



CoreRFID^{Ltd}

Safety & Survival Systems

www.corerfid.com



Your Life Vest IS Under Your Seat

Thomas Cook Engineering

CoreRFID solution speeds aircraft pre-flight inspections.

Civil aviation has to confront the two conflicting drives of ensuring passenger safety while still meeting passengers' needs for low cost, efficiently delivered airline services. An important feature of all airline operations is the management of rotables but, with so many items moving on and off aircraft at each destination, control of just what items are on what aircraft is both time consuming and open to error.

The risks that this presents are particularly significant when it comes to safety equipment. Life vests, child cots and fire extinguishers all need to be present on the aircraft when it takes off and crew need to be confident that every item of emergency equipment is present and will work if they need it.

Emergency equipment has a defined life, and needs to be checked but stowage requirements may make the process of checking every item on an aircraft time consuming.

When Thomas Cook Airlines wanted to confront this problem, the partner they chose to work with them in the project was CoreRFID Ltd.



Thomas Cook's charter flights provide millions of holidaymakers with safe travel every year.

On The Top Floor

Thomas Cook is the UK's largest charter airline, operating almost 40,000 flights and carrying over 8 million passengers a year. To comply with CAA regulations, Thomas Cook Engineering audits the lifejackets on aircraft every 12 weeks. These regular safety checks are needed to ensure that each passenger's seat is equipped with a life jacket and that the jacket is within its usability date. Because lifejackets are held in pouches under seat stowage checks can currently take up to 40 man-hours for one aircraft. Recording any replacements needed involves manual form filling and it can be difficult to control when and where lifejackets are best replaced.

To reduce the time, save costs and improve accuracy in reporting inspections, Thomas Cook Airlines have implemented a system based on the use of radio frequency identification (RFID) tags that means the life vests under the passenger seats on an aircraft can be checked in a matter of minutes. Tags on the life vest pouch identify just which life vests have been fitted to which aircraft, allowing Thomas Cook to monitor any life vests that may be approaching the end of their usable life.

"Using RFID life vest inspection times will be reduced by almost 90% and the system improves inspection records." Ron Bell, Projects Manager, Thomas Cook Engineering

Thomas Cook Life Vest Solution Uses CheckedOK

CoreRFID is working with Thomas Cook's life vest supplier, RFD Beaufort, so that RFID tags, encoded with the jacket's end-of-service date can be fitted to lifejacket pouches on 3000 seats of the airline's 44 Boeing and Airbus aircraft. Maintenance staff will be able to check that all lifejackets are present and within service date by using a handheld computer and RFID scanner. The handheld computers will run an application developed for Thomas Cook by CoreRFID. The results of checks will be transmitted back to a database in order to allow missing lifejackets to be identified immediately and replacements to be issued. It will also allow scheduled replacement of life jackets approaching their end-of-service at the most convenient location in the airline's various locations.

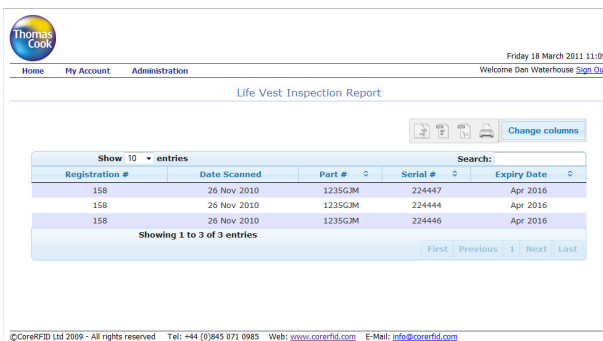
With the new system, auditing the life vests on an aircraft is expected to take less than half a man hour, a saving of one working week of engineer's inspection time per 12 week cycle. The cost saving associated with this efficiency improvement provides the airline's engineering team with a very rapid return on investment for the project and at the same time provides improved record keeping making compliance to safety regulations easier to achieve and demonstrate.

The Thomas Cook system uses RFID tags operating in the UHF band. Use of UHF means that tags can be read from a distance of a metre or more, making the inspections process quicker and easier. Previously, each lifevest container

The Benefits

The Life Vest checking system provides:

- Cost savings by reducing inspection time needed to audit life vests.
- Improved documentation
- Easily demonstrated compliance to CAA requirements for record keeping.
- Reduced risk of safety equipment failure as a result of ensuring items are within life.



The screenshot shows a web-based report titled "Life Vest Inspection Report". It features a table with the following data:

Registration #	Date Scanned	Part #	Serial #	Expiry Date
158	26 Nov 2010	1235GM	224447	Apr 2016
158	26 Nov 2010	1235GM	224444	Apr 2016
158	26 Nov 2010	1235GM	224446	Apr 2016

The interface also includes navigation buttons like "First", "Previous", "Next", and "Last", and a search bar.

had to be removed from its under seat pocket in order to be checked. CoreRFID worked with Thomas Cook to select the most appropriate tags for their application – in this case Confidex Casey tags, pre-encoded with unique identities for each life jacket pouch – and the ATiD870 handheld device being used to check the tags during aircraft inspections.

The tags were selected because the reception pattern for the on-tag antenna would provide the best readability performance with the life vest installed under a passenger seat. Tags are encoded with the details of when the lifevest will reach its expiry date. As a result, checks can be completed without the need for connection to any system outside the aircraft. The ATiD870 software checks that the expected number of life vests for a given aircraft have been checked.

Web based reports are easily accessible.

Once inspection has been completed data is sent to an on-line accessible database developed by CoreRFID. This collects and reports on lifevest data retrieved from the tags. Using software running on the ATiD handhelds and a web accessible database, the system collates data from inspections in such a way as to track the inspections for each individual life vest.

About CoreRFID Safety & Survival Systems

CoreRFID Safety & Survival Systems help improve safety and save costs in inspection processes. To learn more about how we can help with passenger public and employee safety, contact us today:

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