

BHUPESH GUJRATHI

Mechanical Design Engineer | NPD | NPI | VAVE

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PROFESSIONAL SUMMARY

Mechanical Design Engineer with 11.5 years of experience driving end-to-end New Product Development — from Voice-of-Customer requirements and concept feasibility through CAD design, DFMEA risk management, DFM/DFA, DVP&R validation, and production release. Skilled in Parametric CAD, GD&T and tolerance stack-up analysis, rapid prototyping (SLA/FDM/Vacuum Casting), and VAVE cost optimization, with experience aligning designs to consumer product and appliance safety standards (ASTM F963, CPSIA, IEC 60335) and quality frameworks (APQP, ISO 9001). Proven ability to independently drive projects and resolve technical challenges across concurrent programs — managing upstream concept inputs from US R&D, downstream engineering execution through Hong Kong partners, and India-based vendor manufacturing simultaneously.

Open to automotive, industrial equipment & medical device domains — APQP, DFMEA, DVP, risk management, and documentation discipline are directly transferable to API 672, ISO 2858, IATF 16949, ISO 13485 / FDA design control frameworks.

CORE DESIGN COMPETENCY

NPD/NPI Lifecycle Ownership

VoC → CTS/CTQ Requirements → Product Design → DVP → Production Launch

DFMEA, PFMEA & Risk Management

Design & Process Risk | RCA (8D / 5-Why / FTA) | Countermeasure Closure | CAPA

Design Verification & Validation

DVP&R | Test Planning | Prototyping (SLA, FDM, VC) | Lab Coordination

Manufacturing DFM/DFA

Injection Molding | Die Casting | Sheet Metal | Extrusion Molding | Compression Molding

Value Engineering – VAVE

Reverse Engineering | Benchmarking | Teardown | Cost-to-Feature | Design-to-Value | Zero-based costing

GD&T & Tolerance Stack-Up

Engineering Drawings | Fit & Function Control | Stack-up (Worst Case, RSS)

Supplier & Contract Manufacturing Mgmt.

RFQ Management | DFM Review | PFC & WI | PPAP | Test Protocols | Audit

WORK EXPERIENCE

Sr. Project Lead Engineer

Hasbro India Development LLP, Pune

Apr 2020 – Present

- Leading mechanical design and NPD execution for electromechanical NERF products — plastic, foam, metal & electronics components across 5 to 10 concurrent global programs. Execute 3D CAD modeling (Creo Advanced), 2D engineering drawing release (Windchill PLM), DFM/DFA, GD&T/tolerance stack-up analysis, packaging studies and design documentation from concept through production launch.
- Planning & execution of design verification & validation (DVP&R) — build concept prototypes via SLA, FDM, and Vacuum Casting. Coordinate internal and accredited lab testing/certification. Interpret test results and drive design iteration to closure before SOP. Maintain dashboard with weekly status reporting to global leadership.
- Manage tripartite engineering collaboration across US, Hong Kong, and India — upstream design inputs from US R&D team, downstream engineering and tooling execution through Hong Kong counterparts and India-based vendor manufacturing and PPAP delivery — ensuring seamless end-to-end program continuity across three geographies.
- Leading Design-to-Value (DTV) and VAVE workshops (teardown analysis, benchmarking, SCAMPER, TRIZ, FAST) — driving ~\$220K in value engineering savings (Achiever Award 2024 & Well Played Award 2025).
- Managing Engineering Change (ECO/ECR/ECN) using Windchill PLM, maintaining BOM integrity, design traceability, and configuration control across concurrent product programs.

Global Project Engineer

Whirlpool of India – GTEC, Pune

Aug 2016 – Apr 2020

- Designed CAD concepts, mechanical layouts, mounting features, and packaging interfaces for plastic and sheet-metal refrigerator (FDBM) components, taking structural product programs from concept through production via Whirlpool product development stage gates.
- Developed 3D CAD models (Creo Advanced), engineering drawing release (Windchill PLM). Managed BOM, DFM/DFA, GD&T/tolerance stack-up analysis (CETOL for multi-dimensional stacks), packaging studies and design documentation from concept through production launch.
- Executed reverse engineering and lateral benchmarking projects, driving DTV workshops that targeted 10% annualized cost savings on refrigerator shelving assemblies across three platforms (STAR Award 2019). Introduced modularity across FDBM Jupiter Crisper components, expediting tooling costs (STAR Award 2018).
- Collaborated with CAE engineers on static/dynamic simulations (strength, load, lifecycle) to support prototype validation. Interpreted simulation results for design optimization & successful implementation at the design stage.
- Managed Engineering Change (ECO/ECR/ECN) using Windchill PLM, maintaining BOM integrity, design traceability, and configuration control across the Jupiter platform.

Design Engineer-Automotive Components

Symmetric Technology, Pune

Feb 2015 – Aug 2016

- Reverse engineered Minda Industries switches; 3D-scanned legacy parts to generate an STL model. Rebuilt engineering surfaces to create a parametric CAD model using CATIA with high dimensional accuracy and efficiency.
- Generated 2D engineering drawings with application of GD&T and conducted design reviews with the customer.

SKILLS

Product Design & Concept: SCAMPER / TRIZ / FAST / PUGH

CAD & Prototyping: Parametric multi-body modeling, Mechanical layout, Component interfaces & packaging, GD&T, Tolerance stack-up, Mechanism & Kinematics, Prototype (SLA / FDM / Vacuum Casting)

Validation & Quality: DVP&R, DFMEA, APQP, Root Cause Analysis (8D / 5-Why / Fishbone / FTA), & SPC (working knowledge), Six Sigma Fundamentals

Manufacturing DFM: Injection Molding (ABS, PP, POM, TPR, HIPS, Nylon), Compression Molding (EVA-Foam), Extrusion Molding (ABS, LDPE Foam), Die-Casting, Sheet Metal, Pad Printing, Spray Painting, DIJ Printing

Regulatory & Compliance Awareness: Consumer/Toy Product Safety (ASTM F963, CPSIA), Appliance Safety (IEC 60335), ISO 9001 Quality Management

Software & PLM: Creo Parametric, SolidWorks, CATIA, PreForm, Ultimaker Cura, MS Office, Minitab (working knowledge), Windchill

KEY ACHIEVEMENTS

- **60+ NPD product launches** with full ownership from concept through production; OTD 95–98%.
- **EVA Foam compression molding capability — new supplier qualification:** developed and qualified new compression molding capability at Indian vendors — expanded domestic supply base, reduced import dependency.
- **Achiever Award (2024)** — led VAVE initiatives using design optimization and alternative engineering solutions, generating ~\$160K in annual cost savings at the design phase.
- **Well Played Award (2025)** — drove product modularity across the NERF N-series platform using a Cost-to-Feature (CTF) approach, avoiding ~\$60K in expedited tooling costs.
- **STAR Award (2019)** — delivered a VAVE program on refrigerator shelving assemblies across three platforms, targeting 10% annualized cost savings at the design phase.
- **STAR Award (2018)** — introduced and implemented modularity across FDBM Jupiter Crispers, expediting tooling costs.

EDUCATION

- **MBA – Operations Management** | D Y Patil University | Expected July 2027
- **BE – Mechanical Engineering** | Kolhapur, Maharashtra | 2014 | First Class (67%)
- **HSC** | Ratnagiri, Maharashtra | 2010 | First Class (72%)

CERTIFICATIONS

DFSS Foundation | Kaizen in Product Development | Conflict Resolution | Lean Manufacturing | MS Project