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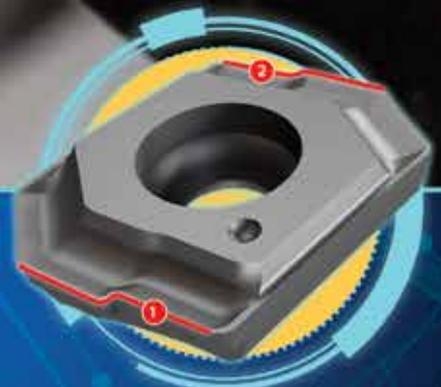


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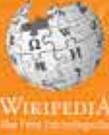
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TIME TO SHINE!

Indian manufacturing started the calendar year 2019 on robust footing with a boost to the production. If we are to look at the overall PMI numbers – which recorded a jump from 53.2 in December 2018 to 53.9 in January 2019 – the rise has been the quickest in the order books for 13 months. To add to the overall positivity, more jobs were created, and inflationary pressures were also negligible.

All this, augurs well for the industry - notwithstanding the fact that the general elections are just around the corner. In fact, based on our team's discussions with various industry leaders at a recently held exhibition in Bengaluru, there is no panic situation. And that is good news. The industry believes that it is on stable ground and it will sustain through the tumultuous election atmosphere.

THE 'MACHIE' TROPHY SYMBOLISES ALL THAT IS GOOD AND GREAT WITH INDIAN MANUFACTURING!

While the electoral process will soon take its natural course, the industry must continue to stay focussed. The pillars of 'Quality, Cost and Delivery' are perhaps a lot more critical now. They must be further strengthened with Innovation and Sustainability.

Incidentally, these key factors are highlighted and rewarded by 'The Machinist Super Shopfloor Awards'. In the last four years, this awards platform has acquired huge credibility and esteem. The 'Machie' trophy today symbolises all that is good and great with Indian manufacturing. Well, the fifth year is always special, and we are already working to make it truly grand! So, send in the nominations. It is your time to shine.

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CONTENTS



RAILWAYS

Creating a robust network 58

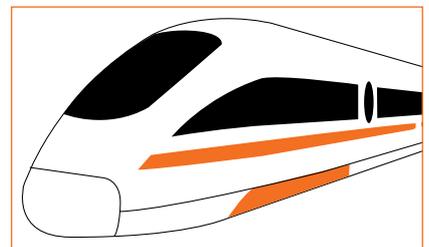


Event
Bigger, Better, Brighter 50

Editorial 4
 News 8
 Event Calendar 12
 Appointments 14
 Interview:
 Where science meets art! 22
 Strengthening presence! 42
 True to its vision! 44
 SME Zone: High on innovation! 28
 Facility Updates 54
 Logistics: The ever-evolving scenario 62
 Event:
 Machine Tools industry showcases its best 66
 Industry gears up for EMO Hannover 2019 69
 Update 68
 Products 76



Budget
Budget 2019-20..... 16



Railways
 Government allocates Rs. 64,587 crore for Railways in 2019-20 32
 Making it in India..... 38
 Updates 48



Automotive
 E for Excitement! 36
 Updates..... 70
 Future of Mobility – The Next Curve ... 72



Feature
Business in the fast lane..... 34

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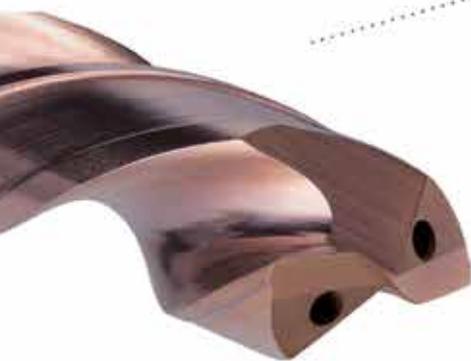


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NEWS

L&T's armoured systems complex at Hazira dedicated to the Nation

INDIA'S FIRST ARMOURED SYSTEMS COMPLEX (ASC) in the private sector, developed by Larsen & Toubro, was dedicated to the nation by Prime Minister Narendra Modi recently. Defence Minister Nirmala Sitharaman was also present on this occasion. The ASC is a state-of-the-art facility to manufacture and integrate advanced armoured platforms such as Self-Propelled Artillery Howitzers, Future Infantry Combat Vehicles (FICV), Future Ready Combat Vehicles (FRCV) or Future Main Battle Tanks.

The Complex is currently executing the prestigious 'K9 Vajra-T' 155mm/52 calibre Tracked, Self-Propelled Howitzer Guns program - the largest contract awarded to a private company by the Ministry of Defence, Government of India under the Make in India initiative through global competitive bidding.

Spread over 40 acres, within L&T's sprawling 755-acre Hazira Manufacturing Complex, the ASC comprises state-of-the-art facility with high-end machinery and automation aids, feeder

shops, and a full-fledged mobility Test Tracks for acceptance and qualification of armoured vehicles.

The L&T Hazira Complex is amongst the largest and most contemporary manufacturing facilities, among few in the world and produces extra-large offshore modules, Reactor End shields and Steam Generators for Nuclear Power plants, high end equipment for the Hydrocarbon, Thermal Power and Defence segments as also ultra-clean Special steels and Heavy Forgings.

Manufacturing output expands to 13-month high

INDIAN FACTORIES STARTED 2019 on solid footing, boosting production in line with the quickest increase in order books for 13 months. At the same time, additional inputs were purchased in January as companies sought to rebuild their inventories. Meanwhile, further jobs were created, while inflationary pressures were negligible in the context of historical data.

Rising from 53.2 in December to 53.9 in January, the Nikkei India Manufacturing Purchasing Managers' Index® (PMI®) indicated a stronger improvement in the health of the goods producing sector. Moreover, the latest reading matched its long-run average. Faster increases in new orders, output and stocks of purchases contributed to the upward movement in the PMI.

Amid reports of successful advertising campaigns, favourable economic



conditions and strengthening demand, sales growth picked up in January. The increase in factory orders was the strongest seen in 13 months.

Subsequently, production volumes were boosted at the start of 2019. The rate of expansion was the sharpest since December 2017 and surpassed its long-run average.

Defence key pillar of India-Czech bilateral relations

ANDREJ BABIS, the Prime Minister of the Czech Republic, recently called on the President of India, Ram Nath Kovind, at Rashtrapati Bhavan. The President said that India counts the Czech Republic as a key partner in its growth story. He thanked the government of the Czech Republic for hosting the 'Czech Make in India' pavilion at the Vibrant Gujarat Summit in Gandhinagar. He said that there are immense opportunities for Czech technology and manufacturing in India.

The President said that along with an economic partnership, defence is a key pillar of India-Czech bilateral relations. He expressed hope that the two countries will move forward from a traditional buyer-seller relationship to one where we can co-develop and co-produce defence equipment.

India and Poland sign MoU to foster relations in coal mining & clean coal

MINISTRY OF COAL entered into a MoU with Ministry of Energy, Republic of Poland. The MoU has been signed between Haribhai Parathibhai Chaudhary, Minister of State for Coal & Mines and Grzegorz Tobiszowski, Secretary of State, Ministry of Energy, Republic of Poland. The objective of this MoU is to foster relations in the

field of coal mining and clean coal technologies through the already established Joint Coal Working Group as well as research institutes and academia between the two countries covering the following areas.

a. To promote trade & investment in the coal sector, enhance understanding of coal related energy

issues & promote the exchange of information on policies, programmes & technologies, research & development

- b. To review the activities implemented under MoU.
- c. To identify other forms of cooperation mutually agreed upon by the Participants.

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NEWS

Defence Budget crosses 3 lakh crore mark; represents 7.93% growth over estimates

UNION BUDGET FOR THE FINANCIAL YEAR 2019-20, presented by the Finance Minister in the Parliament envisaged a total outlay of Rs. 27,84,200 crore. Out of this Rs. 3,18,931.22 crore has been earmarked for Defence (excluding Defence Pension). For Defence Pension, an amount of Rs. 1,12,079.57 crore has been provided in BE 2019-20. Total Defence Allocation, including Defence Pension, accounts for 15.48% of the total Central Government expenditure for the year 2019-20.

The allocation of Rs. 3,18,931.22 crore represents a growth of 7.93% over Budget Estimates (2,95,511.41 crore) and 6.87% over Revised Estimates (Rs. 2,98,418.72 crore), respectively for the financial year 2018-19.

Out of Rs. 3,18,931.22 crore allocated for the financial year 2019-20, Rs. 2,10,682.42 crore for Revenue (Net) expenditure and Rs. 1,08,248.80 crore for Capital expenditure for the Defence Services and the Organisations/Depart-



ments under the Ministry of Defence. The amount of Rs. 1,08,248.80 crore allocated for Capital expenditure, includes modernisation related expenditure. The Capital Allocation of the Ministry of Defence under BE 2019-20 is 32.19% of the total Central Government Capital Expenditure, which is Rs. 3,36,293.00 crore.

STPI, IESA and IIIT-Bhubaneswar join hands

INDIA ELECTRONICS AND SEMICONDUCTOR ASSOCIATION (IESA) signed a memorandum of understanding (MoU) with STPI and IIIT-Bhubaneswar to establish the second ESDM Incubator in Bhubaneswar. Building on the success of the Electropreneur Park Delhi, this incubator will be housed at STPI Bhubaneswar to nurture start-ups and help them scale up by providing access to funds, market and mentors.

The first Electropreneur Park housed at Delhi University has been operational for more than 2 years and has successfully incubated 22 companies with a combined market valuation of INR 150Cr. While India has seen a big spurt of software IT based start-ups in the past decade with unicorns of multibillion-dollar valuations, it is



an acknowledged fact that the ESDM space is a much more difficult industry to succeed. The roadblocks for transforming a product idea in electronics into a successful business is different from other segments. While cutting edge technology is not readily available, the problem is compounded by lack of easy access to required tools, equipment for designing, testing, certifying and perfecting the product. This complexity adds to the cost of incorporation and product development of the start-up, which typically is at least 7x the cost of a typical software start-up.

Maxion Wheels to supply for Tata Tiago

MAXION WHEELS has won Tata Motors as a new customer for its VersaStyle passenger car wheel. The company is expected to deliver 150,000 VersaStyle wheels per year for the Tata Tiago model. This is an extension of the current delivery of three million VersaStyle wheels annually to other Maxion Wheels customers.

VersaStyle consists of a steel wheel frame and a styled hubcap. The optimized spoke structures and large ventilation areas provide numerous design and personalization options as well as design flexibility for steel wheels, such as multicolor paint, coatings and wheel inserts. VersaStyle also has a positive impact on the fuel efficiency of vehicles by being eight percent lighter than an aluminum cast wheel.

India's first regenerative 5000 HP electric locomotive flagged-off

IN A MAJOR technological breakthrough, Bharat Heavy Electricals Limited (BHEL) has successfully developed a state-of-the-art Regeneration System through in-house R&D efforts, for Indian Railways' fleet of conventional electric locomotives. The country's first

such regenerative 5000 HP WAG-7 Electric locomotive was flagged-off by Ghanshyam Singh, Member Traction & Ex-Officio Secretary to the Govt., Ministry of Railways, in the presence of Atul Sobti, Chairman & Managing Director, BHEL from the company's

Jhansi plant. The idea of developing the energy efficient Regeneration System was mooted by Indian Railways and BHEL responded to it by successfully developing the technology in-house, giving an impetus to the 'Make in India' initiative.

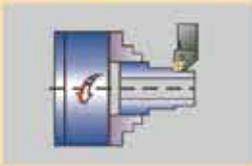
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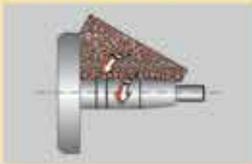


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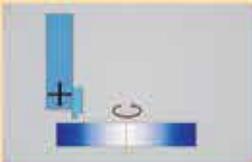


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• MARK YOUR DIARY •

A list of key events happening between March to December 2019, both nationally and internationally.

<p>Taipei International Machine Tool Show March 4–9, 2019 Taipei, Taiwan www.timtos.com.tw</p>	<p>International Engineering Sourcing Show (IESS) March 14–16, 2019 Chennai, India www.iesshow.in</p>	<p>Hannover Messe April 1–5, 2019 Hannover, Germany www.hannovermesse.de</p>	<p>Bauma April 8–14, 2019 Munich, Germany www.bauma.de</p>
<p>Die & Mould India April 22–25, 2019 Mumbai, India www.diemouldindia.org</p>	<p>BLECH India 2019 April 25–27, 2019 Mumbai, India www.blechindia.com</p>	<p>intec Coimbatore June 6–10, 2019 Coimbatore, India www.intec.codissia.com</p>	<p>Automotive Engineering Show India 2019 (Chennai) July 4–6, 2019 Chennai, India www.automotive-engineering-show.in</p>
<p>AgriTech India 2019 August 30–September 1, 2019 Bangalore, India www.agritechindia.com</p>	<p>EMO Hannover 2019 September 16–21, 2019 Hannover, Germany www.emo-hannover.de</p>	<p>Automation Expo 2019 September 25–28, 2019 Mumbai, India www.automationindiaexpo.com</p>	<p>Excon December 10–14, 2019 Bengaluru, India www.excon.in</p>



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BOMBARDIER TRANSPORTATION MAKES MANAGEMENT CHANGES

Bombardier Transportation announced the appointment of Wendy McMillan as Head of Australia and South East Asia and Managing Director Bombardier Transportation Australia, effective on February 01, 2019. Based in Melbourne, McMillan will be responsible for the end-to-end mandate of business development and sales through to project execution and services delivery for the new Australia and South East Asia sub-region.

Per Allmer, President of the Western Europe, Middle East, Africa and Asia Region at Bombardier Transportation said, "We are delighted to welcome Wendy McMillan to Bombardier. With her experience in business development, project delivery and rolling stock procurement, she is a great addition to our senior team." He added, "With Australia and South East Asia together as one strong sub-region, combined with Wendy's strategic leadership, our objectives are to increase customer satisfaction, drive business growth and deliver our transformation program."



NARAYAN KRISHNAMOHAN TO BE BASF INDIA MD

Recently, the Board of Directors of BASF India Ltd approved the appointment of Narayan Krishnamohan as Managing Director of BASF India Limited, effective April 1, 2019. He will also lead BASF's business in South Asia, including India, Sri Lanka, Bangladesh and Pakistan.

He succeeds Dr. Raman Ramachandran, who will retire on March 31, 2019. Narayan Krishnamohan has been with BASF for more than 24 years, having started his journey in BASF India Ltd., and subsequently handled various regional and global leadership responsibilities in Singapore, Germany and Hong Kong. His leadership experience spans multiple divisions in BASF, including Leather Chemicals, Specialty Chemicals, Acrylics & Dispersions, Paper Chemicals, Human Nutrition and Intermediates, among others. As Head South Asia and Managing Director, BASF India Limited, he will be based in Mumbai and will focus on expanding the business and supporting BASF's customers and partners in the region.

ARUN PAI JOINS QUEST GLOBAL

QuEST Global has appointed Arun Pai as President of New Business Development. In this role, he will be responsible for fuelling the company's next phase of growth across diverse industries – Aerospace & Defense, Aero Engines, Automotive, Rail, Medical Devices, Power, Oil & Gas, Industrial and Hi-Tech. Prior to joining QuEST, Arun was Corporate Vice President at HCL Technologies, where his charter was to grow the Commercial Industries Portfolio that includes Hi-Tech, Automotive, Manufacturing, Aerospace & Defense, Transportation, Energy & Utilities, Oil & Gas and Industrial.

Arun joins QuEST with more than 30 years of progressive experience in Engineering and IT services industry. During his three decades of service in the industry, Arun was instrumental in providing strategic and transformational benefits to various customers by delivering tangible business value across different outsourcing services including Product Development, Production and Aftermarket Services along with Digital and Enterprise Solutions. He has deep experience of heading businesses ranging from USD 500 million to 1 billion and has led global sales in various markets across North America, Europe, Taiwan and India.

Commenting on his appointment, Arun Pai said, "The engineering, product lifecycle and enterprise ecosystems are undergoing significant shifts due to digital disruptions and ever changing consumer needs. QuEST being a pioneer in the engineering services space is leading some of these disruptions. I am excited to be part of this successful team and look forward to contributing towards QuEST's next phase of growth."



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Interim Budget 2019-20

Recently, **Piyush Goyal**, Finance Minister of India presented Interim budget. Here is how the industry reacts to the Interim Union Budget 2019-20



THE FOCUS TO STRENGTHEN THE INFRASTRUCTURE

The overall budget perspectives are positive covering wide spectrum of areas as health, skill, infrastructure, agriculture - as a big boost to the economy. The resource allocation across the budget has been thoughtful. The fiscal deficit at 3.4% of GDP reflects better economic stability with the impact on inflation outlook being relatively muted. As we see, the continuing path of fiscal incentives would be growth positive, accelerating the nation's development. Further, the thrust on overall rural development will certainly accelerate the buying sentiments of the consumers and also the increased tax exemptions will enhance the disposable income of the people, thus contributing to the upliftment of the society with

improved living conditions.

The focus to strengthen the infrastructure [road, rail & air] will certainly facilitate industrial growth and promote 'Make in India' paving way for better mobility & accelerate the ease of doing business.

