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SCOPE

SUPPLY CHAIN & OPERATIONS CLUB

AAROHAN

CORPORATE EXCELLENCE AWARDS 2024

Editors:
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SYMBIOSIS CENTRE FOR MANAGEMENT AND HUMAN RESOURCE DEVELOPMENT

The Event

The 19th edition of the Corporate Excellence Awards (CEA), hosted by the Supply Chain and Operations Club (SCOPE) at Symbiosis Centre for Management and Human Resource Development, was held on January 24th and 25th, 2024. This distinguished event recognizes and celebrates companies that excel in setting new standards of quality and operational efficiency. It serves as a premier platform for showcasing excellence in business practices and innovation.

This year's theme, "HumanTech Harmony: Operational Excellence in Service of People and Planet," focused on integrating technology and operational excellence to benefit both people and the environment. The event featured participation from 62 diverse teams representing 29 unique companies, each presenting a wide range of innovative projects and ideas. These submissions were meticulously evaluated by a panel of industry experts, who assessed each project's impact, feasibility, and originality. The thorough evaluation process ensured that the most impactful initiatives were highlighted, reinforcing CEA's commitment to promoting excellence in sustainability.

As CEA 2024 concludes, the SCOPE committee celebrates its success and remains dedicated to further enhancing the awards' prestige. With plans to build on this year's achievements, the committee is committed to continuing the tradition of recognizing and inspiring excellence in the business community. The success of this year's event sets a high standard for future editions, ensuring that CEA will continue to drive positive change and innovation.

FROM THE DESK OF THE DIRECTOR

The Corporate Excellence Awards (CEA), hosted annually by the SCOPE club at SCMHRD, is a premier event designed to showcase and celebrate outstanding corporate projects. This platform allows companies to present their advancements in performance, efficiency, and productivity, demonstrating their commitment to excellence across various sectors.

The event is marked by insightful evaluations from a panel of leading industry experts, who rigorously assess the innovative and effective approaches of each project. Beyond recognizing achievements, CEA serves as a vital exchange forum where businesses can share best practices and engage in meaningful dialogue. It also strengthens the link between industry and academia, fostering mutual learning and growth. SCMHRD congratulates all participants and winners, acknowledging their exceptional contributions and wishing them continued success.

Dr. Netra Neelam

Professor & Director

SCMHRD

From the Desk of the Editors

Symbiosis Centre for Management and Human Resource Development

As we conclude the 19th edition of the Corporate Excellence Awards (CEA), we take pride in the exceptional quality and innovation displayed throughout this year's event. Held on January 24th and 25th, 2024, CEA once again affirmed its role as a premier platform for recognizing companies that excel in quality and operational efficiency.

The theme for CEA 2024, "HumanTech Harmony: Operational Excellence in Service of People and Planet," emphasized our commitment to integrating technology and operational excellence with a focus on benefiting both people and the environment. With participation from 62 diverse teams representing 29 unique companies, the event showcased a broad array of innovative projects. Each submission was meticulously evaluated by a distinguished panel of industry experts, ensuring that the most impactful and forward-thinking initiatives were honored.

As we celebrate the success of CEA 2024, the Supply Chain and Operations Club (SCOPE) looks forward to further enhancing the awards' prestige and impact. Our ongoing dedication to recognizing and inspiring excellence promises to drive positive change and foster innovation in the business community. We are excited about the future and remain committed to continuing this tradition of excellence in the years to come.

Dr. Manoj Hudnurkar

Professor, SCMHRD

Dr. Suhas Ambekar

Asst. Professor, SCMHRD

Winner CEA 2024

Domain	Company	Project Name	Award
Lean Six Sigma (Manufacturing and Others)	Ashok Leyland Limited	Tool cost reduction in Gear Hard line from 13418 Rs/HECU to 10989 Rs/HECU	Winner
	INDORAMA SYNTHETICS INDIA LIMITED	Reduction in Physical fault and Break bobbin in POY from 1.54% to 0.90%	Runner Up
Lean Six Sigma (IT Services)	Wipro Limited	NetworkOps	Winner
	Ashok Leyland Limited	Reduction of downtime due to temperature drop in High temp CGCF-5	Special Mention
Supply Chain and Operations	TATA CONSULTANCY SERVICES Limited	Integrated Group Optimised Transportation	Winner
	Worley India Pvt. Ltd.	Stratos (Direct Air Capture)	Special Mention
Digital Transformation in Business	TATA CONSULTANCY SERVICES Limited	Operations Transformation for Experience and Value	Winner
	TATA CONSULTANCY SERVICES Limited	Procure to Pay - Self Bill on ASN	Runner Up
Start-up Track	KIT INTELLECT TECHNOLOGIES PRIVATE LIMITED	SHG eShop	Winner
	ECOSTP TECHNOLOGIES PVT LTD	BIOMIMICRY	Runner Up
ESG, Sustainability and CSR	CGI	BSafe Mobile App development	Winner
	Wipro Enterprises (P) Limited	Enhancement of Steam generation from Briquettes Boiler	Special Mention
General Management	Tractors & Farm Equipment Limited	Crafting Excellence in Painting through Skill Enhancement	Winner
	Aditya Birla Fashion and Retail Limited	Pit stop in Apparel Industry	Runner Up
Product Innovation and Management	Tractors & Farm Equipment Limited	Increase of Market share 40 to 50 HP in Domestic Market	Winner
	Wipro Limited	E3M solution (Energy, Enterprise, Efficiency Solution)	Runner Up
Industry 5.0 and Analytics	Reliance Industries Limited	EMS	Winner
	Cummins India Limited	Quality 4.0 Initiative-Create governance framework for tracking India ABO Quality KPIs	Runner Up

Table of Contents

Start-Up Track 98

ESG, Sustainability and CSR 128

General Management 135

Lean Six Sigma

Manufacturing and Others

Ashok Leyland Limited

Project Title: Tool Cost reduction in Axle & CWP BU

Abstract:

We have Axles and Crown Wheel pinion Business unit in PNR plant of M/S Ashok Leyland ltd. High tooling Cost was one of the major issues identified in Annual Planning Cycle, which was one of the major contributors in Production Overheads. The baseline of project is Rs. 3129/HECU and target of bringing it down to Rs. 2916/HECU was taken in this project.

The project is done with standard 7-step methodology of Ashok Leyland. The rationale behind taking this project was discussed with multiple stakeholders viz. Mfg., Tooling, Central purchase, Quality and Senior Leadership team of PNR plant of Ashok Leyland.

Based on historical consumption and incurred cost, tools with high opportunities and of bigger scope were identified to act upon.

Detailed Fault Tree Analysis (FTA) was done to identify all potential reasons behind high tooling cost and ~23 such reasons are zotted down for analysis. The analysis of potential reasons included the Gemba Observations, PESTLE factors, and past experience of team. All the potential reasons were then validated with help of Gemba data collection and statistical tools to check their significance.

Force Field analysis was done for finalizing the solution based on Driving forces and Resisting forces associated with solutions.

Solution of indigenizing the tools (accuracy <5 Microns) which were being imported earlier was adopted and implemented.

Pilot run was done with indigenized tooling and later put into Mass production wherein the process capability achieved for products is Cp > 1.6.

This project laid foundation to many other projects and we have indigenized 10+ imported tooling (accuracy <5 Microns) by now.

The major breakthrough of the project was paradigm shift towards taking calculated risk and indigenize the high-cost tooling.

We were also able to save ~8.5Lakhs with in-scope tooling and total of around 32lakhs for company with this project. Also, the achieved Tool Cost is Rs. 2799/HECU against target of Rs 2916/HECU.

Company Background:

Ashok Leyland is an Indian multinational automotive manufacturer, with their headquarters in Chennai. It is owned by the Hinduja Group. It was founded in 1948 as Ashok Motors which became Ashok Leyland in the year 1955 after collaboration with British Leyland. Ashok Leyland is the second largest manufacturer of commercial vehicles in India the third largest manufacturer of buses in the world and the tenth largest manufacturer of trucks.

Ashok Leyland has a product range from 1T GVW (Overall Vehicle Weight) to 55T GTW (Overall Trailer Weight) in trucks, 9 to 80-seater buses, vehicles for Defence and special applications, and diesel engines for industrial, Genset and marine applications.

Current Problems/Challenges Faced:

High Tooling Cost was one of the major issues. We were losing on Cost front as well as quality front because of worn out tooling. Multiple operations were impacted due to unavailability of imported tooling.
The worn-out tooling was impacting product quality as well as causing rework generation.
The quality and precision requirements were as low as 5 microns in the subjected tooling and the problem of rework generation became part of process.
We were living with problem of rework and high overheads.

Objective:

High Cost was incurred to company as well as the mfg. cost of making the product was also high.
Purpose of this project was reducing the tooling cost, improve quality as well as came up with innovative solution of reducing tooling cost.

Methodology:

7-Step Problem solving methodology-

1. Problem Definition phase containing charter and rationale behind this project**.**
2. Observation phase containing Gemba observations and data collection.
3. Analysis phase containing Fishbone/FTA for all potential reasons mapping and their validation.
4. Action phase containing solutions implementation.
5. Check phase containing sustenance of results.
6. Standardization phase containing standardization of solutions in necessary documents**.**
7. Conclude phase containing final sign-off with all stakeholders**.**

Results:

In observation phase of the project Value Stream Mapping was done to identify the Business Value Chain and several NVAs were identified to address in this project.

In analysis phase, multiple data sources (websites and journals) were referred for checking the influence of PESTLE factors on our tooling cost.

While in trials and analysis, process Standard Deviation (σ) study was done.

Binary logistics Regression was also done to check the impact of Tooling parameter on quality issue.

Multiple Regression Study was done with a handsome sample size of 15000+ components to study the change in Quality parameter over a period of time.

6-pack Process capability study (Cp)was done to check the stability and capability of solutions implemented.

Implications:

- Paradigm shift of dependency on imported parts
- Risk taking ability improved after multiple failures.
- Stakeholders' Management with multiple departments and Local Suppliers for design & development of parts
- Multiple iterations and patience in wait for result checking.
- To work under pressure and during high volume production days.

Improvements, Contribution to Company

- Cost Savings of Rs. 8Lakhs/Annum saved with the three in-scope tooling. This project also laid foundation of tools indigenization as well as an alternate source is developed for regular tooling.
- Agility improved in terms of having an alternate source.
- Total savings after this project has crossed 30Lakhs+ savings.

Limitation:

The solutions offered were have limitations during pilot run trials as it may have increased cycle time, impact quality parameters, reliability issues and may have lesser life when compared to imported tooling.

However, in Check phase of the project these all parameters were validated with hypothesis testing and found that all PQSCDM, reliability and lead time parameters are met.

Conclusion:

The project started with a thought of reducing the tool cost later landed us in innovative and differentiated solutions of indigenization of highly precise (accuracy <5 Microns) imported tooling. We were spending handsome amount in procurement of imported tooling and bound to bear a lead time of as high as 6 months and monopoly in market by single source suppliers.

The team took calculated risk with differentiated approach in indigenizing the Imported tooling and laid foundation of many other projects where-in the tools and machinery spared were being imported.

Cost savings worth 30+ lakhs have been saved with the approach implemented.

Name of Team Members:

1. Dinesh Singh Bisht
2. Sangeeta Bisht
3. Harendra Kumar

INDO RAMA Synthetics (India) Limited

Indo Rama Synthetics Ltd

Project Title: Reduction in Physical fault and Break bobbin in POY from 1.54% to 0.90%

Abstract:

The case highlights the team's effort and Methodology to address concerns on IRSL potential as a manufacturing function & enhance cost savings.

Company Background:

Indo Rama Synthetics (India) is a leading polyester manufacturer in the country. We produce Polyester Filament, staple fibre and polyester chips/bottle grade chips.
We have an integrated production facility in Butibori, near Nagpur, Maharashtra**.**

Current Problems/Challenges Faced:

Downgrade reasons like Process upsets, lab downgrades, physical faults, damages etc. As process upset is major reason of downgrade, but it is out of scope of POY. So, second main reason is Physical fault which causes average 0.80% contribution of total DG%. Both have 1.54% in total Down Grade 3.82%.

Objective:

Reduce in physical and break bobbin reduction from 1.54 to 0.90 %.

Methodology:

Project is completed by DMAIC methodology. Define measure, analysis, improve, control.

Results:

Both have 1.54% physical downgraded in total Down Grade 3.82%.
Currently we achieve 1.0% against Target 1.54 resulting 211 K$/ year.

Implications:

- Started team working with new DMAIC methodology. By Implementing LSS tools there is improvement in results, and huge savings are possible to achieve.
- From this project it has proven that we can use tactics to other denier and can improve performance.

Improvements, Contribution to Company

Approx. 211K$ saving per year to company and increase customer satisfaction.

Limitation:

Pre- process abnormality can affect process performance.

Conclusion:

- After overcoming this opportunity IRSL team has reduce downgraded 1.54% to 1.0% in physical downgraded.
- Currently we achieve 1.0% against Target 1.54 resulting 211 K$/ year.
- Customer satisfaction has increased. Team working with new methodology has increased.

Name of Team Members:

1. Mr. Bheemwaram
2. Mr. Venudham
3. Mr. Shyam

Ashok Leyland Limited

Project Title: Elimination of Lift Axel Chain Breakage Issue

Abstract:

Ashok Leyland is always committed to protect its customer, take the feedback from customers and resolve the customer issues within timelines. One of the major customer issues was "Lift axle chain breakage issue" in Dual Tyre Lift axle models. Dual Tyre Lift Axle model came in picture after change in Payload norms by Govt. After that production of Dual Tyre Lift Axle is increasing Year on Year. Significant failures were available in filed that triggered us to take a project and resolve the failure. It is topmost priority to resolve Dual Tyre Lift Axle model failures to keep the customer trust in AL Product. This impacted on improved customer satisfaction, elimination in breakdown & reduced warranty costs.

Company Background:

Ashok Leyland is an Indian multinational automotive manufacturer, with their headquarters in Chennai. It is owned by the Hinduja Group. It was founded in 1948 as Ashok Motors which became Ashok Leyland in the year 1955 after collaboration with British Leyland. Ashok Leyland is the second largest manufacturer of commercial vehicles in India (with a market share of 32.1%), the third largest manufacturer of buses in the world, and the tenth largest manufacturer of trucks.

Current Problems/Challenges Faced:

In field service, one of the major customer issues was "Lift axle chain breakage issue" in Dual Tyre Lift axle models. Lift axle is a key feature in vehicles which provides feasibility to change vehicles load carrying capacity up to 12.5 Ton. Lift axle chain ensures maximum axle movement. Chain breakage will lead to excess axle movement and consequential failures.

Objective:

To protect customer and Elimination of major field failure 'Lift axle chain broken' issue at field to reduce major customer failure and improve customer satisfaction. Usage of problem-solving methodology to fix the root cause & identify the solution.

Methodology:

7 steps problem solving methodology adopted for resolution of the problem. Simulation of failure inside plant to demonstrate field failure.
Root cause analysis by using 7 QC Quality Tools & validation of each potential cause. Benchmarking with other OEM's; trials & feasibility check for horizontally deployment. Benchmarking within house solutions available inside Ashok Leyland.

Results:

Field failure has been simulated inside plant to find out the exact cause of failure. The failed part has been analysed through 5W methodology. All the potential causes have been mapped in Fishbone diagram and each potential cause has been validated. After identification of root cause, solutions have been identified through other OEM's benchmarking & in house benchmarking. Trials have been done inside plant based on solutions identified. After successful trial at Plant, results shared to Product Development. PD validated Proposal including all Probable failure modes (heat Shrink sleeve life/grip/temp/entangling) Final go head given by PD & EDM released. (ER DIN-0095643, Part No.- X9E00300)

Implications:

Analysing of the problem by using problem solving techniques. Brainstorming & fixing the root cause. Implementation of new changes. Creating standards for modified lift axle chain. Methods of creating understanding. Technical applications of upgraded technology

Improvements, Contribution to Company

Rework and repair cost due to failure of lift axle chain at field service has been avoided by this improvement. Efforts and action appreciated by Customer. Prime model issue resolved to protect Customer. Retained the trust of Customer to resolving their pain. Issue resolved in fast track. Team involved from all dept. Problem resolution with involvement of all stake holders. New idea developed in house. No cost added in BOM.

Limitation:

The solution offered is applicable only to Dual Tyre Lift axle models of Ashok Leyland & not applicable to other models.

Conclusion:

One of the major customer pains, lift axle chain broken during vehicle running has been resolved by GEMBA visits, analysing the root cause of the problem, brainstorming, action implementation, standardization & horizontally deployment of the solution. Customer has been protected & customer satisfaction has been increased.

Name of Team Members:

1. Yogesh Kumar Yadav
2. Rahul Bhatt
3. Pradeep Kumar

Ashok Leyland Limited

Project Title: Innovative solution for production overhead cost minimization and productivity improvement

Abstract:

We represent Ashok Leyland Bhandara Unit, known as technology leader in transmission manufacturing (Synchro-mesh Gear Boxes) with technology knowhow from ZF, Germany. After the post pandemic material price are suddenly hike, manpower cost is also increase, there is huge impact on Automobile Industries, demand is also increasing month wise. Due to high volume, it was need of the hour to control and reduce operating cost and production overheads, to remain cost competitive.

Company Background:

Ashok Leyland is an Indian multinational automotive manufacturer, with their headquarters in Chennai. It is owned by the Hinduja Group. It was founded in 1948 as Ashok Motors which became Ashok Leyland in the year 1955 after collaboration with Leyland. Ashok Leyland, flagship of the Hinduja group, is the 2nd largest manufacturer of commercial vehicles in India, the 4th largest manufacturer of buses in the world, and the 19th largest manufacturers of trucks.

Current Problems/Challenges Faced:

This Project is our synergized effort to reduce the production overhead cost where tool cost is contributing 25% on overall production overhead cost, by enhancing tool life through application of design of experiments and other SPC tools. This is also improving the profile teeth grinding production. Existing Teeth grinding capacity is 1,348 sets/month and demand is going up to 1695 sets/month for Dec'23, so there is urgent need to enhance the capacity by 25% to meet the requirement. This report deals with case study of the various actions taken for reduction of tool cost of various components of transmission, resulting in an annual cost saving of Rs 63.0 lakh (recurring) which is huge impact on production overhead cost.

Objective/Need/Purpose:

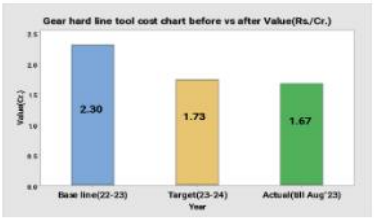
- This Project is our synergized effort to reduce the production overhead cost where tool cost is Control on operating cost was very much important to be cost efficient plant. Different projects were taken to control the operating cost.

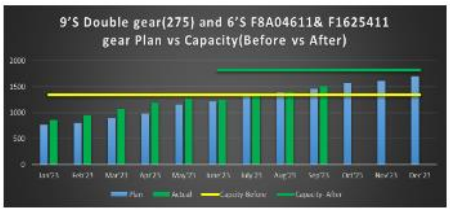
- Our team took the challenge to reduce POH cost reduction by 25 %, from Rs.2.30 Rs. to 1.73 cr.
- To explore the possibility of optimizing the process to achieve targeted controlled cycle time.

Methodology:

- Lean Six Sigma 7 step problem solving methodology adopted for problem observation, data collection, analysis and action implementation.
- Identification of probable causes and validation of each KPIV's.
- Use of Cause-and-Effect matrix to identify vital few probable causes.
- Statistical Cause validation of vital few causes.
- Use of Solution selection matrix for the identified solution.
- Use of advanced statistical tool "DESIGN OF EXPERIMENTS" (Taguchi DOE) for process parameters optimization to sustain the process.
- Detailed Quality check (Cpk, FOS, LOS) to ensure the product within specification.
- Full scale implementation of the improvement done.

Data Analysis/ Results:





- Tool cost reduction Rs.63.36 lakh, 28% reduction from base line.
- TAKT time target achieved 11.19 min against the target of 13.26min.
- Capacity improvement 1823 sets/month from 1348 sets/month.

Implications/Learnings:

- Learnt team building, teamwork and lean concept.
- Team spirit improved, geared up to take more challenges.
- Also learnt how to challenge status quo & change the mind-sets and this will certainly help us take many more such projects to fulfil the changed organizational requirements.

Improvements, Contribution to Company:

- Through improvement in CBN tools, achieved recurring cost saving of Rs 63.36 Lacs/annum.
- By using worm (roughing) + disc (finish) combination for double gear and implement the multi start corundum grinding wheel capacity improvement is 1823 sets/month from 1348 sets/month.
- Project resulted in 19% fatigue reduction of the associate, as tool life is increased, and tool change frequency is reduced.
- Reduction in power consumption through cycle time reduction – 220 Kwh.
- Team spirit improved, geared up to take more challenges.

Also learnt how to challenge status quo & change the mind-sets and this will certainly help us take many more such projects to fulfil the changed organizational requirements**.**

Limitation:

This study has three main limitations-

- Corundum grinding wheel life reduced from 4000 no's to 3910 no's but cost and cycle time reduced by 50%.

Conclusion:

Project benefited in the capacity improvement and tool cost reduction, which lead to reduce production overhead cost, in turn helped in reduction of Operating cost, which will certainly contribute to make our product cost competitive in the market. This will help Plant to be more cost efficient, which is need of the hour in present scenario of the post Pandemic.

Name of Team Members:

1. Godhan Singh
2. Ankit Tiwari
3. Mahesh Mogre

Rieter India Pvt Ltd

Project Title: Reduction in Axle Rework Quantity

Abstract:

The goal of this project is to develop and implement the systematic solution for reduce Axle assembly rework time in Axle series production and streamline the production and assembly line.
It has helped to enhance daily production and reduce rework % overall.

Company Background:

Rieter is the world's leading supplier of systems for manufacturing yarn from staple fibers in spinning mills. Based in Winterthur (Switzerland), the company develops and manufactures machinery, systems and components used to convert natural and man-made fibers and their blends into yarns in the most cost-efficient manner. Cutting-edge spinning technology from Rieter contributes to sustainability in the textile value chain by minimizing the use of resources. Rieter has been in business for more than 225 years, has 4 production locations in four countries and employs a global workforce of around 5500.

Current Problems/Challenges Faced:

- Considering the critical grinding process and excess production load was difficult to take new trials and testing on machines.
- Machining process is critical so was difficult to do program and parameter changes.

Objective:

- Enhance the production.
- Reduce 50% rework time/quantity.
- Cost saving through reducing rework process
- Understand the process constraints & issues.

Methodology:

To implement this project, we have used Six Sigma-DMAIC methodology.

Results

- **Project started – May-2022**
- **Project concluded – Feb-2023**

Total Taper Rework% - 2022-23										
Month	**May-22**	**Jun-22**	**Jul-22**	**Aug-22**	**Sep-22**	**Oct-22**	**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**
Total Production (Yield)	193388	233154	242954	228732	224723	166390	223280	218700	168623	161527
Groove to Groove Taper (> 5 Micron)	21738	25970	25346	23672	13990	10288	14213	13734	10377	9860
Taper Rework %	**11.24**	**11.14**	**10.43**	**10.39**	**6.23**	**6.18**	**6.37**	**6.28**	**6.15**	**6.10**

Implications:

- Understand and use of Six Sigma-DMAIC methodology.
- Various analysis tools used (MSA, 7QC tools)
- Calculate the project saving.

Improvements, Contribution to Company:

- Rework cost saving.
- Production enhancement
- Systematic root cause analysis culture developed on shop floor.
- Educated the operators

Limitation:

- Due to mass production, implemented action/solution sustainability checking frequency is high.

Conclusion:

Throughout this project lot of new things team has learned like RCA and quality methodologies and analysis tools. Implemented solution helped to organization to save cost, time, and enhance

the overall Axle production. Team member's leadership skills and confidence also improved.

Name of Team Members:

1. Aniruddha Salunke
2. Aniket Sankeshware
3. Rohit Gaddiwad
4. Shrikant Wadne

Ashok Leyland Limited

Project Title: To reduce the MTTR (Mean time to repair) of Coolant filling machine by 50%

Abstract:

The brief summary of behind this project is to reduce MTTR of coolant filling machine, which is very high 48min, which result to production losses, as well as to eliminate wastages of coolant and water during overflow or mixing cycle stuck in between due to Auto/Manual mode selection change.

Company Background:

Ashok Leyland is an Indian multinational commercial vehicle manufacturing company with headquarter in Chennai. Ashok Leyland is having 9 plants at 5 locations in India. Company is having a wide range of vehicles starting from 1T to 55T and buses from 9 to 80 seaters. Alwar plant is one of the plants of Ashok Leyland located in Rajasthan making Truck and Buses.

Current Problems/Challenges Faced:

During the period of Feb'22 to Sep'22, Total 32 no. of breakdowns observed in Coolant filling machine having an average repair time of 48.6 minutes, due to which our MTBF decrease very badly for this machine. When this machine is under breakdown, people have to fill the coolant manually in the vehicle to avoid vehicle loss but it increases the chances of air trap in the system. Also, total 720 litres of coolant and 7345 litres of water wasted during this period.

Objective:

The objective of this project is to improve the availability of the machines to avoid production losses to meet customer demand on time.

Methodology:

We adopt APS 7 steps methodology to solve this problem. We started project with understanding customer issues and pain point. After that we have done analysis of issues and

then identify probable cause and its solution. Finally, we have done implementation of action and check project sustenance.

Results:

During Data collection, we have observed coolant/water overflow was the top contributor in the breakdowns of coolant filling machines. Through C& E diagram, we have identified 9 probable causes for the overflow and validated all causes in which 2 probable causes (Water solenoid failure & PLC program malfunctioning) found valid for overflow. In Further root cause analysis, it is observed that due to impurities in water, solenoid parts getting stuck, and System starts malfunctioning. In 2nd valid cause, the root cause observed that there is disturbance of auto/manual cycle due to human intervention.

Implications:

- As we observed during analysis that there is part failure in the machine, so, we should discuss about the reliability reports of the machines parts from the vendor during machine inspection at supplier end.
- Good Practices that are already existing in the company to be incorporated in the new machines before installation as per the local conditions.

Improvements, Contribution to Company:

- We introduced low GSM filter in the water line to avoid impurities entry in the system.
- We replaced electronic controlled solenoid valve with Pneumatic actuator.
- Batch cycle is made enable to work in both manual as well as in auto condition.

Limitation:

- Pneumatic based actuator may not work, due to pneumatic hose failure or air supply issue, during batch cycle process.

Conclusion:

- Machine availability improved up to 99% and there is no production loss happened after the action implementation.
- MTTR of the machine is reduced from 48 minutes to 10.4 minutes.
- Same improvements horizontally implemented in other plants of Ashok Leyland.

