



IRIS AVIONICS STATUS AND PERSPECTIVE

RADEK ZARUBA

February 2022

Honeywell

SB-S (IRIS) SATCOM ENABLED FEATURES



ATC VOICE & DATA

Must-have for efficient use of **oceanic airspace**

Complementary enabler for **continental ATN datalink**

Avoid VHF congestion for ACARS and ATN

Enabler for continental **ATM transformation**



CONNECTED AOC

Native IP applications instead of ACARS

Real time **flight optimization** (weather and traffic avoidance)

Lower cost of apps, IT infrastructure and data

Global connectivity at all phases of flight



CONNECTED MAINTENANCE

Reduces operational disruptions

Reduces maintenance and operations costs

More maintenance data in-flight **at lower costs**



READY FOR FUTURE

SATCOM **software upgradeable to IPS**

Global coverage enables **smooth transition** when IPS is deployed

SATCOM as an **HF alternative**

SB-S (a.k.a. "Iris") avionics is more than ATN/OSI over SATCOM

ASPIRE 400 – ENABLING IRIS

HELGA (Class 4):

- HPA + DLNA + antenna
- 1x SBB channels, 200kbps
- Available from 2024



AMT-1800 (Class 7)

- 18.1" x 7.4" x 2.0"
- 2x SBB channels = 2x 332 kbps
- Available today



AMT-3800 (Class 6)

- 43.0" x 14.3" x 2.5"
- 2x SBB channels = 2x 432 kbps
- Available today



AMT-700 (Class 6):

- Tail mount, 10" x 10" x 9.7"
- 2x SBB channels = 2x 432 kbps
- Available today

HPLD (Class 6, 7):

- Future HPA + DLNA
- 5lbs



Type-F DLNA:

- Flange mount
- Available today



Aspire 400 SDU (class 4, 6, 7):

- 2MCU
- Two Inmarsat SBB channels
- Available today



Dual channel HPA:

