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ACT *now*
A Division of **ACMA**

Vol. XIV
August, 2011

The supreme reality of our time is....the vulnerability of our planet.
-John F. Kennedy

Issue Special: **Biofuels**



Also,
Cluster Journey–Taurus Flexibles Pvt. Ltd,
Jamshedpur
Customer's Voice – SMPL, Jamshedpur
Updates from
The ACMA IT Committee
WP.29 session in Geneva,
AISC/ CMVR-TSC/ BIS, and more

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Missed / Forthcoming Activities

Did you Miss this?

1. The 154th Session of the UNECE WP.29, Geneva
2. ACMA Awards 2010-11
3. Launch of ACT Engineering Cluster in July 2011

Forthcoming Activities

1. Launch of ACT Foundation Cluster 7 in September 2011
2. Launch of ACT Advanced Cluster 3 in September 2011
3. ACT AOTS Program on Production Maintenance, November 24-24, 2011, Pune
4. ACT AOTS Program on Production Management (INAC), February 28 – March 9, 2012, Japan

Letters to the Editor



Saveen Verma
Manufacturing Head
Rockman Industries, Ludhiana

We, Rockman Industries, Ludhiana Plant have been doing lots of improvements through ACT Cluster programs. Through ACT Advance Cluster program, we could achieve breakthrough results in our Machine shop and productivity improved multifold.

We are a learning organization. We were part of Foundation Cluster and Advance Cluster program and are now part of Engineering Excellence Cluster program which has been launched recently. We have learnt a lot from our Sensei Mr. Rakesh Gupta Ji, Principal Counsellor, ACT.

ACT NOW magazine is a unique

magazine because it covers the topics which are not easily available anywhere. ACT Now magazine provides a good fodder for our thoughts. We eagerly await its next issue because the articles/write ups published in it are very much value adding. We get lots of learning from this magazine. Write ups on Total Employee Involvement (TEI), Inventory Management and success stories of the companies which have been published in the previous issues of your magazine provide very good information to learn to all.

We wish all the best to the ACT team in propagating the best practices to auto Industry.

ACT Now - Advertisement Tariff for the year 2010-2011

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	Single Issue	Single Issue	Yearly 3 Issues
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Chairman's Message



It gives me immense pleasure to reach you through the 14th publication of "ACT" now. I am thankful to you for providing continuous feedback enabling us to understand you better.

In 2010-11 the turnover of auto component industry touched USD 30 billion (35% growth over previous year) while exports crossed USD 5 billion (32% growth over previous year). For the Indian auto-component industry to achieve its target of becoming USD 110 billion industry by 2020, it is imperative that we are equipped to face the present scenario of potential market volatility in financial market, increase in rate of interest in vehicle loans and impact of fuel prices on the vehicle sale. Infact, as ACT now goes in to print, the sales of passenger car have come down by 15.8%. Even though this is expected to stay a short while, it is imperative that we try to keep the long term growth sustainable.

I am happy to mention the recently launched ACT Engineering Cluster Programme that has been designed for engineering excellence. In addition, Foundation Cluster 7 and Advance Cluster 3 are also being launched in September, 2011. These programs provide a great opportunity to ACMA members to learn through sharing of knowledge, to adopt effective processes and achieve 'lean' status.

We are in the thought process of tailoring a program on creating an interjection platform of various types of membership under ACMA for ease of better approachability.

Besides growth, the need of the hour is to focus on sustainable and environmentally sound technologies, which would address and mitigate the challenges of oil price spikes, energy security and concerns over greenhouse gasses emissions from fossil fuels.

We look forward to the 51st Annual Session and National Conference of ACMA to be held on 6th September '11 which would focus on benchmarking for progress, performance and competitiveness, as the theme for our forthcoming Annual Session.

The Supply Chain Committee of ACMA was initiated this year with the objective of seamless integration of auto component suppliers. The second national level BSM was held on 5th & 6th July 2011 at Chinchwad, Pune.

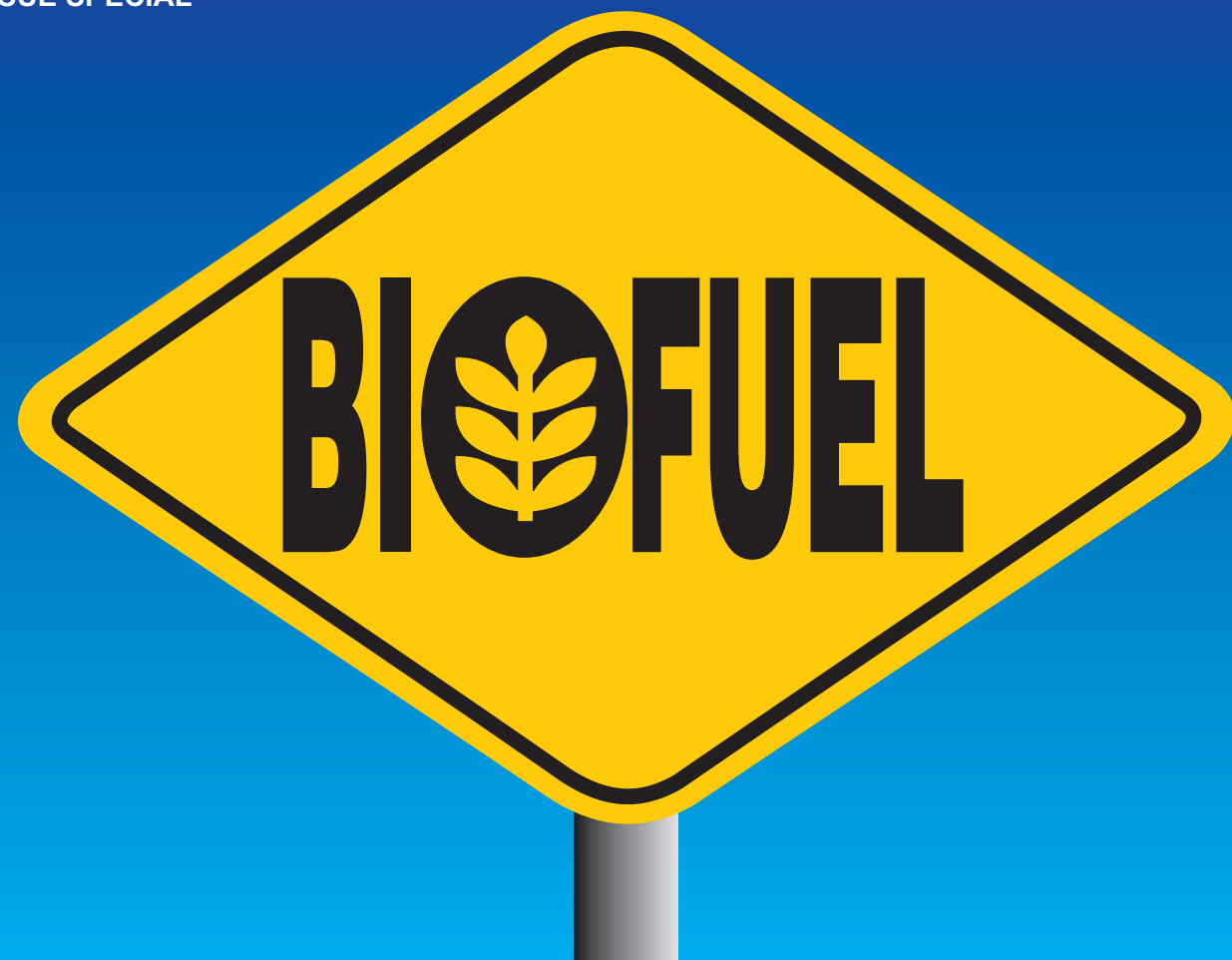
We saw overwhelming response in the 8th Quality Circle competition-Northern Region on 22nd July. The selected team would compete in the National Quality Circle competition on 6th of September.

At its 154th session, the UNECE's World Forum for Harmonization of Vehicle Regulations, adopted guidelines on establishing requirements for high-priority warning signals.

In this issue, we share information on alternative fuels. The industry urgently needs to prepare itself for greener and cleaner technologies for manufacturing. I hope you will find it informative and useful.

I would like to take this opportunity to request all the ACMA members to come forward and encourage an overwhelming membership response from the industry. Finally, I thank the readers for your support to ACT now since its first ever publication in August'07.

- Deep Kapuria



Biofuels are gaining increased public and scientific attention, driven by factors such as oil price spikes, the need for increased energy security, concern over greenhouse gas emissions from fossil fuels, and government subsidies. Infact, in 2010 biofuels provided 2.7% of the world's transport fuel. Mandates for blending biofuels exist in 31 countries. The International Energy Agency estimates that biofuels have the potential to meet more than a quarter of the world's transport fuel by 2050.

What are biofuels?

A bio fuel is a type of fuel which is in some way derived from biomass. The term covers solid biomass, liquid fuels and various biogases. Biofuels are considered an energy source with high potential to address problems in several areas, such as the crisis of climate change, environmental degradation, energy supply and security. The use of biofuels largely depends on the availability of different feedstocks. However, biofuels have some common features that they are all non-toxic and biodegradable, and they can reduce greenhouse gas (GHG) emissions. Recent studies show that replacing fossil energy with renewable energy like biofuels is an important way of reaching climate policy goals.

Biofuels can be classified as first generation biofuels and second generation or advanced biofuels.

First-generation biofuels:

PPO, biodiesel, ETBE and bioethanol are the first-generation biofuels. They are generally produced by the action of microorganisms and enzymes through the fermentation of any biological feedstock. Bioethanol: Bioethanol, the most common biofuel feedstock, offers the greatest short-term biofuel potential today since the conversion is widely developed and approved in practice. Ethanol fuel is the most common biofuel worldwide, particularly in Brazil. Ethanol can be used in petrol engines as a replacement for gasoline; it can be mixed with gasoline to any percentage. Most existing car petrol engines can run on blends of up to 15% bioethanol with petroleum/gasoline. Ethanol has a smaller energy density than gasoline, which means it takes more fuel (volume and mass) to produce the same amount of work. Although the first-generation biofuels are different in properties, technical requirements, economical aspects and potential usages, they can all contribute to guarantee long-term sustainability.

Biodiesel: Biodiesel is the most common biofuel in Europe. It is produced from oils or fats using transesterification and is a liquid similar in composition to fossil/mineral diesel. Chemically, it consists mostly of fatty acid methyl (or ethyl) esters (FAMES). Biodiesel can be used in any diesel engine when mixed with mineral diesel. In most cases, biodiesel is compatible with diesel engines from 1994 onwards, which use 'Viton' (by DuPont) synthetic rubber in their mechanical fuel injection systems. In many European countries, a 5% biodiesel blend is widely used and is available at thousands of gas stations. Biodiesel is also an oxygenated fuel, meaning that it contains a reduced amount of carbon and higher hydrogen and oxygen content than fossil diesel. This improves the combustion of biodiesel and reduces the particulate emissions from un-burnt carbon. Biodiesel is also safe to handle and transport because it is as biodegradable as sugar, 10 times less toxic than table salt, and has a high flash point of about 300 F (148 C) compared to petroleum diesel fuel, which has a flash point of 125 F (52 C). In the USA, more than 80% of commercial trucks and city buses run on diesel. By the end of 2006 biodiesel production was estimated to increase fourfold [from 2004] to more than 1 billion gallons.

It should be noted that, diesel engines are about 30 percent more efficient than gasoline engines. Today's diesel engines are quieter, cleaner burning and more responsive than earlier diesels. In Europe, where the cost of owning and operating a passenger vehicle is significantly higher than the U.S., diesels already account for more than 40 percent of the passenger car market. In the U.S, stringent laws adopted by California and four northeast states have slowed the introduction of diesel vehicles to the market. However, increasing fuel prices, the introduction of ultra-low sulfur diesel, and new emissions technology are making passenger diesel vehicles more attractive to customers leading to more diesel option offerings by auto manufacturers. Biodiesel

“Biofuels are gaining increased public and scientific attention, driven by factors such as oil price spikes, the need for increased energy security, concern over greenhouse gas emissions from fossil fuels, and government subsidies. Infact, in 2010 biofuels provided 2.7% of the world's transport fuel. Mandates for blending biofuels exist in 31 countries. The International Energy Agency estimates that biofuels have the potential to meet more than a quarter of the world's transport fuel by 2050.”

further enhances the advantages of diesel. It reduces sulphur on average by 20 percent and is nontoxic and biodegradable. **Biogas:** Biogas is becoming increasingly interesting as an alternative to natural gas. It is especially useful that the composition is practically identical, so the same burners can be used for both fuels. Biogas can be produced from plant or animal waste, or a combination of both. There are many different methods used dependent on the starting material and quantity involved. A mixture of both has proven to be the best method. The animal waste produces the nitrogen needed for growth of the bacteria and the vegetable waste supplies most of the carbon and hydrogen necessary.

