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Growth Locomotive!

*Nalin Jain, President & CEO, APAC Region,
GE Transportation, is optimistic that
the Marhokra project will lead GE
into new growth areas.*

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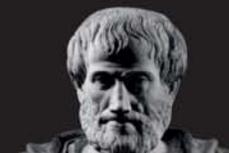
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We are what we repeatedly do.
Excellence then, is not an act, but a habit.
Aristotle



Interesting times, indeed!

There is a Chinese curse which says, "May you live in interesting times." (It is called a curse to differentiate the blessed but uninteresting age of normalcy from the chaotic but engaging and exhilarating period of transformation.)

With so much happening around us, these have to be interesting times. There is uncertainty (and danger) but there are also opportunities to grow and to make difference. Disruption, by definition, means something that breaks the norm. So, what else do you call the times when disruption is becoming the norm? Interesting, of course!

IMF's latest regional report says that strong growth is expected to continue in the near term in Asia and the Pacific. In fact, it says that Asia will continue to be the main engine of global economy. What's more interesting is that the

"DISRUPTION, BY DEFINITION, MEANS SOMETHING THAT BREAKS THE NORM. SO, WHAT ELSE DO YOU CALL THE TIMES WHEN DISRUPTION IS BECOMING THE NORM?"

60 percent of this growth will be driven by just two nations – China and India! China's growth is expected to be at 6.6 percent in FY 2018 whereas as India's growth is forecast to bounce back to 7.4 percent. Compare that to Asia's overall average at 5.6 percent.

And IMF is not alone in giving a positive forecast. BMI Research, a Fitch Group company, expects India's growth to be 7.3 per cent in FY 2018 (from 6.6 per cent in FY 2017). The reasons? Strong activity from the construction, manufacturing, and services sectors!

And with the country having entered a dynamic election year, things are only going to get more interesting. Isn't it?

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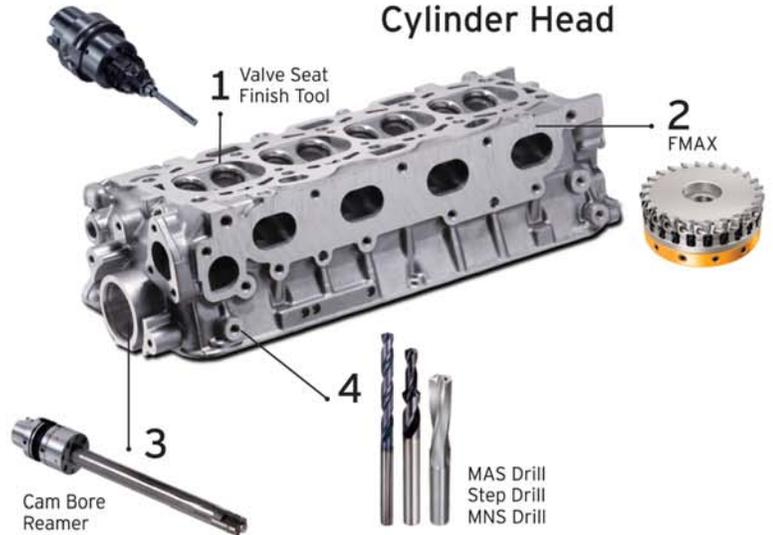
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YOUR GLOBAL CRAFTSMAN STUDIO





NEWS

Indian Army to buy indigenous Light Strike Vehicles from Force Motors

THE LIGHT STRIKE VEHICLE

designed and developed by the research and development team at Force Motors is fully indigenous. Force Motors has developed the Light Strike Vehicle for exacting military activities, with the assurance of speed and reliability. The vehicles not only use the proven, rugged and reliable aggregates like engines

and transmissions from the Force Motors' stable but are also uprated for the demanding applications of the Armed Forces.

The Force Motors Prototypes established their superiority in the rigorous user trials, conducted for over two years, in tough and rough terrains as varied as the scorching deserts of Rajas-

than (50°C) to the freezing Himalayas (-30°C)

Designed for quick ingress and egress, these vehicles are capable of performing on extreme terrain, with manoeuvrability, high speed and stability, with 4x4 configuration, and have differential locks on all wheels, similar to the legendary Force Gurkha.

LCA Tejas fires Derby Air-to-Air Beyond Visual Range Missile



TEJAS, THE LIGHT COMBAT AIRCRAFT

(LCA) successfully fired Derby Air-to-Air Beyond Visual Range Missile to expand the firing envelope as well as to demonstrate safe operation of the aircraft during missile plume ingestion into the aircraft engine under worst case scenarios. The missile was launched from LCATEjas piloted by Wg Cdr Sidharth Singh from the firing range off the Goa coast after exhaustive study of the missile separation characteristics and plume envelope. LCATEjas has been designed & developed by DRDO's autonomous society – Aeronautical Development Agency (ADA).

Integration of Derby, a BVR class missile is one of the major objectives of Final Operational Clearance (FOC) of LCATEjas.

The aircraft was tracked by two other Tejas aircraft in close formation to capture the firing event in the specially instrumented high speed cameras for detailed analysis and comparison with the simulation model for validation. The entire planning, practice sorties and final firing was carried out by ADA and it's National Flight Test Centre (NFTC) officials Cmde JA Maolankar and GpCapt A Kabadwal, IAF, DG(AQA), HAL & INS HANSA.

L&T Defence to make Quad Launcher for BrahMos

L&T Defence, the defence arm of Larsen & Toubro (L&T) and one of the leading industry partners of BrahMos Aerospace Pvt. Ltd. (BAPL), has successfully completed the design and prototype realisation of the 'Quadruple Canisterised Inclined Launcher' (QCIL or Quad Launcher) for BRAHMOS

Missiles and after rigorous trials, has handed over the prototype Quad Launcher to BAPL.

The Quad Launcher is designed for launching BRAHMOS supersonic cruise missiles in an inclined configuration on-board Indian Naval ships. The launcher provides superior firepower as compared to the twin canister, deck mounted launchers and has a capability to support and launch four missiles in a single or salvo mode. The new Quad Launcher is suitable for warships which have space constraints to accommodate a Vertical Launch Module. Jayant Patil, Whole-time Director (Defence) and Member of L&T Board, handed over QCIL prototype to Dr. Sudhir Mishra, Director General (BrahMos) DRDO and CEO & MD, BrahMos Aerospace, at an event held at L&T Defence' Strategic Systems Complex near Pune.

The production units of the QCIL will be ready for deployment on Indian Naval Ships in next 18 months.

DGFT should be facilitator, not regulator: Prabhu

A TWO-DAY MEETING OF PORT officers organized by the Directorate General of Foreign Trade (DGFT), of the Department of Commerce, ended in New Delhi yesterday (May 3, 2018). The Union Minister of Commerce & Industry and Civil Aviation, Suresh Prabhu, addressed the regional officers from different parts of the country and urged them to reorient their thinking to be a facilitator and not a regulator. The Minister added that the regional officers have to take their job as a challenge and an opportunity as foreign trade is now a strategic issue for India as it not only benefits the domestic economy but also links the country with global trade. The Minister asked for greater engagement of regional officers with the state governments in order to boost exports. He urged DGFT to set up a committee headed by the chief secretary of states on all export promotion issues including logistics. The Minister urged DGFT to organize regular orientation programmes for employees at all levels so that they are aligned to the mission of DGFT to serve exporters of the country.

