

ACMA

Automotive Component Manufacturers Association of India

IMPACT

Indian Manufacturing Practices

now

by

ACMA Centre for technology

January 2017

Vol. 10 No. 1

TOWARDS MANUFACTURING EXCELLENCE

Includes ACT movement on



Award Winners of 3rd Case Study Competition 2016, Pune

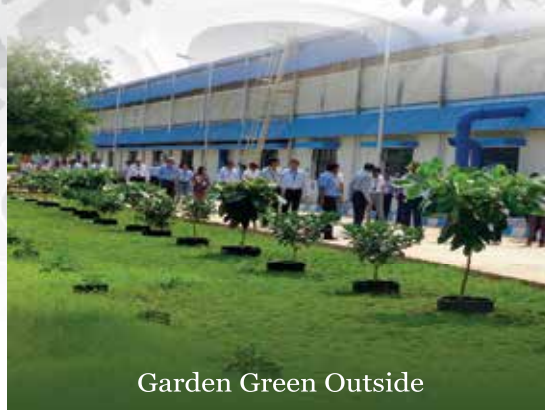
The launch of 4 new Clusters

1. 1st ACT New Product Development Design Cluster
2. 2nd ACT New Product Development Foundation Cluster
3. 2nd ACT ZERO Defect & ZERO Effect Cluster
4. 10th ACT Advance Cluster

Culmination of : 1st NPD Foundation Cluster



Hospital Clean Inside



Garden Green Outside



Zero defect & Zero Effect



Nicks (India) Tools

(ISO/TS16949-2009, ISO-14001-2004 & OHSAS-18001-2007)

A Nicks Group company based in Ludhiana, pioneer in making forged / machining components. Our main strength lies in forging and machining of components ranging from 100 gram to 5 kg weights.

Our Main Products are



Our main customers are



Nicks (India) Tools

Address: E-162-165, Phase - IV, Focal Point, Ludhiana -141010, Punjab (India)

| Tel. No. 0161-4685000 | Fax no. 0161-4685088

| Website : www.nicksindia.com | e-mail : info@nicksgroup.com



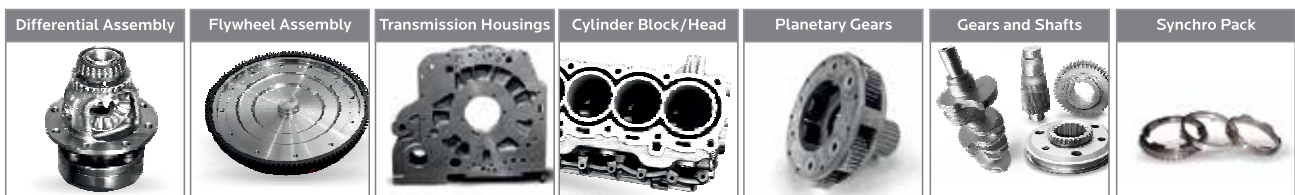
COMPLETE POWERTRAIN COMPONENT SOLUTIONS

AVTEC is one of the largest independent manufacturer of powertrain and precision-engineered products in India. It is a part of CK Birla Group – a leading global business house, with over 20,000 employees and a combined turnover of USD 1.6 billion.

With years of expertise in powertrain aggregates, AVTEC is now setting benchmarks in the manufacture of high-precision engine and transmission components for the Automotive, Off-highway, Agriculture and Railway industries.

AVTEC's state-of-the-art manufacturing units at Pithampur, Hosur & Chennai, are equipped with the best of international machines and systems. With our in-house tech centre, design & development facility and capability to handle the entire supply chain, including Global R&D and manufacturing footprint in Europe and warehouses in USA, enable us to provide the complete powertrain solution from art to part, to an array of global customers.

Having already won the trust of leading global and domestic OEMs, with AVTEC, you are sure of nothing but the best.



NIPMAN™

AUTOMOTIVE SOLUTIONS

World Class Automotive Fasteners and Cold Forged Components for World Class Customers

- A market leader in manufacturing of standard and specialized fasteners and cold forged components for the automotive and auto component industry
- In-house Forging & Thread Rolling, Heat Treatment, Surface Treatment, Dacro Coating, Chrome-free Zinc Flake Coating, Testing Labs, Tool Room
- Fasteners & Studs of all Grades from M4 – M24 sizes
- Follow all international standards such as ISO, DIN, JIS.
- Integrated Management Certified Company. All plants are ISO 14001, OHSAS 18001, ISO 9000:2008 and TS 16949 certified.



Plants at • Ghaziabad • IMT Manesar • Bawal • Haridwar • Chennai

Technology



▶ Products – Cold Forged Components



Cold Forged Components



Transmission Shaft



Ball Pins – OBJ



Ball Pins – Tie Rods

Steering System Components

Technical collaboration with IL Ryung Co. Ltd., South Korea for manufacturing world class Automotive Steering System Components such as Inner Ball Joint, Outer Ball Joint, IBJ and OBJ Assembly, Yokes.



Outer Ball Joint



IBJ and OBJ Assembly



Inner Ball Joint Assembly



Tie Rod

Technical collaboration with IL Ryung Co. Ltd., South Korea for manufacturing world class Automotive Steering System Components such as Inner Ball Joint, Outer Ball Joint, IBJ and OBJ Assembly, Yokes.

▶ Key Customers



A.G. Industries Pvt. Ltd.



Bollhoff Fastenings Ltd.



Hero MotoCorp Ltd.



Hero Motors Ltd.



Mahindra & Mahindra Ltd.



Munjal Showa Ltd.



Omax Autos Ltd.



Renault Nissan



Rico Auto Industries Ltd.



Rockman Industries Ltd.



Sandhar Industries



Subros



Mando Automotive India Pvt Limited



Vibracoustic (India) Pvt. Ltd.



Yamaha

NIPMAN FASTENER INDUSTRIES PVT. LTD.

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marketing@nipmanfastener.com • www.nipmanfastener.com

“Achieve Best to Give the Best”

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One Complimentary copy of "IMPACT" is sent to each member of ACMA. Additional copies are available at Rs. 150/- for each copy. This cost is including service Tax & postage charges.



Chairman's Message

Our Honourable Prime Minister, Shri Narendra Modi, launched the Make in India initiative with an aim to boost India's manufacturing sector. Automotive industry remains one of the largest part of Indian economy so it follows global opportunities which will be knocking the doors of the Indian auto component industry.

The Automotive Components Manufactures Association of India (ACMA), the apex body representing the auto component manufacturing industry in India with its membership of over 750 companies represents more than 90% of the output of the organized sector.

For over 50 years, the Automotive Component Manufactures Association of India (ACMA) has been working to facilitate a greater synergy between various stake holders. As you may be aware, the ACMA Centre of Technology (ACT) was set up in the year 1989 with the mandate to create excellence on the front of quality and technology in the auto component industry in India. Over the years, ACT interventions have benefited over 650 manufacturing plants in areas of Operational Excellence, New Product Development, Zero Defect & Zero Effect and similar critical aspects. These have resulted in enhancement of productivity, conservation of space, enhanced resource efficiency, energy savings, zero defect quality, product development capabilities and overall cost reduction.

ACT is also involved in designing and execution of the prestigious ACMA Awards, domestic & international study tours, knowledge seminars and conferences.

To commemorate 25 glorious years of its service to the industry, the 1st ACT Summit was held in February 2015, Pune. This summit was hugely successful and encouraged by the positive response it received, we at ACMA are now embarking on the 2nd Summit of ACT on 9th and 10th Jan 2017 at Pune with 'Innovations in Manufacturing- Make in India' as its theme.

As a part of India's vision, Digitization, ACT goes digital now with its new real-time data management software "digitalact.in"

3rd ACT Case Study Competition - November 2016 Winners

Pune Location- 15th & 16th Nov 2016			
	Company Name	Project Name	Award
Stream 1 : Innovation/ Automation			
1	Delphi TVS Diesel Systems Ltd , Mannur	Pressure Fatigue Life Improvement in diesel fuel injection	Gold
2	Metalman Auto Pvt Ltd. Aurangabad	To Increase Productivity of Frame painting in PTCED Plant	Silver
3	Endurance Technologies Ltd , Pantnagar	To Reduce Alloy Melting Cost through Innovation & Automation of Melting Furnace	Silver
4	Sanjeev Auto Parts Manufacturers Pvt. Ltd , Aurangabad	Auto offset correction on ID Turning Process For Part RE75/76.	Bronze
5	J K Fenner India Ltd. , Sriperumbudur	Automation of oil seal Inspection process	Bronze
6	Cummins India Ltd ,Pune	Capacity Improvement of K19/Q19 Block machining from 8 block to 10 block per day within 2 Weeks through Innovative conversion of Tools & Fixture	Bronze
7	Force Motors Ltd. , Pithampur	Reduction in cycle time of Power steering Operation	Presentation Award
8	Lucas TVS Ltd , Padi	Rooftop Solar	Presentation Award
Stream 2 : Zero Defect			
1	Wheel India ltd , Rampur	Elimination of paint coverage rework in Tractor Front Wheels.	Gold
2	Yazaki Wiring Technologies Pvt Ltd , Chennai	ZERO DEFECT(Terminal Push Out to be Made Zero in Main Inline Connector)	Silver
3	Rockman Industries Limited , Bawal	Resolution of Quality Problem in Cover Comp Cylinder Head (CCCH)	Silver
4	Sterling Tools Ltd , Prithla	To Eliminate Quality Problem in M8X1.25X16 Gimlet Flange Screw	Bronze
5	ZF Steering	Process Improvement	Presentation Award
6	Cummins India Ltd., Pune	Customized Make Honing Sticks for Connecting Rod Honing Operation for Crank End	Presentation Award
7	Hero Motors (A Div of Hero Cycles Ltd) ,Gautam Budh Nagar	Chain Case Wrinkle Elimination	Presentation Award
8	Sanjeev Auto Parts Manufacturers Pvt. Ltd , Aurangabad	To Eliminate Ovality Quality Issue In Gear Primary Driven (GPD)	Presentation Award

