



CYIENT

**GLOBAL DESIGN-BUILD-
MAINTAIN PARTNER
TRANSFORMING THE A&D
PRODUCT LIFECYCLE**

Delivering innovation through
collaboration for leading aerospace and
defense OEMs and Tier 1 suppliers

Our end-to-end solutions from design to certification, manufacturing, aftermarket, and digital transformation using data analytics, bring greater efficiencies and faster time to market to our customers in the sector. At Cyient, we are proud to work with the world's leading aerospace and defense (A&D) companies to achieve more and shape a better tomorrow together.

The aerospace and defense industry is under constant pressure to reduce cost and weight, improve products, and increase production volume — causing a persistent challenge to optimize business operations and processes. New technologies are disrupting how the industry is operating and players leveraging new engineering techniques and digital technologies can gain a strong advantage.

Cyient is well positioned to help A&D original equipment manufacturers (OEMs) and Tier 1 organizations transform the product lifecycle. As a design-build-maintain provider, we collaborate with our clients to support and deliver a wide range of end-to-end industry solutions across the A&D product segments — aero engines, avionics, aerostructures, aero systems, and interiors.

Cyient's aerospace product and process engineering has been a stronghold for over two decades and continues to grow from this foundation to adapt to the needs of our clients. We lead Integrated Product Teams (IPT), undertake system-level ownership, and provide discipline-level support on various systems/sub-systems for our customers that cut across our A&D portfolio. We are proud to maintain our leadership position in the global engineering R&D ratings for many years, and our multitude of awards for engineering excellence from OEMs attest to the design excellence we have established. Our strategic focus lies in Design Led Manufacturing (DLM) — enforcing a mantra through which we offer complete support in the A&D product lifecycle, from design conception, all the way to certification. We deliver new technology solutions and create or co-create intellectual property (IP).

Collaboration is at the heart of what we do; providing value by working closely with our clients to solve their business challenges. Our partnership approach combines engineering and domain expertise, process precision, innovative focus, risk-sharing, and IP creation, as well as management of projects to deliver

sub-system level and end-to-end results, both on time and within budgets. We empower our clients to stay ahead of the curve by aligning strategically to their goals.

Our operations meet the wide spectrum of security parameters, including RTCA DO-254, RTCA DO-178, RTCA DO-160G, RTCA DO-330, and MIL-STD-810F. We are compliant with ITAR (International Traffic in Arms Regulations) and nation-specific restrictions complying SCIFs with both DCID 6/9 and JAFAN 6/9 security standards for commercial or government use up to top secret level. We also have Design Approval #166 from CEMILAC (Centre for Military Airworthiness and Certification) under the following scope: "Design, Development of Aero Structures, Aero Interiors, Aero Engines Parts and Systems, Aero Systems, and Avionics for Military Airborne Applications". Our manufacturing facilities are also AS9100C and Nadcap approved.

Relationship Benefits:

- **Improved production rate:** Cyient is helping aerospace and defense OEMs and Tier 1 suppliers improve their production rate through our core product and process engineering expertise.
- **Faster time to market:** Aerospace and Defense is a safety-critical industry. Our comprehensive experience in mechanical systems, avionics, and structures, with strong development processes contribute to reducing product time to market by improving development cycles, whilst managing risks.
- **Achieve digital transformation and agile operations:** Cyient enables you to tap into greater efficiencies through integrated aftermarket solutions providing component MRO services, digital transformation, and risk-sharing partnerships. We are at the forefront of leveraging digital technologies, such as, the Internet of Things (IoT), big data, mobile, analytics, cloud, data visualization and preparation, in our effort to transform