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NEWS

WB grants loan to improve roads in Madhya Pradesh

THE GOVERNMENT OF INDIA, the Government of Madhya Pradesh and the World Bank have signed a \$210 million loan agreement for the Madhya Pradesh Rural Connectivity Project. The Project is expected to improve the durability, resilience and safety of the gravel surfaced rural roads and enhance the capacity of the state to manage its rural roads network.

The Project will cover 10,510 km stretch of rural roads in Madhya Pradesh that fall under the Chief Minister's Gram Sadak Yojana (CMGSY) program. Of this 10,000 km will be upgraded from existing gravel to bituminous surface roads, while 510 km of new roads will be built to the same bituminous surface standard.

"Government of India is making all efforts to ensure that communities in



the most remote areas across the country are connected through a road network. All weather road connectivity is crucial for economic growth, especially in the rural areas," said Sameer Kumar Khare, Joint Secretary, Department of Economic Affairs, Ministry of Finance. "The Madhya Pradesh roads project will enhance rural road connectivity in the state which will open up opportunities for economic development and access to social services for beneficiary communities in the state and help in reducing poverty."

Indian MedTech market to touch Rs. 55,040 cr by 2020

THE INDIAN MEDTECH MARKET may see twofold rise as its size in value terms is likely to reach Rs. 55,040 crore by 2020 from the current level of Rs. 26,048, growing at 15 per cent CAGR against the expected global industry growth of 4-6 per cent, according to an ASSOCHAM-MRSSIndia.com joint paper. The Medtech sector, which is an indispensable part of the Indian healthcare industry, is at a nascent stage with most of the indigenous manufacturing restricted to medical consumables. Imports still constitute over 75 per cent of the current medtech market. India is looking to improve self-sufficiency in medtech as a part of the Make in India initiative. The rapidly expanding sector presents immense opportunities to global players, stated the study titled, 'Medical Technologies,' jointly conducted by ASSOCHAM and MRSSIndia.com.

Diagnostic imaging represents the second-largest segment of the medical

devices industry in India, constituting 31 per cent (8075 cr) of the industry in 2015-16. It is expected to grow at a rate of 13 per cent over 2015-20. Building on the existing installed base of electro-diagnostic and radiation apparatus, imaging parts and accessories are expected to lead this segment, growing at a CAGR of 15 per cent over the next few years. Syringes, Needles and catheters form major part of consumables and disposables. Consumables and Disposables are the only trade surplus segment of the medical device sector with domestic players having a larger market share. Most of the requirements are met through domestic manufacturing. Consumables and implants constituted 19 per cent (4949 cr) of the industry in 2015-16. It is expected to grow at a rate of 14 per cent over 2015-20. Implants segment is expected to grow faster than the other segments in the medical device industry.

CRI Pumps bags Rs. 150 crore order from EESL

CRI has bagged an order worth Rs.150 crore from Energy Efficiency Services Ltd (EESL) for implementation of the Agriculture Demand Side Management (AgDSM) program in association with Government of Andhra Pradesh. The AgDSM program is aimed to replace existing inefficient agriculture pumps with BEE five star rated energy efficient pump-sets along with Internet of Things (IoT) enabled smart control panels with estimated energy saving potential of 25 per cent. These pumpsets are provided at free of cost to farmers with free maintenance for five years. The project will cover over 40,000 farmers in Andhra Pradesh.

The order follows by CRI Pumps taking up a pilot project eight years ago in Maharashtra initiated by the Bureau of Energy Efficiency, Government of India to reduce electricity consumption used for irrigation. The average efficiency range of BEE Star rated Energy Efficient Pumpsets is 40 to 50 per cent compared to 20 to 30 per cent of existing pumpsets.

NTPC targets 268 BU power generation for 2018-19

NTPC is aiming at generating 268 billion units (BU) of electricity during the fiscal year 2018-19, under a MoU signed between NTPC and Ministry of Power. Revenue from operations is targeted at Rs. 85,500 cr. Parameters related to financial performance, improvement in operational efficiency, capital expenditure, projects monitoring, technology upgradation and HR Management are also part of the MOU for the year 2018-19. NTPC has total installed capacity of 53651 from its 21 coal-based, 7 gas-based, 11 solar PV, one hydro, one small hydro, one wind and nine subsidiaries / JV power stations. NTPC is currently building an additional capacity of over 21,000 MW at multiple locations across India.

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CALENDAR

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A list of key events happening between June 2018 to June 2019, both nationally and internationally.

<p>ACMEE June 21–25, 2018 Chennai, India www.acmee.in</p>	<p>AMTEX 2018 July 06–08, 2018 New Delhi, India www.amtex-expo.com/ amtex_delhi</p>	<p>Busworld India 2018 August 29-31, 2018 Bengaluru, India www.india.busworld.org</p>	<p>Automation Expo August 29– September 1, 2018 Mumbai www.automationindiaexpo.com</p>
<p>IMTS 2018 September 10–15, 2018 Chicago, USA www.imts.com</p>	<p>Renewable Energy India Expo September 18–20, 2018 Greater Noida www.renewableenergyindiaexpo.com</p>	<p>Wire India Show November 27–29, 2018 Mumbai, India www.wire-india.com</p>	<p>Metallurgy Show November 27–29, 2018 Mumbai, India www.metallurgy-india.com</p>
<p>TechIndia 2018 August 29 –31, 2018 New Delhi, India www.techindiaexpo.com</p>	<p>IMTEX 2019 January 24 –30, 2019 Bangalore, India www.imtex.in</p>	<p>Taipei International Machine Tool Show March 4–9, 2019 Taipei, Taiwan www.timtos.com.tw</p>	<p>intec Coimbatore June 6–10, 2019 Coimbatore, India www.intec.codissia.com</p>

