AUTO-ID LABS

UNIVERSITY OF CAMBRIDGE
Institute for Manufacturing

Aerospace ID Technologies Programme

Industry-driven research programme into the challenges and opportunities presented by ID technologies

Aerospace ID Technologies Programme

The first in a series of sector-based research programmes to be launched by the Cambridge Auto-ID Lab, focusing on the challenges and potential benefits presented by identification (ID) technologies. The programmes will provide companies with the opportunity to support and steer key research into the adoption of appropriate ID technology in their area.

The challenge facing aerospace

Identification technologies are changing rapidly. The advent of cheap Radio Frequency Identification (RFID) tags and other data storage techniques means that significant amounts of information can be stored on tags fixed to components or consumables. Major challenges now exist for the use of such ID technologies in both civil and military aerospace industries.

Impact of ID technologies

Areas that these technologies will impact include:

- Control of rotable parts and their operational history
- Avoidance of use of uncontrolled components
- Tracking of key features of the service delivery to customers, such as ticketing, baggage and meals
- Configuration control of aircraft at delivery and through life

Research programme themes

Consultations with major aircraft manufacturers, their suppliers and customers have developed the initial themes for this research programme. More themes will be added as sponsors join the Programme, bringing their own specific issues. Current themes are:

Life Cycle ID Management

Managing the evolution of a component or piece of equipment through its life cycle.

ID Application Matching

Guiding the selection of the best ID delivery solution to suit production processes and operating environment.

Sensor Integration

Evaluating methods for integrating ID data with other sensor information.

Data Synchronisation

Evaluating methods and strategies for the synchronisation of ID data between components and networked resources.

Track and Trace

Designing and evaluating methods for integrating ID data into existing and new track-and-trace strategies

"Airbus sees this research programme as a key industry wide effort in overcoming obstacles to implementation and developing deep understanding of the issues involved in the deployment of these identification technologies."

Jens Heitmann, Senior Manager, Systems and Equipment Standardization, Airbus

"RFID holds immense promise for making the seamless, fully integrated supply chain much more of a reality. Working together with other industry leaders on this initiative will accelerate progress toward that goal."

Charles Kienzle, Senior VP Operations, Aviall Services

Benefits of joining the research programme…

- gain access to the latest research findings
- steer research to focus on issues relevant to your company
- achieve competitive advantage from early adoption of technology

Programme operation

The Programme will be driven by the end users of the technology: the aircraft manufacturers and their suppliers, the operators, the owners and the MROs.

End-user members

End-users who join the Programme from the start will have the key advantage of being able to steer the research work into areas of their own special interest. This foundation group will form the End-user Board.

Vendor members

Vendors of the technology who join the Programme will form the Provider Board. They will also be able to influence the research and identify future areas for new product development.

Management Board

A Programme Director will be seconded from an end-user company and, together with the Chairs from the End-user and Provider Boards and the Research Director, will form the Management Board.

"As a cooperative entity owned by the air transport industry, SITA SC's mission is to address issues of common interest for our members, especially communication technologies, standards and services which help the industry reduce its costs and achieve greater business efficiencies. SITA SC is keen to participate in the Auto-ID programme as the implementation of ID technologies offer a great potential for improvements in the airline, aerospace and airport sectors."

René Azoulai, Senior VP Business Development, SITA SC

Building on past experience…

A similar structure has worked successfully in the Auto-ID Center project set up to develop standards and drive research into the deployment of RFID technology in the retail supply chain.

"In the near future, every single object will be connected to the Internet through a wireless address and unique identifier. The Auto-ID Center is creating the standards that will shape this new age."

Dirk Heyman, Global Head of Life Science & Consumer Product Industries, Sun Microsystems Inc.

The Auto-ID Lab at Cambridge has more than fifteen man-years of experience in developing and driving standards for ID technologies. The fruits of this work can be seen in the deployment of RFID tags in supermarkets and FMCG manufacturers around the world.

The Cambridge Lab forms part of a world-wide network of labs with extensive experience of all aspects of this technology. The Aerospace ID Technologies Programme will be able to draw on this bank of expertise.

"The Auto-ID Lab and associated researchers brought us an external perspective, both on this developing technology area and with a methodology for understanding how this technology might apply to our business model. Their range of functional and business expertise enabled us to clarify our thinking and set out a future strategy."

Alan Watkins, Global Business Director, Industrial Products & LPG, BOC

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Joining the Programme

The initial programmes will run for 18 months and will employ four, full-time researchers on projects focusing on the themes outlined in this brochure. As further members join, extra projects and themes will be added to the Programme, subject to the approval of the Boards.

Intellectual property generated during the programme will remain the property of the inventor or their organisation. Research outcomes and IP will be available exclusively to participating companies for six months, prior to wider dissemination.

For companies with sales greater than £1 billion there is a one-off fee of £40,000 to join the programme. For companies with sales between £100 million and £1 billion the fee is £20,000; for those with sales below £100 million it is £10,000.

Further information

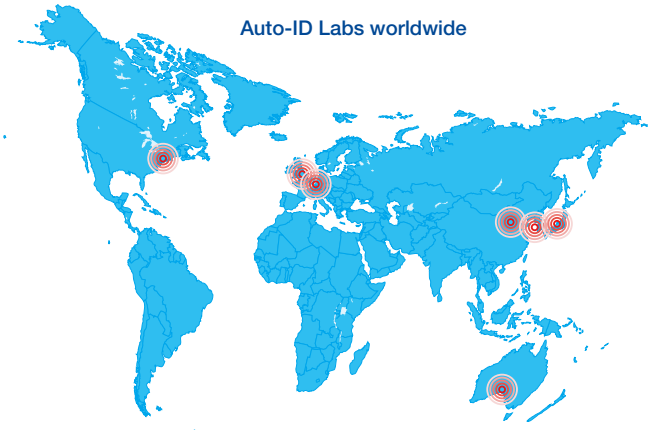
For more details please see our website:

www.aero-id.org

or contact:

Auto-ID Labs (Cambridge)
Institute for Manufacturing
Department of Engineering
Mill Lane
Cambridge
CB2 1RX, UK

E-mail: info@aero-id.org
Tel: +44 (0)1223 765 608
Fax: +44 (0)1223 765 597



The Cambridge Auto-ID Lab has more than fifteen man-years of experience in developing and driving standards for ID technologies. The results of these projects can be seen in the successful deployment of RFID tags in supermarkets and FMCG manufacturers around the world. The Auto-ID Lab forms part of a world wide network of labs with experience in all aspects of this technology. The Cambridge Lab is part of the Institute for Manufacturing at the University of Cambridge.

Images courtesy of Rolls-Royce, Embraer, Airbus.