We applaud the Government of India's focus on EV drive towards reducing fuel import. Toyota has been a pioneer in electrified space offering alternate mobility solutions [HEVs, EVs, FCVs, PHEVs] globally. We would further continue our concerted efforts in this direction to boost sustainable mobility to enhance ever-better & comfortable living of the society. The vehicle emission based tax regime would boost this EV vision, towards achieving a cleaner and greener environment.

We hope that the tax revenues will continue to grow, enabling the implementation of the budget announcements. We now look forward to the full-fledged budget that would be presented during May-Jun this year."

■ **Shekar Viswanathan**, *Vice Chairman & Whole-time Director, – Toyota Kirloskar Motor*



HIGHLIGHTING THE OUTLAYING OF INVESTMENT OPPORTUNITIES

Budget highlights the outlaying of investment opportunities, improvement of operating ratio and introduction of new semi-high-speed trains elicits the vision to transform the rail experience for Indian commuters.

- The budget clearly outlines the path to creating a safer railway system. Safety is one of Bombardier's core business priorities. Removal of all unmanned rail crossing across the entire broad-gauge network highlights Indian Railways commitment to Safety.

• Capital expenditure of Rs 1.58 lakh crore, one of the highest ever for Indian Railways, was announced and most of the amount will be spent on capacity expansion which represents huge business opportunities for rail suppliers. Budgetary allocation for railways has been increased to Rs 64,587 crore, an increase of around 20%.

- Improvement of operating ratio to 95% by 2019-20 is a good sign for rail suppliers as Indian Railways will allocate the surplus for modernizing rail network across India.

■ **Sudhir Rao**, *Managing Director, India, Bombardier Transportation*

A BALANCED BUDGET

The interim budget for 2019-20 seems to be a balanced budget with support to sectors like agriculture and infrastructure for a holistic development of the Nation. Railways, roadways, airways along rail, road linkages, connectivity infrastructure and 99 city Smart Cities Plan excites us. Also, the Rs.50 lakh crore investment plan for improvement and proper completion of the ongoing and upcoming infrastructure projects is a welcome step, we are hopeful that the budget supports rapid development of the economy.

■ **Rajeev Sharma**, *Head-Corporate Services & Strategic Planning, Mitsubishi Electric India Pvt. Ltd.*



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A PROGRESSIVE BUDGET

The Interim Budget is a very progressive budget. The government has taken some positive steps like the reduction in import duty from 15-30% to 10-15%. While, the lowered duties will promote local assembly of components, some kind of incentivization was an absolute necessity for OEM's to invest in facilities that promote electric vehicles. I believe most of us were looking forward to the announcement of FAME II because it will give us a clear roadmap. We were hoping that the deduction of expenditure on R&D from 150% could have been taken to at least 200% reduction to start with. The next 3 years are crucial in terms of investments and the industry will be in a transition phase due to shift to BS VI and induction of EVs in

the Indian ecosystem.

■ **Nishant Arya**, *Executive Director, JBM Group*

HOPED FOR MORE INITIATIVES FOR PENETRATION OF EVs

As per the 2019 budget, Electric vehicle is a key part of government's vision for 2030 budget. Also, it has been indicated that next decade will witness a greater push towards electric vehicles. However considering the environment concerns, we were hoping for something concrete in the 2019 budget. Moreover, to meet the target of 2030 the government needs to plan today instead of giving the electric vehicles a push at a later stage.

■ **Ayush Lohia**, *CEO, Lohia Auto Industries*



LOOKING FORWARD TO THE IMPLEMENTATION OF THE BUDGET

We laud the government's step to give impetus to Digital India and extending it to the villages in the country. This will help in employment and revenue generation and let consumers have access to the world of Digital Infrastructure. We also appreciate that the government's commitment for setting up of International Solar Alliance, as it will help in promoting the use of renewable resources of energy and spread awareness across the country. A distress free healthcare and comprehensive wellness system is going to a big boost to the healthcare segment and will allow the organisations to come together and contribute to build a robust and a world-class healthcare infrastructure in India. The thrust that is given to promote

various sectors which includes, Digital India, infrastructure sector and real estate sector will have a positive impact on increase in demand for uninterrupted power supply. We look forward to the implementation of the budget soon.

■ **Sriram Ramakrishnan**, *MD & CEO, Consul Neowatt Power Solutions Pvt Ltd*



THE BUDGET WILL CREATE COMPREHENSIVE BENEFIT TO ECONOMY

The budget has been indeed surprising as it's different from the predecessors. A lot of rebates and good news on tax front for middle class. Income tax rebate for individuals earning till 5 lakhs is going to prove beneficial to the middle class and something that they have surely wished for. It is in fact beyond their expectation. Apart from this lot of other reforms have been proposed to support the Taxpayer like increase in standard deduction for salaried individuals, raising the TDS limits, Exemption from tax on Second Self occupied house, etc.

Then the government has also planned to give 12 crore farmers 6000 rupees. This is another silver lining in the budget and a big move which will uplift their current condition.

Even on the security front they have spent 3,00,000 crore which is again a gigantic and a much needed move.

So be it escalating living standards by their cleanliness drive, providing benefit to the common man, the farmers or strengthening security, all in all the government is surely far sighted. It is working at the root level for that."

■ **Rajeev Kapur**, *Managing Director, Steelbird Helmets*



TURNING

- CA025P, - JCT Series,
- KPC Series
- PCA Series For cast Iron,



MILLING

- MFH Series, - MFAH,
- MFPN, - MFWN,
- TN620M, - MEW, - MST



DRILLING

- DRV, - DRA, - DRX, - DRW,
- DRC, - MagicDrill DRA
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MEWH

New Generation End Mill with Double-sided 4-edge Insert



M-SIX (MFWN)

Double-sided 6-edge Insert 90° Cutter





REINFORCES THE DIRECTION TO MAKE INDIA

This year's union budget is good for the common man despite it being an interim budget. The government has not only revitalized its vision for the infrastructure sector but has also strengthened its commitment to promote renewable energy. The budget reinforces the direction to make India a global leader in the solar power by actively leading the agenda to reduce climate change by setting up the International Solar Alliance treaty. We are happy to note the solar power generation in the last five years has increased by 10 times. This will encourage further adoption of solar installations and will also create lakhs of job opportunities in the sector. We hope that this will also lead to the implementation of solar pumps in the agricultural sector, thereby strengthening the country's water and energy security further.

■ **Ranganath N.K.**, *Managing Director, Grundfos India*

EMPHASIS ON FARMERS, TAX PAYERS AND INFRASTRUCTURE DEVELOPMENT

This is a comprehensive budget with an emphasis on farmers, tax payers and infrastructure development. The allocation of Rs. 64,970 crores will boost the Indian Railways. Apart from that faster trains and other passenger-friendly amenities have been the focus areas. Vande Bharat Express an indigenous technology leap that will ensure speed, service and safety in rail travel. Being a 'Make in India' initiative Vande Bharat Express will help to create more jobs as more such train sets are manufactured for service across the Indian Railways network. Overall, it is an optimistic budget and will contribute to the all-inclusive growth of the economy.

■ **Suramya Nevatia**, *CEO, Hind Rectifiers Ltd.*



CONSUMER-FRIENDLY BUDGET

By giving more spending power to the middle class, the budget has proved to be an impetus to the consumer goods market. The government's focus on rural reforms will also help uplift the retail industry. Initiatives like MGNREGA, PMGSY will play a crucial role in development of infrastructure and raise the standard of living for lower and middle class population of India.

■ **Pankaj Aswani**, *Founder & CEO, Coolberg Beverages Private Limited*



THIS BUDGET IS DEFINITELY A WELCOME NOTE

The Union Budget-2019 is growth oriented and populist. It has taken into consideration in grieved farmers, lower and middle class. This is the first time that any government has worked with such a broad vision. The speech of Finance Minister Piyush Goyal highlighted achievements of the present government and the journey it has set forth in the last four and a half years. The vision of this government, no doubt is superlative and it will be interesting to know how this will be implemented. The interim budget was rhetoric in nature and sounded as the manifesto to the upcoming election. The ten dimensions it has conceived are laudable.

This budget has many positive provisions such as PM Kisan Samman Nidhi Yojana a project worth 75 thousand crore that guarantees direct income support to poor farmers of upto Rs 6,000/year. Also, PM Shram Yogi Mandhan Yojana provides pension to unorganised sector workers after the retirement age of 60 years. The defence of the country is very important and the budget increased the allocation to three lakh crores. A relief to three crore middle class individuals is that tax rebate is increased to five lakh rupees. Also, no income tax will be levied on notional rent for people having second self-occupied home.

This Budget is definitely a welcome note for every citizen of the country. For the first time it feels that management of economy is solid and all macro-economic parameters are in order. With this the nation will gain further impetus and grow in the right direction by increasing expenditure and giving more buying power to middle class. However, the government should have proposed this budget last year or earlier. Yet, I hope it is still not too late and in order to continue India's growth, we cannot afford to be complacent.

■ **Nikunj Turakhia**, *President, Steel Users Federation of India*



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Where science meets art!

With digital technologies such as IoT and AI, we are combining science with the art of glass manufacturing to produce high-quality products, says **Vijay Shah**, Director – Piramal Glass & Executive Director – Piramal Enterprises Ltd.

By **Niranjan Mudholkar**

Q Give us an overview of the glass packaging industry in India. How's been the last one year for the industry?

The glass packaging sector in India has grown rapidly over the last two decades with significant investments in modern technology, capacity enhancement and the introduction of new products. The glass packaging market was at INR 45.5 billion during 2012-13 and is estimated to have reached INR 67.5 billion during 2017-18, with a CAGR of 8.2 percent. The glass packaging accounts for about 10 percent of India's INR 472 billion consumer packaging industry.

India is amongst the top 15 markets for glass packaging globally, however, the country's per capita consumption of container glass is low at 1.4 kg compared to other countries, exhibiting a significant opportunity for growth. Increasing health consciousness, acquisition of advanced technologies and strengthening of consumer connect will likely further drive the demand for glass packaging in the country. Adoption of latest technologies and use of automated machines in the manufacture of glass containers in the country has significantly grown in the last decade.

The glass packaging industry in India is highly fragmented with the presence of a large number of localized players and about 10 medium and large players. The top three manufacturers' together account for about 80 percent of the total in-

"India is amongst the top 15 markets for glass packaging globally, however, the country's per capita consumption of container glass is low at 1.4 kg compared to other countries, exhibiting a significant opportunity for growth."

stalled capacity.

North India is the leading container glass market in India accounting for around 40 percent of the overall demand followed by south and west at 29 percent and 21 percent respectively. Of the total glass packaging market, food and beverages accounted for a major share of around 80 percent followed by the non-food sector at around 20 percent. The Indian container glass industry is aiming to further increase the natural gas-based operations as natural gas is clean, improves furnace performance and reduces repair and maintenance. Also, in the last twelve months, the profitability of the manufacturers who export to international markets has significantly increased as the rupee has proved to be more competitive compared to the dollar.

Q How's been the business for Piramal Glass and what's driving the growth?



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We are the largest specialty glass player in Asia and have been the fastest growing glass company in the world during the last 15 years with a CAGR of around 15 percent. The FY '18 revenue was around \$320 million with cosmetics and perfumery segment contributing around 40 percent and the rest being distributed between glass bottles for spirits and food and those for pharmaceuticals. We are offering our products in over 50 countries and over three-quarters of our revenue comes from the exports business. Today, we are the global leader in nail polish bottles, manufacturing two billion units each year that are almost half of the global demand.

It's a complex industry with fixed costs and capacities that are therefore very sensitive to variations in demand. Even the main global players in this sector have stopped growing. The key reasons for our sustained growth lie in our flexibility, our excellence in design and manufacturing, our wide global footprint, and our continuous investments in future ready and sustainable initiatives. Over the next two years, we are planning to invest over \$70 million. Today we have our offices and warehousing facilities in France, Germany, USA, Brazil, India, UAE, UK, China, and Sri Lanka.

Our strong and long-term customer base is also one of the key reasons for our growth. We closely work with our customers through their product launch life-cycle to conceptualize, design, and produce a personalized glass packaging solution that exemplifies the brand value, market requirements, and product concept. Today, we have 17 of the world's top 20 cosmetic companies as our customers and most of the top global players are part of our customer list for spirits, food and pharmaceuticals segment.

"The mould workshops are equipped with state-of-the-art CNC machines with a separate infrastructure for the manufacturing of sample moulds. Our facilities have the latest machines and equipment sourced from globally reputed suppliers."



Inside the Jambusar plant



"We have four manufacturing facilities located in Park Hills (USA), Kosamba (India), Jambusar (India), and Horana (Sri Lanka) with an overall capacity of 1375 tonnes per day, with 12 furnaces and 55 production lines."

What is the percentage ratio of your domestic and exports revenues?

The Indian (domestic) market represents around 25 percent of our total turnover and around 75 percent is exports.

Tell us about the overall manufacturing capacities and capabilities of Piramal Glass

We provide an integrated glass production and decoration solutions and technical expertise from concept, design, to final commercial development. We have four manufacturing facilities located in Park Hills (USA), Kosamba (India), Jambusar (India), and Horana (Sri Lanka) with an overall capacity of 1375 tonnes per day, with 12 furnaces and 55 production lines. Our glass decoration facilities are located in Kosamba (India), Horana (Sri Lanka), and Williamstown (USA).

Our facilities are supported by dedicated and modern mould design and manufacturing workshops. The mould workshops are equipped with state-of-the-art CNC machines with a separate infrastructure for the manufacturing of sample moulds. Our facilities have the latest machines and equipment sourced from globally reputed suppliers. For instance, the furnaces, distributors, and forehearth are developed by HORN and SORG (Germany); Batch House and Hot cullet conveyors are developed by Zippe (Germany); IS machines from EMHART (Switzerland) and Bottero (Italy); Stackers from Bottero (Italy); Sheppee from UK from Germany and BDF from Italy; Annealing LEHRS from Pennekamp (Germany),



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Mr. Rajesh Chavan & Mr. Sagar Shinde, Directors



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Mr. A R Purandare, DGM - CQA - BEL Pune



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The company has developed a state-of-the-art, cloud-based, IoT-enabled platform, which enables real-time monitoring of its operations.

and Inspection Machines from EMHART (Switzerland), HEYE (Germany), IRIS (France), and TIAMA from France. We have a colouring feeder operation for the perfumery segment in technical collaboration with a world leader in colouring systems. We are the first company to offer such a solution to the customers. The colouring feeder operation helps our customers to reduce development lead time. We produce six basic colours (blue, green, purple, light grey green, dark grey, and black) in 15 different shades.

Our decoration facilities are equipped with a state of art machinery and systems. We have in-house capability for printing (ceramic, organic, and pad in one or multiple colours), coating (lacquering), hot-foil stamping, rinsing (frosting), decal, fitment/ gluing, and external metallization. We also have modern and equipped chemical laboratories in our manufacturing facilities to check, inspect, and validate all incoming raw material as well as the quality of glass on a continuous basis. Our laboratory is equipped with WDXRF S-4 for chemical composition testing of glass and raw materials; Atomic absorption spectrophotometer for metal testing at ppm level; Lambda 35 UV visible spectrophotometer, equipped with colour measurement software for colour and light transmission measurement; Petrological microscope for glass defect identification; Stereo microscope from Zeiss, Germany, for glass homogeneity testing; and Flame photometer for alkali and extract testing in glass containers.

Today, it has become very important for manufacturing organizations to be equally focused on sustainability. Tell us what is Piramal Glass is doing in this regard?

As a group, we nurture projects that are scalable and ensure to deliver a sustainable impact. As an ISO 14001 certified organization, we take responsibility for the environment around us by constantly cultivating our environmental footprint. A vital element in our environmental sustainability is to use raw material and energy responsibly. We have successfully reduced energy usage, cut carbon emissions, increased the amount of recycled glass, and created a safer and greener work environ-

ment. We have tied up with the social movement, Believers in Glass, which highlights the benefits of using glass and the health hazards pertaining to the usage of plastic. As part of our sustainability strategy, we have added a renewable power source, Solar Energy, in our consumption portfolio. We have successfully installed solar roof-top system of 2 MW at our India facility and of 3 MW at our Sri Lanka facility. We have also successfully installed Wind-Power system of 8.4 MW in India. These systems are future ready and are gaining significant popularity as a viable means to reduce carbon emissions.



ment. We have tied up with the social movement, Believers in Glass, which highlights the benefits of using glass and the health hazards pertaining to the usage of plastic. As part of our sustainability strategy, we have added a renewable power source, Solar Energy, in our consumption portfolio. We have successfully installed solar roof-top system of 2 MW at our India facility and of 3 MW at our Sri Lanka facility. We have also successfully installed Wind-Power system of 8.4 MW in India. These systems are future ready and are gaining significant popularity as a viable means to reduce carbon emissions.

Last year, Piramal Glass enhanced its ‘Cullet-Sorting’ capabilities for ‘Cullet Treatment’ at its Jambusar (Gujarat) facility by installing fully-automatic equipment. How has it benefitted the organization?

Yes, you are absolutely right. Last year we had enhanced our Cullet-Sorting capabilities by installing a fully-automatic high speed, optical camera based, cullet sorting equipment from Binder+Co Austria called Clarity. It ensured the cullet sourced from the open market gets completely free from any impurities and gets sorted according to colour. It had also enhanced our capability to sort glass in the smallest sizes, from 1mm onwards.

