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With increasing focus on automation and data exchange, Industry 4.0 (I4.0) is all set to transform the manufacturing environment and nowhere is this more apparent than at Mahindra.

34 **RISE FOR GOOD**

A combination of courage, determination and self-confidence propels Gangamma closer to achieving her dreams. And Nanhi Kali is the wind beneath her wings.

ME

ISSUE 3 • 2017

CREATING WEALTH THROUGH TRUST

"The mighty banyan tree which grows both horizontally and vertically, where all the trunks have a symbiotic relationship and are also connected by common branches is symbolic of the Mahindra federation and its approach to wealth creation."

Anand Mahindra

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EDITORIAL



ZARINA HODIWALLA
EDITOR

Dear Readers,

In his book *Capitalism and Freedom*, the Nobel Prize winning economist, Milton Friedman declared that “there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits.” In simple terms, the business of business is business, to make money and create profits for shareholders. And nowhere does this ring truer than at Mahindra. For this issue’s cover story, ME spoke with listed companies across the Group about their growth trajectory and milestones through the years which have led to substantial shareholder wealth.

As the world gets increasingly digital, the manufacturing process is slowly undergoing a paradigm shift with the advent of next gen technologies and the Industry 4.0 framework. In *Trendwatch*, Rahul Shandilya, CIO, Customer Experience & Product Development, Mahindra & Mahindra Ltd., holds forth on the current trend of automation and data exchange in the manufacturing environment and its impact at Mahindra.

What’s it like to work in one of the world’s largest economies? How does one negotiate the intricacies of business and culture while adapting to a new environment? Sachin Arolkar, currently part of the Mahindra – Ford alliance team, writes about his stint at our erstwhile tractor JV in China in *Foreign Despatch*, an experience he found immensely enriching.

Speaking of fulfilling experiences, Romesh Kaul, CEO of the Forgings, Stampings and Composites division at Mahindra

CIE, regaled us with tales of a youth spent on the stage with stalwarts like Habib Tanvir and Safdar Hashmi. You can read about his love for theatre and stagecraft in *After Hours*.

Have you ever wondered what happens to a car once it’s sent to the scrap heap? More often than not it goes through a complex recycling process, resulting in generation of steel scrap. Efficient recycling not only saves energy and reduces emissions but it also conserves resources, preserves foreign exchange and creates employment. It’s no wonder then that the auto recycling industry is expected to reach INR 10,000 crore by 2025. *Industry Spotlight* casts a light on this sunrise industry and Mahindra Accelo’s efforts in this area.

We round off this issue with the inspiring story of Gangamma, a determined young woman who has set out to fulfill her dreams with a little help from Nanhi Kali and a *Special Feature* on Mahindra Racing and its phenomenal success last season. With ten podiums, three pole positions and two fastest lap awards, there’s much to celebrate! Season 4, here we come!

As you go through this issue, you will also notice a few changes in terms of design and layout. This is part of our endeavour to deliver a sleeker, more visual issue to you, our readers. We think it’s a great way to begin 2018 but do let us know your thoughts as well!

Happy reading!

Zarina Hodiwalla



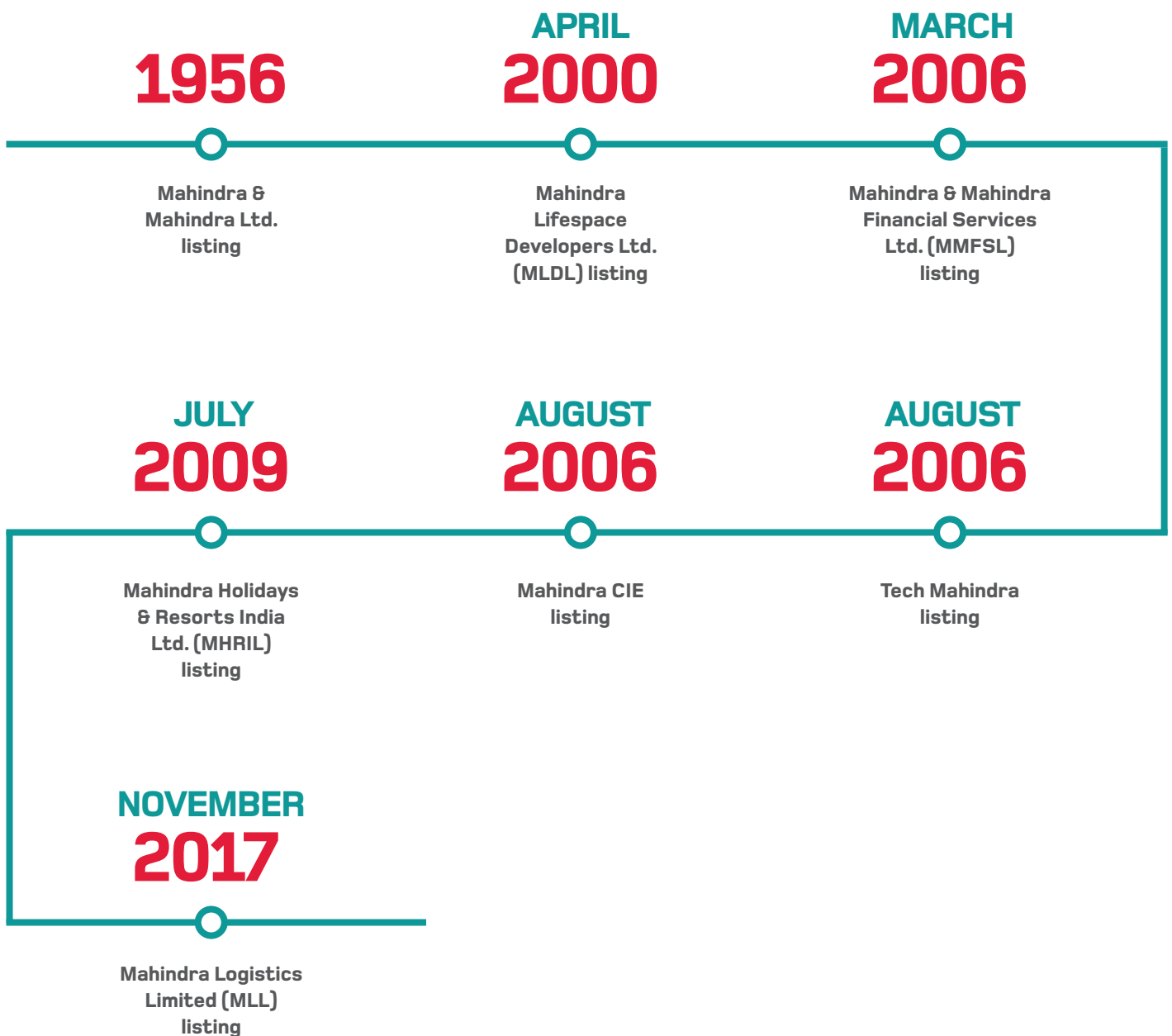
CREATING WEALTH THROUGH TRUST

With Mahindra Logistics Limited (MLL) launching its IPO, the journey of rapid growth continues within the Group. In the last 40 years, the share price of the Group has gone up by 3,400 times.

Jack Welch once famously declared that shareholder value is the 'dumbest idea in the world'. He defended this somewhat provocative statement by arguing that value creation is a result and not a strategy, and that short-term profits should be allied to an increase in the long-term value of a company. While the financial mavens at Mahindra might not necessarily agree with Welch's description of shareholder value, they will certainly concur with his argument in support of it.

Over the past six decades, the Group has created substantial value for shareholders through a judicious combination of expansion, productivity improvement and strategic partnerships, resulting in considerable growth. In fact, if one were to trace the arc of wealth creation at Mahindra, one would see that the Group's market capitalisation has increased 115 times over the past two decades, a clear validation of the fact that we mean business.

THE MAHINDRA GROUP'S JOURNEY OF WEALTH CREATION





INR 3,085 Cr

**MLL's market
capitalisation as on
December 31, 2017**

From left to Right: Dharmesh Mehta – MD & CEO, Axis Capital; Nehal Vora – Chief Regulatory Officer, BSE; Parag Shah, EVP & Managing Partner – Partners Division; Chirag Negandhi – MD Investment Banking, Axis Capital; Dr. Pawan Goenka & Phil Sarkari, CEO, Mahindra Logistics; Zoooben Bhiwandiwalla, President- Mahindra Partners And Group Legal; V. Jayasankar – Kotak Mahindra Capital Company Limited at the Mahindra Logistics Limited listing ceremony

The ringing of the bell at the Bombay Stock Exchange is a time honoured tradition that not only signals the debut of a company on the bourse but is also a rite of passage for the business in question. It heralds the start of a new and hopefully, profitable innings.

On November 10, 2017, after a gap of nine years, a Mahindra company, Mahindra Logistics Limited (MLL), became a part of this heritage when CEO Phil Sarkari rang the ceremonial bell to signal the Company's listing on the exchange. It was a moment of great pride for MLL, which is one of India's leading third-party logistics (3PL) service providers. Its IPO, which opened on October 31, was oversubscribed 7.9 times, resulting in significant value creation for shareholders, Mahindra & Mahindra Ltd. (M&M), and the private equity firm Kedaara Capital.

"Our IPO was the largest in the logistics industry. The success of the MLL IPO was very gratifying for us, especially if you consider that our initial cash investment in the Company was INR 51.5 crore, and after listing, as on December 31, 2017, the Company's market capitalisation is INR 3,085 crore and the value of M&M's current shareholding is now close to INR

1,800 crore (in addition to the INR 490.53 crore already realised through the sale of shares). This is huge value creation for shareholders and is aligned with the strong tradition of testing ourselves for value creation through a listing. MLL became the seventh Company to be listed by Mahindra and joined the league of 10 listed companies within the Group," says a visibly proud V.S. Parthasarathy, Group CFO & Group CIO, Mahindra & Mahindra Ltd.

**MLL became the seventh Company to
be listed by Mahindra and joined the
league of 10 listed companies within
the Group**

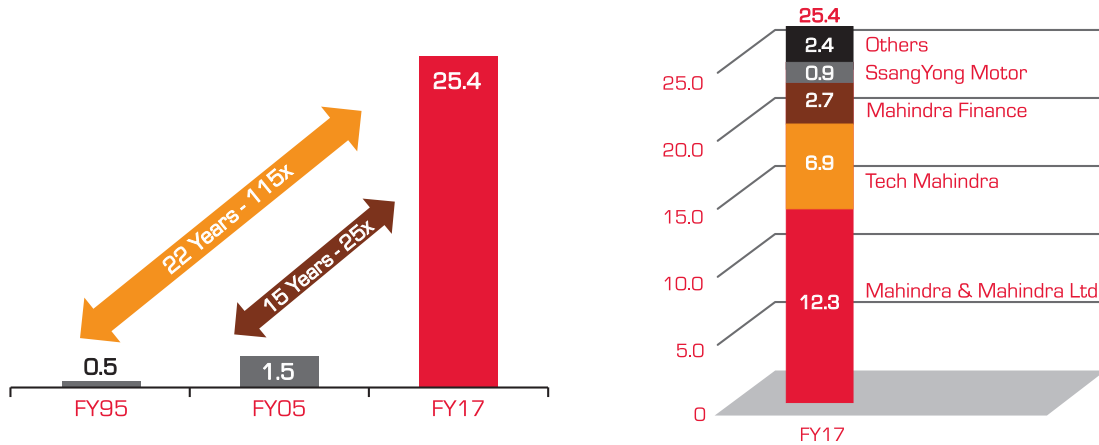
It is not just M&M that has reaped the benefits of MLL's success. Kedaara Capital, a private equity firm which had invested in MLL a few years back has seen its investment grow multifold in this period.