OUR INHOUSE UPCOMING EVENTS

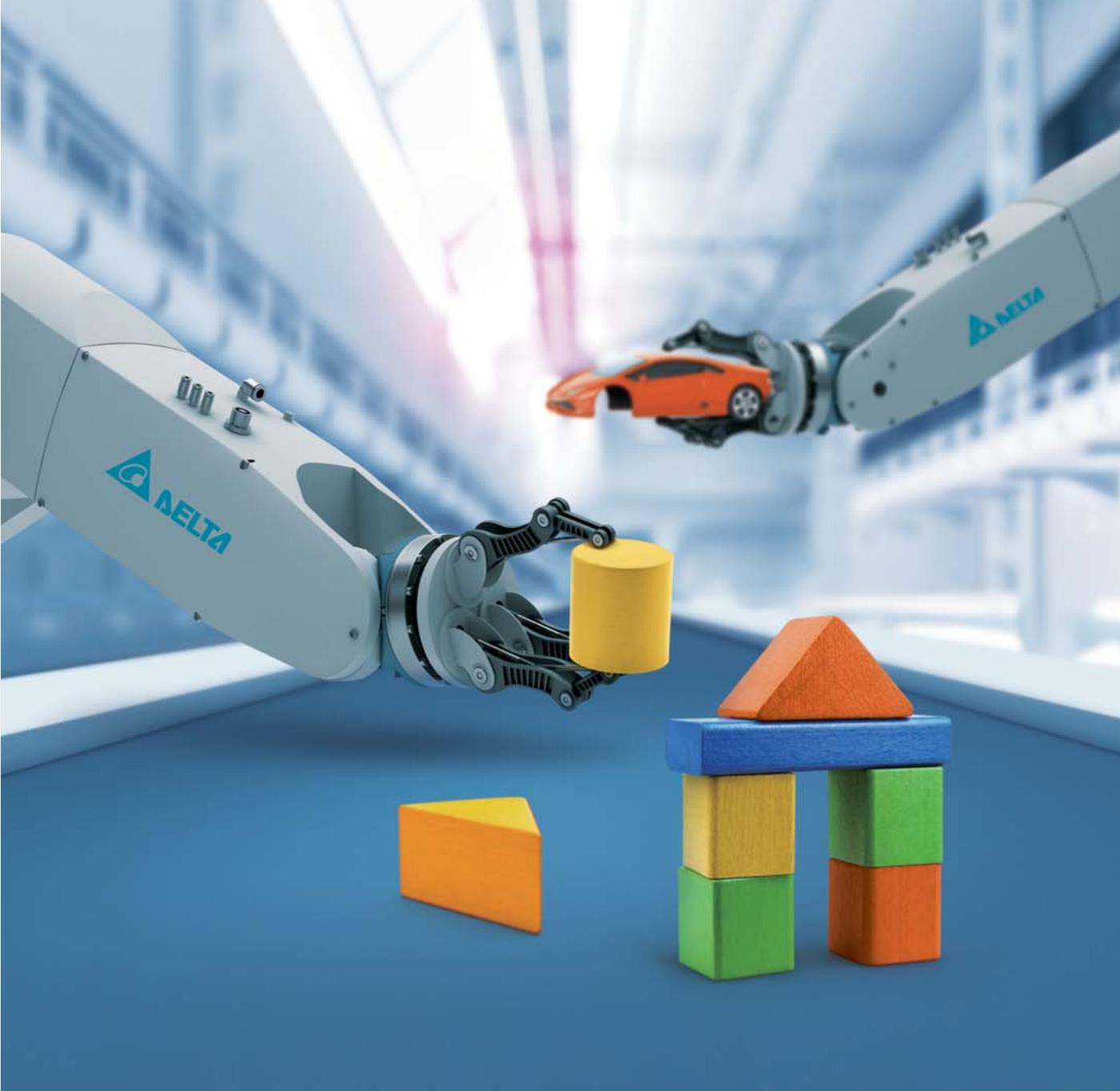
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May 31, 2018
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LOHIA AUTO APPOINTS PRESIDENT FOR SALES & MARKETING

Lohia Auto Industries has announced the appointment of Rajesh Kumar Singh as new President, Sales and Marketing. In line with the existing organization structure, Rajesh Kumar Singh will now oversee the entire sales and Marketing operations of the company as the President. Rajesh Kumar Singh comes with over 32 years of work experience in Sales and Marketing of farm Equipments and Automobile product like Toyota LCV, Isuzu SUV, Mahindra Trucks and Buses, Daewoo cars, Mahindra & Mahindra Tractor (FES Division). Sonalika, International Tractors Ltd.

Ayush Lohia, CEO, Lohia Auto Industries said, "We are delighted to welcome. Rajesh Kumar Singh as the new President, Sales and Marketing. He will be responsible for developing and executing sales strategies and marketing operations for Lohia Auto. His background and experience are a perfect complement to the company and will deliver positive results."



MATTHIAS ZACHERT TO CONTINUE AS CEO OF LANXESS

The Supervisory Board of Lanxess AG appointed Matthias Zachert (50) as Chairman of the Group's Board of Management for another five years, thus renewing his contract ahead of time. His new term in office will begin on April 1, 2019.

"Under the management of Matthias Zachert, Lanxess has undergone a fundamental change and is back on track for success. By renewing his contract, we are underlining our confidence in Matthias Zachert and sending a signal of continuity," declared Dr. Rolf Stomberg, Chairman of the Supervisory Board.

Zachert has been Chairman of the Lanxess Board of Management since April 1, 2014. He had been the Group's Chief Financial Officer from 2004 to 2011, playing a key role in establishing the global financial organization and restructuring the portfolio. From June 2011 to March 2014, he was a member of the Executive Board and Chief Financial Officer of Merck KGaA.

AIRBUS APPOINTS NEW CHIEF TECHNOLOGY OFFICER

Airbus SE has appointed Grazia Vittadini, 48, Chief Technology Officer (CTO). In her new capacity, Vittadini will report to Airbus Chief Executive Officer (CEO) Tom Enders and join the company's Executive Committee as of 1 May 2018.

Currently, Grazia Vittadini is serving as Executive Vice President of Engineering within Airbus Defence and Space. She succeeds Paul Eremenko, who left the company at the end of last year. Since Paul Eremenko's departure, Marc Fontaine, Airbus' Digital Transformation Officer, served also as acting CTO.

"Grazia comes with deep engineering and industrial expertise. She's a great team worker and a very inspiring leader. And she is one of the most international top managers in Airbus," said Tom Enders, CEO of Airbus. "I am convinced Grazia will do a great job supporting our business divisions and in preparing the technologies we need for our future success."



BRUDERMÜLLER TO SUCCEED BOCK AS BASF CEO

Effective as of the end of the Annual Shareholders' Meeting 2018, Dr. Martin Brudermüller will become the new Chairman of the Board of Executive Directors of BASF SE. At the Annual Meeting, Dr. Kurt Bock, the previous Chairman of the Board of Executive Directors, presented his successor with a 3D-printed model of a symbolic scene from BASF's headquarters in Ludwigshafen. Since 2006, Brudermüller has been a member of the Board of Executive Directors of BASF SE, since 2011, Vice Chairman of the Board of Executive Directors, and, since 2015, Chief Technology Officer.

The miniature is made of polyamide 2200 and was manufactured using an SLS process (selective laser sintering) by cirp GmbH, Heimsheim, Germany. With materials, system solutions, components and services, BASF has a broad portfolio in the field of 3D printing.



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DR. MARKUS STEILEMANN TO BE COVESTRO CEO

The Supervisory Board of Covestro has agreed on an amicable retirement of Patrick Thomas' tenure as Chief Executive Officer (CEO) effective May 31, 2018, at a recent meeting. Patrick Thomas' contract as CEO would have originally ended on September 30, 2018. Already in May 2017, Patrick Thomas had informed the Supervisory Board that he would not be available for a further term beyond 2018. Subsequently, the Supervisory Board appointed Dr. Markus Steilemann as his successor as CEO of Covestro thus ensuring continuity and a smooth transition.

Dr. Richard Pott, Chairman of the Supervisory Board, said: "We have deep respect for Patrick Thomas' excellent work at Covestro. He has significantly contributed to Covestro's remarkable success story. Ever since Covestro became independent in 2015, the company achieved record results continuing its profitable growth path until today. Not only the financial metrics are notable: Under his leadership, Covestro developed an independent corporate culture and became a forerunner in innovation and sustainability in the chemical industry and a highly attractive employer. I would like to express my sincere gratitude for Patrick Thomas on behalf of the Supervisory Board and all Covestro employees."



