

## **Mahindra showcases Advanced Mobility Solutions at the 12<sup>th</sup> Auto Expo 2014**

### **Synopsis:**

- Exhibits the most diverse portfolio across product categories showcasing 'Accessible Technology' ranging from SUVs and future ready electric mobility solutions to its commercial vehicle portfolio and exciting new motorcycles from Mahindra Two Wheelers
- Accessible technology showcase will include a cross section of an XUV500 Hybrid with a transparent acrylic body to showcase the Hybrid Technology capability of Mahindra, as well as the all new autoSHIFT transmission in the Quanto
- SsangYong range of vehicles will highlight world class technology through the all new Rodius MPV, LIV-1 Concept and Rexton with the new 2.0-litre e\_XDi engine
- Mahindra Reva will highlight future ready mobility solutions with the next generation electric sports car, fast charging technologies for the e2o and the electric Verito and Maxximo
- On showcase will also be The Mahindra Formula e Car, which will participate in this year's FIA sponsored Formula E Championship
- Mahindra Trucks and Buses to showcase outperformance with a comprehensive range of HCV and LCV products with two new products - TRUXO 37 and TRACO 49 in the HCV Range
- Mahindra Two Wheelers will unveil an exciting new range of motorcycles
- Mahindra Racing - the only Indian team to participate in the FIM MotoGP™ World Motorcycle Racing Championship - is showcasing its winning 2013 MGP30 racer in India for the first time.

**February 5<sup>th</sup>, 2014, Greater Noida:** Mahindra & Mahindra Ltd. (M&M Ltd.), India's leading SUV manufacturer, today unveiled its widest ever and most diverse portfolio of accessible technology solutions at the Delhi Auto Expo 2014. The product pipeline included the range from Mahindra and SsangYong and electric mobility solutions from Mahindra Reva to a diverse range of commercial vehicles and two wheelers.

Taking pride of place at the Mahindra pavilion at the Expo were three world class products, showcased in India for the very first time. These special attractions included Mahindra Reva's next generation 2 door future ready sports car concept, an XUV500 Hybrid with a cut section and transparent acrylic body to showcase the Hybrid Technology capability of the Mahindra Group and the **Mahindra Formula e Car**, which will participate in the FIA sponsored **Formula E Championship** starting in **September 2014**. A prototype racing vehicle, the Mahindra Formula e provides an excellent global showcase for Mahindra's electric vehicle technology. Both the 2 door sports car concept as well as the XUV500 hybrid, are thus, in a way, a manifestation of **Mahindra's vision** of the '**Future of Mobility**', which encompasses the '5Cs' framework of Clean, Convenient, Connected, Clever and Cost Effective vehicle technology.

Speaking at the inauguration of the Mahindra Pavilion at the Auto Expo 2014, **Anand Mahindra, Chairman, Mahindra Group** said, “We are keenly aware of the increasing pressure on urban transport infrastructure and our display at the Auto Expo showcases advanced mobility solutions that have been designed to address these challenges. They also reflect our vision of the Future of Mobility and would contribute to the development of sustainable urban areas in the future.”

Speaking on Mahindra’s display at the Auto Expo, **Dr. Pawan Goenka, Executive Director & President, Automotive & Farm Equipment Sectors, Mahindra & Mahindra Ltd.** said, “The Delhi Auto Expo 2014 is an important platform for the Mahindra Group given that we are displaying our comprehensive range of mobility solutions. Our automotive sector is putting on display a range of products which highlight our offering of ‘**Accessible Technology**’ such as the hybrid XUV500 and the all new autoSHIFT Transmission in the Quanto and the NXG Electric Sports car concept vehicle. Having harnessed distinct synergies with SsangYong, the showcase of the Rodius MPV, the LIV-1 concept as well as the new 2-litre engine in the Rexton bears testimony to the innovative and world class technologies that are now available across our Group. We are committed to a clean and green tomorrow and are working on integrating a comprehensive eco-system of sustainable mobility solutions, encompassing alternative technologies into our research and development and commercialisation plans.”

