

*From the Chairman's Desk*

It's my great pleasure to extend heartfelt greeting to the readers of the first issue of the newsletter of SAE Northern India Section. The mobility industry has evolved with changing times; the industry which was largely dominated by western world & Japan is of late being embraced by India and China as its future domain.

The global mobility industry envisions tremendous prospects for us in the near future. We at SAENIS aim at becoming destination of choice for enriching the knowledge base of mobility practitioners within India by taking the advantage of opportunities ahead of us.

In a vision to prepare for the future challenges SAEINDIA was established with the following objectives:

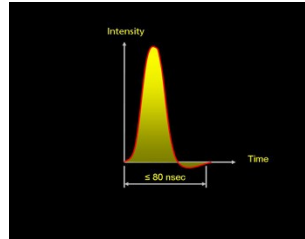
- 1) To enhance the knowledge base of members who are mobility practitioners within India
- 2) To provide to its members access to SAE's programs and services globally enabling them to practice world class standard in productivity and quality
- 3) To develop technical and scientific reports and engineering standards for the benefit of mankind
- 4) To provide a forum for members to informally exchange views and ideas

We introduce the newsletter 'Sampark' to provide a platform for communication among members of SAENIS, aiming to play a key role, to challenge and achieve global norms for the Indian mobility industry, through idea exchange and information sharing.

We would welcome your views on the newsletter and want to hear from you, whether you have an idea for an article, have forthcoming events or other queries.

Happy reading!!

**I.V. RAO**  
Chairman – SAE NIS  
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**EDM technology** – The revolutionary technology that has become the most exciting and diversified machine tool.

A seminar on EDM Technology was organized by SAENIS in association with MC Craftsman machinery, to enlighten and train the participants, on one such non-conventional machining technology that has raced ahead in importance for the mobility industry.

*Read more on Page 2*



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*Read more on Page 2*



**Effi-Cycle - 2010**

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*Read more on Page 4*



**CAD to Crash in 24 Hours**

The CAE Tech day organized on the 7<sup>th</sup> of Aug, threw light on latest simulation techniques, which make the unexpected, expected!

*Read more on Page 2*



**A World In Motion**

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*Read more on Page 5*

*More inside this issue:*

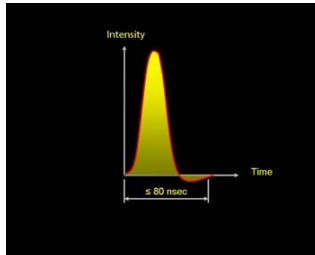
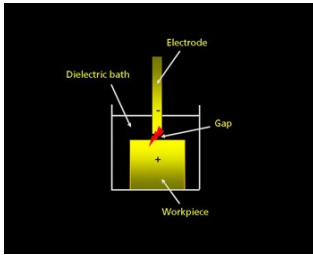
- **Parts to Partners – An Evolving Role for Indian Automotive Supplier**
- **Technology Day: Exhaust Emissions And Engine Technology – Latest Trends**
- **Meeting the Design & Testing Challenges – CO<sub>2</sub> reduction via Hybridization & Electrification**

*Upcoming events...*

- **SAE International Presidential team visit**
- **Seminar on “Fundamentals of Structural Dynamics and Road Simulation”, January 2011, Gurgaon**
- **Seminar on “New Plating Technologies”, January 2011, Gurgaon**

### Seminar on “EDM Technology”, 23<sup>rd</sup> July, 2010

Due to the introduction of newer and harder materials, the focus is now on the non-conventional machining technologies which have always been the Achilles' heel for technologists since their inception. A seminar on Electrical Discharge machining or EDM Technology was organized by SAENIS in association with MC Craftsman machinery, to enlighten and train the participants, on one such non-conventional machining technology that has raced ahead in importance for the mobility industry.