GRANT MCPHERSON TO BE JLR'S DIRECTOR OF MANUFACTURING

Jaguar Land Rover announces that Grant McPherson is to join the Board of Management as Executive Director, Manufacturing.

McPherson, currently Director of Quality and Automotive Safety, will take on his new position on 1 July and will report directly to Jaguar Land Rover CEO Prof Dr Ralf Speth. He will be responsible for more than 20,000 people working across the company's UK and global manufacturing operations and logistics teams. McPherson replaces Wolfgang Stadler, who has announced his intention to retire at the end of June, having joining the business from BMW in 2013.

"I would like to welcome Grant McPherson to the Jaguar Land Rover Board of Management as our new Executive Director of Manufacturing. He will oversee the ongoing investment into our UK and global manufacturing, transforming our plants to enable Jaguar Land Rover's exciting electrified future. Grant's appointment brings further strength and depth to our leadership team as we look to execute the next phase of our growth and efficiency plan," Prof Dr Ralf Speth, CEO, Jaguar Land Rover.

MAHINDRA APPOINTS DR. INBOM CHOI AS SENIOR ADVISOR IN SOUTH KOREA

Mahindra Group has appointed Dr. Inbom Choi as Senior Advisor to head its Mahindra Korea office. Dr. Choi will work closely with various Mahindra business units to identify new opportunities in the Korean market and strengthen the Group's relationship with existing partners.

Commenting on the appointment, Rajeev Dubey, Group President (HR & Corporate Services) and CEO (After-Market Sector) and Member of the Group Executive Board, Mahindra & Mahindra said, "Dr. Choi brings three decades of rich experience in government and the corporate world to his new role. A well respected academic, he has also worked as public policy maker, adviser and influencer in various institutions, including international organizations, Korean national and provincial governments, think-tanks, industry associations and global corporations. I am confident that he will offer new insights as senior advisor for the Group, as well as propel the company to the next orbit of growth."

"Mahindra has established a strong footprint in Korea over the past few years and through close cooperation with our global office colleagues, I look forward to helping the business harness potential opportunities and further consolidate its presence in the country," said Dr. Choi.

Prior to joining Mahindra, Dr. Choi was a Senior Advisor to GE Korea, General Motors Korea and IBM Korea for 12 years, advising these global companies on strategies for Korean government relations. He has also served as a member of advisory committees of various companies and government institutions as well as Chairman of the American Chamber of Commerce in Korea. Dr. Choi was appointed to the Board of the Indian Chamber of Commerce in Korea this year. He is currently a postgraduate professor at the Graduate School of International Studies at Sogang University.

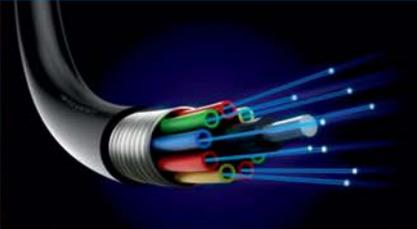
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Rafale Aircraft - India is procuring 36 Rafale aircrafts through an Inter-Governmental Agreement (IGA) with France to meet the urgent need of the IAF. Image © Dassault Aviation - V. Almansa

Soaring high!

Global military spending remained high at \$1.7 trillion in 2017 with India finding its place in the top five spenders.

Total world military expenditure rose to \$1739 billion in 2017, a marginal increase of 1.1 per cent in real terms from 2016, according to new figures from the Stockholm International Peace Research Institute (SIPRI). China's military expenditure rose again in 2017, continuing an upward trend in spending that has lasted for more than two decades. Russia's military spending fell for the first time since 1998, while spending by the United States remained constant for the second successive year. The comprehensive annual update of the SIPRI Military Expenditure Database is accessible at www.sipri.org.

'Continuing high world military expenditure is a cause for serious concern,' said Ambassador Jan Eliasson, Chair of the SIPRI Governing Board. 'It undermines the search for peaceful solutions to conflicts around the world.'

After 13 consecutive years of increases from 1999 to 2011 and relatively unchanged spending from 2012 to 2016, total global military expenditure rose again in 2017.* Military spending in 2017 represented 2.2 per cent of global gross domestic product (GDP) or \$230 per person. "The increases in world military expenditure in recent years have been largely due to the substantial growth in spending by countries in Asia and Oceania and the Middle East, such as China, India and Saudi Arabia," said Dr Nan Tian, Researcher with the SIPRI Arms and Military Expenditure (AMEX) programme. 'At the global level, the weight of military spending is clearly shifting away from the Euro-Atlantic region.'

China leads continued spending increase

Military expenditure in Asia and Oceania rose for the 29th successive year. China, the second largest spender globally, increased its military spending by 5.6 per cent to \$228 billion in 2017. China's spending as a share of world military expenditure has risen from 5.8 per cent in 2008 to 13 per cent in 2017. India spent \$63.9 billion on its military in 2017, an increase of 5.5 per cent compared with 2016, while South Korea's spending, at \$39.2 billion, rose by 1.7 per cent between 2016 and 2017. 'Tensions between China and many of its neighbours continue to drive the growth in military spending in Asia,' said Siemon Wezeman, Senior Researcher with the SIPRI AMEX programme.

Spending falls sharply in Russia

At \$66.3 billion, Russia's military spending in 2017 was 20 per cent lower than in 2016, the first annual decrease since 1998. 'Military modernization remains a priority in Russia, but the military budget has been restricted by economic problems that the country has experienced since 2014,' said Siemon Wezeman.

Driven, in part, by the perception of a growing threat from Russia, military spending in both Central and Western Europe increased in 2017, by 12 and 1.7 per cent, respectively. Many European states are members of the North Atlantic Treaty Organization (NATO) and, within that framework, have agreed to increase their military spending. Total military spending by all 29 NATO members was \$900 billion in 2017, accounting for 52 per cent of world spending.

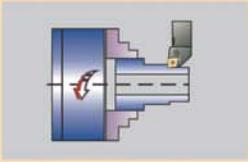
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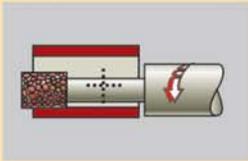


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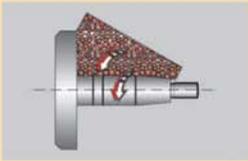


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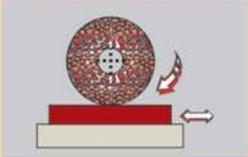


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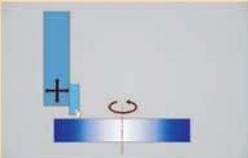


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Higher spending by Saudi Arabia

Military expenditure in the Middle East rose by 6.2 per cent in 2017.** Spending by Saudi Arabia increased by 9.2 per cent in 2017 following a fall in 2016. With spending of \$69.4 billion, Saudi Arabia had the third highest military expenditure in the world in 2017. Iran (19 per cent) and Iraq (22 per cent) also recorded significant increases in military spending in 2017. ‘Despite low oil prices, armed conflict and rivalries throughout the Middle East are driving the rise in military spending in the region,’ said Pieter Wezeman, Senior Researcher with the SIPRI AMEX programme. In 2017 military expenditure as a share of GDP (known as the ‘military burden’) was highest in the Middle East, at 5.2 per cent. No other region in the world allocated more than 1.8 per cent of GDP to military spending.