"MLL was listed at INR 432 per share and the highest price achieved since has been INR 500 per share. It is also noteworthy that since we got listed, we have consistently traded more than the listing price. Moreover, the fact that the issue attracted marquee investors at the higher price bracket, including Stewart, Goldman Sachs, Amundi and Wellington from overseas, as well as HDFC Mutual, Reliance Mutual, UTI Mutual, Sundaram and Premji Invest in India, is testimony to our strong growth prospects," says Sarkari.



Group Market Capitalisation

(in US\$ Bn)



Revenue and market capitalisation values are calculated as per US\$ exchange rates of the last day of every financial year.

CONSISTENT VALUE CREATION

Mahindra Logistics is, in fact, just one in a long line of companies within the Group that have created considerable shareholder value over the years – a line that can be traced as far back as 1956 to the very first listing of Mahindra & Mahindra Ltd. It was a time of great change in an India that had just broken free from the shackles of colonial rule. Development was the need of the hour and Mahindra played its part in contributing to nation building. From modest beginnings in Jeep assembly and steel trading, the Company soon spread its wings to diversify operations. Its foray into tractor manufacture coincided with the onset of the Green Revolution which focused on improving agricultural productivity in the country.

The Licence Raj, or Permit Raj, was an elaborate system of licences and regulations that were required to set up and run businesses in the country. This was aligned with the Government's vision of establishing a society based on socialism but it also constrained economic growth. Consequently, there was a lull in business and it would be a few decades before the next Company within the Group was listed.

Mahindra Logistics is, in fact, just one in a long line of companies within the Group that have created considerable shareholder value over the years – a line that can be traced as far back as 1956 to the very first listing of Mahindra & Mahindra Ltd.

The 1990s saw the dawn of a new era in India with the onset of liberalisation which aimed to expand the role of private and foreign investment, and make the economy more market oriented. It was also a time when the Mahindra Group experienced rapid growth as it forayed into new areas such as IT, financial services, hospitality and real estate.

However, the onset of the 21st century saw Mahindra face a severe crisis as its share price fell drastically. From a high of INR 676 in the year 2000, the stock price fell to INR 51 in 2001, excluding the Company from the list of bellwether stocks. Both the auto and tractor businesses were on a downturn and

this situation proved to be the impetus for the Group's very first Blue Chip Conference which saw its senior managers come together to brainstorm a solution. Financial focus was the clarion call. In 2005, businesses were given the '3-2-3' mandate which meant they had to double the revenue and triple profits in three years. However, this goal was surpassed in two years.



SPEEDY RECOVERY

The launch of the Scorpio in 2002 proved to be the turning point as far as the Group's fortunes were concerned. The Company essentially had two options to choose from. It could either tweak an existing product or create an entirely new one. Mahindra decided to take the second route and bet everything on the Scorpio. This bold decision paid off as its unique design and strong

value proposition proved to be a runaway hit.

The journey of rapid growth continues within the Group and it is no wonder that our share price has gone up by 3,400 times in the last 40 years.

The Scorpio's unique design and strong value proposition made it a runaway hit.



KEEPING UP WITH THE MOMENTUM

In April 2017, we completed a Rights Issue of over 10.2 million equity shares in the ratio of 1:4, or one new share for every four equity shares held.



Meanwhile, the listing juggernaut continued within the Group. Set up in 1994 as the Group's real estate and infrastructure development business, Mahindra Lifespace Developers Ltd. (MLDL) is at the forefront of creating green residential spaces and world-class urban infrastructure. The Company publicly listed at the cusp of the new millennium, on April 12, 2000, at INR 17.2 per share. Its stock price has grown exponentially over the years, providing shareholders with considerable returns. From

INR 16-17 per share in 2002, it ranged between INR 450-500 per share in 2017.

"In April 2017, we completed a Rights Issue of over 10.2 million equity shares in the ratio of 1:4, or one new share for every four equity shares held. The Issue was oversubscribed 1.38 times with strong commitment from both domestic and foreign institutional investors, and the share price also moved up, a positive vote of confidence in our outlook and prospects. In terms of the sheer balance

OUR CHAIRMAN EMERITUS, KESHUB MAHINDRA, REMINISCES ABOUT THE VERY

"M&M's decision to go public in the 1950s was prompted by the need to raise funds for future growth of the Company. The Group was still in the early stages of its existence and we required capital for expansion and trading activities. There were two main routes through which Mahindra developed. The first involved organic growth and development within the Company itself, along with the creation of joint venture companies that brought us both capital and technology. The second was nurturing companies within the Group and adding further value to them through a public listing. This philosophy has continued till the present day with the Mahindra Logistics listing being the most recent example of wealth creation.

I am proud to say that the M&M Ltd. issue was oversubscribed within 90 minutes. In those days, all

good issues were oversubscribed and this was a clear validation of the trust vested in us by shareholders. There are several important issues that emerge when you become a trustee of public funds. The entire culture and attitude of the Company changes when you gain new shareholders, as you have an obligation and responsibility towards them for the amount they have invested in the Company.

I am often asked how companies can create value for shareholders and society at large. While manufacturing goods and services and creating employment and profits are important aspects of growth, they are not the only objectives. Companies also need to meet social obligations and ensure business is run in an ethical manner in the interest of all stakeholders. This is perhaps the best way in which they can create value.

sheet size, we have grown from INR 200-300 crore to about INR 3,000 crore. Our capital-light approach to future growth also enhances shareholder returns and enables faster growth with limited capital. This involves strategic partnerships and launching large residential projects as joint developments. "Moreover, the awards we have won for governance and investor relations, including the Porter Prize for Excellence in Governance and the Investor Relations Society Award for Best Environment, Social & Governance (ESG) Disclosures in the Small Cap category, are further testimony to our success," says Jayant Manmadkar, CFO, Mahindra Lifespaces.

Established in 1991 as a captive finance Company for Mahindra's automotive business, Mahindra & Mahindra Financial Services Ltd. (MMFSL) is now India's largest rural non-banking financial Company and has impacted the lives of over 5 million customers. The Company publicly listed in March 2006 and its price per share has increased by over 10 times since, a CAGR of 23%. MMFSL has a continuous, unbroken record of paying dividends to shareholders, which has added to their returns over and above the increase in share price.

The Company has achieved substantial growth over the past two decades. "We entered the insurance broking business in 2004 to service the insurance needs of our customers, and the rural housing finance business in 2008 to address the unmet housing finance need in rural and semi-urban India. In 2011, we accessed the global markets through a joint venture with Rabo Bank, USA, for tractor financing which now has an asset book size of USD 1 billion and in 2016, we received registration from SEBI to enter the mutual fund business. In 2011, 2013 and most recently in December 2017, we accessed the capital markets through a Qualified Institutional Placement (QIP). We

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also became the first issuers of public subordinate debt in the industry in 2017," says Ramesh Iyer, Vice-Chairman and Managing Director, Mahindra & Mahindra Financial Services Ltd.

Tech Mahindra, the erstwhile Mahindra British Telecom and one of the IT industry's trailblazers, listed on August 28, 2006, at a time when India's IT revolution was steadily gaining momentum both within the country and overseas. The Company has since been able to deliver a return of ~17% CAGR to shareholders. "We have a good track record when it comes to dividends. Our dividend payout ratio (including dividend tax) stands at ~37% in FY2016-17. In FY2014-15, we announced a bonus share ratio of 1:1 and simultaneously engineered a stock split in the ratio of 2:1," says Milind Kulkarni, CFO, Tech Mahindra.

FIRST LISTING WITHIN THE GROUP

I am very proud of the fact that we have created a unique culture of empowerment at Mahindra where employees are concerned and we must continue to build on these strengths. We must also support and encourage complete transparency in business.

Over the years, we have been consistent in our endeavour to conduct business in the most ethical manner with the philosophy that man's dignity is paramount and that the scope of human endeavour is limitless. I would, therefore, like to conclude by urging everyone to dream the impossible dream, for impossible things do happen in life!"



The creation of a strong partner ecosystem with companies like IBM, CISCO and Microsoft, along with strategic acquisitions like Satyam, Pininfarina and BIO Agency have further propelled growth for the Company. "We are currently at an inflection point, moving from linear to non-linear in areas which are deep technology domains and are guided by the DAVID (Digitalisation. Automation. Verticalisation. Innovation. Disruption) strategy which will accrue further value for the Company as we move into the future," concludes Kulkarni.

From IT to hot metal, the next Company to join the ranks of listed entities was Mahindra CIE (formerly Mahindra Forgings) which listed on August 29, 2006, just a day after Tech Mahindra. The roots of Mahindra CIE lie in a start-up, fuelled by a strong entrepreneurial spirit and driven by an audacious self-imposed goal – to hit USD 1 billion each in sales and market capitalisation within 10 years.

As a late entrant in the Auto Component space and driven by the desire to establish itself as a global auto component leader by leveraging its LCC roots, Mahindra Systech had no option but to opt for inorganic growth. It effectively executed this strategy with support from Mahindra's Corporate M&A team while following the discipline of finding likeminded partners and eschewing auctions. This combination, coupled with productivity improvement and cost control, resulted in a successful listing.

The partnership route to M&A and the focus on 'pre-merger integration' has helped a team fired by its ability to attract partners with the same DNA build what is today perhaps the most international of businesses within the Mahindra Group, with over 60% of revenues from its 17 plants overseas. The strong sense of ownership of the Mahindra Systech team and its partners not only helped the team weather the global financial crisis of 2008, but also saw it emerge stronger and more resilient when it partnered with CIE of Spain which had a complimentary set of product mix, geographies and products.

"To begin with, we combined all our entities and those of CIE, including Mahindra Hinoday, MUSCO Stampings, Mahindra Composites, CIE Spain, CIE Lithuania, etc., under the Mahindra CIE umbrella. We have maintained a strong focus on productivity improvement and have implemented stringent cost controls, which has resulted in vast enhancement in operational performance of all the businesses.

The extent of synergy persuaded M&M to cede a majority stake and CIE reciprocated by allowing M&M to assume an ownership larger than that of its promoters. Subsequent events testify to the wisdom and foresight of both partners as our stock price moved up exponentially from INR 43 in May 2013, just before the alliance with CIE was announced, to INR 260 at the time of going to press," says a visibly proud Hemant Luthra, Chairman, Mahindra CIE.

This has led to the Company being recognised as a top value creator by both Fortune India and Forbes India, and in March 2016, the Mahindra CIE stock was included in FTSE's Asian Equity Small Cap Index.

It would be another three years before the next Mahindra company made its debut on the bourse. This one conjures visions of sunny skies, pristine beaches and misty mountains. Mahindra Holidays & Resorts India Ltd. (MHRIL) was established in 1996 with a vision to create quality family holidays through vacation

ownership. Today, the Company has a customer base of over 2,25,000 members and a bouquet of over 50 resorts in India and overseas.

The Company listed in July 2009 at INR 20 per share and is now trading at around INR 350 per share after a 1:2 bonus. With focused expansion and newer product offerings, MHRIL is on the path to rapid growth as

it increases its member base and resort portfolio. "Today, we have a rapidly growing international footprint in both Asia and Europe. Our recent acquisition of Holiday Club Oy which has resorts in Finland, Sweden and Spain has expanded the breadth of our business and has made us the largest vacation ownership company outside the USA. We have also doubled our room inventory since listing, and now have the highest leisure room inventory in the country," says Kavinder Singh, Managing Director & CEO, Mahindra Holidays & Resorts India Ltd.