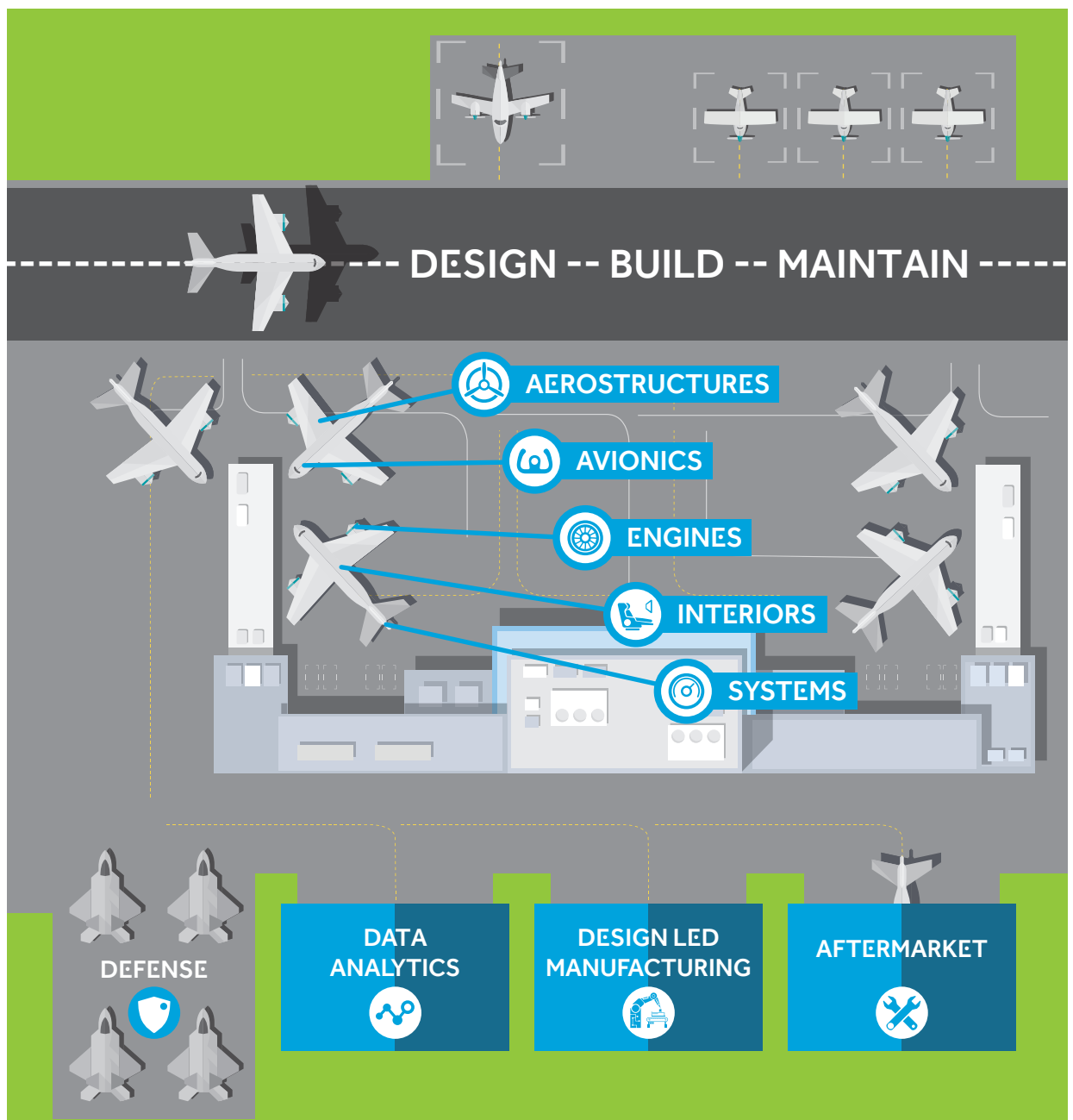
the A&D industry. The result is agility brought to data-driven decisions, re-imagined business processes, as well as the creation of data value streams for improved services revenue and customer satisfaction.

- **Make in India:** Cyient is an ideal partner for realizing the potential of the 'Make in India' initiative, and maximizing offset obligations by partnering, collaborating, and co-developing successfully with engineering and manufacturing firms that facilitate 'Buy Indian-IDDM'. This is further bolstered by our demonstrated ability to disburse offsets under the 'Buy Global' and the 'Buy and Make' categories, under the Defense Procurement Policy of 2016.

- **Unique value proposition:** Cyient is in the distinctive position to offer customers the benefits of integrated design, build, and maintain solutions in mechanical, electronic systems and structures. We collaborate with our customers to ensure customized co-developed products are delivered on time and at optimized costs.

Our key focus areas

The Cyient team has extensive knowledge and expertise in the aerospace and defense industry. Our key solution focus areas include:



ENGINES

Cyient provides engine OEMs with global resources to develop innovative technology solutions for aircraft gas turbine engines that meet customer requirements. From concept design to aftermarket services for aircraft engines, we provide comprehensive solutions to increase engine efficiency.