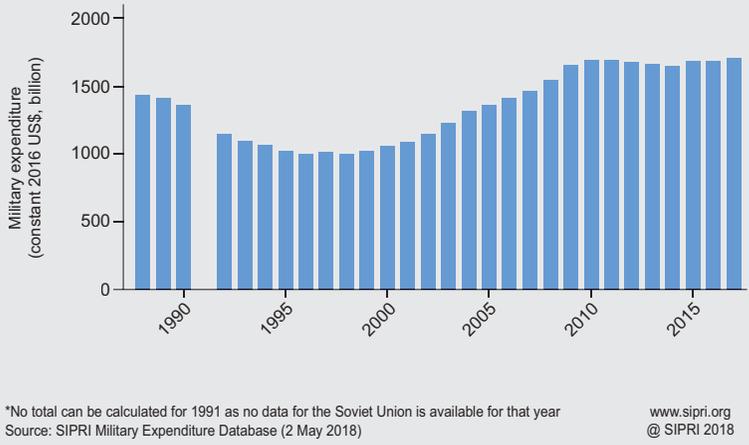
US spending no longer in decline

The United States continues to have the highest military expenditure in the world. In 2017 the USA spent more on its military than the next seven highest-spending countries combined. At \$610 billion, US military spending was unchanged between 2016 and 2017. ‘The downward trend in US military spending that started in 2010 has come to an end,’ said Dr Aude Fleurant, Director of the SIPRI AMEX programme. ‘US military spending in 2018 is set to rise significantly to support increases in military personnel and the modernization of conventional and nuclear weapons.’

Other notable developments

China made the largest absolute increase in spending (\$12 bil-

World military expenditure, 1988-2017*



World military spending 1988–2017. Data and graphic: SIPRI

“The increases in world military expenditure in recent years have been largely due to the substantial growth in spending by countries in Asia and Oceania and the Middle East, such as China, India and Saudi Arabia.”

Dr Nan Tian, Researcher with the SIPRI Arms and Military Expenditure (AMEX) programme.

lion) in 2017 (in constant 2016 prices), while Russia made the largest decrease (–\$13.9 billion). Military expenditure in South America rose by 4.1 per cent in 2017, mainly as a result of notable increases by the two largest spenders in the subregion: Argentina (up by 15 per cent) and Brazil (up by 6.3 per cent). Military spending in Central America and the Caribbean fell by 6.6 per cent in 2017, largely due to lower spending by Mexico (down by 8.1 per cent from 2016).

Military expenditure in Africa decreased by 0.5 per cent in 2017, the third consecutive annual decrease since the peak in spending in 2014. Algeria’s military spending fell for the first time in over a decade (down by 5.2 per cent from 2016).

Seven of the 10 countries with the highest military burden are in the Middle East: Oman (12 per cent of GDP), Saudi Arabia (10 per cent of GDP), Kuwait (5.8 per cent of GDP), Jordan (4.8 per cent of GDP), Israel (4.7 per cent of GDP), Lebanon (4.5 per cent of GDP) and Bahrain (4.1 per cent of GDP).

* Unless otherwise stated, all figures for spending in 2017 are given in 2017 current US dollars. All percentage changes are expressed in real terms (constant 2016 prices).

** For countries in the Middle East for which data is available.

Source: Stockholm International Peace Research Institute (SIPRI).

The Top 15 Military Spenders in 2017

The 15 countries with the highest military spending in 2017 were the same as those in 2016, but with a few notable changes in their ranking. These 15 countries accounted for \$1396 billion, or 80 per cent, of total global spending. Six of the 15 made large increases (of more than 30 per cent) in their military spending between 2008 and 2017: China, Turkey, India, Russia, Saudi Arabia and Australia. Three made more moderate increases (of 10–30 per cent)—South Korea, Brazil and Canada—and three made minor increases (of less than 10 per cent)—Germany, France and Japan. Military spending fell over the decade in three of the 15—Italy, the United Kingdom and, most notably, the United States, where spending fell by 14 per cent, equivalent to \$95 billion (in constant 2016 prices). Together, the top five accounted for 60 per cent of global military spending in 2017.

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Reliance Infrastructure bags an EPC contract from Rail Vikas Nigam Ltd

Reliance Infrastructure Ltd has won its maiden railway project worth Rs.774 cr. The contract worth Rs.774 cr. was awarded by Rail Vikas Nigam Ltd (RVNL) for the construction of third rail line between Jimidipeta and Gotlam on East Coast Railway on Engineering, Procurement and Construction (EPC) basis. The 105 km - long line will run in Andhra Pradesh and Odisha. The scope of work includes Civil, Track, Electrification, Signaling and Telecom works of the rail line. The scope of work



also includes construction of 13 railway stations and staff quarters. It's the first EPC contract of RVNL for Railway project. The Railway line between Jimidipeta to Gotlam is part of Titlagarh-Vizianagaram section. At present, Titlagarh-Vizianagaram is a double line (electrified) track section

of Jharsuguda-Visakhapatnam line. It is an important rail link between Jharsuguda and Visakhapatnam, and serves as a bypass Rail link to Howrah-Mumbai trunk route and Howrah-Chennai main line of East Coast region.

Alstom to supply 17 additional Metropolis trains in Singapore

Alstom has signed an agreement with Singapore Land Transport Authority (LTA) to supply six additional Metropolis trains (36 metro cars) and 11 additional Metropolis trains (33 metro cars) for the extensions of Singapore North East Line (NEL) and Circle Line (CCL) respectively. All 69 Metropolis cars will be manufactured in Alstom's Barcelona site. The contract value is about 150 million euros. The company has successfully delivered over 100 Metropolis trains (450 metro cars) in operation to Singapore, serving the 35.5km long Circle Line and 20km long North East Line. "Alstom is delighted to win this contract. By providing additional reliable and energy efficient rolling stock to North East Line and Circle Line, we commit to supporting our customer, LTA, to further increase the capacity and availability of the existing lines," said Ling Fang, Managing Director of China & East Asia, Alstom.

Louis Berger wins a Mumbai Metro order

Louis Berger as part of a DB-led consortium is awarded a project management and construction management services contract, including design review, for Mumbai Metro Line 4 by the Mumbai Metropolitan Region Development Authority (MMRDA). The consortium comprises DB Engineering, Louis Berger and Hill International. The Mumbai Metro Line 4 will be a 32.3-kilometer (20-mile) long elevated corridor with 32 stations, connecting Wadala in central Mumbai to Kasarvadavali. Expected to reduce travel time between Wadala to Kasarvadavali by 50 to 75 percent, the Mumbai Metro Line 4 will provide interconnectivity between the eastern expressway, central railway, Mumbai Monorail that is partially in operation, proposed Metro Line 2B (D N Nagar and Mandale), proposed Metro Line 5 (Thane to Kalyan), proposed Metro Line 6 (Swami Samarth Nagar to Vikhroli) and proposed Metro Line 8 (Wadala to GPO). The total estimated cost of construction is Rs.15,549 crore.

Mission for elimination of unmanned level crossings

The Union Minister of Railways and Coal, Piyush Goyal recently chaired a meeting with Chairman Railway Board and Members, Chief Commissioner of Railway Safety, GMs of 5 Railway zones and other senior officials. During the meeting, he reviewed the plan to completely eliminate Unmanned Level Crossings (UMLCs) from Indian Railways.