Stream 3 : Zero Effect			
1	Wheels India Ltd , Rampur	Elimination of Paint wastage due to accumulation on CED line Jigs.	Gold
2	Wheels India Ltd , Padi	Reduce D.M water consumption in clear coat Pretreatment process	Silver
3	Lucas TVS Ltd , Padi	BLDC	Silver
4	Sanjeev Auto Parts Manufacturers Pvt. Ltd , Aurangabad	To design Lean Coolant Management System for Grinding Machines.	Bronze
5	J K Fenner India Ltd , Pallapati	Heat Recovery system	Bronze
6	Wheels India Ltd. , Padi	Coolant Management system for Chiron machine	Presentation Award
Stream 4 : Internet of Things			
1	Cummins India Ltd , Pune	Implementation of Broken Tool Sensor Unit on Hass1 to reduce tool breakage issue	Gold
2	Yazaki Wiring Technologie Pvt Ltd , Chennai	To Implementation of E-Planning System for Sub Assembly	Silver
3	Wheels India Ltd , Sriperumbudur	Elimination of Valve Hole Depth variation	Bronze
Stream 5 : Improvement in Productivity			
1	A Raymond Fasteners India Private Ltd.	2 Million parts per month	Winner
2	Meenakashi Polymers (P)Ltd , haridwar	Auto closing of PU mould line	Runner
3	Chopra industries (P) Ltd. Ludhiana	To Improve the productivity	Runner up
Stream 6 : Improvement in Quality			
1	Abilities India Pistons & Rings Ltd, Ghaziabad	Sensor aided POKA YOKE for taper face detection of piston ring to achieve ZERO DEFECT.	Gold
2	Nippon Thermostat India Ltd. , Gummidipoondi	To eliminate warranty complain.	Silver
3	Nipman Fastener Industries Pvt. Ltd., Haridwar	Improvement in Quality	Bronze
Stream 7 : Cost Reduction			
1	M.G.M. Springs (P) Ltd , Anantpuram	Cost saving	Winner
2	Chopra industries (P) Ltd, Ludhiana	To reduce the cost through process saving	Runner
3	Abilities India Pistons & Rings Ltd , Ghaziabad	To eliminate plastic bins from company for material handling.	Runner up

Gold Award Winners from 3rd Act Case Study Competition, Pune

Delphi TVS Diesel Systems Limited

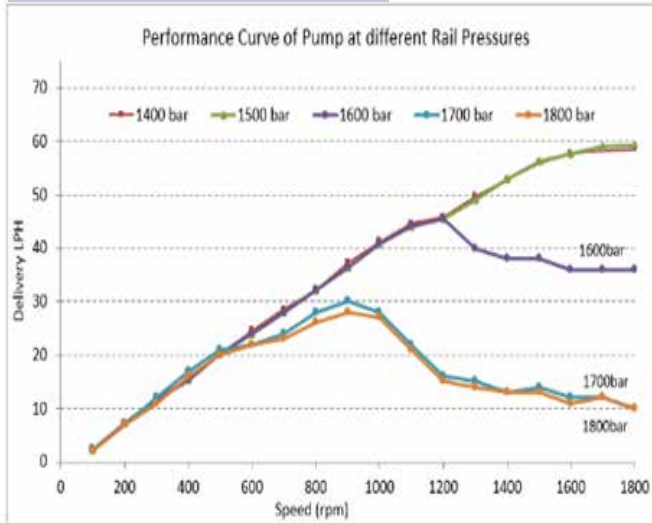
Mannur, Tamil Nadu



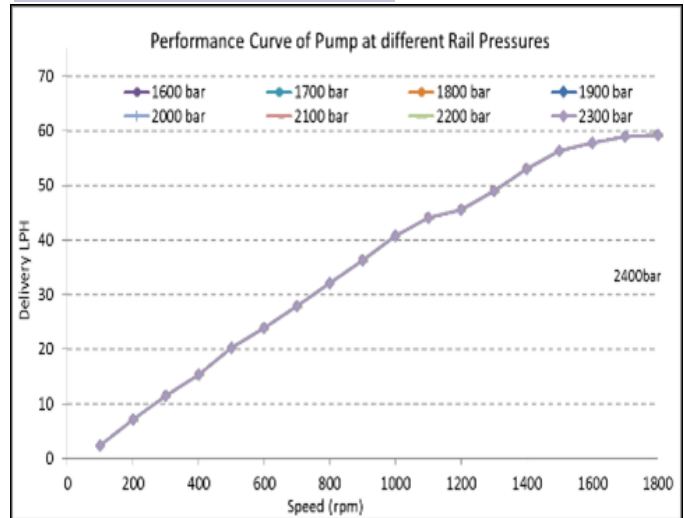
Case Study Stream : Innovation / Automation

Project Title: Pressure Fatigue Life Improvement in Diesel Fuel Injection Pump through Process Innovation

Before Process Innovation



After Process Innovation



▶ **Old Operating Pressure : 1450bar**

▶ **Target Operating Pressure : 1800bar**

▶ **Achieved Operating Pressure : 2050bar**

Benefits of the project

Tangible and Intangible Benefits

(Quantitative & Qualitative)

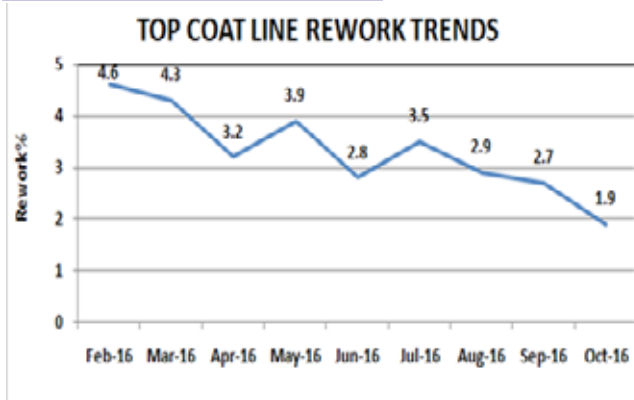
- Meeting New Customer Requirement for Higher Fatigue Limit (>1800bar)
 - Without Product Design Change
 - Zero investment
 - Zero Project Lead Time
 - High Product Reliability
- Green Environment – Meeting BS VI Emission Norms



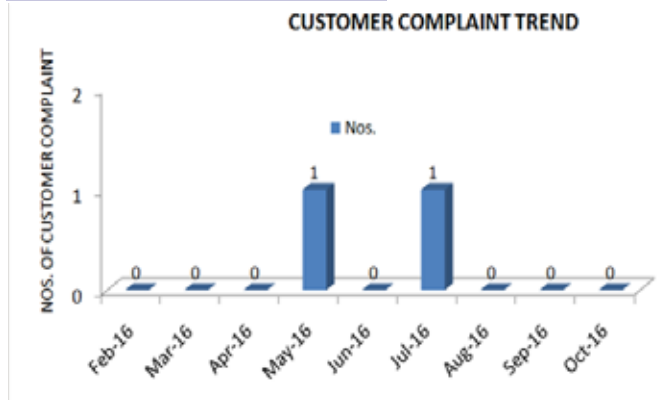
Case Study Stream : Zero defect quality

Project Title: Reduction of rework by elimination of Less Paint coverage defect

Before Process Innovation



After Process Innovation



Benefits of the project

Tangible Quantitative

■ **Avg. Nos. of Coverage Defect/month** = 120 Nos.
 @ 88 % Nos of Defective Wheels = 105 Nos.