### **Mahindra’s Accessible Technology Showcase for Automotive Enthusiasts**

Commenting on Mahindra’s accessible technology showcase at the Delhi Auto Expo 2014, **Pravin Shah, Chief Executive, Automotive Sector, Mahindra & Mahindra Ltd.** said, “At Mahindra Automotive we are championing and providing affordable technologies that enhance the quality of life, safety and independence of our customers. These include the unique GPS-based SafeEye technology for our school buses to ensure safe transportation for school kids and the Hybrid technology and Regenerative Braking Systems in the existing as well as newer models and the autoSHIFT Transmission in the Quanto, that enhance energy efficiency.”

### **Hybrid Technology Showcase**

Mahindra has always been at the forefront of sustainability and green technology initiatives. In its sustained efforts to harness the technological advancements and deploy it towards betterment of the overall automotive eco-system, the company has forayed into mass production of the hybrid electric technology on the SUV platforms. The new addition to Mahindra’s portfolio is the XUV500 HYBRID, which ensures a clean transportation option and is designed for urban use. This eco-friendly vehicle boasts of 18% higher fuel efficiency and is the first manual diesel hybrid vehicle in the world.

With a range of integrated electronic and hybrid systems, the XUV500 Hybrid offers peppy drivability, lower emissions, lower fuel consumption and green technology. The XUV500 Hybrid uses various state-of-the-art technologies like Permanent Magnet Synchronous Motor & Lithium Ion battery to supplement fossil fuel energy for vehicle propulsion. The XUV500 Hybrid combines a conventional internal combustion engine propulsion system with an electric motor propulsion system, leading to better fuel economy and performance. The electric motor assists the engine at low engine speeds and while accelerating and it also uses regenerative braking to generate electricity while braking. Mahindra strongly believes in Hybrid technologies and is committed to push the boundaries of green technology to bring accessible yet impactful technologies in vehicles with a light environmental footprint.

## **Mahindra Adventure Zone**

The Mahindra Adventure Zone gave automotive enthusiasts a taste of the inspirational **ASEAN XUV500**, which was a specially prepared rally XUV500 for the grueling ASEAN Rally that traversed over 8,000 kms across 8 nations through punishing terrain. The XUV500, which was conceived and built as a Global SUV, was chosen as the exclusive vehicle partner for the rally and proved its might, having successfully completed the rally across international borders.

The Adventure Zone will also have on display the specially prepped and rally ready **Super XUV500** that has won numerous podium positions in various rallies/raid events across India. The whole car is stripped and welded together for additional strength, an FIA approved roll-cage is fitted for safety and rally seats and rally harnesses have also been added. While the power train is more or less stock, engineers from Mahindra Research Valley and Red Rooster Racing add their magic by playing around with the engine management system to get more power from the engine. The Super XUV 500 develops close to 160 bhp and can do 180 kph plus.

Little wonder then that the Super XUV500 driven by Gaurav Gill (current APRC Champion), Sunny Sidhu and Lohitt Urs have, in fact, dominated the Indian National Rally Championship by being the fastest vehicle in 4 out of 5 INRC (Indian National Rally Championship) rallies. Fans can also catch a glimpse of the one-off **Midnight Edition** of the hugely popular off-roader **Thar** with a Hard Top. Resplendent in an all black colour scheme, the Thar Hard Top will be available through our customization route.

## **Mahindra Live Young Live Free Zone**

Auto enthusiasts visiting the Mahindra Pavilion at the Delhi Auto Expo 2014 will also be privy to an area that will recreate the “Live Young Live Free” concept in look and feel, while showcasing a range of products from the Mahindra personal vehicle portfolio.

The highlight of the Live Young Live Free Zone will be the Quanto with autoSHIFT Transmission and Yoga Seats. The display will also include a Special Edition Scorpio, while the tough and rugged Bolero Stinger has also been specially customized by Mahindra for automotive enthusiasts. Rounding up the display at the Live Young Live Free Zone will be a special matte finish XUV500 and a Xylo H Series.