Name of Team Members:

1. Raman Kumar
2. Kailash Singh
3. Rajesh Upadhyay

TAFE Tractors And Farm Equipment Limited

Project Title: Reduction Of Rear Transmission Noise

Abstract:

Through this six-sigma project, there is an opportunity to improve our product quality by reducing rear transmission noise issue, this project will help on time delivery of tractors to market as per plan and it reduce the manufacturing rework cost INR 3,50,064.00 per annum, also this project will give benefits to the following stake holders for Production right first-time products, for Customer focus group 0MIS, 3MIS complaint reduction, for Service Warranty complaint reduction.

Company Background:

Tractors and farm equipment (TAFE), the flagship company of the amalgamations group, was established in 1960 with financial and technology participation from Massey Ferguson of the world renown, manufacturers of a wide range of tractors and agricultural machinery. TAFE is the second largest manufacturer of tractors in India also the largest exporter in the country. TAFE have the Vision of "To achieve the distinction of First Choice among the farming community of India and ensure a growing presence in International Markets through setting Leadership Standards of Performance and Customer Care in the Agricultural Machinery Business". The Core values are Customer satisfaction, Quality in products and services, Proactive response to change, Environment & Society, Trust and long-term relationship with stake holders and Business ethics.

Current Problems/Challenges Faced:

In Plant from the period of Apr'22 to Feb'23, total 261 tractors reported as 'Rear transmission noise complaint' during road test, which increase the manufacturing PPM 5040 from current level, the major things was tractor under gone to sick bay to dismantled the gear box at initial hours which affect the product quality and on time delivery of tractors, the risk involved was if the running test inspector missed to detect the noise in tractor which leads major customer complaint in field.

Objective:

1. To improve our Product quality related to noise – Zero touch during warranty period
2. To improve on time delivery of tractors – Ageing less than 3 days
3. Rework cost reduction related to rear transmission noise – 3.5 lakhs to 0.
4. To improve Roll down RFT metrics - 95% and above

Methodology:

DMAIC Approach:

- **Define** – Project section with evaluation matrix justification, Problem background related to rear transmission noise, detailed Project charter which includes Problem statement, goal statement, Scope of the project, linkage with business case, Project plan, team details etc. Through SIPOC captured all CTQ's and CTP's for rear transmission noise issue and toll gate review.

- **Measure** – Data stratification and measured relation between Model Vs defects, identified specification of all input parameter and output parameter CTQ's, Matrix relationship for both input and output CTQ's with scaling, identification of prioritize variables, data collection plan for prioritized variables, base line Sigma calculation and toll gate review for Measure phase.

- **Analyze** – Quick win analysis and action plan initiation, conducted regression analysis to find out the relation between independent and dependent variables. Predictors Vs Response validation with the help of P value, R-sq adj and R-Sq values, Root cause identification for rubbing noise through Shainin technic paired comparison test method. Finally, tollgate review for analysis phase

- **Improve** – Development of solution carried out through Design of experiments, evaluate main effect results and interactive effect results and arrive best optimized parameter value, trial fitment and results validated for improved solution.

- **Control** – Full scale implementation plan, Standard operating procedure updation, Control plan updation, PSW from supplier end , installation updation through ECN and Monitoring the results through control charts.

Data Analysis/Results:

1. Chi square test –Noise relation between assembly process with Models.
2. Regression – To identify the Correlation between dependent variable (CWP noise) and independent variables (Pattern width & Tip clearance).
3. Shainin technic paired comparison test – Identified root cause for bull gear rubbing noise DOE- To identify best optimized parameter for backlash and pattern width.
4. Gear ratio matrix Vs Noise frequency table – to identify the dent and damage noise.
5. Initial rotation torque table – Strengthening detection mechanism at sub assembly level.

Implications/Learnings:

1. **Work together to make Win -**Win situation – Collaborating across other cross functional team to achieve win-win (Production, R&D, NVH, Production engineering department, CFG)

2. **Utilisation of available resources to achieve the result on time –** SQGS for data analysis, Sap transactions, Minitab, Sick bay eta.

3. **What could have been better -** To reduce the time taken for conducting DOE Trail for optimization.

Improvements, Contribution to Company

1. Elimination of bull gear rubbing noise 100%
2. Elimination of crown pinion humming noise – 100%
3. Implementation of detection mechanism for NPI products at sub assembly stage- New technics of initial rotation with torque comparison.
4. Rework cost reduction related to rear transmission noise – 10.

Limitations of the offered solutions:

1. To maintain CWP backlash value at mean level is quite challenging in assembly line.
2. Auditing parameter in assembly line through check sheet is manual dependent.

Conclusion:

Transmission noise is one of the subjective issues which gave more irritant to the internal customer and external customer. Since the engine sound is dominating one, to arriving the standard of transmission noise is quite difficult, always Plant and Field team need NVH team support from R&D for validation, this project helped and reduce the burden in term of transmission noise issue for all the stake holders who are facing the end customers. the team has the confident and fulfil ness to deliver better product to the customers with Zero touch in initial hours.

Name of Team Members:

1. Karthikeyan K
2. Satheesh H N
3. Arokiaswamy A

TAFE Tractors and Farm Equipment Limited

Project Title: Elimination of centre housing broken during field operations in MF6028 Compact Max pro model from 16196 PPM to 0 PPM in Domestic Market

Abstract:

In the recent industrial practice and customer Expectation growing day by day Quality one of the key factors with directly linked to the company success factor and satisfaction of end customer.

The key roles in a Quality Assurance - Customer Focus Group is:

- Improving product performance to meet warranty standards.
- Analysing the product failure occurring within the warranty period.
- Reduction of warranty PPM and cost for the company.
- Providing customer with high reliable product.

An efficient Quality Assurance team will ensure and enhance the global competitiveness of the company among Global competitors and improving customer satisfaction.

A key motive of Quality Assurance team would be being a first choice for farmers.

As the title of the project "Elimination of centre Housing Breakage in Compact Model"

Using six sigma approach. The current research project focus on following areas:

- Warranty PPM and cost, Due to Centre Housing Breakage.
- Improving Customer satisfaction
- Promoting brand image
- Warranty trend analysis

By analysing the above, this project will identify reasons for

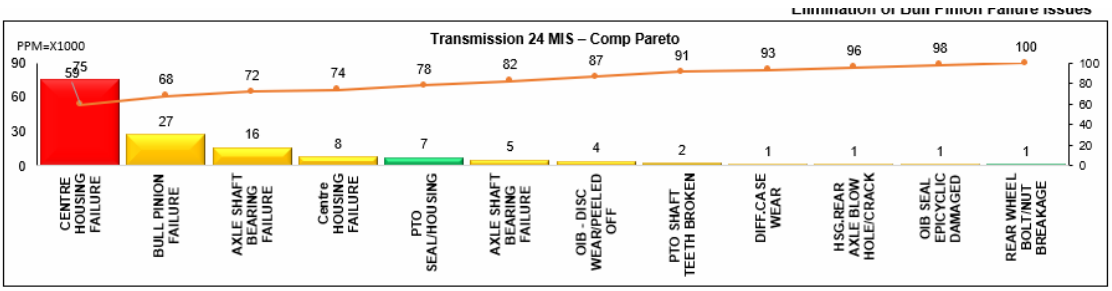
- Root cause of Centre Housing breakage.
- Impact on farming community.
- Customer expectations on existing product it will be captured on new product.

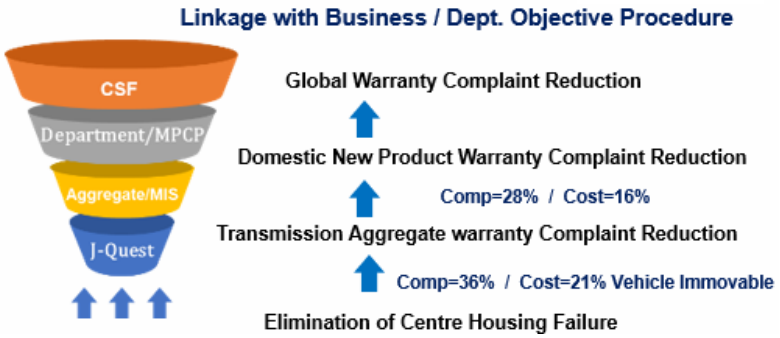
Company Background:

TAFE – Tractors and Farm Equipment Limited, is an Indian tractor major incorporated in 1960 at Chennai, with an annual turnover of INR 10,000 crores. The third-largest tractor manufacturer in the world and the second largest in India by volumes, TAFE sells over 180,000 tractors (domestic and international) annually. TAFE's partnership with AGCO Corporation and the Massey Ferguson brand for over 60 years is a stellar example of its commitment to building long-term relationships with its stakeholders, through fair and ethical business practices. TAFE is also a significant shareholder in AGCO Corporation, USA – a US $9.1 billion tractor and agricultural equipment manufacturer.

Current Problems/Challenges Faced:

Project was selected by brainstorming and affinity matrix was made, team ranking was given and those ranking was summarized based on RPN.





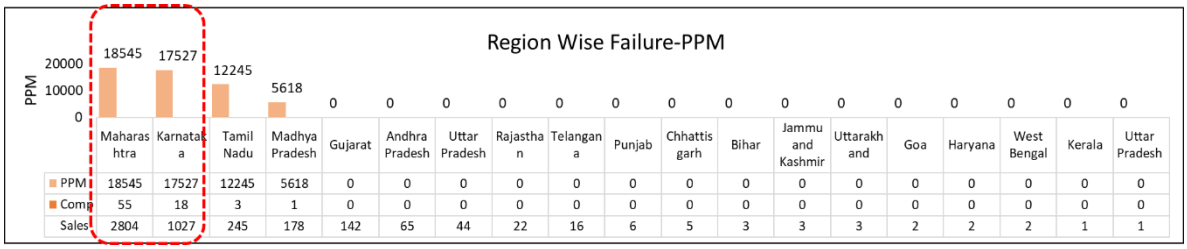
Objective:

Presently customer complaints regarding Centre housing breakage in Compact Model from Domestic market. The customer constraint is not able to mount implement in Field application. The objective of these project is to eliminate Centre Housing breakage and provide defect free tractors to customer .

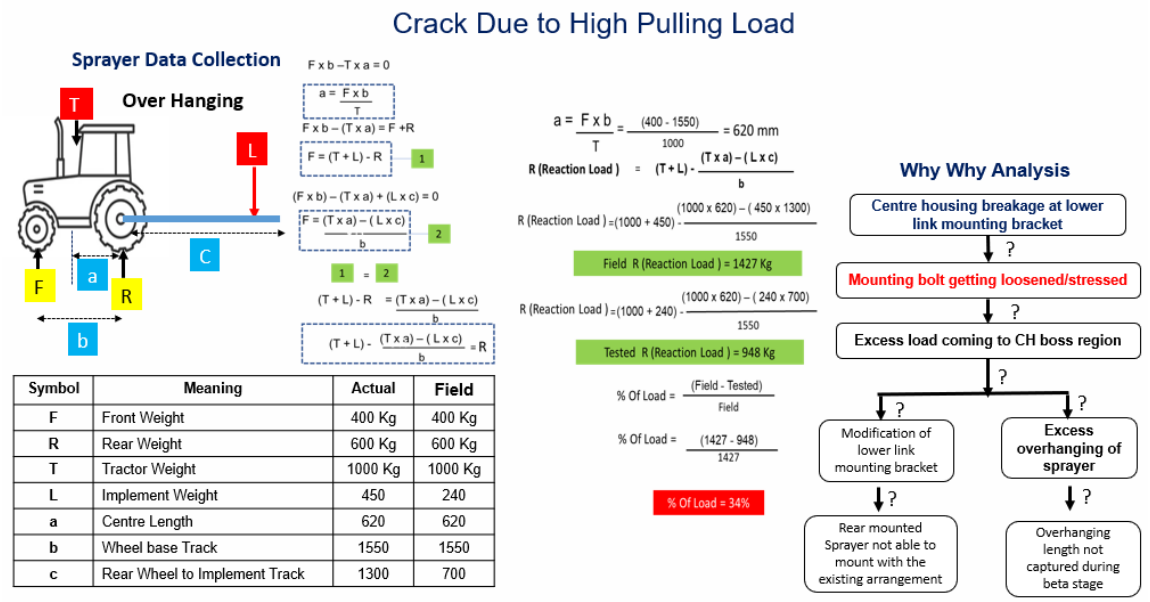
Methodology:

By using the structured six sigma approach of DMAIC, the project will identify the root cause of the issue identified above and try to find solution to improve the business process.

Results:



	Maharashtra	Karnataka	Tamil Nadu	Madhya Pradesh	Gujarat	Andhra Pradesh	Uttar Pradesh	Rajasthan	Telangana	Punjab	Chhattisgarh	Bihar	Jammu and Kashmir	Uttarakhand	Goa	Haryana	West Bengal	Kerala	Uttar Pradesh
PPM	18545	17527	12245	5618	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Comp	55	18	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sales	2804	1027	245	178	142	65	44	22	16	6	5	3	3	3	2	2	2	1	1



Symbol	Meaning	Actual	Field
F	Front Weight	400 Kg	400 Kg
R	Rear Weight	600 Kg	600 Kg
T	Tractor Weight	1000 Kg	1000 Kg
L	Implement Weight	450	240
a	Centre Length	620	620
b	Wheel base Track	1550	1550
c	Rear Wheel to Implement Track	1300	700

Implications:

Field Learnings

- Customer Usage Pattern
- Critical implement Applications
- Agriculture Seasons

Special Tools

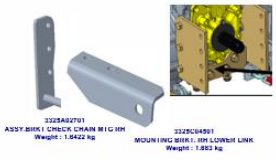
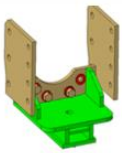
- Quality Function Deployment
- Design of Experiment

- Affinity & Arrow Diagram

Technical Learnings

- 4-WD Arrangement
- Gear Box Speed ratio.
- Benchmark details for Sprayer Mounting.

Improvements, Contribution to Company

Customer Requirement	Above 300 Litre sprayer need to mounted		
Improvements	**Improvement : 1**	**Improvement : 2**	**Improvement : 3**
	Lower Mounting bracket position changed from Centre housing to Axle Housing – ECN222848	Hitch Integrated With Drawbar - ECN230119	The boss area of the center housing is improved to withstand additional load. ECN223504
	Field & Production Fix	**Production Fix**	**Production Fix**
Before			
After			 The boss area of the center housing is improved to withstand additional load.

Limitation:

- Warranty Cost Saving: ₹ 8.14 Lakhs
- Part Cost Saving: ₹ 58.5 Lakhs
- Total Cost Saving: ₹ 66.64 Lakhs
- Limitations:
- Manufacturing constraints in splash guard flatness parameter.
- Rework based on fitment trials.
- Availability of excess old stock.
- Identification of suspected tractors for field campaign
- Validation time of solution due to seasonal constraint

Conclusion:

- Understanding customer usage pattern & upgradation of new product in line with usage.
- Detailed analysis of the possible causes and identifying the significant cause.
- Fastrack implementation of identified solutions and horizontal deployment across all similar models
- Increase in brand image and customer satisfaction on new products.
- Learnings captured through Product Design Report (PDR) for upcoming new products.
- Knowledge upgradation, team motivation & improvement of inter departmental relationship.

Name of Team Members:

1. Saravanan. G
2. Suresh Babu B
3. Gnana Soundaran S

Ashok Leyland Limited

Project Title: Press Shop Efficiency Improvement

Abstract:

Ashok Leyland is always committed to provide the differentiated products to their customers. Front Fascia and metallic Bumper were introduced in Modular Business platform in Apr'20 along with BS6 Introduction. AL PNR press shop was given an opportunity to provide the Sheet metal stampings for this MBP Platform for all our AVTR range models along with drastically increased volumes of Captain Model after MBP introduction. Press shop has met the requirements by working with Lean Methodology for eliminating the MUDA and Six Sigma approach for reducing the process variations. It has helped AL PNR press hop for Future readiness along with existing Challenges. Real time monitoring project of Digitalization has also helped the team to be more agile in their Production, Planning, Preventive Machine Maintenance and Die maintenance processes. Press team has worked in this project with alignment towards our Operations Vision "To be Agile & Efficient in our Operations through innovative technologies".

Company Background:

Ashok Leyland is an Indian multinational automotive manufacturer, with their headquarters in Chennai. It is owned by the Hinduja Group. It was founded in 1948 as Ashok Motors which became Ashok Leyland in the year 1955 after collaboration with British Leyland. Ashok Leyland is the second largest manufacturer of commercial vehicles in India the third largest manufacturer of buses in the world and the tenth largest manufacturer of trucks.

Ashok Leyland has a product range from 1T GVW (Overall Vehicle Weight) to 55T GTW (Overall Trailer Weight) in trucks, 9 to 80-seater buses, vehicles for Defence and special applications, and diesel engines for industrial, Genset and marine applications.

Current Problems/Challenges Faced:

AL PNR Press shop volumes has gone drastically upside after introduction of Front Fascia panels (15 panels) during BS6 introduction and Metallic bumper panels also became common throughout the AVTR range, with 7000 sets volume per month of Front Fascia sets and Bumper panels in addition to the existing models of Captain and Boss panels. Captain model volume

has increased from 400 per month to 2000 per month after BS6 introduction along with Boss model volumes.
Press shop is having die rotations for each panel and 56 new additions of dies has make the system complex. It was the necessity for Press shop to work upon their efficiency to meet the market requirements for all new edition as well as increased volumes of existing models.

Objective:

To meet the twice the demands of existing highest ever produced, Team was required to take this challenge by working through Lean Six sigma in their Press operations and helped the organization to meet the customer demands for differentiated products. Team was assigned the Blackbelt project from Head-Project planning for enhancing their productivity for all variants through single Press line and meeting the requirement of 8 customers at same time for increased volumes.

Methodology:

7 steps problem solving Blackbelt methodology adopted for resolution of the problem. Advanced statistical tools are used to solve the complex problems and break the nutshell to identify the solutions needed in order to meet the customer demands and Future readiness.

Results:

Waterfall diagrams are used to identify the various areas for losses. Areas like Blanking operation, Batch size, Unwanted material stuck in dies during operation, Scrap trolley changeover, Temperature rise during high draw & heavy panels operation were found and deeper analysis has been done by all CFT members in all identified areas. Cause & Effect diagram, Multiple regression, 2 Sample % defective tools for analysis purpose were used and design of Experiments for parameters optimization in dies were used to attain the desired results. Line utilization has been improved from 6 Lakh panels annually to 11.39 Lakh panels annually by working on efficiency in all identified areas.

Implications:

Analysing of the problem by using Blackbelt problem solving techniques. Learning of Advanced statistical tools to handle the complex Business problem and customer issues.
CFT approach and team working to meet the department objective and working for Organizational goals through Scientific way of Problem-solving methodology.

Improvements, Contribution to Company

Meeting the demands of Front Fascia and Bumper for all assembly units of Ashok Leyland for all our AVTR range products along with Pantnagar volumes for Captain and Boss panels. Readiness for upcoming volumes for the upcoming years with different variants and multiple customers.

Limitation:

The solutions applicable to the 80 die sets and 107 type of panels available with Pantnagar AL Press shop. Dies from other unit needs some modifications to suit with our Press machines.

Conclusion:

One of the major challenges for any Press shop to handle the complexity and meeting the demands of various customers with same Line is addressed through this Blackbelt Lean Sigma project. Future readiness is also addressed through this project and team has learned the agile way to meet any Business challenges.

Name of Team Members:

1. Manish Kumar Ghildiyal (Divisional Manager, Section-Head Press Shop)
2. Kundan Singh Samant (Die Maintenance, Press Shop)
3. Mukesh Rawat (Black belt, Process Excellence)

BHARAT FORGE | KALYANI **Bharat Forge Limited**

Project Title: Defect Reduction of forging dies D3355

Abstract:

Welding process is very uncertain & it is operator skill-oriented process. It very difficult to maintain welding quality during process. So, it was more challenging to improve & make defect free quality welding.

Company Background:

Bharat Forge manufactures an extensive array of critical and safety components for several sectors including Automobiles (across Commercial & Passenger Vehicle), Oil & Gas, Aerospace, Locomotives, Marine, Energy (across renewable and non-renewable sources), Construction, Mining and General Engineering.

Current Problems/Challenges Faced:

Our internal customer (forging production press lines) facing problem of defective parts due to blowhole in die welding process. It was very difficult to identify this defect during die manufacturing.

Objective:

To reduce quality defect in part produced due to die manufacturing & also to minimize the blow hole rework down time.

Methodology:

12 Step QC tool approach, Six Sigma methodology

Data Analysis/Results:

Brainstorming, Fishbone, Parato

Implications/Learnings:

Gemba demonstrations & appreciations increases employee morale. Winning attitude of team – every member's role is important for "winning". Standardization leads to multiple benefits.

Improvements, Contribution to Company

Zero blow defect in D3355 Die Number on LKM 4000 Press Line
Productivity increased – 8832 More Parts to be produced Per Annum
Cost saving – Down Time has been reduced from 4.5 hrs to Zero. Annual Cost saving 2.35 million Rupees.

Limitations of the offered solutions:

Any violation to standardized process will impact on defect in parts & down time on line.

Conclusion:

Challenging existing practices will give breakthrough improvement. Out of the box thinking gives more solutions.

Name of Team Members:

1. Santosh Bandal
2. Ramdas Bhokare
3. Namit Jain
4. Pramod Mane

Ashok Leyland Limited

Project Title: Elimination of Change over Time at EMS for CAB Models

Abstract:

At Shop@2, we produce CAB Chassis Ecomet and Boss models on the conveyor line. During the model change, the average setup time on EMS for switching between Ecomet and Boss is 30 minutes. This results in 56 manpower idle stands, a productivity loss of 3.3 vehicles, and a total man-hour loss of 14 hours.

Company Background:

Ashok Leyland is an Indian multinational commercial vehicle manufacturing company headquartered in Chennai. The company has 9 plants at 5 locations in India and offers a wide range of vehicles, from 1 ton to 55 tons, as well as buses ranging from 9 to 80 seaters. The Alwar plant, located in Rajasthan, is one of Ashok Leyland's facilities that manufactures trucks and buses.

Current Problems/Challenges Faced:

At the Alwar Unit, we are producing CAB Chassis Ecomet and Boss. During the model change on the conveyor line, the average setup change time on EMS from Ecomet to Boss and vice versa is 30 minutes. This leads to 56 manpower idle stands, resulting in a productivity loss of 3.3 vehicles and a total man-hour loss of 14 hours.

Objective:

To achieve the company's vision, we need to deliver the productivity on time. The benchmark for the Alwar Assembly Line is 50 vehicles per shift.

Methodology:

Used 7 Step Methodology for Problem Solving where we used Different Statistical tools for different type of analysis. In This Project used major LSS Methodology.

Results:

Baseline-30 Min
Target - 6 Min

Implications:

Learned the various Statistical tools & LSS Methodology during out this Project.

Improvements, Contribution to Company

This Improvement contributes to Achieve the company goal of 'To be a Top 10 Global CV Player" by provided customer to on time delivery.

Limitation:

At Alwar Unit we have Major portfolio of Bus Mfg., for implementation this it is applicable for only Cab Build Chassis.

Conclusion:

As part of the project, we have achieved the desired target, aligning with and contributing to the company's common goal of becoming a Top 10 Global CV Player by providing customers with on-time delivery.

Name of Team Members:

1) Mr. Naveen Bisht
2) Mr. Yogesh Chand
3) Mr. Jitesh Rathore

Ashok Leyland Limited

Project Title: Capability improvement in LML crank bore finish LA12032%

Abstract:

Crank bore finishing is one of the CTQ operation and it is done by LA12032 – M/s LML make line boring machine. Due to this crank bore finish not ok issue, 5.4% of the production loss occurred due to tool change during the period of Apr'22 to Jul'22

Company Background:

Ashok Leyland Ltd was incorporated in the year 1948 with the name Ashok Motors. The company was set up in collaboration with Austin Motor Company, England for the assembly of Austin cars. In The year 1949, they commenced production at the factory situated at Ennore, south of Madras.

Ashok Leyland Ltd has 7 plants in India. It is the 2nd largest commercial vehicle manufacturer. Hosur plant 1 is the Engine manufacturing plant.

Current Problems/Challenges Faced:

Crank bore finishing is one of the CTQ operation and it is done by LA12032 – M/s LML make line boring machine. Due to this crank bore finish not ok issue, 5.4% of the production loss occurred due to tool change during the period of Apr'22 to Jul'22. Max. allowed Rz value is 9 Rz whereas the observed not OK parts are with a Max. of 16Rz which is affecting the tool life also.

Objective:

To improve the crank bore finish in the process by improving the Process capability of Crank bore finish.

Delivery of minimum 85% to be adherence to achieve the Engine and vehicle plan

Methodology:

DMAIC – approach

Results:

Cutting parameter Optimization, Tool nose radius and stock optimization use DOE (Design of Experiments)

Implications:

DOE using Spilt plot design, Hard to change factor and Easy to change factor.

Improvements, Contribution to Company:

By improving the Finish Process Capability Improved from 0.43 to 2.11cpk. The Delivery improved from 71.9 to 89%, with cost savings of 38 Lakhs / annum.

Limitation:

Nil

Conclusion:

- Line efficiency improved from 71.9% to 89.2% with elimination of premature tool changes, scrap/ reworks.
- Overall deliverables of the plant – Engine production adherence improved from 92% to 98% (Auto & Non-Auto Engines)
- Vehicle plan adherence improved from 94% to 100%.

Name of Team Members:

1. S. Muralidharan
2. Eswar Reddy
3. G. Thiyagu

Cummins India

Project Title: Six Sigma Methodology used across plants and products to achieve key business outcome & $60M Savings.

Abstract:
In Cummins, Six Sigma has been a primary process improvement tool since 2000. It has tremendously helped in solving many critical problems, reducing costs, improving processes, and introducing new products to the market.

We have a strong, diverse team of Master Black Belts and Black Belts across all the plants and corporate offices. They are leading Six Sigma and Continuous Improvement initiatives. We work closely with Quality and Business Leaders to create Goal Trees, initiatives, and roadmaps that result in measurable improvements. Master Black Belts coach, develop, and support Black Belts, Quality Leadership, and Business Executives to enhance their skills and adapt to the changing landscape of innovations.

Black Belts are change agents who are constantly engaged in identifying and resolving key business problems.

The cross-functional core team plays a crucial role in analyzing problems from all perspectives and conducting risk assessments before proposing solutions.

