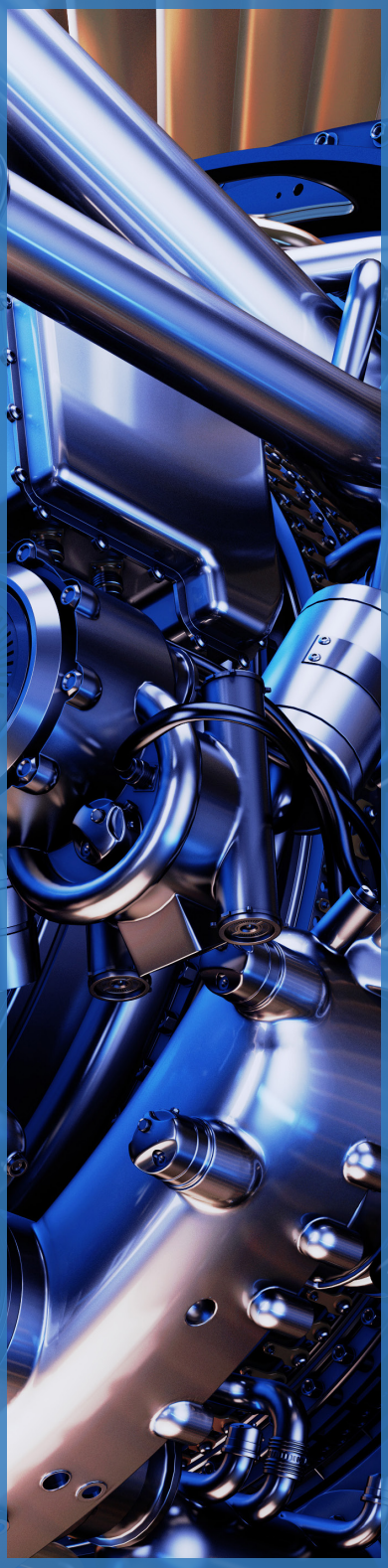
INFOSYS TURBOMACHINERY AND PROPULSION ENGINEERING

POWERING NEXT GENERATION PRODUCTS & PERFORMANCE



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Practice Overview

Infosys, Turbomachinery & Propulsion (TMP) is an organization with unique know-how in design and development of turbomachinery products. We have designed and developed gas turbines for power generation, aero engines for large civil engines and steam turbines for fossil and nuclear applications for all major OEMs around the globe successfully for over two decades. Infosys Turbomachinery and Propulsion practice spans design & analysis, services engineering, systems integration, and manufacturing engineering, delivering first-time-right outcomes across complex aeroengine and turbomachinery programs.

KEY DATA

Patents co-developed with customers:

75+

Delegated signatories across the development lifecycle:

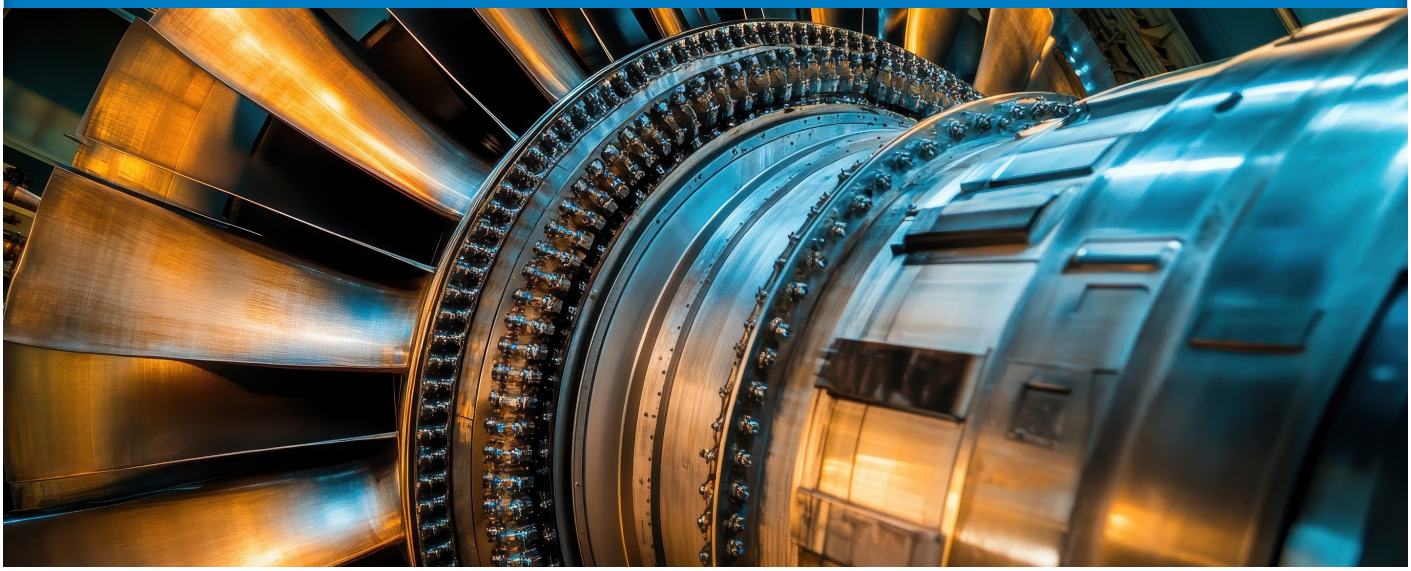
200+

Aero engines delegated signatories:

160+

Certification reports issued across systems & subsystems:

50+



Global Presence & Expertise

Our practice is supported by a worldwide network of engineering centers and specialists. With over two decades of experience and a strong track record of innovation, we partner with leading OEMs to deliver first-time-right solutions. Our teams operate from strategic hubs in Europe, UK, and India, ensuring proximity to customers and responsiveness to program needs.

Product View

Infosys Turbomachinery practice covers a broad spectrum of products, including gas turbines, steam turbines, compressors, and aero engines.

Our engineering teams deliver solutions through design and analysis, services engineering, systems integration, and manufacturing engineering, ensuring comprehensive coverage for all critical components and systems.

Lifecycle View

We provide end-to-end lifecycle support - from concept design to certification and in-service support. Our capabilities include:

New Product introduction:
End to end design and development of systems, sub systems, and components, from concept to fully defined, detailed designs

System Design and Integration:
Efficient design of systems and effective integration of systems, sub systems, and components as per requirements. Plan and manage design iterations. The MBSE approach closely ties system and component engineering.

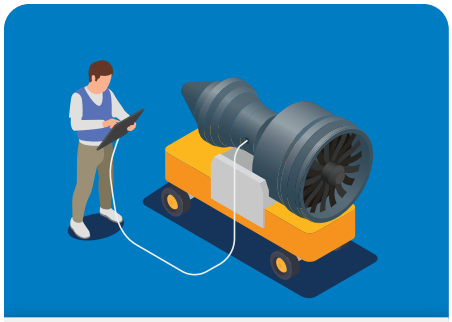
Component Engineering:
Develop design solutions and perform design iterations to optimize performance, life extension, weight, and cost.

Simulation engineering:
Driving performance and reliability through multi fidelity, multi physics simulations across aero thermal, thermo mechanical, structural, flow, and lifing analyses. Leveraging state of the art tools and methodologies to deliver actionable insights and optimized designs.

Root Cause Analysis:
Driving the resolution of complex issues through cross-functional collaboration across design, stress, aerodynamics, manufacturing, and aftermarket domains. Applying systematic problem-solving methodologies to identify failure causes and modes, implement corrective actions, and ensure product integrity and safety compliance.

Program Management:
Driving efficient execution through structured processes for NPI, fleet safety, producibility, and service support, ensuring on-time delivery, cost optimization, and uncompromised quality across the product lifecycle.

CORE ENGINEERING CAPABILITIES

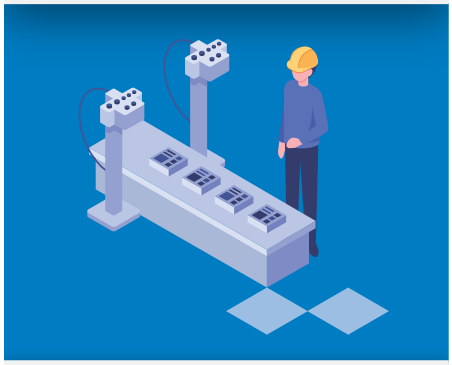


Component Design

Deep expertise in Mechanical Design solutions — NPI, Fleet, Safety, Producibility & Services.

Materials

Comprehensive support for material selection, specifications, compliance, and special processes to ensure performance, safety, and quality throughout the product lifecycle.

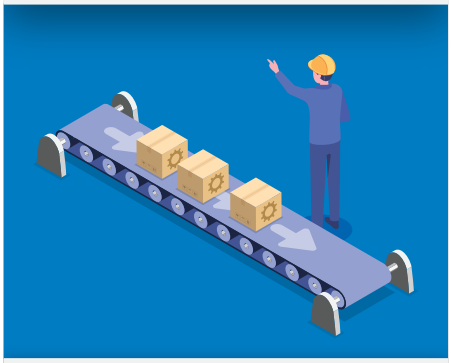


Test, Measurement & V&V

Testing, Measurement definition & FMEA, Certification strategy, RCA.

System Design

Whole engine performance, thermo fluid, structural, aero thermal, and thermo mechanical analysis, including system integration and validation.



Manufacturing

Layout, CNC, CMM, PFMEA, Concessions, PPAP, FAI, Cost reduction.