■ **Re-Painting Production loss saving/Month**

Avg. Production loss /Month = 105 Nos.
 Production Loss saving (105*2930) = Rs 30675
 Cost Saving/Year - 30675*12 = Rs.3,69,960/-

■ **Rework Consumable cost:**

Paint& Thinner &
 Other consumables cost/wheel = Rs 155
 Cost Saving (- 53*155*12) = Rs. 98,580/-

Intangible Qualitative

- **Customer satisfaction improved**
 No coverage related customer complaint
 Painters and operators moral improved
 Painters and operators moral up after solving the Coverage problem
- **Team sprit improved**
 Team work culture boosted and sprit high.
- **Gain Confident to solve problems**
 As the thought process become successful Confident on addressing other areas also improved
- **Team Moral up**
 Team moral boosted after this project
 You WIN- I WIN situation

Wheels India Ltd,

Rampur Unit



Case Study Stream : Zero defect quality

Project Title: Zero effect on Environment due to wastage of CED paint

Before Process Innovation



Before and After Status

Calculation

	Before	After	UOM
CED paint on Jig	100	0.0	%
Conveyor speed	2.1	2.1	Mtr. /Min
Conveyor pitch distance	1.05	1.05	Mtr
Jigs stripping cost / Jig / Year	54.00	0.00	Rs.
Water mark defect	0.23	0.00	%

After Process Innovation



Benefits of the project

Tangible Quantitative Benefits

- Helping India's future generation towards clean & green environment
- Nothing is more precious than human life thing is more precious than human life.

Intangible Qualitative Benefits

- Contributing towards better Environment to the world
- Team started believing that together we can do a better work to protect our environment
- Confidence and self -development improved
- Helped on a small saving of Rs 1.05 Lac/year (CED paint saving- Rs37200 and Jig cleaning cost- Rs 67800)

Abilities India Pistons & Rings Ltd

Ghaziabad, UP



Case Study Stream : - Improvement in Quality

Project Title: POKA YOKE on laser marking machine by design and development of taper face detection

Benefits of the project

Tangible Benefits (Quantitative)

COST SAVINGS	Value in INR lacs	Remarks
New equipment	15.00	Saving in Capital cost
COPQ Per annum	5.00	Recurring saving through out the project life
Total	20.00	

Intangible Benefits (Qualitative)

- Quality Assurance rather than Quality control.
- Time saving on laser marking operation.
- Improved delivery performance as last minute rejection stopped.
- Skill reduction in aligning the rings on marking process.
- Improved productivity
- Reduced Rejections, courtesy Poka-yoke features
- Less operator skill requirement
- Less human interference in process



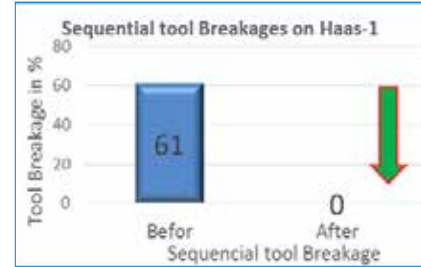
Case Study Stream : Internet of Things

Project Title: To Reduce Tool Cost on HAAS-1 machine in PT area by introducing the Tool breakage system

Benefits of the project

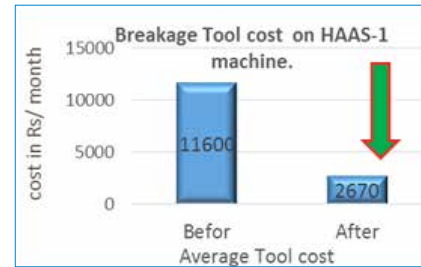
Tool Breakages :

- Sequential tool breakages becomes “ZERO” from 61%.
- Average 36 sequential tool breakages per month on one machine results in 1,300 tools breakages in year for three machines.
- Now it is reduced to zero.



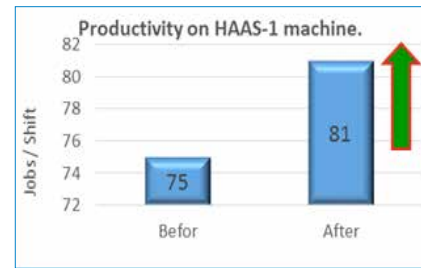
Tool Cost :

- Tool Cost reduced by Rs 8930/- per month.
- Per year Saving 1.07 Lacs/machine. (for 3 HAAS 3.21lacs).
- Invested amount only Rs. 2300/-



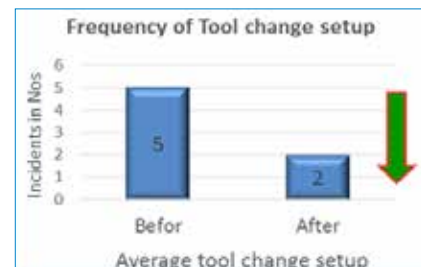
Productivity :

- Productivity improved from 75 to 81 jobs/shift (08%).
- Cumulative effect of three HAAS machines will increase more than 10% productivity as time to bring the tools from tool crib reduced.
- Machine Up Time increased causing improvement in OEE.



Tool change setup :

- Tool change setup due to tool breakage reduced from Avg. 5 to 2.
- Saving of machine ideal time of all machines by 40 mins.





INNOVATIONS IN MANUFACTURING

"Make in India" Initiative

ACMA

Automotive Component Manufacturers Association of India

ACT CLUSTER HEROES

An individual who significantly contributed for breakthrough innovations in the ACT Cluster Program at their company



Ashish Kumar
Admach Auto India Ltd.



Ajay Kumar
Autofit Pvt. Ltd



Rahul Kumar
Chopra Autotech Pvt. Ltd.



Padam Kumar
Chopra Autotech Pvt. Ltd.



Ravi Kumar
Chopra Industries Pvt. Ltd.-Unit-I



Parveen Kumar
Chopra Industries Pvt. Ltd.-Unit-II



Surinder Mohan
Chopra Industries Pvt. Ltd.-Unit-III



Swanand Joshi
Cummins India Ltd.
KEP, Pune



Raghuvir Solanki
Delux Bearings Pvt. Ltd. Plant-1



K. Selvakumar
Excel Plast



Sarvesh A. Keralkar
Force Motors Ltd.



Rahul C. Daga
Force Motors Ltd.



Suresh Maheswari
Force Motors Ltd.
- Body Shop



Virendra Bankhede
Force Motors Ltd.
- Powertrain



Arun Joshi
Force Motors Ltd.
- Press Shop



Akash Bindal
Force Motors Ltd.
- Vehicle Assembly



Rajesh Chauhan
GoldSeal SaarGummi India Pvt. Ltd.



B. Ratna Srinivas
JK Fenner (India) Ltd., Patancheru



S. Manivasagam
Lucas TVS Ltd



Rajesh Tyagi
Meenakshi Polymer S P Ltd.



Atanu Ray
Neolite Zkw Lightings Pvt. Ltd.



Ramesh Saharan
Neolite Zkw Lightings Pvt. Ltd.



Kewal Kumar
Precision Cups Pvt. Ltd.



Rajesh Gogad
Sandhar Components



Sinnas K. Pawar
Sanjeev Auto Parts Manufacturers Pvt. Ltd.



Girish N. Bendale
Sanjeev Auto Parts Manufacturers Pvt. Ltd.



Santosh R. Kulkarni
Sanjeev Auto Parts Manufacturers Pvt. Ltd.



Vineet Grover
SBR Auto Components Ltd.



Mohd Illiyas
Sterling Tools Ltd.



Naveen Bhatt
Sterling Tools Ltd.



Chander Prakash
Sterling Tools Limited



Mandeep
Stumpp, Schuele & Somappa Springs Pvt.



Ashok Kumar Mishra
Sudisa Foundry Pvt. Ltd.



Inderjeet Singh
Swaran Enterprises



Anshu Akash
V. S. Enterprises



Sudheer Yadav
Wheels India Ltd.



Manoj Kushwaha
Wheels India Ltd.



Manikandan
Yazaki India Pvt. Ltd.



Vikas P. Walunj
ZF Steering Gear (India) Ltd.



G. Saravanan
J.K.Fenner (India) Ltd.



J. Mathivanan
Wheels India Ltd., Sriperumbudur, Chennai





INNOVATIONS IN MANUFACTURING

"Make in India" Initiative

ACMA

Automotive Component Manufacturers Association of India

Overall Value for Money & Feedback Summary on ACT Cluster Program by Company CEO

Cluster Programs Completed in 2013 - 16

Cluster Programs completed : Nos.

26

Companies Net Savings : INR

1157565000

Feedback by Company CEO

95 %

ACT Customer Voice

ACT thanks it's valuable customers (Cluster Participating Companies) for their TRUST in us ... we assure you the best value for money.

ACT Clusters



Yazaki Technologies India Pvt Ltd

- Accident Frequency rate and Severity rate is Zero in Model line
- Focus completely shifted from detection to generation of defect
- Scrap Cost Saved Rs. 2,16,000/- per annum
- First Time Right Improved from 91% to 98%



Force Motors Ltd.

- Inventory reduction : 4 hrs supply of OM 616 block started in place of 8 hours (in process inventory reduced by 50%)
- OM 611 block line productivity improved by 62.5% (Block shift production increased from 16 nos to 26 nos on shift basis)
- Engine Assembly productivity improved (Engine Assembly increased from 49 Engines/shift to 54 Engines/shift)



Sanjeev Auto Parts Manufacturers Pvt. Ltd.

- First Time Right increased to 96%
- Moving towards complete Automation



Chopra Autotech (P) Ltd.

