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Personal

A highly skilled six sigma black belt qualified engineer with 20 years product development and quality experience.

Working at several premium product development and manufacturing companies, I have a proven track record of product development, product launch, problem solving, process improvement, project management and driving quality performance.

My experience and education give me the skills to tackle a very broad range of complex system engineering, process and manufacturing challenges, and develop robust and efficient solutions.

I work well within, and lead teams well, bringing a hardworking and enthusiastic attitude, thriving on new challenges. Most of all, I really take ownership of an issue and will drive the team onwards with positivity, whether leading the team or a member of it.

I am looking for opportunities, regardless of term, to transform product quality within organisations of any type.

Career History

2018 (Jun) – 2020 (Apr) Jaguar Land Rover Ltd. – ‘Dimensional System Integration’ Lead Engineer

Key Achievements:

Implemented System Engineering on Critical New JLR Programmes

Tasked with rolling out ‘System Engineering’ on the new Electric XJ Executive Saloon, I delivered a car with no fundamental design issues on any of my 12 critical systems. This is in strong contrast to a usual launch programme where many components will be re-engineered to address fundamental design, quality and/or assembly concerns.

While this benefit is not easily quantified, the lack of re-design hours, re-tooling costs, late parts into production on later phases, the associated vehicle rework involved, and product launch delays easily runs into excess of £500K every programme.

In addition to the cost savings, I improved the quality outputs of the vehicle against benchmark models and predecessors. As part of this I was able to reduce input tolerances by up to 75% by using process data, and agreeing tuning of key features where required. This itself has driven a change in JLR tolerancing, to use ‘Process Variation’ and ‘Mean Shift’ independently where tuning is possible.

Roles and Responsibilities:

- To lead the new ‘Dimensional System Integration’ function for Side Systems:
 - Implement a ‘System’ based approach that is new to Jaguar Land Rover, to ensure the delivery of critical design requirements by aligning a series of components and component owners
 - Responsible for achieving Functional and Aesthetic targets for the Side Systems
 - Ensured all System Critical Xs are understood, specified and controlled for System delivery
 - Drove detailed alignment of component specifications, assembly methods, and fixture design
 - Developed detailed validation plans for Launch to confirm design intent and entitlement to deliver required targets
 - Created aligned maturation plans to mature and mean shift critical features through Launch
 - Follow the programme from Virtual Phases through to Series Production and ensure target delivery
- To ensure the complete system of components delivers the aesthetic and functional requirements:
 - Align a team of individual Product Development Engineers and Functional Departments around a common goal
 - Lead reviews with Engineers and Suppliers to develop the best outputs for the System
- Create New Processes to deliver System Engineering requirements across the business:
 - Educate the business in the new role, from Engineers to Directors, across multiple departments
 - Develop a set of reporting metrics/KPIs to communicate progress to the business
- To understand, align, and challenge current processes to improve Product Development and Design for Manufacture:
 - Reduced Door construction tolerances by 75%, from generic standards, to feature specific tolerances
 - Developed a Door Construction Brochure to detail the critical alignments, and required outputs

- Proved outputs could be delivered through detailed measurement analysis of similar products
- Developed new method for modelling variation for Doors through Design Variation Analysis (DVA)
 - More accurate geometric modelling through detailed inputs – Panel Alignment Strategy, Tooling Details, Assembly Methods, Relationship Tolerances, and Setting of Door to Car
 - Significant improvements in the output prediction of the DVA Tool, and correlation with outputs from previous programmes to give confidence in the change in methodology
- Lead a shift in corporate strategy to separate Component Tolerances into 'Variation' and 'Mean Shift':
 - Create plans for maturation through the Launch Phases, which allows JLR to design using actual part variation
 - Designed system using Cp, and Mean Shift to achieve Cpk
 - Enabled design to tighter, and more accurate tolerances, to deliver the best quality finished product

2015 (Aug) – 2018 (Jun)

Jaguar Land Rover Ltd. – Quality Launch Lead Engineer for I-Pace Electric Sports SUV

Key Achievements:

Produced the First Non-Finesse Tailgate Process in Jaguar Land Rover

Historically Jaguar Land Rover Tailgates require 100% finesse on the Final Production Line to ensure a good fit, and alignment with adjacent components, to achieve Functional and Aesthetic requirements.

