



Student Innovators Dazzle at the Auto Expo

Innovation and ideas are alive and kicking in young India, as the awesome display of formula racing cars, all terrain vehicles and eco-friendly aerodynamic automobiles at the Design Pavilion, all created by college student teams, proudly demonstrates

IIT Delhi

IIT Delhi is showcasing their Student Formula Racing Car at the Auto Expo. Aptly titled Garuda, the car has been designed and developed in-house to international standards by a 40 member 'axlr8r' team, that worked on the car for over seven months starting December 2008. Using cutting edge software like Ricardo Design, Susprog3D and SolidWorks, the car has a modified Yamaha YZFR 600 cc, 90 Bhp engine with a torque of 62 Nm. The intake systems, exhaust, suspension, drive train casing and drive shafts have all been custom built by the students.



The Garuda participated in the Formula SAE 2009 at Silverstone, UK, and is also participating at the 2011 Formula Student India Competition to be held in Chennai.

M.H. Saboo Siddik College of Engineering, Mumbai

The MHSSCE baby is dedicated to their mentor and famous race car driver, the late Mr. Adi Malgham, who was also President of the Federation of Motor Sports Club of India.

Built with a budget of Rs 4.5 lacs, the Adi Malgham racer, the brainchild of three students, is one of the most cost-efficient student formula cars around.

Powered by a Honda CBR 600 RR engine developing 102 HP at 13,100 rpm, it offers a customized differential setup, fuel tank, pedal assembly, drive shafts and custom suspension systems, all developed in house.

The car is participating in the Formula SAE India and Formula Student Germany in 2011.



K.J. Somaiya College of Engineering, Mumbai

The 25-member KJCE student team, known as Orion Racing, is displaying its Stallion Student Formula Race Car. Designed and developed in house, the car sports a 65 Bhp, Honda CBR 600 cc F4i engine and has been built at a cost of Rs. 5 lacs. With new technologies like an ethanol compliant engine delivering superior fuel economy, high tech electronics and drive train systems, the car has stainless steel suspension systems, impact attenuators for crumple zones, good ergonomics and a fibre-reinforced body.



The car won the Best Improvement Award in the Formula Student event at Hockenheim, Germany in 2009. The Best Asian Team at FSAE Germany, and Best Indian Team Overall are other achievements of Orion Racing.

University of Petroleum and Energy Studies, Dehradun

UPES is displaying a multi purpose, off road All Terrain Vehicle, the Mouglee, at the 10th Auto Expo.

Designed in house by the 25 member team, the car is powered by a Lambardini petrol engine with a displacement of 338 cc, 14 Bhp and 19Nm of torque. A zero camber suspension system with spring in spring mechanism gives the Mouglee maximum road grip and better stability, while a 2 way catalytic converter helps the car achieve tighter emission norms.

The car is participating in





the Baja rally Asia on 31 January, 2010, in Indore, Madhya Pradesh. The team is also building a formula race car for the 2011 Formula SAE event in India.

Delhi Technological University (Formerly Delhi College of Engineering), New Delhi

A 15 member DTU team from the Mechanical, Industrial Production and Electronics Departments is displaying their latest formula student car at the Auto Expo.

Powered by a Yamaha WR Efi Dirtbike engine that pumps out 450 cc with 58 Bhp of power, the car has an innovative suspension mechanism and a carbon fibre body. Reduced to a lightweight 205 kg from its earlier 254 kg, the latest version has reworked engine systems, with the carburetor system converted to a MPFI one, as well as a quick release steering mechanism with a carbon fibre body.



The DTU car was adjudged the third best Cost Efficient Race Car at the 2009 Formula SAE event in Silverstone, UK. The team is also participating in the 2010 edition of FSAE, again at Silverstone, UK.

Chitkara University, Chandigarh

The team from Chitkara is showcasing their eco friendly and super efficient vehicle, the Stealth. This 3-wheeled, single seat, aerodynamic vehicle with a 125 cc, customized Pulsar engine that develops 11 Bhp of power and fuel efficiency of around 163 kmpl, is one of the top contenders for the most fuel efficient vehicle in the world!

The petrol engine vehicle sports a gross weight of only 115 kg, and gets the

required braking power from a custom built mechanical disc brake.

The 13-member Stealth student team from the Mechanical Engineering and Electronics Communication Department participated in the Shell Eco Marathon in Fontana, California, USA. It is also participating in the July 2010 Shell Eco Challenge in Malaysia.

Northern India Engineering College, New Delhi

The NIEC team has developed and designed an all-purpose, all-terrain, quasi SUV, the Torque. Powered by a Daihatsu diesel engine, with an all new interconnected suspension system, the Torque has a password protected engine management system, high tech steering control and robust shock absorbers designed in-house. The 8 member team plans to develop a 2-seater multipurpose model in the future.



Auto Industry Clocks in Positive Growth in all Segments

The Society of Indian Automobile Manufacturers (SIAM) Report on 'Production, Sales and Exports for the Year 2009 in the Automobile Manufacturing Sector' shows a positive growth in all the segments of the auto industry between April – December 2009.

The Report, presented at the on-going Auto Expo, states that cumulative production for April – December 2009 grew at 23.80% over same period last year. The passenger cars segment had a growth of about 23.79%, while utility vehicles as well as multi-purpose vehicles grew by about 18.56% and 34.96% respectively in this period. The commercial vehicle segment too witnessed a positive growth at 22.32% during this period, as compared to the same period last year.

Three wheelers sales recorded a growth rate of 23.67% in April-December 2009, while passenger carriers grew by 30.85% during the same period. Goods carriers also grew marginally by 1.26%. Two wheelers registered a growth of 21.68% during the period. Mopeds, scooters and motorcycles grew by 30.77%, 17.87% and 22.31% respectively during April-December 2009.



