

## CUSTOMER SUCCESS STORY

# LBAS and Honeywell collaborate on luxury facelift for Asian business jet

Ovation Select® brings latest technology to a ten-year-old Bombardier aircraft



### Overview

When the Bombardier Global Express executive jet belonging to a prominent Asian customer needed its ten-year 8C inspection, the time was also right for a major facelift. Honeywell, Lufthansa Bombardier Aviation Services (LBAS) and OHS Aviation Services collaborated on the project.

### Background

LBAS was founded in 1997 when Lufthansa Technik and Bombardier formed a joint venture to provide complete technical services for the Learjet, Challenger and Global aircraft families. They were later joined by Execujet to focus on the exclusive maintenance, repair and overhaul (MRO) requirements of VIP customers.

Based at Berlin-Schoenefeld, LBAS provides services for Bombardier business jets across Europe, the Middle East, Africa (EMEA) and Commonwealth of Independent States (CIS).

It's Bombardier's first factory-owned service centre outside North America, it is Europe's market leader for MRO services and it has collaborated with Honeywell since its foundation.

In 2011, LBAS received the Bombardier Authorised Service Facility Excellence Award for being the best European service facility.

Then, in 2012, it not only repeated that accolade but was also named the best worldwide service facility, based on a strict performance metric including customer satisfaction, technical compliance and quality assurance.

OHS Aviation Services is a tier-one supplier to LBAS specialising in the modernisation, refurbishment and interior repair for executive jets. As well as superior leather, wood and upholstery work for aircraft interiors, its services include varnishing, sealing and specialist cleaning and exterior solutions.

### Business Need

A prominent Asian customer's 15-seat Bombardier Global Express aircraft had reached the ten-year deadline for its 8C check. This maintenance includes dismantling the complete VIP cabin, completing extensive structure and system inspections, a major overhaul of the landing gear and modifications.

While the aircraft was grounded for this work, the owner decided that the time was also right to give it a major facelift.

The old analogue cabin management system was out-of-date, with video cassettes, CD players and basic satellite communication, while spare part availability was becoming an issue.

A new cabin management solution was needed that would deliver all the entertainment and productivity advantages of the latest technology, giving passengers the same facilities in the air that they would expect in their home or office.

The customer particularly wanted to improve the cabin management system and to introduce a backup system for the aircraft's galley touch screen, which allows flight crew to manage the cabin's systems.

This combined project required a wide variety of skills and experience and it made both financial and logistical sense to seek a one-stop-shop, where all work could be completed in one place and at one time.

### Solution

For the maintenance and modification project, LBAS was in competition with several other maintenance facilities.

However, the company gained an advantage from its reputation as the top Bombardier Authorised

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Honeywell Ovation Select

### Customer results

- Improves the passenger experience and extends the useful life of this ten-year-old aircraft
- Introduces the latest entertainment and communications systems with scope for emerging technologies
- Collaboration delivered a cost-effective one-stop solution

### Why LBAS chose Honeywell

- Following a 15-year association between the two companies, LBAS had confidence in the quality and reliability of Honeywell systems
- The end customer preferred Honeywell's Ovation Select CMS and had good existing relationships with both companies

### Customer

- Name: Lufthansa Bombardier Aviation Services (LBAS)
- Location: Berlin, Germany
- Industry: Aircraft maintenance
- Website: [www.lbas.de](http://www.lbas.de)



"Honeywell provides really reliable and robust systems and combined with their project management strengths, this makes them an ideal collaboration partner".

**Marek-Sebastian Rinke, project coordinator engineering, LBAS**



Service Facility and its connection with Lufthansa Technik, which already maintained other aircraft in the customer's fleet.

LBAS was also known to the customer, having previously performed scheduled maintenance and warranty work after initial delivery of the aircraft.

This sound customer relationship combined with a comprehensive proposal convinced the customer that LBAS could deliver the complex maintenance and engineering project.

The customer was also impressed by Honeywell's presentations of its Ovation Select<sup>®</sup> CMS and by the company's systems that it had implemented in the past.

LBAS was the first maintenance facility outside North America to install the Ovation Select system on a Bombardier aircraft and the three suppliers collaborated closely on the design of the overall solution, particularly where their different disciplines overlapped.

"Strong collaboration, expertise and the commitment of significant resources were key success factors for this complex five-month project, despite the short preparation time of only four weeks," said Marek-Sebastian Rinke, project coordinator engineering, LBAS.

LBAS had up to 20 people per day working on the ten-year inspection and performing the required modification work.

A specialist team of LBAS engineers worked on drawings and specifications with Bombardier's preferred certification company, ACS-NAI, an EMTEQ subsidiary, and up to 15 people from OHS delivered the interior refurbishment.

Honeywell supported the project with a team of two application engineers, a field service engineer, a customer representative and project manager and as well as the full

engagement of Honeywell's European and American teams.

The old CMS was replaced with the all digital, state-of-the-art cabin management system. It introduced two 24-inch high-definition monitors, 13 ten-inch HD on-arm monitors and dual sound zones with crystal-clear surround sound.

The customer selected a dual Blu-ray player option for vivid full high-definition (1080p) video, two iPod docks, an input panel for third-party equipment and an audio media server to store hundreds of music titles. All components are connected via a Gigabit Ethernet network and can be controlled by individual passenger touch control units located at each seat.

The cabin refurbishment included staining the veneer and the replacement of all visible leather, apart from the seats. It also involved changes to the configuration of headliners, panels and sidewalls to accommodate the new equipment. The veneer received a darker appearance to contrast with the lighter leather.

### Benefits

Ovation Select has introduced the latest in entertainment and communication technology to greatly improve the passenger experience and to extend the useful life of this ten-year-old aircraft.

"With the new user touch interface it is easier to select videos, music, switch to the in-flight information system or external cameras," said Dennis Neumann, key account manager, LBAS. "It's more intuitive to operate so no manual is needed to do it. Anyone who can use an iPhone can use this new system."

Improvements to the satellite communication system have significantly increased data rates, improving Internet access and productivity so passengers can make the most of their travel time.

With the new Honeywell SwiftBroadband satcom system speeds have already increased from 64Kb per second to 432Kb per second and, with the addition of a new Honeywell router, there is provision for them to increase to an average of 700Kb per second.

While improving the cabin management system the customer wanted to update the in-flight information system as well. The old 2D system was replaced by Honeywell's JetMaps HD system - a 3D full high-definition (1,080p) moving map application.

This allows passengers to view their flight path from up to 14 different perspectives and zoom in close on the terrain below using worldwide 15 metre-resolution satellite imagery. A customised aircraft model with the customer's specific livery has been added as well to further personalise the system.

In line with the customer's wishes, redundancy has been built into the vital galley touch screen. Previously, if the screen failed, crew could not properly operate the cabin. Now, if there is a failure, the entire functionality of the galley touch screen can be duplicated on one of the passenger control units, allowing for seamless operation of the cabin.

"A major success factor was that Honeywell was able to provide reliable and robust systems that were really outstanding. Another factor was Honeywell's project management skills," added Rinke. "All members of the team knew what to do and at which step - and they provided everything on time."

"This project allowed us to improve our processes and efficiency for fitting CMS installations even further. This was also due to having a very good partner like Honeywell who were very supportive throughout the entire project."

Neumann concluded: "At the end of the day we had a satisfied customer. They were happy with the upgrades they received for their aircraft."

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