



Sayan Dutta

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Summary

Results-driven professional with 5.5 years of experience driving strategic initiatives and operational excellence in the automotive sector. Skilled in aligning cross-functional teams to deliver impactful business outcomes through automation, cost optimization, and digital transformation. Passionate about using data and technology to solve complex problems and shape long-term strategy in fast-paced environments.

Professional Experience

Deputy Manager | Maruti Suzuki | Gurgaon, Haryana

Process planning, facility installation and new model introduction

- Directed process planning and facility setup for annual production of 308,000 Z12E engines.
- Spearheaded the design and commissioning of motoring and hot test beds for Maruti's new Z12E engine, supporting the launch of the new Dzire.
- Led the planning and installation of nut runner, transfer, and leak test machines for the engine assembly line, enabling daily production of 1,100 engines.
- Directed facility modifications to integrate multiple engine models (Celerio, Wagon R, S-Presso, Alto K10C RC25) into existing production lines.
- Led a cross-functional team (CFT) of SMEs and end users to map, de-risk, and implement engine assembly processes with robust fool-proofing, maintaining RPN <80 through continuous kaizen initiatives.
- Managed tendering and negotiation for upgrading server systems of firing and motoring test benches, delivering enhanced uptime and processing performance within budget.
- Collaborated with multiple plants to streamline the logistics and inventory systems for transporting engines from Gurgaon and Manesar to SMG Gujarat, ensuring timely delivery and integrity.
- Led MX rack planning to optimize material handling and storage by aligning demand, inventory, and floor utilization.

New Initiatives

- Implemented an IoT-based system to monitor production KPIs and predictive maintenance, resulting in a 5% increase in efficiency and enabling real-time KPI dashboards.
- Conceptualized and led the first-ever automation of timing jet pressing at MSIL, significantly improving productivity and reducing manual intervention.
- Developed and executed testing protocols to measure engine vibration and blow-by gas in motoring test benches, enhancing diagnostic accuracy.
- Directed the design and deployment of a full engine inspection system to ensure zero-defect delivery from the assembly line.
- Modified VTS logic to enable multi-type QR scanning and integrated machine shop data for seamless traceability.

Cost-saving and improvement projects

- Avoided capital expenditure of INR 10.5 million by developing a motoring test bed in-house and replacing ECUs with software for VVT actuation checks.
- Achieved SV cost reduction of INR 24.2 million by localizing capability for imported machinery.
- Delivered recurring annual savings of INR 0.4 million by eliminating cylinder head release printing and barcode operations.
- Saved INR 47.8 million by repurposing existing E15 HTB setups for K10 and Z12E engine models.
- Localized motoring test bench harnesses, reducing costs by INR 1.9 million through local sourcing.
- Replaced special ECUs with production ECUs in HTB, saving INR 4.8 million.
- Total cost savings: INR 79.3 million (55.86%) against a departmental target of INR 142.0 million (FY23–25).

Energy saving and CO2 reduction projects

- Optimized HTB chiller operations, generating an annual CO₂ reduction of 28.4 tons.
- Improved HTB cooling tower energy consumption, saving 10.2 tons of CO₂ annually.
- Rolled out the DAKSH energy monitoring system in firing test benches for real-time energy management.

Individual Representation

- Achieved >95% budget adherence for two consecutive years by managing order base and cash flow for a department with over 1,000 MRs annually.
- Acted as Single Point of Contact (SPOC) for integrating new models and facilities into the IT Production Management System (PMS) and Quality Control System (QCS).
- Managed Engineering Change Notices (ECNs), driving cross-functional coordination for timely implementation.
- Represented the department for all HINKAI initiatives, ensuring alignment between design, production, and quality teams.

Assistant Manager | Maruti Suzuki | Gurgaon, Haryana

Process planning, facility installation and new model introduction

- Successfully installed a complete engine assembly line for the new Celerio K10C engine, comprising four conveyors and over 50 special-purpose machines, within 73 days using limited resources during COVID-19.
- Executed facility adaptation for Brezza K15C engine within an existing 4-cylinder line, leveraging local manpower and in-house capability during the pandemic.
- Commissioned facilities to produce 308,000 engines/year for the Celerio and S-Presso models.
- Facilitated integration of multiple K10C RC23 engine models (S-Presso, Celerio, Wagon R) into existing lines.
- Oversaw installation and commissioning of press and inspection machines for cylinder head sub-assemblies, ensuring high-precision alignment and performance.
- Contributed to continuous improvement through machine calibration and process optimization.

New Initiatives

- Led automation of material movement using AGV (Automated Guided Vehicles), improving efficiency and reducing manual labour.
- Introduced AI-based vision inspection for detecting defects in inner part assemblies.
- Deployed an OCR-based engine number inspection machine, from design to commissioning.

Production line side IT, POKA-YOKE & fool-proofing

- Implemented SCADA (Supervisory Control and Data Acquisition) systems for real-time automation and process monitoring.
- Installed Andon systems for production alerts and issue tracking, improving responsiveness.
- Integrated RFID-based traceability and model-based interlocking systems across the engine assembly lines.
- Deployed POKA-YOKE interlocks and MSIL PMS configurations to prevent human errors and ensure quality.

Cost-saving and improvement projects

- Saved INR 2 million annually by optimizing manpower through AGV implementation.
- Reduced recurring costs by leading the installation of automated oiling machines for precision lubrication, eliminating INR 12 million per year.

Individual Representation

- Acted as department coordinator for SAP Ariba implementation, creating training modules for internal/external users.
- Managed department revenue budget, ensuring financial control and forecast alignment.
- Designed and implemented Power BI dashboards for real-time visualization of key production metrics.

Education

Bachelor of Technology (Mechanical Engineering) – IEST, Shibpur, West Bengal | India

Accomplishments

- Promoted to Deputy Manager with Star Performer Rating for two consecutive years at Maruti Suzuki
- 1st position in Impetus 2016, the flagship event of the Society of Mechanical Engineering of IEST
- 1st position in Oscillation, dance competition in REBECA, the annual cultural fest of IEST
- 1st position in Inter-School Parade Competition on Republic Day
- 2nd position in robotics event Counter-Terrorist in INSTRUO, the annual techno-management fest of IEST
- 2nd position in the school-level junior category, Tata Building India School Essay Competition
- 2nd position in the inter-school level poster competition in 2010 & 2008

Certifications

- Excel Skills for Business: Advanced, Macquarie University Macquarie University
- Lean Six Sigma Green Belt, KPMG
- Pre-MBA Accounting, Indian Institute of Management Ahmedabad
- Pre-MBA Statistics, Indian Institute of Management Ahmedabad
- Foundations of Project Management, Google
- Innovation Management, Erasmus University Rotterdam
- Electric Vehicles and Mobility, École nationale des ponts et chaussées

Extra-Curriculars

- Vice Recruitment Secretary, Placement Committee, PGPM Class of 2025–26, IIM Ahmedabad
- Undergraduate Placement Representative, 2017-18 and 2018-19, IEST, Shibpur
- General Secretary, Robodarshan, Robotics Society, IEST, Shibpur
- Organiser, Automaton, Annual Robotics Fest of IEST, Shibpur
- Member, Students' Senate, IEST, Shibpur
- Committee Member, Instruo, Annual Techno-Management Fest, IEST, Shibpur
- Member, Catharsis, Photography Club, IEST, Shibpur
- Member, Reflexo-Beta, Dance Club, IEST, Shibpur