- Space saving through layout changes (720 Square feet on Model line)
- Improvement in SMED 10 Minutes to 4 minutes with "On line Die storages"
- Inventory turnover has from 25 to 60 through vendor localization
- VAPCO has been improved 2.14 to 4.20



Delux Bearings Pvt. Ltd.

- Number of Accident Free Days – 1466



Gold Seal SaarGummi India Pvt. Ltd.

- Number of Accident Free Days - 1044
- On Account of Total Employee Involvement Company has saved Rs. 725 Lakhs in total and expecting 333 Lakhs for the next Financial year



Chopra Industries (P) Ltd., Unit-I

- In-house PPM reduced from 13240 PPM to 2430 PPM
- At customer end, achieved Zero PPM
- WIP on model line reduced from 2100 Pc's 55 Pc's & ITR improved from 9 to 27
- SMED done on 10 Tools through which reduced setting time from 45 Min to 4 Min.



Chopra Industries (P) Ltd., Unit-II

- In-house PPM reduced from 14935 PPM to 2456 PPM
- Customer Complaint on Model lines eliminated
- ITR improved from 11 to 21



Chopra Industries (P) Ltd., Unit-III

- Customer Complaint on Model lines eliminated
- ITR improved from 12 to 27
- SMED done on 8 Tools through which reduced setting time from 50 Min to 3.5 Min.



Neolite ZKW Lightings Pvt. Ltd.

- COPQ %age reduced from 10% to 2%
- ROI on cluster is > 4 in one year



Meenakshi Polymers Pvt. Ltd.

- During cluster cumulative savings achieved were 89.9 lakhs which helped in organization to progress faster
- Racks used were 70 % reduced and online system established



Sterling Tools Ltd.

- Implementation of cost saving ideas worth Rs. 23 Lakhs till date
- VAR improved from 8.2% to 13.1% on model line
- Breakthrough improvement in energy saving resulting in reducing environmental carbon foot prints, energy consumption/MT of production reduced by 1.25% which results in a saving of Rs 10.92 Lakhs per annum



Stumpp, Schuele and Somappa

Stumpp, Schuele & Somappa Springs Pvt. Ltd.

- Achieved 565 accident free days



J K Fenner (India) Ltd.

- Created Hospital Clean & Garden Green Company,
- Rack Free Company, Moving towards ZERO Trolleys and Digitization



Menon

Menon & Menon Ltd.

- ACT Lean Fixture developed, Now 5 Models 1 Fixture with zero setup time.
- Material Handling through AIR, All electrical panels & Air Conditioners eliminated



Sundaram Auto Components Ltd.

- NPD revised process helped in developing 90 Parts on time.
- Variation in RFQ Cost reduced largely



IM

IM Gears Pvt. Ltd.

- Sample Resubmission Zero
- Initial Production Quality Rejection Reduced by 95%



ZF Steering Gear (India) Ltd.

- Complete layout changed in 6 months. Total Transformation of Company
- Created Lean Electrical Systems



Metalman Auto Pvt Ltd.

- Inventory Turn Ratio > 400
- No Incoming Stores
- Moving towards complete automation



Admach Auto India Ltd.

- 200 sq. ft Space saved
- FIFO System initiated



Wheels India Ltd.

- Cumulative Saving of 25Lacs/year
- Productivity improvement in model CPSR line from 30K/month to 40K/month



Lucas TVS Ltd.

- Productivity Improved by 50%
- Moving towards Stabilizer Free Company



Cummins India Ltd.

- Productivity Improved by 50%
- Created Chip Free Machines



Wheels India Ltd. (Aluminum Forge Division)

- Complete layouts Changed in 6 months
- Created Lean Coolant Systems



SBR Auto Components Ltd. (ACMA-UNIDO Program)

- Lead time of the parts reduced, delivery achieved 100 %

ACMA - UNIDO Clusters



V. S. Enterprises

- With the implementation of 1 S and 2 S activity total area generated was 97 sq. mts.
- Rs.1,25,000/- saved



Sudisa Foundry (P) Ltd.

- Furnace breakdown reduced to Zero.
- Number of accidents reduced to Zero
- Total Cost Savings 117664/INR
- Space Recovered 980 square - feet



Precision Cups Pvt Ltd.

- A Value for Rs 25,00,000/- per annum was projected in terms of tangible benefits, through the various improvement activities



Swaran Enterprises

- In-process rejection reduced from 8387 PPM to 1139 PPM
- Customer rejection Zero PPM.
- Inventory Number of days reduced from 6 days to 2.5 days

ACT New Cluster Programs - 2017

Customer expectations are changing continuously

ACT ZERO DEFECT Quality

6 Sigma Quality

PPM Quality

Quality %

GOAL

ACMA

Want to join ACT Cluster Programs :- write to act@acma.in

ACT New product design & development cluster

New Product Design and Development Cluster – Intervention Strategy

Cluster intervention goal

Continuously improve...

<p>New product development capability</p> <ul style="list-style-type: none"> On time Right quality Target cost 	<p>Most important! Least understood!!</p>
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...by building organisational competence!

ACMA Centre for Technology

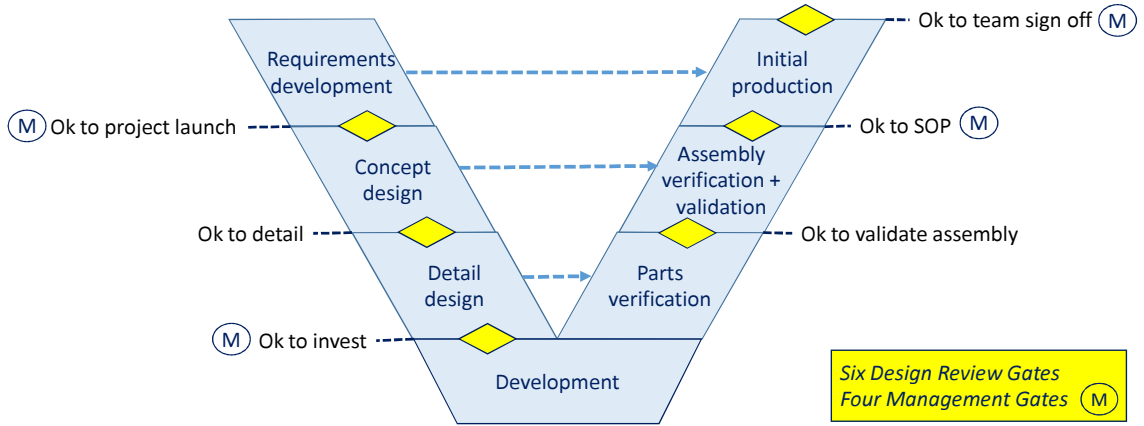
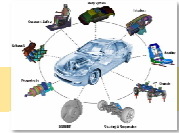
Cluster intervention provides an effective framework!

Email: act@acma.in Website: www.acma-act.in

1

New Product Design and Development Cluster – Intervention Strategy

das V Modell, the cluster version



ACMA Centre for Technology

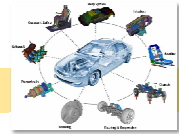
Systematic and both arms of V linked tightly

Email: act@acma.in Website: www.acma-act.in

2

New Product Design and Development Cluster – Intervention Strategy

Three pillars of cluster intervention



Rigorous German product development process



Efficient Japanese tools and methods



Effective Indian Daily Routine Management

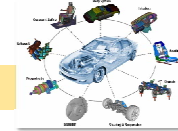
ACMA Centre for Technology

Delivered through proven ACT Cluster methodology!

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3

New Product Design and Development Cluster – Intervention Strategy



Cluster intervention roadmap

Initiatives	months																								Deliverables	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Design to cost																										new technologies
Agile project management																										lowest cost
Technology development																									high organisational capability	
Academic link																										
Lead time management																									reduced lead time	
Cost management																									meeting challenging cost target	
Capability management																									meeting challenging quality	
Technology management																										
Product development system																									controlled processes	
Design process																									predictable stage timing	
Testing process																										
Design and gate reviews																										
Basic NPD Organisation																									meeting delivery time lines	
Daily Routine Management																									reasonable quality	
Quality trouble shooting																									controlled cost	
Change management																										

Simultaneously addressing

- Quality
- Lead time
- Cost and
- Organisational competence

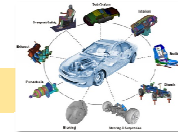
ACMA Centre for Technology

Using Capability Maturity Model framework; ambitious time line!