We provide system-level design solutions on internal flow, lube, thermal management systems, and rotor dynamics from concept to certification; and have delivered designs with complete ownership of actuation systems, compressor cases, bladed discs, rotors, and airfoils. Through our multidisciplinary design optimization approach to value engineering, our solutions help achieve weight and cost goals at the prototype stage.

With expertise in the design and ownership of complex components, sub-systems, and modules; we are also recognized as one of the most innovative solution providers with the ability to create intellectual property. Our robust processes, use of tools and technologies help us shorten engine design and development cycle times with improved analysis predictability.



KEY HIGHLIGHTS

- Over 15 million hours of experience
- Over 25 co-patents
- IPT (Integrated Product Development Team) level engagement
- Multi-million dollar productivity delivered each year

Key offerings:

New development programs

- Concept design to certification collaboration
- Collaborate in technology and IP development
- New tools and process development
- Rig design, pre-test and post-test support
- Conversion of aero engines to industrial applications

Operational commercial programs – product improvement

- Cost and weight reduction
- Technology insertion
- Localization and transition
- Engineering change execution
- Repairs development
- Field management plans

Legacy engine programs - reengineering

- Part scanning, metrology/CMM, and modeling
- Validation through analysis and test data-match
- Standard work updates
- Vendor coordination and end customer installation support

AEROSTRUCTURES

We provide innovative wing and fuselage subassembly design solutions from preliminary design, through weight optimization to certification in collaboration with leading aircraft OEMs and Tier 1 suppliers.

By combining customer-specific design processes with our extensive metallic and composite structures knowledge, value engineering techniques, and design automation expertise, Cyient helps design cost-effective next-generation aerostructures. We manage aftermarket value streams, manufacturing non-conformance, stress justifications, and design office dispositions after signatory approvals throughout our customer engagements. Our ultimate goal and resulted contribution with our solution set is delivering lower specific fuel consumption, lower operating costs, better range, and higher maximum take-off weight.

KEY HIGHLIGHTS

- Over 5 million hours' experience
- Significant weight savings delivered on aircraft wing structures
- Over 40,000 first article inspection reports reviewed
- Acknowledged for significant contribution to the latest wide-body aircrafts

Key offerings:

- End-to-end aircraft structures lifecycle management, including certification support
- Composite structures design, analysis, and layup tool manufacturing
- Production concessions and post-production engineering
- Reliability and retrofit engineering
- Legacy conversions and design automation





AERO INTERIORS

Cyient partners with customers to design tomorrow's stunning, spacious, and efficient cabin interiors — be it in cabin structures, seating, monuments, cabin avionics, or in-flight entertainment (IFE). Our aim is to support the aero interiors industry by delivering aesthetic, innovative, and light-weight interior designs.

Our extensive experience covers both commercial and business aircraft in the areas of floor-to-floor cabin structures, galleys and other monuments, overhead stowage, lavatory, business and economy seats, and customized solutions for VIP completions.

Throughout our assignments, we integrate our composite design, stress, tubing design, electrical schematic, harness routing expertise, and leverage new technology, to deliver innovative and cost-efficient interior solutions to help our customers solve their design challenges and enhance the onboard customer experience.

KEY HIGHLIGHTS

- Over 3 million hours delivered
- More than 100 design ideas proposed
- Multi-million productivity savings delivered
- Key contribution in all major aircraft programs

Key offerings:

- Full design ownership – all cabin interior elements
- Mechanical design and analysis, design automation
- Electrical wire harness and routing
- Production drawings
- Manufacturing engineering

AVIONICS

Cyient collaborates with avionics OEMs worldwide to develop innovative avionics products through integrated product engineering process.

We efficiently integrate system, software, hardware, packaging design, test engineering, validation and verification. We deliver avionics solutions that are ARP4754A development assurance level (DAL) A to E compliant, and also support obsolescence analysis of existing products.

The portfolio also covers safety-critical systems, embedded software, and electronic hardware certification. This includes all aspects of the process-oriented product development lifecycles that support fully automated independent verification and validation. Our certification engineering services achieve rapid automation of requirements capture, simulation, validation, and verification testing, as well as having a thorough understanding of safety-critical, process-oriented development objectives.

We are compliant with RTCA DO-254, RTCA DO-178C, RTCA DO-160G, and MIL-STD-810F, and our manufacturing facilities are AS9100C and Nadcap approved.



