



# DEEPAK JOSEY

Senior Design Engineer

Gas Turbine | Aero Derivatives

## CONTACTS

Location: Istanbul - Turkey

Phone #: +91 99412 66601

Email Id: deepakjosey@gmail.com

## PROFILE

Senior Gas Turbine Design and Project Engineer with 9+ years of total experience and 7 years of significant experience designing Aero derivative New Engine High Pressure Turbine Rotating Parts as an Design Engineer within the aerospace industry including exposure in research and development programs. An adept team leader experienced in project management, precision manufacturing methods and turbine engine development / qualification testing and analysis of engineering related problems. Areas of experience include:

- Aerospace Quality Standards (AS9001)
- High Strength Alloys
- Manufacturing Processes
- High Temperature Alloys
- High Speed Rotating Components
- Single Crystal Casting Techniques
- Computational Fluid Dynamics
- Finite Element Analysis
- Rapid Prototyping
- Test Facility Design
- Compressor Rig Design
- Turbine Rig Design
- Design for Manufacturing
- Experience with International Customers
- Bill of Materials (BOM)
- Current Government Security Clearance

## ACADEMICS

- 2012: Istanbul Technical University Mechanical Engineering Construction Master
- 2010: Istanbul Technical University Mechanical Engineering
- 2003: Ismail Safa Ozler Anatolian-German High School

## ENGINEERING APPLICATIONS

- Ansys - Intermediate
- Uni Graphics – Intermediate
- Team Center – Intermediate

## WORK EXPERIENCE

Since December 2011  
Lead Design Engineer  
XXX Aviation Xxxxxx, Turkey

June 2011 to December 2011  
Research and Development Engineer  
Xxxxx Fixing Systems Istanbul, Turkey

June 2009 to June 2010  
Turkey Project Based Long Term Intern  
Xxxxxx Home Appliances Tekirdag

## MY CURRENT RESPONSIBILITY

- Responsible for the design, development, fabrication and testing of Working on the design of rotating hardware of Gas Turbines (GE aircraft engines and aero derivatives) used in energy applications and aircraft engines, Aerial Vehicles (UAV) and loitering cruise missiles. Provided overall project management from conception through production.
- Lead engineer that provided the technical guidance to different engineering disciplines to meet technical challenges while maintaining schedule and budget. Interfaced with purchasing, suppliers and customers as required to meet customer requirements, ensuring high reliability and availability based on the unique demands of the clients.
- I liaise with customers and project personnel to understand detailed specifications, lead design engineers through complex gas turbine projects.

## KEY PERFORMANCE INDICATOR

- Receive the Clients brief/remit, formulate the scope of works and develop the design philosophy.
- Compile the fee for design delivery.
- Provide best value working design solutions to technical problems.
- Manage members of the design team to ensure the timely delivery of information, checking the work of other members of staff and providing assistance to their continued learning and development.
- Work effectively within a multi-disciplinary design environment such that designs consider the impact across all relevant disciplines.
- Have knowledge of the current Standards expected for the principal building materials used in the industry.
- Provide sufficient information and support to enable Technicians to produce detailed design drawings suitable for construction.
- Project working knowledge of Statutory Regulations and Codes of Practice.
- Display working knowledge of regulations, ensuring that designs are compliant and produce Designers Risk Assessments for projects.
- Develop a working knowledge of 3D Modelling and Building Information Modelling.
- Produce written reports and specifications for works.
- Undertake site visits and site surveys.
- Attend design review meetings and progress meetings and act as the point of contact for the Client.
- Coordinate the appointment of sub consultants/specialists necessary to complete the design process.
- Perform the role of Contractor's Responsible Engineer (CRE) for Design on specific projects where suitable rail experience can be demonstrated.

## DESIGNING SCOPE OF WORK

- Conduct aero-thermal design/analysis of new and repaired turbine, compressor, and combustor components
- Develop turbine airfoil cooling configurations to meet customer durability requirements
- Develop engine thermodynamic performance models to predict engine operating conditions
- Develop finite element models of turbine components to predict engine operating temperatures
- Calculate gas turbine cooling and leakage mass flows, pressures, and temperatures using a combination of engine test data, 1D flow network models, and CFD
- Vendor audits to make sure manufacturing processes such as machining, turning, grinding, shot peen, heat treatment, coating and paintings conform to the drawing and technical plans which are approved by responsible GE design engineering department.
- Perform priority part reviews as the lead auditor for 4 years. LM6000, LMS100 and CF6 rotating parts.
- Evaluate the life capability of turbine airfoil components for typical temperature-dependent damage modes
- Hardware design by hand calculations and computer programs.
- Work in a lab and field environments.
- Analyses capable of are stress & life, stress raiser (kt), overspeed (burst), vibration, mechanic-acoustic & mechanic-mechanic frequency interaction, thermal & acoustic stability of seals, buckling etc.
- Develop software tools for the design and analysis of turbine components
- Develop standard procedures and analytical methods for the aero-thermal analysis of turbine components
- Provide project management as necessary of development hardware
- Prepare written technical reports, specifications, procedures, and manuals. Prepare and present presentations of work to external and internal customers
- Perform visual, dimensional, and airflow inspections on turbine component hardware
- Work in a multi-disciplinary team to develop component designs which meet customer requirements for cost, performance, and durability

## SELECT SIGNIFICANT PROJECTS

LM9000:  
 Role: Aero derivative NPI Engine Low Pressure Shaft Design Engineer.  
 Scope: Designing the LP Shafts (Fan FWD Shaft, Mid Shaft and LPT Shaft) and leading heat transfer, stress & life analysis, engine dynamics and manufacturing engineers. Working in a challenging environment to meet the commitments of hardware design requirements, design review dates, drawing release to manufacturing suppliers and hardware delivery for First Engine to Test.  
 Design: Presented 2 Conceptual Design Reviews and Preliminary Design Review. Detail design review in November 2016

LM6000 PF+  
 Role: Aero derivative New Engine High Pressure Turbine Rotating Parts Design Engineer and Design Team Leader.  
 Scope; Designing HPT STG 1 Disk, FWD Retainer Seal and Inter-stage Seal and Leading mechanical design team consist of 4 design engineers and coordinating the data flow among other disciplines such as thermal systems, aero-dynamic, stress and life management and product definition engineers.  
 Design: Successfully presented in Preliminary Design Review and Detail Design Review. (2014-2016)

LM6000  
 Role: Legacy engines Team Leader. Leading 10 engineers  
 Scope: PF+ Turbine rotating hardware design and team lead tasks. Sustaining team is responsible for all the LM6000 engine nameplates other than PF+ (new product). Team leader responsibilities consisted of workload distribution, nonconforming material ticket progress tracking, repair projects tracking, supplier requests, design and drawing change effort, quarterly and annually funding calculation (2016-6 months) Moved to LM9000 program as Shafts Design Owner.

Redesign Projects  
 LM6000  
 Scope: Aero Derivative Engine, Low Pressure Turbine Disk (Wheel) material change and commonality with the all LM6000 engine nameplates. Coupling Nut material change project to protect the part from corrosion. Numerous repair projects such as coating, balance, blending etc. on aero derivative engines as well as CF6-80C2 & E1 and GE90-115B. (2013-2014)

## PAST EXPERIENCE

## INCA FIXING SYSTEMS

- Project Management
- New Tooling Design
- Structural analysis of new tools
- Designing new gauges for the products
- Cycle time management

## BOSCH &amp; SIEMENS HOME APPLIANCES

- Project Based Long Term Intern
- Transport Test of Ovens
- Transport Test Simulation of the Ovens with Finite Element Method