

# MAKING A CONNECTION



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Both anecdotal evidence and extensive market research make it clear that airline passengers expect the same connectivity services to be available in the air as on the ground.

Airbus's response to this market need is the ALNA (Airline Network Architecture) connectivity system, which provides the platform for both airborne mobile telephony and Internet services—two different consumer technologies provided over the same satellite and ground infrastructure.

#### CONNECTIVITY POLICY

Airbus partners with industry players that have complementary offers to Airbus products in the value chain. The aim is to provide the best “connectivity product” available.

OnAir (owned by SITA and Airbus) markets the in-cabin value-added communication services. Airbus and OnAir have chosen to rely on Inmarsat, the market leader in mobile satellite communications, to provide onboard connectivity.

Through an onboard mobile base station, the ALNA system creates a GSM network that uses satellite communications to route calls and data—via the SwiftBroadband (SBB) service provided by Inmarsat's 14 geo-stationary satellites—to and from networks on the ground.

The result is a range of services, tailored to passengers' differing communication habits and personal preferences on different types of flights. Passengers are able to use their own portable electronic devices (PED), including laptop computers, mobile phones, smartphones and personal digital assistants (PDAs) as well as the airline's in-seat equipment to communicate (via voice calls, SMS, email/webmail and webchat) during flights.

The ALNA system also includes features that prioritize and manage bandwidth use and enable the crew to control the level of service offered to passengers on board, for example by switching the network to 'data only' should the airlines wish to introduce quiet periods during flights.

#### DIFFERENT PLATFORMS

The ALNA platform is available in a number of versions. GSM OnBoard (marketed as Mobile OnAir) was the first commercial aircraft connectivity system to be certified (15 July 2008). EASA granted Airbus the certification for use on the whole single-aisle aircraft family (A318, A319, A320 and A321) in conjunction with the Thales TopFlight SATCOM system.

The GSM solution allows virtually unlimited smart phone/PDA GPRS usage, and up to 16 passengers can make voice calls at the same time. Passengers can use Mobile OnAir to stay in touch as they fly on more than 8,000 flights each month, to over 240 cities in over 50 countries across Europe, the Middle East and North Africa. OnAir has operated more than 22,000 fully connected SwiftBroadband flights to date, has signed agreements with more than 18 airlines worldwide and is set to exceed 100,000 flights before the year's end.

The ALNA system is not limited to use on Airbus aircraft only. In fact the first fleet-wide installation of Mobile OnAir commenced

**THE ALNA SYSTEM IS NOT LIMITED TO USE ON AIRBUS AIRCRAFT ONLY. THE FIRST FLEET-WIDE INSTALLATION OF MOBILE ONAIR COMMENCED IN FEBRUARY 2009**

## AIRBUS MANAGES THE CERTIFICATION OF ONAIR SOLUTIONS WITH THE AVIATION AUTHORITIES, HANDLES LINEFIT INSTALLATIONS ON NEW AIRBUS AIRCRAFT DELIVERIES, AND HAS EVEN DESIGNED THE RETROFIT KIT FOR INSTALLATION OF ONAIR SOLUTIONS ON IN-SERVICE AIRCRAFT

in February 2009 on 50 aircraft of Ryanair's Boeing 737 fleet.

Long-range aircraft can use ALNA v1, an Internet stand-alone entry product. It is certified and already flying with the following customers: Finnair; Jet Airways; Kingfisher; and TAP. Additionally, Singapore Airlines, Emirates and Qantas Airways use it on their new A380s.

The ALNA v1 system utilizes the Inmarsat Swift64 service with limited Internet capabilities (webmail and webchat) and is integrated with both the Rockwell Collins HST900 and Honeywell HS720 SATCOM systems.

There is also the option of ALNA v2, a scalable and modular platform that enables Internet and On Board Mobile Telephony System (OMTS) services—"Internet OnAir" and "Mobile OnAir" with SwiftBroadband (SBB) SATCOM. The ALNA v2 system utilizes qualified hardware and will be initially integrated with the Honeywell HS720 SATCOM system.

ALNA v2 is under development and will be ready for deployment from the fourth quarter 2009. Contracted customers include Kingfisher Airlines, Air AsiaX, Oman Air, Egyptair and Hong Kong Airlines.

The ALNA v2 solution is designed on an open architecture that allows for integration with other SATCOM systems such as Ku-band or Air-to-Ground systems.

### SUCCESSFUL TRIALS

On 24 June 2009, an Airbus A340-600 (MSN 360) completed a test flight during the course of which both classic services (cockpit voice/data link) and SwiftBroadband (SBB) services (Internet, emails and up to 16 GSM simultaneous calls) were successfully tested for more than 10 hours.

During the test flight satellite handovers were performed (Inmarsat I4-EMEA to I3 then I3 to I4-Americas satellites) in order to ensure service continuation on classic SATCOM (flight critical), even if SBB services were lost (note: Inmarsat I3 satellites are not SBB capable).

To simplify the whole process for potential clients, Airbus manages the certification of OnAir solutions with the aviation authorities, handles linefit installations on new Airbus aircraft deliveries, and has even designed the retrofit kit for installation of OnAir solutions on in-service aircraft. Airbus KID-Systeme acts as the integrator of the onboard systems required to access OnAir services.

Airbus is already looking at supporting additional protocols on top of GSM/GPRS and 802.11a/b/g and looking at ways of increasing the capacity available to an aircraft (currently limited to 2 SBB channels). ■