KEY HIGHLIGHTS

- Over 5 million hours delivered on various avionics products
- DAL A-E product design ownership
- Direct experience with all 4 Stages of Involvement (SOI) audits
- FAA, EASA, FDA, Transport Canada, ANAC, and MIL-STD certification experience
- Fully automated test platform (Black Box-LRU, Grey Box-CCA, FPGA-PLD)
- Patents for design and test, including CertSAFE™, CertBOARD™, CertOS™, and CertBENCH™

Key offerings:

- End-to-end LRU development or upgrade
- Design lifecycle for embedded software and electronics hardware
- Systems development and integration lifecycle
- Aerospace process-based integrated project management
- Automated testing, certification, and conformance
- Obsolescence management
- Safety, reliability, and maintainability engineering

AERO SYSTEMS

Cyient helps the world's leading aero systems suppliers in maximizing their design, structure, thermal, and CFD analysis capabilities to optimize for weight and cost. Our team provide sub-system level engineering solutions for the following aircraft systems categories:

- Air management systems
- Engine controls
- APUs
- Electrical systems
- Actuation systems
- Nacelle and thrust reverser
- Fuel and hydraulics systems

We enhance system reliability by implementing technology upgrades and eliminating the root cause of field failures. Our aftermarket value streams such as repair engineering, technical publication, and reliability engineering are helping to generate higher services revenue for our customers. The aircraft value engineering approach we undertake lowers part count and improves commonality across programs, while enhancing manufacturability and maintainability.

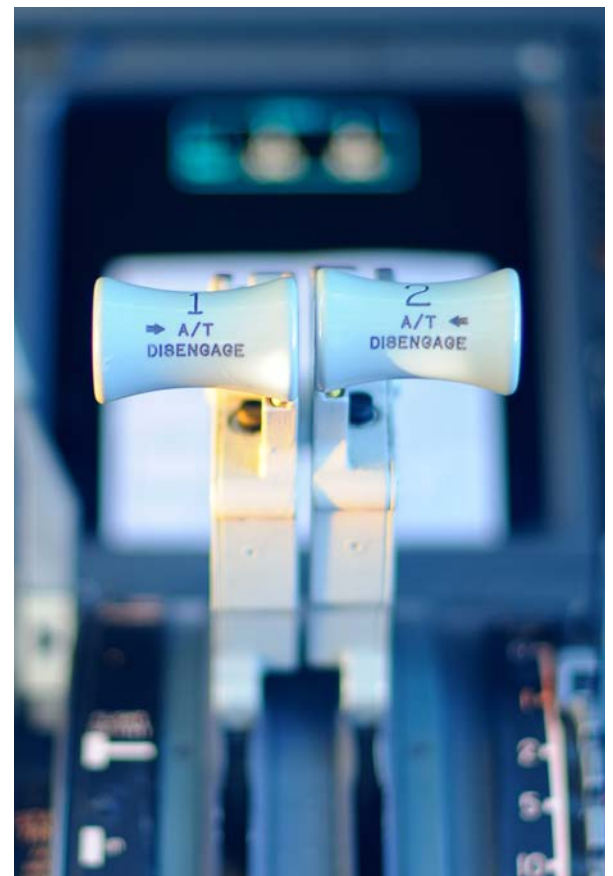
By managing test execution, analyzing data, and comparing test results with certification and design requirements, we are able to deliver qualification plans and documentation in accordance with DO-160 standards. Our software solutions are certified to DO-178C and DO-330 standards.

KEY HIGHLIGHTS

- Over 3 million hours delivered on major aircraft systems
- Process innovation: design automation tools, in-house developed tools, macros enabling productivity savings, and reduction in development cycle time

Key offerings:

- Design and build product ownership
- Value engineering and aftermarket engineering
- Mechanical design and analysis
- Manufacturing engineering
- Test engineering
- Reliability and safety
- Aftermarket services





DESIGN LED MANUFACTURING (DLM)

Cyient offers a unique value proposition to our customers — we are the only integrated design-to-build-to-manufacturing solutions provider with co-developing solutions customized to specific design requirements, manufacturing, and providing on-site support. Our DLM solutions are offered across the A&D business segments.

Our aerospace and defense design led manufacturing solutions, with technology as the enabler, are transforming the value proposition through discrete service offerings, build systems, and integration services within systems. This enhances our position as a partner for offset requirements and also for global requirements of product optimizations by redesign for cost reduction, providing functionality enhancement or obsolescence reasoning; and delivering a differentiated proposition in the areas of avionics, mechanical systems, and aftermarket solutions.

We add value by simultaneously reducing costs as well as time to market, whilst improving quality and product reliability as part of our design-to-manufacturing programs.

