NextGen Technologies
Solutions From Universal Avionics

Communication
Navigation
Surveillance
Experience a Higher Level of Service

We believe every operator should have the benefit of advanced technologies in their aircraft, for the freedom to fly in airspace around the world efficiently and safely.

Universal Avionics NextGen Solutions equip aircraft for compliance with industry mandates while serving as a platform for emerging technologies. But what’s even more exciting about today’s flight deck technologies is the benefits you experience by securing them long before the next mandate. The ‘best equipped, best served’ philosophy of air traffic management is happening all over the world - you will get preferential treatment when equipped for NextGen and SESAR. And who doesn’t like preferential treatment (especially when it’s saving fuel and time)?

ADS-B Out  All you need to know @uasc.com/ads-b

Automatic Dependent Surveillance-Broadcast (ADS-B) Out mandates are being planned and implemented worldwide, affecting almost all aircraft operators. In the National Airspace System (NAS), the FAA has mandated ADS-B Out by January 1, 2020. Deployment in Europe is underway via the Single European Sky (SES) initiative. You will be affected if you fly in any of these regions: Canada, USA, Europe, Australia, Singapore, Vietnam, Hong Kong, and Taiwan.

Infrastructure for ADS-B capabilities is in place today, meaning you will enjoy the benefits of receiving traffic information (TIS-B), weather data and flight information (FIS-B) by equipping now. In addition, a low cost upgrade to the FMS to meet the ADS-B Out mandate also provides a growth path to upcoming technologies and compliance with future mandates.

FMS upgrades for ADS-B

Your ADS-B installation will include:

• Universal Avionics SBAS-FMS
• Extended Squitter Mode S Transponder (choose from several on the market today)
• System Failure Annunciations (may require a Universal Avionics RCU software upgrade)

Did you know that a TSO-C146c FMS is required for ADS-B? Universal Avionics SBAS-FMS is TSO-C146c approved, and therefore qualifies as the ARINC 743A position source required for ADS-B Out compliance. In addition to serving as the required navigation component of the ADS-B solution, the SBAS-FMS has extensive interface capability. It easily interfaces with existing and newly installed ADS-B transponders including the popular Honeywell RCZ-8XX Series and Rockwell Collins TDR-94D.

What else you get with an SBAS-FMS upgrade:

• Performance-Based Navigation (PBN) including Precision-Area Navigation (P-RNAV) compliance and Required Navigation Performance/Area Navigation (RNP/RNAV) up to 0.3 NM approach accuracy
• WAAS LPV / EGNOS APV, LNAV approaches
• Mode S Enhanced Surveillance support
• Accurate SBAS-GPS information provided to the onboard Terrain Awareness and Warning System/Enhanced Ground Proximity Warning System (TAWS/EGPWS) and Traffic Collision Avoidance System (TCAS)
• Large database capacity for worldwide navigation databases

Most importantly, you will have the security in knowing your FMS will meet regulations, work with the flight deck components you already own and love flying, and provide expansion for other NextGen and SESAR technologies when you’re ready for the next step.
What else you get with UniLink UL-80X series CMU:

- Embedded Automatic Dependent Surveillance-Contract (ADS-C) capability
- Aircraft Communications Addressing and Reporting System (ACARS) / CMU functionality
- Auto aircraft position reporting and aircraft tracking
- Updated weather information including text and graphical weather maps
- Aeronautical Operational Control (AOC) messaging, FANS message handling and uplink/downlink messages from peripheral systems
- FMS Flight Plan uplink from service provider
- Uplink forecast winds
- Flight Information Services

Plus all the benefits of an SBAS-FMS, with positioning for other NextGen and SESAR technologies like ADS-B and RNP/RNAV if you choose to equip for those in the future.
RNP/RNAV

The collective and individual benefits of Performance Based Navigation (PBN) are wide-reaching, well-documented and nearly indispensable. PBN - in several iterative forms over the years - has been an initiative of many worldwide regulation authorities for quite some time. Serving as the basis for defining minimum performance requirements for navigation, PBN initiatives include RNAV 1, RNP 1, RNAV 2, RNAV 5 / B-RNAV, RNP 10, RNP 4, RNP 1 / P-RNAV as well as RNAV (GPS) and RNAV (RNP) airspace operations. Today, PBN leverages the technologies of traditional GPS, augmented GPS systems like WAAS and EGNOS, and Ground Based Augmentation Systems (GBAS).

Failure to address compliance with RNP airspace forces non-RNP approved aircraft into undesirable lower altitudes (greatly increasing fuel burn), or severely limit the capability of the aircraft to fly into a desired airport in Instrument Meteorological Conditions (IMC).

The RNP/RNAV certification process is complex and wide-ranging in requirements, depending on the level of operational approval the operator is seeking. Above all, though, the capability of the FMS serves as the foundation of the system. Note that RNP/RNAV capable systems can also form the basis of a compliant ADS-B Out and FANS 1/A system.

FMS upgrades for RNP/RNAV

Universal Avionics SBAS-FMS:
- TSO-C146c to support Oceanic, Enroute, Terminal and Approach modes
- Approved for RNP 2, 1 and 0.3 NM approaches
- RNP AR procedures to 0.1 NM
- Wide availability of STCs - Universal Avionics SBAS-FMS is the most widely STC’d FMS, approved on over 50 aircraft types

ROI through SBAS-equipped operational benefits

- Fuel Savings
- Time Savings
- Divert Reduction