So, what next in the Mahindra Group's growth story? "The Group was on a golden run till 2012 but growth has been affected over the last few years. A combination of various factors, both internal and external, including global crises, a bad monsoon and slow industrial growth have contributed to this scenario. However, we are optimistic about the next phase of growth and there are a lot of our businesses which have the potential of listing. I have a vision of one listing per year which will keep the value creation journey alive and take our Group to the next orbit," muses Parthasarathy, while outlining the future trajectory of wealth creation for the Group.



NEWS

AUTOMOTIVE AND FARM SECTORS

Tivoli Armour Launched

SsangYong Motor launched the Tivoli Armour in July, an upgraded version of current Tivoli which has spotted No. 1 in the compact SUV segment since its launch in 2015. The brand-new Tivoli Armour has been upgraded in the design and marketability highlighting strong front face inspired by the protection gear worn by football players and mechanics. SsangYong also introduced a special customised edition, Tivoli Armour Gear Edition wherein consumers can customise various features of the car such as wheels, colors, and lamps for the first time in the Korean industry.



SsangYong Motor launched the Tivoli Armour in July

2017 SsangYong Global Distributor Conference



G4 Rexton Trans-Eurasia Trail

SsangYong successfully completed the grand finale of the G4 Rexton Trans-Eurasia Trail which took over 50 days from July to September. The Rexton Trans-Eurasia Trail Team kicked off in China on August 11, 2017 and has driven a total of six courses 13,000km by arriving in Wiesbaden, Germany on September 11, 2017. The team, consisting of 30 automobile journalists and dealers from various countries, passed through 23 cities in 10 countries including China, Kazakhstan, Russia, Lithuania, Poland, Germany, East Asia and Western Europe.

Johng-sik Choi, CEO of SsangYong Motor drove the G4 Rexton at the ceremony to celebrate the successful completion of G4 Rexton Trans-Eurasia Trail in Wiesbaden, Germany.

Redefining Last Mile Transportation

Mahindra & Mahindra Ltd. launched the Jeeto Minivan, a stylish and comfortable passenger carrier developed on the successful Jeeto platform. The Jeeto Minivan is best suited for urban and semi urban modes of transportation and will cater to last mile connectivity, contract and stage carriage use for tour/ travel purposes and intra-city people movement.



M&M launched the Jeeto Minivan

2017 SsangYong Global Distributor Conference

SsangYong recently held its 2017 Global Distributor Conference in Frankfurt, Germany in September in-line with the 2017 Frankfurt Motor Show (IAA). It aimed at strengthening co-operation with its global sales network ahead of the G4 Rexton's launch in the European market through the motor show and regional launch events.

Mahindra and Ford to Explore Strategic Cooperation

In September, 2017, the Mahindra Group and Ford Motor Company agreed to explore a strategic alliance, designed to leverage the benefits of Ford's global reach and expertise and Mahindra's scale in India and successful operating model. The agreement between the two companies will allow each to leverage their mutual strengths during a period of unprecedented transformation in the global automotive industry.

TRRINGO Witnesses 60% Increase in Farmer Flow

TRRINGO, India's foremost organised rental services for tractors and agricultural equipment and part of the \$19 billion Mahindra Group, has announced a 60% increase in farmer flow in the first quarter of FY2018 over FY2017. As its next milestone, TRRINGO aims to add value to 1 million farmers in the next one year.

First-Ever Driverless Tractor in India

Developed at Mahindra Research Valley in Chennai, the Driverless Tractor technology is set to take farm mechanisation to new heights. With this launch, Mahindra becomes the pioneer in the Indian tractor industry with the unique proposition of a driverless tractor. This innovation will change the future of farming by increasing productivity, leading to increased food production to feed the growing needs of the world.

Mahindra RoadMaster-G75 Wins Accolades

Construction Equipment has won the Construction Times Award for the Mahindra RoadMaster-G75. This was under the Innovative Construction Equipment Product of the year Category and was received by Maruti Mathur, Senior GM, Channel and Institutional Business along with Rahul Khedekar, Rahul Joshi and Nandkumar Walve.



Mahindra Launches e-Alfa Mini Electric Rickshaw

A complete three-wheeler, specifically designed for pollution free last mile connectivity has been launched and it boasts of the tough and rugged Mahindra DNA. The e-Alfa Mini, with a 4+1 seating capacity is a comprehensive mode of transportation designed specifically for Indian conditions. It will further drive Mahindra's vision of the Future of Mobility.

Dr. Pawan Goenka,
Managing Director,
Mahindra & Mahindra
Ltd. at the launch of
the e-Alfa Mini

M&M Strengthens its Position in Turkey

Mahindra & Mahindra Ltd. has announced its second foray into Turkey through the acquisition of Erkunt Traktor Sanayii A.S. (Erkunt), the 4th largest tractor brand in Turkey. This transaction is expected to close by the last quarter of calendar year 2017. This association with Erkunt, on the back of the Hisarlar acquisition earlier in the year, will help in growing Mahindra's farm equipment business in the strategic market of Turkey.

Mahindra to Launch Third Tractor Brand

In August, Mahindra and Mahindra Ltd. announced a new strategic direction for its subsidiary, Mahindra Gujarat Tractors Limited (MGTL), now renamed as Gromax Agri Equipment Limited. As part of the renewed strategy Gromax announced the launch of its all new tractor brand, Trakstar. This brand will focus on value seeking farmers and enable them to enhance their prosperity.



NEWS AFTER - MARKET

The 4th Autoremarketing Forum



Mahindra First Choice Wheels Limited (MFCWL) hosted the 4th Autoremarketing Forum on September 12, 2017 at the ITC Grand Maratha Hotel in Mumbai. The event is a platform to showcase the pace at which the used car industry is growing. It saw a footfall of about 300 people which included people from across industries like new car manufacturers, banks, NBFCs, insurance companies, dealers and analysts.



MFCWL's Hybrid Marketplace Concept

Mahindra First Choice Wheels Ltd.'s division eDiig Auctions initiated in-lane auctions (a first of its kind in India) on August 17, 2017. The platform saw multi seller SIMULCAST (live streaming) auction enabling both open and online participation of the buyers, resulting in better price realisation for vehicles.

MFCS Mega Summit 2017

MFCS Mega Summit 2017 was organised from September 4-6, 2017, which saw employees come together to Regroup, Review, Reward & Recharge. A new organisation structure for MFCS was launched during the event. This was followed by a Town Hall with the Leadership Team to address employee queries. Functional Orientation for employees was also conducted to align them with new roles and responsibilities.



Participants at the MFCS Mega Summit 2017

NEWS

INFRASTRUCTURE & REALTY



MWC Jaipur Hosts Korean Delegation

In September, MWC Jaipur hosted a Korean delegation led by H.E. Hai Kwang Lee, Charge d' affaires of the Republic of Korea, who was accompanied by members of the Korea Trade-Investment Promotion Agency (KOTRA), and representatives of multiple Korean companies. The delegation visited MWC Jaipur as part of a 'Caravan' in Rajasthan, an annual series of business meets and cultural evenings being organised by South Korea.

MWC Jaipur & FICCI Collaboration

Mahindra World City (MWC) Jaipur was a participant in the second FICCI Digital conclave, held in Jaipur in August 2017 with an aim to accelerate digital transition in Rajasthan. Sanjay Srivastava, Business Head, MWC Jaipur, addressed audiences at the session of the conclave. Other important speakers included Rajpal Singh Shekhawat - Minister for Industries, Government of Rajasthan; Mugdha Sinha - MD, RIICO, Government of Rajasthan; Randhir Vikram Singh - Co-Chairman, FICCI; Milan Narendra - Partner, Ernst & Young and Dr. Omkar Rai - Director General, STPI.



Second FICCI Digital Conclave in progress

MWC Jaipur's Business Zone Grows

a) Appirio Cloud Solutions, an IT company which provides social, mobile, cloud and crowd sourcing services, has taken up an additional built-up space of ~20,000 sq. ft. at the IT/ITeS SEZ in MWC Jaipur.

b) MWC Jaipur has signed on SmartStream Technologies for a 10,000-sq. ft. built-up space at Evolve, the IT Park located in the IT/ITeS SEZ of the integrated city.

c) Delhi Trading Corporation's Group Company, Vikas Steels has taken up a 1.5-acre plot in Phase II of MWC Jaipur's Domestic Tariff Area (DTA). Vikas Steels' facility in MWC Jaipur will serve as a warehouse for the cutting and bending of steel products.



MWC Champions Trophy 2017

The sixth edition of the MWC Champions Trophy - the annual sports event of Mahindra World City, Chennai - was held from September 16 - 24, 2017 and witnessed participation by more than 250 people.



MWC Chennai Conferred Prestigious Export Excellence Award by MEPZ

MWC Chennai has been honoured with the MEPZ's Export Excellence Award across two different categories. It reigned supreme in the Highest Exports in SEZ Developer Category (2015-16) and was a Runner up in the Highest Employment in SEZ Developer Category (2014-15).

MWC Chennai Lauded for Waste Management Best Practices

MWC Chennai, was conferred the Bureaucracy Today - CSR Excellence Award 2017 in the category of 'Waste Management'. The Bureaucracy Today-CSR Excellence Award aims to acknowledge exemplary CSR activities undertaken by corporate India.

Sangeeta Prasad, CEO, IC & IC, MLDL, Addresses the Audience at the Realty Plus Conclave and Excellence Awards held in Mumbai



Mahindra Lifespaces & IFC Partner for Industrial Infrastructure Development

In September, Mahindra Lifespaces and International Finance Corporation (IFC), a member of the World Bank Group, announced a partnership for the development of multiple industrial parks across Gujarat, Rajasthan and Maharashtra. The partnership envisages investment across Mahindra Lifespaces' existing and upcoming industrial park projects, with its first investment in an approximately 350-acre industrial park near Ahmedabad. The proposed industrial parks will provide impetus to the 'Make In India' initiative, and will be located in areas that have significant potential for large-scale industrial infrastructure creation. These industrial parks will offer plug-and-play ecosystems encompassing world class infrastructure and utilities, to enable faster go-to-market for large businesses, while also making available critical manufacturing infrastructure for small and medium businesses.

Happinest, Avadi Receives India's 1st IGBC 'Platinum' Certification In Affordable Housing

Happinest, Avadi by Mahindra Lifespaces has been conferred with India's first Indian Green Building Council (IGBC) Platinum certification for Green Affordable Housing. The certification is a part of the Council's Green Affordable Housing rating system, and is conferred on residential projects that have been designed and developed to meet high standards of environmental and human health performance, thereby delivering a better quality of life.