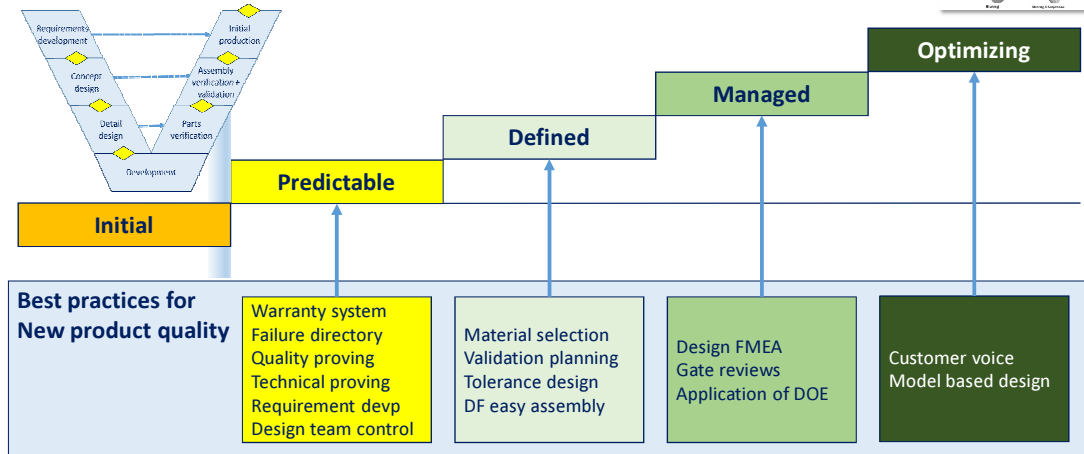
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4

New Product Design and Development Cluster – Intervention Strategy



Addressing new product quality

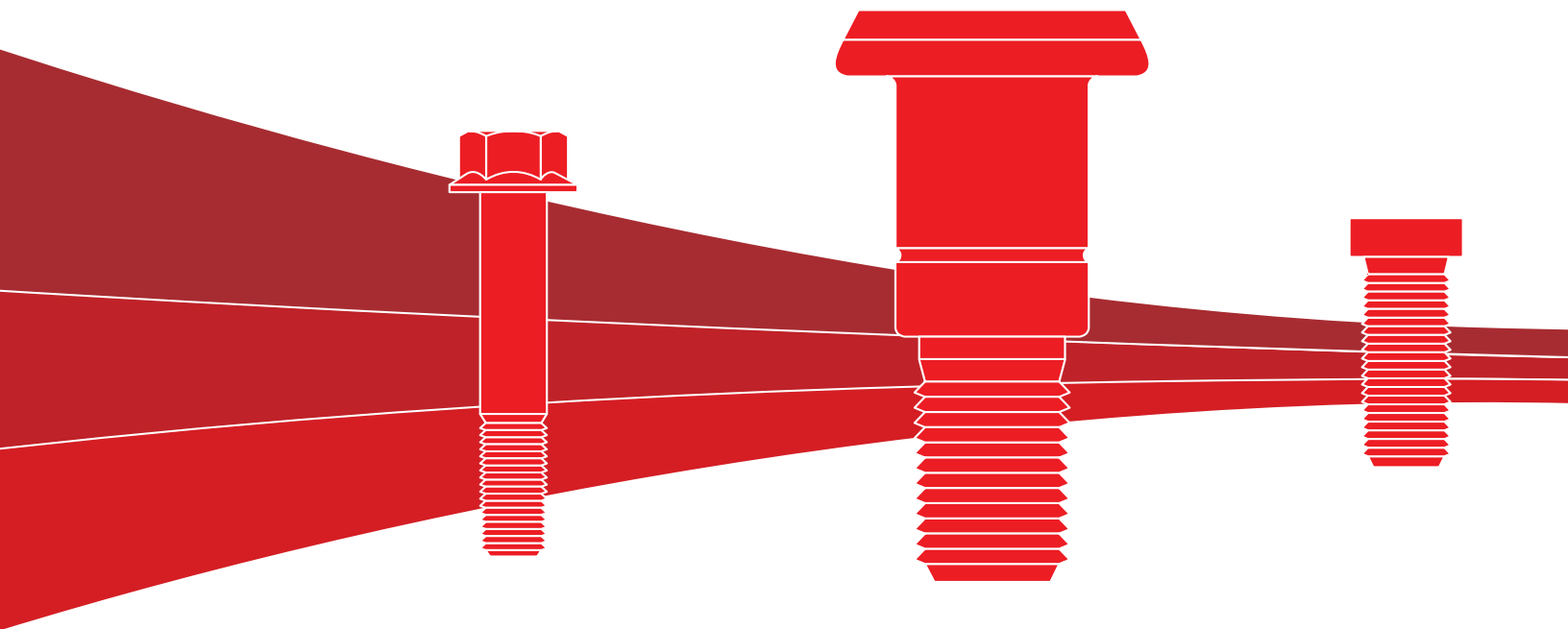


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Heavy front loading; necessary for coming out of burning current issues!

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5



360[°]

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GREATER VALUE**

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We address the demands of a dynamic market environment in accordance with quality standards and environmental regulations. Responding to the needs of prominent OEM and Tier 1 players worldwide, we offer a variety of surface finishes such as Zinc Phosphating, Zinc Plating and Dip Spin Coating on fasteners. We use leading brands for coating finishes on fasteners, such as Geomet™, Magni™ are done in-house. We have in-house facility to do Product Design Simulation, Fastener Endurance Test and Bolt Joint Simulation.

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PHONE: +91 (0) 129 - 227 0621, 0622, 0623, 0624, 0625
FAX: +91 (0) 129 - 227 7359
EMAIL: sterling@stlfasteners.com

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We classify our fasteners into four categories and these can be manufactured to suit customer requirements.



Standard Fasteners



Special Fasteners



Chassis Fasteners



Engine Fasteners

Nuts

M6 to M22 and equivalent inch series

General Specifications for Fasteners

Diameter Range: M5 to M26

Length range: 10mm to 300mm

Heat Treatment Grades: 7T, 8.8, 9T, 10.9, 11T and 12.9

Surface Finishes: Zinc Plating with Trivalent Chrome, Zinc Phosphating, Zinc Flake Coating (Geomet and Magni)

New Product Design and Development Cluster – Intervention Strategy

Addressing new product delivery

Best practices for new product delivery

- NPD process
- CFT
- Steering committee
- War room
- Indian DRM
- Change control
- Customer aligned NPD process milestones
- Concurrent engineering
- Application of frugal concepts for lead time control

ACMA Centre for Technology **Effective organisation is the starting point!**

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New Product Design and Development Cluster – Intervention Strategy

Addressing new product cost

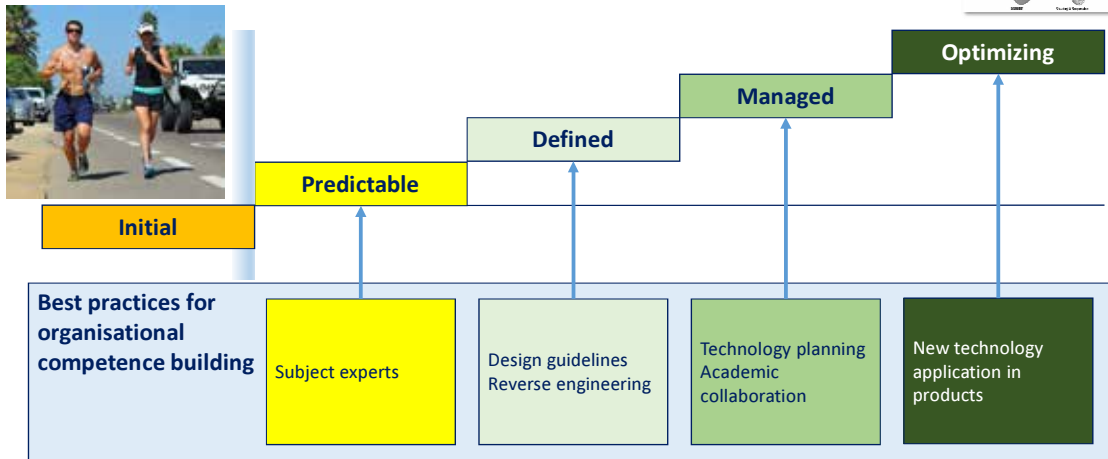
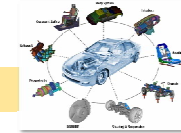
Best practices for new product cost control

- Cost tracking
- Activity based cost
- Design for manufacture
- Standardisation
- Design to cost
- Frugal engineering
- Design for assembly
- Reuse and recycle

ACMA Centre for Technology **Not urgent, but strong focus on cost!**

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Addressing organisational competence building



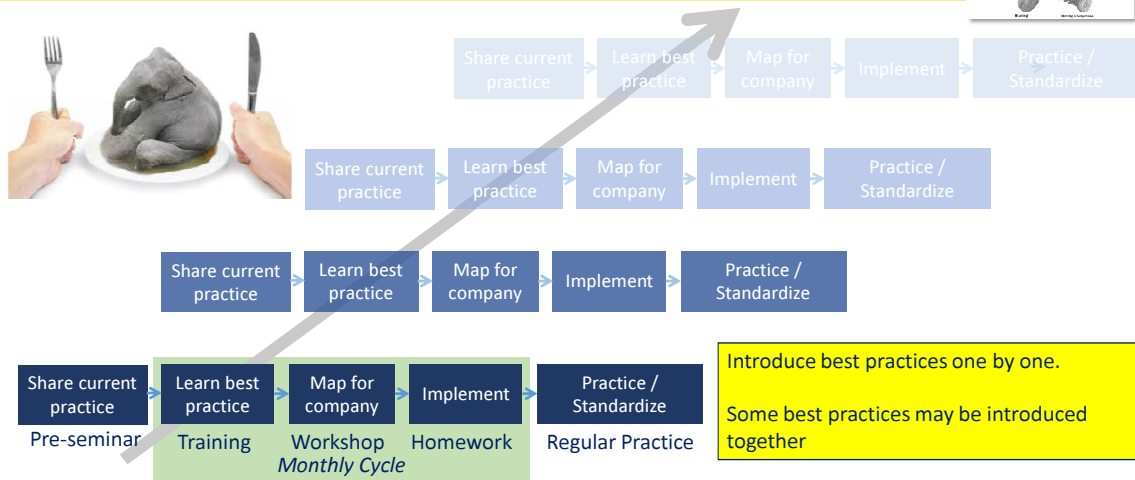
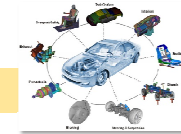
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Flawless design of products with new technologies!