Piramal Glass has recently implemented an IoT solution on the 46 production lines across its four plants (two in India and one each in Sri Lanka and the US). What necessitated this move and how do you intend to leverage on the same?

Although we are a B2B company, we want to provide our customers, many of them millennials, a B2C experience. Real-time visibility, anytime/anywhere service, faster delivery and quality products are the benefits our customers will gain from our Digital Transformation program.

For our manufacturing operations, there has been a clear need for real-time visibility of operations to improve production efficiency and reduce defects. Glass manufacturing is a very complex process with many interacting variables.

To have a better control over our manufacturing process with actionable insights, we developed a state-of-the-art, cloud-based, IoT-enabled platform, which enables real-time monitoring of our operations. With digital technologies such as IoT and AI, we are combining science with the art of glass manufacturing to produce high-quality products. 

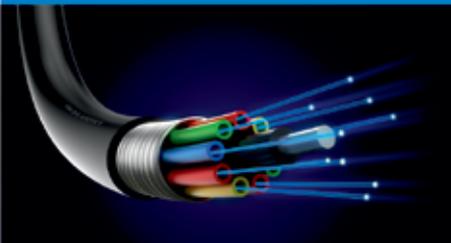
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Thanks to its focus on innovation, Steebird is growing at a pace of 50 percent, says **Rajeev Kapur**, the Company's Managing Director.

By **Niranjan Mudholkar**

Q What is your assessment of the Indian helmets market in terms of its size and, key players?

Now, the helmet is mandatory in a few cities like Delhi, Chandigarh, Jaipur and Mumbai. Rest Pan India, wearing helmet while riding is not mandatory, and police is not taking fines from the people for not wearing helmets. If the Government will make helmets mandatory Pan India for the riders and also the pillion riders the demand of the helmets will be 100 million helmets each year for the Indian market.

Talking about the key players, there are only three of

them, Steelbird Helmets, Studds and Vega Helmets. Apart from these, there are 216 ISI Mark helmet manufacturers, but they are too small. Many new companies like Sandhar Group are entering the market. The Indian helmet market is really big with many new companies are foraying into the market

Q What are the major challenges faced by the industry? What role is the 'Two-Wheeler Helmets Manufacturers Association' playing in addressing these issues?

There are many challenges that are faced by the industry. Firstly, helmet being a life saving device, it should be ISI Mark, but still Non-ISI mark helmets are being produced! The government has not yet brought the helmet into the mandatory ISI list. It's unbelievable that most of the electronics are ISI certified but the helmets aren't. This is a major challenge! The capacity of 50 percent helmet manufacturers is empty as the market is flooded with Non-ISI and fake Helmets. Secondly, the helmet industry does not know when the Government will make helmet mandatory Pan India. As of now, the total investment required to serve the helmets to the Indian market is Rs 6000 crore. So, nobody is going ahead with this investment because we don't know when the helmet will be mandatory Pan India.

In the Helmet Industry, 90 percent of the ISI mark helmet producers, are coming up with Fake ISI mark helmets and the government knows this really well. Most of the certified producers are selling fake ISI helmets at a cost of Rs 120 only. So, the government can check with their bill books, and hammer test the helmets. This a very big challenge as in this case, they are fooling the consumers.

Right now, the helmets come under luxury products as



"The Rajasthan plant is postponed for a while because we have set up two adjoining plants at Baddi. Now in Baddi, we will have more than 6 Lakhs sq ft built up area for producing helmets and we will be able to produce 43,000 helmets per day."



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18 percent GST is levied on it! The Two-Wheeler Helmet Manufacturers Association has urged the GST Council to cut the GST on helmets to 0 percent, as helmet is a life saving device. The BIS had come up with a draft notification to put an end to the manufacturing and selling of Non-ISI Helmets, but till now it has not been implemented.



Q How has been the overall market for Steelbird in terms of business in the last one year? Is the growth in line with your set targets?

Yes, for Steelbird the market is fantastic because we have many brands, products and innovation. Our priority is the Research and Development. Each year we are growing at a pace of 50 percent only because of our R&D and innovative products. We are having eight companies in Italy which are doing the research and Development for us. In Europe, we have tied up with several graphic designers, helmet designers, and testing companies. As a result, our company is growing at the pace of 50 percent leading to growth in the sales. This is all because of the innovation we are doing, but the market is not at all good for helmet Industry as the helmets are only mandatory in few cities. Only the people who are aware about the safety measures while riding two-wheeler are buying ISI helmets.

Q What is Steelbird Group's current annual turnover and where do you intend to take in the next two to three years?

In 2019, we will do a turnover of 500 Cr. plus. By 2021, the turnover will be 1000Cr plus and by 2028, we foresee 3,600 Cr.

Q Tell us about the upcoming plant in Rajasthan. How much are you investing and what is driving this expansion?

The Rajasthan plant is postponed for a while because we have set up two adjoining plants at Baddi. Now in Baddi, we will have more than 6 Lakhs sq ft built up area for producing helmets and we will be able to produce 43,000 helmets per day. By 2020, We will be producing 12.5 million helmets per year. So, now we are focusing on that, but as soon as we accomplish aim, we will start working on the Rajasthan plant too.

Q What is your current manufacturing capacity and how will the new plant augment it?

The manufacturing of the helmets is taking place at Baddi.

“Right now, the helmets come under luxury products as 18 percent GST is levied on it! The Two-Wheeler Helmet Manufacturers Association has urged the GST Council to cut the GST on helmets to 0 percent, as helmet is a life saving device.”

We are expanding to three helmet plants at Baddi and the totality we will be having more than 6 Lakh sq feet built up area, leading to produce 43,000 helmets per day. The focus of the expansion is at Baddi only, and once we have achieved 75 percent of the production capacity here, then accordingly we start building up for the Rajasthan Plant.

Q Are you also looking at launching new products soon? What products will these be?

We keep on launching new products. In November, we had taken 1200 retailers, dealers and distributors to Thailand to witness the Steelbird Excellence Awards 2018. During the Award Ceremony we had launched 15 new products and look forward to launching many more products in 2019. The details of the products cannot be disclosed right now but will surely share at the right time. A lot of innovation will be seen in the Steelbird products in the coming years.

Q Tell us about Steelbird's exports business. Which are your key markets and how much do exports contribute to your business in terms of revenue percentage?

Our export business is not even five percent of our revenue as we are focusing on the Indian market. At the moment, we are not giving much attention to exports, as India is the key market and we have incredible brand image here. We have saved millions of lives in India, providing our customers with the best quality helmets with superior designs and technology. The products on which we are working on will be only for the Indian market, and not for export. 

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Government allocates Rs. 64,587 crore for Railways in 2019-20

Infra allocation for north eastern areas increased by 21% to Rs. 58,166 Crore

In the Interim Budget 2019-20, the Railways has been allocated Rs.64,587 crore. The Railways' overall capital expenditure programme is of Rs.1,58,658 crore. This was stated by the Union Minister for Finance, Corporate Affairs, Railways & Coal, Piyush Goyal, while presenting the Interim Budget 2019-20 in Parliament.

Vande Bharat Express:

Introduction of the first indigenously developed and manufactured semi high-speed "Vande Bharat Express" will give the Indian passengers world class experience with speed, service and safety. This major leap in wholly developed technology by our engineers will give an impetus to the Make in India programme and create jobs. The Finance Minister (FM) stated that "infrastructure is the backbone of any nation's development and quality of life. Whether it is highways or railways or airways or even digi-ways, we have gone beyond incremental growth to attain transformative achievements."

Infra in North East Region:

The number of operational airports has crossed 100 with the commissioning of the Pakyong airport in Sikkim. Domestic passenger traffic has doubled during the last five years leading to large number of jobs being created also. Today, India is the fastest highway developer in the world with 27 kms of highways built each day. Projects stuck for decades like the Eastern Peripheral Highway around Delhi or the Bogibeel rail-cum-road bridge in Assam and Arunachal Pradesh have been completed. The flagship programme of Sagarmala along the coastal areas of the country will develop ports for faster handling of import and export cargo. For the first time, container freight movement has started on inland waterways from Kolkata to Varanasi. The Government plans to introduce container cargo movement to the North East as well, by improving the navigation capacity of the Brahmaputra river.

The FM announced that the people of North East have received significant benefits of infrastructure development in this Interim Budget. Arunachal Pradesh came on the air map recently and Meghalaya, Tripura and Mizoram have come on India's rail map for the first time. Allocation for the North Eastern Areas is being proposed to be increased by 21% to Rs.58,166 crore in 2019-20 BE over 2018-19 BE.

Boost to Renewable Energy:

The FM while presenting the Interim Budget stated that "India provided leadership to the global effort



"Infrastructure is the backbone of any nation's development and quality of life. Whether it is highways or railways or airways or even digi-ways, we have gone beyond incremental growth to attain transformative achievements."

Piyush Goyal, Minister for Finance, Corporate Affairs, Railways & Coal

to address the problem of climate change. Our commitment to promote renewable energy is reflected in setting-up the International Solar Alliance, the first treaty based international inter-governmental organisation headquartered in India. India's installed solar generation capacity has grown over ten times in last five years. This sector is now creating lakhs of new age jobs."

India's import dependence on crude oil and natural gas has been a source of big concern to our Government. While we have taken a large number of measures to moderate the increasing demand through usage of bio fuel and alternate technologies, urgent action is needed to increase hydrocarbon production to reduce imports. A high level Inter-Ministerial Committee, constituted by our Government, has made several specific recommendations, including transforming the system of bidding for exploration, changing from revenue sharing to exploration programme for Category II and III basins. The Government is in the process of implementing these recommendations, the Minister said. 

Source: PIB





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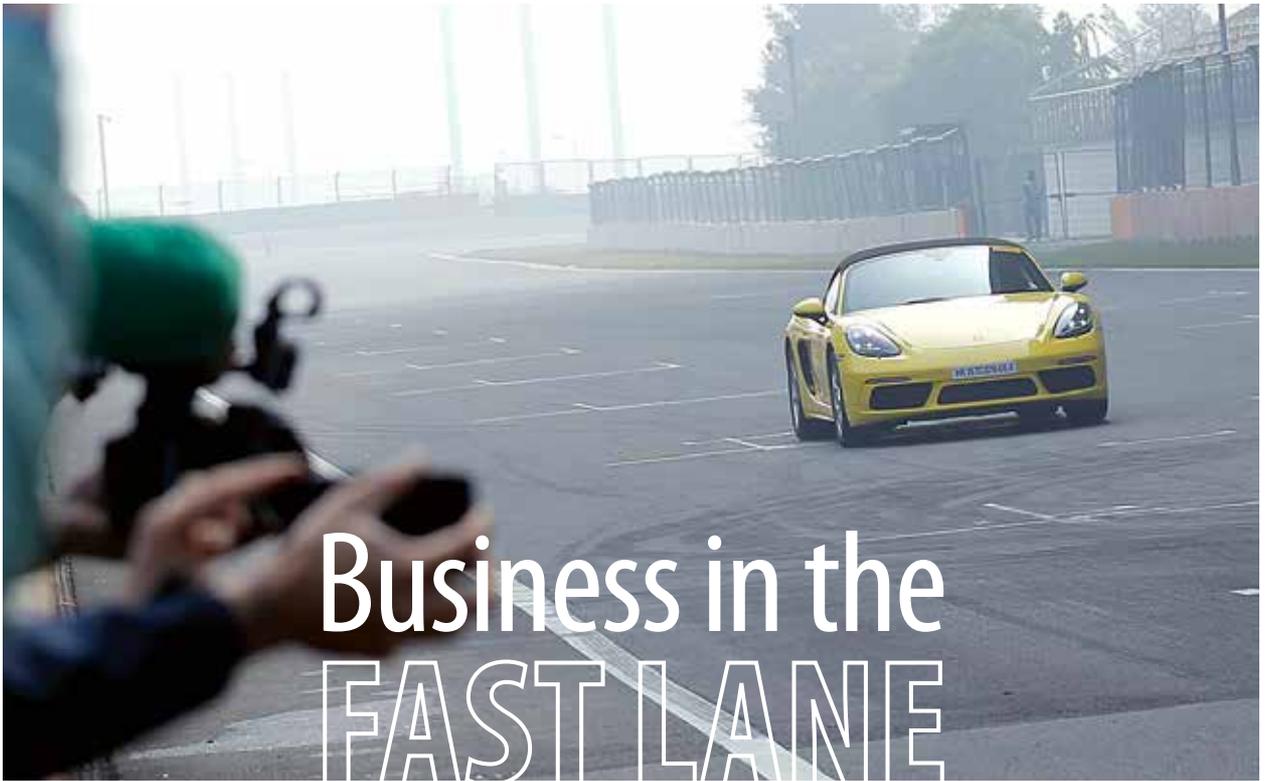
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Business in the FAST LANE

The world's fastest Indian, **Narain Karthikeyan**, made it a day to remember for The Economic Times India Leadership Council (ILC) when he showed them life at 250 km per hour and beyond

Business and motorsport might seem worlds apart, but these two seemingly diverse disciplines have more in common than you might imagine. Strategies are constantly evaluated and altered in both spheres, often on the fly, and both require an acute sense of awareness to succeed, not to mention the systematic thinking required to adapt to the rapid pace of change. Evolving at speed in order to gain a competitive advantage is not alien to



ET Edge Speak

The success formula for the world of sport and business doesn't differ all that much. The ingredients remain much the same, even if the milieu and context changes, sometimes too rapidly. Through this offbeat day out, we hope that we set pulses and minds racing, abuzz with the possibilities that lay ahead of them.

Deepak Lamba

President - Times Strategic Solutions Ltd,
& CEO - Worldwide Media



The day is officially flagged off

both worlds, and the list goes on. It was thus fitting to witness a coming together of both worlds when India's first Formula 1 racer, Narain Karthikeyan, spent a day with members of The Economic Times India Leadership Council at the famed Buddh International Circuit for what was a high-adrenaline day of business in the fast lane.

From F1, to A1 GP to Le Mans and more, Narain's extensive experience at the wheel of race cars revealed itself as he took India Leadership Council members on a high speed round of the circuit in sporty Porsches. Tackling India's only F1 cir-



“Historically, the Formula 1 World Championship has been a testing ground for auto companies, with technological advances and innovations trickling down to commercial automobiles. So given the need to deliver sustainable solutions, motorsport is the perfect stage to research clean and efficient technologies that address mobility and environmental issues. Electric vehicles hold the answer for sustainable transportation that fights climate change.”

Narain Karthikeyan, Fastest Indian in the World

cuit shotgun with India’s first ever Formula 1 racer is a rare experience to be cherished, and this was an intoxicating, high octane day out for business barons and baronesses from all across India Inc.

What then, are the parallels in business and motorsport? We detail these below

Leveraging data fully

We live in the digital age, with businesses and humanity creating more data than ever before. Finding the data points that matter thus becomes imperative, and this becomes the critical difference between those that have insights and those that do not. Having access to the right data empowers and enables everyone, helping one to make informed decisions and stay out in front. Not that different from motorsport then, where data can make all the difference between being a leader or being a laggard. In business and motorsport, every little bit of an advantage matters, making it pivotal to full leverage all the data an organization creates on a day-to-day basis.

Be aware, or beware

Business leaders need to know what’s going on throughout their company, especially by understanding what is happening in real time. Complete peripheral awareness of one’s context is vital if one is to nip an issue in the bud before it becomes a full-blown problem. Out on

the racetrack or in the corridors of business, situations evolve rapidly, and one needs to get a grasp of this before one loses out to fleet-footed rivals. Analytics in both fields have evolved greatly, allowing leaders to understand if resources are being fully optimized and how the entire operation can be pushed even further to achieve true greatness.

Speedy decision-making

Operating at speed comes with its own set of challenges, and real-time visibility on what’s happening at the frontline is priceless when it comes to making the right decision at the right time. Little wonder then that companies and race teams alike run projections and simulate challenging scenarios that they might encounter. This level of preparedness then allows the most to be made of a finite set of resources, allowing teams to come out shining even in darker times.

Teamwork time

Any team, be it in the industry or in motorsport, is only as strong as the individuals that make it tick. Be it from executing strategies effectively to crafting the strategies themselves, there are many components that need to mesh together if the team is to be a success, and none of it can happen if the team isn’t fully pulling its weight. For as Michael Jordan once said, the strength of the wolf is in the pack, and that of the pack in the wolf.

Keep an eye on the competition

Keeping tabs on the competition is a must if one is to best them. Identifying competitive trends and generating strategies to respond to an impending challenge is something everyone can relate to, and it’s all a key part of getting a leg up on the competition.

The boardroom and race track aren’t that different after all, both are competitions of different types with participants trying to win in their respective arenas. After all, it’s about keeping an eye on the prize and chasing it down relentlessly!

For more information, please contact ishita.dey@timesgroup.com



Narain Karthikeyan poses with ILC members after a long, but exciting day



E for Excitement!

It is really exciting to be a part of the global revolution in the transportation industry, says **Chandan Mundhra**, Chairman & MD, Savë Electric Vehicle

By Niranjan Mudholkar

Q How's been the journey so far for Savë?