Exports

During April-December 2009, overall automobile exports registered a growth rate of 10.45%. However, the commercial vehicles and three wheelers segment recorded negative exports growth of (-) 14.59 per cent and (-) 1.87% and respectively during April-December 2009. Exports of passenger vehicles and two-wheelers segment grew by 30.12% and 7.15% respectively in this period.

Q3 of 2009 (October, November and December) has shown a growth of about 29% in the passenger car segment. Two-wheelers saw a growth of 35%, while commercial vehicles and three wheelers clocked in 98% and 21% growth respectively.

The industry is targeting an increase by 16% compound annual growth rate by 2016. The passenger cars segment in India has been recorded as the 3rd best in the global market, according to SIAM. The year 2008-2009 saw maximum number of launches of about 11 vehicles.

Challenges & Concerns

- Commodity prices are on the rise
- Premature role back of stimulus package
- Interest rates
- Introduction of new emission regulation and safety standards from 2010
- Uncertain export markets



Lovely Ladies of Yesteryears

A bevy of vintage beauties from a more gracious era, lovingly maintained and painstakingly restored by car aficionados, is drawing connoisseurs and lay persons alike at the 10th Auto Expo. The unique display of prim and pristine cars has been presented at the Pragati Maidan by the Heritage Motoring Club of India (HMCI).

Some of the models are nearly 90 years old. And one of the bikes was crafted over a century ago, in 1904! The 67 classic beauties on show, each with a history of its own, include a 1928 Willys Knight 56A tourer, a 1948 Buick Super 8 Series 50-51 Sedan, a 1935 Buick Series 90, a Model 90L Seven Passenger Limousine and a 1935 Rolls Royce 20-25 HP. A Cadillac El Dorado in baby pink, and a bright red Ford Mustang are also among the show stealers here.

The baby belle of the ball is a delightful vintage BMW Isetta 300 of 1955 vintage, a two-seater fondly called a 'bubble car' for its shape.

Mr Diljeet Titus, General Secretary, HMCI, told Fair Buzz that it takes anywhere from 6 months to one year to restore a classic car to mint condition, sourcing original paint, upholstery, tyres and components from different parts of the world. The cost could range anywhere from Rs. 2 lacs to Rs 15 lacs, depending on the model, he said.





Round and About...



Advanced Driver Assistance System

Automobile Safety has become a major area of study. There is today a vast quantity of research on 'active safety products' which prevent and deter accidents, as well as 'passive safety products' such as seat belts, which mitigate damage during crash and post-crash situations. One such product is the Advanced



Driver Assistance System (ADAS) developed by Hi-Tech Robotic Systemz Ltd. (HRSL) which monitors the road as well as the driver for any potential crisis.

A much used statistic in Road Safety is "about 90% of all road accidents, whether passenger vehicle or truck related, happen due to driver error." And the most common reasons are that the driver is sleep deprived, fatigued or intoxicated. A recent study by AIIMS in India showed that 75% of commercial drivers who got injured in road accidents either had not slept properly the previous night or in general had bad sleeping habits. These statistics do not include cases where the driver escaped uninjured while causing injuries to other drivers/ pedestrians et al, which would make the casualty count higher. These problems are far more severe in the case of commercial vehicles such as trucks, buses and late night BPO taxis, which account for an overwhelming percentage of the early morning accidents.

The ADA System has 6 modules. One of these, the Driver State Monitoring (DSM) System, being demonstrated at the Auto Expo 2010, uses infra-red cameras to track driver behavior such as inattentiveness, drowsiness, and fatigue, by monitoring the driver's face, eyes and other critical features. It achieves this by using complex image processing algorithms and computer vision techniques. Developed indigenously keeping in view the Indian scenario, and pending patent, the DSM system alerts the drowsy/inattentive driver well in time in a bid to avert a catastrophe and the resulting casualties. Live demos of the system are on at the Auto Expo 2010.

Yapp Zoom Fuel Tanks

Yapp Zoom Automotive Systems Pvt. Ltd. established as a Joint Venture between the Yangzhou-based Yapp Automotive Parts Ltd and the Mumbai-based Zoom Developers Pvt Ltd, is developing mono/multi-layer plastic fuel tanks for automobiles at its manufacturing facility in Chennai.

Addressing the car or SUV segment with products in the 30-75 litres capacity, the plastic tank can replace metal fuel tanks with advantages of safety, design, flexibility and ability to meet environmental norms.

Little Tree Air Fresheners

'Little Tree' air fresheners are the oldest hanging paper air fresheners in the world, fully made in the USA since 1952 by Car-Freshner Corp.

Available in India in over 20 fragrances, they are the leader in their category in the US, UK and Germany. Other products from Car-Freshner Corporation include Fresh Gel XL, a gel - based air freshener, Air Wash, an aerosol odour eliminator, and Little Tree in a Can, an aerosol air freshener in compact cans with a concentrated fragrance. These products are available in India through distributors or through the website www.little-trees.net.in

Goodwill Day

The 10th Auto Expo received special visitors from the Akshar Paristhan School, Indian Spinal Injuries, SOS Village Vocational Rehabilitation Centre (VRC) on the opening day of the Fair.

The wheelchair visitors were taken on a guided tour of the Fair. Their comments:

- The visit to Pragati Maidan was good. The children could learn many things about cars. **Monisha**
- Excellent hospitality, wonderful experience. God Bless!! You made my day!! Next time too, please invite us... **Sanjeev Sachdev**
- Great effort. A huge thanks for coordination, hospitality and accessibility. Great encouragement. **Amit Nangia**
- Very good visit. **Pradeep Lal**
- I really appreciate the efforts that were made to create awareness about automated cars, keeping in mind the physically - challenged community. **Mayank Singh**