On the Jaguar I-Pace we redesigned the system, using a data driven approach to predict how much variation we would see, and how many man hours would be spent if we followed traditional fitment strategies.

Using the data, and a bold new alignment strategy, we proved that we could remove 2 heads per shift and improve the quality by 95% compared to the previous systems.

Working closely with Component Owners, Suppliers and Manufacturing Engineering, not only did we deliver a non-finesse Tailgate which exceeded the initial quality and productivity claims, but we delivered the requirements from the first vehicles produced at Prototype Build.

As a result, on the I-Pace we employed 4 less Finesse operators than previous models (circa £120k per annum).

There was also a significant quality improvement as we were able to achieve the required targets for the first time.

Finally, there was a significant (but unquantified) benefit from lack of damage, resulting in rework suffered on previous models.

The same fitment strategy has been subsequently deployed on the new models in development as the standard.

Roles and Responsibilities:

- Subject Matter Expert for the new Quality Focus Areas (QFA) function:
 - Developed the new function based on previous experience with B&W and Toyota and Launch within Jaguar
 - Implemented new process for ensuring all quality requirements met to deliver a 'Seamless Product Launch'
 - Setup X-Functional Teams within the Design Phases to drive System Engineering and Design for Manufacture
 - Drive the project from Virtual Design Phases, through Product Validation, and into Series Production
- To support the Launch Team to develop and launch Jaguar Cars at new contract facility in Graz, Austria:
 - Worked closely with both UK and Austrian Engineering Teams to ensure good alignment of concept and delivery
 - Development of the Production Facility to support manufacture to JLR requirements
 - Managed the resolution of major facility and product incompatibilities to develop cost effective, quality focussed solutions, that achieve the production volumes within takt times
 - Personally managed the major facility redesign to move the Roof Glazing cell, and to change the product design to fit within the design and production facility requirements and constraints
- Development of the I-Pace Electric SUV from creation to Production:
 - Managed Quality Focus Areas (QFA) on Jaguar's first Full Battery Electric Vehicle (BEV)
 - Despite major new technology challenges, the Validation Prototype phase of the Launch proved the engineering concepts with confidence to proceed into full production
 - Co-ordinated X-Functional Teams on 24 Quality Focus Areas across the whole vehicle
 - Setup, developed and reported out the key metrics tracking the QFAs through Launch
 - Worked closely with Company Directors and Senior Managers to setup relevant metrics
 - Weekly Senior Management and Director feedback of QFA progress and forward planning
- Development of planning and tracking tools to ensure issue tracking, and concern validation through Launch:
 - Implemented pro-Active validation of the design and assembly concepts for first time at Prototype Build
 - Drive close X-Functional working of the Launch Team to validate assembly and design
 - Raise snags as a team as issues found in real time to ensure alignment and team resolution
 - Produced lessons learned pack from Virtual and Prototype Phases to drive into future designs
 - Ensured close alignment with Austrian Production Facility to accept product for Production

Key achievements:**Redesign of Headlamp Datum strategy for F-Type and future models**

One of the critical areas I was responsible for validating at the Prototype Phase of the F-Type launch was the Headlamp fit and alignment. My detailed measurement study showed that, as well as parts being away from specification, they also didn't respond as expected when assembled to the vehicle. Previously these issues would go unresolved until in the Production Plant, having been blamed on out of specification components, hence the new role. This would normally cause major production issues, delays, reworks and re-tooling costs.

Having highlighted the issue, I worked closely with the appropriate Component Engineers, Manufacturing Engineers and Suppliers to develop a robust datum and fitment strategy for the F-Type Headlamps. We validated this on Prototypes and proved the concept for production. In addition, I developed a lessons-learned pack that detailed the concern, and the moments that acted on the Headlamp to cause poor fitment. This directly influenced and improved subsequent Headlamp strategies at Jaguar Land Rover.