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8

Cluster instruction methodology



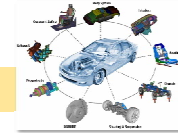
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Progressive learning and implementation!

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New Product Design and Development Cluster – Intervention Strategy



Imperatives for the participating companies

Promotion office

- NPD Cluster champion
 - Full time
 - Reporting directly to CEO
- Promotion team
 - Part time members from different functions

Organisation adjustment

- Cross functional teams for product development
 - Full time project leader
 - Members for all relevant functions – part / full time
- Steering committee for NPD
 - Managers of all relevant functions

War room

- Separate hall
- Project boards
- Component displays
- Discussion tables
- On line access to documents

Product development capabilities

- Infrastructure for Product design
- Prototype development capability
- Laboratory for product testing
- Field testing capability

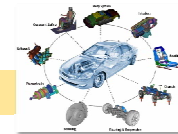
ACMA Centre for Technology

Full commitment from top management required!

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10

New Product Design and Development Cluster – Intervention Strategy



Cluster deliverables

1. Projects on auto-pilot mode
 - without management intervention!
2. Stable and predictable initial quality
3. First time right products
4. Lower product cost
5. Lower project
6. Faster project delivery
7. Products with new technologies
8. Continuously improving competence!



Leading to

- Improved customer satisfaction
- Healthy margin
- Better RFQ conversion
- Sustainable perpetuity ratio

Creating a foundation to become a global design company!

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Compelling business proposition!

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11

ACT Innovation in Information Technology (IT) cluster

ACT 1st Innovations in IT Cluster (Feb 2017 - Jan 2018) (Launching shortly)

Today, Information Technology is not only a vital support function. In a way it is even becoming integral with the product itself. Development of engines with in-built diagnostics driven by IT and the use of RFID tags on products, for providing feedback on product usage, are just two examples. Recognising the emerging role of IT and the need to upgrade competencies, ACMA now proposes to assist the community by having a cluster to focus on the state of IT among its members.



Following are objectives of this cluster:

- Assess the state of IT among members, identify pain areas and propose remedial actions.
- Implement actions necessary to benefit the community.
- Be a sounding board for members to leverage IT better.
- Propose the best method of making this function self-financing.
- Assist the IT panel of ACMA in its activities.

ACMA is keen that organizations with limited resources are also able to benefit from this initiative. This should be possible through a more innovative approach to IT.

ACT Export Cluster Program

ACT 2nd Export Cluster (Apr 2017 -Mar 2018) (Planned)

ACMA EXPORT CLUSTER ROADMAP													PM_46_G14 Rev 0 : Dec 2015								
Time in Months *	1	2	3	4	5	6	7	8	9	10	11	12	Deliverables	Implementation during 12 months							
1. Preparing organisation for the Audit										Supplier requirements of Auto OEMs		Supplier requirements of other Auto OEMs	Revise the basic concepts, evidence of which is required to be seen in auditee organization. Organisation will be prepared for facing Customer Audits								
2. Reduced customer/ internal/ supplier concerns										Tools and Proficiency (Different tools as per VDA 6.3)		Revise the basic concepts Evidence in auditee organization. Different tools as per VDA 6.3 Quicker Problem Solving									
1. Focus areas of Process elements P6.1 to P6.6			2. Focus areas of Process elements P5 & P7.			3. Focus areas of Process element P2, P3 & P4			4. Escalation process, Bottleneck management			5. Logistic planning in APQP, Ergonomics & design of workstations			6. Contingency Planning, PULL system, FIFO & Traceability			7. Introduction to TPM requirements of VDA 6.3			
1. Conducting actual audit as per VDA 6.3 method using the internal audit team.			2. Evolving corrective actions.			3. Concept of NTF			Hands On training of VDA audit.			Compiling excel sheet & interpreting findings Guidance for NC closure & Evolving improvement plan. Use of internal Change Agents Finding out status. Get to know your levels & develop internal auditors Learning the VDA way of process auditing which is different from System auditing.			Actual implementation of VDA 6.3 with Internal Audits						
1. System audit Vs. Process audit		2. Structure of VDA 6.3		3. Process elements P2 to P7		4. Setting up teams of internal auditors		5. Risk identification with Turtle diagram		Awareness of VDA 6.3 process auditing		Understanding the VDA system of process auditing. Evolving open audit-questions & link up to VDA questionnaire. Hurdle Rules / Knock Out criteria Potential analysis with P1 Understanding customer requirements			Create awareness of VDA 6.3						

Some of the measurable improvements in companies from ACT 1st Export cluster (running program) are as follows:

Improvement in performance after training				
Sr. No	Performance area (Madhusudan Auto)	Score before	Score After	Remarks
1	Overall performance rating of VDA 6.3 audit.	42%	82%	After' audit by customer: Brose Fahrzeugteile GmbH & Co.
2	Officers trained as VDA 6.3 Internal Auditors	0	11	Supervised closure of NCs of Internal Audit.
3	Number of detailed, internal audits conducted as per VDA 6.3 (2010)	0	1	
4	Number of detailed, internal audits conducted as per VDA 6.3 (2016)	0	1	

Sr. No	Performance area (Sanjeev Auto)	Score before	Score After	Remarks
1	Overall performance rating of VDA 6.3 audit.	66%	90%	After' audit by customer: ZF Friedrichshafen AG
	Officers trained as VDA 6.3 Internal Auditors	0	11	Supervised closure of NCs of Internal Audit.
2	Officers trained as VDA 6.3 Internal Auditors	0	15	Supervised closure of NCs of Internal Audit. (4 qualified to B2 from VDA)
3	Number of detailed, internal audits conducted as per VDA 6.3 (2010)	0	1	
4	Number of detailed, internal audits conducted as per VDA 6.3 (2016)	0	1	

Launch of Digital ACT Portal

www.digitalact.in



As world is moving towards digitization, ACMA Centre for Technology moves ahead for paperless activities. Time is a function of skill & to minimize or eliminate time required for any activity is possible by deskilling the activity. digitalACT software deskills all administration and communication element of ACT related activities.

digitalACT brings Dashboard on the screen which will be real time data. For any effective operating system, analysis of data and prompt communication by comparing with its set targets to be done by the software. Finally, we all need good or bad news before the event.

digitalACT is self-interactive software showing real time data & Geolocation for security. There will be online access to all ACT Counselors and Cluster companies. ACT Knowledge base (K-base) will be accessible to everyone after free registration.



The 7th MRM of 1st ZED Cluster was held on 23 & 24 Nov 2016 at J K Fenner (India) Ltd, Pallapatti – Madurai.

ACMA Centre for Technology (ACT)- 7th MRM of 1st ZED Cluster

On 23rd Nov 2016, the Event is started by Registration of all the participant. The Welcome address is given by S. Nagaraju President & Director, J K Fenner Group and Opening remarks is given by C. Narasimhan, Chief Mentor, ZED Cluster. This is followed by Plant visit and then training by C. Narasimhan, Chief Mentor, ZED Cluster.

J K Fenner Pallapatti – Madurai achieved “HOSPITAL CLEAN & GARDEN GREEN” plant status under ACMA Centre of Technology – ZERO DEFECT AND ZERO EFFECT (ZED) CLUSTER PROGRAM. This is achieved under guidance of Mr. C. Narasimhan, Chief Mentor & Mr. Dinesh Vedpathak, Head Cluster program.

On 24th Nov 2016, Mr. C. Narsimhan, Chief Mentor ACT gave training on designing Operations Standard 2020 for Zero Defect Quality and De-Skilling . Next review meeting is scheduled in Feb 2017



ACT Breakthrough Innovation 199 (ABI 199*)

Launching in Feb 2017 at Delhi, Pune, Chennai and Jamshedpur

The Automotive Component Manufacturers Association of India (ACMA) is the apex body representing the interest of the Indian Auto Component Industry. Its membership of over 750 manufacturers contributes more than 85 % of the auto component industry's turnover in the organized sector. ACMA is an ISO 9001:2008 Certified Association.

