-id.org/airportoperations

"SITA was founded by the air transport community to serve common industry needs. Core to this is our ability to constantly innovate on behalf of the community and, most importantly, to foster efficient communications between the various ATI players. Our collaboration with Cambridge supports this charter and our efforts to develop an integrated approach to improving aircraft turnaround."

René Azoulai, Senior Vice President, Communication Services at SITA

"IATA's StB programme is simplifying the core processes of the aviation industry in order to reduce costs and improve customer service. The work completed by Cambridge University was central to our aircraft turnaround business case."

Philippe Bruyere, Programme Director, Simplifying the Business (StB), IATA

Institute for Manufacturing
Department of Engineering
Mill Lane
Cambridge CB2 1RX
United Kingdom

Tel: +44 (0) 1223 766141
Fax: +44 (0) 1223 464217
email:ifm-enquiries@eng.cam.ac.uk
www.ifm.eng.cam.ac.uk