## **Design Studio**

A special ‘Design Studio’ has also been created at the Mahindra stall to share and provide consumer experience and enhance engagement with the Mahindra Brand and its design thought process for products. At this unique studio, consumers from all age groups can understand, experience and enjoy how vehicles are designed. It is the epitome of the ‘Mahindra RISE’ philosophy as it involves innovative and alternative thinking.

The ‘Design Studio’ will have live sketches by designers, a paint your car kiosk, displays of car designer tools, concept car scale models and a design tour which takes the visitor through the process of designing cars. The studio will also have an interactive section wherein the designers can give tips to students who wish to pursue car design. There will also be a fun station where today’s generation can solve car design puzzles and can design their own car through ‘Digital Configurators’.

## **Accessible Technology Display**

On display is the Quanto with the new and state-of-the-art five-speed autoSHIFT Transmission, a technology that has been deployed for the first time in a compact SUV. The autoSHIFT Transmission is a result of technology and engineering collaboration with Ricardo, a global leader in technology.

The new Mahindra 5-speed autoSHIFT transmission represents a significant step forward in transmission technology within the Indian automotive sector. Designed specifically to improve the driving experience and fuel economy in the urban environment, the unit incorporates the key efficiency advantages of a manual transmission while providing the smooth comfort and convenience of an automatic. Most importantly, the Mahindra autoSHIFT Transmission incorporates some extremely advanced technologies. These include an advanced electronic control and hydraulic actuation system that senses driver demand and initiates gear changes automatically based on a highly optimized shift map that delivers the best possible fuel efficiency.

In our endeavour to provide Accessible Technologies, Mahindra has also developed a “**regenerative braking**” technology in which kinetic energy is recovered through an alternator and stored in the battery which reduces the need of generation during subsequent travel, which in turn leads to reduction in fuel consumption and emission. This technology alone, on an average, is expected to reduce fuel consumption by almost 40 litres per annum and will be soon be introduced in some of our existing and future models.

## **Value Added and Customized Products**

Mahindra also showcased some of its value added products in its commercial vehicles portfolio. The products on display included the Genio Ambulance and the Maxximo Mini Van VX with SafeEye Technology. Keeping in mind a solution for every need of the customer, a wide range of applications with specialized transportation requirements are created on our vehicles.

## **Mahindra SsangYong fully integrated and ready to take on the world**

Two new SsangYong vehicles, namely the Rodius MPV and LIV-1 Concept Vehicle were unveiled by **Dr. Pawan Goenka, Executive Director & President, Automotive and Farm Equipment Sectors, Mahindra & Mahindra Ltd. & Chairman, SsangYong Motor Company** and **Mr. Yoo-II Lee, President, SsangYong Motor Company**.

**Mr. Yoo-II Lee, said,** “Few global car makers can match the 4x4 heritage of SsangYong. Having produced premium, robust and specialty off road models for decades, SsangYong knows what it takes to create global benchmarks. Our partnership with the Mahindra Group has now allowed us to explore joint product and technology development opportunities and synergize global operations and purchase.”

## **The New Rodius MPV**

Embodying SsangYong Motor’s design philosophy of ‘Premium, Robust and Specialty’, the new Rodius evokes the strong and dynamic appearance of an SUV, and with its large exterior volume is ideal for a wide range of roles ranging from transporting large families, leisure pursuits and urban commuting to official and ceremonial duties.

Positioned as a new-generation APV (All Purpose Vehicle), the SsangYong Rodius has the advantage over its competitors through its unique blend of characteristics including space, robust construction and luxury. The Rodius is equipped with SsangYong's own 2.0 litre turbo charged e-XDi200 diesel engine offering a level of performance and NVH that have already been tested, proven and praised in the marketplace. The e-XDi200 engine offers maximum power of 155ps/3400~4000rpm and maximum torque of 360Nm/1,500~2,800rpm, and is designed to provide low end torque, whatever the conditions on or off-road.