- 2MCU
- Two Inmarsat SBB channels
- Available today

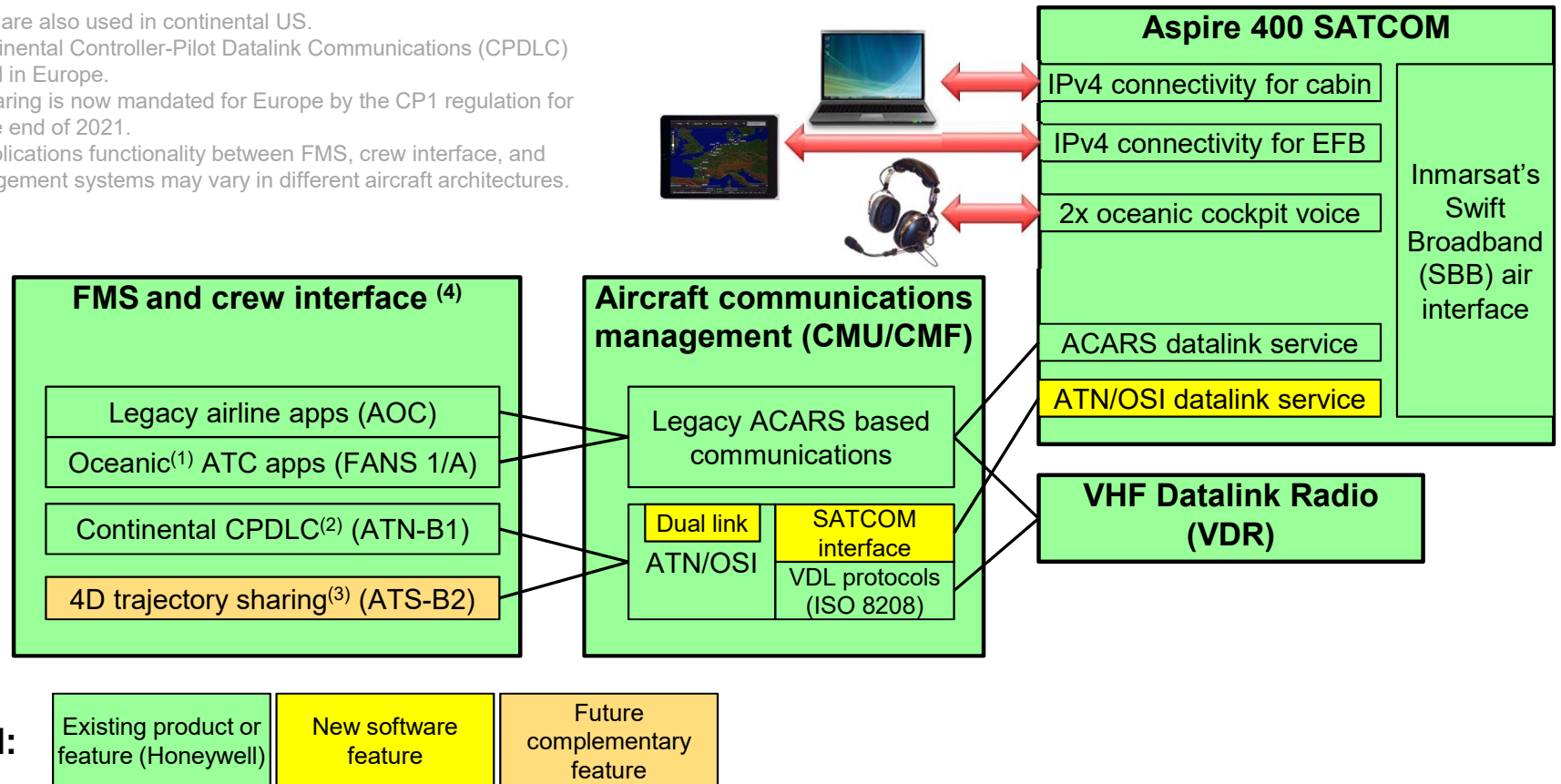


The **Aspire 400 compact Satellite Data Unit (SDU)** is Honeywell's new flagship product for L-band SATCOM. It will gradually become available in multiple configurations to fit different user needs.

AIRCRAFT ATN/OSI DUAL LINK MODIFICATIONS

Notes:

- 1) FANS 1/A applications are also used in continental US.
- 2) ATN-B1 is today's continental Controller-Pilot Datalink Communications (CPDLC) message set mandated in Europe.
- 3) 4D trajectory (EPP) sharing is now mandated for Europe by the CP1 regulation for all new aircraft after the end of 2021.
- 4) Split of the datalink applications functionality between FMS, crew interface, and communications management systems may vary in different aircraft architectures.



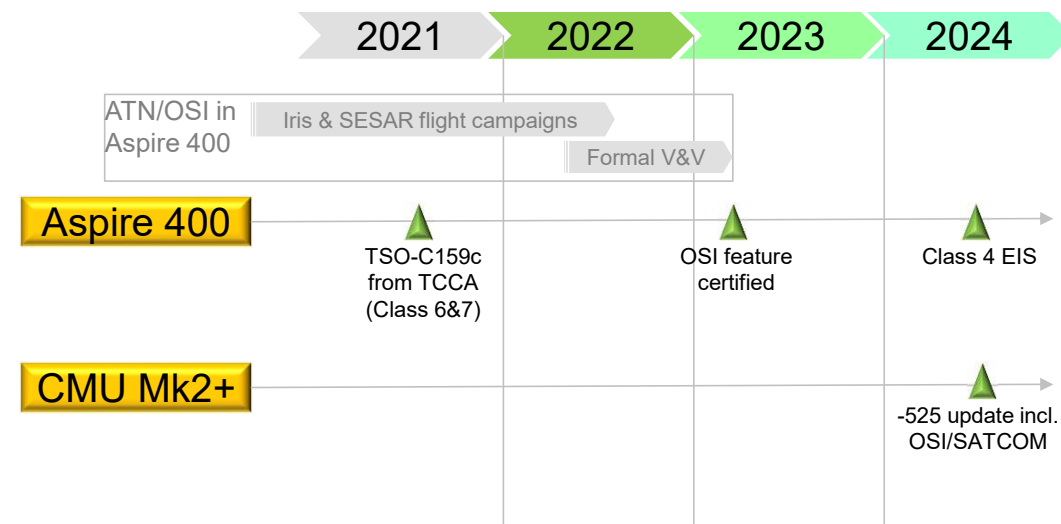
AVIONICS STATUS

Aspire 400 AES

- TSO'd in 2021.
 - TSO-C159c certification from Transport Canada Civil Aviation (TCCA)
 - ATN/OSI feature certification to be added in 2022
- Class 6 and 7 available today
 - Class 4 entry into service planned for 2024
- First line-fit program for B777x nearing completion
 - Other retrofit and forward fit programs under negotiation.
- Extensively flight tested
 - Including 3 flight campaigns demonstrating and validating EPP over ATN/OSI over SB-S

CMU/CMF

- ATN/OSI over SB-S capability to be available on CMU Mk2+ by 2024
 - Common code base allows quick deployment to EPIC CMF
- Prototyped both in CMU Mk2+ and CMF and tested with Aspire 400
 - Including the three flight campaigns with EPP over ATN/OSI over SB-S.



TOWARDS IPS

ICAO Global Air Navigation Plan (Block 3) identifies IPS as the networking technology to replace ACARS and ATN/OSI

- EU-US Air/Ground Data Communication Strategy identifies IPS as the harmonized target networking environment
- Since IPS deployment timing is expected to be different for US and Europe, transition to IPS will happen over an extended time
- SB-S is the most mature candidate for the initial IPS deployment.

Honeywell products will support all relevant technology combinations

- SB-S IPS service extension for Aspire 400
- Airborne IPS system for future CMU and CMF product upgrades
- Expected entry into service around 2025/2026