Biomass: Biomass can be a practicable alternative for small district heating schemes in rural areas. Traditional biomass is wood residue and excess straw from agriculture being burned to provide heat or power. There are also gasification plants that produce a gas composed mainly of carbon monoxide and hydrogen from plant material. This has the advantage of being capable of transportation by pipeline or being filled into cylinders for distribution. Pyrolysis, as it is known, is being investigated in many countries presently. Other types of biofuels include Green Diesel, Vegetable Oil and Bioethers.

Second-generation/ Advanced biofuels

Second-generation biofuels are derived from feedstocks, which are not traditionally used for human consumption. They include BTL fuels and ethanol from lingo-cellulose. These products are not yet commercially available since their conversion technologies are not improved enough as products of first-generation biofuels. However, second-generation biofuels are considered to be more environmental healthy and produce less GHGs than first generation biofuels. The reason is that they can make use of the vast majority of feedstock in the process of production and avoid the waste inherent in the production of first generation biofuels. Second-generation biofuels can not only help solve this waste problem, but also can supply a larger proportion of our fuel supply sustainably, affordably, and with greater environmental benefits.

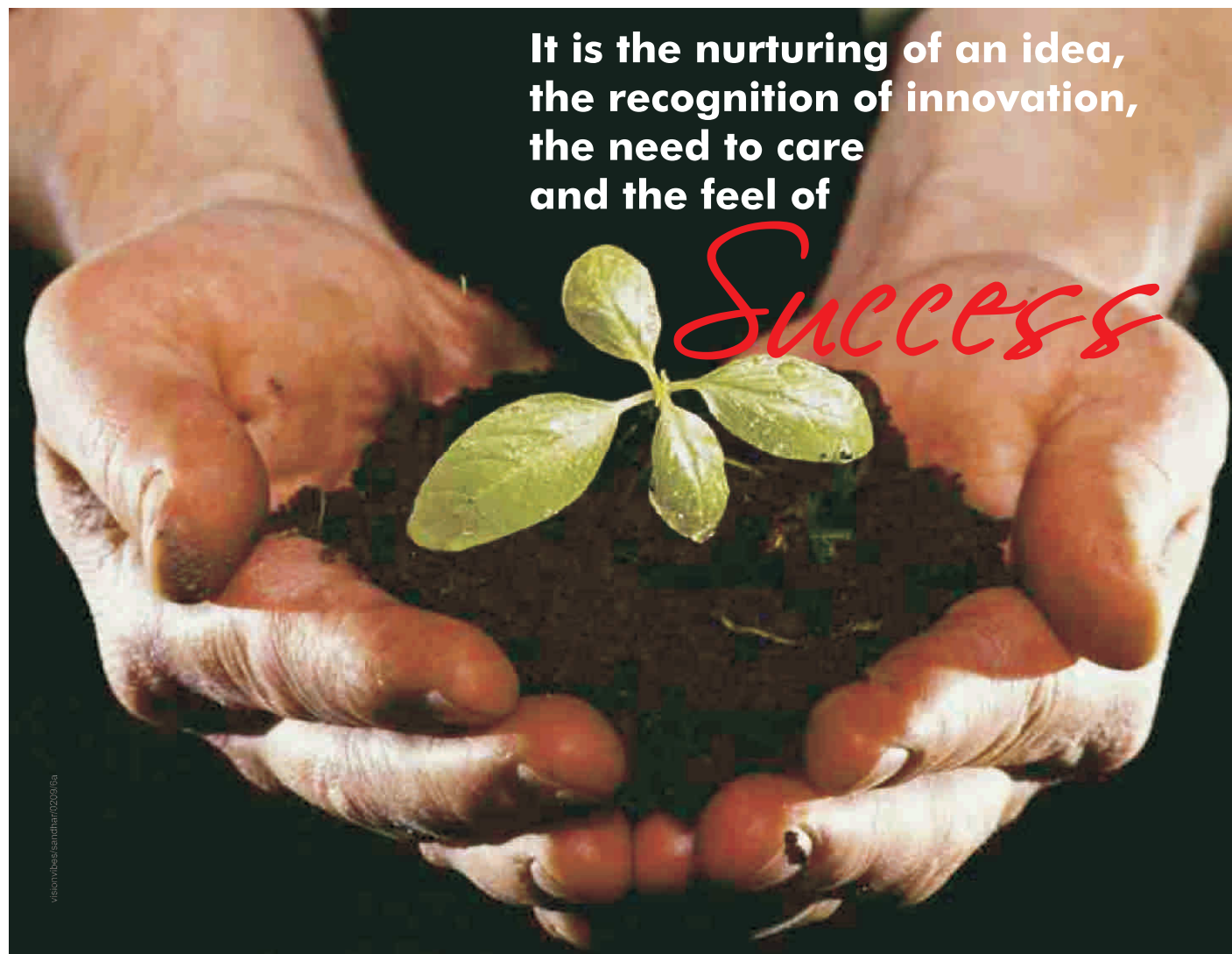
Many second generation biofuels are under development such as Cellulosic ethanol, Algae fuel, biohydrogen, biomethanol, DMF, BioDME, Fischer-Tropsch diesel, biohydrogen diesel, mixed alcohols and wood diesel. Cellulosic ethanol production uses non-food crops or inedible waste products and does not divert food away from the animal or human food chain. Lignocellulose is the "woody" structural material of plants. This feedstock is abundant and diverse, and in some cases (like citrus peels or sawdust) it is in itself a significant disposal problem. The recent discovery of the fungus *Gliocladium roseum* points toward the production of so-called myco-diesel from cellulose. This organism (recently discovered in rainforests of northern Patagonia) has the unique capability of

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converting cellulose into medium length hydrocarbons typically found in diesel fuel. Scientists also work on experimental recombinant DNA genetic engineering organisms that could increase biofuel potential.

Current biofuel promotion policies- The US, EU, Brazil and China

A turning point for biofuels policies occurred in 2005–06, when several countries dramatically stepped up targets and mandates for biofuels to make a great promotion of their use. The promotion of biofuels is attractive for many governments, especially for the ones who want to take action to fight against global warming, diminish environmental pollutions, and to set up a sustainable policy of future global energy requirements. In the United States, a renewable fuel standard was enacted in 2005 that requires fuel distributors to increase the annual volume of biofuels blended up to 7.5 billion gallons (28 billion liters) by 2012. Generally, biofuels are expected to have a positive impacts in socio-economic, especially for local areas. Biofuel production is a new market for agriculture products and as a result, it offers new income options for farmers. For example, under the generous subsidies provided by the Common Agricultural policy(CPA), members of powerful European farming lobbies are guaranteed sufficient incomes in a truly competitive agricultural market. It shows that the increased feedstock production will have a significant contribution in the agriculture sector. Therefore, agriculture not only plays a role in food production, but also in energy provision in the future. Brazil's 30-year-old ethanol fuel program is based on the most efficient agricultural technology for sugarcane cultivation in the world, uses modern equipment and cheap sugar cane as feedstock, the residual cane-waste is used to process heat and power, which results in a very competitive price and also in a high energy balance (output energy/input energy), which varies from 8.3 for average conditions to 10.2 for best practice production. In 2010, the U.S. EPA designated Brazilian sugarcane ethanol as an advanced biofuel due to its 61% reduction of total life cycle greenhouse gas emissions, including direct indirect land use change emissions. Infact, there are no longer any light vehicles in Brazil running on pure gasoline.

Biofuel usage has become a broad debate in many countries' energy policies since it covers many areas, such as energy security, food security, climate change mitigation, and international biofuel development. With 20 percent of the world's population and 10 percent of its arable land, China's debate on biofuel production is about the conflict between food security and energy crops. Now, the Chinese central government has taken ambitious moves to reduce petroleum products by adopting renewable energy sources. In January 2007, China's State Forestry Administration (SFA) and the oil company PetroChina signed an agreement of developing diversity of potential energy crops, such as an oil-bearing plant, Jatropha. Jatropha curcas is considered as a

high potential biodiesel feedstock in China since it grows on marginal land in Southwest China and avoids the competition with the food system. Although the southwest is one of the most ecologically important regions in China, the individuals' incomes and provincial government revenue per person are below the national averages. Planting Jatropha could offer rural income generation and employment opportunities to improve the living standard of the local farming lobbies.

India's biofuel scene

India is one of the fastest growing economies of the world. With the Indian automotive sector poised to double in the coming decade, it becomes imperative for Indian car manufacturers to set global standards as far as innovation are concerned - innovation especially when it comes to developing and implementing "green technology". The Indian government is therefore looking at better utilization practices when it comes of energy. Although fossil fuels will continue to dominate the landscape in the energy sector in India in the coming decades, it has been observed that India is endowed with abundant renewable energy resources. These are indigenous, non-polluting and virtually inexhaustible.

India's energy security can be strengthened through the development of alternate fuels. Bio-fuels are environmentally friendly fuels and their usage would help address global concerns of carbon emission. The transportation sector has been identified as a major source of carbon emissions. The development and use of bio-fuels by automotive companies becomes important for not just promoting the environment, but also for staying competitive. In order to address environmental concerns, governments and policy makers the world over are gradually implementing legislation that will promote green technology such as bio-fuels. Various market mechanisms including regulations, subsidies and incentives are bring



ACT
A Division of ACMA

introduced to facilitate and encourage growth of bio-fuels. Naturally, developing countries such as India look at bio-fuels as a new industry that will also assist in rural growth and development.

The current manufacturing cost of ethanol and biodiesel in India is only about Rs. 21/ litre. This puts biofuels in a favourable position for meeting India's energy needs, especially as the cost of petroleum continues its upward trend. In addition to providing energy security and a decreased dependence on oil imports, biofuels offer several significant benefits such as reduced emission of pollutants and greenhouse gases and increased employment in the agricultural sector.

Also, India is the fourth largest producer of ethanol after Brazil, the United States and China. The cost of ethanol production can further be decreased by using improved agricultural practices to increase sugarcane yield and deploying energy-efficient ethanol dehydration methods like pressure-swing adsorption and membrane separation. Restrictive government policies need to be reformed to loosen constraints on ethanol production.

While the ethanol blends in India are readily available and in use, the biodiesel industry is still in its infancy. India's current biodiesel technology of choice is the transesterification of vegetable oil. Since the demand for edible vegetable oil exceeds supply, the government has

decided to undertake various massive Jatropha projects. Jatropha offers the following advantages: it requires low water and fertilizer for cultivation, is not grazed by cattle or sheep, is pest resistant, is easily propagated, has low gestation period, and has a high seed yield and oil content, and produces high protein manure.

The main problem in getting the biodiesel programme rolling has been the difficulty in initiating the large-scale cultivation of Jatropha because farmers do not consider Jatropha cultivation rewarding enough. The government is therefore looking sponsor confidence-building measures such as establishing a minimum supporting price for Jatropha oilseeds and assuring farmers of timely payments.

To conclude, the biofuels industry is poised to make important contributions to meet India's energy needs by supplying clean, environmentally friendly fuel. The ethanol industry too can benefit from improved agricultural practices in sugarcane cultivation, more efficient production processes and the use of alternate feedstocks including cellulosic material. On the other hand, the biodiesel industry is at the incubation stage and large-scale Jatropha cultivation and the infrastructure for oilseed collection and oil extraction must be established before the industry can be placed on a rapid-growth track.

Written by : Nebika Mathur

CLUSTER JOURNEY: A CULTURAL CHANGE

Taurus Flexibles Pvt. Ltd. Jamshedpur

Taurus Flexibles is a leading manufacturer of automotive hose assemblies & Air Brake Nylon Tubing. The two companies of the group, Taurus Flexibles and Taurus Esdan Hydraulics are engaged in the manufacture of hoses and fuel lines for passenger cars and commercial vehicles. Clients of the company include Tata Motors, Tata Cummins, Ashok Leyland, HM, Eicher, AMW, Volvo, BMC, Force-MAN, Tata Daewoo, Swaraj Mazda, Hyva, Tata Telcon.

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- # Top Management involvement
- # Employee involvement
- # Robust system Development
- # Ownership & accountability
- # Effective Training & Motivation
- # Effective Workplace Organization
- # Zero Defects

Build Of Foundation

TO BECOME A CENTRE OF EXCELLENCE or ACHIEVE BUSINESS EXCELLENCY, IT REQUIRE "FIRST MIND SET" of Top Management. Our M D led from front. From year 2005 onwards our organization started looking in this direction. Many improvements we could implement from 2005-2009 but these were not enough.