The seminar was given by Mr. Ashwani K Dutta, Vice President, Northern and Eastern Section, MC Craftsman Machinery (subsidiary of Mitsubishi Corporation). EDM technology was introduced in the late 1960s', and has revolutionized the tool and die, mold, and metalworking industries

### Seminar on “Automotive NVH: Challenges and Problem Solving Techniques”, 30<sup>th</sup> August 2010, Gurgaon

In a world with record high levels of noise pollution, where consumers are obsessed with super silent engines and comfy passenger cabins, the mobility industry is certainly starting to give NVH control a very serious thought. This seminar was organized to highlight the contemporary technologies available for NVH testing, and the customer perspective of quality driven by NVH factors.

The seminar witnessed an overwhelming participation of over 85 participants from OEMs, automotive suppliers and academia.

Addresses by Mr. C V Raman – CGM, Engineering (Maruti Suzuki) and Mr. Dirk De Vis - Vice President (LMS International) marked the beginning of the



seminar. Application experts from LMS International delivered sessions on NVH basics and cutting-edge technologies available for physical and virtual NVH testing. Live demonstrations, interesting practical sessions with flip-chart theory explanations took many to their classroom days!

### Maruti Suzuki-Altair CAE Tech Day, 7<sup>th</sup> August, 2010



Virtual simulation is the mechanical astrology for the 20<sup>th</sup> century. Starting from crash worthiness to passenger seating comfort a multitude of problems are predicted and eliminated even before the prototype is made. The CAE Tech day organized on the 7<sup>th</sup> of Aug, threw light on latest simulation techniques, which make the unexpected, expected.

The Technology Day was inaugurated by Mr. C.V. Raman, Chief General Manager (Engineering), Maruti Suzuki India Limited.

Mr Nelson Dias (Managing Director, Altair- Asia Pacific) and Mr Pavan Kumar (Managing Director, Altair - India) were also present at the event.



It is probably the most exciting and diversified machine tool developed for this industry in the last fifty years, and has many advantages to offer.



The seminar started with an introduction to EDM, its origin, and applications, followed by the evolutionary journey it has taken in the timeline.

*EDM technology was introduced in the late 1960s', and has revolutionized the tool and die, mould, and metalworking industries. It is probably the most exciting and diversified machine tool developed for this industry in the last fifty years, and has many advantages to offer.*

This was followed by a session on the unique advantage offered by this technology to the users, which may have changed the perception towards this technology for many of the participants.

Different avatars of this technology, like Wirecut, Sinkerm EDM, and EDM Drill were also covered in the seminar before ending with a final note on real time studies conducted on various job samples

Automotive NVH has become a crucial factor in the perception quality of an automobile and requires enhanced focus to meet the ever-increasing consumer expectations.

This seminar gave an overview of the Noise and Vibration data measurement and analysis

techniques that help in identifying problems early in the design cycle and more importantly how to solve them



LMS application experts showcased the state-of-the-art sophisticated methods and applications for NVH troubleshooting with special focus on case studies for better understanding and practical insight. The contents of the program were appreciated by those new to or already within the world of sound engineering.

*“Live demonstrations, interesting practical sessions with flip-chart theory explanations took many to their classroom days!”*

The technical presentations by specialists from Altair Inc, USA and Altair India gave an insight into the latest trends in Virtual Simulation. All the areas of automotive engineering like Safety, Strength, NVH, CFD, MBD etc were covered.

The highlight of the event was the presentation of a very interesting case study on ‘CAD to Crash in 24 Hours’

*“An insight into the latest trends in Virtual Simulation. Areas like Strength, Safety, NVH, CFD, MBD covered”*

“Got aware of tools/products available to simulate actual vehicle conditions while doing part design” was the reaction of Mr. Aswinder Singh, Manager, Maruti Suzuki India Ltd. who was one of the participants of the event.



## EFFI-CYCLE - 2010

With the advent of the industrial era, came problems like industrial pollution, vehicular pollution and building up of greenhouse gases which have taken a toll on our environment & lives. The world is trying hard to cope with these issues. Auto majors have been working hard to cut down on vehicle emissions and improvise upon industrial processes. A series of innovations has been taken up in order to bring about environment sustainability. To carry forward this vision, SAEINDIA has taken the initiative to move towards green technologies by introducing the EFFI-CYCLE.