Savë (pronounced Savee) stands for Save-environment. The idea of Savë germinated in 2013 and since then started taking shape. It has been a very satisfying as well as exciting journey so far and we are very optimistic about the future.

Q How does it feel to be in your position given the excitement and buzz around the electric vehicles segment?

It is really exciting to be a part of this global revolution in the transportation industry. The most interesting thing is mass scale adoption of commercial electric vehicles in India (Passenger & Cargo) as well as the government's initiative in adopting it for its various applications. This certainly fuels our optimism!

Q How has been the overall market for you in terms of business in the last one year? Is the growth in line with your set targets?

Our marketing strategy is B2B and B2G focused right now and are making effort in creating a market in the goods cargo space, which is unexplored. Growth is good; scopes which are unlocking gradually are quite promising. Earlier, E-Rickshaw was the only electric vehicle that people could relate with but now after seeing its use in various applications people have started thinking about it as a much more useful vehicle.

Q Tell us about your overall manufacturing capabilities.

Currently, ours is a tool-room type production facility with an annual production capacity of 600-800 vehicles. Mass man-



"Currently, ours is a tool-room type production facility with an annual production capacity of 600-800 vehicles. Mass manufacturing unit is under setup and will have the capacity to manufacture 6000-7000 vehicles per annum."

ufacturing unit is under setup and will have the capacity to manufacture 6000-7000 vehicles per annum.

Q Tell us about your R&D set up

We are associated with Marutee Design & Engineering Pvt Ltd., Bangalore for design and development of our products, along with a small in-house team as well as a few other associations.

Q How good is the revised FAME scheme for encouraging manufacturers to take up electric vehicles? What more is required from the Government in terms of policy reforms?

The revised FAME scheme is encouraging. Covering E-Rickshaw & E-Cart will further add to a substantial increase in number of EVs on roads.

Q Tell us about Savë Electric Vehicle's overall product portfolio as of now and the New Product Development (NPD) pipeline for passenger vehicles.

We specialize in customized electric vehicles (3 wheelers and Campus Carts). Our regular products are i) ElecTruck[®] - Goods transport vehicles ii) TukTuk-E: Passenger transport vehicle, and iii) Classis Cart: Electric Four wheeled vehicle for campuses, universities etc. At present, our eAuto is under development. It will be available for both applications (Passenger & Goods).

Q What is Savë's current annual turnover and where do you intend to take in the next two to three years?

We are having a revenue of around Rs.3 crore to Rs.3.5 crore in the B2B segment. We will start our distribution channel by mid-2019. Our target is to have around 8000-9000 vehicles on the road in the next three years. 



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Making it in India

Alain Spohr, Managing Director, Alstom India & South Asia speaks to The Machinist about railways manufacturing segment in India

By Swati Despande



Q How have been the railways & metros manufacturing segment faring in India?

The last few years have been significant for the Indian Railways. Efficiency, safety and sustainability have been the operative words behind also the developments in the sector. Technology developments in the sector have been standouts like introduction of Train 18, high speed locomotives, electrification, removal of unmanned railway crossings etc. On the metro front, there have been several tenders floated and existing networks expanded which have created a wealth of opportunities for service providers and investors in the country.

Q Indian Railways has been undertaking modernising work. How is it boosting morale of railways manufacturers?

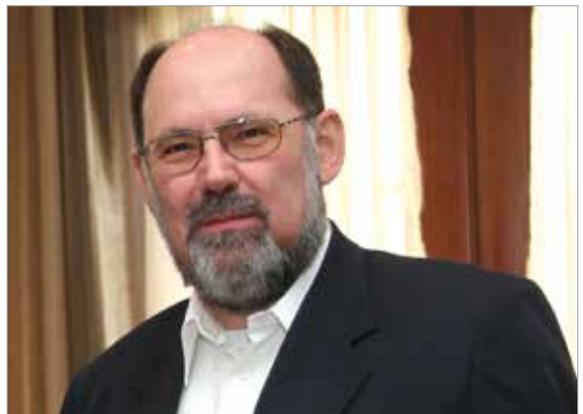
Overall growth in any segment is always a positive for the morale of the players operating in that space. With the Indian railways moving to industry 4.0 standards, there is a lot of dynamism in the sector now. Introduction of AI, IoT, and instances of predictive maintenance pushes domestic manufacturers to innovate and offer modern, sustainable and future-proof solutions. High speed technology is now very much a part of the Indian railways landscape which now brings the country at the same level as some of the most advanced countries in the world. This inspires confidence of investors, manufacturers and beneficiaries alike.

Q Also, multiple metro projects are being undertaken in various cities to improve connectivity. How is this helping the railway manufacturing segment?

Metros and railways have always been two ambits of the same form – one lending to the other in terms of business sentiment, passenger mobility and sectoral growth even though they are managed by separate entities overall. While the metros focus

on connect places intra-city mostly, the railways move passengers and freight cross-country – the scale of operations for both are entirely different. Having said that, if I must chalk down the contribution of increasing metro projects towards the overall railways sector, it would have to be in innovation and transfer of technology. When you find metros bringing in the state-of-the-art technology into the country, innovating on the basis of the paucity of resources or more the specificity of the problem, the railways sector too draws inspiration from it and vice-versa. For every CBTC on the metros, there is an ERTMS for the mainline network - this of course is bound to be a driver for the manufacturing segment.

Q Railways/metros manufacturing is a specialised job.



Overall growth in any segment is always a positive for the morale of the players operating in that space. With the Indian railways moving to industry 4.0 standards, there is a lot of dynamism in the sector now.



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Do you think there is a skill gap in this segment and how do you deal with it?

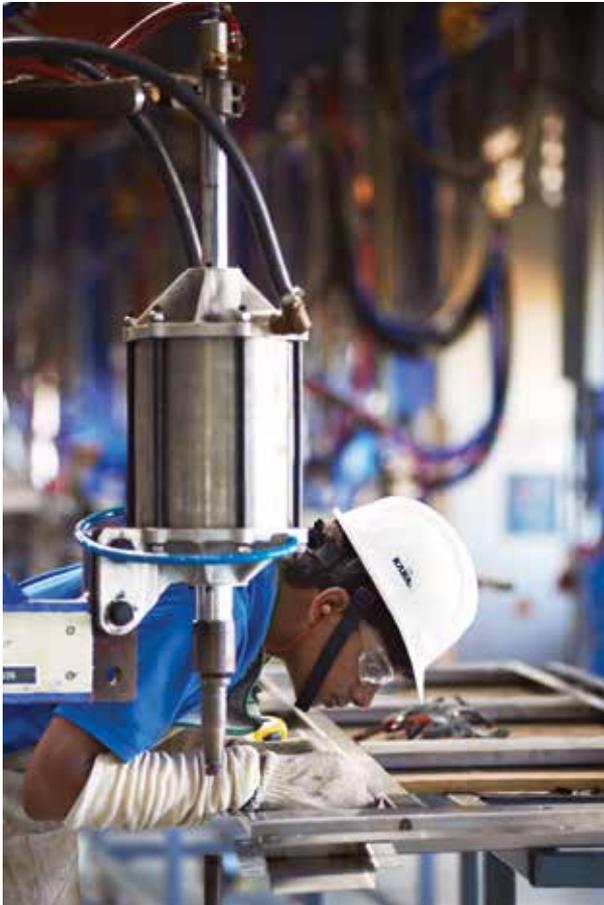
The Indian manufacturing space has a beautiful problem of a rapidly growing working population. However only 17% of the country's fresh graduates find employment of their choice in the country annually (NSDC report). This struggle to find employability is most importantly due to the gap in training given to them vs the level of skill required in the industry. To create and sustain a workforce that is future-ready and future-proof, the focus must shift to updating course curriculums at the various government-led institutes in the country. Apart from holding regular up-skilling sessions for its employees across the country, Alstom in its own capacity has partnered with a government ITI in Madhepura. The company will not just be upgrading the existing infrastructure of the institute but will also be working closely with the governing bodies to upgrade course structure and provide strong apprenticeship programmes at our Madhepura facility to expose the local youth to the modern factory floors and work processes.

The Indian manufacturing space has a beautiful problem of a rapidly growing working population.

As a company, Alstom is at the cusp of making India one of its prominent manufacturing and export hubs for projects worldwide. Having successfully delivered the Sydney Metro, the first international project delivered out of our plant in Sri City, we will now begin work on the

Montreal light rail project. Simultaneously, planning, designing and execution of our power, signalling and rolling stock contract for Mumbai Metro Line 3 will be executed. We are looking to finish out work on the EDFC and the OCC facility we are setting up in Allahabad. When fully operational it will be one of the largest locomotive control centres in Asia. Our high-speed locomotive manufacturing contract is under delivery from our plant in Madhepura. Our Coimbatore components facility will also play a significant role in international project delivery along with domestic projects like our power contract with Jaipur Metro amongst others. Over the next few months, we are also looking to win additional tenders to add our distinctly growing footprint in the country.

Please tell us about various projects that you are undertaking in the metros and railways segment.

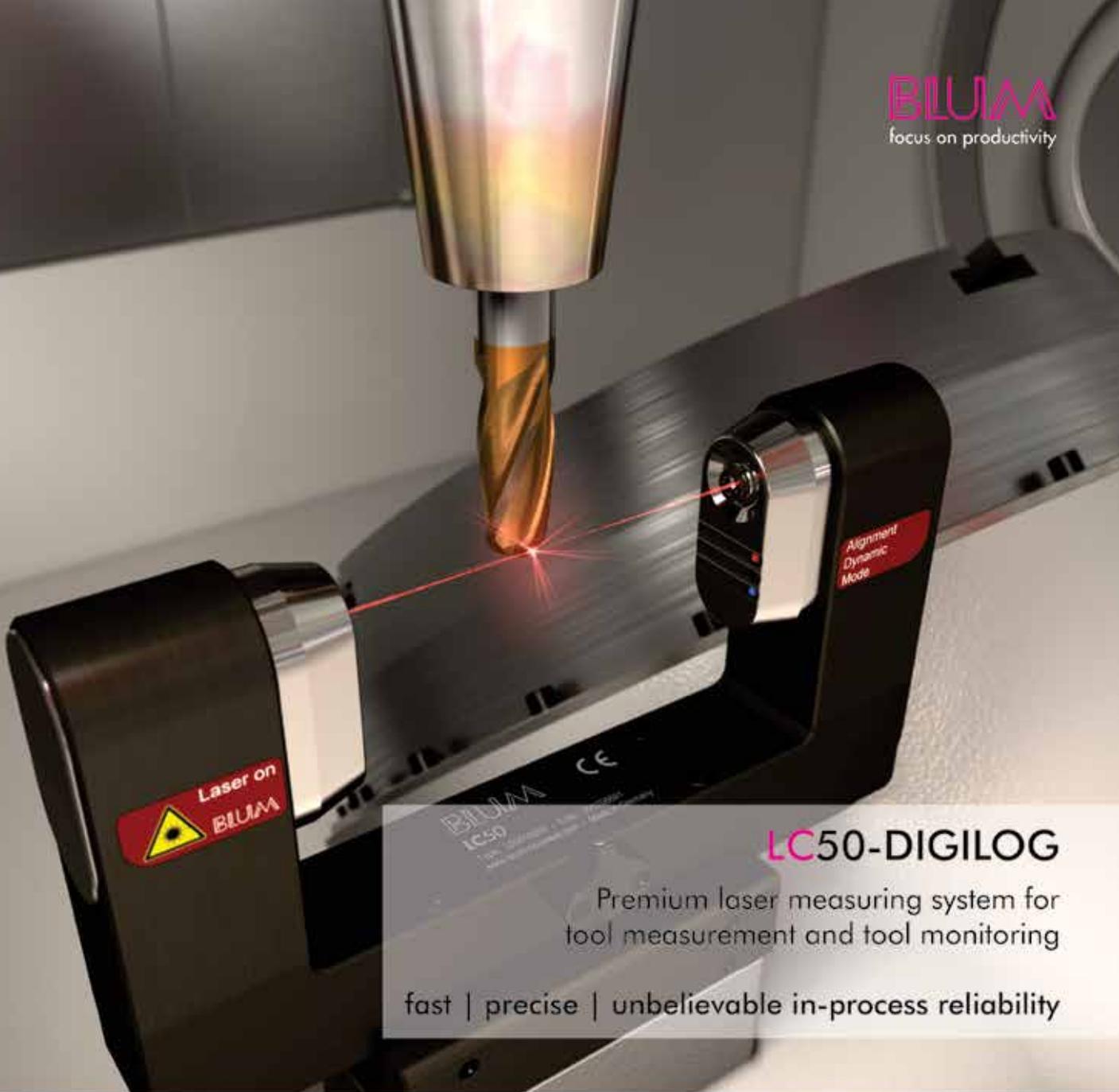


How the growth in the railways manufacturing segment is helping SMEs and MSMEs to show their technological prowess and grow further?

A strong driver behind the growth in the railways sector is the Government's 'Make in India' mission. Increasing tenders and orders in the country has also increased the need for home-grown supplier who can deliver components to the larger manufacturing units that not just keep the bottom lines looking good and keep the delivery schedules on track. Alstom too has setup a rigorous supply chain comprising of Indian manufacturers and suppliers to support the delivery of its India order book. Given the sense of positive urgency for innovation, overhaul and modernisation, SMEs and MSMEs in the country offering quality products stands only to gain.

How do you see this sector growing in the country in coming five years?

If we consider the global economy, the overall economic growth projected by the IMF is rather sluggish over the next few years. But I see very little signs of this slowdown affecting the growth momentum in India, especially in the mobility sector. The increasing urbanisation and rising incomes will continue the growing demand for better, more sophisticated mobility solutions in both the urban and the rural market. Freight traffic is set to become more dynamic and profit-generating with the DFCs coming into full operations. Products will be sustainable and less environmentally taxing. Policy support from the government in terms of inter/intra industry partnerships will increase instance of manufacturing and export from the country. It is only the beginning for 'Advantage India' in terms of a sustainable mobility revolution and Alstom will continue to be trusted partner for the Indian Railways on this journey.



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Strengthening presence!

Having firmly established its position in eastern India, **Ashish Beriwal**, Director of SRMB Steel says that the company is now looking to expand its presence in the southern and western parts of the country.

By Niranjana Mudholkar



"In the next 12 months, our goal is to reach an installed capacity to 5.00 lakh tons for our TMT bars."

Q Tell us something about the SRMB Group.

SRMB stands for "Steel Rolling Mills of Bengal Ltd". The group has been in existence since 1951. Today, we are one of the leading TMT bar Brand in eastern India. Our manufacturing unit is based at Durgapur, Kolkata. We are Tempcore Licensee from CRM Belgium for manufacturing of TMT bars and are the only brand in India which has got its own steel testing centres in around 12 locations. These centres spread awareness regarding good steel and best construction practices.

Q What factors are driving the growth for your group?

Driven by the fuel to invent and upgrade, at SRMB we strive to continuously upgrade our products. Product improvement is at the core of our competence. Our team of engineers and metallurgists are consistently engaged in developing innovative solutions at the plant. At our labs, we collaborate and avail continuous assistance from leading institutions like National Metallurgy Laboratory, National Test House, Jadavpur University etc.

Q What are some of the key projects that SRMB has concluded successfully in the recent times?

We have served innumerable projects of national importance all over the country. Some recent important projects include: The Mumbai-Pune Expressway, Metro Railway projects in various metro cities, Vidyasagar Setu and Nivedita Setu in Kolkata, Haldia Petrochem-

icals, NPCIL Kudankulam and Kota etc.

Q Do you have any kind of technological collaboration?

We have set up our TMT plant under license from CRM, Belgium-in order to manufacture high strength and weldable concrete reinforcing bars ('rebars') from mild steel, without adding costly alloying elements. We also have a tie up with Zingametal bvba, Belgium through their Indian counterparts to manufacture TMT bars coated with high performance corrosion resistant Zinga coating.

We also continually upgrade our manufacturing processes and service infrastructure with best in class available technology and processes available worldwide.

Q Tell us something about your innovations.

We have pioneered the revolutionary and innovative Wingrip rib design which is exclusive to our TMT Bars. Another TMT bar variety offered by us, SRMB Azar is a vastly superior corrosion resistant rebar which can prolong the life of concrete structures beyond 125 years.

Q What is your outlook for next 12 months?

In the next 12 months, our goal is to reach an installed capacity to 5.00 lakh tons for our TMT bars and we are constantly working towards improving our product and value offering to the customers in both channel sales and institutional segments. We have increased our channel foot-hold in newer territories. Besides, we are also finalizing franchising strategy in tie-up with local manufacturers to expand our brand in Western and Southern India. 





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By Niranjan Mudholkar

Q Truvison, a Europe based consumer electronics & appliances company, entered Indian market in 2016. How's been the journey so far?

Our journey in India has been quite exciting. Today, the brand is known for its quality and design excellence, credited for its distinctive technology products in India. Ever since the beginning, our goal has been to offer the best quality products and solutions to our customers in terms of affordability, performance, quality and design. Our products today stand testimony to the brand vision we hold, right from the TVs designed with Cornea technology that minimizes the strain to the eye to the TruAER technology in ACs, our products have enabled the brand to build international feel to Indian consumers at the most budgeted prices. We are proud of our progress today.