In June 2010 when we got the golden opportunity to join "ACT, ACMA Foundation Cluster Program" under the guidance of Sr. Counselor Mr. KPS Raghuvanshi, we could understand the philosophy of entire activities and the intensity of the Programme which have given a positive impact to build the FOUNDATION STONE for change in "WORK CULTURE".

It is a great process we are experiencing now. We started our journey from grass root level, involving all operators, we first tried to understand their difficulties which they are facing day in and day out and integrated it with 5s philosophy to bring a change in work environment by providing safe & all required facilities at work station.

This approach has helped us to break through their mindset and thus they involved with us to make this great journey a success. This has finally helped us to bring the factory in factory concept and they people at work place have taken ownership. We divided our two units into 72 small areas for better management.

Ownership

Zonal ownership concept has given a moral boost to

operator's level when their teams saw their photos displayed on the board. When we fixed it in each area/zones, found people were excited. saw a big gathering in each zone and observed many operators congratulating each other. This concept has really helped us in changing work culture & boost up team member's morale. This concept is working very effectively.

Change

Our slogan "YES WE CAN CHANGE" has gradually brought significant improvement all over the plant, which we have shared with our Cluster partners. Without affecting the present Production Process, our team effort could give new look to our old factory. It is a great experience.

Improvements :

Improvement without any results is not an improvement. We have now started getting unbelievable performance improvements. Some of them are.....

- 5s sustenance
- Accident free factory
- Controlled Inventory of FG,WIP & RM
- Waste elimination drive in many areas has improved bottom line.
- Productivity Improvement without any effort
- Kaizen concept has started working.
- Inventory turn over ratio in fitment items has significantly improved. (12 to 31)

Sustenance

Out of 72 areas we have implemented 48 areas and all the areas without any information we take the visitors to shop. There are remarkable remarks given by our VIP guests and our work is constantly being appreciated. Remaining 34 areas will be completed by September '11.

Learning

Learning through the ACT ACMA Program is enormous. Every MRM we share our learning, adopt good things implemented in other member companies, which has helped us to refine our thought Process to do better to best.

Our learning & experiences we have started deploying in other plant and try to bring this concept, of change, team building & ownership.

OUR JOURNEY EXPERIENCES

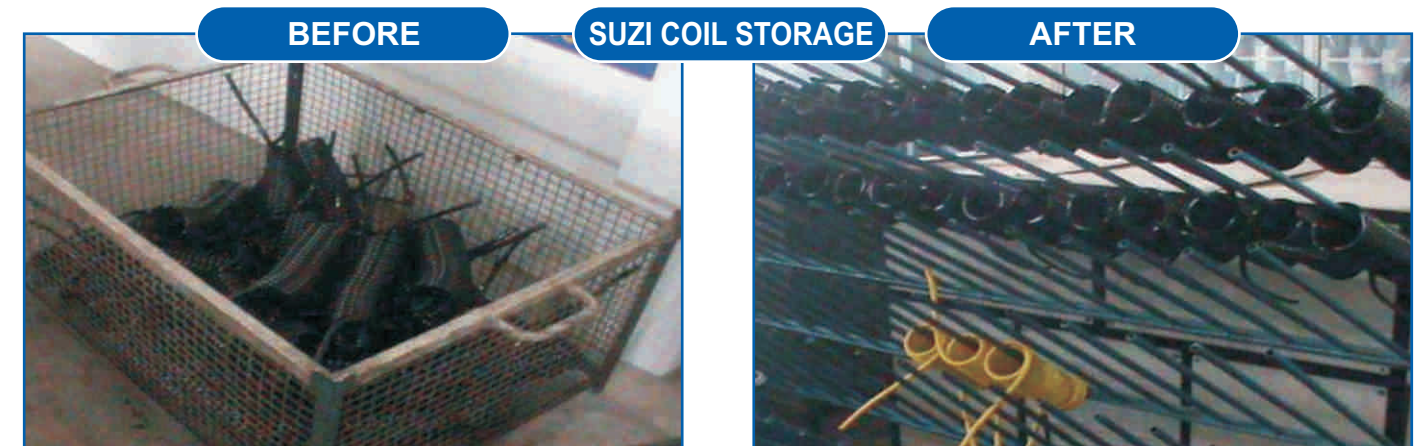
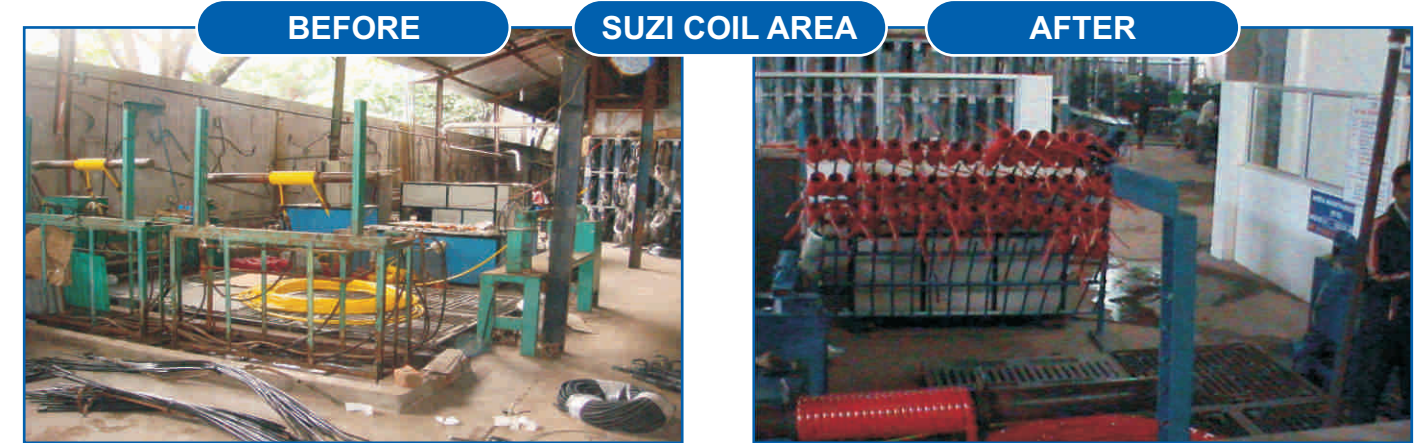
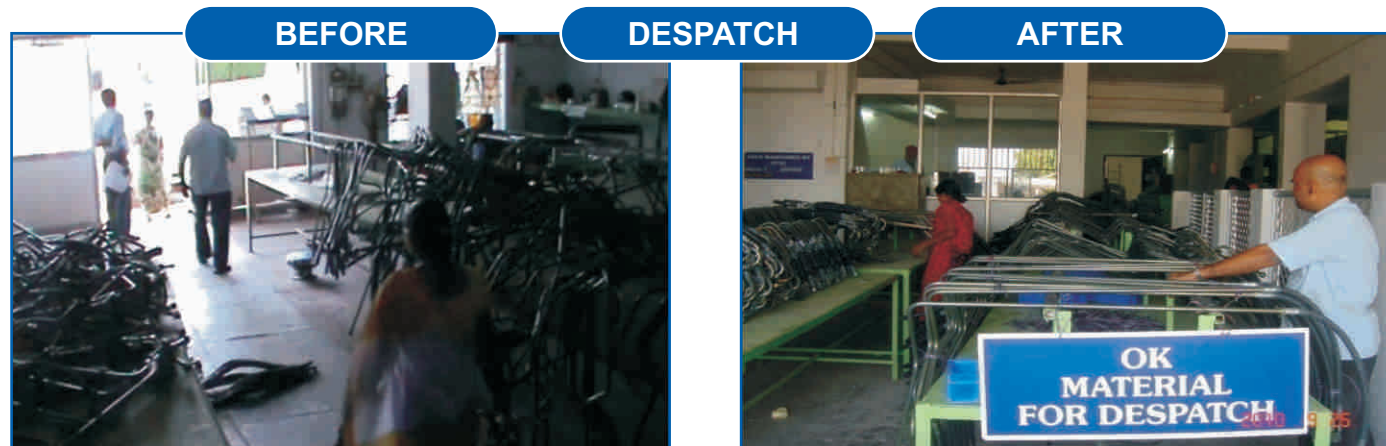
- # Started with 1S (identify & remove unwanted) 2S (place for everything, everything in its place, remove all unsafe working conditions) as the foundation towards Journey To Excellence.
- # Top management's active participation with the ground level can only bring the ultimate success towards the Total Quality Management (TQM).

- # Mind Set and positive involvement is the tool for any changes which we are experiencing now.
- # Change is possible by good planning; close monitoring & time bound implementation. PDCA is a very simple but strong Tool.

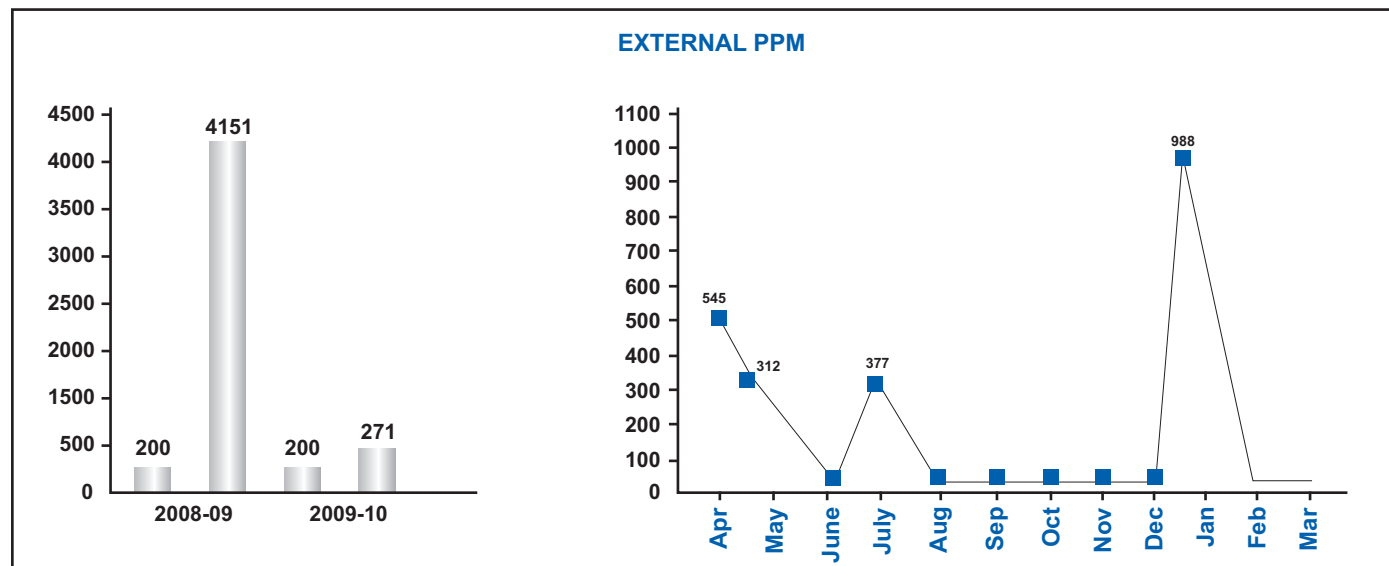
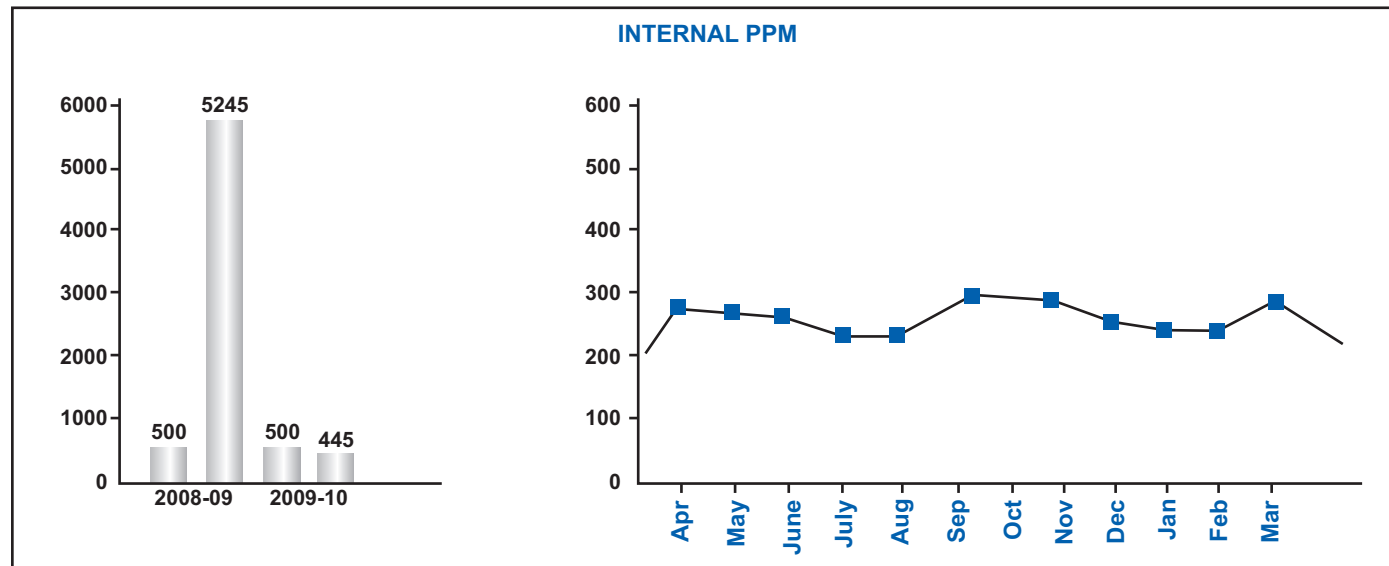
- # Learning how significant change in aesthetic and process is possible without disturbing the existing production processes.
- # Strong Foundation can bring the break through in improvement process, which we have started experiencing.