Company background:

Cummins Inc. is an multinational corporation that designs, manufactures, and distributes engines and power generation products. The Cummins Engine Company was founded in Columbus, Indiana on February 3, 1919 by mechanic Clessie Cummins and banker William Glanton Irwin.[Headquartered in Columbus, Indiana]

Cummins in India Formed in 1962, is the country's leading manufacturer of diesel and natural gas engines. Cummins four key segments are Engine Business Unit, Power generation, Components Business and Distribution business.

Cummins Engine Business Unit consists of Aftermarket support, Mid-Range, Heavy-Duty, and High-Power Engines. Cummins Power Systems Business Unit consists of Alternators, Commercial Power Systems and many products ranges. Cummins Component Business Unit consists of Emission Solutions, Fuel Systems, Turbo Technologies (Holset), Electronics etc.

Cummins Distribution Business consists of Engine & Power Generation Distribution as well as Service and Parts.

Current Problems/Challenges Faced:

Cummins is a market leader in introducing new technology and new product in the market which meets stringent Emission regulations. With a highly competitive World where Quality 4.0 is prime focus, destination zero is critical for our future, process improvement is imperative – we've to continuously work towards innovation, product reliability & quality.

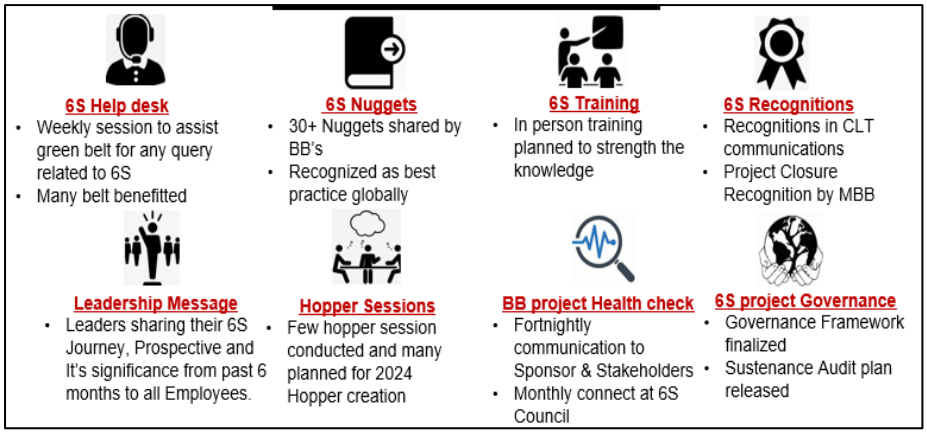
We've collaborated with the business leaders & plants and consolidated all business requirements/ issues/innovation/ field failure under one umbrella and cost reduction target finalized for 2023. Six Sigma methodology and advance tool used to get the designed outcome.

Objective:

It's absolutely necessary to continuously improve the process, meet customer needs, reduce field failure, meet emission targets, innovate etc.
Six Sigma is a data-driven method, and we use this approach to improve the performance of our products and processes. It is a team-based approach to solve complex business critical problems in every area of the business-like Manufacturing Operations, Quality, SCM, HSE, Community development etc.

Methodology:

- Brainstorming with across 7 plants with cross functional team to generate a robust business critical project hopper
- Sponsor and Leader identified against each key deliverable.
- 6Sigma database / advance tool training / coaching /help desk supported for project execution (DMAIC methodology was the key driver)
- Regular interaction with BB/GB /MBB & Sponsor to monitor the progress against the outcome.
- Achieving the outcome and calculate the saving which is verified by finance team.
- Sustenance audit to monitor the control plan.



Results:

- Achieved $60M business saving till Oct'23 by various projects identified from Hopper.
- Safe launch – New product launched with very less field failure and great customer satisfaction.
- Many critical projects helped us reduce operation cost and customer requirement.
- Customer satisfaction with the new product launch and Less warranty cost of field failure
- Critical improvements put us as market leader position.
- Team development with advance tool utilization and upskilling
- Overall KPI improvement and target achievement

Implications/Learnings:

- While driving these projects we learned for the Team base work system and collaboration is the key to success
- Brainstorming for the FTA, FMEA, Fishbone, KJ /Kano, Advance tool usage helped us think on issues in all aspects.
- Uses of the proper problem-solving tools, we were able to find the root causes and implemented the corrective and preventive actions.
- Resolving the business problems with Six Sigma tools and methodology help us for the sustainability of the identified solutions taken oven the proper root causes.

Improvements, contribution to the company:

- This Project help us to achieve $60M cost savings and solve key business problem.

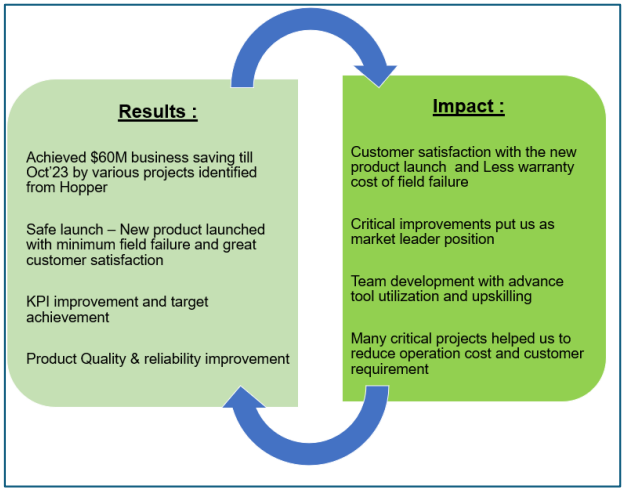
- The results from these projects help us to identify and improve the plant level KPI's like Safety Significant risk reduction, Part traceability, KPI for the Corporate responsibility and its sustenance.
- Safe launch – New product launched with minimum field failure and great customer satisfaction.
- Many critical projects helped us reduce operation cost and customer requirement.
- Team development with advance tool utilization and upskilling

Limitations of the offered solutions:

- Few of the issues identified needs new software introduction / significant cost expenditure those are taken as a part of next year's scope and roadmap created.
- Sustenance of the proposed solution required for at least next 6 months.

Conclusion:

- It was indeed a great opportunity and responsibility given to our team to drive Umbrella project across 7 plants with the help of Six Sigma methodology. Team has collaborated really well with all the cross functional leaders to identify and execute it.
- It made tremendous impact on the business results, cost saving, customer satisfaction and process improvement and upskilling the employee.
- I very proud that my team has worked towards it seamlessly and achieved the desired result, we are now working toward setting more stringent goal for next year to help organization meet next year's KPI.



Name of Team Members:

1. Vidhi Trivedi

2. Narendra Chaudhari
3. Prachi Khare

IT Services

Wipro Limited

Project Title: NetworkOps

Abstract:

Enterprise Lab Connect is one of the Service Offerings among the NWS group which enables connectivity to many different types of labs throughout the company.
Labs are defined as private autonomous networks not under the control and ownership of IT, containing a variety of equipment including but not limited to workstations, servers, networking infrastructure, and test and measurement devices. Labs can be connected to clients in a variety of ways.

- Internal Labs are labs that are within the corporate firewall and connected to the corporate production network.
- DMZ Labs, Labs connected to networks outside of the primary corporate firewalls, but that are still under administrative control.
- Extranets Labs are at remote partner sites which are used to test client hardware and software.
- Support Model – 16 / 5

Median of contact and support - Auto-created alerts by monitoring tools.

Company Background:

Client is an American multinational corporation that designs, manufactures, and sells networking equipment.

The worldwide leader in networking for the internet. Hardware, Software, and service offerings are used to create Internet solutions that allow individuals, companies, and countries to increase productivity, improve customer satisfaction, and strengthen competitive advances.

We at Wipro wanted to align our thought processes with client expectations and planned for a transformation drive in order to save the growing demand of the client's end users and their competitors. We plan to achieve this with a three-tier transformational framework of people, process, and technologies.

Current Problems/Challenges Faced:

13% (429 Labs) of the decommission Labs still have IT resources attached to them even after the project completion.
This becomes a bottleneck for the re-use of the devices for any new site resulting in revenue loss for the client/customer.

Objective:

- Identify and release the unused lab devices in the lab infrastructure, compliance as per the PIA dashboard.
- Reduce the defect count to 0.
- Min rev loss for the clients/customer

Methodology:

- Lean Methodology (Assess, baseline, implement, validate & sustain)
- Lean Tenets
- VSM
- Fishbone
- 5 Why
- Standardization
- Visual Control
- Workload balance
- Competency Management
- Automation

Results:

- Business, New business opportunities, financial gain for customer's business, Improved customer satisfaction, and Building Wipro's capability.
- Customer, reduced deco mm infra defect count to almost zero, more floor space available post-lean implementation.
- Project, Improved focus towards correct decor assets, established process, Adherence to PIA dashboard, highly skilled team, increased PCE.
- Financial, 346 k savings to client/customer for the identified decor assets and made them re-used.
- Added a new CR of 303k, improving overall margin.

Implications:

- There should be weekly\monthly review of the NW resource.
- Automated alerts to make awareness of commissioning\decommissioning assets to the environment.

Improvements, Contribution to Company

- Business, New business opportunities, financial gain for customer's business, Improved customer satisfaction, and Building Wipro's capability.
- Customer, reduced deco mm infra defect count to almost zero, more floor space available post-lean implementation.
- Project, Improved focus towards correct decor assets, established process, Adherence to PIA dashboard, highly skilled team, increased PCE.
- Financial, 346 k savings to client/customer for the identified decor assets and made them re-used.
- Added a new CR of 303k, improving overall margin.

Limitation:

- High-end security environment

Conclusion:

- Process improvement
- Standardization
- Deployment of automated tool
- Cost saving of $ 346k
- Happy customer, resulting into long-lasting relationship.

Name of Team Members:

1. Ishwar Kaviraj
2. Vadiraj Gaonkar
3. Vipin Vishal

Ashok Leyland Limited

Project Title: Reduction of Down Time due to Temperature Drop in High Temp CGCF-5 by 90%

Abstract:

We represent Ashok Leyland Ltd. At Bhandara Unit, known as a technology leader in Transmission manufacturing (Synchro-mesh Gear Boxes) with technology know-how from ZF, Germany.
Post-pandemic, material prices are suddenly hiked, manpower cost is also increased and there is a huge impact on Automobile Industries. With the varying demands of production, it was needed for an hour to improve Productivity, Quality, and Delivery to control and reduce operating costs and production overheads to achieve Customer Delight.

Company Background:

Ashok Leyland is an Indian multinational automotive manufacturer, with their headquarters in Chennai. It is owned by the Hinduja Group. It was founded in 1948 as Ashok Motors which became Ashok Leyland in the year 1955 after collaboration with Leyland. Ashok Leyland, flagship of the Hinduja group, is the 2nd largest manufacturer of commercial vehicles in India, the 4th largest manufacturer of buses in the world, and the 19th largest manufacturer of trucks with a diversified portfolio at 7 Manufacturing Units across India.

Current Problems/Challenges Faced:

High temp makes the CGCF-5 furnace was having the highest downtime due to drop in Furnace temp. Thereby reduced productivity in FY'22. This was also affecting the Safety of the operating personnel and the Quality of output material from the furnace along with delay in the on-time Delivery of material to the customer.

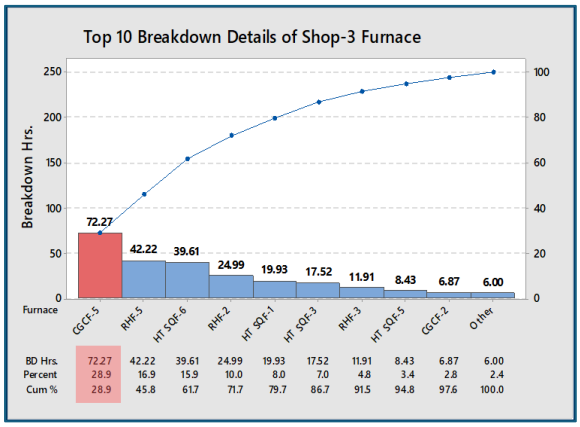
Objective:

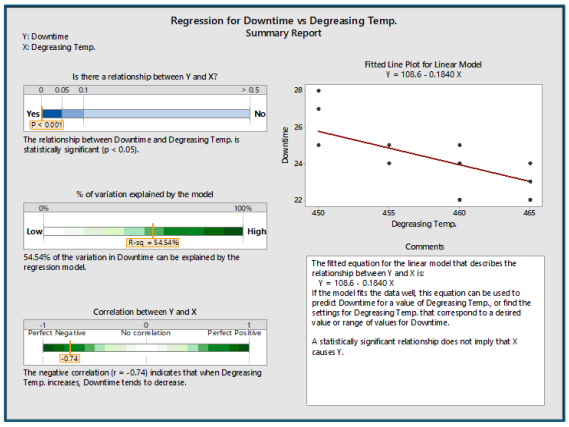
1. Increase the Availability of Furnace by reducing downtime.
2. Improve the Safety of Operating personnel.
3. Quality output from furnace

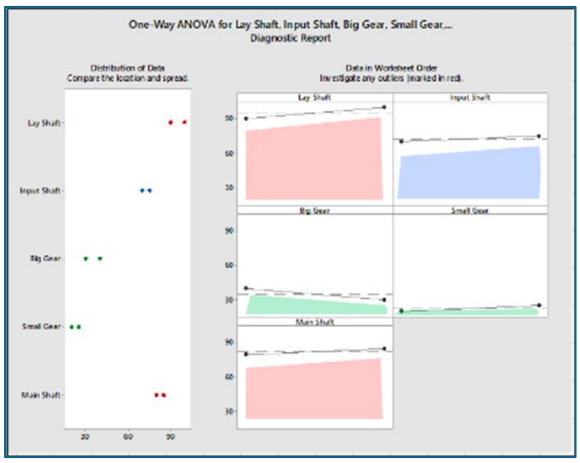
Methodology:

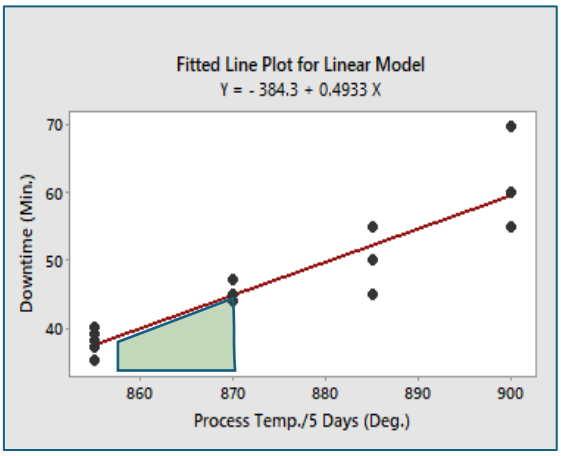
1. Lean Six Sigma 7-step problem-solving methodology adopted for problem observation, data collection, analysis, and action implementation.
2. Identification of probable causes and validation of each KPIV's.
3. Use of Pareto Chart and Cause and Effect matrix to identify vital few probable causes.
4. Statistical Cause validation of vital few causes.
5. Use of Solution selection matrix for the identified solution.
6. Detailed Quality check and standardization to ensure the product is within specification.
7. Full-scale implementation of the improvement done.

Results:









1. Downtime reduces with increase in Preheating Zone Temperature
2. By increasing the Heater Voltage, Power (Thermal) output can be increased, and Downtime can be reduced.
3. Designed Heating Capacity of PH Zone is less leading to increase in Downtime
4. Downtime reduces with increase in Degreasing Zone Temperature

Implications:

1. Team building, Teamwork and Lean concept.
2. Team spirit improved, geared up to take more challenges.
3. Learnt how to challenge status quo & change the mind-sets in the benefit of Organization and Personal growth towards the betterment of Society and Nation.

Improvements, Contribution to Company

By successful implementation of this project –

1. Furnace availability has been increased with reliable operation.
2. Wastage of valuable resources like Power, LPG have been avoided.
3. Safety of Operating personnel has been increased.
4. Reliability of Quality output from the furnace is ensured.

Limitation:

The ideas implemented through this project are limited to Continuous Gas Carburizing (CGC) Furnace only whereas we are in process to improve the availability of other furnaces with some of these ideas.

Conclusion:

By working on the Basic Engineering and through a CFT (Cross Functional Team) approach, the FIXED MINDSET can be challenged and impossible can be made possible in the betterment of Self, Organization, Society and Nation as a whole.

Name of Team Members:

1. Om M. Balsaraf
2. Sanju T. Sahare
3. Dipak R. Mangrulkar

Capgemini

Project Title: Lean with Green- Leveraging Continuous Improvement for Sustainable Excellence

Abstract:

Capgemini has lived through the Lean principles and methodology implementation to Transform People, Processes, and Tools & positively impact ways of working with sustainable savings. A project close to Capgemini's heart as it aims to help our clients & people get the future they want & influence our planet and society. Value Co-Creation with a purpose!

Company Background:

Capgemini has been a leading strategic partner to companies in leveraging technology to enable business transformation for 50+ years. To do this, we draw on deep industry expertise and a command of the fast-evolving fields of cloud, data artificial intelligence, connectivity, software, digital engineering, and platforms.

Current Problems/Challenges Faced:

Need for sustained improvement in Client & Employee Satisfaction Scores to ensure Business Continuity & win-win scenarios.

Objective:

- To meet Client expectations, motivate the team, and drive towards value-based outcomes with purpose.
- Enable Process, Operations, and Business Excellence journey. Manage and Deploy Change Acceptance in a better way through Teamwork & simulations.

Methodology:

Implemented Lean Industrialization Framework and managed the Excellence journey through coaching and a data-driven approach. Aimed at improving the team's problem-solving mindset and implemented Kaizen for quicker & incremental improvements. Focused on Elimination, Standardization, Optimization, Automation, and Robustness along with equating the savings in a sustainable way.

Results:

- Client OTACE score improvement – 12%
- Employee Satisfaction score improvement - ~19%
- Employees successfully rewarded and recognized - ~55%
- Increase in Certified Professionals - ~20%
- Team's Productivity Enhancement growth rate ~10% YoY
- Average work experience – ~2 years +
- Annual potential Carbon Footprint Reduction: ~50 *tCO2e (* tons of Carbon dioxide equivalent emission)

Implications:

- I Improved Delivery Quality.
- Better Customer Satisfaction.
- Higher Employee Engagement.
- Cost optimization by a reduction in average Backlog Age & Incident Inflow Volume.
- Better rigor in reducing Average Effort per Ticket and increasing Ticket resolution rate.

Improvements, Contribution to Company

- Successfully imbibed Quality Culture as the backbone.
- Make significant strides in Automation and Productivity improvement.
- Upgrade our delivery by driving Kaizen cycles at scale.
- A structured approach to drive Lean Six Sigma opportunities.
- This will enable meeting our cost targets.
- Build Organization's capability to ramp up & sustain value co creation for clients.

Limitation:

Needs People's motivation and will to transform, periodic maturity assessments, and conversation coaching.

Conclusion:

An ambitious project to ideate and transform business alongside a depiction of savings as probable carbon footprint reduction enables a perfect 1st step towards - Unleashing human energy through technology for an inclusive and sustainable future.

Name of Team Members:

1. Lakshmi Iyer
2. Indrani Ghosh Dastidar
3. Susmita Bagul
4. Vaibhav Tewari

Wipro Enterprises

Project Title: Sustainable steam management in the FAGP

Abstract:

Our plant aim was not only to increase the PBIT of the Haridwar plant but also to provide solutions to reduce the usage of natural resources water, power & wastage so that we could be able to reduce GHG emission from our plant in terms of KGCo2/MT of production as a green co solution.

Company Background:

Wipro Enterprises Pvt Ltd is involved in FMCG, Lighting, and Infrastructure. Wipro was established in 1945 in Amalner. In 1986, we launched Santoor Soap in the personal care segment, and in 1991, we expanded into the lighting industry with Wipro Lighting. Our main products include Santoor Soap and hand wash, Safe Wash, Maxkleen, Giffy, Yardley soap and perfume, Chandrika Soap, Garnet LED, North-west Switches, Gluco vita Bolt Tab, Gluco vita Powder, and more. Our satisfied customers are in India, Bangladesh, Nepal, UAE, UK, Singapore, Vietnam, and other countries.

Current Problems/Challenges Faced:

In FY-22-23, actual steam consumption in FGAP was 224.5 Kg/MT oil consumption against the standard of 212 Kg/MT oil consumption. Which leads to the high manufacturing cost of the product.

Objective:

To reduce the steam consumption in FAGP from 224.5kg/MT oil to 190.4 Kg/MT (15% reduction) oil in FY 2023-24.

Methodology:

Six Sigma – DMAIC Methodology, Seven QC tools, DOE & root cause analysis.

Data Analysis/ Results:

Pair T samples test & I- MR test statical tool used for before & after improvement.

Implications:

Six Sigma: Skill Development & Team Bonding

Improvements, Contribution to Company

Increase financial saving by 4.83mn after reducing 15% stream from the FAGP plant**.**

Limitation:

Since it is close loop system & automated plant control through DCS system, DOE is must before implement any system in any section or operation process.

Conclusion:

- Saved Running plant at lower operating cost with finer parameter optimization.
- Six Sigma: Skill Development & Team Bonding

Name of Team Members:

1. Mr. Puneet Singh
2. Mr. Rahul Kaushik
3. Mr. Ashish Tiwari

Supply Chain and Operations

Worley India Pvt. Ltd

Project Title: SCM for Stratos Project

Abstract:

Development and Implementation of Supply Chain for 1st Large Scale DAC (Direct Air Capture) Project.

Company Background:

Worley India Pvt. Ltd. is a part of the Worley Ltd. Group, an Australian multinational company with a presence in 45 countries and a total workforce of over 48000 professionals. Worley is an engineering professional services company that provides project delivery and consulting services to the resources and energy sectors, as well as complex process industries. Worley India has 8 offices located in 7 cities with a total workforce of over 7,000 engineering professionals. The company is an industry leader in sustainability project management and consulting, with 41% of revenue generated from sustainability projects in the last financial year.

Current Problems/Challenges Faced:

Climate change is the most urgent challenge presently faced by humanity and the planet as a whole. With a continuous rise in GHG emissions per year, the impact of Global Warming on the climate is expected to be accelerated, which will severely affect the ecosystems of the Planet. To meet the Paris Agreement goal of limiting global warming to 1.5 degrees above the pre-industrial level, our client 1PointFive is constructing the 1st large-scale commercial DAC Project- Stratos. Being 1st of its kind project in the world, Stratos procurement has challenges in developing a supplier hub, Data confidentiality, change management, Technology uncertainty, and Race against time.

Objective/Need/Purpose:

The objective of this project is to develop a successful supplier hub, which will be the foundation for future DAC projects. Development and Implementation of a robust change

management system and to complete procurement objectives to meet Project construction milestones.

Methodology:

Methodologies used are,

- Early engagement of stake holders
- Agility and Flexibility of Project task force including all stake holders (Client, Worley, Suppliers).
- Successful utilization of Worley's Global resources.
- Multi office execution.
- Digital enhancement and utilization of tools
- Change Management.

Data Analysis/ Results: (200 words)

Key results achieved are,

- Successful development of entirely new supplier base with onboarding of 600+ Global suppliers.
- Prequalify the vendor list with the help of SMEs.
- Successful T&Cs agreements with 120+ different suppliers.
- Execution of 150+ Purchase Orders and 300+ Change orders

Implications/Learnings: (200 words):

Successful execution of Stratos project will result in 500,000 Tons of CO2 removal annually, which will be equivalent to planting 25 million of Trees.

Improvements, Contribution to Company:

For Stratos Project:

- 100% Procurement Activities completed.
- Construction began in May-23 and in advanced stage and Project commissioning is on schedule by Mid-2025.

Limitation:

Developed Supplier Hub needs to continuously evolve considering Global Geopolitical conditions, Local Project requirements, and future world economics.

Conclusion:

With Engineering, processes, and supplier database now in place, Engineering work on the next DAC project (With a capacity of 2 million tons CO2 capture per year) has already started.

Where client is planning to develop a hub of 30 DAC plants with a total capacity of 30 million metric tons of CO_2 removal every year.

1PointFIVE is planning to develop a fleet of 70 - 135 such facilities around the world by 2035 using the 'Design 1 and build many' philosophy.

Name of Team Members:

1. Mr. Tapan Sen
2. Mr. Sameer Choughule
3. Mr. Sumedh Joshi

Digital Transformation in Business

Tata Consultancy Services

Project Title: Operational Transformation for Experience & Value

Abstract:

About the Customer - Customer is one of the largest and most diversified Life Insurance companies. The customer has introduced the widest set of Life Insurance Products in Pan India. The customer is committed to offering value-packed and innovative products, which are simple to understand and purchase. They are designed to meet:

- Long-term life goals of end customers
- Ranging from protection
- Wealth creation to retirement solutions and more.

Customer aspires to be undisputed leader in the Life insurance industry in Topline and Profitability.

TCS & Customer relationship is a decade old.

Company background:

A global IT services, consulting, and business solutions leader partnering with the world's leading businesses in their transformation journeys for over 50 years.
TCS is a part of the Tata group, India's largest multi-national business conglomerate…

- Workforce - 613 K Workforce globally distributed highly localized.
- Nationalist – 152 Nationalists represented from across the globe.
- Women - 35.8% Women in work force with 84%+ increase in executive roles over 5 years
- Employees deep skilled - 171K Employees deep skilled. 121 hrs of average learning hours per employee per year

Current Problems/Challenges Faced:

How do we continually be efficient on Costs, Speed and Accuracy of Resolution for the increasing Customer base of ~12% year on year and be relevant for the future Gen Alpha (born after 2010), Gen Z (born between 1997 - 2010) and the current Gen Y (born between 1981 - 1996)?

Objective:

Methodology:

TCS approach of Machine First Delivery Model –

- Eliminate – Eliminate Inbound Interactions (Tier 1 Calls, General Information, Request etc)
- Deflect – Low Cost & Improved CSAT through ease of Interaction (e.g. Live Chats, New Channels etc)
- Enrich – Improved CSAT, Reduced AHT & Task Elimination (Auto Call tagging, intuitive Call tree etc)

Results:

Key results achieved.

- Machine First Delivery Model implemented.
- Omni-channel servicing opportunities identified and enabled.
- Enabled Video Channel for enhanced Customer Experience
- Co-created and Executed the Digital Transformation Journey
- Digital enablement led to Consistent, Accurate and Easy availability of information.
- Quick and Easy information on the Service journey for both the Consumer and the Customer
- Additional information
- 45% Self-Care through IVR, eliminating Human assistance.
- 28% lower handle time, enhancing Customer Experience and Process Efficiency
- Consistent First Contact Resolution at 96%+ ensuring Customer Delight

- 66% Repeat Contact reduction, eliminating the need to re-connect.
- 54% Improvement in Net Promoter Score (NPS)
- 44% improvement in Persistency (Renewal Premium Collection), indicating Customer stickiness.