For Indian auto-component companies to integrate into global supply chains and increase penetration in global markets, it is imperative to bring operations at par with global requirements. At ACMA, there is a focused specialized group – The ACMA Centre for Technology (ACT), which was formed in 1989 with a mandate to provide such technical support and service to ACMA members to help them adopt global best practices.

Over 650 manufacturing plants benefitted till date through various programs of ACT and our offerings are growing day by day.

With a 40+ experts (Counselors) team, today ACT supports industries for breakthrough innovations in various areas like Energy, Lean Machines , Lean Tooling, Productivity, Inventory,

Lead Time reduction, Zero Defect Quality, New Product Development and Design, VDA 6.3 and upcoming initiative of Digitization program.

Present programs are designed to build capability across organization in various areas in 24 months.

Considering the need of the industry, ACT Announces “ACT Breakthrough Innovation 199” for its members with ROI in few hours or few days.

“ACT Breakthrough Innovation 199”

Objective: Develop Out of Box thinking capability within organization for Innovation to improve bottom and top line in a structured way.

Purpose: Even having similar manufacturing machines and tooling, operating cost and profit levels have large variation from 1 % to 90 % in the industries. ACMA Centre of Technology with its 16 years of Experience knowledge bank and already achieved breakthrough innovations in various manufacturing plants. However, it is not feasible to take large number of companies inside ACT Programs.



Scope	: ALL ACMA Members and their suppliers and Non Members
Duration	: 199 days
Launch	: Feb 2017 in Delhi, Pune, Chennai & Jamshedpur
Intake	: Max30 Companies per region in one batch
Fees **	: MSME (Company Turnover < 20 Cr) = INR 0.99 Lakhs + Taxes : Small (Company Turnover > 20 Cr < 30 Cr)= INR 1.25 Lakhs + Taxes : Medium (Company Turnover > 30 Cr < 100 Cr)= INR 1.99 Lakhs+Taxes : Large (Company Turnover > 100 Cr)= INR 2.99 Lakhs + Taxes
Faculties	: Industry Experts from India / Overseas
Program	: Class room sessions at ACMA Offices + Experts visit to companies (Optional)

ACT Breakthrough Innovation 199

S.N.	Particulars	Engage ment days	Months							Contents	Who should attend	
			0	1st	2nd	3rd	4th	5th	6th			7th
1	Launch	0.5									Brief On Project 199 , Deliverables , Team formation in companies	CEO, HODs & 2 Champions
2	Workshop of Innovation	2									Theory , Idea generation, Brainstorming, Documentation	All Functional heads & 2 Champions
3	Setting Targets										Set stretched targets like improving 80 to 90 % from present levels	All Functional heads & 2 Champions
4	Implementation for One machine/ Area										Implement all finalized ideas	---
5	Horizontal Deployment										Deploy across company	--
6	Reviews & Training 2 nd Month	1									Gap Analysis and Next training	CEO , All Functional heads & 2 Champions
7	Reviews & Training 3 rd Month	1									Gap Analysis and Next training	CEO , All Functional heads & 2 Champions
8	Reviews & Training 4 th Month	1									Gap Analysis and Next training	CEO , All Functional heads & 2 Champions
9	Reviews & Training 5 th Month	1									Gap Analysis and Next training	CEO , All Functional heads & 2 Champions
10	Reviews & Training 6 th Month	1									Gap Analysis and Next training	CEO , All Functional heads & 2 Champions
11	Culmination of project										Culmination ceremony	CEO , All Functional heads & 2 Champions

Deliverables

- ACT BI 199 will help companies to create one model example in short time which can be deployed horizontally. This will be finalized for each company in month “0” as mentioned in Time plan above
- Energy saving up to 60 % (In some cases, > 60 %)
- Productivity per man improvement by 100 – 500%
- Lean Machines (Chiller free , Radiator Free , Cooler Free , Panel AC Free , Stabilizer free, Conveyor free, Chip free)
- Lean Tooling (Set up free, reduction in set up time by 200 -300 %)
- Compressed air (Air free machines, CFM Reduction by 30 -50 %)
- Oils (Hyd, Lub, Neat, Cutting oil) saving up to 30 -50 %
- Inventory (Reduce by 50 to 90 %)
- Companies can suggest their needs and ACT may support (Optional) if resources are available with ACT

How to Apply Send e mail to

sakshi.karkamkar@acma.in / binny.tomy@acma.in

Contact details from ACT

Mr. V K Sharma 9811392068 vk.sharma@acma.in
 Mr. Sunil Mutha 9881475940 sunil.mutha@acma.in
 Ms. Ekta Agrawal 9657657258 ekta.agrawal@acma.co.in

** Fees mentioned is for ACMA Members (Non Members will be charged 10 % additional) and does not cover cost for Experts visits to your companies. If company want expert visits (Max 3 during project , if ACT is having capacity), then companies will have to organize expert travel and stay (if any) . There are no charges as Expert Fees for this visit.

* *ABI 199 contents are from upcoming ACT Digitization Cluster (I 4.1)*

ACT News

ACMA Centre for Technology (ACT) - 12th MRM of 3rd Engineering Excellence Cluster



MRM Presentations was given by these companies

- ZF steering, Pune
- Cummins India, Pune
- Lucas TVS, Padi
- Wheels India Sriperumbudur
- Wheels India, FAW division
- Hero Motors, Ghaziabad
- JK Fenner, Sreperumbudur
- Sanjeev Auto, Aurangabad

Mr. Dinesh Vedpathak started Training with Wishes of Deepawali. Then he discussed about changes required in Automobile sector as Move from ‘Safety’ to ‘People care’. People care will involve physical interventions that will ensure people facilitation and care. Create visibility. Practice Spot Appreciation and Spot Correction



The 12th MRM of 3rd Engineering Excellence Cluster was held on 18th Oct’2016 at ZF Steering India Limited – Pune.

Inauguration of Training center:

The event was started with the inauguration of training center in the company by Mr. Utkarsh Munot – CEO, ZF steering India Limited and Mr. Dinesh Vedpathak – Head cluster program - ACT in presence of cluster counselors and cluster delegates. The training center is named after Indian Production System (IPS - CN).



The Program was ended with Tree Plantation in company surroundings.



Bohra Rubber Pvt. Ltd.

*End to End Sealing solutions
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ACMA Centre for Technology (ACT)- Launch of 4 New Clusters & Culmination of 1st NPD Foundation Cluster



The Launch of 4 New Clusters & Culmination of NPD Foundation Cluster was held on 24 Oct 2016 at Hotel Le Royal Meridien Chennai.

The launch of 4 new Clusters :

1. 1st ACT New Product Development Design Cluster
2. 2nd ACT New Product Development Foundation Cluster
3. 2nd ACT ZERO Defect & ZERO Effect Cluster
4. 10th ACT Advance Cluster

And Culmination of 1st ACT New Product Development Foundation Cluster.





Innovative posters :
 Innovative posters are designed by participating company on ACMA Journey which were displayed during Event.

ACMA Centre for Technology (ACT) - 3rd Case Study Competition

15 & 16 Nov 2016, Pune



With the overwhelming response received during the 2nd Case Study competition in 2015, ACT organized 3rd edition of Case Study Competition on 15 & 16 Nov 2016, Pune. To provide equal opportunities, the competition was held in below different categories.

Group Category A

(Company Group Turnover < INR 150 Cr).

Stream 1- Improvement in Productivity

Stream 2- Improvement in Quality

Stream 3- Cost Reduction



Group Category B

(Company Group Turnover > INR 150 Cr)

Stream 1- Zero Defect Quality

Stream 2- Zero Effect Activities

Stream 3- IoT- Internet of Things

Stream 4- Innovation / Automation



The Event started by Registration of all the participant then Introduction and key address by Mr. Dinesh Vedpathak, Head Cluster Program, ACT. Inauguration Session with Lamp lighting by Mr. Shirish Bhide - Leader Operations -Power Systems Business Unit Cummins India Ltd was

All leading companies came from all over India namely Cummins India Ltd- Pune, Delphi TVS Diesel Systems Ltd- Mannur, Force Motors Ltd., Pithampur, Hero Motors - Gautam Budh Nagar, Yazaki Wiring Technologies Pvt Ltd – Chennai, Sanjeev Auto Parts Manufacturers Pvt. Ltd - Aurangabad and many other companies send their teams for the competition.

The competition received huge response and more than 500 case studies were submitted in the first level. 123 Nos of case studies were shortlisted for second level of the competition and were invited to present their case studies at Pune. There were total 34 winners who were awarded during the valedictory session in the competition in their respective streams.