“YES WE CAN ALSO CHANGE”
 By – M.K Dey, HEAD QA & TECHNICAL
 Taurus Flexibles (P) Ltd.

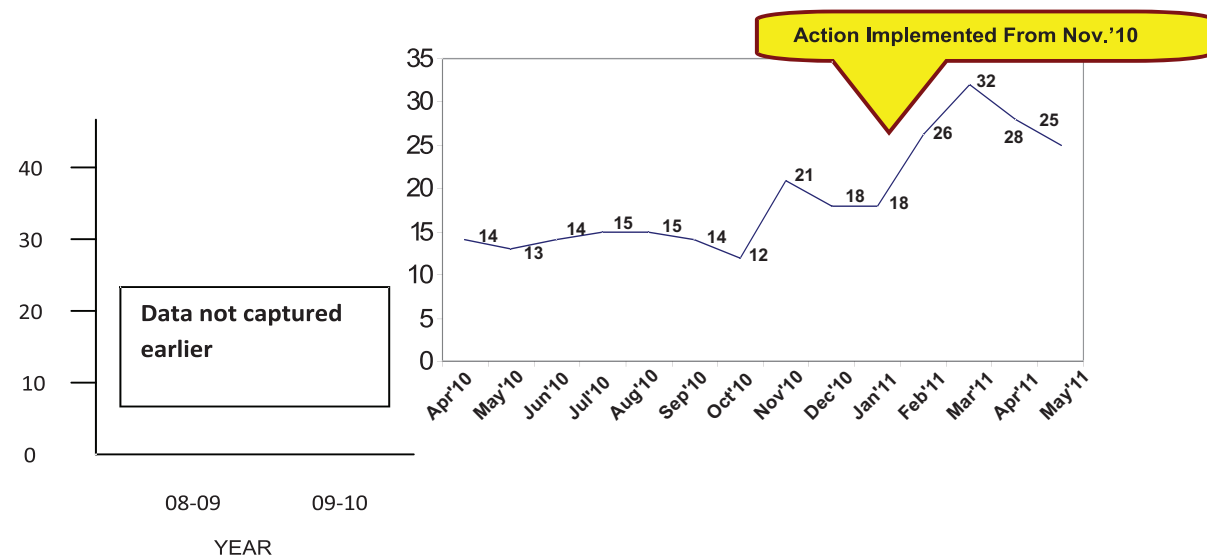
IMPROVEMENT THROUGH LENS



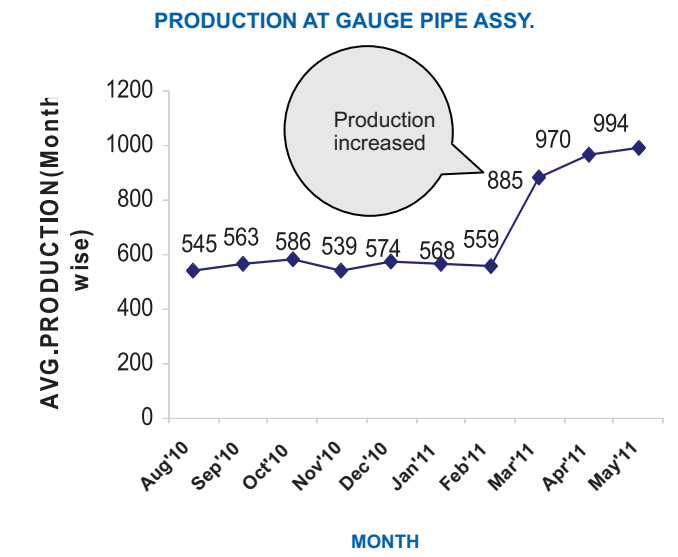
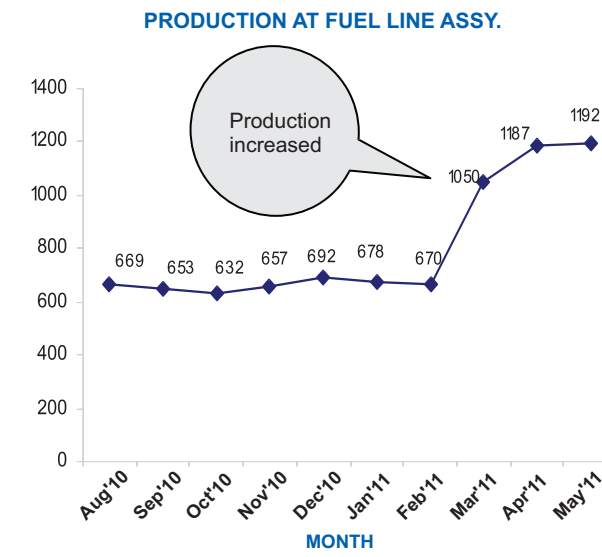
BREAK THROUGH ACHIEVEMENTS



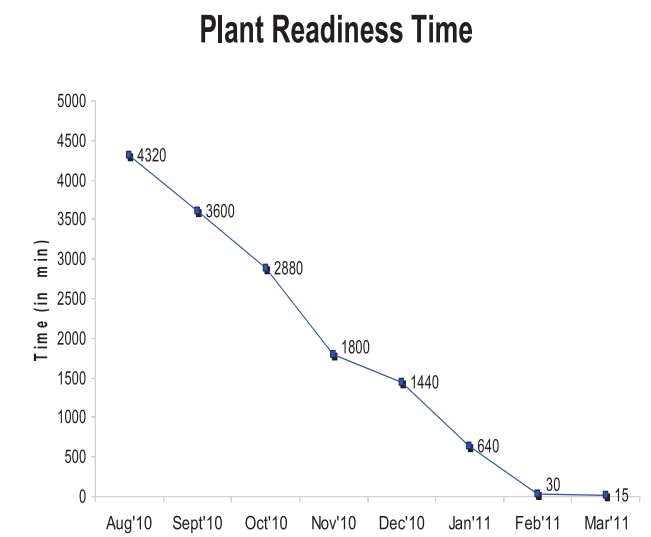
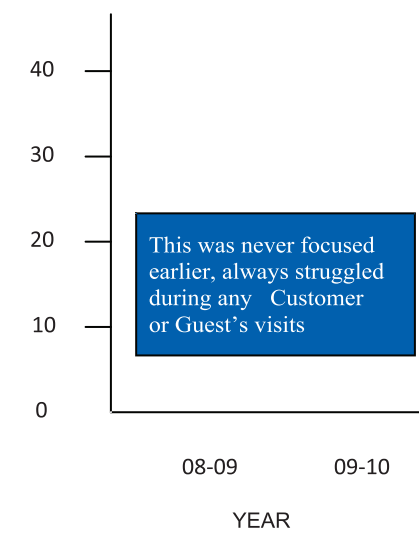
Inventory Turn Ratio (ITR)



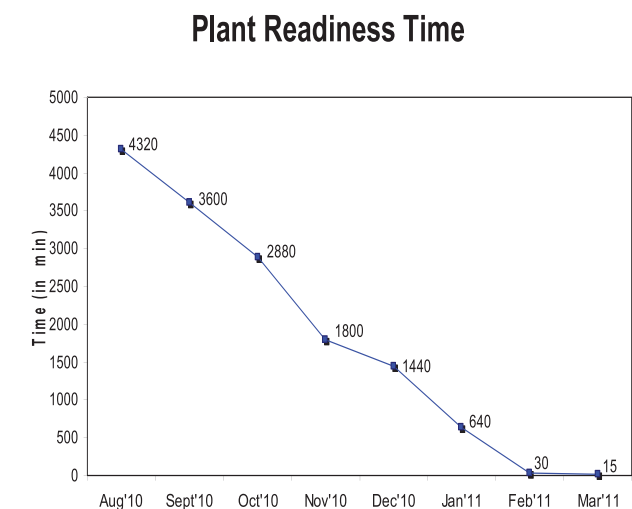
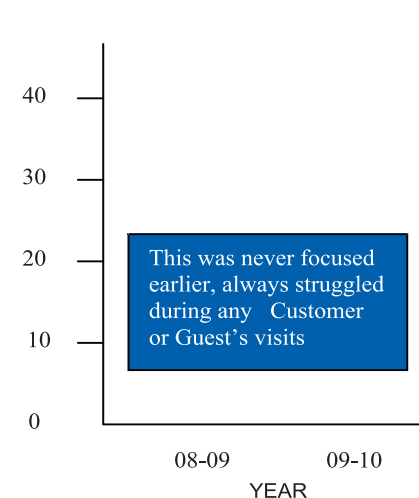
Reduction in movement of material, improved lay out & improved work environment has helped in increase in production (75 % Approx.)

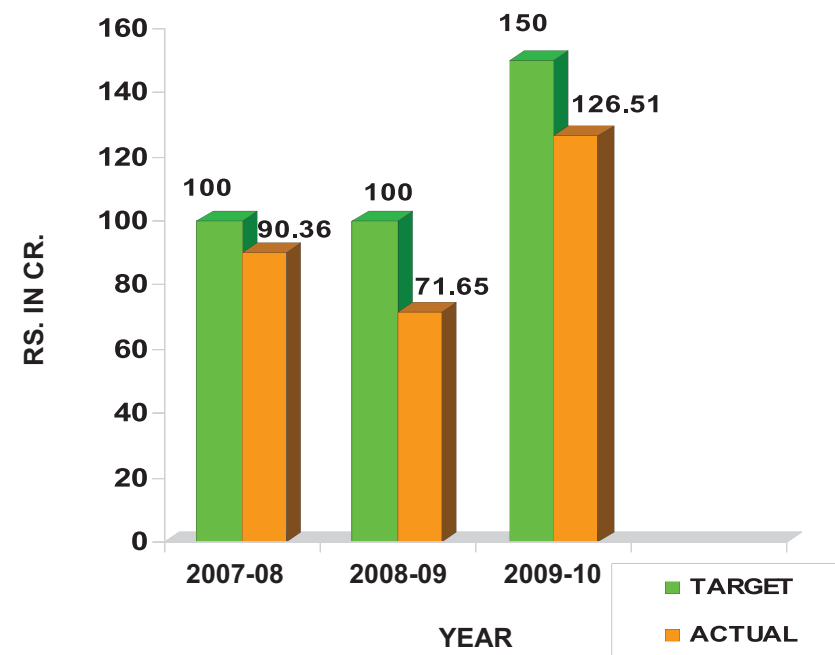


PLANT READINESS

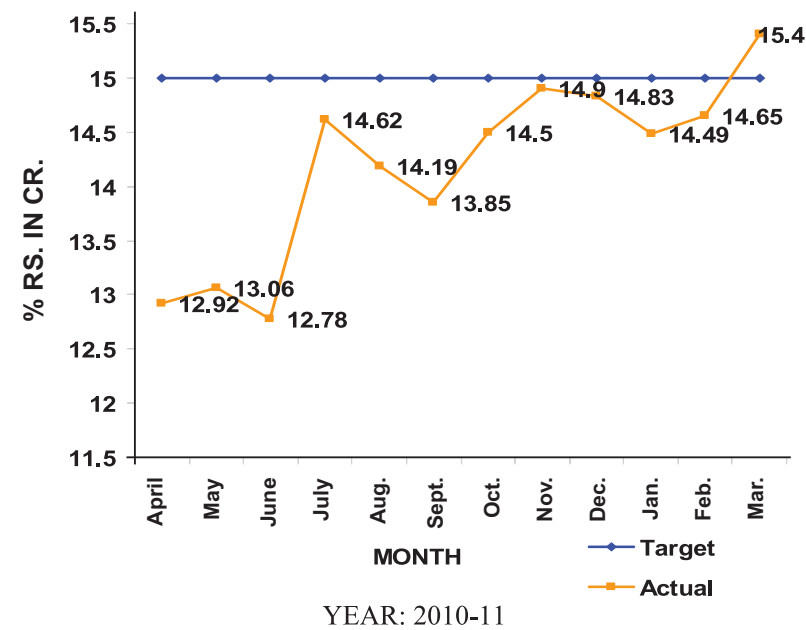


PLANT READINESS





SALES



KPS. RAGHUVANSHI
Sr. Counsellor
ACT - ACMA



BHUVAN KSHETTRY
Executive Director -
Taurus group -



M.K.DEY
Head QA & Technical
Taurus Flexibles



PADMA SINHA
Mgr. HR & Training. &
Cluster Officer

Best Practice Methods – AG Industries, Manesar

Good health and Safety at work is important not only in human terms, to help reduce employee's pain and suffering. It is also a way of ensuring that enterprises are successful and sustainable, and that economies thrive in the long term.