Implications/Learnings:

Nil

Improvements, contribution to the company:

- 45% Self-Care through IVR, eliminating Human assistance.
- 28% lower handle time, enhancing Customer Experience and Process Efficiency
- Consistent First Contact Resolution at 96%+ ensuring Customer Delight
- 66% Repeat Contact reduction, eliminating the need to re-connect.
- 54% Improvement in Net Promoter Score (NPS)
- 44% improvement in Persistency (Renewal Premium Collection), indicating Customer stickiness.

Conclusion:

- Machine First Delivery Model implemented.
- Omni-channel servicing opportunities identified and enabled.
- Enabled Video Channel for enhanced Customer Experience
- Co-created and Executed the Digital Transformation Journey
- Digital enablement led to Consistent, Accurate and Easy availability of information.
- Quick and Easy information on the Service journey for both the Consumer and the Customer

Name of Team Members:

1) Anish Gupta
2) Anand Mishra
3) Amitabh Aich
4) Niral Dagha
5) Sandeep Sapre
6) Suresh Yaragatti

Wipro Limited

Project Title: Reimagine Rework with ISAAC, Healthcare Business Transformation powered by Tech-led Innovation

Abstract:

A multifaced tech-driven business transformation solution for the largest US healthcare payer. The purpose is to make healthcare affordable for customers (providers or members) through the reduction of admin costs for Payer.

While the process re-engineering has helped in mistake proofing upstream inadvertent claim submissions and resulting rework reduction at the processing; business analytics unfolds real-time claim status visibility, with the AI-ML enabled solution has simplified claims processing for users, improved accuracy up (99.75%), TAT by 20% and efficiency by 50%, together generated 30% saves for the customer.

The solution is unique and highly replicable across other payers and other business domains.

Company background:

Wipro is an Indian multinational corporation that provides information technology, consultant, and business process services. It is one of the leading Big Tech companies.[4] Wipro's capabilities range across cloud computing, computer security, digital transformation, artificial intelligence, robotics, data analytics, and other technology consulting services to customers in 167 countries.

Current Problems/Challenges Faced:

Wipro is partnering with one of the large healthcare payers with claim processing life-cycle management. The first service accuracy for manual claims processing has been observed trending around 86% and hence generating 14% reworks. While analyzing the rework opportunities, it had been observed that ~35% is contributed due to upstream claim submission anomalies, the processing errors by users also impact the rework. Also, the lack of visibility around real-time claims status delays the claims TAT resolutions. Together all create additions admins cost for the payer.

Objective:

The objective was to identify opportunities to rework reasons and reduce them for Payers to save admin costs.

Methodology:

The nature and complexity of the process demand a sustainable and long-term solution; hence 'Digital Transformation' was adopted as a methodology that has the capability to take care of multiple challenges at once.

Results:

Rework opportunities and TAT delayed reasons were analyzed through a detailed process and volume metric study.

Implications:

The absence of scalable infrastructure, Long Deployment Downtime in a multitasking environment – Create Installer & Schedule during off-time, and Lack of Environment Isolation and Version Control, leading to incorrect deployment – Logical separation of dev, SVN access, were some of the key learnings, along with change management practices were the key learnings from the project.

Improvements, contribution to the company:

By the end of the project sustenance period, FSA has observed steady improvement up to 94%, reducing rework by 8% with overall benefits of $80Mn with replication opportunities.

Conclusion:

Our solution is unique and highly replicable not only in healthcare but also in other domains where document intake and process complexity are common challenges.

Name of Team Members:

1. Sumanta Das
2. Tamal Pattanayak
3. Ruchi Ajatshatru

Vodafone Idea Limited

Project Title: Supplier Lifecycle and Performance Management

Abstract:

VIL is committed to achieving the highest standards of processes through digital initiatives. In this evolving landscape, our organization has undertaken a transformative journey from manual onboarding of suppliers to end-to-end digitalized Supplier onboarding process and supplier performance evaluation processes to a streamlined digital platform. Recognizing the need for enhanced efficiency, transparency, compliance adherence, and user user-friendly gateway, the Supplier Onboarding process was digitalized.

By embracing a digital platform, the organization facilitates a more agile and responsive onboarding & compliance through the Ariba platform, third-party risk assessment through the Dow Jones tool & performance evaluation through SAP. While all these customized systems are talking to each other give us comprehensive analytics & enable us to derive insights from vendor performance data for strategic planning and improvements.

The concerted efforts to combine technology with compliance underscore our commitment to fostering a dynamic and progressive workplace, where innovation converges with regulatory integrity for sustained success.

Company Background:

Vi is one of India's leading telecom service providers. The Company provides pan India Voice and Data services across 2G, 3G, and 4G platforms. With the large spectrum portfolio to support the growing demand for data and voice, the company is committed to delivering delightful customer experiences and contributing towards creating a truly 'Digital India' by enabling millions of citizens to connect and build a better tomorrow. The Company is developing infrastructure to introduce newer and smarter technologies, making both retail and enterprise customers future-ready with innovative offerings, conveniently accessible through an ecosystem of digital channels as well as extensive on-ground presence.

Current Problems/Challenges Faced:

- End-to-end tracking of 18K+ active vendors was not available
- Low governance of the VIL policy acceptance process
- Manual calculation of supplier performance measurement
- Vendor risk assessment manually taken in Excel format
- Overall document compliance repository was not handily available
- Quick closure of audit was an issue since manual showcasing of records was a challenge
- Time-consuming activity
- Difficult to track mail communication for supplier performance evaluation
- Difficult to manage the operation for 25 circles in a standard format with proper compliance

Objective:

To digitalize end-to-end supplier management lifecycle starting from supplier onboarding to performance management with proper compliance, and real-time visibility and to enhance process efficiency as well as timelines. This will help the organization evaluate the supplier's technical expertise, policy compliance, and ability to meet specifications. Once onboarded, continuous performance evaluation becomes imperative to gauge reliability, quality, and adherence to contractual agreements.

Methodology:

1. **<u>Supplier onboarding</u>**

- Analyze the current supplier onboarding process and manual work steps.
- Introduced customized Ariba solution for supplier onboarding with features like an inbuilt assessment questionnaire, policy compliance with risk categorization, approval matrix, and attachment sync functionality - Ariba & S4Hana
- A digital platform for managing 9 mandatory policy compliance.
- Dow Jones – global tool for regulatory, financial crime, Third-Party Risk Management & Sanctions Compliance

2. **<u>Supplier performance evaluation</u>**

a) SAP based t-code formulated to identify.
   - Price

- Quality
- Lead time
- Service support
- Quality & servicing
- High risk

b) Evaluation by buyers and users and finally approved by commercial head.
c) The rating (out of 5) is communicated to suppliers through inbuilt system mailer functionality.
d) Improvement plan is taken mandatorily if supplier rating is less than 3.

Results:

- Identified application that can be used directly by third-party suppliers.
- Evaluated current supplier onboarding and compliance process to find out manual intervention.
- UAT was conducted in various phases to identify the proper functionality of the tool and adopt the easiest ways to get it more effective.
- Conducted multiple training sessions to make suppliers and commercial teams aware of the portal.
- Prepared User manual for Suppliers and circulated to respective SPOC to share further.
- No mail exchange and follow-ups
- Real-time tracking of onboarding requests through a digital platform
- Transformation and monitoring of data transactions between Ariba S4HANA and MDG
- 500+ suppliers onboarded through Ariba-based solution resulting in improvement of TAT & supplier satisfaction.
- All the new onboarded suppliers registered with the compliance portal through an automated email.
- Third-party risk assessment portal screened.
- 1034 suppliers identified on the basis of spend for evaluation and performance measurement through SAP where system-based logic is built.

Implications:

VIL is committed to achieving the highest standards in Digitalization. The end-to-end supplier onboarding and performance management is digitalized & helps in process enhancement, manual efforts eliminated, and end-to-end visibility.

Improvements, Contribution to Company:

- Digitalizing vendor onboarding streamlines processes, reducing manual paperwork and accelerating the entire onboarding cycle also resulting in a reduction of cycle time by 30%.
- Digital platforms provide instant access to vendor data, increase transparency, enable quick and informed decision-making as wells help in the performance evaluation of suppliers.
- Automated processes minimize errors in documentation, ensuring compliance with regulations and reducing risk.
- Automated compliance checks ensure that vendors adhere to regulatory requirements, reducing the risk of non-compliance penalties and reputational damage.
- 6 alerts received from Dow Jones tool for regulatory, financial crime, Third-Party Risk Management & Sanctions Compliance
- Digitalizing supplier performance evaluation streamlines processes, allowing for real-time data access and analysis, thereby improving efficiency in assessing supplier capabilities and contributions.

Limitation:

This is a new module that needs a mindset to Change management and handholding of Suppliers till a steady state is achieved.

Advantages:

- 30% cycle time reduction in the supplier onboarding process
- Moving towards the Organization goal of 'Going Digital'
- 100% policy compliance
- 97% supplier compliant in risk assessment evaluation
- Provides and maintains a fair, secure environment for partners & contractors.
- Robust Governance
- Ease of use for both internal and external stakeholders
- Comprehensive Analytics

Conclusion:

Supplier end-to-end onboarding & performance management is a critical process that involves initial engagement, documentation submission, compliance verification & performance evaluation.

Name of Team Members:

1. Nirmit Mehta
2. Runal Thekar
3. Anushka Prasad

Lupin Limited

Project Title: Digital Transformation of US Gross to Net components in Pharmaceutical Industry

Abstract:

As a part of digital transformation initiative, Lupin had identified an opportunity to make its US Gross to Net process more effective.

Company Background:

Founded in 1968 in Mumbai, Lupin is an innovative led transactional pharmaceutical company headquartered in Mumbai, India. Lupin has 15 manufacturing sites, 7 research centers, more that 20K professionals working globally and has been consistently recognized as “Great Place to Work” in Biotechnology & Pharmaceutical Industry.

Current Problems/Challenges Faced:

Pricing a returned product is not an easy task for pharma companies. Making the process even more tedious when the sale was not made directly with the same partner from which you are receiving the return. It was observed that the pricing validations as per Lupin Policy was a manual process prone to errors, also leading to backlogs in processing.

- Finding Right Price
- Manual validation

Objective:

The objective is to create a value center by bringing in more system controls to overcome above listed Challenges with better utilization of resources for Qualitative analysis and decision making rather than repetitive manual work. Improvement is overall Stakeholder / Customer satisfaction levels.

Methodology:

We used DMAIC, Project management Practices for digitization & Change management methodology. Idea fest was conducted for getting innovative ideas and bringing in an innovation led culture and other GMP (Good management practice) as applicable as per company policy.

Results:

- 70% reduction in overall invoice processing cycle time.
- Overall Reduction in credit processed amount YOY.
- Approx 4FTE savings.
- Improvement in stakeholder satisfaction level.
- Enhanced control and better visibility of data.

Implications:

- Lupin Sales return policy was not adhered.
- Pricing validation was more by discretion.
- Manual validation was prone to error.
- Back logs due to manual, complex and time-consuming process.
- Dispute mechanism was not robust and no timely communication.

Improvements, Contribution to Company:

- Formulated and implemented Lupin Sales return policy.
- Pricing policy with clear pricing structure based on Debit memo prefix.
- System based validation of credit eligibility with the help of Automation using Analytical tool.
- Pre-automation >20 min to validate the 1 debit memo which is reduced to <6 min post-automation.
- Cleared all the backlogs and now validation & processing through AI tool and RPA technology.
- Dispute tracker is prepared and regular interactions with the customer based on the logical evidence/supporting.

Limitation:

- The solution could not be replicated to other invoice types due to system constraints and risk involved.

Conclusion:

As part of a digital transformation initiative, Lupin identified an opportunity to make its US Gross to Net processes more cost-effective, enhance processing time, control and better visibility.

Name of Team Members:

1. Amarnath Mishra
2. Nitesh Chaurasiya
3. Deep Agrawal

Wipro Limited

Project Title: Smart Operation

Abstract:

Customers wanted deep insight into their environmental hygiene. The existing solution was not capable to deliver such inferences. This was the trigger point to look for a solution which is easy to develop, implement and sustain. Hence, initiated Power BI Smart Ops solution.

Company Background:

Client is an American multinational corporation that design, manufactures and sells networking equipment all over the globe. It is the worldwide leader in networking for the internet. Hardware, software and services offering are used to create internet solutions that allow individuals, companies and countries to increase productivity, improve customer satisfaction and strengthen competitive advantage.

Current Problems/Challenges Faced:

1. Know both aggregate and granular level details on ticket performance and its impact on overall customer service.
2. Ensure vendor resources are adhering to SOPs and standard processes.
3. Know the real time performance of the team.
4. Ensure the right ITSM practices are followed like good quality ticket updates, tickets updated on time, limited hops, etc.
5. Showcase E2E performance report which In-Control/Out of Control action items.
6. Ensure upstream process issues are predicted/picked immediately.
7. Measure right Operational practices with minimal efforts.

Objective:

- Scalable solution to track and highlight areas of improvements and trends on a real time basis.
- Identify the Constraints/ Out of control items and collaborate with customer on improvements.
- Prompt feedback to upstream processes to align them with std. customer processes / Release, change and deployment processes.

Methodology:

Smart Ops (Dashboard):

- Volume Prediction and Analysis- Effort Alignment
- Time Series Prediction
- Volume Inflow vs Outflow
- Documentation accuracy
- Resolution code accuracy
- Ticket co-relation analysis

Data Analysis/Results:

- Creating a time series prediction model for rostering
- Automated management triggers when volume goes above defined thresholds.
- The current prediction model can predict volume fluctuations and spikes; This helps in resource planning and rostering.
- Current Error (MAPE) on both Auto regressive and Holt Winter's model is around 15-18%; to be improved through addition of other parameters.
- Component and boxes level analysis done to showcase high volume generating areas; feedback provided to upstream processes through customer POC.
- End to end Operational matrices created that automatically provide detailed level view on quality of ITSM practices e.g., Quality of updates, time distribution between updates, etc.
- Employee KM understanding & knowledge statistics: Hop counts, updates during shift handover & resolution time.
- Quality of ticket updates and Time between update and reasons – Constraints analysis
- Track ticket floods due to change deployments, upstream errors to proactively fix the issues.
- Productivity improvement through One-to-one issue & resource mapping

Implications:

- Keep the solution scalable and up to date with the continuous updates.
- Identify the Constraints/ Out of control items and collaborate with customer on improvements.

Improvements, Contribution to Company

Business:

- New business opportunities
- Financial gain for customer's business
- Improved customer satisfaction
- Building Wipro's capability

Customer

- Reduced defect count to almost negligible
- A+ type of governance to keep check on any alert.
- Providing all the insights for the up streams which need attention within customer landscape.

Limitation:

Solution must be deployed to the Customer environment due to high end security limitations**.**

Conclusion:

1. We have completed the alert corelation dashboard which will help the team in Daily/hourly tracking of Duplicate tickets and help manage/improve the SLA performances.
2. Managing the queue better and identify and assign similar items to a single resource thus reducing rework/duplicate efforts.
3. Manage SLA effectively, if all issues are related to same issue and components we can combine / cancel etc. to reduce the effect on SLA performance.
4. Effort management – highlight big ticket issues and quick wins to reduce backlog/volumes etc.
5. Help with problem management both reactive and proactive to reduce these issues through alert definition, blackout applications etc.

Name of Team Members:

1. Ishwar Kaviraj
2. Navin Agarwal

SKF India Ltd, Pune

Project Title: Digital Utkranti@ SKF

Abstract:

This digitization project combines three key elements - going paperless, deskilling processes, and incorporating intelligent solutions. The goal is to create a modern and efficient system that not only reduces reliance on paper but also simplifies tasks and introduces smart technologies for enhanced performance.

Company Background:

SKF India Ltd is Bearing manufacturing company established in 1965. DGBB, TRB, HUB, SABB, SPLIT THU these are the products available in SKF. SKF has defined purpose which tends to define Group's strategy for the next 5 years as "Intelligent and Clean Growth". SKF Bearing operations manufacturing strategy - Lean, Green, Digital is fully developed to achieve group objectives and People are well supported to implement these strategies which results in acceleration of cultural change across the plant- Regionalization and Localization are well established by taking consideration of growth enablers.
The Lean, Green, and Digital strategy promotes the elimination of waste, actions for sustainability and digitalization to help eliminate waste across value chain.

Current Problems/Challenges Faced:

- Material visibility & traceability
- Legacy system interactions (XA, SIM)
- Scheduling & sequencing
- Paper based transactions
- Manufacturing IT infrastructure
- IT OT security

Objective:

The purpose of the digitization project for deskilling paperless training is to make training easier, simpler, and more accessible. It aims to replace traditional paper-based methods with digital tools and technology to streamline the learning process. The project wants to remove the need for specialized skills by using user-friendly digital platforms and materials.

Methodology:

Our digitalization strategy integrates four key projects for enhanced operational efficiency. Firstly, the Paper Edge Solution in our Computerized Maintenance Management System (CMMS) ensures seamless data handling. Second, machine learning is applied for vibration measurement to reduce scrap and compensate for the retirement of skilled workers. Thirdly, the full valve chain integration optimizes workflow. Finally, the implementation of Energy Management SCADA monitors and regulates energy consumption. This comprehensive methodology aims to improve productivity, address skill gaps due to workforce changes, and create a resilient operational framework for the future.

Results:

Bearing noise analysis using Machine Learning:
The use of BVR software for bearing vibration measurement is pivotal for our critical bearing quality equipment. The BVR analytic dashboard is instrumental in identifying rejection causes and guiding adjustments to honing and grinding machine parameters. Incorporating machine learning, this intelligent dashboard not only analyses rejection patterns but also predicts potential issues. The resulting benefits include deskilling of operators, leading to consistent quality outcomes, and significant reductions in scrap. Moreover, automation minimizes wait times for operator training, enhancing overall efficiency. In essence, our artificial intelligent BVR dashboard optimizes processes, streamlining operations for a more efficient and responsive production system.
SKF Axios System wireless technology powered by AWS (Amazon Web Services)
The SKF Axios System, powered by AWS, facilitates advanced data analysis for rotating equipment. Vibration and temperature measurements are wirelessly collected and securely transmitted to AWS, enabling real-time monitoring. Through AWS IoT analytics, the system processes data, identifies anomalies, and generates actionable insights. The cloud-based infrastructure allows for predictive maintenance by detecting deviations from normal operating conditions. Results include enhanced equipment reliability, reduced downtime, and optimized maintenance schedules. The seamless integration of SKF Axios with AWS empowers industries with a robust solution for proactive equipment management, ensuring operational efficiency and minimizing the risk of unplanned failures.

Implications:

Our digitalization strategy incorporates machine-to-machine connectivity, machine learning tools and artificial intelligence (AI) to bring transformative results and critical learning to our organization. First, the establishment of machine-to-machine connectivity increases real-time communication between devices, enhancing seamless coordination and efficiency. Second, the integration of machine learning tools enables our systems to analyze data and make informed decisions, leading to optimized processes. Third, the infusion of artificial intelligence introduces advanced capabilities for problem solving and predictive analytics, thereby increasing our operational intelligence. Finally, the development of new digitalization capabilities positions our organization to adapt and thrive in an increasingly digital landscape. These results highlight improved efficiency, data-driven decision-making, and future-ready digital capabilities.

Improvements, Contribution to Company:

The integration of machine-to-machine connectivity, machine learning tools and artificial intelligence in our digitization approach promises substantial improvements and contributions to our company.

First, enhanced connectivity facilitates faster and more efficient data exchange, thereby improving operational coordination and responsiveness.

Secondly, the use of machine learning tools contributes to data-driven insights, optimizing decision-making processes and reducing operational inefficiencies.

Thirdly, the incorporation of artificial intelligence brings advanced problem-solving capabilities, leading to proactive and predictive solutions.

Together, these advances contribute to increased efficiency, lower costs, and a more agile and adaptive organizational structure. The acquisition of new digitalization capabilities puts our company at the forefront of technological innovation, enhancing long-term sustainability and competitiveness in an evolving business landscape**.**

Limitation:

Our digitalization solutions, including machine-to-machine connectivity, machine learning and artificial intelligence, offer substantial benefits, but limitations must be acknowledged. These may include initial implementation costs, potential resistance to change in existing workflows, and the need for ongoing staff training. Addressing these challenges will be critical for successful and sustainable integration.

Conclusion:

transformative era for our organization. Despite acknowledged limitations, the comprehensive benefits, including improved efficiency, data-driven decision-making, and heightened competitiveness, underscore the significance of our digitalization efforts. As we navigate the evolving landscape, the synergistic integration of these technologies not only propels us towards operational excellence but also positions our company as an innovator in the digital age. The journey ahead involves continuous adaptation, but our commitment to harnessing these advancements ensures a resilient and forward-thinking future for our organization.

Name of Team Members:

1. Manish Adhav
2. Maruti Patil
3. Sangita Soman

SKF INDIA Ltd

Project Title: Reduced Demand Vs Supply Gap by eliminating flow stoppers.

Abstract:

- Increased demand in Taper HUB Export customer as well as Domestic customer causing high gap between Demand & Supply.
- To bridge this gap, Team had initiated project for loss elimination. On the basis of value stream mapping, we had identified flow stoppers & applied lean methodology for elimination of waste by debottlenecking of processes, usage of tools like Resetting excellence, Maintenance Excellence & people development.

As a result, output increased by 17 % with satisfied customer.

Company Background:

SKF India Ltd is Bearing manufacturing company established in 1965. DGBB, TRB, HUB, SABB, SPLIT THU these are the products available in SKF. SKF has defined purpose which tends to define Group's strategy for the next 5 years as "Intelligent and Clean Growth".

SKF Bearing operations manufacturing strategy - Lean, Green, Digital is fully developed to achieve group objectives and people are well supported to implement these strategies which results in acceleration of cultural change across the plant- Regionalization and Localization are well established by taking consideration of growth enablers.

The Lean, Green, and Digital strategy promotes the elimination of waste, actions for sustainability and digitalization to help eliminate waste across value chain.

Current Problems/Challenges Faced:

- Capacity crunch due to increased demand

Objective:

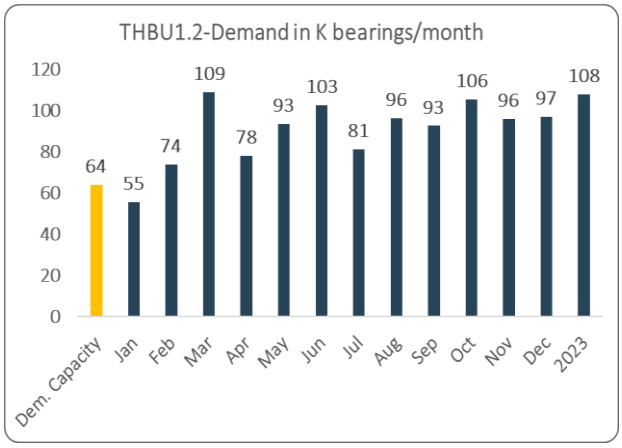
- To improve capacity by eliminating waste in the processes

Methodology:

- Working to identify & close flow stoppers across line for uninterrupted material flow on conveyors
- Detailed loss analysis to work on top losses – Resetting, Maintenance & Machine Adjustment Time
- Debottlenecking of bottleneck machines
- Manpower skill gap identification & skill development program

Results:

- Project Base Line



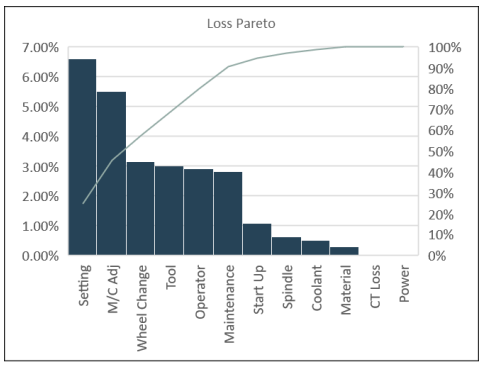
Challenge:

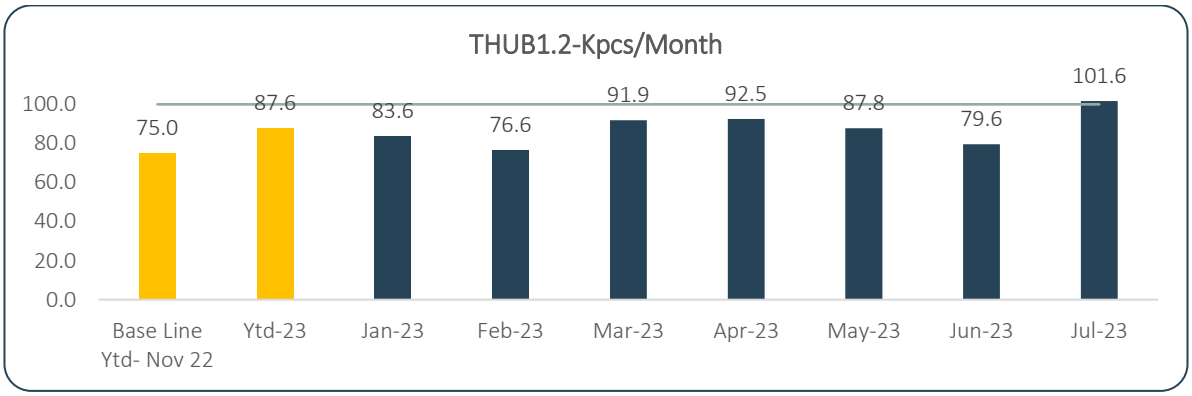
- High demand with limited capacity, gap of @ 45K bearings/month
- Increased demand from Export customer
- Domestic customers volume doubled for one type
- Increased Airfreight cost due to shortage of supply to Export
- Cost increase due to import support from other SKF plant

Deliverables:

- Net Output improvement by 25% with existing resources

- Before -Demand (109k) vs Capacity (64k) gap more than 25%





Implications:

Exposure to different stability tools like VSM, Resetting excellence, Maintenance Excellence, VA / NVA analysis for CT optimization, Waste &flow stopper elimination.

Improvements, Contribution to Company:

17% Improvement (75 K pcs/month to 87 K pcs/month) in Output due to which Demand vs supply gap reduced.
Import support & air freight cost eliminated.
Existing resource used throughout implementation.

Limitation:

Need to enhance capacity if customer demand increases above 110K per month.

Conclusion:

- Output Improvement by 17% with existing resources.

- Export Customer as well as Local Customer delighted due to improved supply as per increasing demand.
- Capacity utilization Improved.
- No need of Expensive Import support
- Boosted team Morale as we are successful to align customer expectations.