Happinest, Avadi by Mahindra Lifespaces

NEWS HOLIDAYS



Arun Nanda, Chairman, Mahindra Holidays & Resorts India Ltd. receives the Golden Peacock Award from N. Chandrababu Naidu, Honourable Chief Minister of Andhra Pradesh

Mahindra Holidays Receives Golden Peacock Award for Sustainability

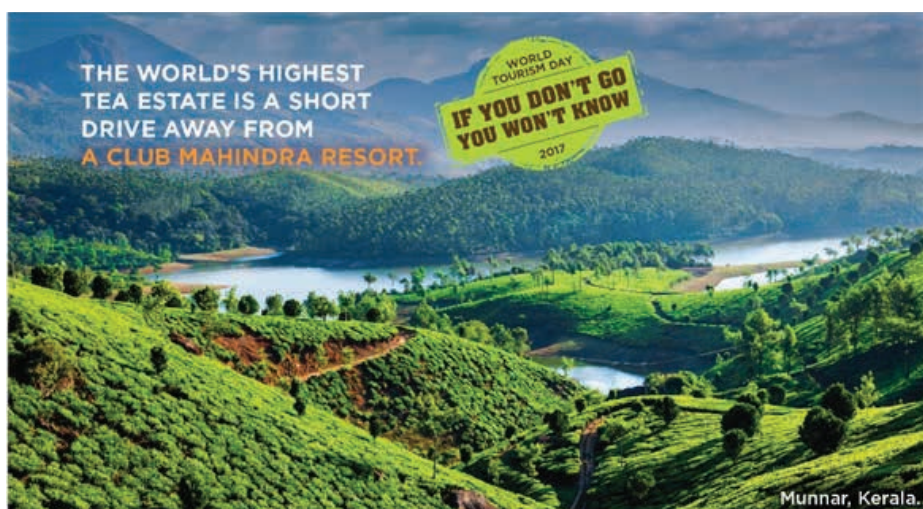
Mahindra Holidays, has been bestowed with the prestigious Golden Peacock Award for Sustainability 2017. The award was received by Arun Nanda, Chairman, Mahindra Holidays at a glittering ceremony in London. The Company has implemented a robust sustainability practice across its network of 50 resorts in India and abroad. Some of the key areas that the Company has been working on include carbon footprint measurement, conservation of biodiversity and assessment, environment, energy, water and community development.

MHRIL Wins TISS LeapVault CLO Awards

The TISS LeapVault CLO Awards are one of the most prestigious awards in India, recognising excellence in Corporate Learning, Leadership Development, Training and Coaching. At its sixth edition, Mahindra Holidays was awarded the Gold Award for the 'Best Program for Sales Enablement'.



Team MHRIL receiving the award



MHRIL Celebrates World Tourism Day

With the aim to create intrigue around unique holiday destinations and sow the seed of holidaying in the mindset of the Indian traveller, Club Mahindra launched a campaign on World Tourism Day titled – 'If You Don't Go, You Wouldn't Know'. The objective was to showcase Club Mahindra as the best holiday partner with a wide network of resorts at the most unique destinations.

NEWS DEFENCE

MDNS Makes Possible the Impossible for Customers

Mahindra Defence Naval Systems (MDNS) made another splash in the underwater systems domain by granting a new lease of life to the non-operational, corroded and deformed Heavy Weight Torpedo Tube Launchers of a frontline destroyer warship of the Eastern Fleet based at Visakhapatnam. The replacement was extremely challenging in absence of design details and manufacturing drawings. However, the MDNS team's innovative procedures successfully provided a viable solution.

MDNS Achieves Another Milestone

Mahindra Defence Naval Systems (MDNS) created history in May 2017 with the successful completion of Harbour Acceptance Trials (HATs) and Sea Acceptance Trials (SATs) of the Triple Tube Torpedo Launchers (TTL) in record time onboard INS Satpura. The TTLs along with the complex state of the art Fire Control System and associated electronics have been supplied by MDNS to the Indian Navy for the indigenously built three Shivalik class ships based at Visakhapatnam

MDNS To Supply New Torpedo Defence System

Mahindra Defence Naval Systems has partnered with Ultra Electronics Command and Sonar Systems (UECSS), UK and Ultra Electronics Maritime Systems (UEMS), Canada to supply 12 sets of the new generation Torpedo Defence Systems to the Indian Navy. The New Torpedo Defence System (NTDS) is designed for multi-platform deployment.



Triple Tube Torpedo Launchers



BMP II Vehicle received from Army in July 2016

BMP II Mobility Upgrade

The Indian Army decided to upgrade the existing fleet of BMP 2 ICV so that it remains operationally viable for the balance of its service life. After technical evaluation of proposals, six Indian companies including Mahindra Defence Systems were awarded the contract for the mobility upgrade of one BMP2 each. Mahindra Defence System took up the challenge and was the only company which completed the mobility upgrade in 400 days.

NEWS TECH MAHINDRA

C. P. Gurnani Amongst LinkedIn's Power Profiles



Professional networking giant LinkedIn announced its fourth edition of Power Profiles 2017, a list of the most viewed LinkedIn profiles of professionals in India. Tech Mahindra MD and CEO, C. P. Gurnani is featured amongst the top three most-viewed CEOs in India. With the announcement of this Power Profiles list, he has joined the likes of Narendra Modi, PM of India; Shashi Tharoor, MP and Chairman of the Parliamentary Committee for External Affairs and other leaders.

TechM Retains its Ranking in DJSI World Index

Tech Mahindra has once again retained its ranking in the Dow Jones Sustainability Index under both the DJSI World category and the DJSI Emerging Markets 2017 category. The Company is one amongst four companies from India to make it to the DJSI World Index and one of the eleven Indian companies in the Emerging markets category.



TechM at WSJ CEO Council Annual Meeting

Tech Mahindra participated in The Wall Street Journal (WSJ) CEO Council Annual Meeting in Washington DC, held from November 13th to 14th, 2017. The Company got a great opportunity to engage with 100+ most powerful CEOs over two days. Tech Mahindra's signature narrative this year was on 'Unlock experiences for a Connected Future'. The Tech Mahindra Leadership team engaged with several CEOs in one on one meetings, active opportunities discussions, elevating the conversation from technology to business and how Tech Mahindra can help transform their business.

TechM Powers World's Largest Citizen Response Centre

Tech Mahindra is a consortium partner of the #UP100 taskforce and along with



Mahindra Defence delivers the promise of safety and security 24x7 to the most populated state of India – Uttar Pradesh. UP Dial 100 covers an enormous area of 2,40,948 sq.m which covers 689 towns and cities and 1,07,452 villages with 1,542 police stations. Focusing on women empowerment, the call centre has more than 400 women working who are part of Tech Mahindra's response centre. The contact centre is powered by a multilingual all-women team who handle over 1,00,000 calls a day.

TechM Recognised for Excellence in People Management

The Society For Human Resources Management (SHRM) India HR Awards recognises organisations that deliver future focused excellence in the field of People Management. The SHRM Awards 2017 has listed Tech Mahindra as the first runner-up in the Learning and Development category. The Company is also among the top 10 Health and Wellness providing organisations.



NEWS FINANCIAL SERVICES



India's Most Trusted Financial Services Company

Mahindra Finance has won the India's Most Trusted Financial Services Company Award at the India's Most Trusted Companies Award. The award ceremony took place on September 24, 2017 at the Leela Hotel, Mumbai. Vijay Shrivare, Hon'ble Minister of State for Water Resources & Parliamentary Affairs – Maharashtra Government and Satinder Pal Singh Ahuja, Honorary Consul of Georgia in Mumbai were the chief guests at the event.

Rajesh Vasudevan
(Senior Vice President
– Accounts) receives
'India's Most Trusted
Financial Services
Company' award on
behalf of Mahindra
Finance.

Investment in 3 Easy Steps

As Bharat moves towards digitalisation, Mahindra Mutual Fund has aligned its efforts to provide ease and convenience of investing. In order to meet the same objective, the Company introduced an online investing platform via its website www.mahindramutualfund.com. It enables opening a new portfolio and investing in Mahindra Mutual Fund schemes in three simple steps.

Mahindra
MUTUAL FUND

NEWS SUSTAINABILITY



Making a Difference this Green Consumer Day

This year, Mahindra Group marked Green Consumer Day with the aim of fostering education about making a difference as an individual towards the environment and reducing carbon footprint. There were a host of initiatives planned and executed across the offices of the various businesses. For instance, at Mahindra Towers, Mumbai, sale of LED lights with green products was organised. Group Sustainability also organised a health camp to mark the occasion.

Mahindra Group Claims Leadership

Mahindra Group companies – Mahindra & Mahindra and Mahindra & Mahindra Financial Services Ltd. (MMFSL) have emerged as leading companies in their sectors on sustainability parameters in the S&P Dow Jones Indices (S&P DJI), one of the world's leading index providers, and RobecoSAM, an investment specialist focused exclusively on Sustainability Investing (SI). Additionally, for the third time Tech Mahindra has made it to the DJSI World Category. Only three other Indian companies feature in this list.

NEWS

CSR & ESOPS

Remembering Partition

The Mahindra Group has extended support to the Partition Museum in Amritsar. The Museum which was inaugurated on August 17, 2017, is a world class structure, dedicated to the memory of the Partition of the sub-continent in 1947. To acknowledge the Mahindra Group, a gallery showcasing the rise of the Independence Movement, spanning from 1930-1945 (culminating in the year which also marks the foundation of the Company), bears the Mahindra plaque.



Fulfilling Dreams and Igniting Hope

With a promise to give wings to the dreams of 150 children, the Swaraj Division inaugurated the Government Elementary School of Sahi Mazra Village on July 20, 2017. The relentless efforts of 12 Esops volunteers was initiated in May 2017. The core objective was to improve the infrastructure and facilities of the deprived government school in order to improve the quality of learning.



300 Father-Daughter Duos, 6 Photographers, 500 Smiles

Proud Fathers For Daughters is an event that celebrates the father-daughter bond and sends out a message that daughters are a source of pride. This year, Project Nanhi Kali celebrated the 4th season of Proud Fathers for Daughters on August 5-6, 2017. Ace photographers, Atul Kasbekar, Colston Julian, Jaideep Oberoi, Prasad Naik, Suresh Natarajan and Nisha Kutty contributed their talent and time to help Project Nanhi Kali educate 500 underprivileged girls. Apart from spectacular smiling Father-Daughter photos captured at the event, it was a coming together of diverse ages ranging from a proud father holding up his new born daughter to a working professional daughter proudly posing with her octogenarian father. Following its core purpose of enabling people to Rise, Mahindra Rise provided invaluable support throughout the campaign, to reach out to more people, create awareness and drum up registrations as well as at the actual event.

Empowering Young Minds

The Esops team of Mahindra Research Valley conducted classes for development of Spoken and Written English skills for students of Std. 4 and 5 of St. Mary's Primary School, Chengalpattu. This is an effort to equip young students with improved communication skills in English, which will aid them in their long-term career gains.

Esops Champions Meet 2017

The Esops Champions meet is an annual gathering of those driving Esops projects at sectors across the Mahindra Group. This meet was attended by over 50 Esops SPOCs from across India.



Mahindra Group Provides Relief to Flood Affected States

In response to the devastating floods in Bihar, Assam & West Bengal the Relief and Rehab committee of Mahindra Group sprang into action. Employees of Mahindra Finance and Auto division dealers of Mahindra were agents of crucial information, who surveyed various locations for the need of the people affected in various districts. Mahindra has distributed 3800 relief kits in 11 districts/camp sites in Bihar alone. In Sitamarhi, the relief team travelled by boat to be one among the first to deliver the relief kits to the village of Bhada Tola that remained cut off for over a week.



Sapling Plantation Drive

Climate change is intensifying disasters, including extreme weather events, storm surges, floods and droughts. It is vital that development strategies incorporate measures to strengthen community resilience through economic development, income diversification and ensuring environmental sustainability. To mitigate the above it is imperative to promote green cover.