Operations & Quality Management

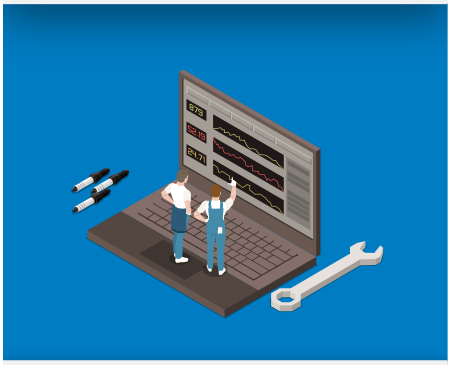
Scheduling, tracking, reporting, QMS, establish metrics, data collection, analysis.

Stress Analysis & Lifing

Stress analysis, fracture mechanics, fatigue and creep assessments, critical parts lifing, and vibration analysis for all static and rotating components.

Repair Engineering

Efficient development and faster implementation of aftermarket design solutions & component level repair.



Technical Publication

Development and maintenance of overhaul manuals, creation of eLearning training courses, digitization of paper documents, and digitalization and streamlining of processes.

END-TO-END CAPABILITIES BY GAS TURBINE AND STEAM TURBINE PRODUCT DEVELOPMENT AND MAINTENANCE

Domain	Offerings
Systems & Products	**System Design & Integration:** Requirements engineering, whole-engine modeling & analysis, structural system design, and gated process maturity. **Thermo-fluids & Performance:** Thermal/clearance management, sealing & secondary air, lubrication systems; cycle design & optimization, operability and control laws.
Component Engineering	**Compressors:** Flow path aerodynamics, aeromechanics analysis, mechanical design & analysis for NPI, fleet safety, and production support. **Rotatives:** Critical parts lifing analysis for compressor & turbine discs; NPI design & analysis, production support & safety assessments; tools/methods automation. **Turbines:** Mechanical, aero & cooling design/analysis of blades, NGVs & segments; module integration; NPI & production support.
Large Structures & Casings:	Mechanical, thermal/stress analysis for HP/IP structures and turbine casings; producibility & services support; rules/methods standardization. Mechanical design & analysis of ducts, brackets & dressings; installation integration; Technical Variances & fleet safety.
Manufacturing Engineering	CNC/CMM programming & simulation, digital manufacturing, PFMEA & methods, zero defects & producibility, new part intro & transfers.
Services Engineering	Technical publications & Service bulletins, product safety & reliability, event investigations, MRO/airline tech support, cost reduction, manuals, digital tools & automation.

Our Value Proposition

Infosys enable clients to accelerate time-to-market and reduce risk through advanced engineering solutions. By leveraging simulations, digital models, and design for additive manufacturing, we shorten development cycles and ensure first-time-right designs. Our deep expertise in aero, aero-thermal, thermo-mechanical analyses, stress, lifing, and system integration drives reliable performance and durability. We ensure seamless compliance with global standards like AS9100D, DO-160, and FAR 33 that minimizes certification delays and costly rework.

Beyond speed and compliance, we deliver measurable business impact through lifecycle cost optimization and sustainability. Design-for-manufacturing and predictive analytics extend component life, reduce maintenance, and lower total ownership costs. Our digital-first practices help clients meet environmental goals and prepare for future industry demands.

With global delivery centers and local responsiveness, Infosys combines scale and agility to support critical programs from concept to in-service, ensuring clients stay competitive and future ready.

SUCCESS STORIES

Driving Engine Performance Through Integrated Design Ownership

Problem: Improve engine performance while meeting certification and cost constraints across multiple product systems.

Solution: *Ownership across system design & integration; concept-to-validation through OEM/Airframe gated processes; certification reports; optimized combustor, turbine, and structural subsystems.*

Outcome: Improved reliability, accelerated certification, and sustained cost savings, supported by delegated signatories and large-scale program governance.

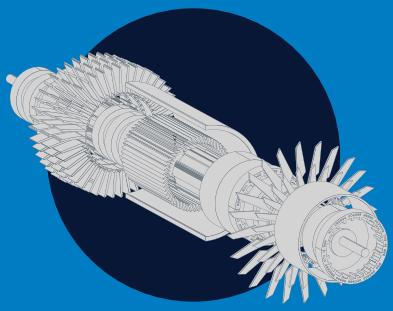
Extending Time on Wing for Greater Operational Efficiency

Problem: Extend maintenance intervals and reduce lifecycle costs; legacy lifing limited operational efficiency.

Solution: *Data driven insights and upgrades to performance modelling; Advanced lifing assessments for rotatives and critical discs; algorithm updates; enhanced system integration; streamlined safety and criticality assessments.*

Outcome: Longer intervals between shop visits, reduced analysis effort, and cost savings acknowledged by client leadership.

Power Upgrade: Transforming Gas Turbine Efficiency and Output



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GLOBAL ENGINEERING DELIVERY CENTERS

Noida, Bangalore & Mysore.

India

Baden,

Switzerland

Karlovac,

Croatia

Elblag,

Poland

For more information, contact askus@infosys.com

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