Roles and Responsibilities:

- To develop the brand new Launch role, initially setup on F-Type Convertible:
 - To provide a smooth transition from Product Development to Production Facility through Launch to Customer Cars
 - This allowed a 60% of the launch team to move to new projects 6 months earlier than planned
 - Organising multi-functional teams (AME, DMBI, PD, STA, Manufacturing) to work on Critical/High-Hurt areas:
 - Root cause analysis of any issues that occur in a Critical/High-Hurt area through Launch
 - Project management of multi-functional teams to investigate concerns through to resolution
 - Feedback of progress up to Director level through a variety of High-Hurts and CQ reviews
- To support and drive part and process maturation to achieve robust sign off for the finished components (PSW):
 - Ensure alignment of DVA, Supplement K and Gap Plan prior to Supplement K sign off
 - Weekly review with PD and AME to ensure Gauge R&R, Calibration Plans, etc meet requirements
- To provide robust Handover to the Production Plant:
 - To ensure robust handover of the system understanding to the Plant based teams
 - Create system description document to allow quick problem solving of any future quality concerns

Key achievements:**Resolved Major Squeak and Rattle Concern on Jaguar XJ vehicle**

Employed by Webasto at the request of Jaguar Land Rover, to manage the Six Sigma Project to address the issue that had 1100 customer complaints, costing £660k, and was causing additional vehicle returns and loss of sales on the £90k XJ Executive Saloon.

This issue required daily feedback of status to Directors of both Webasto and Jaguar Land Rover, and working closely with engineers from both companies to understand, quantify, contain, resolve and implement solutions. In addition, there was a 72 day time limit imposed by JLR to a) Contain Current Production, b) Resolve Future Production, and c) Release a Solution to the Dealer Network with instructions and components required.

Not only did I resolve the problem, but completed the project within 35 days instead of 72.

I presented the findings (including some procedural failings on both sides) to Directors of both companies to ensure lessons learned.

Roles and Responsibilities:

- To resolve major warranty concerns with Jaguar Land Rover (JLR) products:
 - Lead Six Sigma Problem Solver on Jaguar issue with 1100 warranty claims costing £660,000 to date
 - Quick Service Fix (QSF) implemented after 35 days – 72 day maximum allowed
 - Production fix implemented along with service repair kits and instructions to the Dealers issued
 - Applied Six Sigma (DMAIC) techniques to determine root cause and implement robust resolutions
 - Kaizen following production implementation to reduce costs and improve quality and repeatability
 - Six Sigma project report produced using JLR's 6 Panel format
- To raise Webasto up the Jaguar Land Rover (JLR) Supplier League Table:
 - Raised Webasto Roof Systems (WRS) score in the first 8 months of employment
 - Increased the points obtained from -9 to 31 across 20 metrics as stated by JLR
 - Resolved major warranty issues to ensure WRS meet JLR warranty spend targets for 2011
 - Improved WRS business systems to ensure ongoing quality improvements:
 - Improved 8D process to include SAP management and closed loop closure system
 - Creation of Design Rules link from WRS to HQ in Germany for 'Lessons Learned'
 - Links from 8D process to Design Rules and FMEA updating for future products

Key Achievements:**Created new Quality Department to address long standing x-functional concerns**

A lot of large companies develop a culture of passing some major issues from department to department without properly resolving them, when they have more than one owner, due to the way the metrics drive no-one individual to take ownership.

My department 'Chronic and Complex' at Toyota was setup to take ownership of these major issues and remove the costly containment processes that existed across the production plant and at suppliers.

I worked with the relevant departments, implementing the Toyota Problem Solving (TPS) methodology and documentation to define, quantify, contain, and ultimately resolve these major issues.

As well as helping to setup the department, the processes followed, the visual management, the metrics, and the regular report forums, I also was the main problem solver, with one assistant and a manager.

In the 1st year of the department it had:

- a) Resolved 7 of the top 10 major issues being contained across Toyota UK
- b) Saved future costs, as total of 2,500 vehicles that had been significantly reworked in the prior 11 months to countermeasure
- c) Cost saving at both Toyota and Suppliers due the containment heads, processes and components that were no longer required exceeded £200k per annum

Roles and Responsibilities:

- To resolve ongoing chronic and complex issues that resulted in significant defect levels and inspection costs:
 - Setup and manage the new Chronic and Complex Team and initiate methods for problem selection, defect tracking, problem visualisation, project planning and reporting
 - Resolved 7 of the top 10 major production issues in the first 10 months
 - Combined total of over 2,500 defects that were being contained in the 11 months prior to countermeasure
 - Cost savings at both Toyota and Suppliers due to removal of agency employed containment members
 - Perform detailed analysis of measurement and process capability data to ensure solid problem resolutions

Key Achievements:**1) Resolved major production bottleneck preventing delivery of Toyota vehicles to market**

Following a shift in market demands, the ratio of Wagon to Saloon vehicles was not possible due to a production bottleneck in Weld Shop. My role was to assess the bottleneck, time the process (overlying Man, Machine, Movement, and Wait times) and develop a solution.