The acceptance of the brand in Indian market has led us a firm foothold in Tier 2 and Tier 3 cities in India. Today, we are available at over 500 hundred dealer locations plus offline platform with presence in over 32 cities.

Q Tell us about Truvison's overall manufacturing capabilities and capacities in India. What kind of localization is happening considered the local market's requirement?

"The Consumer Durables Market especially the TV market has gone very competitive. To equate the quality with best prices, we have taken up lean manufacturing at all units to ensure systematic minimization of waste."

True to its vision!

Currently, Truvison is focusing on exploring new avenues for growth and shall continue the focus on product development, and enhancement of the processes and after sales-service, says **Saurabh Kabra, Director, Business Operations, Truvison Industries Private Limited.**

We have two manufacturing units in Mumbai. With advanced machinery and latest technology, we manufacture 2000 units with a total capacity of over 700 LED TVs and 800 audio speakers each day. By the end of 2019, we aim to reach upto 1000 LED TV in a day. Our products combine innovation, great design, high quality, and superior value and have been instrumental in disrupting the Indian TV Market. In 2017, we extended our long-term commitment to the Indian market by joining the 'Make in India' programme. Today, we are deepening this commitment with our two plants and our first SMT plant dedicated towards local manufacturing of 1800 units. We have also pioneered the local assembly of 2018 in India, and we strongly believe we will continue to play a key role in transforming India into a global manufacturing hub.

Q Tell us about the R&D activities of Truvison in India

R&D and Innovation has been the base of Truvison product portfolio that also drives our purpose. Our R&D Team is focused towards developing new products, empowering users with technology and also expanding product knowledge. With almost 5-6 percent of the Company turnover, our R&D Sector plays a critical role in development of Artificial Intelligence and Machine learning products, that shall drive innovations that are centric and relevant to the Indian community. Our R&D facility will play a crucial role as Truvison charts its roadmap towards adopting the Indian market as its home ground.

Q Tell us about your overall product portfolio in India. Do you plan to expand it in near future?

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Our product portfolio comprises of LED TVs which includes HD, UHD, 4K TVs. Recently we have also come up with Models that support the Voice Assistant Technology. Apart from this we have vast Audio Portfolio which includes Tower Speakers, 2.1, 4.1 etc. Though speakers, have been a recent entrant we have gained a very strong foothold among the Markets. Followed which we have AC's. Very soon we aim to diversify this to Refrigerators and Air Purifiers. By 2020 we shall have a range of Consumer Durables under our umbrella.

Q You operate in a very competitive industry and also operate in a market where customers are both demanding as well as price sensitive. How are you managing costs at the manufacturing level?

Yes, like you mentioned the Consumer Durables Market especially the TV market has gone very competitive. To equate the quality with best prices, we have taken up lean manufacturing at all units to ensure systematic minimization of waste. Our early development cycle is focused on attributes to a product beyond price, for which customer is willing to pay for. At the manufacturing level, we make demand driven decisions which further leads to time optimization and efficiency at work force. We also provided great after sales- service to our customers to win their trust.

Q At present, what is your turnover and what kind of growth targets have you set for the next two years?

Currently, Truvison is focusing on exploring new avenues for growth and shall continue the focus on product development, and enhancement of the processes and after sales-service. Clear focus shall always remain on building latest technologies at most affordable price without compromising on the quality. With several strategic tie ups and partnership in pipeline, we aim to expand the product line across categories, enriching the lives of the consumers and adding a 'soul' to our products. We also plan to introduce more categories under mass premium brand which will help us to expand in tier II & III cities. We aim to be India's most Trusted Destination for Consumer Durables and probably amongst the top 3 consumer durable brands in coming years. We are aiming for 5 to 6 percent growth.

Q The Indian consumer electronics & appliances market is flooded with many big and well-established names. How do you plan to compete with these mega brands?

The TV segment in India is vast and is growing rapidly. New brands come up every year and the market is overcrowded with a large number of small and large



"We have two manufacturing units in Mumbai. With advanced machinery and latest technology, we manufacture 2000 units with a total capacity of over 700 LED TVs and 800 audio speakers each day. By the end of 2019, we aim to reach upto 1000 LED TVs in a day."

brands. Being present in the miscellaneous product line of businesses has helped Truvison in using the competencies of one business into other. To compete with Mega brands, we have plans to launch our sub-brand for specific markets focusing on more evolved ecommerce structure. The required Financial Muscle, to make investments into marketing and R&D at a time consumers are spending more on lifestyle products, could make the strategy tick this time around.



Q Where do you see Truvison in the next five years?

We aim to position our brand in the market in a way we attract new ventures for our business and also cultivate our brand as the first choice to feel international. In the near future, am confident to say we shall be able to compete with China and South East Asian countries. We are concentrating on stage wise brand planning and also retaining the ethos of quality assurance. To have a strong foothold in future, we are focusing on exploring new avenues for growth and shall continue our focus on product development, enhance production processes and after sales-service. Having said that, we aim to be India's most trusted destination for Consumer Durables and probably amongst the top three consumer durable brands. 

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Alstom, Siemens Mobility merger called off

The European Commission (EC) has announced its decision to prohibit the proposed merger of the Siemens and Alstom mobility businesses. As a result of this prohibition, the merger will not proceed.

Alstom regrets that the remedies offered, including recent improvements, have been considered insufficient by the Commission. The remedies were extensive in scope and addressed all the concerns raised by the Commission in respect of Signaling or Very High Speed trains. In addition, a number of credible and well-established European



players expressed strong interest for the remedy package, thereby fully confirming its viability.

This is a clear set-back for Industry in Europe. Alstom, together with Siemens, is convinced that the transaction would have created substantial value for the global mobility sector, the European railway industry, customers, travelers and commuters, without harming European competition. It would also have allowed the creation of a European player having the ability to cope with the growing competition from non-EU companies.

BHEL forays into track electrification



Bharat Heavy Electricals Limited's (BHEL) strategy of diversifying into new areas by leveraging its competencies, has begun paying rich dividends. After entering several new areas in various infrastructure sectors, the company has now made a foray into the area of track electrification.

Against stiff international competitive bidding, BHEL has won an order for Electrification of 440 Track Kilometers (TKM) Railway Line on Engineering, Procurement and Construction (EPC) basis.

Valued at approximately Rs.350 Crore, the order for Railway Line Electrification has been placed by Central Organization for Railway Electrification (CORE) for the sections; Bir- lanagar -Etawah, Bhandai -Udi and Farrukhabad -Shikohabad (including Mainpuri -Etawah) of North Central Railway.

BHEL's scope of work in the order envisages design, engineering, supply, erection, testing and commissioning of 25kV, 50Hz, AC, Single-Phase Electrification works including Overhead Equipment (OHE), Traction Sub-Stations (TSS), Supervisory Control & Data Acquisition (SCADA) system, Electrical general works and associated Civil and Signal & Telecom (S&T) works.

BHEL has state-of-the-art facilities, dedicated infrastructure and skilled manpower to address the customised needs of various infrastructure sectors of the economy. The company will continue to leverage its competencies and focus on its diversification strategy to drive the next wave of growth.

Escorts Ltd. Q3 Net Profit Up by 52.3%

Escorts Limited recently reported a profit of ₹ 140.1 crore in the quarter ending December 31, 2018 up by 52.3 percent as against a profit of ₹ 92 crore in the corresponding period last fiscal. Revenue from operations up by 37.4% to ₹ 1,655.1 crore in quarter ended December 2018 as against ₹ 1,205.0 crore in the corresponding period last fiscal.

The net profit for the nine months ending December 2018 was up by 56.6 percent at ₹ 363.5 crore in nine months ended December 2018 as against a profit of ₹ 232.2 crore in the corresponding period last fiscal. Revenue from operations up by 27.5% to ₹ 4,564.7 crore in nine months ended December 2018 as against ₹ 3,579.9 crore in the corresponding period last fiscal.

“Escorts today is driving technology led growth across businesses and endeavour to engineer unique engineering solutions for mechanized agriculture and strengthened infrastructure. We are continuously investing in new technologies, product mix and expanded distribution network for significant domestic growth and global reach. With recent technology collaborations and strategic JVs with global leaders like Kubota, Tadano and others, we aim to manufacture innovative products for emerging economies and offer unique solutions for domestic mechanized farming, smart construction and safe modern railways.”

Railway Products Division

Revenue for the third quarter up by 34.1% at ₹96.6 crore as against ₹ 72.0 crore in the corresponding quarter. EBIT margin up at 19.9% as compared to 13.0% in the corresponding period last fiscal.

For nine months of current fiscal revenue up by 38.0% at ₹ 290.6 crore as compared to corresponding period last fiscal. EBIT margin for nine months of fiscal up at 21.6% as compared to 13.2% in corresponding period last fiscal. Order book at end of December '18 is more than ₹ 450 crore and will be executed in the next 13-15 months.

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Bigger, Better, Brighter

As The Machinist Super Shopfloor Awards 2019 enters its fifth glorious year, we plan to take it to the next level

It's time for celebration! It's the fifth year edition of The Machinist Super Shopfloor Awards! Since, it is the milestone edition, we plan to make it bigger, better and brighter!

Going down the memory lane 2015

The maiden edition of The Machinist Super Shopfloor Awards took place in Pune in May 2015. With this, we launched a platform for the manufacturing industry to showcase and flaunt its capabilities at the shopfloor.

2016

With the success of its maiden edition, the Machie became the trophy that every shopfloor dreamt to have. The red carpet touch to the ceremony added a glamour quotient to it. Moreover, it became the first awards ceremony of the manufacturing industry to be telecasted on a leading business channel.

2017

In the third edition, The Machinist Super Shopfloor Awards introduced three non-manufacturing related categories – Supply Chain Management,



CSR and Human Resources. This step came from the perspective that a plant is much more than mere manufacturing. The new categories were well received by the industry.

2018

... And the glamorous tradition of red-carpet ceremony with the power packed session of CEO Panel Discussion continues. How-



Nomination process:

1. Log on to <http://supershopfloorawards.themachinist.in/>
2. Download the nomination form
3. Fill requisite details
4. Send the hard copy on:

Ms Fiona Fernandes

'The Super Shopfloor Awards 2019'

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EVENT

ever, the awards achieved new heights of popularity with highest number of nominations received across categories and geographies.

2019

Any guesses?

Let that be a surprise! A clue would be Its 'Bigger, Better and Brighter'

But long mile starts with a single step. So what are you waiting for? The nominations process has begun. All you have



This is one of the very few awards in the country that focuses on the manufacturing. More importantly it focuses on what makes manufacturing good. Therefore, it is a prestigious awards platform.

Pawan Kumar Goenka, Managing Director, Mahindra & Mahindra



It was a good opportunity for me to meet some of the other members in the industry and have informal discussions with them. It was great to see the energy at the event – clearly there

is a lot of improvement from the companies being awarded and it is a proud moment for them to get recognized.

Sriram Viji, Deputy Managing Director, Brakes India



to do is log on to <http://supershopfloorawards.themachinist.in> to find the nomination form.

The nomination process remains the same. However, recognising the importance of maintenance, we have added yet another category dedicated to it. So, put your best foot forward and showcase the innovations that you have brought about in the shopfloor.

To tell you once again, we are inviting nominations for The Machinist Super Shopfloor Awards in 11 categories including Productivity, Safety, Machining Excellence, Innovation, Quality, Digital Manufacturing, Green Manufacturing, Maintenance, Supply Chain Management (SCM), Corporate Social Responsibility (CSR) and Human Resource.

And, The Machinist Super Shopfloor of the Year is the ultimate glory. The Machie shines brighter for the shopfloor that outstands the rest. So, to qualify for the category, each shopfloor needs to send entries in minimum of four categories.

In addition to this, People Awards is the key highlight of the event. Be there to see who are announced as The Machinist Super CEO, Entrepreneur and Next Generation Leader of the Year. Also, look forward to know who the Lifetime Achievement award is bestowed upon.

Wishing all the best!



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Thermax opens new manufacturing facility at Sri City, invests Rs.166 crore

Thermax Limited inaugurated its new manufacturing facility in Sri City, Andhra Pradesh. The company's latest state-of-the-art production unit, deploying high levels of digitisation, will manufacture a wide range of vapour absorption machines comprising chillers, heat pumps and heaters in its first phase.

Constructed on a 40-acre plot in the Domestic Tariff Zone at Sri City with an investment of Rs.166 crore (23 Mn USD) in Phase I, the unit has a capacity to produce 400 machines per year.

"We have come up with a world-class facility that is aligned to our vision of 'Smart Thermax' and a significant step in diversifying our operations to leverage the infrastructural advantages of strategic locations such as Sri City. We have invested in digitisation and automation to facilitate zero-defect processes that will ensure superior quality products to our customers", said M.S. Unnikrishnan, MD & CEO, Thermax.

Located around 75 km from Chennai, Sri City is emerging as a preferred business destination that provides seamless connectivity by road, air and seaports. "While this new plant will help us serve our existing and potential customers in the



southern region better; it will also be an important manufacturing hub for Thermax's global operations that will augment our export capabilities. With the increasing demand for green and energy efficient solutions globally, we see our vapour absorption products manufactured in this plant as an ideal fit towards sustainability," said Meher Pudumjee, Chairperson, Thermax.

Bosch opens AI Center at IIT Madras



Bosch has recently opened the Robert Bosch Center for Data Science and Artificial Intelligence (RBC-DSAI) at the Indian Institute of Technology Madras (IITM), one of

the country's leading engineering institutes. The center will contribute to basic research in the fields of data science and artificial intelligence (AI) and aim to work on an interdisciplinary basis with scientists, politicians, and businesspeople. Bosch's investment will amount to 2.5 million euros over a five-year period. In supporting this new AI center at IITM, Bosch wants to further extend its expertise in the field of artificial intelligence and data science in India. Speaking at the inauguration ceremony in Chennai (formerly Madras), the company's chief digital officer Dr. Michael Bolle underscored the importance of AI for the future of every aspect of connected living. "Artificial Intelligence is a core technology of the future. Our Indian engineers are playing a significant part in expanding our company's AI skills set." Since 2017, Bosch already has its own AI Center in India: the Bosch Center for Artificial Intelligence (BCAI) has one of its main locations in Bengaluru, alongside further locations in Sunnyvale and Pittsburgh in the United States and Renningen in Germany.

Agilent opens CoE in India

Agilent Technologies has opened a new facility in Mumbai, dedicated to developing integrated, end-to-end workflow solutions for supporting diversified end markets. The CoE is a state-of-the-art lab established with the purpose of meeting the increasing demand for next generation lean labs, delivering higher productivity, more efficiency, & providing higher-quality data. It will also enable a strong, local touch point for Agilent customers in the region to interact with well-qualified subject matter experts.

Dynapac opens its new manufacturing facility in Pune

Dynapac India Pvt. Ltd. has inaugurated its new state-of-the-art manufacturing facility in Pune for its road construction equipment, by the Fayat Group President and CEO, Jean-Claude Fayat. Dynapac started manufacturing of soil compactors in India in 2008 and has since expanded the range to a full line of soil compactors and asphalt rollers to support the Indian and export markets.

With 10 years of experience in manufacturing in India, it moves to a new integrated facility in Pune with increased production capacity that will strengthen the group presence in India. The plant located at Pulgaon, Pune has a production capacity in the range of 1200-1500 units. With the new plant, Dynapac aims to boost up the sales in the market. In 2018, the brand manufactured 750 Units in India. Currently, Dynapac has a market share between 12-15% in the sector.



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ZF breaks ground for Pune plant extension; to be ready by year-end

Only four years after its inauguration in 2015, business at ZF Group regional headquarter in Chakan, Pune is growing and requires a next extension step. The current facility with its 16,770 sqm built-up space is fully utilized with today's Commercial Vehicle, Car Powertrain and Aftermarket business.

By year-end a new production complex with 4,000 sqm will be completed and offers additional space to accommodate further production and warehousing activities.

"This investment is a strong signal for the region and the commitment to grow business in the region" states Dr. Holger Klein, Member of Board of Management, ZF Friedrichshafen AG, "India is an important growth market for ZF and therefore we are expanding our presence here".

"I am proud of the hard work of our employees, which



lead ZF on a positive growth path in the Indian market. With this investment into new building infrastructure we assure that we will also be able to fulfil growing customer demands in future" said Suresh KV, Head of ZF India Pvt. Ltd.

Rane TRW Steering Systems opens new facility at Tamil Nadu

Rane TRW Steering Systems Pvt. Ltd., a JV of Rane Group with the German ZF Group, opens new facility for occupant safety products at Tiruchirapalli (Trichy), Tamil Nadu.



The facility is strategically located in Trichy-Chennai national highway, 40 km from Trichy. The new facility will address the expected market demand & add capacity to localize laser cutting of fabrics & airbag cushion manufacturing for captive & exports. The company has invested around Rs. 400 mn in the new facility. Initial capacity will be around 0.50 mn modules per annum of Airbags & 1 mn units per annum of Seat Belt assemblies. Further, this would be ramped up to 1 million modules per annum of Airbags & 2 mn units of Seat-belt assemblies in next two years, with an additional investment of around Rs 250 to 300 million.

