

Securing and Connecting the Skies

Trusted Connectivity & Cyber Assurance for Next-Gen Aircraft



STATE OF THE MARKET

With the exponential growth of in-aircraft connectivity - ranging from in-flight entertainment (IFE) to Wi-Fi-based onboard systems and smart maintenance - the aerospace industry is witnessing increased vulnerability to cyber threats.



Cyberattacks surged by 131% between 2022 and 2023, causing billions in financial damage and impacting passenger safety, operational integrity, and brand reputation.



The rise of IoT, real-time telemetry, satellite communication, and software-defined avionics has stretched the attack surface across connected aircraft systems.



Airlines and OEMs now demand end-to-end secure connectivity solutions - from hardware-level assurance to software encryption and regulatory cyber compliance.

SERVICE OVERVIEW

L&T Technology Services (LTTS) provides a comprehensive portfolio for secure aircraft connectivity and cybersecurity solutions across software, hardware, analytics, and operations:



Cybersecurity Services (Aligned to DO-326A / ED-203A)

Threat modeling, SBOM analysis, cyber risk assessment, secure design and testing, security controls validation, fuzz testing, incident response, and continuous threat monitoring.



IFE and Aircraft Connectivity Solutions

Design, development, and validation of IFE software (Android/iOS), Wi-Fi-based passenger systems, Live TV/seatback systems, IPTV streaming, dynamic pricing systems, and on-board control units.



Network Architecture and Management

Legacy, SDN/NFV, long-range and short-range wireless technologies, small cells, network diagnostics, satellite communications, and OSS/BSS integration.



Platform Tools and Analytics

Real-time monitoring and diagnostics for hybrid networks, test automation for LTE/Wi-Fi, and custom dashboards for network performance analytics and passenger data management.



Hardware and Embedded Engineering

Board design, FPGA validation, SoC-based integration, and seamless enablement of multi-network interfaces (BT, LTE, VHF, SATCOM).

KEY DIFFERENTIATORS

Leveraging its considerable expertise across the global aerospace domain, LTTS offers:

Aerospace-Certified Cybersecurity Frameworks

Services fully aligned with DO-326A, ED-203A, and FAA/EASA cybersecurity guidelines for commercial and defense aircraft programs.

Hi-Tech Global Cyber Labs

Facilities in India (Bangalore, Mysore), U.S., and Israel support advanced testing, fuzzing, and system-level cyber-attack simulations across aerospace platforms.

Unified Connectivity + Security Ownership

LTTS manages the full lifecycle — product engineering, platform security, software development, and network operations — under one roof.

Real-World Deployment Experience

Proven success in enabling multi-user Wi-Fi, IFE systems, and secure embedded interfaces across narrow-body and wide-body aircraft.

Edge-Ready IFE and Connectivity Frameworks

Al-powered test automation tools, device management accelerators, and integrated analytics platforms tailored for real-time decision-making and control.

BENEFITS

We enable:

|--|

Improved Passenger Experience and Engagement

Seamless onboard Wi-Fi, IFE systems, and personalized digital services delivered securely with zero lag and optimized content streaming.



Enhanced Aircraft Cyber Resilience

Reduced system vulnerabilities and faster incident response through integrated threat monitoring and compliance-backed verification.



End-to-End Network Visibility and Optimization

Real-time analytics across onboard networks improve bandwidth management, latency resolution, and dynamic routing.



Faster Development and Integration Cycles Reusable frameworks and test automation accelerate IFE and connectivity solution deployment by 30–40%.



Regulatory Compliance Confidence

DO-326A/ED-203A-compliant security coverage across the product development lifecycle ensures readiness for airworthiness certification.

Multi-Network IFE Connectivity Enablement

- Developed and integrated a Wi-Fi-based IFE solution supporting simultaneous multi-user device access, with onboard system controller and content offloading.
- Enabled real-time passenger entertainment, improved bandwidth allocation, and increased passenger satisfaction across long-haul flights.

Aircraft Network System Management

- Delivered a configuration and network management system to orchestrate traffic across multiple onboard communication interfaces (VHF, SATCOM, LTE, Wi-Fi).
- Improved performance diagnostics, load balancing, and centralized control for onboard network reliability.

Segmented Aircraft Cybersecurity Architecture

- Designed and validated a DO-326A/DO-356A-compliant cybersecurity framework tailored for avionics, flight control, cabin crew, and IFE networks.
- Ensured segment-specific security enforcement, reducing cyberattack exposure and ensuring safety-critical isolation.

Satellite-to-Ground Data Security Solution

- Engineered a secure communication layer for aircraft-ground-satellite data transfer, including confidentiality, data integrity, and mutual authentication mechanisms.
- Strengthened the end-to-end trust framework and improved resilience for critical aircraft telemetry and mission data.





ENGINEERING THE CHANGE