Name of Team Members:

1. Devendra Parkhad
2. Shrinivas Gole
3. Mukul Choudhari

Reliance **Reliance Industries Ltd**

Project Title: Transport Transformers

Abstract:

This project is about complete transformation of transport operations at Jio. Corporate services function of Jio has fleet of ~2600 cabs for business operations across India and management of such a huge number of vehicles was a complete manual process. With this project we achieved our major objectives to automate the complete process and optimize overall cost of operations without compromising business interests. In fact, we enhanced the user experience for smooth functioning of the operations.

Company Background:

This project has been taken up by Reliance Jio Infocom Ltd. (RJIL). RJIL is one of the major profit-making businesses of Reliance providing digital services with highest customer base in India.

Current Problems/Challenges Faced:

Complexity of operations where cab deployment is done at all the geographies across India and cabs have to travel to the most remote locations for O&M and related works of towers and network operations. As fleet size is very large, it is also a major concern for cost, and potential misuse of vehicles to drain out money spent on transport operations were major pain areas to trigger this project.

Objective:

1. End-to-end digitized solution for transport operations
2. Seamless user experience.
3. System based Monitoring, Control & Governance.
4. Monthly vehicle audit and compliance management.
5. Vendor performance management.
6. Accurate vendor billing through system generated report.
7. Cost Reduction through cab optimization

Methodology:

We followed DMADV methodology for this project.

Results:

We have done data analysis for the following.

1. Studied distribution pattern of cabs in various states basis size of the states.
2. Trip rejection data analysis during implementation phase
3. Auto cancel of trips.
4. KM accuracy for the trips as compared to odometer and google map readings.

Implications:

1. Did various trials on capturing accuracy of km travelled before arriving at final solution.
2. Uneven distribution of cabs.
3. Misuse of cabs by few functions

Improvements, Contribution to Company

1. Reduction in cab numbers by 625
2. Estimated annual Cost savings: Rs. 61.2 Cr
3. Vehicle audit compliance: from 90 to 100 %
4. Complied vehicles: 85 to 96 %.

Limitation:

Non-compliant vehicle in a couple of states.

Conclusion:

Complete transformation of transport management system with enhanced user experience, digitization and cost optimization. Robust governance model and dashboard driven monitoring and control to ensure sustainability.

Name of Team Members:

1. Sheeja Postwalla
2. Rohit Arora
3. Mitesh Zaveri

Start-Up Track

KIT Intellect Technologies Pvt Ltd

Project Title: SHG MADE

Abstract:

SHG MADE, a project initiated by KIT INTELLECT TECHNOLOGIES PRIVATE LIMITED, aims to empower and uplift Self-Help Groups (SHGs) by providing comprehensive business support. Through services spanning business planning, training, funding, and marketing, the project aspires to foster sustainable economic growth in rural areas.
This endeavour aligns with the company's commitment to community development and empowerment.

Company Background:

KIT INTELLECT TECHNOLOGIES PRIVATE LIMITED is a distinguished organization recognized for its commitment to community development. With a history of impactful projects, the company's foray into SHG MADE reflects its dedication to fostering entrepreneurship and sustainable rural growth.

Current Problems/Challenges Faced:

Rural communities face challenges in accessing resources and opportunities for economic growth. SHG MADE addresses these hurdles by providing a structured platform for SHGs, tackling issues related to skill development, market access, and financial independence.

Objective:

The objective of SHG MADE is to empower rural communities through strategic business planning, skill enhancement, and market expansion. The project seeks to address the specific needs of SHGs, fostering financial independence and resilience.

Methodology:

SHG MADE employs a multifaceted approach, offering services such as business planning,

skill analysis, funding solutions, and marketing. The methodology involves collaboration with SHGs, understanding their unique challenges, and tailoring solutions to promote sustainable development.

Results:

Initial data analysis indicates positive outcomes, with SHGs benefiting from the project's interventions. Increased market visibility, enhanced skills among SHG members, and successful funding applications showcase the project's positive impact on rural economic ecosystems.

Implications:

The project has far-reaching implications for community development, emphasizing the significance of tailored support for SHGs. Key learnings include the importance of collaborative efforts, skill enhancement, and strategic market positioning for sustainable rural entrepreneurship.

Improvements, Contribution to Company:

SHG MADE contributes significantly to the company's portfolio by showcasing its commitment to social responsibility and community-centric projects. The success of SHG MADE enhances the company's reputation and underscores its role as a catalyst for positive change.

Limitation:

While SHG MADE has achieved considerable success, challenges remain, including the need for continuous adaptation to evolving market dynamics and addressing the diverse needs of SHGs. Ongoing efforts are required to overcome these limitations.

Conclusion:

In conclusion, SHG MADE represents a transformative initiative, positively impacting rural communities and promoting sustainable entrepreneurship. The project exemplifies KIT INTELLECT TECHNOLOGIES PRIVATE LIMITED's dedication to social impact and community empowerment. As SHG MADE progresses, it is poised to make enduring contributions to rural economic development.

Name of Team Members:

1. Amit Manore
2. Gaurav Patil
3. Purva Bhide

ECOSTP® sewage to gold™ **ECOSTP Technologies Pvt Ltd**

Project Title: Biomimicry based Sustainable Natural and Net Zero sewage treatment technology based on digestive system of Cow

Abstract:

Rediscovering Nature's Genius in treating Sewage - the cow's stomach. Our unique patented technology treats sewage in a decentralized, self- sustainable way in underground chambers without power, chemicals, or human intervention. Using Biomimicry, regenerative innovation inspired by nature, the ECOSTP utilizes functional principles and strategies of microorganisms and ecosystem found in a cow's stomach.

Company Background:

ECOSTP Technologies Pvt Ltd is a Sustainable sewage treatment company based out of Bangalore, and we do treat wastewater naturally using Biomimicry principle based on digestive system of cow. We are a Net Zero solution, and our treatment system is circular and carbon neutral.
Currently we have installation across 24 states in India and have more than 200 + Installations. Some of Our Esteemed customers are TATA STEEL, Brigade Group, Karnataka state Pollution control board, TITAN, Essar Power, Adani, Woxen University, IIT Jammu etc…

Current Problems/Challenges Faced:

Sewage treatment plants are expensive and with cities expanding it is difficult to treat all the sewage centrally since they require huge amount of Capex and Opex.
Most importantly the current system cannot operate in small villages or communities or schools or in remote locations. In locations where there is no electricity it is difficult to build the conventional sewage treatment solutions and also difficult to maintain.
An easier and nature friendly solution which does not require any operators is a good option.

Objective:

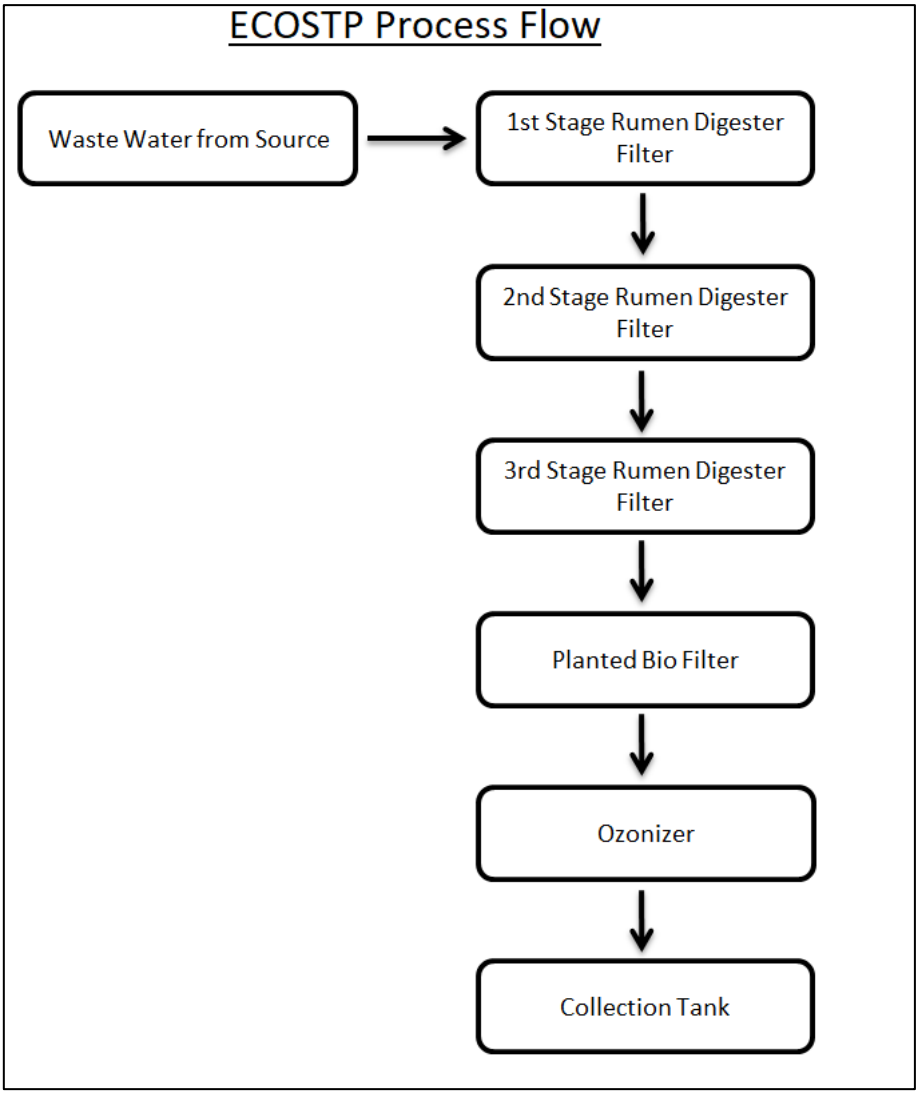
ECOSTP which is a nature-based solution and easier to build and operate sewage treatment plants are expensive and with cities expanding it is difficult to treat all the sewage centrally since they require huge amount of Capex and Opex. ECOSTP is a decentralized system which is natural and does not require Huge Capex and almost no Opex to operate and is a nature-based solution.

Methodology:

The ECOSTP technology offers a state-of-the-art solution for adequate on-site wastewater treatment taking maximum advantage of natural processes to achieve a preferably reliable and eco-friendly system. The technology works mostly independent from power supply and daily surveillance, treating the wastewater steady and trusty. The ECOSTP product comprises of three separate chambers which are designed to ensure the 'up- flow' of sewage and based on gravity.
Each of the chambers have specific functionalities and components such as baffle pipes and media.
We introduce custom anaerobic bacteria which works a natural pollutant remover. The unique technology does not use chemicals or energy to treat the water - sewage is treated by a combination of microorganisms, plants and gravel to return clean water back to mother earth.
Since ECOSTP is an on-site solution (decentralized or semi-centralized) the treated water can be reused locally for different purpose like irrigation, flushing of toilets, cooling and heating, washing, and groundwater recharge. Minimizing the total water consumption and its appending costs for supply, piping and pumping up into overhead tanks and allowing keeping green areas on the premises. ECOSTP technology can be used for community, domestic, hospital as well as for different kind of wastewater of any volume, complying with the PCB discharge standards. It is a tailored solution taking the specific site conditions and the requirements of the client into consideration to offer the best economic and ecological option for wastewater treatment.

Results:

The design concept is as per the flowchart below:



The wastewater from all the sources is combined and is applied with a treatment appropriate to it. We can design treatment plant from 5 Kilo liters per day to 1million Liters per day treated to tertiary levels at a standard fit for toilet flushing and gardening/ agricultural reuse. The discharge effluent would meet the criteria stipulated by the Central Pollution control Board.

Implications:

BENEFITS OF ECOSTP:

The ECOSTP solution offers several benefits that make it a sustainable and environmentally friendly choice for wastewater treatment. Here are some key advantages:

1. **Cost-effective:** ECOSTP systems are designed to be cost-effective in the long run. They require lower maintenance and operational costs compared to traditional wastewater treatment methods. The system utilizes natural processes and innovative technologies to efficiently treat wastewater without excessive energy consumption.

2. **Energy efficiency:** ECOSTP solutions prioritize energy efficiency by incorporating low-energy consumption components and utilizing natural processes. They minimize the need for external energy sources, making them more sustainable and reducing overall energy costs.

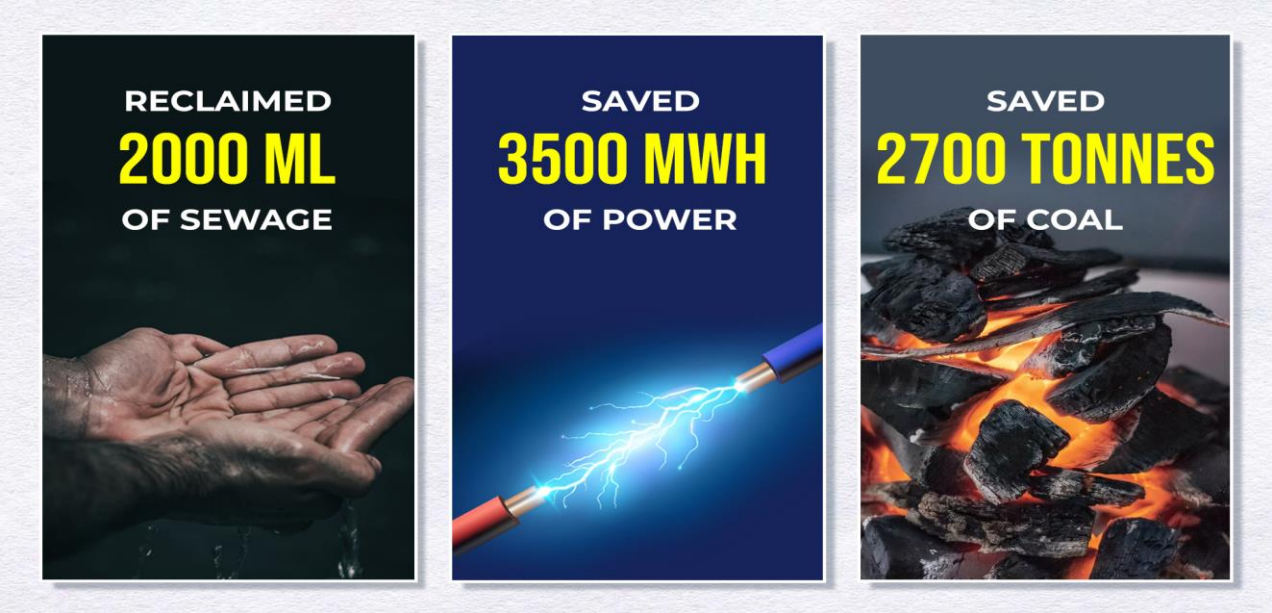
3. **Small footprint:** ECOSTP systems are designed to have a small physical footprint, making them suitable for various locations, including residential areas, commercial spaces, and remote sites. Their compact design allows for easy installation and integration into existing infrastructure.

4. **Reduced chemical usage:** Traditional wastewater treatment often requires the use of chemicals for effective treatment. ECOSTP solutions aim to minimize chemical usage or eliminate it entirely, relying on natural processes and biological treatment methods. This reduces the environmental impact and potential health hazards associated with chemical usage.

5. **Nutrient recovery:** ECOSTP systems often incorporate nutrient recovery technologies, allowing for the extraction and reuse of valuable resources from wastewater. Nutrients such as nitrogen and phosphorus can be reclaimed and used as fertilizers or in other applications, promoting a circular economy and minimizing waste.

Improvements, Contribution to Company:

Till Date we have built More than 200 + Installations across 24 states in India and the key Impact are as below.



We have treated more than 2 billion litres of sewage water naturally thereby saving 3500-Megawatt hour of energy which is equivalent to 2700 tons of coal. Which is equivalent to 3171632 Kgs of Carbon Equivalent (Co2**).**

Limitation:

ECOSTP requires more space than regular Sewage treatment plant and our maximum capacity is around 1 million Litres of Sewage water treatment capacity per day. However, the space can be reused and converted into a park or a playground or car parking etc

Conclusion:

The ECOSTP solution offers several benefits that make it a sustainable and environmentally friendly choice for wastewater treatment. Here are some key advantages:

1. Cost-effective
2. Energy efficiency
3. Small footprint
4. Reduced chemical usage
5. Nutrient recovery

6. High treatment efficiency

7. Odor control

8. Flexibility and scalability.

By combining cost-effectiveness, energy efficiency, and sustainable practices, Ecostp solutions provide an eco-friendly approach to wastewater treatment, contributing to a cleaner and healthier environment.

Name of Team Members:

1. Lokesh Rajashekaraiah
2. Ajay Anil
3. Sandesh

Azzetta Azzetta

Project Title: Azzetta – India's first Home Asset Management & Home Content Insurance App

Abstract:

Azzetta mobile app changes the way people organize and keep track of their Home Assets/Home Contents. Azzetta helps users to manage Home Contents viz. Electrical Appliances & Electronic Gadgets, Furniture, Kitchenware, etc with additional option to avail Home Content Insurance (IRDAI's – Bharat Griha Raksha Policy) from renowned Insurance Companies to protect their home assets from 14+ perils / natural calamities such as Flood, Cyclone, Fire, Earthquake, etc. Azzetta is the industry first FinTech App to deliver BGR-Home Contents through an end-to-end digital process from buying the policy to claims settlement.

Azzetta has over 25000 models across 1500 Brands in 4 categories in the database and keeps updating them for easy onboarding of all home assets. Azzetta is a digital platform which addresses seamless registration process, and enables users to avail insurance, service records & service reminders, brand & retailer reviews, etc. Azzetta can be shared across family members and can also be useful for small businesses with multiple locations to manage their office appliances / gadgets.

Currently Azzetta is a B2B2C mode to reach employees of corporates to provide Bharat Griha Raksha policy in addition to Group Health Insurance at very affordable budget.

Company Background:

La Poochi Private Limited (Trade name – Azzetta) registered with ROC Chennai as a startup under DPIIT and is currently bootstrapped. We were selected by FinBlue FinTech incubator with equity participation and currently operate out of STPI facilities at Chennai. The vision of the Founder & CEO Mr. Rajagopal is to help households to manage and maintain their appliances thereby extend the life of products to benefit the country under "Right to Repair". We are selected under Start-up India for a grant of Rs20 Lakhs validating the vision of Azzetta to benefit households and deliver BGR digitally.

Current Problems/Challenges Faced:

The scope of home asset management and home content insurance is larger and history of natural calamities affecting lives of people especially loss of home assets due to floods, cyclone and fire, etc and cost of rebuilding, buying home assets to return back to life. Awareness among general public is less. In spite of several disasters, the penetration of Home Content Insurance or Bharat Griha Raksha Policy is less then 1% of overall households in the country. Insurance companies & brokers are not keen in promoting it as premium is less and brokerage/commission is negligible.

Objective:

Azzetta is creating awareness on Home Content Insurance / Bharat Griha Raksha policy and creating 100% paperless digital platform on Azzetta Mobile App – to manage, insurance and claim, working with leading Insurance companies through broker partners. Our aim is to take Azzetta to a larger population and secure them from loss of home contents through BGR policy.

Methodology:

Azzetta mobile helps users to store home assets, insure and helps claim with 100% digital platform with intention of helping people in ease of organizing their home assets and to avail home content insurance all in one app. We are now promoting BGR through corporates employee benefits program securing their home assets with coverages from Rs 2L to Rs 10L. Employers remit the premium directly to the insurance companies currently on Azzetta – Chola MS. United India and Digit (in discussion).

We believe that employees would get to know the benefits and the small premium amount to get their parent's home covered and sponsor premium for their domestic help, security person and others at Rs60 per Rs 2 L cover to achieve the objective to reach the lower income households.

Results:

Azzetta surveyed more than 1000 respondents from various walks of life, households with major age bracket of 30-45 years across the country. The need of mobile app to keep track of home assets/contents and major focus on home content insurance all in one platform were encouraged by respondents. Not only insurance, brands, asset repair & service providers, e-waste / scrap buyers and more to benefit from Azzetta promoting circular economy as per the direction of the Govt. of India.

Implications:

We see that creating awareness to people and explaining the need of Home Content Insurance is very important task, especially natural calamities such as heavy rains & cyclone causing flood, etc. Ease of making the process such as providing a platform to manage home assets, availing insurance to claim process digitally is key which Azzetta is working on. We see support from Govt, NGOs and Corporate through their CSR funds in providing Bharat Griha Raksha policy to small and lower income families and in geographies which have seen natural calamities in the past. We are working not just a technology partner but also as Awareness partners.

Improvements, Contribution to Company:

Azzetta has more than 1500 brands and its models added to its database, and its users can directly contact Customer support through inbuilt Whatsapp numbers of the brands with respective asset details such as Asset name, Model, Serial number etc. At present, Azzetta offers Home Content Insurance through 2 leading Insurance providers and this numbers will go up in the future. We are also working on improvising Azzetta app on regular basis with new updates and new release of version.

Limitation:

Though there are no major limitations. However, as per BGR policy customers buying asset post policy issuing date will not be able to add new assets during policy tenure, and it is only possible during renewal of policy. Azzetta is trying to work with the regulator IRDAI to evolve a digital mode for adding assets bought during the course of the year instead of waiting to include at the end of the policy year. Further theft and burglary are not included under the BGR. We hope to include them with a rider premium.

Conclusion:

Azzetta emerges as India's First Home Asset Management & Home Content Insurance (Bharat Griha Raksha Policy) enabling 100% paperless & digital platform to organize, insurance and claim. We are recognized by STPI Chennai Finblue Incubation program, received FICCI BeFirst 2023 Best BFSI/Fintech Startup of the year. We are engaging more industry partners, creating awareness through various segments such as Corporate, NGOs, Institutions, etc and creating more momentum in Home Content Insurance & InsuranceTech segment. We look forward to cater 10 million users by or before 2026, that is 5 years from the year of inception.

We appreciate SCMHRD for giving us this platform to showcase our Azzetta App and the underlying concept to improve the penetration of property insurance of Indian households.

Name of Team Members:

1. Sreehari Abhilash, VP – HR & Partnerships

IG Drones

Project Title: 5G Based Enterprise Solution

Abstract:

IG Drones is at the forefront of a technological revolution, merging cutting-edge drone technology with the transformative power of 5G. Our intelligent drones, equipped with advanced sensors and processing capabilities, are poised to redefine aerial data acquisition and communication in the 21st century.

Imagine drones capable of real-time, high-definition video streaming, lightning-fast data transmission, and seamless integration with IoT networks – all thanks to the blazing speed and ultra-low latency of 5G. This is the reality IG Drones brings to life.

Our 5G-enabled drones offer unparalleled capabilities in diverse fields:

- Precision agriculture: Monitor crop health, optimize irrigation, and revolutionize agricultural management.
- Emergency response: Deliver critical supplies, conduct search and rescue operations, and enhance situational awareness in disaster zones.
- Smart cities: Integrate with urban infrastructure, monitor traffic flow, and optimize resource allocation.
- Industrial inspections: Conduct detailed inspections of complex infrastructure, improving safety and efficiency.
- Media and entertainment: Capture breath taking aerial footage and deliver immersive experiences.

IG Drones is not just building drones; we are building the future of connectivity. We are committed to pushing the boundaries of innovation and empowering businesses and communities to unlock the full potential of the 5G era.

Company Background:

Born from a passion for innovation at the intersection of robotics and communication, IG Drones emerged in 2018 with a bold vision: harnessing the power of drones to solve real-world problems. Fuelled by a team of brilliant engineers and industry veterans, we carved our niche in aerial intelligence, meticulously crafting drones capable of capturing not just data, but insights. Today, we stand as pioneers in 5G drone technology, ready to propel industries and communities into a connected future, one skyward leap at a time.

Current Problems/Challenges Faced:

Drones, without a proper technology for connectivity, soar with limitations. Pre-5G networks clip their wings, causing data delays, control lag, and limited range. Real-time insights and control suffer, hindering efficiency and safety. Network congestion and slow analysis further restrict autonomy and integration with smart systems. 5G promises to unshackle drones, propelling them towards faster, smarter, and autonomous operations, igniting a revolution across industries from agriculture to emergency response.

Objective:

Pre-5G drones: tethered by slow data, laggy control, and limited range. 5G unlocks their true potential: real-time insights, instant control, vast exploration, coordinated fleets, AI-powered autonomy, and seamless IoT integration. 5G for drones: not just faster flight, but a revolution in the sky.

Methodology:

Supercharged Network: High-bandwidth millimeter wave frequencies and advanced antenna technologies transmit and receive data at blistering speeds, enabling real-time video feeds and seamless data transfer.

Ultra-Low Latency: Network slicing ensures prioritized bandwidth for drone traffic, minimizing lag and enabling near-instantaneous responses to commands, crucial for precise manoeuvring and safety.

Enhanced Connectivity: Increased network density through microcell towers expands coverage to remote areas, while beamforming directs signals effectively, strengthening connections even in congested environments.

Implications/Learnings:

Implications:

- Beyond the horizon: 5G unlocks vast new applications, from medical deliveries to remote infrastructure inspections. Drone tech leaves the sandbox and takes flight across industries.
- Efficiency skyrockets: Faster data, lower latency, and longer range mean quicker operations, better data, and smarter decisions. Drones become productivity powerhouses.
- Democratized skies: With 5G's wider reach, drone tech becomes accessible to more. Smaller businesses, communities, and individuals gain wings for innovation.
- Innovation takes off: IG Drones' success sparks a chain reaction of advancements. New sensors, software, and AI blossom, fuelled by 5G's possibilities.

Learnings:

- Teamwork takes flight: Collaboration between drone engineers, 5G experts, and software developers propels IG Drones to new heights. Cross-disciplinary partnerships are the fuel for the future.
- Navigating the skyways: Responsible development respects safety and privacy regulations. IG Drones sets the course for ethical drone deployment.
- Securing the data sky: Vast data collection demands secure transmission and robust privacy protocols. IG Drones leads the way in responsible data management.
- Always reaching for the clouds: Continuous research and development keep IG Drones ahead of the curve. Their dedication to progress paves the way for a future where drones rule the skies.

Limitation:

5G drone technology faces limitations due to infrastructure challenges, including insufficient 5G network coverage and connectivity in remote areas. Regulatory frameworks and airspace management are evolving, posing hurdles for widespread implementation. These factors hinder the full potential of 5G drones in various applications across the country.

Conclusion:

IG Drones' integration of 5G technology marks a transformative leap in the drone industry. The implementation of 5G enhances real-time communication, enabling unprecedented capabilities in drone operations. The high-speed connectivity facilitates seamless data transfer, precise

control, and low-latency applications, revolutionizing sectors like surveillance, mapping, and logistics. Despite initial challenges, IG Drones' commitment to innovation and adaptation positions it at the forefront of the evolving drone landscape. With 5G technology, IG Drones not only advances operational efficiency but also sets new standards for the limitless potential of drones in diverse industries, fostering a future of unparalleled connectivity and capability.

