



AT A GLANCE

Goals:

- Compliance with required standards
- Enhanced safety
- Increased productivity
- Improved working conditions for technicians
- Greater employee satisfaction
- Extension to other maintenance areas

Application:

Honeywell Vocollect™ Voice Solution for Maintenance and Inspection

Installation:

Vocollect SRX2
Wireless Headsets
Vocollect A730 Mobile Device
VoiceConsole™ software

Results:

Clear compliance with required processes
Automated documentation creation, which previously represented 50% of workload
Accelerated workflow
Minimum error rate
Enthusiastic adoption by team of technicians

Lufthansa Technik AG

HONEYWELL VOCOLLECT VOICE SOLUTION FOR MAINTENANCE AND INSPECTION TRANSFORMS APU SERVICES AT LUFTHANSA TECHNIK AG

With several hundred customers worldwide, Lufthansa Technik AG is a dominant global player in the provision of maintenance, repair, overhaul and modification services for civil aircraft. Comprising 31 operating subsidiaries and affiliates in Europe, Asia and the United States, Lufthansa Technik's tailored maintenance programs and state-of-the-art repair methods ensure continued reliability and availability of its customers' fleets.

“From start to finish of the project the solution has delivered. Service quality, compliance with standards, productivity, working conditions and employee satisfaction have all increased substantially through using Honeywell Vocollect voice technology.”

— Ole Gosau, Head of APU Services, Lufthansa Technik AG

The challenge

Prominent among Lufthansa Technik's services is maintenance and inspection of Auxiliary Power Units (APUs). APUs are small gas turbine engines that provide electrical air power to an aircraft for starting the main engines, running the air conditioning and providing electrical power to the plane while on the ground. The APU allows passengers to sit comfortably while waiting for take-off, and the APU also provides primary or back-up electrical power for environmental, cockpit and hydraulic systems during flight.

For Lufthansa Technik the APU maintenance process consists of a rigorous, checklist-driven sequence of steps: assess the external condition of transport containers; visually check the outside of the APU; carry out disassembly and inspection of each part of the unit. At each step information including unit condition and part numbers is recorded. "To ensure we met the necessary standards of accuracy, the previous procedure generally required two technicians who shared the process of checking, diagnosis and inputting data into our system," explained Ole Gosau, head of Lufthansa Technik APU Services.

The solution

It was in April 2014 that Lufthansa Technik first became aware of the Honeywell Vocollect™ Voice Solution for Maintenance and Inspection as a potentially more effective way of addressing maintenance and inspection challenges. Vocollect voice technology was already fully proven with a leading global market position, a twenty year track record of delivering solutions for warehouse operations, and a worldwide customer base that saw nearly one million workers putting on and using Vocollect equipment every day.

The solution proposed applied many of the principles operated in warehouses to APU maintenance and inspection. Instead of staff being directed by voice through a checklist of items to be picked, replenished or sent for dispatch, Lufthansa Technik technicians would be directed by voice through a checklist of steps for maintenance and inspection.

Working together with Lufthansa Technik and its solutions provider Lufthansa Industry Solutions, Honeywell was commissioned with implementing its Vocollect Voice Solution for Maintenance and Inspection for the Pratt & Whitney APS 3200. Based on the existing APU checklist, more than 1,000 test points were defined and implemented as a voice system. From the start, the team of technicians who would be using the technology were also involved, which helped bring about swift acceptance of the system.

A core part of the programme was to make interaction between technician and system as simple and intuitive as possible. The previous step-by-step process involved two technicians – one reading screen or paper-based instructions, calling out unit status or part numbers, and one writing it down, and manually entering the information into the system. Using Honeywell Vocollect voice technology, information is now sent over the wireless network to an A730 mobile computer, converted into speech, and communicated as a voice instruction to a single technician wearing a Bluetooth-enabled Vocollect SRX2 wireless headset. A typical dialogue consists of a question relating, for example, to the condition of a part of the APU. The technician then chooses between several statuses and speaks the appropriate one. This is captured by the headset, and then repeated by the system to validate his response and ensure no

man-machine misunderstandings arise. The technician's responses are all relayed from the headset to the A730 device, converted from speech to data, and stored in the system.

The progress of work can now also be monitored via a Voice Plan in the form of a table on a display screen. Each answer confirmed by the employee appears directly in plain text behind the respective command line.

The process for recording part numbers during disassembly has likewise been simplified. The technician reads the last three digits of the part numbers. As the numbers tally with those stored in the database, the Vocollect voice system verifies it and proceeds to the next step in the process.

Results, benefits and next steps

The Honeywell Vocollect Voice Solution for Maintenance and Inspection has brought benefits on multiple fronts, ranging from clear compliance with required maintenance and inspection standards to increased productivity and reduced risk of errors.

"Our A key advantage of Vocollect voice technology has been that it has freed our technicians from the time-consuming and burdensome task of writing and maintaining the required documentation," states Ole Gosau. "Previously we were looking at that taking up around fifty percent of their working day."

Ease of use has been a key factor in the solution's enthusiastic adoption by Lufthansa Technik technicians. "After one day, the team had already got the hang of it", said Boy Peter Carstensen, consultant at Lufthansa Industry Solutions and closely involved in introducing the solution and creating interfaces to existing systems.

"Using Vocollect voice technology has made the process really smooth and cuts out the scope for errors", adds Robert Garbas, one of the five mechanics in Ole Gosau's team with extensive experience of disassembling and assembling APUs. "When performing the incoming inspection, we can now work with our hands and eyes free of distractions and can concentrate on the specific task in hand."

"From start to finish of the project the solution has delivered," concludes Ole Gosau. "Service quality, compliance with standards, productivity, working conditions and employee satisfaction have all increased substantially through using Vocollect voice". The next step involves integrating Vocollect with the company's SAP system. Ole Gosau then sees scope for applying the system to additional APU maintenance processes, and then, potentially, to servicing large turbines.

Looking further forward, with Lufthansa Technik poised to take on exclusive maintenance worldwide of all Airbus A350 APUs, his team is well set.

"Our order intake is set to double in the next five years", said Gosau with confidence, "and Vocollect voice technology will be an important tool for us in meeting the challenges of this growth"

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