In order to prevent any untoward incident caused by ignorance of safe practices and to proliferate safety culture prominently at shop floor, AG Industries, IMT Manesar plant has established a dedicated safety team called "SAFETY SQUAD"

This emergency squad is in operation since year of 2007 and it consists of 31 members. The member of this squad are fully trained in the Fire fighting, first aid & Disaster management. Rather they are trainer to other member of plant.

The Members of this squad are identified by their Red cap. In case of any emergency the squad member will counter the event. The members of squad have been arranged in to duty roster in such a way that they cover the entire three shifts including and holiday or any plant off.

The Members of this squad have adopted 5E methodology for safety culture proliferation. Description of Implementation in AG Industries is as under;

5 E Method

Engineering Control – Safety doors are provided on all



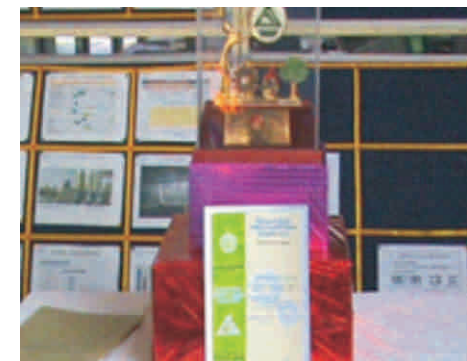
injection molding machines.

Education and Training – Regular training is imparted to employees regarding safety aspects.

Employee Participation – Safety Squad along with safety committee is formed constituting employees from different department and all levels.

Effectiveness (Performance) Check – Monthly audit is conducted by the safety committee to measure the SIN score

Enforcement - Actions are taken to eliminate unsafe condition and unsafe act.



Safety Award



Safety Audit



Safety Door

Written by : Manoj Mathur
Senior Counselor, ACT

Origins of the Lean Enterprise

We all believe that the Lean manufacturing system was pioneered by Toyota Motor Corporation in Japan and subsequently it spread out to the entire world. But most of us are unaware about the practices implemented by Henry Ford in his car manufacturing plants in the 1920s, way earlier than the start of Toyota production system. Perhaps Henry Ford himself wasn't aware that he was actually implementing "Lean manufacturing" principles.

Lean : Made in the USA !!

Taiichi Ohno, the father of the Toyota production system, said openly that he got the idea from Henry Ford's book and the American supermarket.

In a supermarket, replenishment of shelf stock is triggered by depletion; it is a "pull" system.

Ford's Today and Tomorrow (1926) describes the benefits of just-in-time (JIT) manufacturing explicitly.

Henry Ford and the Lean Enterprise

Ford developed motion efficiency and scientific management into a comprehensive lean enterprise system that equals or surpasses anything that exists today.

Henry Ford was not a professor, "guru," or consultant. Ford was a self-taught mechanic and then an engineer at Detroit Edison before he began to make automobiles.

He spent considerable time on the shop floor with front-line workers. Ford wrote in a very practical and hands-on manner. His principles and workplace examples are easily understandable by anyone in a modern workforce — perhaps more so than many modern lean manufacturing books.

Unnecessary processing!! - Make Parts, Not Machining Chips

"The machine shop produces about 14,000 [piston] rings per day 1/4 say 1240 pounds of finished rings from 13,000 pounds of ring stock, 11,760 pounds of stock, worth \$294 wasted for the pleasure of cutting it into chips and using snap-ring piston packing" (Arnold and Faroute, 1915, Ford Methods and the Ford Shops).

Ford was well aware of this problem, and he changed processes and designs to eliminate it. Less machining = less cutting fluid to purchase and dispose of.

"Our objective is always to minimize the subsequent machining" (Ford, 1926). Dieter points out the virtues of "chipless machining." The idea is to make the part as close to its final shape as possible, to minimize subsequent machining.

Ford pointed out that cast parts require considerable (on the order of 30%) machining. Forge or cast small parts and then assemble them into the desired large one.

Stopping the Line

Workers at the River Rouge plant were authorized to stop the line (a practice later adopted by the Japanese) if there was a problem.

This lit an alarm light in a control booth. If the light stayed

on for more than two minutes, the attention of a "trouble mechanic" was required.

Even if the workers on the line could fix the stoppage in less time, the cause was still recorded for future action.

Ford on Design for Manufacture (DFM)

"Start with an article that suits and then study to find some way of eliminating the entirely useless parts. This applies to everything—a shoe, a dress, a house, a piece of machinery, a railroad, a steamship, an airplane. As we cut out useless parts and simplify necessary ones, we also cut down the cost of making."

"But also it is to be remembered that all the parts are designed so that they can be most easily made."

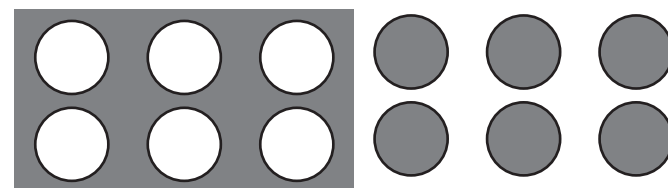
5S at Ford

Ford, Today and Tomorrow (1926) on a new mine: "The first job was to clean up—that is always the first thing to do in order to find out what you are about. ... We cannot afford to have dirt around—it is too expensive. ... everything is painted and kept painted a light color, so the least bit of dirt will show. We do not paint to cover up dirt—we paint white or light gray in order that cleanliness may be the order of things and not the exception."

Norwood's Ford: Men and Methods (1931) shows how the River Rouge plant anticipated Disney theme parks (which provide convenient waste containers everywhere) by providing waste containers within six steps of any position on the shop floor.

The Value of Time

Henry Ford, 1922, My Life and Work: "If a device would save in time just 10 per cent. or increase results 10 per cent., then its absence is always a 10 per cent. tax."



Workers ask, "What was in those holes?"

...Save ten steps a day for each of twelve thousand employees and you will have saved fifty miles of wasted motion and misspent energy."

Muda

Henry Ford's ability to recognize waste (Muda) on sight, and to teach this skill to his organization, may have been his chief success secret.

Culture at Ford's River Rouge plant, regarding waste: "It worried the men." If it doesn't add value, it's waste.

"We will not put into our establishment anything that is useless. We will not put up elaborate buildings as monuments to our success. The interest on the investment and the cost of their upkeep only serve to add uselessly to

the cost of what is produced— so these monuments of success are apt to end as tombs" (Ford, 1922, My Life and Work)

Tie-in with Design for Manufacture

Keep Your Eye on the Doughnut's Hole

Doughnut = the product

Hole = whatever is thrown away

Example: metal sheet with six stamped holes (product)

Most people saw scrap for remelting and reuse. Ford's workers saw radiator caps. Pressing two disks made a very strong radiator cap.

This concept cannot be overemphasized.

Culture at Ford's River Rouge plant, regarding waste: "It worried the men."

Workers should pay close attention to "holes" and ask questions.

"Where did the metal go that was in those cutout sections of the part?"

"What becomes of cutting fluids, solvents, and lubricants?"

"What goes up the smokestack?"

Metal chips or sawdust should always invite attention!

Kaizen, Standardization, and Best Practice Deployment

"To standardize a method is to choose out of many methods the best one, and use it. ... Today's best, which superseded yesterday's, will be superseded by tomorrow's best."

"An operation in our plant at Barcelona has to be carried through exactly as in Detroit (Standard work!!) — the benefit of our experience cannot be thrown away. A man on the assembly line at Detroit ought to be able to step into the assembly line at Oklahoma City or São Paulo, Brazil."

—Henry Ford, 1926, Today and Tomorrow

Just-In-Time (JIT)

Ford described the following principles explicitly:

Materials arrive exactly, and only, when the production line needs them.

Materials go, not from dock to stock, but from dock to factory floor.

JIT requires reliable transportation and a supporting logistics system.

Bad transportation (e.g. lack of a good freight management system) requires the plant to keep more inventory.

Ford created a very impressive freight management system (FMS) to address this issue.

Inventory reduction frees capital. Cycle time reduction frees capital.

Ford and Supply Chain Management

Supply chain management recognizes the dependence of a lean manufacturer on its own suppliers and distribution systems.

Ford on Supplier Development

"The man finally consented to try to manufacture at exactly one half his former price. Then, for the first time in his life, he began to learn how to do business. ... he found he could make cost reductions here, there, and everywhere, and the upshot of it was that he made more money out of the low price than he had ever made out of the high price, and his workmen have received a higher wage" (Henry Ford, 1926, Today and Tomorrow).

The supplier had wanted \$152 per body. Ford's Charles Sorensen built a model for \$50 in labor and materials. The supplier then agreed to accept \$72 per body.

Logistics: Ford's Freight Management System (FMS)

Norwood's Ford: Men and Methods (1931) gives an outstanding summary of what a good FMS does.

The Ford logistics system was a "continent-spanning conveyor." Deliveries were coordinated, scheduled precisely, and apparently just-in-time. Supply was never to exceed or fall short of requirements.

"Using that multitude of additional links offered by rail, highway, water, and air, it has butt-welded them with their own time-tables and picketed them with telegraphic checkings."

As per Ford, the location of any rail car could be determined to within an hour.

Reuse Packaging

"Why should a crate or a packing box once used be considered only as so much waste to be smashed and burned?" (Ford, 1926)

Ford allegedly asked a supplier to package shipments in boxes whose boards had to be specific sizes. The latter became Model T floorboards.

Ford's River Rouge plant often knocked down containers and sent them back "for another load." Cardboard boxes can be folded flat and sent back for the same purpose.

Lean vs Cost

"One of the most noteworthy accomplishments in keeping the price of Ford products low is the gradual shortening of the production cycle. The longer an article is in the process of manufacture and the more it is moved about, the greater is its ultimate cost." (Henry Ford, 1926)

Lean Manufacturing = Toyota Production System

The head of Toyota Motor Corporation, Eiji Toyoda visits Ford's Rouge plant in 1950 and returns to Japan to discuss his study with his production engineer, Taiichi Ohno. Eiji Toyoda was determined to mimic U.S. automakers' startling production numbers, but do so more efficiently.

Together with Toyota's Shigeo Shingo and Taiichi Ohno, Toyoda developed a system whose objective was minimizing any consumption of resources that added no value to the finished product.

That system became known as the Toyota Production System, the earliest form of lean manufacturing

Written by :

V.K.Sharma, Senior Counselor, ACT

Know Our Team



Mr. V.K. Sharma, Senior Counselor – ACT Foundation Cluster (NR)

1. Why did you choose to study engineering?

When I was a child I use to see my father repair the radios and transistors (of the 1960's variety). I was so fascinated by it that I use to take his seat when he was not around and start handling the various instruments. When my Mom asked what I am doing, I replied I am making a radio. As a young boy I picked up the expertise to mend the household appliances like Iron, Heater, extension boards, fuses, torches, coolers, Tricycle/Bicycle, various toys etc.

The love of logic was sort of second nature and engineering seemed to be the natural progression. However, there was a delay in reaching the obvious.

Due to my schooling at a military residential school, all my energies were directed to joining the Armed forces. Though I cleared the NDA written exams and the SSB interview thereafter, I wasn't accepted at the Medicals due to my weak eyesight.