A lot of deforestation has taken place over the years in Shimla. To increase green cover and replenish the ecological balance, a plantation activity was conducted in liaison with the Forest Department and the local leaders to increase green cover. The Esops team also organised competitions and knowledge sessions with school children to sensitise them about environmental degradation. Students from Government schools – Baldeyan, Kiar Koti and Mashobra participated enthusiastically. Out of all the talented painters, 9 winners were identified and rewarded.

The drive resulted in the plantation of 450 trees in nearby places like Manla, Dhani Colony and Mashobra.

Students of 3 Government schools in Shimla join MHRIL employees in a sapling plantation drive.

Lessons on Personal Hygiene

The Esops team of Mahindra Agri Solutions Limited (MASL) organised a programme focused on promotion of personal hygiene among school students on August 31, 2017. The programme called 'Thumbs up for Personal Hygiene' was organised for 30 students of a Nashik Municipal Corporation school. The activities comprised an awareness session on personal health and hygiene, regular hand washing and teeth cleaning and drawings on good habits for daily hygiene.



MASL and students of Nashik Municipal Corporation after the event on personal hygiene.

NEWS MAHINDRA PARTNERS



India's First Mobile PV Testing Lab

Mahindra Susten launches India's first Mobile PV laboratory for testing of the Solar PV modules on site. The mobile PV lab, developed in-house has an innovative design, which combines all the key tests required for PV modules in a compact lab. This solution will make world-class testing facilities available to solar asset developers, EPCs and the O&M operators at the location of their own plant.

Mahindra
INTERTRADE is now **accelo**

Mahindra Intertrade, India's leading steel solutions provider and India's first organised automotive recycler has re-branded itself as Mahindra Accelo. The secret of managing a thriving business is recognising when it needs fundamental change. Mahindra Accelo has not only reinvented its brand, but has also expanded its scope

and scale into promising new areas. Mahindra Accelo has taken a major step towards mitigating environmental degradation by setting up Cero, India's first organised vehicle recycling entity. The new brand name Accelo is derived from 'accelerate' and aptly expresses the agility within each of its employees to innovate for tomorrow.



The vibrant new Mahindra Accelo identity unveiled by Anand Mahindra, Chairman, Mahindra Group & Bharat Doshi, former Group CFO & Executive Director, Mahindra Group



NEWS RACING



Double Podium Delight for Mahindra Racing in New York City

Mahindra Racing celebrated a commanding double podium in the second race of the inaugural New York City ePrix weekend, the penultimate location of the 2016-17 FIA Formula E Championship. Following the team's maiden win and double podium last month in Berlin, drivers Felix Rosenqvist and Nick Heidfeld put their mark on the race early on. The duo, driving the all-electric M3Electro race car, both reached Formula E's unique Super Pole shootout session to start the race from 2nd and 5th place respectively.

NEWS AGRI

Mahindra Crop Care Launches Tromph

The Crop Care Division of Mahindra Agri Solutions Ltd. launched 'TROMPH' a systemic insecticide for the control of BPH of Rice. The launch of TROMPH marks the beginning of a new era for MASL's crop care business as it combines Japanese technology and Mahindra's trusted brand name. The launch witnessed the presence of 250 dealers, distributors and farmers in Punjab and Haryana and approximately 400 dealers, distributors and farmers in Andhra Pradesh.

MASL Introduces Hybrid Seeds

Mahindra Agri Solutions Ltd. launched an integrated marketing campaign to introduce the indigenous R&D product - the MM 2030 corn hybrid seed in Bihar and Telengana. The offering is an advanced product from the Mahindra Genetic Research Centre. It has received an overwhelming response from farmers in the maize belts of India.



India's 1st Automated Oil Dispenser Machine

NuPro PureAll, an automated oil dispenser machine, is Mahindra Agri Solutions Ltd's in-house innovation. Offering the 'Promise of Purity', the machine addresses the perils of adulteration in the commodity purchase of edible oil. Currently, there are about 14 PureAll machines operational in West Bengal.



NEWS CORPORATE

Three Mahindra Group Companies in Great Place to Work List - 2017

Three Mahindra Group Companies namely - Mahindra & Mahindra Automotive & Farm Equipment Sectors, Mahindra Finance and Mahindra Holidays feature among India's Best Companies to Work List - 2017. The study was conducted by the Great Place to Work® Institute, the world's leading institute for workplace excellence and people management practices in partnership with the Economic Times.

GREAT
PLACE
TO
WORK®

SPECIAL FEATURE



FORGING AHEAD

Mahindra Racing has had a fabulous Season 3 and is gearing up for a bigger and better Season 4.

Mahindra Racing has consistently outperformed in the FIA Formula E Championship, moving up from 8th in Season 1 to 5th in Season 2 and 3rd in Season 3



■ Drivers Felix Rosenqvist & Nick Heidfeld celebrate with the team

Mahindra Racing is one of the ten founding teams and the only Indian team to compete in the world's first all-electric racing series - FIA Formula E Championship. The M3Electro race car, launched for season 3 which concluded in July 2017, proved to be a competitive package getting the team's

first race win, a total of ten podiums, three pole positions and two fastest lap awards.

With these strong results, Mahindra Racing secured third place in the Teams' Championship and rookie driver Felix Rosenqvist took third in the Drivers' Championship.



■ A victorious Felix Rosenqvist



■ A proud Dilbagh Gill, Team Principal & CEO, Mahindra Racing pops the celebratory champagne bottle with the team

GEARING UP

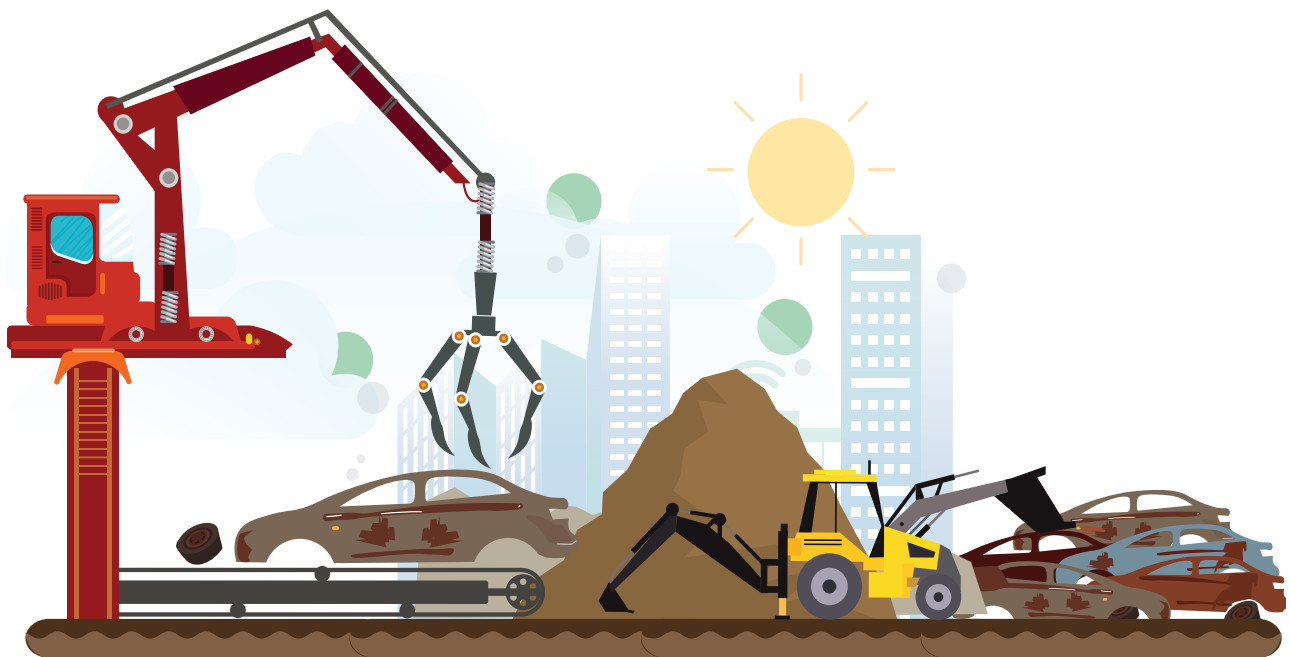
The aim for Season 4 is to go for both the championships – driver and team.

The season started in Hong Kong in early December and the team has high technical and sporting ambitions with its newly developed M4Electro race car.

Mahindra Racing has begun the season with two podiums including a victory in the first races of the season and is currently leading the team standings.

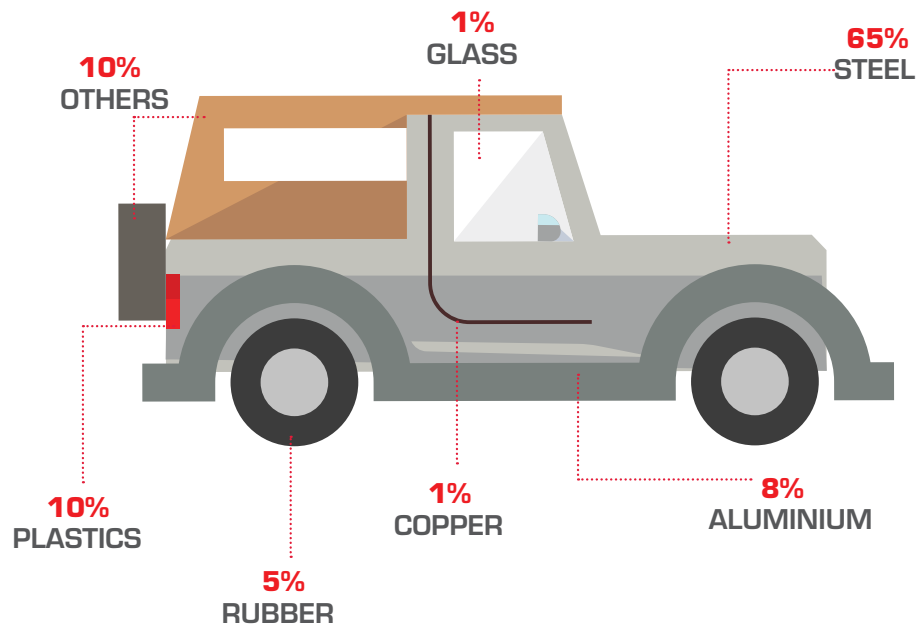


AUTO RECYCLING: A NEW LEASE ON LIFE



Automotive recycling is the process in which an End-of-Life Vehicle (ELV) is depolluted and dismantled, and various materials are salvaged or recycled in an environment friendly manner.