Name of Team Members:

1. Bodhisattwa Sanghapriya
2. Sambit Parida
3. Shuvam Dash

Aditya Birla Fashion and Retail Ltd-Madura clothing

Project Title: Ethnic wear manufacturing startup in ABFRL

Abstract:

Indian market on the ethnic wear is emerging higher than the formal suits for the marriage and other cultural events since the tradition of the Indian culture is being retained on the society. In ABFRL, we had analysed the huge opportunity in the ethnic wear market in India. So, we aimed to present a new perspective on ethnic wear, and we have set up a separate manufacturing unit for producing ethnic wear in ABFRL to fulfil the market needs.

Company Background:

- Fortune 500 Indian MNC with 1.1 billion USD Revenue.
- Diversified business portfolio in Metals, Cement, Chemicals, Fiber & Textile, Apparel & Retail, Financial services, Telecom, Carbon Black, and Trading etc.
- ABFRL is India's No 1. Fashion Lifestyle entity with a combined revenue of INR 6,633 Cr.
- Exclusive partnerships with UK's most successful fashion brands, 'Simon Carter, Ted Baker, Hackett London, Ralph Lauren, American Eagle, Fred Perry'.
- "Crafted clothing" is one of the largest suits making facility in the country.
- 1.30 Lakh Jackets, 85k Trousers & 8 k Ethnic/Month.
- 2666 manpower & 1279 machines.

Current Problems/Challenges Faced:

We faced certain problems like:

- Raw material quality.
- Supply chain delay due to new product.
- Lack of Embroidery facility.
- Designer collections have a lot of art/Manual work.
- Skill development for new product category.
- High wage cost & investment.
- Capacity reduction for fulfilling ethnic renovation.

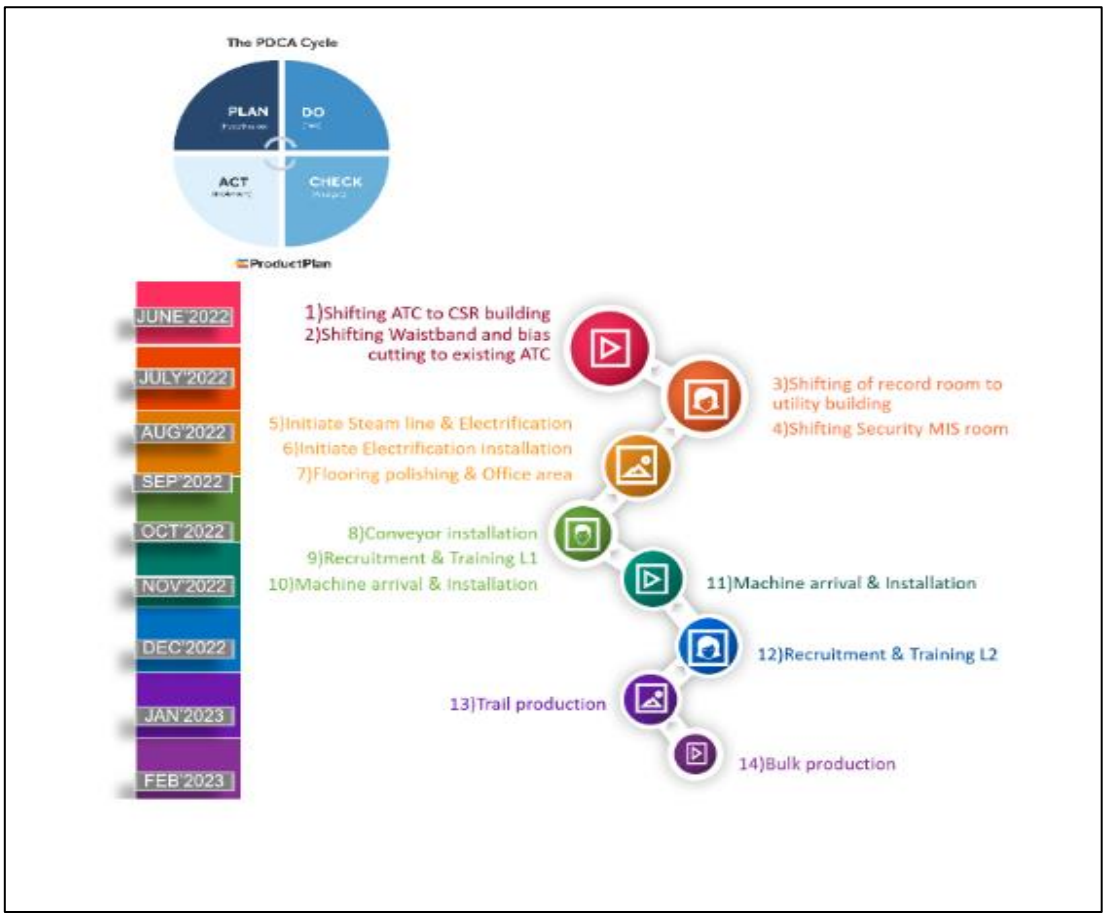
Objective:

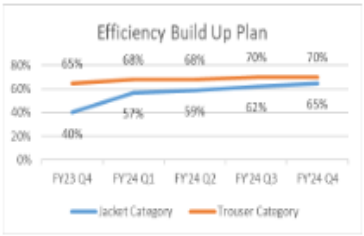
The main objective is.

- To set up the new plant for ethnic wear production.
- To utilize the market demand.
- To provide the best quality products in the Ethnic wear.

Methodology:

We adopt APS 7 steps methodology to solve this problem. We started project with understanding customer issues and pain point. After that we have done analysis of issues and then identify probable cause and its solution. Finally, we have done implementation of action and check project sustenance.





Category	Risk	Approach
Product Making	1]Fabric criticality 2]Production difficulty 3]Lower Efficiency	1]Using of interlinings for better sewability 2]Setted up the Conveyor system to improve the efficiency
Skill MP recruitment	1]Higher wages 2]Demand in skill level	1]Fresher recruitment 2]Recruitment of people with high grasping power
Plant set up	1]Machine cost 2]Capacity reduction	1]Investment 2]Revenue increase by improving the production

Results:

The plant set up took 1 year to complete all the activities & inauguration has been done successfully after the trail in manufacturing of Trouser first & then Jacket has been started & as per the budget plan we have achieved the planned revenue, profit with non-comparable quality of the product. Our revenue has been multiplied over 10 folds in the period of 1 year.

- PRODUCTION-1000pcs/Month to 8000 pcs/Month.
- QUALITY-Achieving zero 3rd party Audit Failure.
- COST-2.3 crores savings through SMV Reduction.
- DELIVERY-70% reduction in lead time- QCO/Multi product line.
- SAFETY-Best 5S Award from Factory.
- MORALE->1% Unauthorised Absenteeism.

Implications:

- Project management – Overcoming pitfalls.
- Resistance to adoption of new product due to fear of failure.
- T&A, Cross functional management.
- Handling complexity arising out of process variabilities through SOP.
- Facing handloom fabrics variations in bulk.
- Dealing multi product with styles style changeover.

Learning best practice across India in this products and knowledge transfer.

- Skill enhancement of a largely school educated work force in utilizing technology effectively.

Improvements, Contribution to Company:

Demand of our brand has been fulfilled through this project by introducing new product categories in Jacket, trouser, kurtas with best quality & the number of stores has been increased from 9 to 17 in S&N ,1 to 75 stores in Tasva. We have cost savings of 2.3 crores for the current financial year.

Limitation:

We have set up the plant for producing up to 8000 pcs of jacket, trouser, kurta. Since the market trend of ethnic wear has been increasing & conversion of people from formal to traditional wear will become the limitations of fulfilling the needed capacity with respect to the market demand. In such cases we will be in position to expand the capacity by setting up the new plant.

Conclusion:

- Machine availability improved up to 99% and there is no production loss happened after the action implementation.
- MTTR of the machine is reduced from 48 minutes to 10.4 minutes.
- Same improvements horizontally implemented in other plants of Ashok Leyland.

Name of Team Members:

1. Satheeshkumar
2. Jayaprakash
3. Jagdish
4. Nooru
5. Nisha
6. Savitha

B:Live

Project Title: Building a 'One Stop Platform' for Everything Electric

Abstract:

India urgently requires sustainable mobility solutions to combat escalating vehicular pollution. The environment faces severe threats with rapid urbanisation and a surging vehicle count. Adopting electric vehicles, is imperative for a cleaner, healthier future, mitigating climate impact and improving overall well-being.
B:Live is building a "One stop platform" to drive Awareness, Accessibility and Affordability of EVs to drive mass adoption of sustainable mobility.

Company Background:

B: Live stands for 'Being Alive" by adopting sustainable mobility in our day-to-day lives.
Founded in 2018 by Sandeep Mukherjee (Alumnus of SCMHRD 2005 batch- Ex Microsoft, Nokia) and Samarth Kholkar (Ex IBM ; GIM 2006) Our vision was to drive the adoption of EVs for a sustainable future.
We are an award-winning startup in the EV space recognised by Govt of India and multiple state govts.
Presence in 6 states across 25 towns with our network of EV Hubs
Offices in Bangalore and Goa

Current Problems/Challenges Faced:

EV buyers lack access to choice & affordable ownership options.

- Lack of Awareness of EVs - Which is the right EV for me?
- Lack of Access to choice of EV - Want to compare options under one roof and then decide to buy.
- Lack of Flexible ownership options - High Interest, no rental, leasing options

Objective:

Create a "One Stop Platform" for EVs bringing the ecosystem together on one platform to offer, Choice, Expertise and Ease of Ownership for the buyers.

Methodology:

We have created an EV Ecosystem platform which brings together EV OEMs, Service providers, and Finance cos on one digital platform.
This platform enables EV dealers and Fleet operators to offer end to end EV solutions to the buyers.
We focus mainly on Tier 2-3 towns to cater to the "bharat" customer which is 65% of India's user base for automobiles.

Data Analysis/Results:

- **Business Impact –**
  B:Live has enabled a network of 30+ EV hubs (Franchisee model) across India which sell, rent and lease EVs. This network will scale to 100 hubs in 2024.
  We have created 20+ micro fleet operators enabling them to own a fleet of Ev 2 wheelers catering to the gig workers/ last mile delivery agents to electrify last mile. logistics

  Over 4000 EVs have been deployed to scale 100k EVs in the next 2 years.

- **Environmental Impact -**
  We have saved over 150 Tons of CO2 from tailpipe emissions and created awareness through Demo of EVs to lacs of users.

- **Social Impact**
  We generated employment for 50+ Women and micro entrepreneurs at a grassroots level connecting them to the EV industry.

Implications/Learnings:

- Affordability and flexible ownership models play an important role in mass adoption
- Penetration to Tier 2/3/4 will be critical in India going electric.
- Govt policies and favourable incentives will enable India's adoption curve for EVs.

Improvements, Contribution to Company:

- We enhanced our offering to commercial EVs enabling businesses to go Green with Electric 3Wheelers and 4 Wheelers cargo vehicles.
- Over a period of time, we have partnered with over 70% of the EV ecosystem and onboarded them on our platform to give a seamless EV experience to EV buyers across India.

Limitation of the offered solutions:

We are an asset lite and inventory lite model which leverages technology to scale. However, the dependency on retail partners (EV Hubs) can lead to inconsistent customer experiences at times. For that, a strong process-driven approach and strong adherence to SOP overcomes the challenges.
This category has a dependence on government norms and policies as EV is being seen as a priority sector for the govt.

Conclusion:

The future is electric! We are playing an important role in driving adoption in Tier 2/3/4 towns by offering the EV ecosystem and breaking ownership barriers for the buyers.

Name of Team Members:

1. Sandeep Mukherjee - Co founder, COO
2. Samarth Kholkar - Co founder, CEO
3. Bhaumik Sanghvi - Head of Business

Neumetric India Private Limited

Project Title: Neumetric India Private Limited

Abstract:

Security, Compliance, Privacy & Governance have become essential to the success of any aspiring B2B SaaS Provider.

Managing these aspects is quite time-consuming, full of uncertainties, suffer from unavailability of necessary expertise & come at a high cost.

These problems arise mainly due to the complexities of managing the various tracks which are still not fully served by a single system.

Neumetric is building a centralised but modular system which enables & automates most of these Tasks & acts as a force-multiplier for Security Teams.

The various tracks handled by this system, named Fusion:

1. Document Management.
2. Audit & Risk Management.
3. Compliance Management.
4. InfoSec Education Management.
5. Incident Management.
6. Continuity Management.

Fusion makes it very easy to build & maintain compliance with any Standard or Regulation as demanded by the Enterprise Clients.

Company Background:

- Neumetric is a single source provider of Security, Compliance, Privacy & Governance solutions & services!
- Started in 2018 by the Cyber Security Experts with a total of 20+ years' experience in the domain.
- Founders have experience in selling SaaS products & in managing security for many organisations alongside prior entrepreneurship experience in multiple domains.
- Neumetric's Cyber Security Experts hold multiple Professional Certifications such as CISSP, CISM, CISA, ISO 27001 LA & CEH.

Current Problems/Challenges Faced:

- Implementing & maintaining organisational security is costly.
- Compliance, security & governance is complex to implement.
- Security & compliance is handled by highly strained & stressed staff.
- Attacks are increasing in frequency and seriousness.
- CISOs are stressed out in protecting organisations leading to severe attrition.
- Security & compliance activities are scattered across multiple sub-systems.
- Securing data is an important objective for all businesses.

Objective:

B2B SaaS Providers collect a lot of data as part of their default offering which comes with demands of their clients to maintain a high level of security, privacy & compliance. These demands create the need for a simple & capable system which can handle all necessary activities.

Methodology:

A multi-modal cloud-based plug-and-play SaaS solution which covers all the various tracks that need to be handled for maintaining high levels of Security, Privacy, Compliance & Governance. This system needs to incorporate automation of workflows and employ predefined Blueprints to help InfoSec Teams while still adhering to established practices in the InfoSec domain. The various aspects pertaining to the InfoSec domain must be covered. These include Audits, Documentation, Risks, Education, Incidents, Continuities & the associated aspects of Metrics & Reporting.

Results:

Neumetric's solution is based on real-world experiences, requirements communicated by our services Clients & based on feedback received from existing Clients.
The dominant factors that have resulted in the creation of market for this solution:

1. Rapid increase in digitisation which has resulted in high volumes of data generation, specifically Personally Identifiable Information [PII].
2. Increase in security breaches which have a high impact on Brand Reputation.
3. Enforcement of Privacy Regulations such as EU GDPR and Indian Digital PDPA.
4. Strengthening of Security Standards such as ISO 27001, SOC, PCI DSS.

From within Neumetric's perspective, the increasing availability of Compliance Management solutions has reduced revenues & business opportunities for providers of Security Services.

Multiple highly funded Solution Providers have come into existence within India & this number is expected to increase.
In such a scenario, only those Service Providers are expected to survive who will transform themselves from provider of Services to provider of Systems.

Scalability & maintainability of pure-Services cannot compete with a SaaS-based solution.

Implications:

It is necessary that Neumetric transforms itself from relying on Services as an avenue of revenues to Software as its leading revenue-generator.

Availability of trained experts in the InfoSec domain continues to remain low & this situation is unlikely to change in the foreseeable future.

Simultaneously, the ease of selling a ready-to-use software solution to the high volume of Small & Medium Enterprises that need to implement Security, Privacy, Compliance & Governance for their own business reasons effectively ensures that Cyber Security Services are expected to be overtaken and probably be eliminated by Systems.

Improvements, Contribution to Company:

Neumetric:

- 70% reduction in Effort - through automation of workflows.
- 50% reduction in Professionals - 90% reduction in InfoSec but 300% increase in Technology - Net effect is 50% reduction.
- 500% increase in efficiency & effectiveness - a single InfoSec Professional can handle five (5) Clients instead of one (1).

Clients:

- 90% reduction in Effort - to achieve & maintain compliance.
- 80% reduction in Professionals - Clients can rely on two (2) InfoSec Professionals to manage all activities instead of ten (10).
- 50% reduction in Cost - Fusion costs half as much as external Security Consultants.

Limitation:

Neumetric is a bootstrapped organisation, so all new technologies depend on revenues.

This limits the speed at which Engg can develop new Modules.

These limitations can be remedied either through high traction in Fusion sales or through Investment.

A firm decision has not yet been taken on whether investment should be brought in right now.

Fusion system employs heuristics-based automation for Risk calculations but the high volume of Training Data has not yet been used to create an ML solution for responding to Client Audits.

ML & AI modules are expected to be built in May'24.

Integrations with external systems are planned but not yet complete:

1. JIRA - Ticketing System used by a majority of Tech functions. This integration will send compliance Tasks directly to the Tech function on the Client-side instead of compelling them to work within Fusion.
2. AWS - Fusion currently does not fetch DevOps risks from the AWS environment. Since AWS is the most widely used Hosting Provider, a majority of our clients use it as well & until Fusion automates this aspect, some amount of Risk-related work will remain manual.

These integrations are expected to be built from Apr'24.

Fusion is a complex system (similar to the domain to which it belongs).
This makes it necessary to invest heavily in Onboarding, Training & Handholding.
A module within Fusion resolves this issue to some extent, but this is expected to remain an ongoing pain-point.

Conclusion:

With the ongoing changes in the Cyber Security landscape, it is necessary that Small & Medium Enterprises adopt automated systems as offered by Neumetric.

The cost of attempting to manage these activities without the support of this technology or worse to ignore the needs to Security, Privacy, Compliance & Governance, will result in loss of business for organisations.

Name of Team Members:

1. Shailendra Singh
2. Mirza Ali
3. Chaitanya Math

Novus Procura India Private Limited

Abstract:

Operating Leases enable firms to acquire assets, core to the business, without creating any debt-liability, and enabling firms to deploy cash in core business activities. Despite the clear benefit of operating lease over the traditional ways of asset acquisition (upfront purchase and loan), operating lease penetration[1] in India is the lowest in comparison to countries with similar GDP (France, Germany) or with Asian counterparts (China). Key challenges in democratizing operating leases in India are a) Inability of Financial Institutes (FIs) to under-write fixed assets, b) Limited supply of cost-effective capital, and c) Policy framework per-GST subjecting leasing to double taxation making it financially infeasible. While the policy framework has turned favorable for operating leases post-GST, the other two challenges still remain, thereby limiting the access of operating leases only to conglomerates / MNCs (ARR > INR 2,000 Cr). Praxia, through its pool of 40+ FIs coupled with the ability to underwrite assets, is on a mission to democratize operating leases in India making it readily available as an option for asset acquisition to Indian Corporates and MSMEs (ARR > INR 100 Cr) by offering Praxia Conserve (for new asset acquisition) and Praxia Infuse (for sale and lease back of existing assets).

Company Background:

Praxia started operations in April'22 and was initially focused on trading of IT assets. The trading business gave Praxia insights into the need for credit and that's how the operating lease product was developed in Jan'23.
Praxia's Co-Founders (**Mohit Gandhi** - CEO | Ex-PwC | FMS Delhi; **Adarsh Gautam** - CBO | Ex-HUL IIM Ahmedabad, **Kunal Varma** - CFO | Ex-HSBC, DBS | IIM Lucknow, **Saurabh Kanojia** - COO | Ex-Amazon | IIM Ahmedabad) comes with complimentary skill set cutting across strategy, sales and marketing, banking, supply chain and operations. Praxia raised a seed round led by Whiteboard Capital and a round of debt funding from Alteria Capital.

Name of Team Members:

1. Mohit Gandhi
2. Sanchi Arora
3. Saurabh Kanojia

ESG, Sustainability and CSR

CGI CGI

Project Title: Mobile Application for the safety of Women and children (B.SAFE)

Abstract:

This is an initiative from government and CGI for safety and empowerment of women. CGI developed a mobile application with intuitive interface for B.SAFE ambassadors to collect safety parameters on the move. B.SAFE Constituency is a unique initiative to bring different stakeholders, community, and domain experts onto a common platform and facilitate a safer assembly constituency for women through an integrated set of programs like public place audits, community awareness, recommended action plans, and sustained advocacy. The B.SAFE Constituency initiative is implemented ward-wise and is led by a band of B.SAFE Ambassadors. The B.SAFE mobile application has been deployed for collecting data on public places by conducting safety audits on the ground by B.SAFE ambassadors in Dasarahalli and Hebbal constituencies. Through the mobile application, B.SAFE ambassadors perform the following actions seamlessly:

• Data capturing using handheld gadgets with accurate GPS coordinates and captured offline and synced when the device comes online.
• Ambassadors perform surveys on safety amenities for women and children.
• Raise complaints to government officials about the security gaps identified in the respective areas.
• Receive periodical reports and reminders for uncovered areas

Company Background:

Founded in 1976, CGI is among the largest IT and business consulting services firm in the world. Operating in hundreds of locations across the globe, CGI delivers an end-to-end portfolio of capabilities, from IT and business consulting to systems integration, outsourcing services, and intellectual property solutions.

Current Problems/Challenges Faced:

Women's safety is imperative to make strides towards women's empowerment. B.SAFE ambassadors were struggling to collect safety data from public places, as their existing systems were not mobile-friendly. There is no digital platform to notify the government on the safety measures in the respective constituencies. There were so many incidents reported towards women safety and kids in the recent past. Hence government wanted to take measures to digitize and make the resources available when in need.

Objective/Need/Purpose:

There is no digital platform to notify the government on the safety measures in the respective constituencies. There were so many incidents reported towards women safety and kids in the recent past. Hence government wanted to take measures to digitize and make the resources available when in need for women.

Methodology:

With the B.SAFE mobile application, B.PAC is specifically targeting good governance practices, integrity, and transparency in all arms of the government, improving the quality of infrastructure in the city.

B.SAFE Ambassadors
The program strives to identify the community women leaders and build their capacity to become B.SAFE Ambassadors

Knowledge Track : Capacity Building
The selected ambassadors undergo capacity building sessions on various different topic on safety and empowerment .

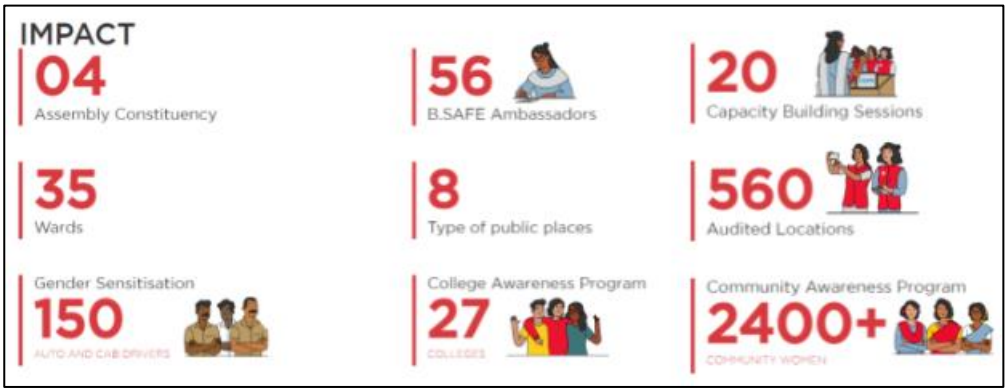
Public Place Safety Audit
Post the sessions, the ambassadors conduct the safety audits in the B.SAFE Constituency mobile app in their Assembly Constituencies

Awareness Outreach program
An initiative to build awareness amongst women of local community, college students on personal safety and empowerment.

Advocacy & Action Plan
Advocacy with government authorities on findings from the public place audit report and to support action plan

Data Analysis/ Results:

Over 100+ public places have been audited in a span of one week, and another 150+ locations are planned for the B.SAFE mobile application.



One of the media coverage on the audit report from the application:

The audit was conducted at 298 public places and 29 streets in 12 BBMP wards in Dasarahalli and in eight BBMP wards in Hebbal
https://www.thehindu.com/news/cities/bangalore/public-place-safety-audit-report-suggests-improvements-to-street-lights-and-anganwadi-kendras-in-dasarahalli-and-hebbal-constituencies/article67469829.ece

Implications/Learnings:

Lot of improvements which needs to be undertaken in the constituencies

Key findings:

Dasarahalli constituency
54% of audited streets and public places need to be well lit
41 bus stops need basic facilities
77% of parks need security guards and 96% of parks need CCTV cameras
Hebbal constituency
38% of audited streets and public places need to be well lit
97% bus stops need passenger information system
73% of parks need security guards and 83% of parks need CCTV cameras

Improvements, Contribution to Company:

CGI, a corporate social responsibility partner for the audit, to undertake the public place safety audit.

Limitation:

None, but can be improved with added functionalities.

Conclusion:

An initiative supported by CGI for safer assembly constituencies and empowering women through easy access to resources. This initiative brings different government departments, key stakeholders, domain experts and community on a common platform to enable safety and empowerment of women.
This safety audit helps to identify the gaps in public places and capture their safety score. These safety audits investigate the existing condition of public places, thereby acting in improving the safety score of the neighbourhood, to make it safer, accessible and user friendly.

Name of Team Members:

1. Dickson Yovan
2. Dhananjaya Kumar Ramammurthy
3. Gopal Krishna Patro

Wipro Ltd

Project Title: ESG Sustainability (Enhancement of Steam generation from 28 % to 50 % from Briquettes Boiler)

Abstract:

We were facing issue of heavy smoke and incomplete combustion in Briquettes boiler due to its design deficiencies and were not able to produce optimum quantity of steam from this boiler. Done Modification for enhance of steam contribution from this boiler.

Company Background:

Wipro Consumer Care & Lighting is one of the fastest growing FMCG companies in India, having 16 manufacturing units in India & Abroad. At Baddi location, major consumer care products manufactured are Soap Noodles, Toilet Soap , Safe Wash , Glucovita , Sweet N Healthy, Personal Care Products Like Hand Wash, Shaving Cream and Hand & Body Lotion etc.

Current Problems/Challenges Faced:

Steam Contribution in Briquettes Boiler was only 28% in FY 2021-22 due to deficiency of its design and 72 % contribution was from Furnace oil fired boiler which led to high steam generation cost due to higher cost of fuel furnace oil . Due to low contribution of Steam from briquettes boiler , we were getting loss of Rs-1898/MT & 5.3lac per Month for steam consumption.

Objective:

Enhancement of Steam Contribution from 28% to 50 % from Briquettes Boiler for reduction of Steam generation cost and to Improve profitability of Baddi Plant & also to reduce Fossil Fuel Furnace Oil.

Methodology:

Six Sigma (DMAIC) and lean **Six Sigma**

Data Analysis/ Results:

Data Analysis: Analysis by I- MR chart, Validation through Probability test , Root cause Analysis , Multi voting etc.
Results: After Modification enhancement of steam contribution from 28 % to 61 % from Briquettes boiler and reduction in usage of Furnace oil (135 MT)

Implications/Learnings: (200 words):

Replacing Fossil Fuel (F.O.) to Green Fuel (Briquettes)

- Reduction of CO2 Emissions
- Consistent Steam Pressure by smooth feeding of fuel in automation through feeder Screw instead of manual feeding though fire doors.
- Better Heat Transfer & better efficiency

Improvements, Contribution to Company

Total Saving of Rs. 9.46 Mn. achieved FY 2022-23 and after Modification of Briquettes Boiler, we have saved Rs. 5.8 Mn (during 6 Months from date of implementation).