The word "EFFI CYCLE" comes from 'Efficient Cycle'. It is a student's design competition in which undergraduate engineering students are given a stimulating task of designing, simulating and fabricating human powered vehicles. The objective of this event is to encourage people to use green vehicles and at the same time provide a platform for engineering students to tackle problems of the real world.

*"Event organized by SAEINDIA under the patronage of Sh. I.V Rao, Chairman, SAE NIS & hosted by U.I.E.T, Chandigarh was conducted through 23<sup>rd</sup> – 24<sup>th</sup> October 2010"*

*"Chaddo yaaro duniya daari, motorcycle scooter gaadi; effi-cycle di hun vaari"* were the words that echoed through the lawns of University Institute of



Engineering & Technology & Driver Training Park, Sec. 23, Chandigarh; through the weekend. The maiden EFFI-CYCLE event organized by SAEINDIA under the patronage of Sh. I.V Rao, Chairman, SAE NIS & hosted by U.I.E.T, Chandigarh was conducted

through 23<sup>rd</sup> – 24<sup>th</sup> October 2010. A unique initiative of its kind based on the thesis work undertaken by Ankur Anand & Ravi Goel, was further envisaged and turned into a national level event under the guidance and support from Sh. I.V Rao, known for nurturing the young talent.

U.I.E.T, Chandigarh; came forward to host the EFFI-CYCLE and thus started the journey of this mega event. Ms Pamela Tikku, Deputy Director (Technical), iCAT, lend her support as the Convener and the official announcements were made in March 2010.



### Objective

To design a 3-wheeled two seater vehicle to be driven solely by human power, in line with the theme of environment sustainability. With a cap on the number of participations, 25 teams across the country were registered take part in the event. With arduous scrutiny, 18 teams were selected to take part in the event. Thereafter, there was no looking back. Mr. Tapan Sahoo, Secretary, SAE NIS; actively supported the event and organized required industry support. Maruti Suzuki & MINDA (Ashok Minda Group) associated as the Platinum Sponsors, Motherson Sumi as the Gold & Nippon Audio as the Silver Sponsor. Besides these, iCAT, TATA Motors & LG sponsored the Static & Dynamic events.

*"EFFI CYCLE" comes from 'Efficient Cycle' with an objective to encourage people to use green vehicles and at the same time provide a platform for engineering students to tackle problems of the real world"*

The event kicked off with the inauguration ceremony where Prof Renu Vig, Director –

U.I.E.T welcomed the guests, Mr. Tapan Sahoo and Ms Pamela Tikku addressed the attendees and the media. The teams were evaluated for the design, cost and marketability of their vehicles. After declaring the vehicle safe for dynamics, the teams participated in the Acceleration – sprint & Utility event wherein the vehicles had to be driven on a track to test its ability to maneuver under tight circumstances carrying a laden weight all the while, justifying its utility.

Based on the scores of the acceleration event, the teams lined up for the endurance run on 24<sup>th</sup> October at the Driver Training Park. The race flagged off by Mr. Sahoo saw immense enthusiasm amongst the participants and the organizers alike. The locals enjoyed their Sunday morning walk to a fun filled rally of 3-wheeled pedal-driven vehicles and everyone danced to the tunes of "EFFI-CYCLE di hun vaari". The 45 min long race ended with team 10 from Madras Institute of Technology completing 24 laps covering nearly 15 kms.

### Winners of "Efficycle 2010"

1<sup>st</sup> Prize : Naval College of Engineering, Pune

2<sup>nd</sup> Prize : Madras Institute of Technology

3<sup>rd</sup> Prize : PSG College of Technology

Design event – Madras Institute of Technology

Acceleration event – Madras Institute of Technology

Utility event – I.I.T., Roorkee

**Parts to Partners – An Evolving Role for Indian Automotive Supplier, 10<sup>th</sup> September, 2010**



The whole theme of the seminar revolved around the need for effective OEM-Supplier collaboration to meet the ever-increasing Time, Quality & Cost pressures in today’s business from Suppliers.