Composition of an Automobile



UNDERSTANDING THE INDIAN CONTEXT

India's auto recycling ecosystem is in its infancy and dominated by the unorganised sector

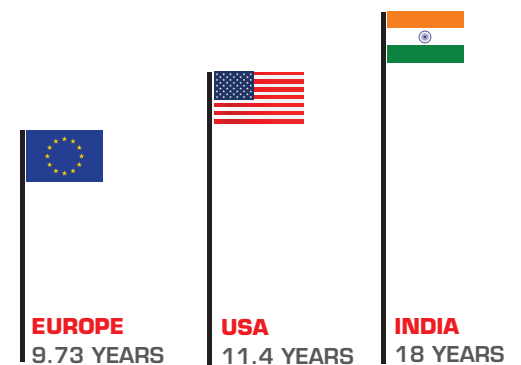
Unorganised market with primitive technology

- Limited recycling without environment friendly equipment, storage or processes
- Low scrap recovery and efficiency

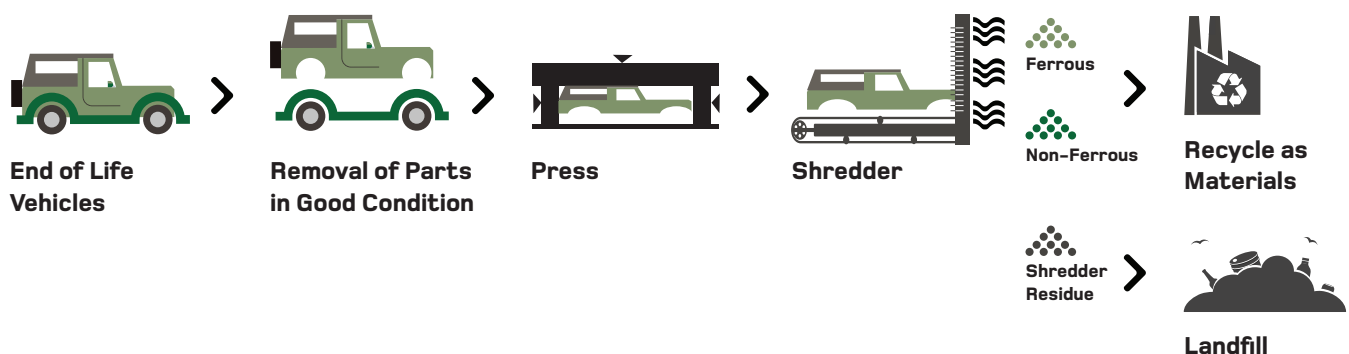
Lack of regulations & awareness

- No policy around Extended Producer Responsibility
- Complicated vehicle de-registration process
- Large number of ELVs still in use due to no fitness test requirement for passenger vehicles and manual test requirement for commercial vehicles

AVERAGE AGE OF A CAR



PROCESS OF AUTOMOTIVE RECYCLING



Source : www.toyota-europe.com

NEED AND RELEVANCE IN INDIAN CONTEXT

Enhance Steel Scrap Generation

India is the **2nd** largest importer of steel scrap

India imports **6 Mn** tons of scrap per annum

Almost **40%** of the world's steel production is made from scrap



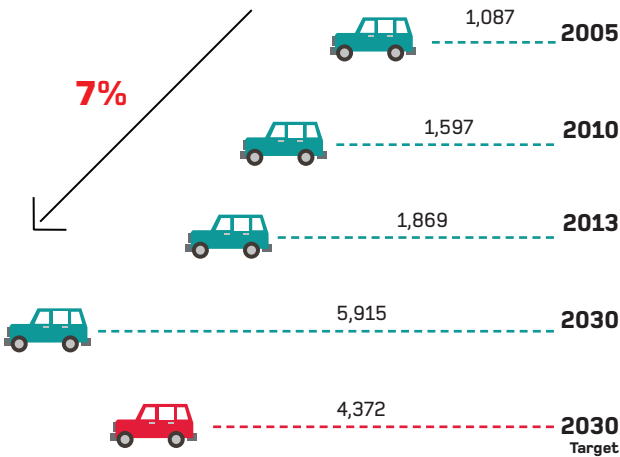
Every tonne of new steel made from Scrap Steel saves

IRON ORE 1,115 Kg	COAL 625 Kg
LIMESTONE 53 Kg	ENERGY 642 kWh
OIL 287 Ltrs	LANDFILL SPACE 2.3 m ³

REDUCTION IN CO₂ EMISSIONS IN INDIA

India aims to achieve COP-21 target of emission reduction by 2030

CO₂e EMISSIONS IN INDIA (Mn Tons)



CO₂ emissions are reduced by 58% through the use of ferrous scrap

Old Vehicle = Higher Emissions

Emission of 1 Old Car = Emission of 10 New Cars



Size & Scope for Growth

End of Life Passenger Vehicle in India



End of Life Commercial Vehicle in India



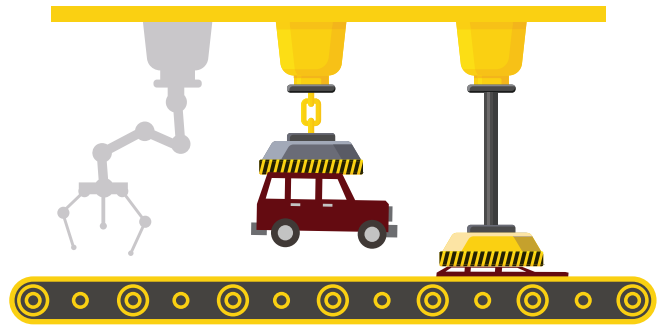
End-of-Life scrap market is expected to reach INR 10,000 Cr by 2025

Emission of 1 Old Truck = Emission of 8 New Trucks

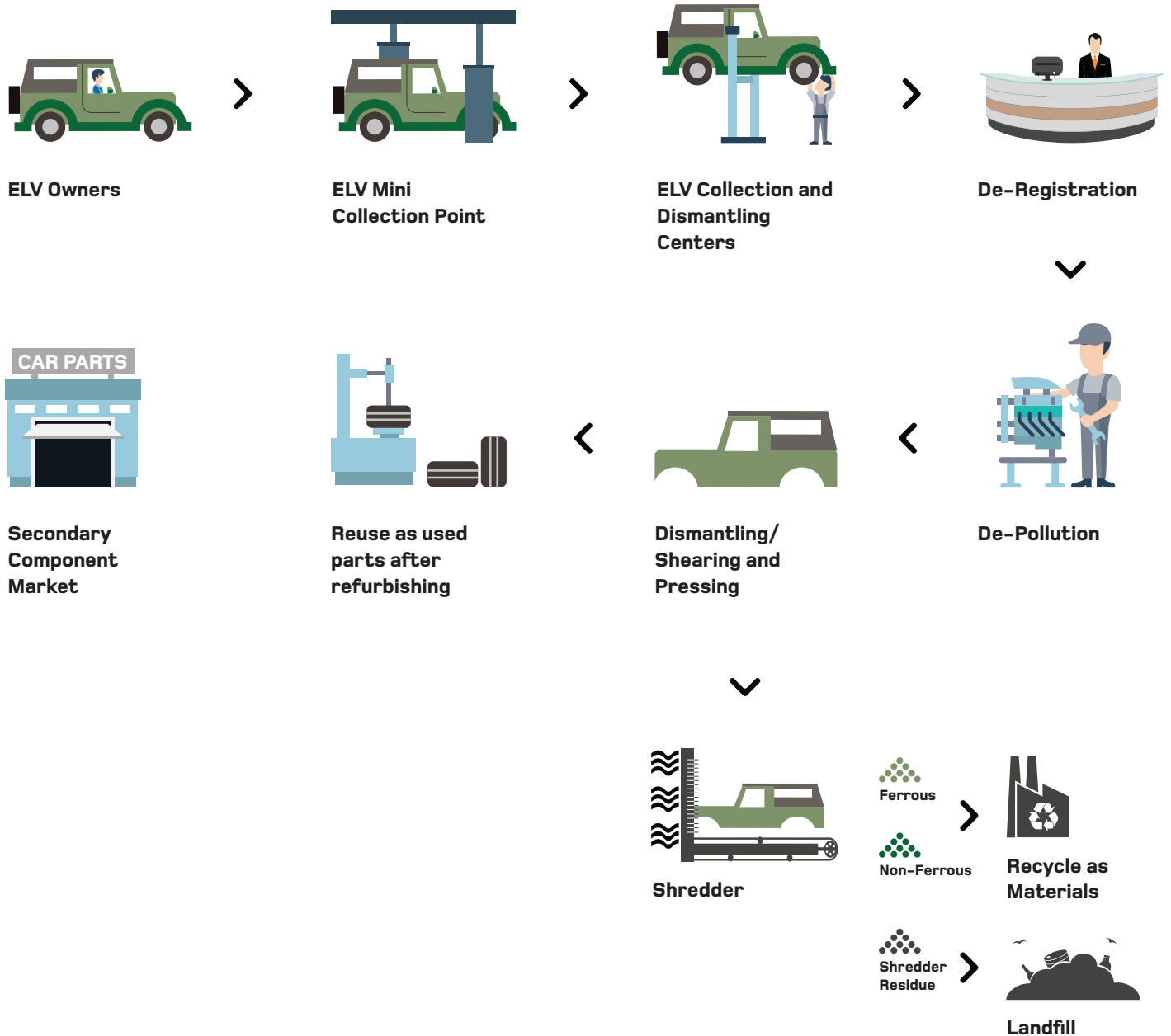


ABOUT MAHINDRA MSTC RECYCLING PRIVATE LIMITED (MMRPL)

- MMRPL is a 50-50 joint-venture between Mahindra Accelo and MSTC Ltd., a Government of India organisation under the Ministry of Steel
- MMRPL makes its debut in the vehicle recycling industry with the launch of its 'Cero' brand
- MMRPL is setting up India's first organised auto shredding and vehicle recycling infrastructure
- The first dismantling centre will be operational in Delhi-NCR at Greater Noida
- Over the next one year, 2 to 3 more dismantling centers and a shredding plant will be set up



PROPOSED BUSINESS MODEL



FOREIGN DESPATCH

NI HAO!



Sachin Arolkar (left) at our tractor plant.

I'm Sachin Arolkar and I currently handle the Mahindra Ford Alliance within the Mahindra Group. Before my current role, I spent over two years working at Mahindra's tractor JV, Mahindra Yueda (Yancheng) Tractor Company Limited in China which proved to be an immensely enriching experience, both personally and professionally.

Getting used to initial greetings is the first step towards entry into China. 'Hello' is often both the start and end of a discussion in English. The main reason for this is that most Chinese, including students studying English are too shy to try their English with a foreigner!

Language, culture, climate, food and a world without Google were the challenges I was aware of before I went to China as an expat. However, as I slowly settled into the country, I realised that many of these could be managed through a willingness to learn and accept change.

With translator apps, local assistance and learning the language through a local tutor, I found I could manage the language. However, the script always remained a mystery to me, and this could hamper basic things like differentiating between a shampoo and a conditioner. Understanding local culture has in fact, been the most interesting aspect of

“Having colleagues from India who had spent a long time in China was a big help as they took the trouble to educate me on aspects of local life with which I would have otherwise struggled.”

expat life for me. The list of do's and don'ts which most websites provide is a good starting point, but again only a starting point. Keeping an open mind and noting differences is also very important. Having colleagues from India who had spent a long time in China was a big help as they took the trouble to educate me on aspects of local life with which I would have otherwise struggled.

Food is invariably the most important topic for those travelling to China! We have all heard stories of vegetarians struggling to find options at mealtime. In fact, I would say that even non-vegetarians have several issues. My experiences, however, suggest otherwise. I was surprised at the variety of vegetarian dishes available throughout China. Most restaurants have menus with photos of the dishes on offer and this makes your selection easier. A willingness to forego the staple Indian diet of rotis and dal-rice is essential if you wish to live in China. Bread is also a rare commodity in the interiors of the country, while noodles and dry rice form the staple diet. Vegetables are available in plenty although the way they are prepared is very different from the way they are cooked in India. The ability to eat with chopsticks is vital or else it is advisable that you travel with your own fork. Let me say that eating with chopsticks takes a special talent!

The climate in China tends towards extremes. In Yancheng, my home city, the temperature usually ranges between -10 degrees and +40 degrees. The extreme winter brings its own challenges and as luck would have it, while I was there, Yancheng had its most extreme winter in over 20 years with temperatures dropping to -20 degrees. The city was not geared



Food is invariably the most important topic for those travelling to China!