Limitation:

Semi-automatic operation for fuel feeding.

Conclusion:

After doing this modification, combustion is improved by achieving proper air to fuel ratio resulting in enhancement of steam generation through this briquettes boiler and are able to contribute more steam from green fuel.

Name of Team Members:

1. Vikram Sharma
2. Chhatrapal Singh

General Management

TAFE Tractors and Farm Equipment Limited

Project Title: Crafting excellence in painting through skill enhancement

Abstract:

This innovative project introduces a strategic approach to elevate the painting proficiency, directly addressing challenges arising from insufficient skill levels in the paint shop. Through skill enhancement, we target a reduction in quality defects, an enhancement of safety protocols, an increase in productivity and a substantial reduction in operating costs, fostering an efficient resource utilization and cost-effective business model.

Company Background:

TAFE – Tractors and Farm Equipment Limited, is an Indian tractor major incorporated in 1960 at Chennai, with an annual turnover of INR 10,000 crores. The third-largest tractor manufacturer in the world and the second largest in India by volume, TAFE sells over 180,000 tractors (domestic and international) annually in which 65% of the volume is from Doddaballapur manufacturing plant**.**

Current Problems/Challenges Faced:

Lack of skill level in the paint shop leads to increase in the quality defects in painting, safety risks, low productivity and high operating cost

a) Time Constraints during operation for training associates - Lack of certified trainers / Complexity in training scheduling / Conflicts due to workload balancing.
b) Innovative training facility not available for paint shop training – CAPEX approval delays due to ROI for training.
c) People mindset on training - Lack of transparent vision in the training impact / Limited resilience to challenges.

Objective:

- Reduce skill related defects ppm from 23664 to 0 ppm
- Eliminate safety incidents from 6 to 0
- Improving the competency level from 40% to 90% (≥Q3 – Skill Level)
- Improve the productivity by 4.42 to 2.1 jig/Tr (2X times)

Methodology:

DMAIC Approach

- **Define** – Problem background, Project outline and objectives for skill development in the paint shop, Comprehensive assessment of existing challenges & obstacles and clear approach prepared to guide the skill enhancement project.

- **Measure** – Identified and analysed the current skill gaps (Base line assessment), Performance metric to quantify skill improvement, Visual representation of sequence of activities through process flow diagram.

- **Analyse** – Relationship diagram used to prioritize the causes, Conducted the root cause analysis to find out the underlying factors influencing skill deficiencies, Correlation assessment carried between skill levels, defect rates and safety incidents, Defect trend w.r.t associates skill variation revealed through statistical method and Improvements are prioritized based on their impact and relevance to project objectives.

- **Improve –** Developed the specific training modules for skill enhancement, Pilot implementation for hands on practice through Digital simulation training & Real Time simulation training, Evaluated the impact of the implemented training changes from the participants and stakeholders, Solution refinement carried based on the pilot trial.

- **Control –** Structured design for the continuous training with incorporated advanced training module, implemented robust system to track individual performances, Updated the training procedure in the ISO documents, dynamic mechanism for both trainers and trainees to adapt and enhance the skill development through special reward and recognition.

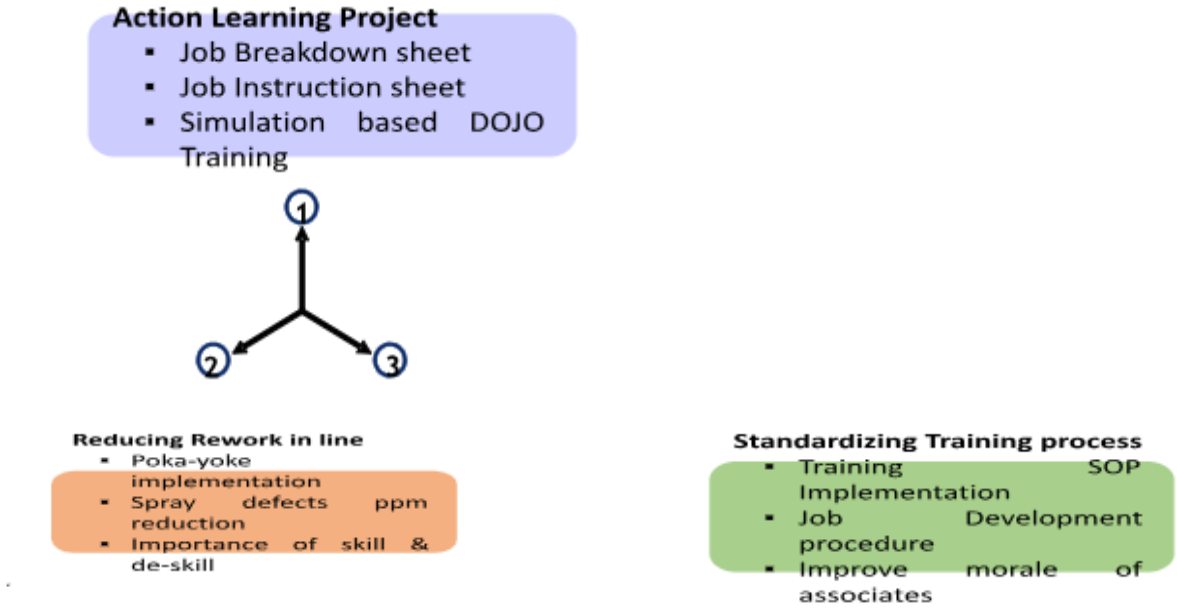
Data Analysis/Results:

- Mann Whitney Test used compare the training effectiveness (Before Vs After).
- Operational analysis table (OAT) used setup required real time simulation training facility.
- Kruskal Wallis Test used to identify the defects magnitude w.r.t sprayers.
- Attribute Agreement Analysis used to check the consistent and uniform skill level among different associates.
- Need Analysis helped to identify process aspects and personal aspects for the specific gaps and requirements.
- Analysed the Customized training modules to optimize the VR system usability and effective VR spraying experience for skill development.
- Performance metric analysis in the on-job training (SQPCDM).

Results:

- Reduced the skill related defects ppm from 23664 to 1755 ppm.
- Eliminated safety unsafe act & unsafe conditions from 6 to 0 (NIL).
- Improved the skill levels from 40% to 92% (≥Q3 – Skill Level).
- Increased the productivity by 4.42 to 2.10 jig/Tr (50% Improvement).

Implications:



Improvements, Contribution to Company:

- Poka-yoke implementation to deskill the operator.
- Chassis spray painting simulation facility (DOJO).
- Paint Mix Room (PMR) simulation facility (DOJO).
- Sheet metal surface preparation simulation facility (DOJO).
- Sheet metal polishing and emery simulation facility (DOJO).
- Sheet metal loading and unloading simulation facility (DOJO).
- Sheet metal spray painting simulation facility (DOJO).
- Digital Validation – VR spray painting.
- System monitoring network for training.

Limitation:

- Training sustenance monitoring system is manual.
- Investment required for exploring horizontal deployment across TAFE.

Conclusion:

Learnings are necessary for success of an organization and also an individual which allows us to keep progress in the evolving world. And this particular project leads to breakthrough improvements at paint shop floor and also had given a takeaway for the team is sustainability (key to a better days) helps to increase the safety practices, productivity increase, reduce delivery time, reduced the rejections and rework, and increased the morale of operator. Besides Quality management with its abundant tools offers a very strong way of analysis and validations which enables the team to take a strong action in the right place at a right time.

Name of Team Members:

1. Murugadas P – Project Leader
2. Bala Jegan K – Member
3. Santhosh Kumar A – Member
4. Selvam M – Member

Crafted clothing private Ltd

Project Title: Pit Stop implementation in Apparel Industry

Abstract:

In FY23 due to sales fluctuation individual blazer demand dropped but in reverse, the demand of trouser and women's wear increased about 25% against the current blazer capacity of 90000 pcs. This led to the decision on closing 1 Jacket line & 1 waist coat line, which consists of 225 livelihoods. We at CCL factory, could not accommodate these huge capacity increase in Trouser and women's wear due to lack in style flexibility and also training lead time is high for the highly critical and critical operations to perform.

This made company to lose revenue due to not adhering the new styles which had good demand flow.

Company Background:

CCL factory is the best suit manufacturing unit in India under the one roof of ABFRL. We are manufacturing the domestic brands called Louis Phillipe, Van Heusen, Allen Solly, Peter England and Export brands like M&S. Workforce about 2700 employees. In that 85% are women employees. We have the inhouse manufacturing capacity of 130000 pcs Jacket and 90000 Pcs of Trouser. We are capable in producing small work order size quantity average about 100 pcs.

Current Problems/Challenges Faced:

1. The below table shows the Demand Vs Inhouse capacity trend fluctuation due to reduce in sales rate.

Product	Inhouse capacity	Marker Demand	Difference	No of Lines	Capacity remarks
Blazer	356391	324885	-31506	6	Slack
Trouser	339270	375673	36403	6	Tight
Waistcoat	110864	74222	-36642	2	Slack

Women's wear	0	34723	34723	0	Tight
Bundi	51792	51673	-119	1	Normal

2. The below Details shows the lead time for the training process based on product. Work order cut to dispatch lead time is 18 days average. But the training lead time is higher than the dispatch lead time. Which was affecting the overall adherence of demand and also its creates the constraints on taking the different styles to produce inhouse.

	Training lead time in days - Before						
Product	Dec'22	Jan'23	Feb'23	Mar'23	Apr'23	Average Lead time - Before	Standard Lead time Before
Jacket	37	35	39	34	41	37	45
Trouser	28	23	26	27	26	26	32
Waist coat	18	16	16	21	19	18	24
Women's wear	NA	NA	NA	NA	NA	0	38

Objective:

- To improve the style flexibility
- To Re-design the Advanced Training centre methodology
- To Incur the market demand
- To make the flexible line to produce styles
- To make profit for company and satisfy the customer
- To save the 225 employees livelihood by not closing the lines

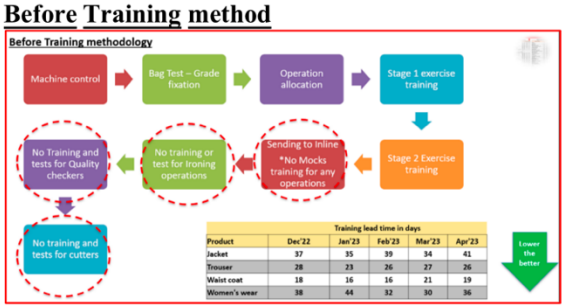
Methodology:

S. No	Methodology
1	Budget Vs Demand analysis
2	Profit and Loss analysis based on demand drop
3	Problem Identification matrix
4	Finalization of product to produce inhouse
5	Cross functional team discussion on identifying the possible causes
6	Identification of potential causes a. Style flexibility enhancement b. Training process improvement – Pit Stop methodology implementation

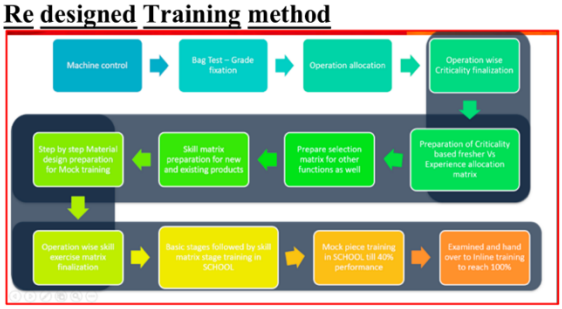
7	Conversion of specified line for multi style production
8	Analyze the different styles operation wise breakdown
9	Identification of skill, Manpower, Machine and training plans
10	Measure the current training methodology
11	Operation wise step by step training stage/ exercise creation
12	Train the trainer first in the revised method of training module
13	Implementation of new training methodology
14	Capture the trend of productivity and skill improvement through Quota card
15	Validation of Demand utilization, Profit and training lead time

Results:

Before Training method



Re designed Training method

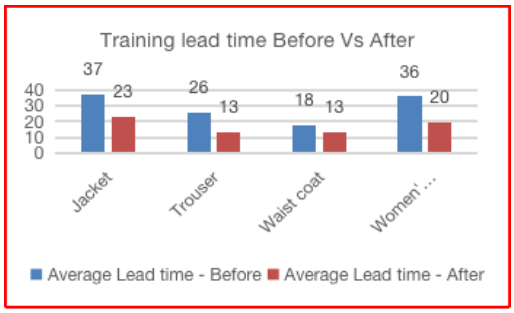


Through implementation of the above methodology, Multi style line set and Training lead time was reduced.

1. Training lead time reduction Before and After in days:

	Training lead time in days - Before							Training lead time in days						
Product	Dec'22	Jan'23	Feb'23	Mar'23	Apr'23	Average Lead time - Before	Standard Lead time Before	May'23	June'23	July'23	Aug'23	Average Lead time - After	Diff	Graph
Jacket	37	35	39	34	41	37	45	25	21	24	23	23	-14	
Trouser	28	23	26	27	26	26	32	16	14	14	12	14	-12	
Waist coat	18	16	16	21	19	18	24	16	15	13	14	15	-4	
Women's wear	NA	NA	NA	NA	NA	0	38	31	21	20	13	21	21	

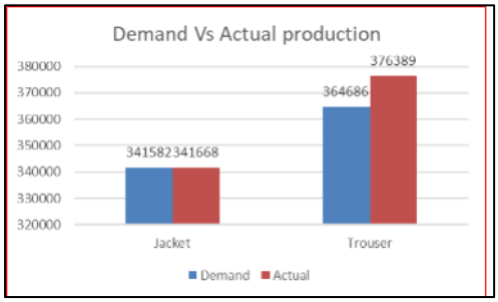
2. Training lead time Before and after:

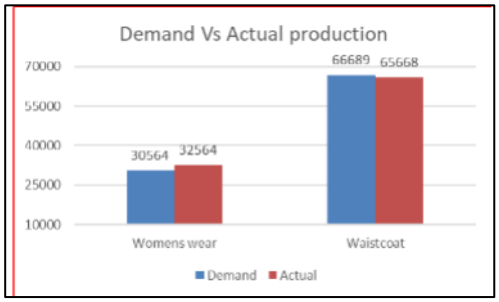


3. Demand Vs Inhouse capacity utilization:

Product	Demand	Actual	Utilization %
Jacket & Women's wear	341582	341668	100%
	30564	32564	107%
Trouser & Waistcoat	364686	376389	103%
	66689	65668	98%

4. Graphical representation Product wise:





Implications:

- Market demand and supply plan.
- Trade show and style differences.
- Constraint based planning on 4M.
- Re designing the Advanced training centre process.
- Video SOP preparation.
- QQT – Quality, Quantity and Time.
- Software for on time tracking.
- Change management of employees and in charges.
- Product flow setup.
- Software development.

Improvements, Contribution to Company:

- Flexi style line is created. Now factory can be able to accommodate different styles.
- Brand demand of 30564 women's wear was successfully produced and delivered on time.
- Employees livelihood was taken carefully.
- 24.46 Crores of revenue achieved for factory.
- Systematic problems are solved and improvements are sustained.

Limitation:

- Machine utilization was fluctuated when different styles were produced in same line.
- Few days, the line Manpower were idle when the SMV was less. Those days we have planned for multiskilled.

- Cost increase is expecting for implementation of Video SOPs in the Kiosk.

Conclusion:

- Overall Demand was fulfilled in terms of different products.
- Multi product line is developed for Jacket into Women's wear and Trouser into waist coat.
- Successfully achieved positive revenue of 24.26 Crores.
- Satisfied our Brand team in terms of on time delivery.

Name of Team Members:

1. Renuka S
2. Vijay R
3. Murugan M
4. Krishnakumar M
5. Rajapriya RS

WIPRO LTD

Project Title: Strategic sourcing

Abstract:

The case highlights the team's effort to address concerns on Wipro's potential as a procurement function & enhance cost savings to client.

Company Background:

Our client is a global manufacturer of jeans. We extend procurement support to them by identifying suitable vendors for goods & services.

Current Problems/Challenges Faced:

Client CEO questioned Wipro's capability to achieve the set business targets of $1. 5M per year as team lacked skillset to negotiate, knowledge on strategic sourcing initiatives etc.

Objective:

To achieve $1.5 m target & attain customer satisfaction score of 4.

Methodology:

Devise framework & strategies to improve skillset, knowledge level & improve project inflow to report improved savings.

Results:

Against the target of $1.5 m only $126k was achieved. 0 new projects, CSat score was 2.84. After implementation of initiatives the savings were $ 2m+ with inflow 50+ projects & CSAT score of 4.1.

Implications:

Gained the confidence of the client & were awarded by the client for the consistent good work.

Improvements, Contribution to Company:

Achieved more than the target set of $1.5 M Improving the working capital for client.

Limitation:

Offline training & monitoring of the team was a challenge.

Conclusion:

Client CEO questioned Wipro's capability to achieve the set business targets as team lacked skillset to negotiate, knowledge on strategic sourcing initiative. Wipro's potential as a procurement function was portrayed by working on the improvement areas & add value to the client.

Name of Team Members:

1. Sandeep Trilokia
2. Monisha K
3. Rajeev Kumar

Persistent Systems Limited

Project Title: General Management – Project Management

Abstract:

Challenges and Obstacles of Managing an IT Project when the scope changes drastically. Non-Cooperative, hostile existing IT Teams, Client from manufacturing background with no IT Experience is unable to decide causes delay in making decisions. These delays cause project timeline extensions that bring a lot of cost burden, unutilized resources, threat of penalty and compensation including contract termination.
To top it up very high visibility as the CEO and CIO of the client company were involved in weekly calls and have a direct relationship with the founder of our company. Cultural and Language barriers were causing a lot of hindrances. This was a first project in this specific country so there was a risk of reputation damage to a very large extent.

Persistent team decided to make it through all of these challenges and hurdles, completed the project, got a CSAT with NPS Score of 10/10, and pulled in six times more revenue than the original value of the contract. 90 Percent of this extra revenue is recurring which will come year on year.

Company Background:

Persistent Systems Limited is a Digital Engineering, and Enterprise Modernisation partner, combining deep technical expertise and industry experience to help clients. Persistent systems is listed on the Bombay Stock Exchange and the National Stock Exchange. Persistent has clocked a revenue of 1.14 billion USD, Market cap of 6.8 billion USD and has over 23000 employees across several countries in Key Geographies.

Persistent is a strategic partner to every major global IT Company like Amazon, and Microsoft. Persistent implements IT Solution to several industries like BFSI, HLS, Consumer Tech, Telecom etc.

Persistent is recognized as a leader in several verticals like Data, AI, Cloud Migration, Cloud Transformation by groups like Gartner, IDC, Forrester, Everest etc.

Current Problems/Challenges Faced:

1. Scope change because of demerger.
2. Quick migration because of the exit clause.

3. Non-cooperative and hostile incumbent wouldn't support access requests and minimum knowledge transfer requests.
4. Cultural differences like several weeks of holidays would delay decision making.
5. Customer was from a manufacturing background, so they would not understand minimum requirements for such migration and hence would not facilitate and expedite access to data, servers and data centres.
6. Since scope changed drastically and there was a timeline pressure finding and staffing people with new skillsets became arduous task.

Objective:

Change of scope was the need, however our objective was to support the customer in spite of all odds without causing outage and disruption to their current operations. Purpose was to make our first project in the new market successful as it would otherwise cause a lot of damage to our reputation.

Methodology:

1. Scope Clarity: We first sent our architects to get full clarity on the scope in the new scenario (demerger).
2. Cost Computation: We computed the cost of new setup, migration of servers, data, and all the application to the new data centre. Including the tools and licenses.
3. New Documentation: We engaged senior management including CEO from client side, had multiple discussions, explained the time, efforts and costs required to complete the separation of the IT Infrastructure from parent company, and setup new infrastructure.
4. Legal Involvement: We involved Legal team to review the documents, make changes so that we protect ourselves from any cost implications like penalty, compensation for delay, contract withdrawal or any other unforeseen legal implications.
5. Continuous Engagement: We built SMO (Service Management Office) team, they would keep customer and all senior management from both the offices fully informed about all the activities, work, plan, progress, timeline adherence among others.
6. Robust Governance: We have a robust tool to track risks and issues that can hinder the progress, senior management would closely track these risks and the mitigation plan, contingency plan, for each of these risks and allocate adequate resources to mitigate all such risks.
7. Delivery Management Excellence: We employed senior project managers who would meticulously plan all changes, setup high velocity incident management team, effective service desk, and deploy monitoring tools and processes to manage all of these critical teams.

Results:

1. ~ 75% volume reduction for password reset and account unlock through self-help.
2. ~90% requests served through automation for user onboarding / off boarding.
3. ~25% volume reduction for access and performance related issues through proactive monitoring.
4. ~30% volume reduction for connectivity issues through automated software updates, self-help troubleshooting and resolution.
5. ~90% reduced outage through infrastructure refresh through OS Upgrade to utilize new and improved features, bug fixes and security updates for Linux and Windows Servers (total 1390 servers).
6. Risk:
7. 10% Internal Risks.
8. 6% External Risks.
9. 11% People Risks.
10. 24% Process Risks.
11. 15% Contract Risks.
12. 11% Environment Risks.
13. 23% Infrastructure Risks.
14. 65% of these risks are mitigated,
15. 23% accepted by customer to continue to have until alternative devices/tools are procured.
16. 12% transferred to other third-party vendors.

Implications:

1. Planning
   a) Due Diligence: It is important to have a careful and exhaustive due diligence to understand customers landscape not only at the device level, but also at the domain and tenant level.
2. Workshop and Knowledge Sharing: Workshop helps understand the future plans and IT requirements of the company, in this case it would have been evident that demerger is on the way and hence all these surprise change of scope would have been avoided.
3. Robust Governance: Robust governance helps list out the risks and mitigation plan. Every mitigation plan requires resources and cost which has to be kept aside by the customer. These minute details can help SMO to communicate the customer well in advance.
4. Revenue and Profit: IT Carve out from demergers and spin offs lead to a lot of account mining opportunities. This can significantly increase revenue and profit from the existing accounts.
5. Training: Trainings should address cultural differences so that conversations and negotiations can be proactively managed to avoid delays due to holidays.

6. Stakeholder Management: Customer communication plan should be documented, meetings should be calendarized, face to face in person meetings should be conducted as often as possible at all levels of the management.

Improvements, Contribution to Company

1. Monitoring: This company earlier had monitoring at the network level, but now has monitoring of the entire datacentre.
2. Reduced Tickets and Increased Efficiency: Outages are reduced by 90 percent, tickets are reduced in all categories, automation has increased employees self service capabilities.
3. Risks Monitoring: Risks are listed out so customer is now happy that he can see the risk and he can see the progress on mitigation of the risks.

Limitation:

Expensive and Time Consuming: IT Carve outs are expensive and time consuming, that's the reason IT is allocated a pretty high budget in the separation cost during demergers and spin offs.

Conclusion:

Demerger is a sensitive and confidential information so it is not revealed upfront, so it is quite possible for IT Service providers like us to be caught unaware of this disruptive event. It's important to know that in spite of several challenges and hurdles it is possible to separate the spin off from the parent company and provide a modern IT Infrastructure without any disruption or impact to the business and gain a significant jump in revenue and profit from such opportunities.

Name of Team Members:

1. Mithun Prabhu – Delivery Partner
2. Kishor Majali – Delivery Manager
3. Shivanand Biradar – Project Lead
4. Praveen Ayachit – Engineering Lead

Wipro Technologies

Project Title: Resilient Shield

Abstract:

The COVID-19 pandemic has posed significant challenges for a wide range of industries in the post-pandemic era. When our support staff, client and end users were started working from home that further complexed the situation because of in-stability in their infra. This has resulted in a multitude of security related threat arising from various challenges.
The key drivers were:

- Data Protection Hygiene Check
- Cyber recovery readiness
- DR Data Protection
- Backup infra security Hygiene check
- Backup Server protection
- Backup Coverage

Therefore, we introspect the overall key solutions and aimed to further robust assessment system on Backup services.

Company Background:

GSMC Mysore is Wipro's next-generation Integrated Services Platform designed to Improve Service Resiliency, reduce operational costs and drive closer Business alignment. From Service NXT, we support Data Centre Infrastructure for 100+ customers, cutting across 13+ technical domains & 20+ services in India & Middle East. We provide various supports like Cloud, Infra, Security services application etc. on shared support models.

Current Problems/Challenges Faced:

As part of the Backup domain in GSMC, our role involves overseeing security threats especially Ransomware is a form of malware that, usually using encryption, blocks or limits access to data until a ransom is paid. However, the transition to remote work during the COVID-19 pandemic has brought forth numerous challenges. We are now faced with a range of security-related risks, including Data Protection Hygiene, Cyber recovery, Backup infra security and Backup Coverage. Consequently, there has been a surge in customer demand for

Identify backup compliances and Backup Hygiene and Review and validation current backup infra for DR or Cyber recovery.

Objective:

Negative impacts of a ransomware attack on businesses include:

- Ransom payments which can reach hundreds of thousands of dollars in cryptocurrency, as well as other direct financial losses.
- Loss of productivity due to shutdown of critical business systems.
- Loss of files and data, which may represent hundreds of hours of work.
- Loss of customer data, which damages customer trust and reputation, and represents legal and compliance exposure.

Results:

Based on various surveys performed w.r.t the Ransomware attack, the data shows that

- 80 percent of victims who submitted a ransom payment experienced another attack soon after.
- 60 percent of survey respondents experienced revenue lost after Ransomware attack.
- It's not only about Ransom.
- 46 percent of victims got access to their data but most of it was corrupted.
- The average downtime a company experiences after a ransomware attack was 22 days, which is very alarming.
- This shows that the implications of Ransomware attack was Data loss and revenue loss, along with huge downtime. This brings back to the importance of Resilient Shield.

Improvements, Contribution to Company

A total of 9 accounts were covered, across different business units. Initial Maturity score was captured. The score of above 85% comes under Green Zone, between 75% to 85% falls under Amber Zone. A score below 75% is considered as Red Zone.

The recommendations are shared with customer and classified into Critical, Medium, and Low priorities.

Corrective actions are taken to overcome the non-compliant KPIs, which improves the Maturity score, in turn Improves the Backup Infra Hygiene, Data Protection, Disaster revery and Cyber Recovery Readiness.

The Potential opportunities out of these recommendations are taken up through commercials which also generates revenue for the company.

