

CUSTOMER SUCCESS STORY

Precision landing technology takes off in Australia for Airservices and Qantas

Honeywell SmartPath® GBAS increases safety and efficiency for Airservices and its customers



Overview

Airservices an Australian government-owned corporation with a mission to provide safe, secure, efficient and environmentally responsible services to the nation's aviation industry. By moving to Honeywell SmartPath® – the world's only certified satellite-based navigation and precision landing system – Airservices has been able to increase operational efficiency for itself and its vast array of stakeholders, including Australia's national carrier, Qantas.

Background

Airservices manages air traffic operations for over 80 million passengers on more than four million flights every year. Among other duties, the organisation provides the aviation industry with aeronautical data, telecommunications, navigation systems and aviation rescue and fire fighting services.

With responsibilities around safe air traffic management and navigation, Airservices has been investigating GPS-based landing systems (GLS) with Honeywell since 2006.

GLS delivers precision landing approaches using the accuracy of satellite navigation and, while it has been several years in the making, traditional instrument landing systems (ILS) remain prevalent today as the primary landing system, having proven their reliability since being introduced in 1938.

However, today's huge quantities of air traffic have called for an altogether more efficient system of air traffic management. ILS carries inherent limitations being a terrestrially-based system that can be affected by interference such as terrain, other craft and buildings.

While GLS certainly points the way forward, it must be augmented with a ground-based augmentation

system (GBAS), which works alongside the satellite signal to ensure accuracy to less than one metre.

Today, GBAS systems offer capability to reduce the long, straight approach paths required by the legacy ILS, as well as the need to have dedicated instrumentation for a precision approach on every runway end. One GBAS satellite-based navigation system can cater for an entire airport, providing up to 26 different precision approaches.

Business Need

At Airservices, Nick Welch is the manager for commercial agreements and strategic relationships. As such, he has spent several years investigating GBAS technology with multiple needs in mind.

Safety is Airservices' number one priority and efficiency in service delivery is another key factor in delivering communication, surveillance, radar and navigation systems.

Secondly, Nick is tasked with delivering increased efficiency to his customers – this means keeping costs down via systems and procedures for those in the airline industry.

Welch explained: "The biggest flight cost is fuel burn and GBAS technology has the potential to reduce time spent in the air.

"This delivers a greater level of efficiency which helps us to improve the bottom line for our customers – and that's everyone from a light aircraft to a small jet to the world's largest aircraft."

One Airservices customer is Australia's national carrier, Qantas, which has made a strong commitment to using GBAS.

QUICK FACTS

Honeywell solution

SmartPath® precision landing system

Customer results

- Higher levels of safety and navigation precision using satellite technology
- Greater fuel efficiency for airlines using GBAS technology at Sydney Airport
- Increased cost efficiency and ease of management due to lower levels of maintenance required for GBAS versus ILS systems
- One GBAS could eventually replace the six separate ILSs currently required at Sydney Airport

Why Airservices chose Honeywell

- Trusted long term relationship with Honeywell
- Honeywell SmartPath is world's first and only certified GBAS system
- Confidence that SmartPath would assist with both safety and efficiency gains for Airservices and its customers
- Confidence in excellent Honeywell service and support

Customer

- Name: Airservices
- Location: Canberra, Australia
- Industry: Air navigation services
- Website: www.airservicesaustralia.com



"It's an excellent solution...an innovative development for Airservices, and an absolute first for Australia. This is a successful partnership between five organisations: Airservices, CASA, Honeywell, Qantas and Sydney Airport."

Nick Welch, manager commercial agreements and strategic relationships, Airservices

All Qantas Airbus A380s and Boeing 737-800 aircraft have now been fitted with the avionics needed to make use of GBAS navigation and this has acted as a further driver for Airservices to deploy the technology.

Traditional ILS legacy systems take up a fair amount of space; one unit is required for each end of a runway.

For Sydney 'Kingsford Smith' Airport, the first airport in Australia to adopt GBAS, a total of six ILS systems are required to support its three major runways. However, in another efficiency improvement, just one GBAS system (which can cater for up to 26 approaches) meets the airport's entire needs.

Solution

Airservices had been working with Honeywell's initial GBAS technology since an earlier version was introduced in 2006 and recently deployed its latest model – the Honeywell SLS-4000 SmartPath – at Sydney Airport.

Honeywell's SmartPath is leading the way for the global aviation industry, currently being the world's only certified GBAS solution. It is the right product with official certification and a path for the future," said Nick Welch from Airservices.

"It's an excellent solution, which we are currently using in trial conditions – that means we can only use GBAS with a clear line of sight for 2,100 feet.

"Once approved by Australia's regulator, the Civil Aviation Safety Authority (CASA), we'll be operating SmartPath in all weather conditions down to 200 feet – which by definition delivers us a Category I capability.

"This is an innovative development for Airservices and an absolute first for Australia. We consider this trial to be a successful partnership between five organisations: Airservices, CASA, Honeywell, Qantas and Sydney Airport.

"Next, we look forward to rolling out SmartPath GBAS technology in Melbourne, then Brisbane and following that, the rest of the nation," concluded Welch.

Benefits

Honeywell's GBAS solution brings a number of benefits to Airservices and its customers, from higher levels of safety and navigation precision, through to better cost efficiency and fuel efficiency gains.

As well as taking up less physical space, GBAS requires less maintenance and cost to run than traditional ILS systems and is also described by Airservices as being easier to manage.

Qantas has long seen the strategic value in pursuing next-generation satellite-based navigation systems.

For Captain Alex Passerini, Technical Pilot Technology Development with Qantas Flight Operations, the advantages of the GBAS solution are clear: "With GBAS, traffic management is made much more efficient, which means more of our planes can land in Sydney.

"The solution covers multiple runways and certainly requires less maintenance and associated running costs. From a safety perspective, GBAS is very stable and doesn't suffer from traffic or buildings, which can impede an ILS beam, instead providing us with clearer vertical guidance and landing precision.

"Honeywell has proven a leadership position with its GBAS technology, which is both stable and very accurate. At Qantas, we launched the first commercial service using the technology in 2006 and the latest version is even more advanced in terms of reliability and system integrity.

"Working with Honeywell remains an excellent experience in terms of great, responsive service and support, along with a high level of operational quality and accuracy embedded in the first-rate SLS-4000 SmartPath solution."



"Honeywell has proven its leadership position with GBAS technology, which is both stable and very accurate."

Captain Alex Passerini, Technical Pilot Technology Development, Qantas Flight Operations

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