The country and its people certainly made my stay in China an enriching and memorable one and an experience I will always cherish.

up for this temperature and the water pipelines burst, leaving its inhabitants without water for a few days. It was quite an experience to say the least!

Working in a company in China with 1000+ employees has its own set of challenges and once again I consider myself lucky to have colleagues with extensive experience in China who were always on hand to guide me. Interestingly, the local team had also learnt the way Indians work and were happy to teach me the differences in the work culture. With my Indian and local colleagues as my guides, adapting to the working conditions proved to be an easy task.

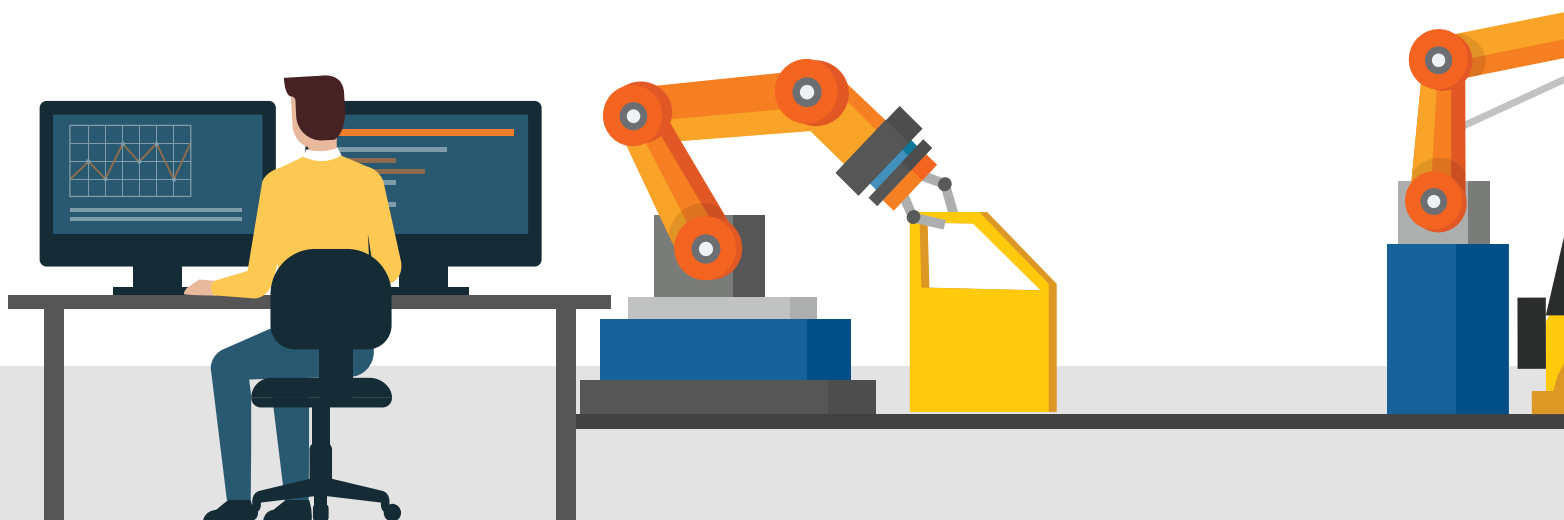
With the company's dealers spread all over China, I was required to travel over long distances. However, excellent road infrastructure ensured that this was a smooth experience. Distances of up to 400 kms between any two dealers could be covered by road in a few hours. I preferred to visit our customers - usually farmers - at their farms as these visits were an opportunity for me to gain deep customer insights and I also learnt a great deal about the way business is conducted in China.

The geographic spread of the country encompasses deserts, grasslands, forests, plateaus and snow-clad mountains which proved to be an opportunity for the traveller and photographer in me to see different places and to try my hand at photography. I was also lucky to get a chance to see the deserts of Xinjiang, frozen rivers in Heilongjiang, grasslands in Mongolia and the beauty of Tibet.

The country and its people certainly made my stay in China an enriching and memorable one and an experience I will always cherish.

INDUSTRY 4.0

set to transform Indian automotive industry



Rahul Shandilya

CIO, Customer Experience
& Product Development,
Mahindra & Mahindra Ltd.
holds forth on automation
and its impact on the
manufacturing industry.

As the manufacturing industry prepares itself to take on the challenges of an increasingly digital world, next-gen technologies and the Industry 4.0 framework (I4.0) find themselves at the forefront.

Industry 4.0 refers to the current trend of automation and data exchange in the manufacturing environment. Leveraging the 'Industrial Internet of Things' (Industrial IoT), it focuses on the increasing use of information by machines to execute complex, hazardous tasks and comprises devices that are instrumented, interconnected, inclusive and intelligent. It includes cyber-physical systems, edge analytics, cloud computing and cognitive computing.

At Mahindra, we are making rapid strides to keep pace with this new world and are also amongst the

"At Mahindra, we are making rapid strides to keep pace with this new world and are also amongst the first to adopt I4.0 in the manufacturing cadence."

first to adopt I4.0 in the manufacturing cadence. Manufacturing processes have never been so closely aligned with the customer experience value chain as it promises to be in the coming years.

Our journey into I4.0 is based on establishing key enablers for a framework which will aid automation and integration of shop-floor processes and machines. Modernisation of controllers with internet protocols will enable some of them to be available remotely for visualisation and optimisation through cutting-edge analytics. Frankly, I would not be surprised if this results in the creation of digital twins of some of the machines by 2019, resulting in productivity management.

While manufacturing process productivity has been



our focus area for the last few years, with the advent of Industrial IoT and digital technologies, the added areas of benefit would include machine uptime assurance and customer order fulfilment tracking. It would further enable supplier integration for Just in Time (JIT) / Vendor Managed Inventory (VMI), Digital Visualisation of Processes and Integrating MBOM (Manufacturing Bill of Material) in product lifecycle management.

This digital integration perspective will result in interesting contextual shifts in decision making which will increasingly move down the organisational hierarchy. This will enable problem resolution through intelligent dashboarding and reporting for operational level teams. Senior managers, will thus be able to focus on anticipation and resolution of more strategic issues by integrating on-the-ground intelligence with business intelligence in real time.

This will also result in an improvement in product quality beyond mere incremental changes as the insights generated across the manufacturing process will allow managers to co-relate historical data across multiple layers, including processes, people

and suppliers, in a relatively short span of time. However, while I4.0 will play a key role in generating information across the manufacturing process and will also deliver conjunctive analysis on a platter, we would still need to rely on managerial and strategic interventions to leverage the benefits in business. In the long term, this will have a transformative effect on the entire value chain. For instance, in energy management, there has been a perceptive shift from identifying issues to actually designing interventions.

"Our journey into I4.0 is based on establishing key enablers for a framework which will aid automation and integration of shop-floor processes and machines."

The ability to spot specific patterns in resource consumption during testing has now evolved into a need to find the root cause in various areas like machining, the test bed or the more intricate aspects of engine design itself. The opportunities for organisational transformation are, thus, manifold.

At Mahindra, we are working towards making our systems more transparent and interoperable, backed by analytics, to make these I4.0 tools into instruments for competitive advantage. This will enable us to not only anticipate but also deal with the disruptive technologies that will characterise the future of the automotive industry in India.

AFTER HOURS

Ramesh Kaul's engineering prowess may have been honed at IIT Delhi but his acting talent was forged in the crucible of revolutionary theatre of the 1970s

ALL THE WORLD'S A STAGE

Romesh Kaul's days are usually consumed by the forging of hot metal or the stamping of sheet metal into finished components, processes that require precision, attention to detail and a certain amount of innovation. Aspects that the CEO of the Forgings, Stampings and Composites division at Mahindra CIE is only too familiar with. "I was always very mechanically oriented and I decided to pursue electrical engineering because electronics was in vogue. Although I didn't quite understand "electric current" and its flow, I remember being fascinated by the synchronised movement of gears and other parts and it is this visual appreciation which has a strong link with theatre," says Romesh as he reminisces about his love for the stage.

Romesh's engineering talent may have been honed at IIT Delhi but his acting prowess was forged in the crucible of revolutionary theatre that characterised the 1970's.

"I had an idyllic childhood in a small town called Udhampur near Jammu where my father was posted and it was here that I had my first brush with theatre and the arts. I was very fond of singing, especially film songs and later even ghazals. I loved watching films and imitating people and their unique mannerisms. I began participating in plays and Ram Leela productions and soon realised that I had an affinity for the stage. I was more inclined to the performing arts rather than other activities like swimming, boating, etc., much to the despair of my father," he says with a tinge of nostalgia in his voice.



As Romesh grew older, he moved to a British missionary school in Srinagar which gave him ample opportunity to indulge his passion further. "I acted in both Hindi and English plays and especially remember enacting the role of a Postmaster in Nikolai Gogol's *The Government Inspector* which is perhaps one of my most memorable roles. However, the turning point was really when I came into contact with the legendary Safdar Hashmi and Prof. Jayaraman during my college days in Delhi. In fact, my wife was a student of Hashmi and it was through her that I got to know him. It was the beginning of a long and enduring relationship which was tragically cut short when he was killed in 1989."

Hashmi had a profound influence on the young Romesh and changed the way he perceived stagecraft. "Hashmi was very passionate and intense. He was also very amiable and easy to get along with and his students adored

him. He had a unique way of explaining things. For instance, he would demonstrate how things relate to each other by showcasing their juxtaposition through photos. I still remember how he created the aura of a palace for the Chinese play, *Orphan of Chao*, through artful use of lights, minimal props and effective dialogue. For a Brecht play, he had to create a sense of time passing and he did this by getting the main characters to circumnavigate the stage. He also taught me a lot about voice modulation. I was planning to do a street play with him when I got the news that he had died."

Romesh's talent found further expression during his studies at IIT Delhi. Blessed with a keen visual and spatial sense, he opted to study Design but found that it involved too much differential math to sustain his interest for long. His attempt to switch to Industrial Engineering didn't, however, work out. This gave him plenty of time to focus on theatre.

"It was perhaps the most creatively enriching time as I got to work with stalwarts like M.K. Raina, Ravi Vaswani, Ranjeet Kapoor, Anupam Kher and Habib Tanvir. In fact, I learnt a great deal from Habib Saab including how to advance a story by means of musical interludes and how to use music to convey a broad theme substantiated by dialogue. He was a stickler for perfection. Moreover, one of my most memorable roles during my time at IIT was that of Savitri in the play *Do Yamraajo ki Bhidhant!* As it was an all-male hostel, we had to take on all the female roles as well which proved to be an interesting experience. Unfortunately, as a result I got stuck with the moniker of Savitri for the rest of my college days!" he laughs.



■ Aala Afsar or Shah Badshah

"My only regret is that I didn't get to perform Shakespeare"

is the result of a strong spatial and visual sense, qualities that are also important for the stage."

Although Romesh has had little opportunity to take to the stage since his college days, his love for the craft has never waned. "Theatre teaches you a great deal about life. It helps you deal with people and understand them better. It hones your ability to relate to them better. It's also a great stress buster and though I don't act or direct anymore, I do organise play readings with other theatre enthusiasts."

Any regrets? "My only regret is that I didn't get to perform Shakespeare. This was mostly because by the time I began college the world had moved to a left leaning, communist way of thinking and most of the plays staged had a distinctly revolutionary tone. Also, at that time theatre was not viewed as a very viable profession unlike today when young people have so many options. Although I could never consider acting full time, theatre was a very important part of my formative

years and remains a huge influence on my life," he concludes.