The accounts covered under Resilient shield has created Potential opportunities worth of 1 million dollars.

Conclusion:

A total of 9 accounts were covered, across different business units. Initial Maturity score was captured. The score of above 85% comes under Green Zone, between 75% to 85% falls under Amber Zone. A score below 75% is considered as Red Zone.

The recommendations are shared with customer and classified into Critical, Medium, and Low priorities.

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The accounts covered under Resilient shield has created Potential opportunities worth of 1 million dollars.

Name of Team Members:

1) S. K. Santhosh
2) Binoy P.V.
3) Minakshi Patil

Product Innovation and Management

TAFE Tractors and Farm Equipment Limited

Project Title: Increase of market share 1 to 50 HP in Domestic Market

Abstract:

In the recent industrial practice and customer Expectation growing day by day Quality one of the key factors with directly linked to the company success factor and satisfaction of end customer.

The key roles are increasing market share 41 to 50 HP - Customer Focus Group is:

- Improving product performance to meet warranty standards.
- Analyzing the product failure occurring within the warranty period.
- Reduction of warranty PPM and cost for the company.
- Providing customer with high reliable product.

An efficient Quality Assurance team will ensure and enhance the global competitiveness of the company among Global competitors and improving customer satisfaction.

A key motive of Quality Assurance team is would be being a first choice for farmers.

- Warranty PPM and cost.
- Improving Customer satisfaction.
- Promoting brand image.
- Warranty trend analysis.

By analyzing the above, this project will identify reasons for

- Impact on farming community.
- Customer expectations on existing product it will be captured on new product.

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Company Background:

TAFE – Tractors and Farm Equipment Limited, is an Indian tractor major incorporated in 1960 at Chennai, with an annual turnover of INR 10,000 crores. The third-largest tractor manufacturer in the world and the second largest in India by volumes, TAFE sells over 180,000 tractors (domestic and international) annually. TAFE's partnership with AGCO Corporation and the Massey Ferguson brand for over 60 years is a stellar example of its commitment to building long-term relationships with its stakeholders, through fair and ethical business practices. TAFE is also a significant shareholder in AGCO Corporation, USA – a US $9.1 billion tractor and agricultural equipment manufacturer.

Current Problems/Challenges Faced:

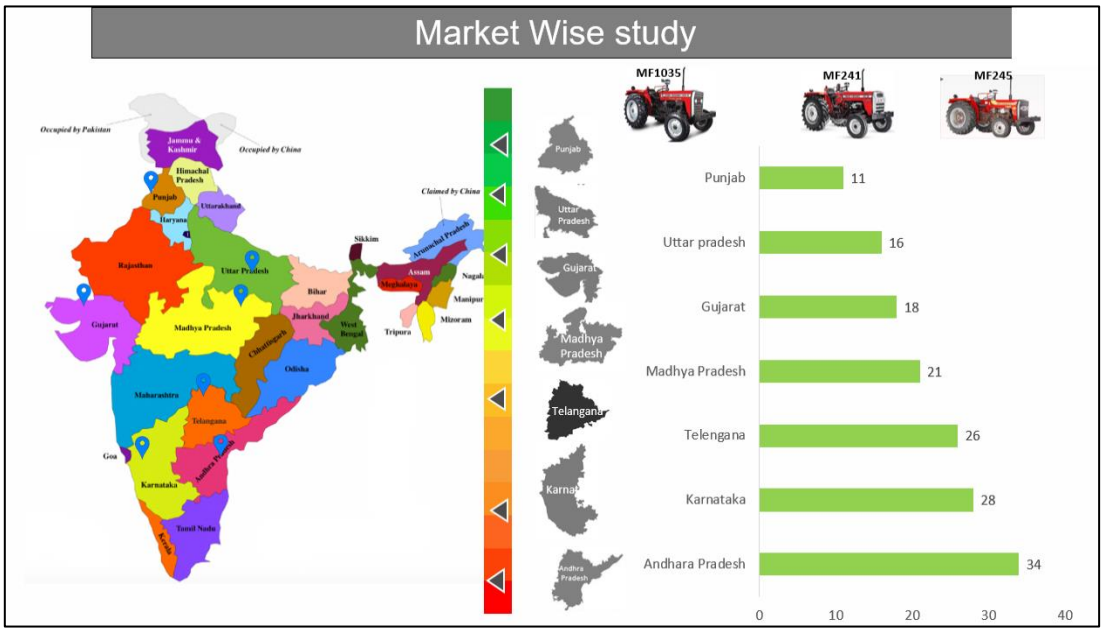
- Loss of primary utility of tractor at all application in Haulage.
- Affects the Durability & Reliability of the system.
- Annoyance to the consumer.
- Deceives the product image in market.

Objective:

Presently customer Survey need single product all features, reduce warranty failures, increase Product Reliability.
The objective of these project is to build all-rounder tractors to customer.

Methodology:

CSI Analysis by Increasing Market share



Implications:

- Capturing Customer Voice in different region.
- Developing New parts in reduced Time line.
- Testing Field & Lab outcome of results.

Improvements, Contribution to Company:

- Market share Improved to the company 16 to 23% Increased, now come in Second Position in India.
- World's first expandable wheel base. Can be made shorter for AGRICULTURE, longer for HAULAGE.
- Maximum ground clearance in its category. Crosses bunds effortlessly.
- 24 Speeds – Ensure right speed for every application. Does more with less effort.
- First time in 41-50 HP category.
- 4 - in - PTO 365 days of productivity. Perfect for every implement. Earns non-stop too.
- 2 Ton lift capacity Max implement transport height lift Faster Lifts Higher Lasts Forever First time in 41-50 HP category.

Field Learnings

- Customer Usage Pattern.
- Critical implement Applications.
- Agriculture Seasons.

Special Tools

- Quality Function Deployment
- Affinity
- Arrow Diagram

Technical Learnings

- 4-WD Arrangement.
- Gear Box Speed ratio.
- Bench mark details for Sprayer Mounting.

Conclusion:

- Understanding customer usage pattern & upgradation of new product in line with usage.
- Detailed analysis of the possible causes and identifying the significant cause.
- Fastrack implementation of identified solutions and horizontal deployment across all similar models.
- Increase in brand image and customer satisfaction on new products.
- Learnings captured through Product Design Report (PDR) for upcoming new products.

- Knowledge upgradation, team motivation & improvement of inter departmental relationship.

Name of Team Members:

1. Saravanan. G
2. Suresh Babu B
3. Karthikeyan K

Ashok Leyland Unit 2

Project Title: Product Innovation in Windshield wiper nozzle assembly to improve shower test straight pass in Bada Dost Models

Abstract:

In line with our Operations Vision, "To be agile & efficient in our operations through innovative technologies, while creating happy work place and sustainable practices across value chain", we always focus on Innovative problem-solving approach for excellence in every process continually.
Our Improvement Project of "Product Innovation in windshield wiper nozzle assembly to improve shower test straight pass in Bada Dost Models" focused on elimination of Wiper nozzle area leak and thereby improved straight pass from average 87% level to 96% level. We have adopted, structured 7-step problem-solving methodology and applicable market validation along with Design & Service team for functionality check and customers' feedback. Based on pilot trial validation and results, we have implemented windshield wiper nozzle assembly with twin head from single head to eliminate wiper nozzle area shower leak with associated recurring cost savings of 8.7 Lakhs per annum. We were able to meet out the projected market demand of 27,034 no's (FY23), which is 80% improvement in comparison with FY22 performance in Bada Dost model and Overall LCV Volume demand of 68,733 nos (FY23), which is 26% improvement in comparison with FY22 performance. Learnings and Improvement ideas are also adopted for implementation in upcoming LCV Models.

Company Background:

- Ashok Leyland, flagship of the Hinduja group, is the 2nd largest manufacturer of commercial vehicles in India, 4th largest manufacturer of buses and 19th largest manufacturer of trucks globally.
- Ashok Leyland with 75 years of legacy, is a US $ 4.5 billion company, with a well-diversified portfolio across the automobile industry, with a footprint that extends across 50 countries.
- In order to achieve our vision of "TOP 10 Global CV Player", to strengthen our LCV product portfolio, AL launched a new product, "Bada dost" in 2020, to create a paradigm shift in customer experience with its future ready and many industry-first customer-centric offerings and transforming businesses to the next level.

Current Problems/Challenges Faced:

- To meet FY23 projected market demand, volume increase of 75% in Bada Dost model is required.
- Bada Dost Shower test straight pass needs to be improved to meet the volume ramp up and market demand.
- Bada Dost Shower test straight pass stands at 87% level.
- Shower test booth, is a common facility for all LCV Products, any operational delay will affect other models too.
- Front Panel Wiper nozzle assembly related shower leak is the top contributor (7.6% defectives) at Shower test.
- This is leading to Secondary defects generation during rework activity and vehicle held up in testing area.
- There's a Potential possibility of defect flow out, if not addressed now.

Objective/Need/Purpose:

- Improve Operational Excellence to capitalize LCV Segment market demand, manufacturing only in Hosur unit 2.
- Ensure On time delivery through Manufacturing lead time reduction.
- To improve Bada Dost Shower test straight pass from 87% to >95% level.

Methodology:

Cross Functional Team (comprising of members from Quality, Production, Process Engineering, Product Design, Service / Marketing teams) approach with application of Advanced Problem-Solving methodology through 7-step structured problem-solving approach of Problem definition, Observation, Analysis, Action, Check, Standardize and Conclude.

Data Analysis/Results:

Voice of Customer data collected to understand the Customer requirement and problem significance. we have also carried out process mapping from Cab Weld to Chassis assembly operations for understanding relevant assembly activities and verification of existing standards. Cause & effect analysis done through Gemba observation and brainstorming activities to list out all probable causes related to Wiper nozzle area leak.
All probable causes are validated with application of Process capability study, Binary logistic regression tools as applicable to identify potential causes and final root cause.

Benchmarking study carried out for both our own products (Partner, Dost & Boss) & Competitor products (Tata Intra, Mahindra Pickup, Mahindra Supro, etc) for analysis & solution development.
Solution selection done through Pugh Matrix with 10 key criteria points. Based on CFT review and pilot validation, implementation of Windshield wiper assembly nozzle with twin head from single head concept completed, which resulted in Bada Dost Shower test straight pass improvement from 87% to 96 % level in Apr'23, which enabled us to achieve ever highest Bada Dost production volume of 27,034 no's in FY23 (80% improvement) and achieve ever highest LCV Production volume of 68,733 no's in FY23 (26% improvement).

Implications/Learnings:

- Able to deliver Customer centric innovative solution through Product redesign with best-in-class feature.
- Market validation along with Design & Service team for Customers feedback and functionality check.
- Effective resources utilization through Wiper assembly components elimination and optimization.

Improvements, Contribution to Company

- With implementation of Windshield wiper nozzle assembly with twin head, we have eliminated shower leak in Wiper nozzle area.
- Bada Dost Shower test straight pass improved from 87% to 96 % level.
- Achieved recurring cost savings of 8.7 Lakhs per annum.
- Learnings and Improvement idea are also adopted for implementation in upcoming LCV Models.

Limitation:

Risk analysis on Windshield wiper assembly nozzle with twin head improvement are reviewed and applicable mitigation plan and activities completed as per plan for successful implementation.

Conclusion:

- Bada Dost Shower test straight pass improvement from 87% to 96 % level in Apr'23, which enabled us to achieve ever highest Bada Dost production volume of 27,034 no's in FY23 (80% improvement) and achieve ever highest LCV Production volume of 68,733 no's in FY23 (26% improvement)

- Achieved recurring cost savings of 8.7 Lakhs per annum.
- We at Ashok Leyland are constantly innovating and striving for excellence to delight our customers, in line with our brand philosophy of “Koi Manzil Door Nahin”.

Name of Team Members:

1. Kumaran R
2. Manikandan G
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Industry 5.0 and Analytics

Reliance Industries Limited
Growth is Life

Reliance Industries Limited

Project Title: JIO- IOC

Abstract:

Integrated operation centre is one of the divisions under Corporate Services (CS) platform. The scope of proposed Energy management system which shall be implemented at various offices and manufacturing locations of RIL group of companies. EMS shall support operations of overall CS engineering function. **The verticals under Engineering Services includes- Electrical** – Lighting, Transformers, DG Sets, UPS, Lifts etc. **Mechanical –** HVAC Systems, Chillers, Pumping Systems, STP etc. **Civil** – Smart Facility Infrastructure (Wash-rooms, Conferences, Meeting Rooms etc.) **Fire and Safety** – FAS Systems, Sprinklers Systems. **Security Systems** – CCTV Cameras, Access Controls.
The Objective of EMS is as follows:

- Achieve Long term sustainability goals.
- Excellence in Operations by understanding Equipment Condition and Identify opportunities for improvements.
- Monitor Key Equipment Data Points & KPI's.
- Payback in Energy Efficiency.
- Asset Tracking and Management.
- Fault Detection and Diagnostics Module.
- Maintenance Modules – Preventive and Predictive Maintenance.
- Effective Inventory Management (S&S).
- Standardize schema.
- Reduce Cost by identification of ineffective / inefficient processes, consumers and SoPs.
- Automated work order & ticket resolution.
- Centralize all Engineering equipment & BMS portfolios into Command Center.
- Understand Equipment Condition & Identify opportunities to improved operational efficiency.
- Define & Automate SLA & Escalation Matrix.
- Compliance & Governance.
- Real time and Seamless operation.
- System Redundancy to avoid outage and System Reliability with Uptime > 99.99%.

Company background:

Reliance Industries Limited (RIL) is a Fortune 500 company and the largest private sector corporation in India. With a strongly integrated energy business and the most expansive digital and retail footprint in the country, RIL is India's largest corporate value creator and the highest valued company. RIL has always strived to positively touch lives and empower society. Inspired by its ethos of We Care, RIL has been driving inclusion, democratizing connectivity and caring for the community and environment.
India's largest company by market capitalization `17,13,506 crore by revenue '9,74,864 crore by net profit `73,670 crores.

Current Problems/Challenges Faced:

CS team required an End-to-End process automation from Plan to Build to Operate incorporating the improvisation proposed in the AS IS process. The objective is to minimize manual process and have automated work flows with online END to End visibility of the facility status. With these transformations Facilities Team expects to ensure better productivity with reduction in SLA.
Facilities Team is presently using certain automation tools/portals based in REIMS for processes like Site Acquisition, Facility Upgradation, Engineering and HOTO. The requirement is to modify the existing processes where necessary and automate the balance processes. Integrate all the process to provide End-to-End visibility to all stakeholders & management.

Objective:

Our objective is to inculcate IOT based technology to monitor, maintain & manage CS operations in tandem with the expected SLA & KPI of both CS team as well as vendor partners across the geography for facilities such as SHQ, LFL, JC, RCP & RIL offices.

Methodology:

Following are the steps introduced for implementation of EMS in IOC.

1. Identification of equipment in the facilities located across the country to be monitored on a real time basis with the assistance of IOT/SNMP based technology integrated with a CLOUD/DCN based platform which enables us to achieve our stated objective.
2. Sourcing of relevant vendors.
3. Joint visit to SHQ/JC with the concerned vendor & sharing data on relevant technical assets to be monitored on real time.

4. Conducting a test-run by the vendor in the shortlisted facilities with their equipment & to revert with a feasibility report.
5. Brainstorming with the results of the test run & modifying it to suit our requirements.
6. Technical assets identification such as generator/UPS/Inverter/AC systems/access control/EB panel.
7. Identification of parameters to be monitored & measured in each of these assets.
8. Collation of measured data on a cloud/DCN based platform for real time analysis.
9. To integrate BMS systems, if any, to the cloud/DCN platform.
10. Functionality of the equipment as per the equipment's technical parameters.
11. Alert to be generated if any fault is detected.
12. Auto generated message to the concerned CS representative / AMC vendor.
13. TAT required by the vendor partner to rectify the snag.
14. Vendor performance analysis as per their SLA's & KPI.
15. CS performance analysis.
16. Conduct real-time Employee Satisfaction report.

Device Selection

- RTU is proposed for interfacing the equipment's at these facilities.
- RTU will be connected to existing Enterprise network.
- RTU will send data over SNMP Protocol to Zabbix application.
- Zabbix Application will used for monitoring Alarms and Parameters.

Results:

Currently 798 sites are mapped in EMS with daily visualization of consumption and cost incurred.
EMS is providing us the day to day, Week on week and month on month comparison of all sites, clusters, states & regions.

Implications/Learnings:

Recently, cyclone Michaung had hit eastern coast of India causing massive floods in Tamil Nadu and Andhra Pradesh states, mostly affecting Chennai region. The effect of cyclone was anticipated and tracked closely with EMS software.
All JIO centres, Ware houses & Distribution centres were monitored for power fluctuations. Power failures were triggered on real-time basis and data was recorded at NOC area in Mumbai, thereby coordinating with on-site team for information related to any Human injury, Equipment damage, flood affect and DG status.

Improvements, contribution to the company: 100 words)

Introduction of automation and EMS has provided addressable savings in energy consumption.

- Scheduling of office hours and equipment.
- Breakdown information of equipment.
- Provision of diesel thefts tracking.
- Optimization in energy consumption.
- Energy to cost optimization through tariff zone-controlled operations.
- Zone defining and controlled AC operations.

Case study 1:

- Kolkata region (14 offices)
- Area: 13515 sqm.
- Total energy savings for Oct 2023: 62321 Kwh.
- EPI for Oct month is reduced from 11 to 7 Kwh/sqm when compared to 2022 & 2023.
- Equivalent financial savings of Rs. 5.5 Lacs

Case study 2:

- Orissa region (30 offices)
- Area: 9897 sqm.
- Total energy savings for Sep2023: 3507 Kwh.
- EPI for Sep month is reduced from 16 to15 Kwh/sqm when compared to 2022 & 2023.
- Equivalent financial savings of Rs. 0.3 Lacs.

Limitations of the offered solutions:

Quick implementation of updates across all 1221 sites without any network-based interference.

Conclusion:

We have achieved our dream of virtual facility monitoring for the facilities across India and this platform helped us to enhance the customer experience, ensure business continuity, safety of employees & assets with cost optimization.

Name of Team Members:

1. Tarun Lohani
2. Arpit Kothari
3. Omkar Patil

Cummins India Ltd

Project Title: Quality 4.0 Initiative – Create governance framework for tracking India ABO Quality KPIs

Abstract:

Cummins India ABO Quality Function and sub functions were tracking and reviewing Quality Key Performance Indicators (KPIs) such as RFT%, BIS PPM, ELF PPM, Warranty RPH, CPE, IPTV, Cost of Coverage, critical Quality Project progress and closure tracking and many other KPIs manually through excel based dashboards for long time. Under Quality 4.0 initiative efforts were made to create a user-friendly dashboard powered by Power BI. The methodology involved was gathering requirements, designing solutions, and implementing PowerApps for data entry of details which are not available in any system or database, System level data mapping to SharePoint where details are available in any parallel system and Auto refresh of data, standardized data and Visualization for use of business, Standardizing calculations and visualizations across business units streamlined reporting, reducing human efforts significantly. The implications include increased awareness of data analytics, improved decision-making, and a remarkable 80% reduction in manual efforts. The study emphasizes the importance of involving functional experts and thorough data analysis for successful project execution.

Company Background:

Cummins in India designs, manufactures, distributes and services diesel and alternative fuel engines from 2.8 to 95 litres, diesel and alternative-fuelled power generator sets of up to 3000 kW (3750 kVA), as well as related components and technology.

Cummins in India serves customers through our network of 3 Generator Original Equipment Manufacturers (GOEMs), 21 dealerships and more than 120 dealership branch offices in India.

Cummins in India is organized into four distinct but complementary business segments:

- Engine Business Unit
- Power Systems Business Unit
- Components Business Unit
- Distribution Business Unit

Current Problems/Challenges Faced:

Since last few years, different sub-functions of Quality were tracking and reviewing their critical KPI's through excel based dashboards. The challenge here was lot of manual efforts were put in right from data cleaning to processing charts. Over and above, historical information's were not available at the central location and no centralized dashboard readily available for Quality Function at India ABO.

Hence with the industry approaching Quality 4.0 which includes the focus toward digitalization of Quality Management it is more important to have the right data set and methods to better utilize data thorough analytics.

Objective:

- Readily available information for Quality KPI's.
- User-friendly dashboard for better slicing the data and drilling through Charts.
- Better actionable insights through visualizing KPI trends at ABO/BU Level.
- Reduced human efforts for multiple hierarchy reporting.
- Organizing validated and thoroughly tested critical data month by month.

Methodology:

Voice of customer – KJ- Design of Application- Testing of Application –Modification if required –Launch- Training

Flow of work:

- Charter Creation with VOC and requirement gathering from leadership and critical stakeholders.
- KJ Analysis for available voices.
- Solution design as per prioritized requirements.
- Linkage of system with SharePoint for details available on System.
- Creation of Power App for manual data collection.
- Creation Power BI Report and Validation of report with actual data.
- Access to required stakeholders for Power BI by ensuring access control as per data security norms.
- Feedback Sessions with leadership and other stakeholders.
- Deployment, Communication plan and Training.

Results:

Standardization of calculation and visualization. BU level variation in terms of reporting the data and also visualizations used. We analyzed the data, and we identified each data should be standardized in terms of calculation and visualization to cater to the customer expectations, come up with the better and customer. With this dashboard we standardized the reporting method for each KPI across BUs. There was 25+ critical KPIs across all Quality Pillars and 50+ stakeholders involved in collation of these KPIs.
To deal with multiple stakeholders and multiple KPIs, we first check if any data can be collected from any system or database and link the databases with our common SharePoint location. For data which was not available in the system we created the data entry terminals in Powerapp to get data in standard format with depended on filters. Data entry terminals and Data view are restricted access considering data confidentially. All these values required for visualization are tracked through the Powerapp Data Entry Terminal created where all the responsible persons enter the data for their Business Units.
Now all reviews are happening with the help of this dashboard and actions are driven accordingly.

Implications:

- Awareness of data Analytics between Quality team.
- Importance of the right data set and its utilization for better decision-making through analytics.
- We should prioritize the deliverables and have the Clarity of the work.
- Be clear with the expectation from leadership and critical stakeholders before starting the work.
- Functional experts need to be involved from, start of project till it gets executed.
- Study the data thoroughly and see if any pattern on common or depend on parameters which can be used as reference for reducing the manual work in automation.

Improvements, Contribution to Company:

- Reduced human efforts from 80 man-hours to 4 man-hours per month. (95% reduction)
- Standardized way of calculations & reporting across BU.
- Digitization of Processes with data transparency & authenticity.
- Real time data availability with advanced data security (RLS)
- Ease of access to data from various locations.
- Quick decision making.

Limitation:

- Pneumatic based actuator may not work, due to pneumatic hose failure or air supply issue, during batch cycle process.

Conclusion:

- Machine availability improved up to 99% and there is no production loss happened after the action implementation.
- MTTR of the machine is reduced from 48 minutes to 10.4 minutes.
- Same improvements horizontally implemented in other plants of Ashok Leyland.

Name of Team Members:

1. Pratik Yadav
2. Shweta Katkade
3. Archana Sharma
4. Tripti Khalkho

Wipro Infrastructure Engineering

Project Title: Reduction of Spigot Dia rejections in Excavator Line

Abstract:

This project aims to reduce the CNC defects of spigot die undersize, oversize and tool mark through Six Sigma DIMAC Methodology. The primary focus is on implementation of human machine synergy techniques such as real-time monitoring and feedback of process/ machine parameters to operator and interlocks in the process there by minimizing defects in machined components.

Company Background:

Wipro Infrastructure Engineering is a diverse industrial engineering business with expertise spanning over Hydraulics, Aerospace, Water treatment, Additive manufacturing, and Automation Solutions. The Hydraulics business with over 40 years of experience specializes in designing and manufacturing custom built Hydraulic Cylinders that find application in diverse segments such as Construction & Earthmoving, Utility/Lifting, Farm and Agriculture, Forestry, Mining and Special Applications and Truck Hydraulics. With 11 state-of-the-art manufacturing facilities and cross continental geographic presence across India, Europe, USA and Brazil, Wipro is one of the Largest Independent Hydraulic Cylinder Manufacturer in the world delivering over a million cylinders to OEMs annually.

Current Problems/Challenges Faced:

Scrap cost of defective rods in Excavator line at CRP Plant from Sep 21 to Feb 22 was high on account of Spigot Dia Undersize, Spigot Dia Oversize and Spigot Tool mark leading to high variable manufacturing cost and affecting the bottom line.

Objective:

This project aims at reducing scrap costs on account of spigot related CNC defects by 75%

Methodology:

Six Sigma - DMAIC Methodology was used for this project.

Define:

- CTQ drill down and Pareto Chart was done for funnelling from Business /Customer CTQ to project CTQ.
- Project Charter was done including Need, Scope, team composition.
- SIPOC to fix the longitudinal scope.

Measure:

- As is level process mapping to understand the opportunities for error.
- GRR study was done and was found to be ok.

Analyse:

- Historical data was collected for Baselining and target was fixed and validated using 1 Sample t test.
- Generation of Xs through brainstorming and Cause and effect.
- Prioritization of Xs through data collection, analysis and Gemba validation to arrive at Vital Xs.

Improve:

- Checking for opportunities for Poka Yoke: Real time feedback to operators and Interlocks.
- Feasibility check, Risk analysis and implementation of improvements.

Control:

- Control Plans for Out-of-Control Xs.
- Monitoring of Plan vs actual for targets.
- Updating SOP and training for operators.
- Closure Sign Off and Presentation.

Data Analysis:

Analysis was carried out as explained above in the methodology and arrived at following Vital Xs:

- Wrong Wear offset input.

- Wrong Incremental Wear Offset input.
- Wrong Usage of Geometry Offset.
- Chips clogging between Steady rest & Rod.
- Tool life Monitoring not followed by operators.
- Program lock not effective, open for changes.
- Machine Repeatability is not ok.

Results:

Rejection reduced by 70% and Scrap cost reduction by 77.5%.

Implications:

- Challenge current status quo to have breakthrough improvements.
- Optimum utilization of available features in machines for Human machine interface.
- Interplant knowledge sharing.

Improvements, Contribution to Company

Below Interlocks provided to avoid rejections.

- Part program Password protection.
- Geometry offset Password protection.
- Wear offset maximum limitation setting.
- Wear offset incremental input setting.
- Load based Tool life monitoring system implemented.

Conclusion:

- Reduction of manufacturing scrap cost by 77.5% from baseline leading in cost saving.
- Dependency of operator skill reduced.
- Horizontal deployment of actions for CNC machines within the plant, similar machines in other plants & at supplier Plants.

Overall, this project gave a new direction for defect reduction in machining process.

Name of Team Members:

1. Girisha K R
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3. Vijaya Karuppan

AAROHAN

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