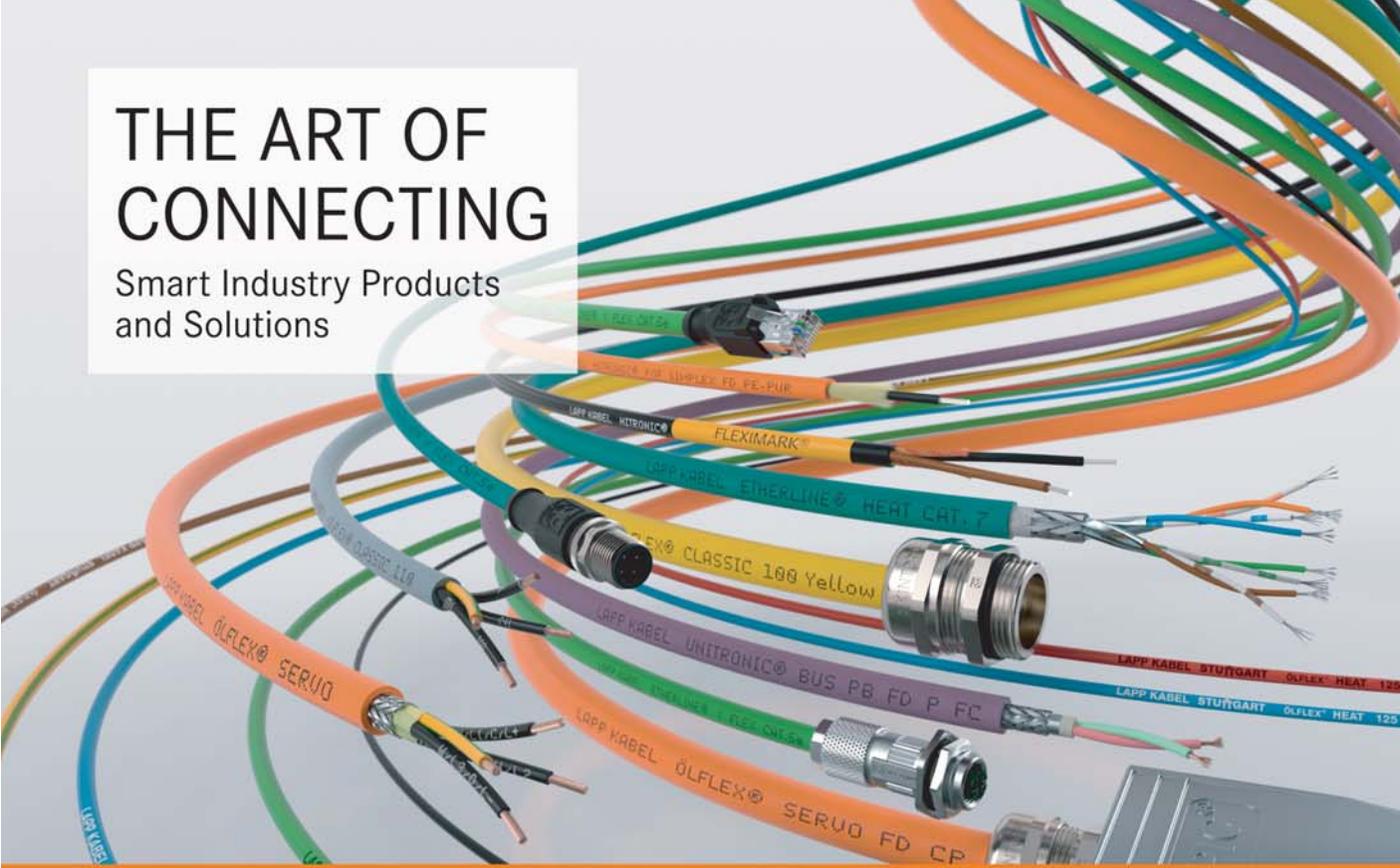
The very first meeting held by Piyush Goyal after taking charge as Railway Minister was on Safety Issues in September 2017. He had directed that all UMLCs should be eliminated in the next one year. Significant progress has been achieved in this regard with only 58 UMLCs remaining on the A, B and C routes which account for more than 80% of the Indian Railways traffic.

Indian Railways has taken many steps towards reducing accidents at Unmanned Level Crossings (UMLCs) with 79 percent reduction in UMLC accidents in the last 4 years (47 accidents in 2013-14 reduced to 10 in 2017-18). The average rate of elimination of UMLCs has also increased by nearly two thirds over the last four years. Now only 3,479 UMLCs remain on the Broad Gauge network.

A multipronged strategy is now planned to eliminate the remaining UMLCs which will include manning of UMLCs, construction of Railway Under Bridges (RUBs), Railway OverBridges, diversion, etc. This will be done through simultaneous execution of work on track sections. A detailed review was done with the GMs of five critical zones (NR, WR,NER, NWR, ECR) with significant number of UMLCs.

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Aiming for new heights!

Having established Ambrane India as the market leader in the power banks sector, **Ashok Rajpal**, the Company's Founder Director is now looking at further diversification.

By Niranjan Mudholkar

Q Tell us about your entrepreneurial journey as the founder of Ambrane India.

It is true that investment in every business should be done thoughtfully and smartly even if it is a small amount and for Ambrane the ticket size was not more than Rs.10 lakh. With an investment of only Rs.10 lakh in the year 2012, and followed by several developments, today we stand at a turnover of Rs.100crore plus. Ambrane in a very short span of time has built its own success story. Especially in the market where power banks were not well known, we have become number one in the category and have become synonymous to be the key industry player. We started this organisation with the core mission to bring innovative products that enhance the lifestyle of the consumer with gadgetry and digital products, which also led to the beginning of our journey to be the best innovative product in 2012 with power banks and tablets.

Like every other brand, we too had the set of challenges. Our initial challenges have been from the operations and manufacturing perspectives like unavailability of skilled manpower to work at the manufacturing unit and unavailability of raw materials for production. Even technology becomes a challenge in India in terms of machinery and spare parts. However, over a period of time, we have fought against these successfully and are outgrowing these challenges.

The IT market never goes off demand or off the trend; it always asks for something more and something innovative. Understanding the mind-set and the trends, Ambrane India is defined by the latest in technology at the best prices.

Q What is the thought behind the name 'Ambrane India'? Ambrane is not just a word. It clearly defines (while we are

putting together our tagline 'Technology in your life') our inclination to develop technology to bring comfort to your life. Ambrane is an energetic brand that believes in serving its customers incessantly and likewise, it has derived its name from the Greek word Ambrosius that means 'immortal' which is synonymous to the functionality of our power banks.

Q Tell us about Ambrane India's manufacturing facility with regards to its location, size, capacity, product portfolio and so on. How many investments have you made the same so far?

We were the first in India who started manufacturing of power banks dedicatedly in India with focus exclusively on quality over price. We already have our manufacturing units set up in Kundli in Sonapat district in Haryana state. With advanced machinery and latest technology, the daily production is 12,000 and monthly is 300,000. Our manufacturing units are at the moment focused clearly on power banks. We already have our R&D set up in India, that includes the technical and quality department within the manufacturing unit. We plan to invest more in R&D as compared to previous years.