This all-purpose car has been developed to provide the flexibility of a recreational vehicle (RV), the styling of a sports utility vehicle (SUV) and the ride comfort and appointments of a luxury saloon. With key features such as its innovative and flexible design layout, luxurious interior and competitive position in the market place, the new Rodius offers a dynamically strong and distinctive look. Blending both strength and fluidity, the front of the car has a robust stance thanks to its hexagonal shaped radiator grille and trapezoidal bumper, while the grille bars and headlamps afford the rising geometric lines reminiscent of bird wings. Unlike other models in this category, the Rodius features hinged car-like doors, affording greater comfort and safety to passengers, while the distinctively shaped D pillar provides additional strength visually.

The Rodius features a comprehensive package of active safety features, including Electronic Stability Program (ESP), Active Roll over Protection (ARP) and Brake Assist System (BAS) to prevent rollover during sudden cornering at higher speeds and to protect those unable to press the brake pedal hard enough by increasing braking capacity on its own. The car's passive safety is further increased thanks to two high strength sub-frames fitted to the front and rear of the car. These help to disperse any impact shocks from a frontal or off set collision and protect passengers by minimising cabin distortion. A four channel amp-equipped built-in audio and sound system supports the Bluetooth hands-free function, audio streaming and USB/AUX. 2DIN MP3 CDP is available so passengers can select their favourite music type - jazz, pop, classical etc. - via the equalizer.

### **The Limitless Interface Vehicle Concept (LIV-1)**

In addition to the Rodius, SsangYong also showcased its future strategic concept, the LIV-1 (Limitless Interface Vehicle). The vehicle demonstrates SsangYong's innovative product development by adopting the 3S-Cube philosophy, consisting of three features, '**Smart Link, Safe Way and Special Sense**'. Housed in a sturdy body frame, this new prototype features SsangYong's unique four-wheel drive system and an interface that enables those inside the vehicle to more easily use the system. The design aesthetics of the exterior can be described as masculine and robust.

The LIV-1 is very much a car of the future designed for driving safety and pleasure. Along with the XIV (eXciting User-Interface Vehicle) series and the SIV-1 (Smart Interface Vehicle), the LIV-1 shows what the market can expect from SsangYong's SUV line-up in the future.

The LIV-1's masculine and sizeable body features a unique frontal design achieved by the combination of intake holes, a grille and headlamps at experimental ratios. The sporty look of the LIV-1 is emphasized by its wide C-filler and greenhouse silhouette. The oversized fenders give this new SUV an unmistakably masculine image just as SsangYong intended, and enthusiasts would be delighted to discover the automated sidestep, designed for their safety and convenience.

The LIV-1's driver-vehicle communication interface is based on the 3S-Cube, the core of SsangYong's future technology. The 3S-Cube combines the elements of Smart Link, Safe Way and Special Sense to allow the vehicle to be remote-controlled using a smart device and to provide entertainment both inside and outside the vehicle. **Smart Link** refers to a roof-and-glass system created from a nano tube technology that removes frost

quickly through remote control for safe wintertime driving. The **Safe Way** technology ensures safe driving through the TSA, which actively prevents collisions in blind spots and at intersections. User-vehicle interaction takes place through the five displays, including the 10-inch monitor in the center fascia and the 7-inch monitor in the headrest. The touch-panel displays featured in the LIV-1 provide you with clear information while creating a futuristic atmosphere.

## **Mahindra Reva: Shaping the FUTURE of Mobility**

Commenting on the Mahindra Group's focus to shape the future of mobility, **Mr. Chetan Maini, Chief Executive Officer, Mahindra Reva Electric Vehicles Pvt. Ltd.** said, "I firmly believe that Mahindra is on the cusp of a huge breakthrough in shaping the way we will commute in the 21st century. Electric is undoubtedly the paradigm of the future and Mahindra Reva stands committed to a cleaner environment for the future generations."