I completed my class XII exams from Central School, IIT Delhi campus and got myself admitted to a Maths (Hons) degree course in Delhi University. After spending one year and just being able to pull through to second year, I realised that this was not my cup of tea. Thereafter I joined a Diploma course in Mechanical Engineering and passed out in 1st Division with distinction. Currently, I am pursuing a B.Tech degree in Industrial Engineering and Management (with specialisation in TQM) – this will be completed in summer of 2012.

2. What according to you are your greatest accomplishments?

When I was 10 years old I had to appear in an all India entrance test and a subsequent interview to clear my way to an admission in class V (I) at a military residential school. With an all India rank of 1, I topped the test and got the class & hostel of my choice.

When Maruti (Suzuki) started recruiting in 1984, there was once again an all India level written test followed by a marathon interview with a panel consisting of seven (7) eminent personalities from Maruti and Government of India ministries. I was one of the 60 candidates selected in that year.

At Maruti center for excellence, under the guidance of our guru and mentor Dr.K.Kumar, I was able to achieve the targeted improvements in three different vendor clusters year on year for 4 consecutive years. I was also able to co-author a guidance manual for tier-2 vendors of Maruti-Suzuki. I also acquired my 6-sigma black belt certification.

Perhaps my greatest accomplishment is that none of my previous bosses were willing to let me go (though they finally agreed and wished me luck) when I decided to move. I have a very good relationship with all of them, even today.

3. Tell us a little more about your professional background since

completing your education.

Immediately after completing my DME, I joined M/s Simplicity cranes (Electric Hoists division) at Faridabad as a production supervisor. I learnt about processes like turning, gas cutting, welding, fabrication etc. The conditions were hostile and we had to work nights in biting cold conditions of December/January. I survived 7 months.

Then I joined M/s Statfield equipments (manufacturers & suppliers of electrostatic spray painting equipments/paint booths and conveyors) as a Sales & Service engineer at their Delhi office. I started enjoying my work and was beginning to settle into the groove when I was informed about openings at Maruti by one of my classmates. Maruti was a 'government of India undertaking' at that time and was a prime target for all young engineers.

I joined Maruti in September 1984 as a Supervisor trainee. The rest, as they say, is history. I spent 14 years in Vendor development/Engineering and 5 years in Quality assurance. My 6 years with Maruti center for excellence (MACE) were the most exhilarating as I learnt so much in these years that all my previous learning faded in comparison.

I left MACE in 2010 to join a consulting company as a partner. As luck would have it, it didn't work out well for me and then opportunity knocked once again in the guise of one Mr.Rajiv Mandke of ACMA.

I joined ACT in March'2011.

4. What according to you are your three strongest qualities?

- Discipline - Commitment - Target orientation

5. What are your hobbies? How do you fill free time?

I like listening to light music – anything melodious. I read travel books, watch TV shows on travel. I love watching TV with my wife.

These days whatever time I get I use it to collect and collate various training materials to build myself a small e-library to fall back upon when needed.

6. What is success to you?

Success is - when you feel happy after accomplishing a task.

Success is - when others feel happy after you have accomplished a task.

7. How long have you been working for ACMA? Please describe your role at ACMA.

I have been at ACMA for four months. My role is of a guide and a mentor to build capabilities in members of my cluster team. Currently, I am in charge of the ACT foundation cluster activities in Northern region.

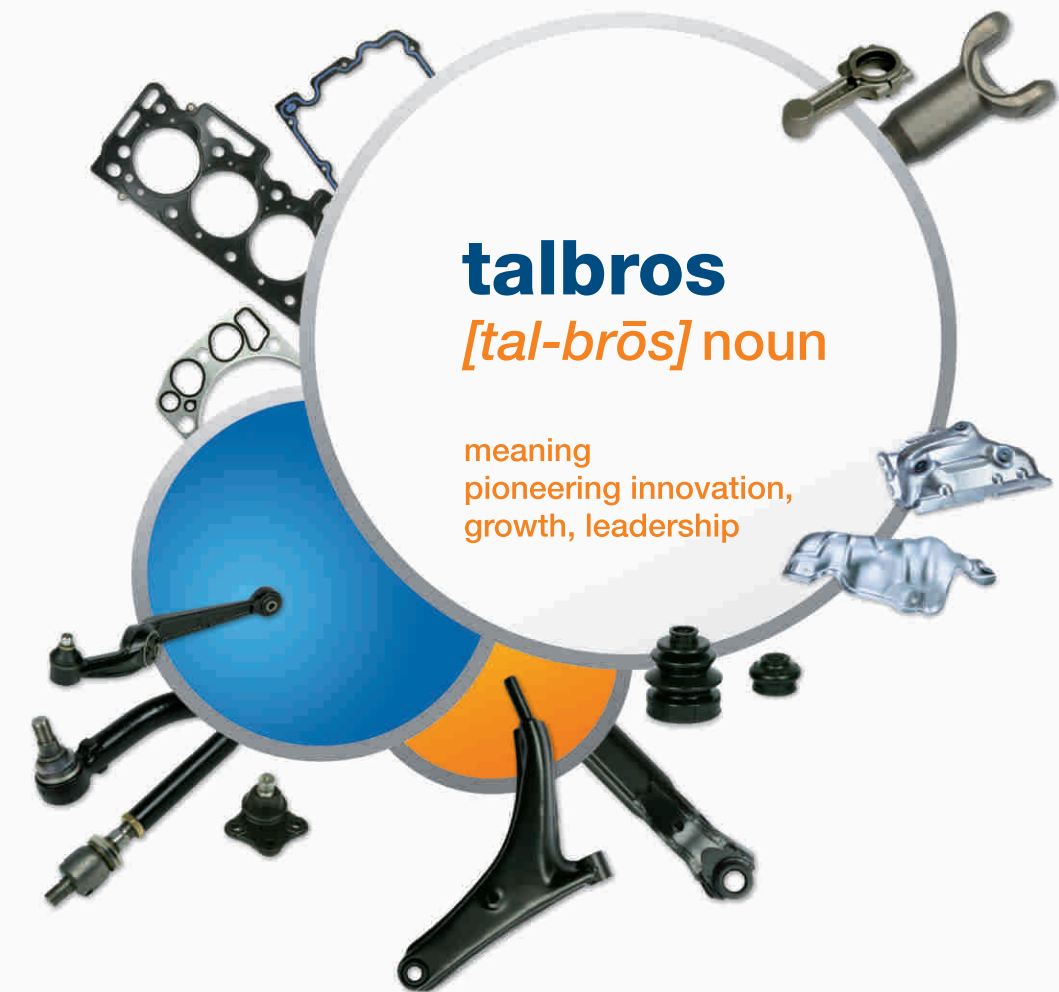
8. What do you like best about working for ACMA?

The impact that our work has and will have in making the Indian auto component industry a truly world class Industry.

Other factors that I like are – the openness and free access to the Bosses, the bonhomie between colleagues and eagerness to help each other.



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Customer's Voice and its Effective Implementation

- Singhbhum Machinometal Pvt. Ltd. (SMPL), Jamshedpur

In today's highly competitive environment particularly in the automobile sector, effect of globalization where all the big players of world have arrived with best of technology, cut throat competition is being felt; especially by the SME sector.

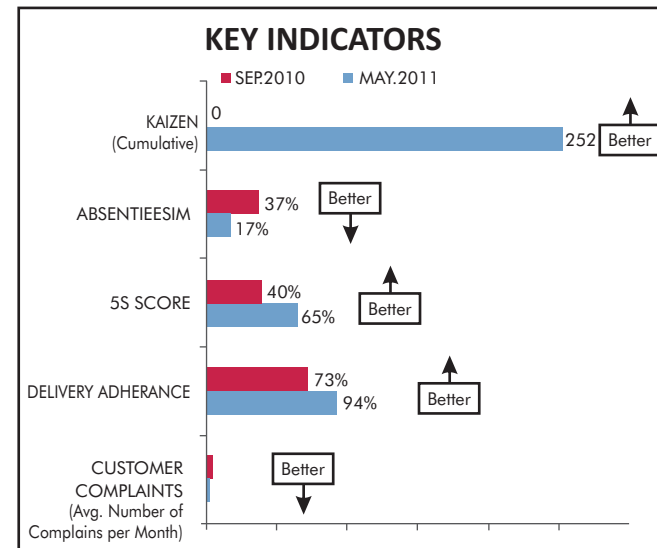
Indian OEMs are able to deliver to their customers in terms of global quality, unfortunately in SME some ice-breaking is required to counter the prevalent attitudinal environment in the middle management levels. To adopt lean manufacturing systems even in scarcely available resources is a challenge for the Indian SMEs. OEMs expectations are being felt as nightmares and crisis management by the SME suppliers. During the inauguration of the ACMA ACT Basic Cluster Program (Sep 2010 – Aug 2012) at Jamshedpur wherein five companies have formed a cluster for tracing the path of success together; the then Plant Head of OEM Tata Motors Limited (TML) expressed customer requirements from SME CEOs as – 'Customer's Voice'.

SMPL (under the guidance of MD - Mr. O. P. Chopra) started its operations in 1978 and presently has got two plants in Jamshedpur. Our major customers are Tata Motors

CUSTOMER'S VOICE

- A. Supply on time (daily basis as per schedule)
- B. Quality of Supply (50 PPM max.)
- C. No Damage in transportation (Containerization)
- D. Continual Improvement through TEI

Limited and its subsidiaries (HVAL & HVTL). We excel in precision manufacturing of auto components using CNC machines. The efforts and initiations through ACT Cluster program and CFT cultivated a sense of positive competitiveness among the employees which got translated into a plethora of improvements.



A. Supply on Time

Breakdown Data Collection, Analysis and Control	Control on Absenteeism - Data Analysis, Action Plan, Skill Matrix.	TEI - Daily Machine cleaning including CEO, Best Attendance award, Best Kizen of the month award.	Visual Management of Data - Daily Dispatch Board, Hourly Production Control Board.
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Visual Management like the implementation of Hourly Production Control Boards and daily Dispatch Boards with targets, facilitate the management in taking on-time decisions and reduce lead time of the product in a visual manner; especially when the priorities of the OEM change every morning and needs to be addressed immediately.



Hourly Production Control & Dispatch Boards

Zone wise Skill matrix for all operators and helps motivate them to improve on skill – contributing in lower absenteeism levels. Zone leaders (10nos.) who are responsible for various TEI targets themselves monitor the progress of skill matrix

under the direct supervision of the CEO.

SL. NO.	PARAMETER	APR	MAY	JUN	TARGET
01.	1S	30	85		75/
	2S	70	75		75/
	3S	0	0		75/
02.	SAFETY (NO OF ACCIDENT)	0	0		0
03.	ABSENTEEISM (MAN DAYS)	26	26	6	18
04.	KAIZEN	06	0	0	14
05.	TRAINING/HRA	00	0	0	14

Zonal Board

A change in the mindset of people was brought by initiating awards program for the best kaizen of the month.



Best Kaizen Award by MD

Cleaning of machines along with 1S and 2S activities with the CEO and Managing Director, brought significant improvements in the field of TEI and process ownership.



Daily Cleaning of Machines with MD and CEO - TEI

B. Quality of Supply (50 PPM maximum)

Training program for everyone especially grass root level -5S and Kizen	Introduction of Quality Assurance Gate.	Inhouse Rejection Meeting (everyday) - Sarashikhubi.
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Introduction of training programs for grass root level employees have rendered awareness and nurtured enthusiasm in them to perform.



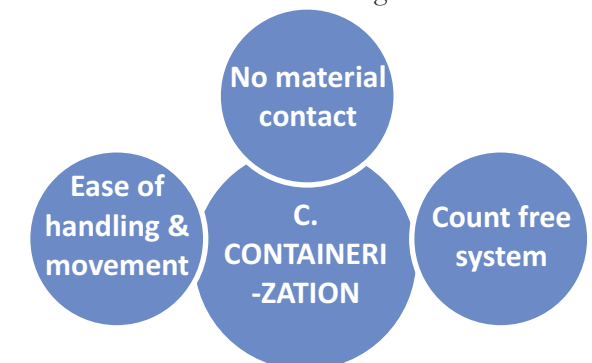
Training Program Conducted by Zonal Leader

Over and above various process control measures, 100% checking is done at the outgoing dispatch section of FG (GATE)



Quality Gate

In-house rejection meeting committee evaluates daily NCP and focuses especially on to the minimization and elimination of the reasons for NCP generation.