Thereafter, Mr. R.P.Gupta – Executive VP & COO, Subros & Mr. S.Viswanathan – Head of Product Development at JK Tyres gave insight into the supplier perspective.

The subsequent session saw experts from Dassault Systems showcasing how the PLM industry can facilitate this need for greater synergy between OEM & Supplier.

*“There’s a need for OEM-supplier collaboration to meet increasing Time, Quality & Cost pressures in today’s business”*

Mr. Abhinav Chowdhary – Head, Enovia, South Asia & Mr. Mark Rahi – Head, Delmia, South Asia delved on tools which make concepts like APQP, Supply Chain collaboration & Digital Manufacturing more practicable and effective. The seminar saw enthusiastic participation of over 100 engineers from OEMs, automotive suppliers & engineering colleges.

**Technology Day: Exhaust Emissions And Engine Technology – Latest Trends, 7<sup>th</sup> October, 2010**



Environmental concerns like global warming have forced mankind to take drastic measures in controlling pollution. Vehicular emissions are a major reason for CO2 increase in the atmosphere.

SAENIS along with AVL and Maruti Suzuki India Ltd conducted this seminar, aiming at showcasing the latest methods available for emission testing and control.

The Technology showcase was targeted towards Engine & Emission/Test Validation engineers, design engineers involved

*“Cutting edge method, emission legislations, measurement techniques, applications of Engine & Emission driven innovations presented”*

with Product Design from Maruti Suzuki and other OEMs in the Automotive Industry.

At this workshop, international speakers from AVL presented cutting - edge methods, emission legislations, measurement techniques, applications and industry examples of Engine & Emission driven innovations.

In addition, the workshops gave the opportunity to network and learn more about latest applications of Engine & Emission and how leading OEM’s/suppliers are applying latest technologies and processes in their R&D setups.

**Meeting the Design & Testing Challenges – CO<sub>2</sub> Reduction via Hybridization & Electrification Technology Day: Exhaust Emissions and Engine Technology – Latest Trends, 18<sup>th</sup> October 2010**



Hybrid technology is the light at the end of the tunnel for those of us care for the environment. Almost all the auto majors in the world are working on hybrid & electric technology and those that aren’t are expected to follow suit soon.

A seminar on the topic, “Meeting the Design & Testing Challenges – CO<sub>2</sub> reduction via Hybridization & Electrification” was organized jointly by AVL & Maruti Suzuki, as an initiative to sensitize the

mobility realm and light the path of change to clean technology.

The seminar comprised of 7 international industry experts who delved deep into areas like Hybrid testing, power train electrification, legal requirements for Euro V, calibration for reducing CO<sub>2</sub> emissions, etc. The event saw a turnout of nearly 60 people.

*“Initiative to sensitize the mobility realm and light the path of change to clean technology”*

**Seminar on “Lube & Fuel Requirements For Power Train Applications” 24<sup>th</sup> November, 2010**

SAE India (Northern Section) in association with IOCL and Maruti Suzuki conducted a seminar titled “Lube & Fuel Requirements for Power Train Applications” on the 24<sup>th</sup> of November 2010 at the Indian Institute of Petroleum Management, Gurgaon. The seminar was planned with a holistic approach for appreciating the current Fuel and Lube requirements for the present day motive power applications for automobiles operating and gasoline and diesel fuels which would provide an opportunity to get an insight into the engine design features driving the new lube requirements. Besides

Besides imparting knowledge in the field of fuel and lubricants, the forum provided a platform to network with the industry.



*“Approach to appreciate the current Fuel and Lube requirements for the present day motive power applications for automobiles operating and gasoline and diesel fuels ”*

## SAEINDIA NORTHERN SECTION

### A World in Motion (AWIM) Master Teacher's Training Program Sanskriti School, Delhi, 27<sup>th</sup> September, 2010

A World In Motion is a teacher-administered, volunteer-assisted program that brings science, technology, engineering, and math (STEM) education to life in the classroom for students.

Through the support of corporations, foundations, volunteers, SAE members and the SAE Foundation, A World In Motion opens a window of possibilities for students as they discover the exciting application of science principles and learn about rewarding engineering, science and technical careers. The students learn to work as a team with their classmates and apply creative problem solving during the activities.