Continuing the Tradition, we were invited Jury to witness the Case Study presentation. The Jury comprised of Mr. Sanjay karne (Ex.GM





- Mercedes Benz). Mr. Ahin Bhatt (Former Head Plant Quality - Former Tata Motors Ltd), Mr. Arup Kumar Basu (SRT-Strategic Group -Tata Motors Ltd), Mr. Surendraj Gadgil (Former GM), Mr. P. Y. Deo (Former DGM QA - Tata motors Ltd), Mr. Prakash Avachat (Former GM - Business Excellence - Tata

Motors Ltd), Dr. M. Y. Khaladkar Madam (Associate professor of chemistry, department of Applied Science, College of Engineering, Pune)

The Jury members were impressed to see the Case Study implemented by the ACT cluster companies and appreciated the

Team work & efforts made for continuous improvement. At the end of event, Ms. Sapana Baravkar, Sr. Counselor, ACT announced winners and awards were given by the hands of Mr. Piyush Munot- Co-Chairman, ACMA

WR & Director- KCTR Varsha Automotive Pvt. Ltd.

Best Performing ACT Cluster Companies

A dedicated & selfless efforts made by the company in driving effective change through ACT Cluster Program



 Admach Auto India Ltd., Faridabad Best drive in Productivity Improvement	 Chopra Autotech (P) Ltd., Haridwar (Uttarakhand) Best drive in Low Cost Automation	 Chopra Industries (P) Ltd. - Unit-I, Ludhiana Best drive in Space Reduction	 Chopra Industries (P) Ltd. - Unit-II, Ludhiana Best drive in SMED	 Chopra Industries (P) Ltd. - Unit-III, Ludhiana Best drive in Space Saving	 Cummins India Ltd., Kothrud Best drive in Productivity Improvement	 Delux Bearings Pvt. Ltd. Plant-1, Wadhwan Best drive in TEI
 Force Motors Ltd. (Power Train Division), Indore Best drive in Productivity Improvement	 Force Motors Ltd. (Traveller Line), Indore Best drive in Visibility Improvement & TEI	 GoldSeal SaarGummi India Pvt. Ltd., Daman Best drive in Waste Elimination	 IM Gears Pvt. Ltd., Chennai Best drive in Right at First Time in New Product	 JK Fenner, Pallapatti, Madurai Best drive in Hospital Clean Inside & Garden Green Outside	 Lucas TVS Ltd., Padi Best drive in Productivity Improvement	 Meenakshi Polymer S P Ltd., Haridwar Unit-2 Best Drive in Productivity Improvement & Inventory Reduction
 Menon & Menon Ltd., Kolhapur Best drive in Material Handling & Automation	 Metalman Auto Pvt. Ltd., Aurangabad Best Drive in Automation	 Neolite Zkw Lightings Pvt. Ltd., Bahadurgarh, Haryana Best driving in Zero Defect Quality	 Precision Cups Pvt. Ltd., Janshedpur, Jharkhand Best drive in 5S	 Sundaram Clayton Ltd., Hosur Best drive in Establishing NPD Processes	 Sanjeev Auto Parts Manufacturers Pvt. Ltd., Aurangabad Best drive in Automation & Lean Machines	 SBR Auto Components Ltd., Pantnagar, Uttarakhand Best drive in Inventory Reduction
 Sterling Tools Ltd., Palwal (Haryana) Best drive in Resource Optimization	 Stumpp, Schuele & Somappa Springs Pvt. Ltd., Gurgaon Best drive in Productivity Improvement	 Sudisa Foundry (P) Ltd., Adityapur Best drive in Breakdown Reduction	 Swaran Enterprises, Gurgaon Best drive in 5S	 V. S. Enterprises, Jamshepur Best drive in TEI	 Wheels India Ltd., Rampur Best drive in Energy Conservation	 Wheels India Ltd., Forging Plant Best drive in Overall Transformation
 Wheels India Limited, Sriperumbudur Best Drive in Energy Saving Lean Coolant Systems	 Yazaki Wiring Technologies India Pvt. Ltd., Chennai Best drive in Zero Defect Quality & Visual Plant	 ZF Steering, Pune Best drive in Fastest Transformation at the fullest (6 Months)	www.acma.in www.digitalact.in act@acma.in			

Recently held activities

- ACT Sr. Leaders visit/meetings w.r.t. Research collaboration with Cardiff University, UK
- 111th GRSG Meeting UNECE, Geneva
- Culmination of ACT 1st NPD Foundation Cluster, Chennai
- Launch of ACT 1st NPD Design Cluster, 2nd NPD Foundation Cluster, ACT 2nd ZED Cluster, ACT 10th Advance Cluster, Chennai
- Sr. Leaders from ACT visited Advanced Engineering Exhibition, UK and for follow up meetings with Cardiff University, UK
- launch of ACT 2nd ZED cluster,
- launch of ACT 2nd NPD Foundation Cluster
- launch of ACT 1st NPD Design cluster
- ACT 3rd Case Study Competition, Pune

Forthcoming Activities

- Counsellor Training – Train the Trainers on SAFETY by Dupont
- Release of Circular ACMA Awards 2016-17 to ACMA Members
- Launch of 1st ACT Innovation in IT Cluster
- Launch of ACMA- Cardiff 1st Joint Course
- Launch of ACT 2nd Resource Efficiency Cluster
- Mentoring / Coaching CEOs for Future Mfg.
- Launch of ACMA UNIDO Tier 2 Cluster programs
- ACMA Awards Awareness Session for Member Companies
- ACMA Awards Awareness Session for Assessors & Shortlisting Panel
- Launch of 2nd ACTExport Cluster
- Launch of ACTBreakthrough Innovation 199 Program
- ACT 1st Innovations in IT cluster ..Feb 2017
- ACT 1st NPD Design cluster..Feb 2017
- Zero Defect Quality certification course... Feb 2017
- ACMA awards 2017.. Mar 2017



Automotive Component Manufacturers Association of India



IMPACT now Advertisement Tariff from Dec, 14 onwards

Advertisement Type	Advertisement for Single issue (INR)		Advertisement for one year (three issues) (INR)		Advertisement for two years (six issues) (INR)	
	Member	Non Member	Member	Non Member	Member	Non Member
Front Cover Outside	50000	65000	135000	175000	225000	292000
Cover Leaf Front - 2 Page Advt.	35000	45000	95000	123000	157000	204000
Cover Leaf Back - 2 Page Advt.	30000	39000	81000	105000	135000	175000
Footer Advt. - Company Logo & Slogan- (excluding Advt. pages)	30000	39000	81000	105000	135000	175000
Back Cover Outside	20000	26000	54000	70000	90000	117000
Centre Spread (2 Page Advt.)	25000	32000	67000	88000	112000	146000
Centre Spread (4 Page Advt.)	50000	65000	135000	175000	225000	292000
Cover Inside (Front or Back of Newsletter)	13000	17000	35000	45000	58000	76000
Inside Full Page	11000	14500	30000	39000	50000	64000
Half Page	6600	8600	17800	23000	30000	39000
Quarter Page	3900	5000	10000	13000	18000	23000

Note: (1) Service Tax will be charged extra, as applicable. (2) Advt. Size for Full Page: in inches: 8.5”(width)X11”(Height) (3 mm bleed extra) (3) Advt. Size for Half Page: 8” (width) X 5.25” (Height)

Terms and Conditions:

1. Advertisement should be an open file with all fonts and links with a color reference printout.
2. Advertiser should ensure that the size of advt. material provided by him is as per the size of the advt. space booked by him.
3. In case of a mismatch between size of material provided and space booked, the advertiser will be charged the cost of space booked OR actual advertisement printed, whichever is higher.
4. All payments, through DD, Cheque or Net banking, should reach ACT within 30 days from the date of invoice.



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PRODUCTS

• Safety, Security & Restraint System

Electronic & Mechanical Security Systems, E- Bike Controllers, Immobilizers, Latches, Striker, Door Handles, Electronic Body Controllers, Start Systems, Power Closure Systems, Fuel Lid Actuator, RCDL, ESCL, PEPS, Hood, Tail Gate, Seat Latch, Hinges, LED Soft Touch, Camera Modules, Keys & Key Duplicating Machines & Die Casting

• Driver Information & Telematics System

Instrument Cluster, Dashboard Assemblies, Digital Clocks, Tank Units & Gauges, Chime Bells & Relays, Speed Sensors, Temperature Sensors, Position Sensors, Pressure Sensors, WIF Sensors, Wiring Harness, Coupler & Terminals, Relay & Junction Box, Steering Roll Connector

• Interior System

Injection Molding, 2K Molding Process: Kinematic Component & Premium Surfaces, Garnish & Trims, Dashboard, Consoles, Parcel Shelf, Air Vent, Air Duct, Ash Tray, Arm Rests, Cup Holder, Glove Box, 5th Door Application, Truck Oil Housing, Cylinder Head Covers, Rear Sheet Structure, Coupling, Transmission, Coolant Tanks, Interior Steering, Tool Production

• Aftermarket

All Group Products under Safety, Security & Restraint Systems, Driver Information & Telematics Systems, Interior Systems

Four Wheelers: Gear Shift Locks, Wiper Blades, Auto Rollup Relays, Filters (Tractors), Starter Motors & Alternators (Tractors)

Two Wheelers: Wheel Locks, Helmet Locks, Control Cables, CDI, Regulators, Rectifiers, Ignition Coil, Igniters, Relays, Filters

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