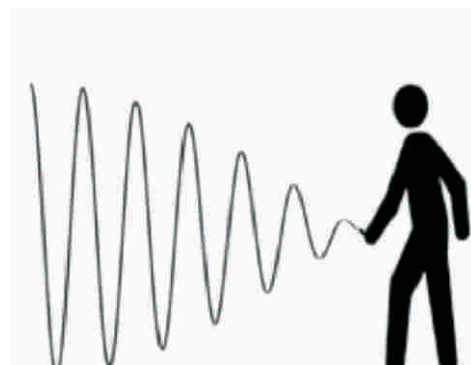


Abhishek Chopra
CEO & Director, SMPL

SMPL is extremely thankful to the ACMA/ ACT team for their support and guidance to inculcate a work culture of continual improvement. We indeed give our special thanks to Mr. T. K. Chanda (Counselor, ACT) who with his enlightened vision, consistent guidance and hand holding helped us to deliver and perform as per the expectation of our Customers.



T. K. Chanda
Counselor, ACT



By Sri Karumbati
Dy. Chair, IT Committee

Is Information Flowing Through Your Supply Chain?

In the “Beer Game” developed by MIT Sloan School of Management, participants simulate a beer supply chain consisting of a brewer, distributor, wholesaler and retailer.

The objective is to meet customer demand for beer-cases through the multi-stage supply chain, yet control expenditure and inventory. Each player is given an initial stock and the game begins. Players can see each other’s inventory position, but only the retailer is privy to the customer demand data. Initially the demand is stable and all firms in the supply chain are able to meet the demand.

Soon the demand pattern changes resulting in challenges for supply chain. As time progresses the challenges become unmanageable resulting in stock outs and excess stock in different parts of the supply chain. For many who play the game, the whole chain collapses soon resulting in frustration and confusion. Players wonder whether it is due to poor execution or due to very erratic customer demand pattern that results in backlogs and inventory. They feel helpless and being controlled by the supply chain.

Actually, analyzing the customer demand pattern will show little or no change. The demand variation faced by the retailer is small and manageable. But for the rest of the supply chain the magnitude of changes increases as one progress up the chain. The wholesaler faces greater variability than the retailer, the distributor even more and the brewer variability of unmanageable proportions.

But why did small variations propagate up in increasing magnitude up the chain just like a bullwhip?

Components of a Supply Chain

A supply chain consists of three types of flows

1. Material flow: the physical movement of product from supplier to customer and reverse flows such as returns
2. Money flow: payments, credits/debits
3. Information flow: forecasts, order schedules, shipping notices that

coordinate the material flow.

As material flows from supplier to customer, money flows the opposite way. But what drives these two flows is the information flow. Customers communicate demand information to suppliers. Demand information typically includes the SKU#, quantity, date, and delivery location. Customers may also share other information such as the current inventory position. Suppliers communicate the status of shipment and invoice details to customers. These information flows are essential for a supply chain to function. While the ultimate objective of the supply chain for a customer is to secure material when required and for a supplier get compensated in time, the common driver that keeps the two flows – material and money – functioning is the information flow. Yet in most organizations the information flow gets the least attention. Almost all functions of such organizations focus on material and money. Individuals are mandated to ensure that material is supplied/received and payments collected. Discussions between supply chain partners on issues usually revolve around material supply, pricing and payment terms while the root cause of the issue may be due to problems in the information flow.

That is exactly what happens in the Beer Game. It turns out that a combination of behavioral causes such as panic ordering and perceived risk response, along with Material Flow operational causes such as lack of information sharing, misaligned supply chain structure and lack of collaboration leads to the problem.

The simulation highlights the disadvantages of a supply chain that is operating in silos vs., a one

Information flow gets the least attention

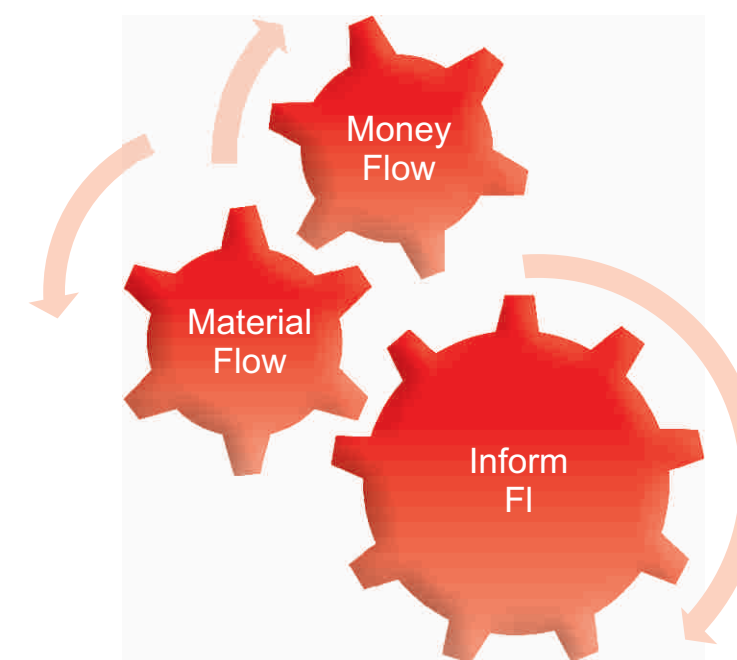
that places importance on information sharing and operates collaboratively.

Origins of B2B Communication

Early forms of information flow were mostly paper based. Communication between customers and suppliers was done using paper documents that were physically mailed. The lead-time of the mail delivery determined the inventory policy of customers and suppliers. If the mail took a week to reach its destination, customer and supplier were separated by a week’s lead-time to receive information and hence had to formulate their inventory policies accordingly – such as safety stock, min, and max quantities. The greater the time lag between the

demand and supply points, the greater was the pipeline inventory. Additionally longer information lead times lead to greater variability and as result higher costs and higher risks. This correlation with information lag determined the operating performance of Email is the most prevalent method of information exchange in Indian auto industry. Data is sample from survey of suppliers supply chains. Supply Chains which had better information flows, the ones that were able to communicate timely and accurately, were able to operate more effectively.

The advent of proprietary electronic networks and then the Internet reduced the information lead-time tremendously. It was in the 1970’s/80’s when EDI (Electronic Data Exchange), standards for information exchange was developed to enable commerce. The

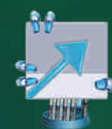


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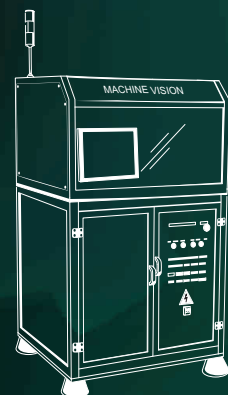
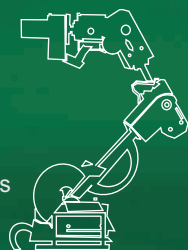
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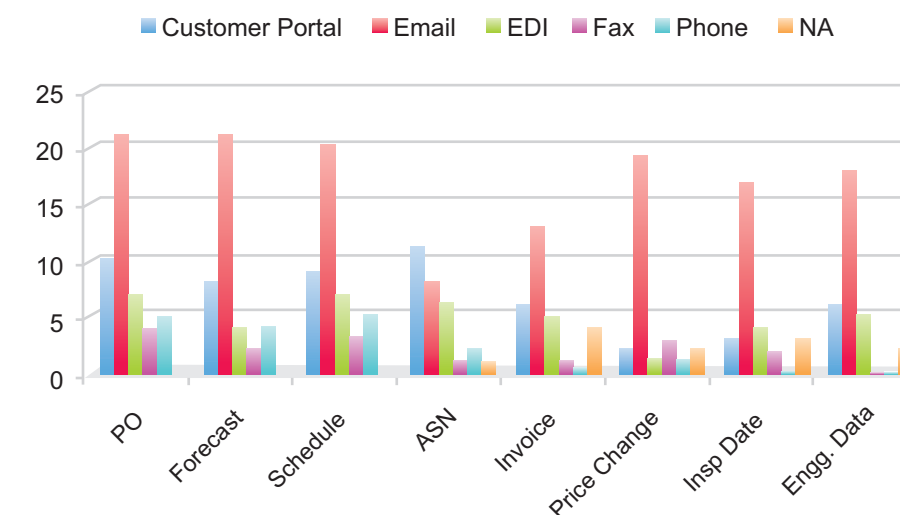
passion to succeed



U.S. automotive industry was one of the pioneers to embrace EDI standards, first the ANSI X12 and then the UN/EDIFACT; EDIFACT stands for EDI for Administration, Commerce and Transport. The EDIFACT standard contains a vast library of documents that are used in commerce across the globe. As an example EDIFACT defines what information a Purchase Order should contain, how the information has to be structured and how it has to be transmitted. Trading partners following the standard can easily communicate with any other trading partner using the same standard thus removing a layer of friction in the flow of information across supply chains. B2B communication in India While the supply chains in North America, Europe and other places have adopted standardized information flow (EDI) long ago, the situation in India has been different. Almost all automotive supply networks use a combination of non-standard methods, mainly Web Portal and Email. The chart above shows the distribution of communication methods in the Indian auto industry.

While the Web Portal and Email have reduced the information lag "lead time" they still do not resolve some of the underlying problems of the earliest method – the paper based systems. In fact they introduce new problems.

- Communicating supply chain information through email is not very different than communicating via paper but for the speed of information flow. In both cases data is unstructured, insecure and requires human intervention.
- Web Portals are suitable for communicating only some types of



Email is the most prevalent method of information exchange in Indian auto industry. Data is sample from survey of suppliers

information but not for all. They also require human intervention.

The original purpose of EDI was to enable quick and free flow of information "machine to machine" without the intervention of humans. Machine to Machine methods provides several benefits:

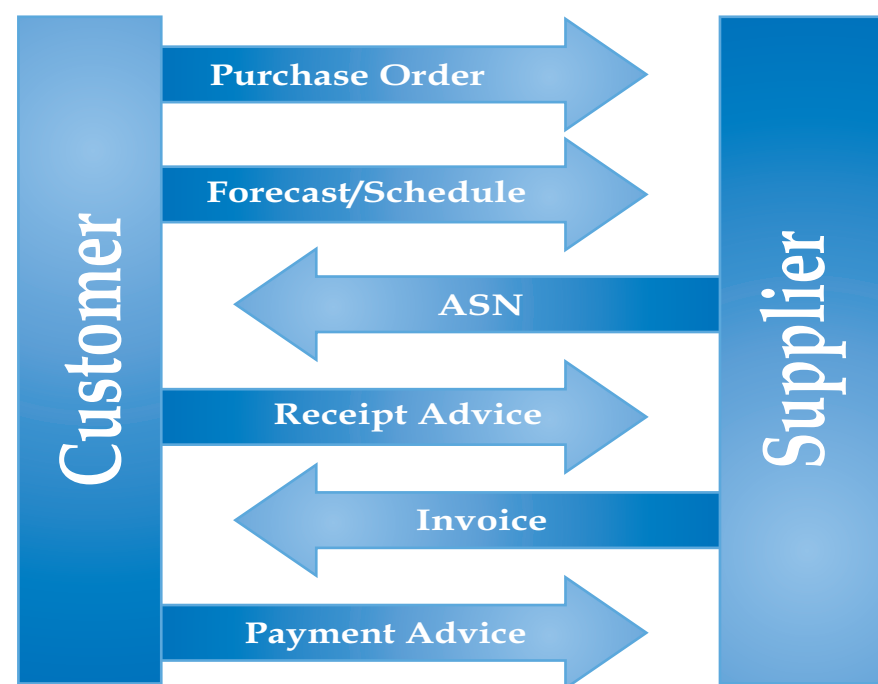
1. Since they do not require human intervention they can be error free.
2. As the process is automated information is available in a speedy and timely manner. In many firms orders sent during the nighttime are available for a supplier before morning.
3. Customers can transmit multiple demand signals daily to reflect the changes in situation in near real time. This helps in reducing pipeline inventory and batch sizes.
4. Demand signals can be sent to multiple supply chain partners at the same time to reduce the information asymmetry.
5. Most importantly, the entire supply chain can collaborate and operate harmoniously.

ACMA-SIAM Initiative

To improve information flow in Indian auto industry, SIAM and ACMA are currently undertaking an initiative that will bring the Indian Auto Industry on par with the international supply chains. The initiative aims to adopt a common Industry Standard Data Interchange format for exchange of information between OEMs and Suppliers.

As earlier mentioned, today in India data exchanges between OEM and Suppliers are done using various channels such as Web Portal, email systems, faxes and phone call. The format of data exchanges varies between trading partners even if the intent and purpose of the exchange is the same. For example a Purchase Order is communicated in different ways between different trading partners. Communicating in non-standard format leads to inefficiencies and unnecessary investment in systems and solutions.