The A World In Motion program builds bridges between corporations and classrooms by giving teachers, volunteers, and students the opportunity to work together and learn from each other.

Northern section of SAEINDIA conducted Master Teachers' Training Programme for the 1st time at Sanskriti School, Chanakyapuri on Monday 27th September 2010 from 10:00am to 6:00pm with 11 schools participating in it.

Industry support is essential to this program. Corporations and their employees can influence the ways in which youth are prepared to meet the future by sponsoring schools in their communities. By doing so, schools can qualify to receive free or low cost AWIM Challenge kits. Volunteering for AWIM is a great way to serve as a steward for your chosen profession.



Mr. Rakesh Sood, Chairman, AWIM Board and Managing Director, Trim India was the Chief Guest for the day. The Training was conducted by Mr. Sagar Dubey, Member – SAEINDIA WS and ASE, Accenture Services Pvt. Ltd along with the support of Mr. Ravi Goel, Maruti Suzuki India Ltd

The training session began with introduction to engineering, role of engineers in the society and JET TOY CHALLENGE. The Volunteers and Teachers actively took part in the question - answer session, worked effectively in a team and designed an appealing toy that performs in a specific way, such as travels far or carries weight.

Teachers experimented with different chassis designs and nozzle sizes to determine their effect on the Jet Toy's performance. The scientific concepts like force, friction, and air resistance were explored by the teachers & volunteers.

“By participating in the AWIM program, you are helping to prepare students for the challenges of tomorrow through personal discovery. As the teacher who provides information about exciting, science-related careers - you are playing an important role in the development of our future workforce!”

### AWIM Regional Olympics 2010, Delhi , 4<sup>th</sup> December 2010

Subsequent to the Teacher's training program, SAEINDIA Northern section conducted the maiden AWIM Regional Olympics in Delhi on 4<sup>th</sup> December 2010. AWIM Olympics is an international level school student competition, being promoted and organized by SAEINDIA; Indian Associate of SAE International, annually for the last 2 years.

20 school student teams were shortlisted for Regional Olympics after training the 6th grade students, bringing them closer to science and mathematics in a joyful manner and to make them think out of the box. Volunteers from Maruti Suzuki India Ltd. (MSIL) and Indian Oil Corporation of India (IOCL) trained around 700 students and 20 teachers from 10 schools to design and build a JetToy from the raw materials provided in a kit.

AWIM Regional Olympics were held for the first time at **Sanskriti School, Chanakyapuri** on **Saturday 4th December 2010**. 10 schools (20 teams each comprising of 4 students) participating in it with great enthusiasm and passion. **Tagore International School, Gurgaon** clinched the top spot in the competition. SAENIS in association with MSIL, IOCL and sponsor MINDA Industries Ltd., charged up students during the event. Mr. Deepak Gupta (Head, CSR activity, Minda industries Ltd.), Mr. Anup Kacker (GM, R&D IOCL) and Mr. Rakesh Sood (Chairman-AWIM Board SAENIS and MD, Trim India Pvt. Ltd.) were the guest of honour during the inaugural function. The competition was judged by a panel of eminent personalities from the automotive sector, Mr. Sanjay Gupta and Mr. Piyush Aggarwal of MSIL, Dr. Ramakumar and Mr. Shyam Singh of IOCL.



**Regional Overall Winner:**  
Tagore International School,  
Gurgaon

The inaugural function was followed by fabrication of JetToy by the students. All the students worked effectively in a team and designed four toys, out of which three toys were designed to perform in a specific way, such as travel far, carry weight or have maximum speed. The fourth demo toy was only for presentation purposes. Students made very attractive posters depicting their teams' name, logo, slogan as well as the name of the toy they fabricated.

In the valedictory function, Mr I.V. Rao, Managing Executive Officer (Engineering) and Chairman – SAENIS complemented the children for their splendid efforts and creative designs. He called upon schools to encourage students to participate with even more enthusiasm in such events of national and international nature.

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