We have done extensive business with Amazon, Flipkart, and Snapdeal and have consistently been number one with them when it comes to sales which are not only limited to the festive seasons but even otherwise. In terms of our product portfolio, it includes wearables, power banks, IT accessories and audio. We are looking at further diversification, in sync with the ongoing trends of the industry.

Q The Indian power bank market is highly competitive with the presence of many big and well-established



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names. How do you compete with the other big brands?

Nowadays customer's focus is on quality. It's the quality which wins the customer and also brings loyalty. Today, Ambrane has over five million users of power banks in India which we proudly call as trustworthy customers who have made us the number one in India. As against the competition, our pricing has an advantage of the 'Make in India' campaign driven by our Hon'ble Prime Minister Narendra Modi. We are a 100 percent 'Make in India' brand even before government encouraged this initiative. We are unlike those who simply assemble the products. We have built products, tailor-made to the needs of the market. Price is again another key element; Ambrane products bring the new technology to users with several firsts in India. Lastly, we are a brand which enjoys the first mover advantage against the competition in the category. Today Ambrane has sold more than a million products across India and is available in Tier 2 and Tier 3 cities where many brands are still competing for space. Our online model has struck the right chord with the users.

Competition keeps us up to date with the market and the current trends, which help us cater to our audience with better service. Hence, healthy competition is important as it motivates us to keep giving the desired results that our customers expect from us.

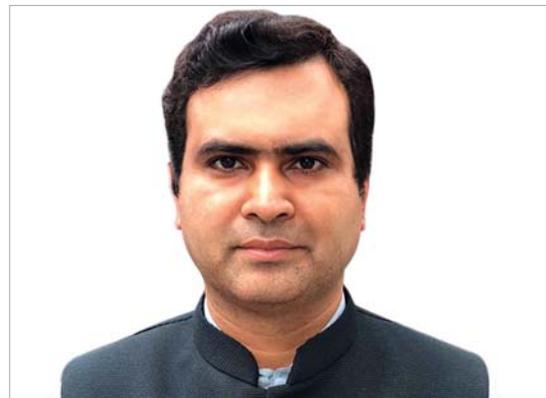
Q Currently, what is your market share and what is your target for the next two years?

We are having over 20 percent share in the power bank market. In the coming two years, our target is to reach up to 25 percent of the market share. Also, along with the offline presence, online too remains our key focus area.

Q Tell us about your diversification into other product segments like tablets, earphones, speakers and smart-watches. Are you satisfied with the success of these products?

When it's Ambrane, the name is synonymous with power banks. But the top three products that contribute a larger proportion to our company are power banks, charging cables and Bluetooth speakers. Talking about the new product categories, we have recently entered the wearable section and have got a phenomenal response from our customers.

Power banks covering 30 percent of the market, earphones at 20 percent, and 15 percent of market share is acquired by cable charges, while mobile covers occupy remaining 20 percent of the market in



"We are planning to enter the automobile battery manufacturing with some good partners worldwide that will leverage our brand to be present on the global level. Being a channel-friendly brand, we plan to establish a joint venture for this category."

terms of value. North and South India contribute the market very actively; over 30 percent market is valued from these two regions. Audio shall be an interesting focus area for Ambrane along with IT accessories/mobile accessories.

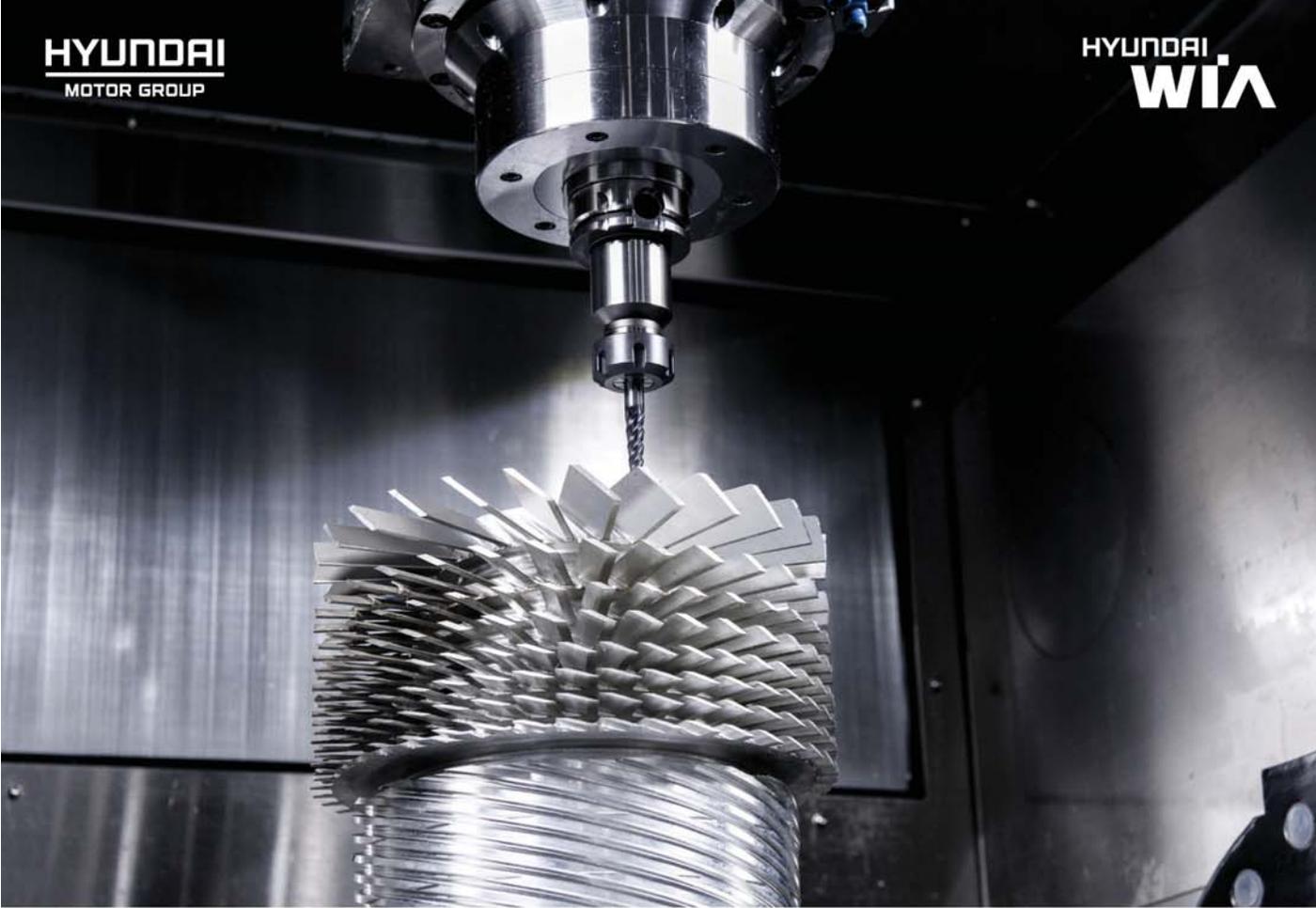
We shall also be looking at smart devices/IOT based products – understanding how people have moved to smarter lifestyle. On these products, we are at good stage with good volume of sales. However, we are looking to get stronger presence in these categories.