The standardization initiative will



Scope of ACMA-SIAM B2B Information Flow initiative

eliminate the need for various data exchanges systems and formats that exist today and move the industry towards one standard applicable for all members.

Standardization of information/data exchange will bring operational efficiencies. Information exchange flows based on standards are necessary to handle large transaction volumes and facilitate dynamic supply chains that involve frequent transmittal of demand signals. Standards also help in integrating with the supply chains of overseas trading partners. It will be worthwhile to mention that the Indian auto industry is perhaps one major auto industry group in the world that is not following a standard for information exchange.

The present scope of the SIAMACMA initiative covers standardization of data/information exchanges, which are fundamental to a supply chain and which occur almost daily between OEMs and Suppliers.

- Purchase agreement (PO) and pricing details

- Forecast and delivery schedules.
- Advance shipping notice,
- Goods delivery and goods receipt confirmation
- Invoicing from component suppliers
- Payments advise from OEMs with details of credits and debits.

The proposed data interchange standard will be based on an international standard, but customized to meet India localization needs. Currently the process of understanding the general and India specific



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requirements is underway. This is being done through interviews and workshops with select SIAM and ACMA members. Based on the understanding and subsequent analysis of the collected data, a suitable international standard that is the most appropriate for Indian requirements will be chosen as the standard for the Indian auto industry. SIAM and ACMA have engaged KPMG to help implement the initiative.

In Conclusion

Establishing the standard is the first step towards laying an infrastructure that can enable industry wide collaborative information flow.

Subsequently participation of individual firms of the industry will be necessary. They will have to adopt the standard and along with it implement appropriate policies, procedures, business processes and technologies necessary to achieve an efficient and transparent information network. Transparency and collaboration are essential to realize optimal supply chain performance.

Secondly, the root cause of many issues in material and money flows arise from lack of timely information or having poor quality information.

It is very important that information flow aspects are given equal importance as to the other flows.

Properly designed and functioning information flow system that enables accurate and timely communication is very important to manage your supply chain; unless you want the supply chain to manage you like in the beer game.

Useful References

1. Beer Game Simulation - beergame.mit.edu
2. Bullwhip Effect - http://profit-chain.com/images/The_Bullwhip_Effect_in_Supply_Chains.pdf
3. ANSI X12 - www.x12.org
4. UN/EDIFACT

154th Session of WP.29 – Report

List of Participants:

Shri Nitin Gokarn, JS, MoRTH-Leader of the delegation
Shri Ambuj Sharma, JS, DHI
Shri Vikram Gulati, Director, DHI
Shri T C Gopalan, Chairman, TMA Technical Committee
Shri Vishnu Mathur, DG, SIAM
Shri Shrikant Marathe, Director, ARAI

1. International Whole Vehicle Type Approval system (IWVTA) was actively discussed by the informal group on the subject. It is interesting to learn that a part of the efforts are directed towards considering the revision of 1958 agreement to make it more attractive to developing countries. Mr. Gauvin mentioned the intention of the informal group to present in the November session of WP29 a possible road map identifying the changes needed. The world forum is keenly looking for inputs from India. If an agreement is reached in Nov. 2011 session, the group intends to submit a draft revision for adoption in June 2012 session of WP29.
2. On the sidelines of the World Forum session, Japan had also one to one meeting with India and the Japanese team was highlighting the type of changes being considered in the 1958 agreement, which can take care of some of the concerns expressed by us in the past. These include voting procedure, acceding to earlier versions of the regulations, quality of testing in various laboratories notified by the individual governments, etc
3. EFV: The task force meeting under the chairmanship of India was held on 22nd June 2011. During the meeting the status of discussions till now was presented and it was realised that developing a methodology to assess environmental friendliness of vehicles appears to be quite complex and difficult at this stage. It was also highlighted by members that though the outcome appears to be negative, it is in fact a very important conclusion with a comprehensive consideration of all the aspects and practicalities. The group has decided to prepare a summary document for presentation in Nov. 2011 session of WP29. The group also decided that it will be beneficial to capture the stunning developments which have taken place in the world in the field of EFV over the last 8~9 years which will provide a guideline for formulation of future regulations. The group felt that perhaps there is a gap in clearly understanding the terminology used for such vehicles and hence there is a need to develop uniform definitions on the various terms used in EFV area. The group decided to prepare base documents on these lines and present the plan to the World Forum in its Nov. 2011 session.

USA will host the next EFV conference in September 2012.

4. WP29 discussed an important issue of proposal for a protocol to manage drawings, calibration and maintenance procedures associated with test tools referred by both ECE regulations as well as GTRs. This is a very important subject and in the absence of these systems, work will be unnecessarily duplicated. World Forum agreed to continue consideration of this matter in Nov. 2011 session.
5. USA requested for setting up an informal group for governmental representatives only to exchange views on enforcement issues regarding complaints and defect of vehicles and parts with regard to security and environmental issues, procedures and actions related to safety and emission defects and non compliance. Next meeting of the group will be along with Nov. 2011 session. It would be interesting to India to participate in these discussions.
6. Representative of France informed AC3 that a GTR proposal could be transmitted to AC3 for its consideration and possible voting in March 2012 or June 2012 sessions. Rolling resistance will be taken up in phase 2 whereas wet grip is being considered to be included in the mandatory module. India had raised its concern on the mandatory inclusion and the topic will be further discussed in GRRF group meeting in October meeting. It was also brought out by the chairman that even if wet grip is in the mandatory module, India and China have the flexibility of adopting the GTR without these modules. We will consider this aspect and finalize our approach for discussions in the next GRRF meeting.
7. GTR on motorcycle controls and tell-tales will be introduced for voting in November session.
8. GRPE Chair appraised the progress of WLTP project. India has submitted vehicle-km. data on only 68,000 km. We will need to carry out validation tests for WLTP project and will need appropriate funding for the same. ARAI will work out the cost required in consultation with SIAM.
9. India also had a discussion with USA representatives. They expressed their plans for the NHTSA Administrator and his team's visit to India in January 2012. India expressed that it would be the most appropriate time due to the AUTOEXPO event in January 2012. We will work out a tentative plan for suggesting to USA representatives.

Written by : Nebika Mathur

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AISC.

38th. AISC – Meeting was held at ARAI on 4.5.2011 under the chairmanship of Shrikant Marathe, Director ARAI.

Summarised below are the major points deliberated.-

1. Minutes of 37th AISC was confirmed with the modification proposed by SIAM, (CMV Rule 112- Provisions related to Discharge of Exhaust Gases).

2. AIS Standards for Approval.

Respective Panel chairmen presented the status.

- AIS – 101-Rear Impact : Examined the argument that AIS 101 – Rear Impact should not be mandatory in light of the

Effect of rear impact crashes on following aspects:

- Structure-for intrusions and shock levels
- Fuel system leakage leading to fire risks
- Whiplash injuries and. Other occupant injuries.

Final recommendations will be presented in the next AISC.

- AIS-119 (Requirements of Sleeper Coaches)

Advised, dimensional requirements of berths should be specified and choice of layout

Left to the designer.

Further:

- Applicability of roll over test to be examined.
- Restraint systems like safety nets may be recommended
- Anthropometry data on Indian population collected by ARAI should be considered while arriving at various above requirements

Finalized recommendations will be submitted in the next AISC.

- AIS-112 (Agricultural Trailer Code)

Committee noted the details and approved the standard with suggested modifications,

And cleared to forward the standard and draft notification for adoption to

CMVR-TSC.

3. Standards under discussion of Panel.

- AIS-002 (Part 1) Devices for Indirect Vision intended for use on L category with bodywork Vehicles, M and N category -Installation requirements. Committee adopted the standard, with Lead time as proposed

(36 months for new models and 48 months for all models for M and N category vehicles.

For L category with body work- 18 month (New models) and 24 months for all other Models).

Secretariat will submit the standard to CMVR-TSC.

- AIS-037 (Component Type Approval and CoP)
- Applicability of AIS-037 for Agricultural Tractors.

There is no clarity in CMV Rule 124, 124 (A), as to AIS-037 - Applicability to Agricultural Tractors. However, some of the components

E.g. Horn, Bulbs, Lamps, Fuel Tanks etc are covered for

Agricultural Tractors, but IS: 12056 (Recommendations for safety requirements for fuel tank assembly of automotive vehicles) is not applicable to

Agricultural Tractors.

Chairman expressed that in such cases directive from MoRTH may be sought.

- Proposed amendment 4 to AIS-037 would include the following in order to bring more clarity.

- Scope should include agricultural tractors.
- Changes required in Annex B of AIS-037 in order to specify AIS-104 in place of IS:12056 and tests for COP as also
- COP tests for AIS-088 (Rear warning triangles)

- While formulating the Draft D1 Revision of AIS-037, following would be taken care of:

- Urgent changes needed for implementation for Agricultural Tractors.
- SIAM proposal for definitions, concept of applicant etc.

4. Draft Amendments on existing Automotive Industry Standards (AIS)

- Committee took note of the brief and approved the amendments proposed covering:-

AIS-52 (Rev. 1): Bus Code, AIS-093: Truck Code, AIS-028: CNG Fueled Vehicles

AIS-043: Braking Systems for Agricultural Tractor and Trailer,

AIS-047: Interior Fittings for other than M1,

5. Proposed amendments in CMV Rule 62 (Validity of certificate of fitness)

- In the light of I&M centers being set

up in the country, ARAI has proposed certain amendments in Rule 62 which would be

necessary for introducing testing and approval of in-use vehicles and issuance of fitness certificate.

Chairman expressed that while proposing amendment in existing provisions, it should be kept

in mind that mechanized testing setup would be introduced initially at few centers

Therefore existing provision and revised requirements should work in tandem.

Committee noted the same.

6. Status of alignment of national standards with GTRs and implementation thereof

➤ Committee noted the brief status presented on the following GTRs:-

GTR 1 and IS: 14225 (Door latches and hinges)

GTR 6 and AIS-118 (Safety glazing)

GTR 3 and IS: 14664 (Motorcycle Brakes)

CMVR-TSC, 28.6.2011

36TH.Meeting of CMVR – TSC was held on 28th. Of June 2011 at MoRTH NEWDELHI.

This was the first meeting chaired by the recently taken over Chairman & Joint Secretary ministry of Road Transport. Members extended a warm welcome to Mr. Nitin R.Gokarn.

Summed up under the major Subjects deliberated: -

- AISC Chairman & Director ARAI Mr.Shrikant Marathe presented Report covering progress of Subjects and Activities of Technical Panels IN FORMULATING various Standards.

- Committee adopted the following Standards:
 - AIS – 002 (part 1 - Rev-1), Indirect vision Devices Installation.
 - AIS – 112, Agri: Trailer Code except AIS-043 part covering brakes.
 - AIS – 007, Technical specification to be submitted by Vehicle manufacturers.
 - Draft Notification put up for all Adopted Standards.
- J.S MoRTH WILL BE HOLDING Special Meeting of all stake holders to get abreast with the Readiness of Test facilities under NATRIP.
- BIS was requested to organize a Seminar presentation on Activities related to future Technology & Regulations on Intelligent Transport System
- Interpretation of various Testing Agencies .WRT. Test procedures / Certificate formats were found DEFER, and felt this be standardised for uniformity. Decided to formalize a Committee of Test Agencies.

This Committee was entrusted to streamline the process. The issue cropped up with reference to Speed Limiting Devices.

Written by : K.N.D. Nambudiripad

ACHIEVEMENTS OF ACMA MEMBERS

N K MINDA GROUP OPENS DESIGN CENTRE IN TAIWAN

State-of-the-art Facility to Design and Develop Automotive Lighting Products

N K Minda Group, the USD 403 mln technology leader in the Indian Auto Components Industry, announced that it has opened a state-of-the-art Design Centre in Taiwan, after procuring all necessary licences from the Taiwan Government. The opening of the Design Centre in the city of Taiwan is strategic to Minda's self reliance initiatives, for which it has invested approximately USD 783 K. With the opening of this Design Centre, N K Minda Group has extended its Engineering wing for designing and developing automotive lighting products. The Design Centre will give a necessary fillip to the group's expertise in optical and mechanical designing of automotive lamps, in addition to capitalising on the strategic advantage of Taiwan as an established and high quality, yet cost effective, destination for tooling. Commenting on the occasion Mr. Nirmal Kumar Minda, CMD of N K Minda Group, said, "Setting up a Design Centre in Taiwan is a major initiative for us and has been taken to interface with Taiwan supplier community and program managers. It will give us an easy access to product designing capabilities, tool making and machine development."