KEY HIGHLIGHTS

- High-precision machining, plastic injection molding, and additive manufacturing
- Strong manufacturing engineering process for electronic manufacturing
- Embedded software and hardware, including avionics and electrical systems
- Robust supply chain ecosystem and localizing capabilities

Key offerings:

- Value engineering: reengineering, obsolescence management, product optimization and enhancements
- System build and product assembly
- Systems modernization programs using modular avionics
- Test engineering and test facility
- Access to emerging markets and offset realization



AFTERMARKET

Cyient helps A&D organizations generate revenue from serviceable parts in the MRO arena. As a reliable and innovative aftermarket solution partner, we contribute to your business objectives by increasing the servitization revenue and profitability. Our main aftermarket solution streams are:

- Repair engineering and product documentation
- Reliability and performance engineering
- Digital aftermarket solutions
- Customer technical supports

We leverage a range of digital technologies such as IoT, data visualization and preparation, mobile, and cloud to enable our customers to stay ahead of their competition by making the most of the digital transformation. Our unique operating model and solutions deliver monetization from aftermarket operational data, assets, and work scope; to help achieve low cost of maintenance and high availability of systems.

KEY HIGHLIGHTS

- \$1.7 million savings achieved by delivering effective warranty management software
- Over 200 design concepts proposed and worked on over 60 aftermarket processes
- 30% reduction in publication cycle time
- Spare parts inventory reduction, resulting in cost savings of up to 10%
- Client drag reduction through 100% ownership of field event

Key offerings:

- Repair engineering and product documentation
- Product performance engineering
- Digital aftermarket solutions
- Data integration and predictive analytics

DATA ANALYTICS AND DIGITAL TRANSFORMATION

Cyient is a trusted partner in advanced analytics solutions that help the aerospace and defense industry optimize resources and processes while promoting new business opportunities.

We have over two decades of data science experience in designing aircraft systems and managing data from various sub-systems and complex inter-functional systems. These include real-time systems health monitoring, predictive analytics solutions, simulation models for system behaviors, intelligent forecasting and scheduling models, and root cause analysis for complex and inter-dependent system failures.

Our team truly embraces digital transformation in an effort to enable accelerated value creation, helping our clients connect the dots, connect systems, and re-imagine operational and business processes. We reinvent design, digitize operations, and adopt predictive analytics to enforce digital transformation within the A&D marketplace.

KEY HIGHLIGHTS

- Reduced downtime and increased visibility into performance
- Better maintenance and preventative measure planning
- Reduced costs and increased revenue
- Internet of Aircraft Things: 'Connected aircraft' and improved passenger experience

Key offerings:

- Asset management: asset health monitoring dashboard, predictive maintenance alerts, and data-driven reliability control
- Inventory management: spare part optimization and profitability models
- Intelligent scheduling and forecasting models
- Predictive data solutions



About Cyient

Cyient (Estd: 1991, NSE: CYIENT) provides engineering, manufacturing, geospatial, network and operations management services to global industry leaders. We leverage the power of digital technology and advanced analytics capabilities, along with domain knowledge and technical expertise, to solve complex business problems. As a Design, Build and Maintain partner, we take solution ownership across the value chain to help our clients focus on their core, innovate, and stay ahead of the curve.

Relationships lie at the heart of how we work. With nearly 14,000 employees in 21 countries, we partner with clients to operate as part of their extended team, in ways that best suit their organization's culture and requirements. Our industry focus spans aerospace and defense, medical, telecommunications, rail transportation, semiconductor, utilities, industrial, energy and natural resources.

For more information, please visit www.cyient.com.

Contact Us

North America Headquarters

Cyient, Inc.
99 East River Drive
5th Floor
East Hartford, CT 06108
USA
T: +1 860 528 5430
F: +1 860 528 5873

Europe, Middle East, and Africa Headquarters

Cyient Europe Ltd.
High Holborn House
52-54 High Holborn
London WC1V 6RL
UK
T: +44 20 7404 0640
F: +44 20 7404 0664

Asia Pacific Headquarters

Cyient Limited
Level 1, 350 Collins Street
Melbourne, Victoria, 3000
Australia
T: +61 3 8605 4815
F: +61 3 8601 1180

Global Headquarters

Cyient Limited
Plot No. 11
Software Units Layout
Infocity, Madhapur
Hyderabad - 500081
India
T: +91 40 6764 1000
F: +91 40 2311 0352