



# SYSTEM CAPABILITIES SUPPORTING OPERATIONAL USE

In 2018, Aireon will provide **the first truly global air traffic surveillance system** using a space-based Automatic Dependent Surveillance-Broadcast (ADS-B) network that makes it possible to extend visibility across the entire planet. Aireon will enable real-time transmission of ADS-B reports from equipped aircraft to Air Traffic Management (ATM) automation platforms and Air Traffic Controllers (ATC) in every Flight Information Region (FIR) throughout the world.

There has been significant progress in the Aireon system capabilities based on simulated performance with an estimated <8 second update interval in all global FIRs. This is expected to support 5NM separation with Direct Controller Pilot Communication (DCPC).

The below chart details the four main transition scenarios where Aireon will deliver substantial benefits

**Introducing ADS-B where no surveillance currently exists without DCPC**

**Introducing ADS-B where ADS-C is used without DCPC**

**Introducing ADS-B where no surveillance currently exists with DCPC**

**Augmenting, avoiding or replacing radar / ground-based ADS-B with Aireon**

SCENARIOS	CAPABILITY	COMMUNICATION	NAVIGATION	SURVEILLANCE	SEPARATION
PROCEDURAL AIRSPACE	Base Case	SATCOM or HF only	RNP-10	Procedural	Long: 10 min (80 NM) Lat: 60mm
	With Aireon	SATCOM or HF only	RNP-10	Space-Based ADS-B	Better than Long: 10 min (80 NM) Lat: 60mm
	Example Airspace	Polar Region / Some remote areas in Africa / ASPAC			
ADS-C AIRSPACE	Base Case	CPDLC with HF backup	RNP-4	ADS-C	30 NM
	With Aireon	CPDLC with HF backup	RNP-4	Space-Based ADS-B	< 15 NM
	Example Airspace	North Atlantic / Pacific oceanic or Some remote areas in Africa / ASPAC			
PROCEDURAL AIRSPACE WITH VHF	Base Case	DCPC Voice	RNAV 5 (Europe) RNAV 2 (U.S.)	Procedural	10 min (80 NM)
	With Aireon	DCPC Voice	RNAV 5 (Europe) RNAV 2 (U.S.)	Space-Based ADS-B	5 NM
	Example Airspace	VHF without surveillance. Common around small island States (Asia, Caribbean, Latin America) and large remote landmass (ASECNA)			
CURRENTLY SURVEILLED AIRSPACE	Base Case	DCPC Voice	RNAV 5 (Europe) RNAV 2 (U.S.)	Radar, WAM, or Ground Based ADS-B	5 NM
	With Aireon	DCPC Voice	RNAV 5 (Europe) RNAV 2 (U.S.)	Space-Based ADS-B	5 NM
	Example Airspace	Terrestrial Europe, North America, Brazil, Australia, etc.			