To highlight its accessible technology, the Mahindra Group also unveiled at the Delhi Auto Expo 2014, a comprehensive portfolio of future ready sustainable mobility solutions, that are powered by Reva in an effort to place "choice" firmly in the hands of its customers.

Emphasizing the huge strides made by the Mahindra Group in that direction, is a special fleet of electric vehicles powered by Reva, including a next generation electric sports car, the electric **Maxximo** and **Verito**.

Also being showcased together are the next generation fast charging technologies like '**Quick2Charge**' through which the e2o can be charged completely in 60 minutes.

## **Mahindra Formula-E Car**

Also holding pride of place within the Mahindra Pavilion at the Delhi Auto Expo 2014 is the **Mahindra Formula-E Car**, which will participate in the FIA sponsored **Formula-E Championship** starting in **September 2014**. The Mahindra Group, besides being the only Indian team to participate in the **Formula-E**, hopes to integrate its advanced operations and expertise in electronics, IT, automotive technologies and manufacturing into the global electric vehicle growth story.

The **Formula-E** is a new FIA Championship featuring Formula Cars powered solely by electricity. It is expected to serve as a critical platform for research and development into future sustainable electric vehicles.

## **Mahindra Trucks and Buses Ltd - Emphasis on superior technology and integrated trucking solutions**

**Mahindra Trucks and Buses Limited (MTBL)**, is showcasing two new products, **TRACO 49** and **TRUXO 37** at the Auto Expo 2014. These two additions from the MTBL stable will further strengthen the company's portfolio to become a complete HCV player.

The TRACO 49 tractor trailer will be available with 210 and 260 HP powerful MPOWER engines and would also feature a best-in-class cabin especially designed for longer hauls. It is specially crafted for load applications like containerized heavy duty loads, cement, steel, over-dimensional cargo and heavy machinery, amongst others. The product has been designed to deliver superior fuel efficiency without compromising on power and ruggedness. TRUXO 37, the new rigid multi-axle truck that MTBL proposes to launch in due course, will also provide great value and better earnings to its customers through superior fuel economy and optimal power for a range of load applications.

Speaking on MTBL's showcase at Auto Expo 2014, **Rajan Wadhera, Chief Executive - Technology, Product Development & Sourcing & Director and Head - Mahindra Trucks and Buses Limited**, said, "We are fully committed to making substantial investments in new products and upgrading our existing products in order to enhance our presence as a formidable player in the Indian Commercial Vehicle space. The Auto Expo will provide us with the opportunity to showcase some of these new products. In addition, our plans to enter new segments like ICV and MCV besides completing and upgrading our existing range are also on a firm footing".

In addition to these two highlights, the **TORRO 25 Tipper** with 9-speed transmission and bogie suspension, which recently won the prestigious **HCV Cargo Carrier of the Year at the Apollo CV Awards 2014** will be displayed. LCV load products like **Loading ZOOM Container Truck and Tipper** and the **Tourister COSMO Bus** will also be on display at the Auto Expo. Further, there will be an array of aggregates, cabin and drive line to showcase the superior technology behind the products of MTBL.

Despite an industry downturn, MTBL has reaffirmed its intent on investing **Rs. 300 crore** to explore new product lines in the LCV, ICV and MCV segments besides another investment of **Rs. 200 crore** to strengthen the current product line-up of trucks and buses including the refurbishing of existing LCVs. This reaffirms the company's commitment towards delivering best-in-class products, year on year, to cater to various customer segments.

**Nalin Mehta, Managing Director & CEO, Mahindra Trucks and Buses Limited** mentioned, "Despite severe recessionary market conditions, MTBL is endearing itself to a large section of buyers which includes top fleet owners pan India across segments and load applications. This is a tribute to cutting edge technology with which our products are built and the ever growing service and spares network which ensures higher uptime and better earnings for our customers. Our exhibits at the Auto Expo will further reinforce our customer centricity in the form of new products and offerings".

