

Aerospace Electronics, Systems and Software Services

Trusted lifecycle engineering partner for **Aerospace Electronics, Systems, and Software**, Co-developing certified solutions from concept and certification to in-service support.

We partner with global Aerospace manufacturers to develop aerospace electronics, systems and software solutions. Our expertise spans across system engineering, design and development, prototyping, testing, and independent verification and validation. We ensure cybersecurity while reducing costs, enhancing reliability, and supporting sustainability.

Lifecycle
Engineering solutions
from requirements
definition to certification

System certification across
all Design Assurance Levels
(DAL) A to E, ARP 4754B ,
DO-178B/C , DO-254,
DO-160E

Obsolescence &
Upgrade and
retrofit services

Integration of
technologies – Digital
and AI, to improve
speed to market.

CYIENT OFFERING

A full-lifecycle partner for Aerospace Electronics, System & software certifications, from system engineering, development and through independent verification and validation.

Software Development

DO-178B/C - All DAL Levels

From requirements management to final SCI, our DO-178B/C practice covers the complete software life cycle —new development, in-service upgrades, independent V&V, test simulators and ATE.

- SDLC — requirements to certification, DAL A–E
- MBSE & system architecture across DAL A–E
- STC support, MRO, fleet modernization
- Complete artifact suite: PSAC, SVP, SDP, SAS, SCI

Obsolescence & Retrofit

STC - OBS Management · STC · Sustenance

We manage electronics Obsolescence and retrofit — from component redesign and RTOS migration to Supplement Type Certification — keeping the platform safe, modern & airworthy.

- GPP, ASIC/FPGA, RTOS & memory interface OBS resolution
- RTOS porting to new chipsets with full SDLC artefact regeneration
- Product sustenance — defect resolution & in-service support

Hardware Design

DO-254 - DO-254 · DO-160E · ASIC/FPGA

Our hardware team manages the complete DO-254 life cycle -concept, simulation, PCB layout, manufacturing liaison and DO-160E qualification. We handle complex programmable devices and legacy component redesign.

- DO-254 hardware life cycle — All DAL levels
- ASIC/FPGA design, simulation & formal verification
- PCB layout, DFM and manufacturing support
- DO-160E pre-qualification & qualification testing

Technical Publications

1000D - SNS 1000D · ATA Ch. 22–42 · IETMs

Our tech pubs team produces SNS 1000D-compliant documentation for complex software architectures, wiring systems, and loading procedures — from ATA Chapter 22 through 42 — in traditional and interactive electronic formats.

- ATA Ch. 22–42 tech pubs per SNS 1000D
- Complex S/W architecture, wiring & signal flow documentation
- S/W loading, maintenance & fault isolation procedures
- Interactive Electronic Technical Manuals (IETMs)

Testing Infrastructure

Hardware In Loop · Test Benches · Simulators

We design and build bespoke test stations, HIL rigs, and interface simulators tailored to your avionics architecture. Diagnostic applications run on desktops or cloud, giving real-time insight across development and in-service operations.

- Test station & bench development / upgrades
- MIL-STD-1553B, ARINC 429 & custom interface simulators
- Desktop & on Prem-hosted diagnostic applications
- Flight/Ground test support & system integration
- Cyber Security test suits meeting DO-326A/ED-202A

Digital Engineering

Acceleration through Digital and AI solutions

We transform avionics development through intelligent automation without compromising transparency and traceability rigor.

- Requirements-based IV&V - textual & model-driven test suit through AI with human-in-loop
- AI-enhanced engineering workflows
- Complete certification suit checks through AI - faster time-to-cert

CORE CAPABILITIES

Our engineering teams design, develop, and certify mission-critical electronics, systems and software services across full range of aircraft platforms.



Cabin Management System

Intelligent cabin control — from lighting and climate to passenger services, certified and integrated.



Communication and Navigation and Systems

ATC comms to satellite nav — certified avionics integration from ARP 4754B to DO-178B/C.



Flight Management and Displays

Certification experience in Avionics (FMS & Displays) system, with inhouse intelligent automation test suite "Cyfast-178".



In Flight Entertainment (IFE)

Seamless passenger experience — IFE architecture, software integration and airworthiness support



Power Distribution Systems

Safe, reliable aircraft power management — design, qualification and sustenance across all platforms.

DEDICATED LABS

Purpose-built lab infrastructure accelerates design validation and reduces program risk across every stage of the avionics lifecycle.



Digital Lab

Lab equipment, tools, and simulators to enable development of high-speed boards (Analog, Digital, Mixed & RF), FPGA, Processors, LRU level test set up.



Power Electronics Lab

Lab equipment to enable development of power products up to 22.5 kVA (DC-DC Converters, Inverters, Power Distribution Boxes, Actuation, Battery Management etc.)



RF and Comms Lab

Calibrated test equipment and simulation tools to enable development of navigation, radars, communication systems up to <26.5 GHz.

Cyient is a global lifecycle engineering company powering mission-critical industries from design to aftermarket across products, plants, and networks. With 300+ customers and 15,000+ associates across 30+ countries, we combine human expertise, deep domain knowledge, and AI to deliver intelligent engineering solutions across Aerospace and Rail, Automotive and Mobility, Connectivity, Energy, Healthcare, Mining, Utilities, and beyond.

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