■ Forge a Fable

It was during his time at IIT that Romesh got the opportunity to expand his theatrical talent through direction and production. "Ravi Vaswani who acted in the iconic *Jaane Bhi Do Yaaron*, would host a 24 hour theatre festival every Leap Day, i.e. February 29 and he invited me to stage Badal Sircar's play *Bhoma* at the Sriram Centre auditorium. The play was well received and we even staged it at IIT Kanpur. Aside from direction, I was also involved with props, production and lighting which gave me a holistic view of theatre and stagecraft," says the theatre enthusiast who is also a keen tailor. "I have always had a deep interest in garment design and fabrication which I undertake on a regular basis. I guess this

"Although I could never consider acting full time, theatre was a very important part of my formative years and remains a huge influence on my life."



■ The Orphan of Chao

COURAGE AGAINST ALL ODDS



As a physical education teacher in Pedagaruvu village of Araku in Andhra Pradesh, Gangamma monitors the diet and physical activities of her students every day and encourages them to stay healthy. The determined young girl has an air of confidence about her as she goes about ensuring girls under her charge are fit enough to take on the challenges of daily life. However, life was not always smooth sailing for Gangamma.

Born in Hukumpeta in Araku, a hill station in Andhra Pradesh, Gangamma lived a hand-to-mouth existence with her parents who were uneducated but had big dreams for their daughter. Encouraged by their belief in her abilities, she continued, completing her early schooling in a government school. With no good secondary school located close to home, she then had to transfer to a High School located far away. This meant she had to walk two hours every day through rocky and inhospitable terrain. Yet, the confident young girl persevered, becoming the first person in her family to venture out of their village.

"It is very gratifying to see young girls being supported by Project Nanhi Kali as they can continue their education with much needed guidance. A lot of people credit my willpower for the milestones I have achieved, but it was an outcome of help provided by Project Nanhi Kali and my mother's support that kept me motivated."



Tragedy soon struck as Gangamma's father passed away when she was in Class VIII but while other girls would have buckled under the weight of this enormous misfortune, Gangamma kept her feet on the ground and kept moving towards her goals. Her mother began working as a daily wage labourer to help fund her education.

This is where Project Nanhi Kali stepped in. Established in 1996, and jointly managed by the K. C. Mahindra Education Trust (KCMET) and the Naandi Foundation, with the aim of providing education to underprivileged girls in India, the programme has helped fund the education of 310,000 girls so far. These girls usually hail from remote tribal and rural areas and urban slums across 11 states in India. The Project works to ensure that every girl receives 360-degree support that provides after-school classes, for Language and Maths. In addition, a school supplies kit comprising of a school bag, shoes, books, uniform and even feminine hygiene material is provided to every Nanhi Kali, every year, allowing her to go to

school with dignity. Social support involves working with parents and communities to counsel them on the importance of sending their girls to school. The girls in secondary schools are provided digital tablets preloaded with audio and video educational content.

This major undertaking has been made possible thanks to 4,230 Community Associates who tutor Nanhi Kalis across 4,963 Academic Support Centres of which 4,132 are housed in government schools and 831 in community spaces across 11 states in India. The Community Associates and Nanhi Kali Coordinators also spend time with parents and community members to sensitise them about the importance of education for the girl child.

Project Nanhi Kali provided Gangamma with necessary support to help her continue her studies. This included school supplies and extra classes which were completely free of cost. She also benefited greatly from the tutoring offered by the Nanhi Kali Community Associate, which helped her pass her Std. X Board exams and obtain admission in the Science stream. The spunky girl then went on to complete intermediate studies from the Andhra Pradesh

Project Nanhi Kali Impact



130,133

Girls being Educated

80,289

Girls in Primary School

49,844

Girls in Secondary School

4,230

Community Associates

4,963

Academic Support Centers

15,000

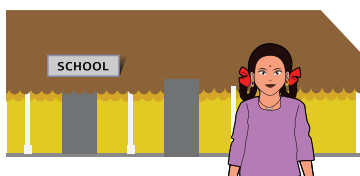
Girls who have passed Std X

Tribal Welfare Regional Junior College. Thereafter, an ambitious Gangamma enrolled herself in the Bachelors of Science course but fate intervened yet again. Lack of financial support eventually forced her to drop out and she decided instead to train at the Government College of Physical Education. Unfazed, she maintained a positive attitude and eventually got her first job as a physical education trainer.

"It's very gratifying to see young girls being supported by Project Nanhi Kali as they can not only continue their education but can also avail of the right guidance. A lot of people credit my willpower for the milestones I have achieved, but it was also the help provided by Project Nanhi Kali as well as my mother's support and encouragement that kept me motivated and allowed me to make the most of every opportunity," says a visibly proud Gangamma.

Gangamma's story is a validation of the successful model pioneered by Project Nanhi Kali which has empowered countless girls to educate themselves and find employment – girls like Gangamma who gain the confidence to take on every challenge that may come their way with courage, passion and conviction.

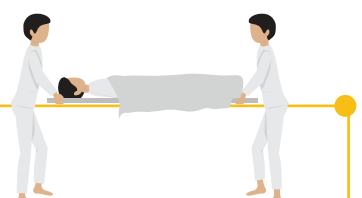
GANGAMMA'S JOURNEY



Born in Hukumpeta in Araku, Gangamma went to a Government School



Is transferred to a High School located far from her village



Faces economic hardships due to her father's sudden demise



Trains at Government College of Physical Education and gets her first job as a physical education trainer



Enrolls herself in the Bachelors of Science course but lack of financial support eventually forces her to drop out



Project Nanhi Kali steps in and provides school supplies and extra classes

SOCIAL STATUS



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Follow

Got an invitation from @GoenkaPk & Kripa (Head of Design) that I couldn't refuse. To spend the last morning of 2017 at our Mumbai Design Studio reviewing future vehicle prototypes. I have to admit, I have a great job! Thank you guys, for spending your Sunday on this!



11:38 pm - 30 Dec 2017



Strategic Frontier @strategic_front · 22 Dec 2017
Indian peacekeepers patrol South Sudan. Mahindra scorpio in service! For more info>>> strategicfront.org/forums/forums/... Pic credit: @shatruiet009



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Stoltz Sales&Service @StoltzSales · 30 Dec 2017

Herbert shared this awesome #Stoltzcustomerphoto of his new #Mahindra emax25 and #CubCadet snow thrower out working over the holidays. A fantasti setup.

@MahindraOntario @CubCadet_CA



OffRoadAdventureZone @ORAZ_Offroad · 30 Nov 2017
The mud will wash off, but the memories will stay.

#Mahindra #Thar #TharLove #offroadadventurezone #Mud #dirty #adventure #adventuretime #mud #offroading #offroad #offroad4x4 #offroader #mahindrathar #mahindraadventures #weekend



MANA OPENS NEW HQ IN DETROIT



Mahindra leadership, Members of Congress and other dignitaries prepare to cut the ribbon at MANA's new manufacturing facility in Auburn Hills, Michigan

Mahindra Automotive North America (MANA) opened a new North American HQ and manufacturing operation. This marks the first new Automotive manufacturing operation to open in Southeast Michigan in over 25 years.

The expansion is part of a USD 230 million investment in Southeast Michigan that also includes a recently-opened warehouse and logistics

operation in Pontiac and an existing prototype operation in Troy. In total, Mahindra has grown to 400,000 sq. ft. across three Detroit area facilities. By 2020, additional planned projects will result in 400 more jobs and another USD 600 million in local investment over that same period. In addition, MANA will continue to provide Metro Detroit-based engineering support for new vehicle platform development for India and global markets.



Newly installed manufacturing equipment

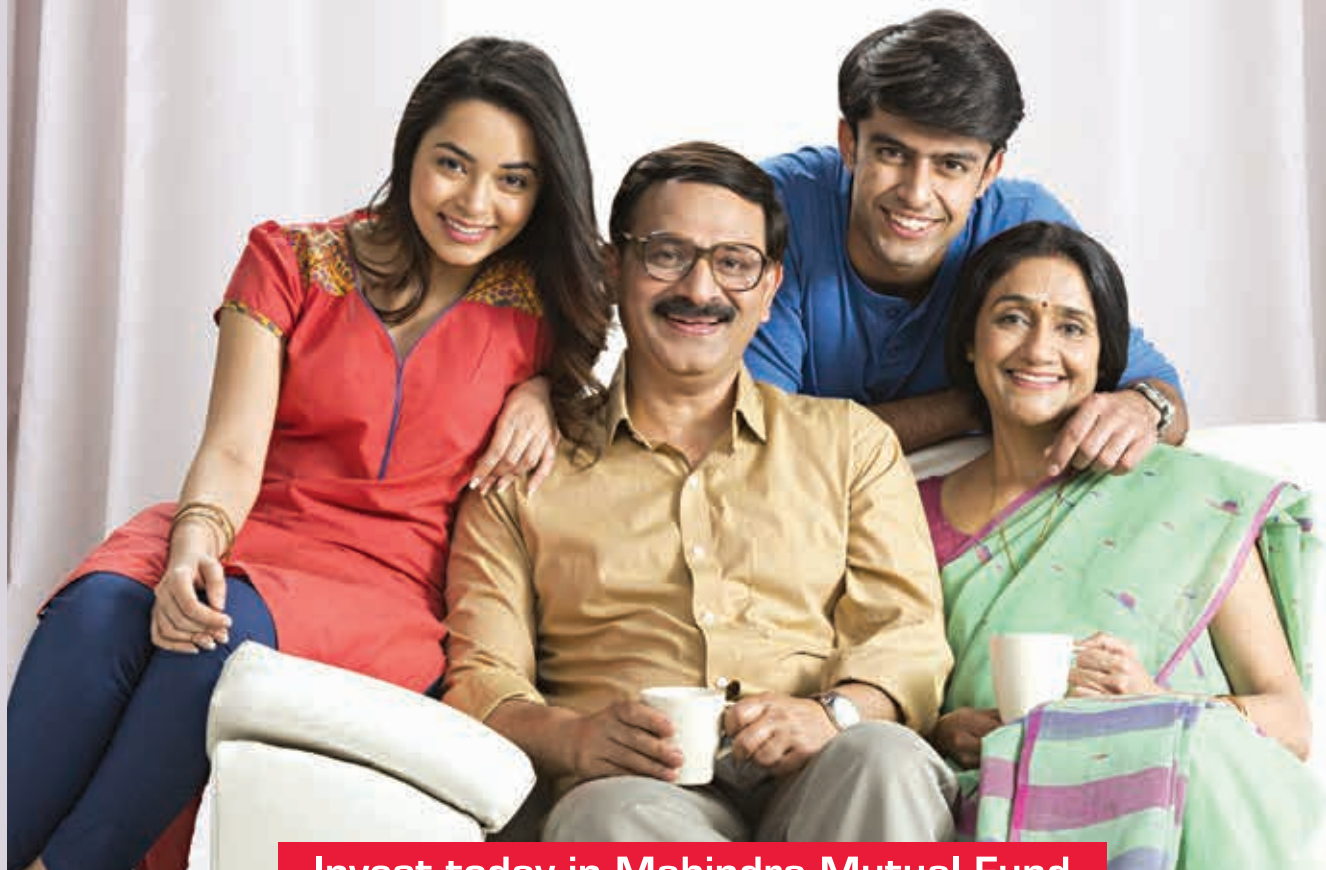


MANA North American headquarters building, Auburn Hills, MI

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Read all scheme related documents carefully.

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