With over 1 lakh LCV trucks and buses and more than **9,000** HCV trucks on Indian roads, the company services them with a **24x7 service network** of more than **1856** touch points that includes **59** 3S CV dealerships, **334** authorized service points drawn from other dealers within Mahindra's Automotive and Farm Equipment Sector's network and nearly **1,463** roadside assistance points strategically located on important trucking routes. In addition to the above, MTBL has a spares retail network of **575** outlets.

### **Mahindra Two Wheelers to unveil an exciting new range of motorcycles that showcases strong technological capability & innovation**

The Mahindra Two Wheeler (MTWL) showcase at the Delhi Auto Expo 2014 is all about using customer inspired technologies to deliver differentiated products that appeal to distinct segments. The company will showcase a range of exciting new motorcycles and an interactive digital zone where visitors can try their hand at racing a Mahindra Motorcycle.

The Mahindra Centuro has been one of the most successful bikes in its segment and has won several accolades including “Bike of the Year” by Bike India, “Viewers Choice of the Year” by Autocar India, People’s Choice Bike of the Year by Vicky.in and the coveted Bike Maker of the Year 2013 award from DNA.

The Centuro has received four international patents for its indigenously developed customer inspired technologies, showcasing the company’s ability to innovate and develop unique features that meet the evolving needs of global two wheeler users. The four innovations for which patents were received included the fuel gauge system, the automatic ignition cut-off, the distance to empty fuel system, and the engine immobilizer system.

**Anoop Mathur, President – Two Wheeler Sector & Member of the Group Executive Board, Mahindra & Mahindra Ltd.** said “We are heartened by the huge success of the Centuro motorcycle and are showcasing an exciting new range of advanced motorcycles at the Auto Expo. These will demonstrate our significant technological capability at our state-of-the-art R&D centre and the close connect to our successful Mahindra Racing team. We are also exploring the exciting space of custom motorcycles.”

At the other end of the technology spectrum is Mahindra Racing, which is the only Indian team to participate in the FIM MotoGP™ World Motorcycle Racing Championship, which is showcasing its winning 2013 MGP30 racer in India at the Auto Expo for the first time.

This precision engineered high performance motorcycle has performed brilliantly during the 2013 season, the highlight for which was **podium finish** for the **first time** at the **Malaysian Grand Prix** last year.

In a historic and landmark moment for Indian motorsports, Mahindra Racing has also become a constructor of racing bikes and will supply the MGP30 to three other teams during the 2014 season.

Commenting on the unveil of the all new Mahindra MGP30, **Mr. Shri Prakash Shukla - President Group Strategy & Chief Brand Officer, Mahindra and Mahindra Ltd.** said, “After a very successful 2013 season in MotoGP we eagerly await the debut of the new MGP30 racer in March this year at Qatar. This motorcycle which will also be raced by three other teams and our participation at the highest level of motorcycle racing has given us a great platform to showcase the Mahindra brand globally.”

## About Mahindra

The Mahindra Group focuses on enabling people to rise through solutions that power mobility, drive rural prosperity, enhance urban lifestyles and increase business efficiency.

A USD 16.7 billion multinational group based in Mumbai, India, Mahindra employs more than 180,000 people in over 100 countries. Mahindra operates in the key industries that drive economic growth, enjoying a leadership position in tractors, utility vehicles, information technology and vacation ownership. In addition, Mahindra enjoys a strong presence in the agribusiness, aerospace, components, consulting services, defence, energy, financial services, industrial equipment, logistics, real estate, retail, steel, commercial vehicles and two wheeler industries.

In 2012, Mahindra featured on the Forbes Global 2000 list, a listing of the biggest and most powerful listed companies in the world. In 2013, the Mahindra Group received the Financial Times ‘Boldness in Business’ Award in the ‘Emerging Markets’ category.



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**For further enquiries, please contact:**

Ms. Roma Balwani

Chief Group Communications Officer

Mahindra & Mahindra Ltd.

Phone: +91 22 2490 1441

Email: [balwani.roma@mahindra.com](mailto:balwani.roma@mahindra.com)