Nexteer expands global business operations in India

Nexteer Automotive is expanding its global operations with two new facilities in southern India: a new software center in Bengaluru to support growing demand for software-enabled functionality in advanced steering applications and a new production facility in Chennai to manufacture Nexteer's safety-critical Electric Power Steering (EPS) systems and driveline products.

Hero MotoCorp opens an R&D Center in Germany

Hero MotoCorp has announced setting-up of its first Research and Development (R&D) Center at a global location - the Hero Tech Center Germany GmbH.

A wholly-owned subsidiary of Hero MotoCorp Limited - the new Center of technology - located at Stephanskirchen near Munich in Germany - will operate in tandem with Hero's Global R&D hub, the Center of Innovation and Technology (CIT) in Jaipur, in the northern Indian state of Rajasthan.

Dr. Pawan Munjal, Chairman, Hero MotoCorp said, "Setting up of the Hero Tech Center Germany GmbH is a realization of our aspiration to build an R&D eco-system that is spread across global geographies. Ever since Hero began its solo journey in 2011, we have had a clear and focused plan to enhance and strengthen our technological know-how and product development capabilities. We set up the Center of Innovation and Technology (CIT) in Jaipur in 2016 and since then, this facility has been designing and developing a range of new mobility solutions for customers across the globe.

"The Hero Tech Center in Germany will be a source of modern technologies with a focus on the global customer base, thereby further strengthening our R&D capabilities. The Tech Center will also enable us to easily tap into the huge pool of resources readily available across Europe and merge them with our ongoing operations at the CIT."

Hero MotoCorp already has an efficient technology eco-system where it engages with top global design and technology houses from across the world, including Italy, Spain and Thailand.

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- + **Maximum technological diversity:** Internal and external grinding spindles, tool block holders or the time-tested EMAG turret equipped with 12 tool positions are available.



Technical data for the VLC 200 GT: Chuck diameter, max. 210 mm | Swing diameter, max. 270 mm | Workpiece diameter, max. 160 mm | Workpiece length, max. 100 mm | Travel distances X (total stroke from pick-up to turret) / Z 1,700 / 250 mm | Loading time (depending on clamping device) 6 – 10 sec. | Main spindle capacity: 40% duty cycle / 100% duty cycle, 22 / 18 kW | Main spindle torque: 250 / 202 Nm | Main spindle max. speed: 3,000 rpm | Spindle bearing dia., front: 110 mm





Creating a robust network

Sudhir Rao, Managing Director, India, Bombardier Transportation speaks to The Machinist about railways sector in India.

By Swati Despande

Q How have been the railways & metros manufacturing segment faring in India?

Despite the arrival of the internet, people are actually moving more and more. Digitalisation helps us to increase capacity and deliver more and more automation in everything we do: preparation, driving and maintenance.

The public transport market is growing globally in terms of geography and in terms of products and innovations. Europe remains the main market and Asia is continuously growing.

There is a growing market for public transit driven by urbanization, environmental concerns and, most importantly, infrastructure spending by cities and governments. I want to capture more market share for Bombardier Transportation in India across business segments.

Generally, cities and governments never have cash which is really available to invest in infrastructure projects and I've never seen so many people who are really convinced that this is a good return for the economy, but Indian rail transportation market is very, very strong and we have a key role to play.

Recent launch of the high-speed network in India between Mumbai and Ahmedabad is a path-breaking initiative and will bolster the economy, create new jobs, improve connectivity, and enhance infrastructure and manufacturing in India.

Q The company is focusing on the high speed network. Can you please tell us about it?

Recent launch of the high-speed network in India between

With government's strong focus on e-mobility vehicles, PRIMOVE is Bombardier's complete e-mobility portfolio allowing cities and the transportation industry to easily incorporate electric mobility.

Mumbai and Ahmedabad is a path-breaking initiative and will bolster the economy, create new jobs, improve connectivity, and enhance infrastructure and manufacturing in India.

The government is planning nine routes for the high-speed trains, and Bombardier ZEFIRO high-speed (HS) and very-high-speed (VHS) trains are already setting the benchmark in very high performance, very high efficiency and very high dedication globally. (Speed: 250 kms – 380kms/ph).

Bombardier would be keen to support the Indian Government in its endeavour to create a high-speed network with our world-class ZEFIRO High speed trains delivering the Make in India promise.

Bombardier's expertise in the high-speed segment is unmatched. Over the past 20 years, we have helped deliver 1000 trains and vehicles for high-speed and very-high-speed applications. We have also participated in 95 per cent of Europe's VHS trains.

We see in the next couple of years, there will be more projects and tenders on high speed trains considering India is a vast country and requires connectivity which is safer and faster supporting economic growth.

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There is a growing market for public transit driven by urbanization, environmental concerns and, most importantly, infrastructure spending by cities and governments. I want to capture more market share for Bombardier Transportation in India across business segments.

Q Multiple metro projects are being undertaken. How is this helping the railway manufacturing segment?

With Indian government, we're seeing clarity on modes of transport ideal for a particular city with major focus on integration, creating mobility ecosystem keeping safety in mind. 8,000 new metro cars and 3,200km of new urban tracks were added in the last two years globally. Capacity and safety are very important for cities, it's an unstoppable trend.

Q Please tell us about various projects that you are undertaking in the metros and railways segment?

Bombardier has been investing in India for over 50 years. Bombardier has a well-established manufacturing operation, innovative technologies, engineering capabilities, supplier base and over 2200 highly skilled employees in India.

Bombardier is one of the largest rolling stock suppliers to Delhi Metro having delivered 776 metro cars and is the largest signalling supplier to Delhi Metro with over 120 track kms delivered or in progress. Bombardier recently celebrated 10 years of successful partnership with Delhi Metro.

Currently, Bombardier is moving around 5 million people daily in Mumbai and Delhi and our propulsion equipped locomotives travel around 300,000 kms on Indian Railways network.

Q Bombardier has state-of-the-art manufacturing capabilities in India. Can you tell us about it?

Currently, Bombardier is the first foreign multinational company to set up a wholly-owned railway vehicle manufacturing facility in India; first rail company to use robotic welding in India; delivered India's first indigenously produced metro train in India for India, delivering India's first rolling stock project by a multinational company for exports; first multinational rail manufacturing site to be accredited with International Railway Industry Standard (IRIS) certification amongst many other achievements.

Our Savli site has a demonstrated capacity of manufacturing one car per day and we have built capacity to manufacture 35 metro cars per month. Our Maneja site is also supplying propulsion equipment to Indian Railways for locomotives and EMU's for over 2 decades.

Mass Transit systems in over 50 cities by 2020, modernization of Indian Railways network, plans for semi-high speed and high-speed trains offer a huge potential to further optimize the Indian transport system. Bombardier aims at investing in India with a long-term perspective in manufacturing facilities, local talent, developing local supplier base, enhancing engineering capabilities and new technologies in the projects which are strategic to our growth in India.

Our commitment and investment has attracted world class rail suppliers to India making our local content and sourcing between around 60 percent from India itself (varies from project to project as per customer requirement), created around 2500 direct jobs and 5000 indirect jobs, our suppliers setting up manufacturing facilities in India meaning less dependency for spares. Our employees in Gujarat are fully trained on special tools and processes to ensure standard quality across Bombardier. Savli started with rail engineering experts from across the globe moving to India to set up a manufacturing site has rapidly evolved into a truly Indian production and export hub with high international standards.

Q Tell us about Bombardier's focus on e-mobility

In addition, with government's strong focus on e-mobility vehicles, PRIMOVE is Bombardier's complete e-mobility portfolio allowing cities and the transportation industry to easily incorporate electric mobility. It includes wireless charging, compact battery and efficient propulsion systems for electric rail and road vehicles. PRIMOVE makes sustainable mobility a reality by reducing local CO2 emissions to zero. It eliminates noise pollution and integrates seamlessly into the environment. 

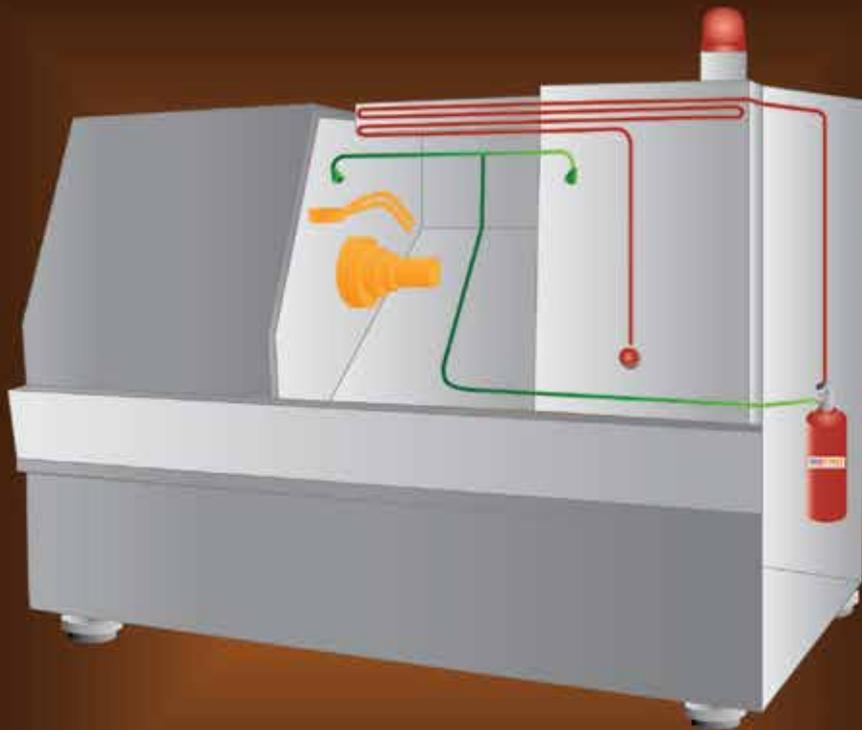


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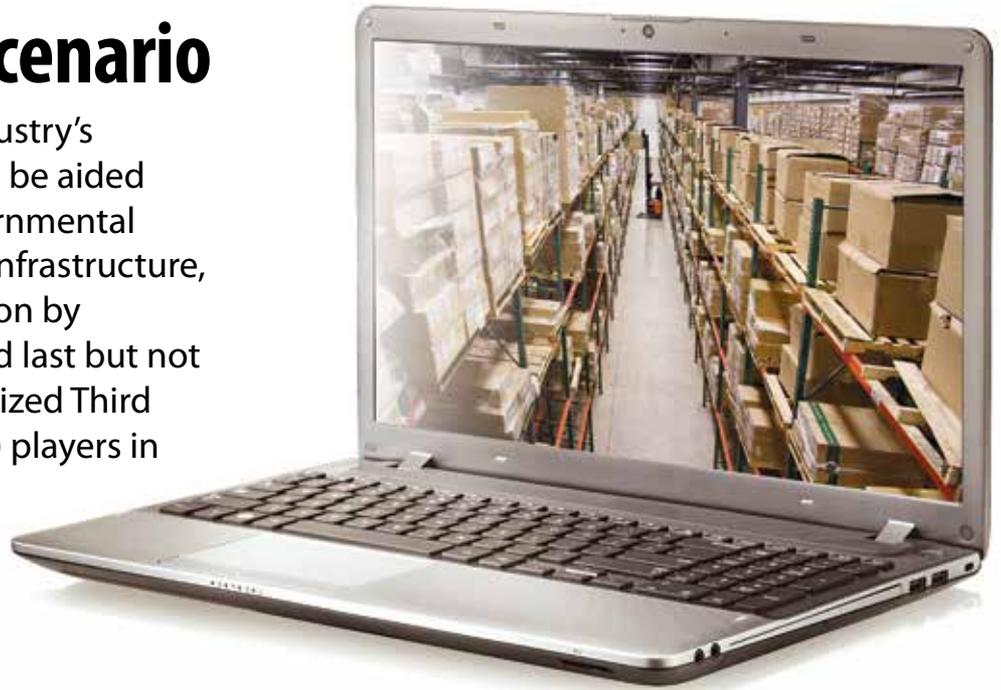


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The ever-evolving scenario

Indian Logistics industry's massive growth will be aided by favourable governmental policies, improved infrastructure, enhanced digitization by logistics players, and last but not the least – by organized Third Party Logistics (3PL) players in the country.



By Prasanna Pahade

As an industry today, logistics contributes more to the Indian GDP than Agriculture. As per the Ministry of Statistics and Programme Implementation, share of Agriculture in 2017-18 stands at 12.2 percent, whereas Logistics stands at 14 percent. This is only the beginning. The economic survey for 2017-18 revealed that the logistics industry will grow from present worth of \$160 billion to \$215 billion by 2020.

This massive growth will be aided by favourable governmental policies, improved infrastructure, enhanced digitization by logistics players, and last but not the least – by organized Third Party Logistics (3PL) players in the country.

Governmental Policies

The Indian logistics sector is currently at a transformational junction due to policy changes, and huge effort towards devel-



“Disruptive technologies have made hardware more accessible to drive Supply Chain improvements. Some of these technological interventions have the potential to completely reshape the Indian Logistics industry.”

opment of transportation infrastructure.

The earlier introduction of policies related to GST, e-way bill, Logistics Performance Index for States, nodal department for logistics and others will alter the way this industry functions. In addition, the recent policy changes pertaining to e-commerce business rules will affect the way logistical operations are conducted.

Infrastructural Challenges

India moves more than 80 percent of its goods by road. However, the conditions of these roads need improvement. One of the major reasons for higher logistics spend in India is inadequate transportation infrastructure that leads to frequent delays, disruptions and affects delivery schedules. With transportation infrastructure development being taken-up on priority – this hurdle will be overcome in near future.

The entire nation is currently in a huge infrastructure development mode, especially pertaining to transportation infrastructure such as highways, railway lines, airports and ports. These massive transportation infrastructure works by the Government, such as Golden Quadrilateral project, Dedicated Freight Corridor, Inland water movement project and others are currently underway to be a boon for the logistics industry.

Technological Adoption

Logistics today is all about digitization and automation. In recent years, the role of logistics has increased multiple times. Earlier, the role of logistics involved merely transporting goods from one location to another. However, today with the fast-

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paced e-commerce landscape, the expectations of customers have also changed drastically. The expectations range from the need to track the whereabouts of one's consignment, to the time that has been delivered.

Disruptive technologies have made hardware more accessible to drive Supply Chain improvements. Some of these technological interventions have the potential to completely reshape the Indian Logistics industry. Today's top-notch technologies include Warehouse Robotics & Automated Guided Vehicles, IoTs on Trucks, Cloud solutions and Last Mile connectivity solutions using sophisticated optimization algorithms along with big data interventions.

It is believed that there will be further growth in technological adoption since logistics players will look at new ways to overcome challenges and align themselves to change. The industry will witness enhanced automation across the logistics and supply chain industry, especially in warehousing. This technological adoption will transform the way this industry currently functions.

In near future, this rapid evolution in technology will enable driverless transportation models wherein advanced computing and technology shall drive trucks and trains without needing any human intervention. Even warehouses are moving towards reducing human intervention through introduction of robotics and mechanized unloading and movement of cargo. These technologically aided solutions don't merely reduce operational costs but also enhance efficiency across the entire network.

"One of the major reasons for higher logistics spend in India is inadequate transportation infrastructure that leads to frequent delays, disruptions and affects delivery schedules. With transportation infrastructure development being taken-up on priority – this hurdle will be overcome in near future."

"The earlier introduction of policies related to GST, e-way bill, Logistics Performance Index for States, nodal department for logistics and others will alter the way this industry functions. In addition, the recent policy changes pertaining to e-commerce business rules will affect the way logistical operations are conducted."

Role of 3PL Companies

The massive demand for such services has given rise to third-party logistics (3PL) providers. Large companies aren't affected by logical and supply chain issues since they also possess integrated supply chains and allied facilities. But the vast majority of businesses in India are small and medium sized enterprises, with limited ability to manage such situations. Hence, the role of 3PL providers remains important in today's changing business environment.

The usage of 3PL services provide companies with bottom-line cost savings, enhanced flexibility and quicker responsiveness and higher efficiency. However, the most important benefit achieved by companies is that they can now focus on their core activities of manufacturing and operations while outsourcing allied activities such as those related to supply chain functions.

It would be pertinent to point out that Logistics is another sector that has seen a steady growth in its contribution to employment in the country. The increasing number of millennials in India, whose education is not sufficient for white-collared jobs, are being employed successfully in dignified jobs across e-commerce, warehousing and food-delivery sectors. And this is just the beginning. With these sectors growing at a massive pace, the future of young India looks bright.

The road ahead

In conclusion, the government and industry are taking initiatives to improve the logistics sector through various means.

These efforts have led to India's position jumping by 19 positions in International Logistics Performance Index (LPI) - from 54th rank in 2014 to 35th position in 2016 out of 160 countries.

In spite of these efforts, the World Bank's Doing Business (DB) report 2018 revealed that it takes more than six days to export and 13 plus days to import goods to and from India, across transportation modes. This is much higher than the average time taken in the developed world. Hence, there is need for much more effort - both regulatory and industry led. It is hoped that 2019 will witness greater movement in the logistics industry that shall support India's growing economic aspirations and propel it onto the world's commercial center stage. 

The author is Chief Strategy Officer, Mahindra Logistics Ltd.