I produced 3 options to remove the bottleneck, including 1 firm proposal, all with business cases for cost, timing and benefit.

I then project managed the implementation of the solution which involved movement of robot cells and setup of a new cell with all safety equipment and regulations. My solution resolved the bottleneck, and provided flexibility for future ratio changes.

2) Produced Optimized Crisis Management Strategy

There was a plan agreed within Toyota General Management that required a new Paint Process to be installed in case the old Electrodeposition Lines failed. This plan required significant cost and space to set up, and my job was to develop this.

Having assessed the process time, space required, and ability to corrosion protect the components to Electrodeposition standards, I determined that the proposed Crisis Management strategy was unfeasible, and detailed this in my report.

In addition, I implemented an FMEA process with the appropriate team members to ensure we understood what could fail, and had mitigation plans for each failure mode (including the ability to run parts on both lines in case one failed, spares of long lead time components, regular checks for key components, and service contracts for all pump systems).

This crisis management strategy saved Toyota from spending 100s of £1000s, and taking up 1000s of cubic feet of production space, on kit that may never be needed. They have never suffered a failure that has stopped production, but have regularly used components of the Crisis Management Strategy that otherwise would have stopped the whole plant for days.

Roles and Responsibilities:

- To optimise and develop Toyota production methods within Weld Shop:
 - Improved quality and productivity of Weld Shop's Electrodeposition (ED) Paint Lines
 - Designed and installed robot cells to increase productivity, flexibility and efficiency
 - Proposed and managed projects for installation / decommission of capital equipment, including:
 - £200K per annum cost reduction project
 - £180K improvement activity on ED Paint Lines
 - Justify projects through breakeven and payback analysis, with clear costs and benefits associated
- To manage global improvement projects:
 - Managed teams of QA, Purchasing, Maintenance and Engineering from Toyota Europe and Toyota Japan
 - Managed timescales, budgets and workload for major improvement and cost reduction projects
 - Applied the Toyota Production System (TPS) and Lean Manufacturing principles to develop and ensure efficient and capable production processes
- To Support Production and Maintenance on Kaizen activities:
 - Performed process efficiency investigations, design FMEAs and risk assessments
 - Ensured legislation regarding Legionella, Health and Safety, Environment, CE Marking, etc. were followed
 - Worked with Health and Safety department to re-write the company Equipment and Machinery procedure

2008 (Jan) – 2008 (Sept)

Bowers and Wilkins (B&W) Ltd. – Product Development Engineer

Key Achievements:

Value Engineered the £44,000 Flagship Loudspeaker for Bowers and Wilkins

After 10 years in Production, the Flagship 'Nautilus' Loudspeaker was still produced on prototype tooling, resulting in a constant struggle to achieve the quality required.

As a result, 1 pair of speakers was produced every 3 weeks in a static build zone, and the waiting list was 18 months. In addition, the cost per unit was significant due to over-spec'd components, and excessive quality requirements.

Following 3 months of tooling redesign, component specification reviews, re-sourcing of components, and process evaluations I had:

- a) Reduced production lead time from 3 weeks to 4 days, largely due to achieving quality first time, without several rework loops
- b) Reduced cost per unit by 34%, through clarity of specifications, and resourcing / renegotiating to the new specifications
- c) Lead time reduced from 18 months to 3 months immediately
- d) Enabled B&W to increase the unit price from £44k to £55k due to reduced lead time which increased customer interest

Roles and Responsibilities:

- To develop B&W products from concept to production:
 - Developed designs that were cost effective and easy to manufacture
 - Used SolidEdge 3D modelling software to develop design concepts prior to tool manufacture
 - Set up production of the CM series in B&W's new Chinese factory in ZhuHai on time and on budget
- As Six-Sigma Black Belt, to lead and manage quality improvement projects:
 - Applied Six-Sigma tools including SPC, DOE, FMEA, RACI, etc
 - Initiated and managed continuous improvement activities based on my pareto data of major issues
 - Applied Six-Sigma tools whenever resolving problems or running projects, whether physical or transactional
 - Value Engineered B&W's flagship finished product (Nautilus) to improve production processes and ensure efficient and cost effective production methods, thus improving quality and reducing production time
 - Reduced manufacturing lead time from 3 weeks to 4 days
 - Reduced production and component cost of product by 34%
 - Allowed B&W to increase sales price from £44,000 to £55,000 due to shorter waiting time

2002 – 2008

Bowers and Wilkins (B&W) Ltd. – Quality Engineer

Key Achievements:

Developed Customer Complaints Database and Business Process

While this was early in my career, it shows my logical approach to the problem, and technical implementation, which has only improved over the last 20 years:

Step 1 – Determine the problem statement: Complaints database was independent of all other areas of the business, and had no ability to extract information or trend data of the issues being raised

Step 2 – Create a system specification: Discuss the requirements with the relevant stakeholders and adjacent process owners to ensure the new system fitted in with the business and added value

Step 3 – Determine the best software solution: Work closely with IT to review process requirements and software solutions

Step 4 – Develop working database: Database setup on SAP as this was the system direction for the whole company

Step 5 – Implement the system: Following trials and beta testing with stakeholders and users, roll out system on SAP

Step 6 – Develop training material and train all users and managers: Ensure all users and stakeholders understand how to use the new system, and how it can integrate with adjacent processes and departments

Step 7 – Duplicate the Customer Complaints Process for Internal Quality Issues: Ultimately they're all quality issues, it's just where they are found that makes it Internal or Customer Complaint, so the system should be the same, and the data should be correlated together.

My ability to assess, modify, and re-create business processes has been significant throughout my career.

Using the same logical problem solving (and often 6 Sigma) approach as for a physical problem, transfers the same onto transactional or procedural issues.

The generation of the improved Customer Complaints Database allowed Bowers and Wilkins to categorise, quantify, and react to trends across the world as never before, allowing us to focus the Quality Department on specific warranty projects to quickly resolve concerns. In addition, when the Internal Database came online, we saw the Customer Complaints drop significantly due to our ability to respond quickly to the internal concerns and correlate these directly to the external database.

Roles and Responsibilities:

- To drive B&W's quality department from Quality Control to Quality Assurance focused:
 - Managed and developed closed loop Corrective, Preventative Action (CPA) processes, systems and database
 - Specified and created the B&W Group database for customer and production issues
 - Developed, documented and trained members on Sample Approval, Goods-In Inspection, Customer Returns and Production Issue Investigation procedures
 - Developed online procedure system to aid adherence to company procedures
 - Took on poorly performing procedures to manage and kaizen to improve business performance
- Set up the Goods-In Inspection department in B&W's new Chinese factory in Zhu Hai
- As SAP Super User, manage the SAP Quality Management System in conjunction with Business Systems

Education

2004 to 2008	BEng (Hons) Manufacturing and Mechanical Engineering	University of Brighton
2002 to 2004	HNC Manufacturing and Mechanical Engineering	Northbrook College
1995 to 1998	BA (Hons) Fine Art	Northbrook College

Training	Catia V5 Training Course (2018)	Teamcentre Training Course (2018)
	SolidEdge Training Course (2007)	Excel Advanced Training (2007)
	Minitab Training Course – SPC Software (2003)	Six Sigma Training Course (2001)
	CAD Software (Pro/E and SolidEdge)	SAP ERP System
	Toyota Production System – TPS (2009)	Legionella Management – IOSH (2009)

Interests

When I am not working, I enjoy watching films, listening to music, cooking, painting, diving, playing drums, photography and socialising

During the recent lockdown, I have taken the opportunity to learn and develop, and to embrace my COVID driven sabbatical.

I have developed a daily workout schedule, and now cycle circa 100km a week.

I signed up to online courses in Photoshop and Lightroom to develop my creative side through digital painting and photography.

Having not made the time to read for several years, I have read several books and noticed an improvement in my sleep and wellbeing.