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Machine Tools industry showcases its best

At IMTEX 2019, the machine tool industry showcases its technological prowess.

Indian Machine Tool Manufacturers' Association (IMTMA), celebrating 50 years of its flagship IMTEX exhibition, during 'IMTEX 2019 & Tooltech 2019' held at Bangalore International Exhibition Centre (BIEC), Bengaluru from 24th to 30th January 2019 has created a new record.

IMTEX 2019 which concluded successfully on 30th January 2019 featured several domestic and foreign visitors who sourced machines for their production units. The exhibition showcased technologies which are vital for moving the Indian manufacturing and machine tool industry forward.

Marking 50 years celebration IMTMA introduced a series of new initiatives which were unravelled during the event.

Additive Manufacturing and Factory of the Future (Industry 4.0) are seen as technologies heralding a new era in manufacturing. IMTMA had special pavilions and seminars on these. A live demo on implementing Industry 4.0 in Manufacturing was also held at IMTMA Technology Centre during the show.

An Experience Zone was set up adjacent to Hall 4 in BIEC. The zone had an archaic collection of IMTEX journey including display of vintage machines from a bygone era, pictures and a short film on IMTEX journey.

Celebrating the golden jubilee of IMTEX, IMTMA released an IMTEX Coffee Table Book on 25th January 2019. The book captures the ethos of IMTEX and traces its growth over a timeframe of 50 years since 1969.

IMTMA constituted an Eco Design Award to encourage adoption of eco-friendly practices in exhibition stalls. Six companies were conferred with awards in various categories.

An International General Managers' Meeting was also held during the exhibition to exchange ideas, share knowledge and network.



Another attraction for visitors was the presence of two humanoids to connect with technology in the campus during the show. Parallel events organized during IMTEX also had good turnouts. International Buyer-Seller Meet attracted 48 delegates from 13 countries. The i2 Academia Pavilion (a platform for academic institutions to showcase their research for the industry) featured 50 institutions including IITs from Mumbai and Kanpur. The first prize was won by Walchand College of Engineering, Sangli.

Manufacturing Quiz Contest featured 130 students from 24 institutions. IMTMA also organized the Jagruti-IMTMA Youth Programme to familiarize engineering students with the machine tool industry. Thirty students from 14 institutions across India attended the programme.

An International Seminar on Machining held a day prior to IMTEX on 23rd January 2019 attracted about 350 delegates.

Trade delegations had a strong presence at the show. Over all more than 150 trade delegations attended the exhibition. Delegations from public sector undertakings such as Bharat Earth Movers Limited, Indian Railways, Bhabha Atomic Research Centre, Hindustan Aeronautics Limited, Ordnance Factory Board, etc. visited the show. Delegations from industry associations such as Automotive Component Manufacturers' Association, Tractor and Farm Equipment Limited, and delegations from auto component and automobile sectors such as Ashok Leyland, Bajaj Auto, Hero Motocorp, Mahindra & Mahindra, Tata Motors, Toyota Kirloskar and various other industry sectors also visited the show and transacted business.

IMTEX 2019 & Tooltech 2019 have opened the doors for manufacturing industries to embrace new age technologies and become competitive at the global level. 

Source: IMTMA



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BFW and WIN Automation Partner for Industrial Automation Solutions

Bharat Fritz Werner Ltd. (BFW) has recently announced partnership with WIN Automation Solutions to jointly offer to customers modular scalable and comprehensive factory automation solutions with most comprehensive range of offerings in Milling, Turning and Special Purpose Machines.

These solutions consist of smart machines, intelligent material handling/automation systems synchronizing the material flow to manufacturing/assembly needs, providing data analytics to maximize OEE, productivity, quality, inventories etc.

Announcing the partnership, Ravi Raghavan, Managing Director, BFW, said, "In sync with our purpose to "Enable Progress" through solutions, we aim to comprehensively address the future of our clients by deploying digitization. For this purpose, we will pursue collaborative approach and partnership with WIN Automation which is an important step in this journey."

Pratik Kumar, CEO, Wipro Infrastructure Engineering (WIN), said, "Industrial automation for manufacturing is a US \$ 150 Billion opportunity globally and India is a nascent market. It is expected to grow rapidly and exponentially. With WIN Automation Solutions, we are in the right place at the right time to capture this market opportunity."



Indian Manufacturing is poised to grow exponentially to USD 1 Trillion by 2025 and aims to rank within top 3 economies of the world. To accomplish this, manufacturing sector needs to overcome challenges related to productivity, competitiveness, flexibility and agility of response to swiftly changing business environment. Seamless integration of material,

"In sync with our purpose to "Enable Progress" through solutions, we aim to comprehensively address the future of our clients by deploying digitization. For this purpose, we will pursue collaborative approach and partnership with WIN Automation which is an important step in this journey."

Ravi Raghavan, Managing Director, BFW

information flow and digital environment with deployment of comprehensive Industry 4.0 compliant solutions are going key imperatives for companies in India and in Asia.

Source: BFW

Mastercam distributes TDM solutions in India

Customers of tool data specialist TDM Systems have been proving for 25 years that: The use of tool information at all decision-making and functional levels increases the agility and efficiency of a company. As a leading provider of solutions for digital manufacturing in the metal cutting industry, the wholly-owned subsidiary of the SANDVIK Group attaches



particular importance to manufacturer independence and partnerships. Since December of last year, Mastercam India has also been part of the TDM Systems partner network. The CAD/CAM expert supports distribution of the TDM software in India.

The demand and need for Tool Data Management, in mature Industry 4.0 applications is currently very large in one of the most important growth markets

of the world - India. Commenting on the strategic partnership, "We have been working very closely with the Sandvik Coromant group – both at the HQ level and regionally in India. We are pleased to partner with another subsidiary of Sandvik - TDM Systems, and through our collective offering, provide customers with a well-rounded solution that involves the tooling system," said Vineet Seth, Managing Director – South Asia & Middle East, for Mastercam APAC.

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Vineet Seth, Managing Director – South Asia & Middle East, for Mastercam APAC



Industry gears up for EMO Hannover 2019

The 22nd EMO will be opening its doors from September 16–21, 2019 in Hannover. Once again, the world's leading trade fair for metalworking is being held in Germany, the world's third largest machine tool market. "All major manufacturers of production technology will be presenting their products and services in Hanover at the largest and most comprehensive exhibition of industrial production. Nobody can afford to miss it," says Dr. Wilfried Schäfer, Executive Director of the EMO organiser VDW (German Machine Tool Builders' Association) in Frankfurt am Main, Germany. More than 1,780 exhibitors from 41 countries had applied by the registration deadline of 1 December 2018. The companies include market leaders in all technology areas such as DMG Mori, FFG, Mazak, Siemens, Grob, Doosan, Fanuc, Okuma, Makino, Index, GF Machining Solutions, Chiron, Trumpf, SLM, Stratasys, Paul Horn, ISCAR, Sandvik, Kuka and many more. New companies are joining them every day. From India there were already 31 companies registered. Among others those are Bharat Fritz Werner, Forbes & Company, Jyoti CNC Automation, etc.

EMO Hannover is a truly international platform for metalworking. In contrast to all other trade fairs which describe



Press Conference to announce EMO Hannover 2019 was graced by Michael Rose, Head of Protocol and Events, Deutsche Messe AG, Dr. Wilfried Schäfer, Executive Director EMO Hannover at VDW, Frankfurt, Narayan Giri, Head Expert, Ace Designers Limited & Geeta Bisht, Director, Hannover Milano Fairs India Pvt. Ltd.

themselves as international on the basis of their exhibitors, EMO Hannover also attracts trade visitors from all over the world. In 2017, just under half of the roughly 130,000 visitors travelled to Hanover from outside Germany, with around 160 countries represented. The proportion rose to 64 per cent for the exhibitors. 

Source: EMO Hannover 2019

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WABCO signs \$230 million agreement

WABCO Holdings Inc. has signed a long-term agreement to develop and supply innovative air suspension technology for one of the world's largest manufacturers of premium passenger cars, based in Europe.

Under this latest 10-year agreement, WABCO will develop and deliver an innovative air supply module along with control software to operate a range of air suspension system configurations for one of the manufacturer's high-volume global premium passenger car platforms.

Air suspension is now a standard feature on most of the manufacturer's electric and plug-in hybrid vehicles, so WABCO will support a 30% increase in air suspension production volumes compared to the manufacturer's preceding car platform. Further enhancing driving comfort and improved vehicle safety, air suspension systems automatically adjust the vehicle to the optimum ride height, independent of the vehicle's load. This is particularly important for electric vehicles to ensure sufficient ground clearance levels are maintained to protect their batteries.

Mercedes-Benz Cars to build battery factory in Poland



In the course of the electric initiative Mercedes-Benz Cars plans to build a battery factory at the Polish site in Jawor and thus extend the global battery production network of up to nine factories. "We will electrify the complete portfolio until 2022 and will be able to offer in each segment various electrified alternatives to our customers. This includes more than ten pure electric vehicles. We will produce batteries on our own, what we consider a significant success factor in the era of electric mobility. After the production of high-tech engines, we will establish additional future technology in Poland. The battery factory in Jawor is the second largest investment at this new Mercedes-Benz site," says Markus Schäfer, Member of the Divisional Board of Management, Mercedes-Benz Cars, Production & Supply Chain. In Jawor, approx. 100 km away from the German border, a state-of-the-art engine factory is currently being built. The plant will produce four cylinder engines for hybrid and conventionally driven vehicles.

Eicher Trucks & Buses introduces truck with Automated Manual Transmission



Eicher Trucks & Buses introduced state-of-the-art AMT (Automated Manual Transmission) technology in the 16T category- Eicher Pro 3016 AMT. This industry First 16 ton GVW AMT truck-The Eicher Pro 3016 AMT is equipped with an Intelligent Shift Control Actuator that automatically performs clutch and shift operations which completely eliminates the need to use the clutch and shift gears manually. The Pro 3016 AMT comes with Auto and Manual modes along with Transmission drivability features, that is, Power mode for time bound deliveries and Eco mode for Fuel Efficient operations. With this new development, Eicher's further reinforces its vision of driving modernization in commercial transportation in India and developing world.

The biggest advantage of Eicher Pro 3016 AMT is that it comes with additional driving comfort over manual transmission-equipped models. The elimination of a clutch pedal frees drivers from gear-shifting, reduces their stress & fatigue and minimizes performance gap between skilled and less experienced drivers.

Maruti Suzuki launches Mobility & Automobile Innovation Lab

Maruti Suzuki India has launched a program - Mobility & Automobile Innovation Lab (MAIL) to promote innovation in India for automobile and mobility space. It is an initiative by Maruti Suzuki to identify innovative and cutting edge solutions through start-ups, which are futuristic & customer oriented. The program will provide a platform to the budding talent in India to showcase their entrepreneurial capabilities at a national level. Start-ups with innovations in these fields would be offered an opportunity by Maruti Suzuki to turn their ideas into reality. Explaining about the program, Kenichi Ayukawa, MD & CEO, Maruti Suzuki India said, "Through MAIL, Maruti Suzuki offers a platform for startups to showcase their capabilities & come up with next generation ideas in the areas of Connected cars/Shared mobility/Autonomous cars/EV & its Infrastructure, etc."



Technological strides

At this year's IMTEX in Bangalore, DMG Mori demonstrated the latest developments of its versatile portfolio, which included many innovative high-tech machines.

Spread over stall space of around 500 sq m, DMG Mori's IMTEX 2019 exhibits focussed on the latest technological trends including digitization of machine tool manufacturing, integrated automation solutions as well as additive manufacturing.

At a press conference organised during the event, three DMG Mori spokespeople Dr. Masahiko Mori – President – DMG Mori Co., Ltd, Shinji Miyamoto – MD – DMG



Sunil K Rao – Deputy MD - DMG Mori India, and Dr. Masahiko Mori – President – DMG Mori Co., Ltd

Mori India, and Sunil K Rao – Deputy MD - DMG Mori India, shared information about various important developments.

Dr. Mori spoke about the growing importance of the India market. “At present, we are selling about 20 machines per month in India. Our estimate is that the India market will be of the same size that of China by 2025 and it will become bigger than China by 2030. So, this is a quite significant market for us,” he said.

He further added that the company

was working towards improving the technical support as well as spares to the customers. “We are enhancing the Indian capabilities with regards to the engineering works and we already have 50 trained engineers enabling our customers to do better,” added Rao. Miyamoto said that the company is combining machine tool engineering with automation expertise to provide better solutions to its customers. 

“Our estimate is that the India market will be of the same size that of China by 2025 and it will become bigger than China by 2030. So, this is a quite significant market for us.”

Dr. Masahiko Mori – President – DMG Mori Co., Ltd

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Future of Mobility – The Next Curve

The Insiders with huge stakes in the current state of mobility believe that they in some ways are able to control the pace at which this disruption will roll out. The truth is probably not completely in sync with this belief.

By Biranchi Mohapatra

No discussion on automotive and mobility is complete without the question marks that get thrown up in every forum on the direction the industry is headed in. Technology breakthroughs, social trends and the emerging trends in the way mobility is defined is creating a new ecosystem which threatens to dislodge the current set up.

Who, how and when still remain a question mark, but what is more and more evident is that the levers driving this disruption will create a completely new value chain.

On one side, the Insiders with huge stakes in the current state of mobility believe that they in some ways are able to control the pace at which this disruption will roll out. The truth is probably not completely in sync with this belief. While the Insiders are confident that the incremental technology leaps they are rolling out is sufficient to gradually move towards the new states of mobility, the reality maybe far different. Today, technology defining the consumer expectations driving the move towards autonomous and connected cars, car sharing and electrification of mobility etc is being led by the so-called disrupters. These are the big and sometime not so big Technology companies who are revolutionizing the way we have been used to experience mobility. The whole game is changing and today Mobility is no longer only about getting from point A to point B, it is now all about a more personalized and customized experience and besides being faster, cheaper, cleaner, safer and more efficient.

The key to change

This change spawns the whole set of new opportunities and



“While the Insiders are confident that the incremental technology leaps they are rolling out is sufficient to gradually move towards the new states of mobility, the reality maybe far different.”

emerging shifts in the value chain. A decade earlier almost 100 percent of the value chain in mobility was spread and enjoyed by the current stake holders. The biggest value was in R&D and development and vehicle design along with efficient manufacturing and after sales service. In the recent years with the advancement of technology and the need for safer, cleaner and more communicate transportation we have already seen some part of this classical pie shift from the manufacturers to a different set of industry segment which are more in the technology space offering communication and other electronic interfaces. These indeed have been driven by changing customer behaviour and expectations of a customized experience.

Going forward, this pie is likely to be challenged further. The value chain will shift in more ways than one. The classical case of vehicle development and manufacturing will still retain a lot of value, but the basic framework required to be efficient here will likely evolve. Higher levels of customization and flex-



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ibility in the manufacturing set ups and faster and more personalized customer interactions will be key.

Providing value

Value will accrue to businesses who are able to provide a seamless mobility experience and are able to create a customized and meaningful mobility experience. There will be value in people who create and manage the infrastructure required for this new system of mobility- whether it is the physical infrastructure supporting the new realm of mobility or the data networks and energy infrastructure which would drive the industry. Today, these look futuristic and everyone with stakes in the Industry likes to believe that they will be able to manage the change in a way which will not dislodge their investments and current assets and will be more gradual. However, the shift is evident, pace is difficult to predict. The writing on the wall is however clear- To stay relevant players have to take note of

“Value will accrue to businesses who are able to provide a seamless mobility experience and are able to create a customized and meaningful mobility experience. There will be value in people who create and manage the infrastructure required for this new system of mobility.”

the disruptions which are shaping up this trend and will have to determine the way forward with a clear analysis of the role they can play in the new ecosystem. Overall what is certain is that for the end consumer the future of mobility is going to be a paradigm shift in terms of a holistic consumer experience. 

The author is Managing Director, Plastic Omnium Auto Exteriors.

UPDATE

Ceratizit Group presents unified brand structure for India

The Ceratizit Group presented its new cutting tool competence unified brand structure for the Indian market for the first time at IMTEX 2019. Over the next few years, under the umbrella of the Ceratizit Group, the four competence brands Ceratizit, Komet, WNT and Klenk will continue the rapid growth shown in recent years.



India is an up-and-coming key market for the Ceratizit Group. In the future, as a result of the cutting tool division being reorganized, customers will benefit from the bundled know-how of the four competence brands and access one of the most complete product portfolios in the industry.

“We took advantage of Komet’s takeover, and completely restructured our cutting tool division with a view to the future, in order to serve our customers even better by providing comprehensive solutions for all fields of application in cutting,” explains board member Thierry Wolter. The leading expertise of the four competence brands for the Indian market not only covers all machining applications, but also offers tailor-made solution packages for industries such as automotive, aerospace and heavy metal cutting, which were displayed at IMTEX.

Ceratizit attaches great importance to the local production of its cutting tools in India. With a production site in Kolkata and two plants in Bengaluru and more than 630 employees throughout India, the Ceratizit Group is now able to produce the entire range of cutting tool solutions in India, from indexable inserts and tool holders to solid carbide and PCD tools.

The product portfolio also includes turnkey project solutions, for which a dedicated team is available to assist customers with special tools and total machining solutions. Besides the tools, these solutions also include fixing and programming the machine. In addition to the company’s own sales staff, a nationwide distribution network with over 160 channel partners ensures proximity to the customer.

The sales forecast for the current year confirms that the chosen path is the right one. “For the current business year, we expect a sales growth of 20% compared to the previous year”, explains Ashwani Sareen, Managing Director of Ceratizit India. The Indian subsidiaries of the Ceratizit Group are continuing the successful course of recent years. Turnover has increased more than fivefold over the last decade due to organic and strategic growth. Ceratizit is already number four in the Indian market. “The goal, however, is quite clear: to continue to grow over the next few years,” adds Sareen.

The foundation for this growth has been laid during recent years. The new location in Kolkata was inaugurated in 2013 and a modern CVD coating plant was added last year. Ceratizit also continues to invest in Bengaluru. Once the expansion at Komet India has been completed, more than twice as much space (7,900 m2) will be available. This will also see addition of new machines and new employment opportunities as well. 

Source: The Ceratizit Group



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The dovetail pin allows flat workpieces to be clamped directly

For the first time ever, the SCHUNK VERO-S quick-change pallet system can be used to clamp flat workpieces directly in the SCHUNK VERO-S quick-change pallet system. This results in completely new possibilities for machining thin workpieces, mould halves or free-form parts in machining metalworking, in tool and mould making, as well as in structural and chassis components for the aerospace industry. While conventional quick-change pallet pins can only be used from a depth of engagement of 20 mm to 25 mm, a clamping depth of only 3.5 mm is sufficient for the dovetail pins. The required interface (60° angle) can be produced with a free-form milling cutter with minimal material removal. The clamping pin is then inserted and locked by means of a hexagon key through two hardened clamping slides. After machining, the clamping pin can be removed and used for other purposes.



Due to the special geometry of the SCHUNK VERO-S clamping pins, eccentric and thereby particularly easy loading of the modules is also possible.

Extensive modular system

The dovetail pins are available in three versions as centering, positioning or retaining pins with a size 40 centering clearance. They are suitable for use in SCHUNK VERO-S NSE plus 138 or 176 quick-change pallet modules, and can also be used together with the SCHUNK WDB modular system for direct workpiece clamping. Due to the special geometry of the SCHUNK VERO-S clamping pins, eccentric and thereby particularly easy load-

ing of the modules is also possible. The direct clamping, free of interfering contours, with dovetail pins allows free access to the workpieces from five sides, a defined clamping situation, high repeat and positioning accuracy, as well as high pulling forces for demanding machining operations.

Source: SCHUNK INTEC INDIA Pvt. Ltd.

UPDATE

Sandvik Coromant showcases digital solutions at Imtex 2019

At the IMTEX 2019 exhibition, Sandvik Coromant showcased how customers and partners could achieve significantly higher productivity levels, more flexible machining processes and more sustainable production under the theme 'Shaping the future together'. The world's leading supplier of tools and know-how to the metalworking industry revealed how it is revolutionizing the world of turning, improving the entire manufacturing process with digital connectivity solutions and offering fascinating possibilities for the automotive and aerospace industries.

Sandvik Coromant presented Innovative Digital Machining solutions designed to reduce waste and increase efficiency for customers. These innovations included CoroPlus®, Process Control which helps avoid premature failure of tools, ensures consistent quality of components and also reduces damage due to collisions. CoroPlus® ToolGuide, provides fast and precise tool recommendations for the specific operation and material type, as well as CoroPlus® ToolLibrary, which enables users to integrate tool assemblies directly into their digital machining environment. Along with software that helps improve design and production planning, the company showcased networked tool and process-control solutions.



Using digital solutions for monitoring of equipment utilization makes workshops far more efficient and profitable than would otherwise have been possible, which is why Sandvik Coromant has introduced CoroPlus® MachiningInsights. More than a monitoring system, the solution gathers data, calls attention to issues and provides the insights required to take action. It is an easily attainable step for manufacturers that are looking to reduce waste in production and make a smooth transition into a digital way of working.

Speaking about IMTEX and Sandvik Coromant's participation, Michael Eneberg, Sandvik Coromant, President, Sales Area South & East Asia said, "It is indeed pleasure to be part of IMTEX. The trade show always offers an excellent opportunity to meet customers and partners personally in order to optimize future co-operation. We are very excited about partnering with IMTEX as it gives the industry a unique platform to collaborate and network by shaping the future together with our partners and customers. At the trade fair, we are proud to present our high-end solutions all of which are designed to help our customers become more efficient, productive and profitable."

Source: Sandvik Coromant



Indexable Tools Challenge Solid Carbide for Small Diameters

Indexable tools possess several distinct advantages that makes applying these tools within the above range very attractive in the eyes of the customer.

Rotating one-piece solid carbide tools traditionally dominate the market for diameter ranges of up to 20 mm (.75") and indexable tool manufacturers have not yet succeeded in penetrating this solid stronghold. Several important factors contribute to the historical perception of solid carbide as a better bet for tooling reliability.

Solid carbide tool accuracy compares favorably with that of indexable tools, particularly for small-diameter endmills and for tools with diameters beyond the range. However, the role of reduced accuracy for tools of small diameter (for example, a milling cutter's radial run-out) increases in significance as a factor affecting tool life.

An indexable tool is made up of a tool body, replaceable inserts, and mechanical parts such as clamping screws or wedges, which secure the inserts in the body. Decreasing the tool diameter necessitates reducing dimensions of the assembly components. Reducing the size of the securing elements leads to weakening their strength and the tool becomes unable to withstand cutting loads under normal machining data. This seriously limits the tool application; further decreasing may cause degradation of the entire assembly structure.

The prices of small rotating tools are often high compared to the assembled concept, which adds to the perceived limitations of indexable tools in the small diameter range.

The Indexable Option

Indexable tools possess several distinct advantages that makes applying these tools within the above range very attractive in the eyes of the customer. In many cases, especially in rough machining, changing a worn cutting edge by simple indexing provides economic benefits compared with having to replace a whole life-expired solid tool with a new tool. In addition, there is no need to use up time and resources on regrinding and recoating worn-out one-piece cutters.

Tool manufacturers have made significant progress in developing reliable designs that could be commercially viable against the solid carbide concept. Work in this direction has shown results already, and assembled mills and drills with interchangeable cutting heads are proving to be a realistic alternative to solid carbide tools.

Competitive performance

The introduction of tools with replaceable solid carbide cutting heads signifies a change in focus. ISCAR provides two examples of this concept with the ISCAR MULTI-MASTER milling line and the CHAMDRILL line in drilling.

Performance and accuracy characteristics have positioned the new tools to be functionally competitive with solid car-



Performance and accuracy characteristics have positioned the new tools to be functionally competitive with solid carbide designs.

bide designs. Versatility of these lines, where a head can be mounted in different bodies and vice versa where a single body can carry different heads, facilitates various assembly combinations and contributes to reducing items in tool stock.

Another important design approach - "no set-up time" - characterizes these lines, as a worn-out head does not require spending time on set up and can be replaced while the tool is still clamped in the machine tool spindle. This cuts cycle time and, consequently, reduces production costs. In contrast, replacing a worn-out solid carbide mill or drill inevitably leads to a new set-up procedure.

In addition, the concept ensures sustainable use of cemented carbide with all the associated advantages. The principle of "indexable" carbide tools has distinct merits and features strongly in tool design within the diameter range that is under discussion. The minimal diameter of MULTI-MASTER milling heads is 5 mm and that of SUMOCHAM drilling heads is 6 mm, while the MULTI-MASTER combined countersink heads for center drilling feature a minimal 1 mm diameter.

The LOGIQ factor

ISCAR has recently introduced a new range of small-size indexable rotating tools under its new LOGIQ line campaign. The company proposes several families of cutters with a nominal diameter of up to 20 mm. A brief look at some of these



families can provide a clearer understanding as to whether the new tools will be able to breach the solid stronghold wall.

The new families of indexable milling cutters within the diameter range of 8-16 mm attract the most interest. They have several common features: the cutters carry triangular-shape inserts with 3 cutting edges and the mechanical part that secures the inserts is represented by a screw. These families are intended for milling square shoulder or fast feed (high feed) milling. But here the similarity ends, and the difference begins. While the design of the HELI3MILL and MICRO3FEED families for tool diameter 10-16 mm is committed to the classical principle of insert securing, by clamping screw through the central hole of an insert, the NANMILL and NANFEED families for tool diameter 8-10 mm have adopted another concept.

Within such a small diameter range, the central clamping screw, as noted previously, does not provide an acceptable solution. According to the new concept, the screw is located above the insert, and the screw head plays the role of a wedge (Fig. 1). This approach provides reliable and rigid clamping, ensures a durable



Within the small diameter range, indexable tools can offer precision and performance advantages that position them competitively against the more traditional solid carbide tools.

homogeneous insert structure with no hole, and allows insert indexing to be quick and simple.

It is predicted that these new families will be particularly effective in manufacturing compact parts and in machining small-in-size cavities, pockets and small parts utilized in industrial sectors such as die and mold making, as well as in producing miniature components.

Small change, large impact

A 1 mm change in size: is this a lot or a little? For indexable tools in the small diameter range, it makes a noticeable difference. ISCAR's new SUMOCHAM 5 mm diameter drilling head represents an important step ahead in expanding the application fields of indexable drills.

Within the small diameter range, indexable tools can offer precision and performance advantages that position them competitively against the more traditional solid carbide tools. Indexable tools are beginning to shear their way into metalworking practices - and the industry is

taking note.

Source: ISCAR

UPDATE

QVI India opens new Pune office

Quality Vision International Inc (QVI) of Rochester, New York, USA announces the opening of its new office in Pune, India.

The formal opening ceremony was held Friday, February 1, 2019, and was attended by customers, and guests. The new office was inaugurated by Fred Mason, Senior Vice President of Marketing, in presence of Therese Corrigan-Bastuk, Product & Brand Marketing Director, from QVI headquarters in USA, and Shreyansh B Hippargi, Managing Director of QVI India Pvt. Ltd. While talking to The Machinist about the expansion, Mason said, "We are very excited about our new office in Pune." He further added, "I am just back from IMTEX



2019 and we sensed enthusiasm amongst visitors. Hence the Indian market looks positive and I am optimistic about QVI India's growth."

The Pune office joins the existing headquarter office in Bengaluru. These two offices will act as bases of operations for sales and service of the company's products in southern India. 

The Indian market looks positive and I am optimistic about QVI India's growth.
Fred Mason, Senior Vice President of Marketing, QVI Inc.



Lightweight modular connectors for Big Data

In linking computing units to data centers, modular connectors in the Han-Eco® Modular plastic housing have proved their worth as a standard solution for the fast and cost-efficient design of the power supply.

When it comes to supplying data centre computing units with power and data, and networking devices with as little effort as possible, from an operator's point of view there are two things that are key to successful operation:

- The computing units must be installed quickly and therefore in a cost-optimised manner
- Computing capacity losses resulting from faulty computers need to be able to be resolved quickly and smoothly so that the available capacity and/or memory remain as large as possible and no data loss results

In view of these requirements, the structure of modern data centres is highly standardised. Mutually harmonised, ready-made solutions for architecture, infrastructure and computing units are the rule. The demand for prefabricated units in total installed computing capacity is constantly on the rise.

It is important to install as much computing capacity as possible, with the infrastructure around the storage units being required to meet the same requirements.

Data centre developers have responded to challenges by employing a high degree of modularity – without losing sight of the overarching goal of optimal installation. It is important to install as much computing capacity as possible, with the infrastructure around the storage units being required to meet the same requirements. In many projects, there is a three-stage power and distribution level for the uninterrupted power supply.

In the system, which is built like a family tree, the maximum currents to be transmitted are 100A, 70A and finally 40A at the lowest distribution level. Up to 20 units are suspended at each end of a tree – in addition to memory, there are also e.g. fans, in order to reduce heat. Data centre planners are faced with the question of how to tie together and connect the different levels of power distribution as quickly as possible. The means of choice has often been hardwired prefabricated units in the field, not only in North America, where the largest data centres are. This method places high demands on the expertise of personnel in the field and also prevents a smooth build-up of systems at the installation site.

As with many infrastructure-based requirements for con-



nection technology, the HARTING Technology Group has also implemented just the right solution here for users, and has used this approach in numerous projects with the Han-Eco® plastic connector together with well-known storage operators. Han-Eco® series connectors win points above all thanks to their low weight, good handling and extremely robust design – factors which are absolutely essential for use on construction sites. As a contact insert, the Han Modular® system offers an extremely flexible option for power, signal and data transmission that meets all the specific requirements of the user. Not only do the required 40A, 70A or 100A current carrying capacities present no problem, the customer can also select different connection types and housing shapes.

In addition to connection technology, many of our customers also have the option of purchasing entire cable assemblies from HARTING. The end-to-end tested and optionally coded cables optimise the build-out of IT infrastructure and also reduce the risk of incorrect wiring to zero. Thus, in the event of malfunction, faults in the cabling can largely be ruled out, and individual memory elements can be exchanged quickly without special knowledge.

In Short

- Storage operators rely on Han-Eco® plastic connectors and cable assemblies
- Han-Eco® series: low weight, good handling and extremely robust design
- End-to-end tested and optionally coded cables optimise the build-out of IT infrastructure

Source: Harting



Wear-resistant sliding and free designing

Abrasion-resistant iglidur sliding plates made of high-performance plastics provide even more geometric design options

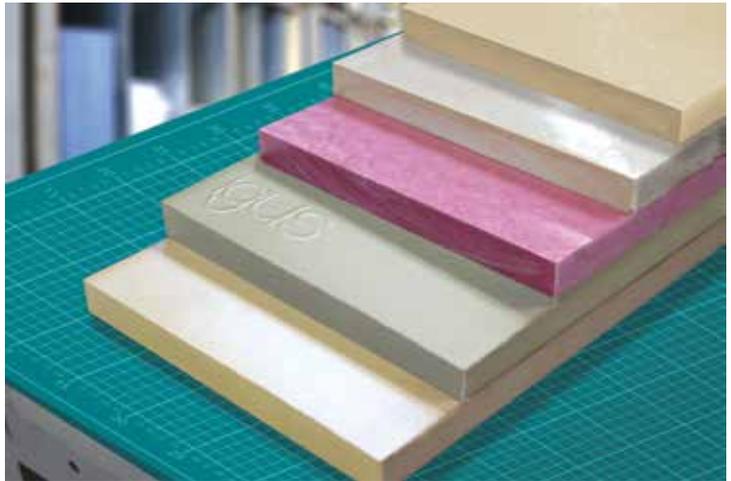
Wear-resistant parts ordered quickly, easily and individually manufactured with increased service life. The motion plastics specialist igus offers this service, among other things, with its bar stock product range. To provide users with even more tribologically optimised special solutions, igus now offers five high-performance plastics resistant to wear and abrasion as bar stock plate strips in its product range. These provide the designer with new geometric design freedom.

High-performance plastics from igus are in demand wherever freedom from lubricant, corrosion and maintenance is required. Be it in the glass industry, food technology or special mechanical engineering, igus already has more than 50 high-performance polymers as plain bearings in the product range, for a wide variety of applications. The specialist also offers 27 of its materials as bar stock. Customers can use the high-performance polymers to mill custom solutions and small batches themselves or order them from igus. In order to give users even more design freedom in terms of geometry when designing their wear-resistant special solution, igus now also offers five of its materials as highly abrasion-resistant plate strips. In addition to the classic iglidur W300 and the cost-effective J4, the FDA-compliant iglidur A500 material as well as the high-temperature endurance runner C500 and iglidur J350, the specialist for temperatures up to 180 degrees Celsius, complete the range. All sliding plates are offered by igus with a 15 millimetre thickness and 160 millimetre width.

Lubrication-free high-performance plastics for sliding solutions

The new plate strips are used, for example, as sliding surfaces made of the high-performance plastic iglidur W300 in abrasive environments in the glass industry. Here, the material impresses with its wear resistance and freedom from maintenance. Special solutions made from the iglidur A500 plate material are available, for example, in the form of slide rails in the food, packaging and semiconductor industries. Here, the chemical-resistant material, in addition to its FDA approval, boasts a high temperature resistance. In contrast, iglidur C500

If the user is looking for larger plates, igus can choose from plate materials with a width of up to 1,000 millimetres out of a total of six different high-performance plastics.



The new plate strips are used, for example, as sliding surfaces made of the high-performance plastic iglidur W300 in abrasive environments in the glass industry.

is especially suitable for applications where aggressive media and extreme temperatures of between -100 and +250 degrees Celsius prevail. For example, design engineers in the fields of medicine, pharmaceuticals and chemicals can resort to a chemical-resistant solution. The sliding plates are manufactured by igus in Cologne in a newly built production facility. Due to the in-house development and production, further iglidur materials will be available in the future as plate strips in different thicknesses and lengths up to two metres.

Ordered quickly online and individually made

If the user is looking for larger plates, igus can choose from plate materials with a width of up to 1,000 millimetres out of a total of six different high-performance plastics. All plates can also be ordered at igus in lengths with millimetre precision. For simple design requests igus manufactures special parts for its customers according to a 3D model or a 2D drawing. Within a few days, the user receives the matching wear-resistant part quickly and cost-effectively.

For more information, contact:

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