Q The electric vehicles segment is an emerging segment in India. Having established your expertise in the power bank segment with your signature APB (Ambrane Power Battery), would you consider foraying into the electric vehicles battery segment?

Undoubtedly, with our diversified portfolio, we plan to further extend our category lines very soon. We are planning to enter the automobile battery manufacturing with some good partners worldwide that will leverage our brand to be present on the global level. Being a channel-friendly brand, we plan to establish a joint venture for this category. Stay tuned to this space. We shall have some key announcements soon.

Q From the current turnover of Rs.100 crore, where do you see Ambrane India by 2020?

Ambrane as a brand is established on the grounds with minimal investment of just Rs.10 lakh. And today we have reached Rs.100 crore revenue. Viewing our consistent progress, we aim to reach at least Rs.250 crore in 2020. Nevertheless, on the basis of new products being constantly added to our portfolio, aggressive marketing campaigns, strong customer loyalty the brand is set to achieve new heights. 



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Growth Locomotive!

Nalin Jain, President & CEO, APAC Region, GE Transportation, is optimistic that the Marhowra project will lead GE into new growth areas like use of digital technologies on Indian Railways, supply of locomotives to other sectors as well as exports to neighbouring countries.





By Niranjan Mudholkar

It's been almost six years since he has taken charge of GE Transportation's business in India. Nalin Jain, President & CEO, APAC Region, GE Transportation, calls this journey exciting and enriching while also feeling proud about the organisation's contributions to the country in terms of infrastructure building.

Story so far

There have been major milestones over the last couple of years starting with 2015 when GE was awarded the prestigious contract of US\$ 2.5 billion in partnership with Indian Railways for supply of 1000 diesel electric locomotives and establishing a manufacturing unit at Marhowra and maintenance facility at Roza and Gandhidham. "This is a unique project under the Government of India's 'Make in India' initiative to localise state-of-the-art technology, encourage local manufacturing and create jobs through skill development," Jain says. "In 2016 we initiated construction work for the brilliant manufacturing site at Marhowra, Bihar and SMART Maintenance shed in Roza."

Marhowra is a unique greenfield project and entails significant execution challenges. "We worked in close coordination with the Ministry of Railways and the Government of Bihar for acquiring the land and starting the construction works. Our team on ground has done an excellent job of working through the challenges and are now in the final stages of completion of the construction activities at site," Jain says.

The teams of Indian Railways, RDSO and GE worked in close coordination to design the state-of-the-art of diesel electric locomotive which is fuel efficient, emission compliant and digitally enabled with high reliability and availability. "In the fourth quarter of 2017, we had arrival of the first two locomotives in India from Erie USA and have since been handed over to the Indian Railways on February 22, 2018 in the gracious presence of the senior management team of Indian Railways," Jain shares.

Moving forward, the year 2018 is going to be an important year wherein the locomotive will be inducted into the Indian Railways eco system for commercial operations and maintained at GE's Roza maintenance shed. "We would also be starting our manufacturing operations in Marhowra and will be rolling out our first locally built 4500 HP locomotives followed by the delivery of the first 6000HP locomotives," Jain informs.

Taking it ahead

So, how important is the India business in the global scheme of things for GE Transportation? The Indian Railways order is one of the largest in GE Transportation's history and will establish a strong footprint in the South Asia region. "The local state-of-the-art manufacturing facility will be supplying 100 locomotives every year for the next 10 years i.e. one locomotive every three days. This project lays the foundation of a long-term deep relationship with one of the world's largest railways. We are optimistic that this will lead into new growth areas for us like use of digital technologies on Indian Railways rolling stock and network, supply of locomotives to mining and power companies in India as well as exports to some of the neighbouring countries in the region," explains Jain.

Further, with a very large engineering team based out of Bangalore, GE continues to leverage the Indian talent for its global projects. "The deep localisation on this project will create more opportunities for us to source components from India for our global manufacturing

"Once the Marhowra facility is fully operational, 70 percent of the locomotive components will be localised. Some of this localisation has been enabled by our global suppliers setting up base in India while the rest of it comes from Indian suppliers."



Layout of the upcoming GE Factory in Marhowra, Bihar.



“Our aim is to have the factory ready in the July-Sept Quarter and start production in the end of the year. We will be ramping up production from the factory to start delivering 25 locomotives every quarter. We will be supplying 100 locomotives to Indian Railways every year.”

activities thus driving exports growth,” he says with confidence.

Ease of doing business in India

There’s been a lot of talk on paper about the improvement in India’s ease of doing business rankings. So, we decided to find out how’s been GE’s experience on the ground. Jain says that GE has been very pleased with the support that has been extended by the Government of India, Ministry of Railways, as well as by the State Governments of Bihar, Uttar Pradesh and Gujarat. Jain believes that the success of delivering locomotives and establishing the local infrastructure manufacturing and service facility in such a short span clearly would not have been possible without the close co-ordination and com-

mitment of teams from various Ministries and GE. “It is also important to mention that the local administrations have also been very supportive in providing support in resolving land acquisition, security, power connectivity issues which is critical for the successful implementation of such a mega project.”

Overall it has been a positive experience for the GE Team so far in executing a complex project with tight timelines. “We believe moving forward a special focus to develop road, IT infrastructure and modern technical institutes could accelerate development of the region,” Jain adds on a suggestive note.

The Marhowra factory

As per the contract with the Government of India, GE Transportation’s Marhowra factory in Bihar needs to be ready by February 2019. “However, our aim is to have the factory ready in the July-Sept Quarter and start production in the end of the year. We will be ramping up production from the factory to start delivering 25 locomotives every quarter. Once operational, this factory will be supplying 100 locomotives to Indian Railways every year (i.e. one locomotive being built every three days). “The facility will produce our Evolution series 4500HP and 6000HP locomotives. These locomotives will not only the most fuel-efficient locomotives in Indian Railways fleet but will also be the first emission friendly complying with International emission standards,” Jain shares.

How would Jain compare the GE Marhowra facility with the GE factory at Fort Worth in Texas, US? “Our Fort Worth factory is a 900,000 sq. feet lean facility that manufactures our Evo series locomotives for the North American Market and in recent times has started catering to our international customers as well. It currently manufactures from 2000 - 6000 HP

“The Principal of one of the Polytechnics in Patna, who recently met her students after they had completed our training, was pleasantly surprised at her students’ new-found confidence. She complimented us on the significant difference she saw in the girls.”

locomotives and can deliver up to 600 locomotives per year,” Jain says. With regards to direct comparison, Jain says that in terms of layout and design, the Marhowra facility is a replica of the Fort Worth factory but at a smaller scale. “It will follow similar lean manufacturing techniques to achieve high level of efficiency and quality,” he adds.

Looking at localisation

Jain believes that the partnership of Indian Railways and GE on this project will go a long way in building a state-of-the-art infrastructure which will be aligned with the ‘Make in India’ initiative. “Once fully operational 70 percent of the locomotive components will be localised. Some of this localisation has been enabled by our global suppliers setting up base in India

GE’s first India locomotive being unloaded at the Mundra port.





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while the rest of it comes from Indian suppliers. We estimate that the project will create or sustain 6000 plus jobs in the manufacturing sector,” Jain shares.

Managing Maintenance

Recently, GE Transportation has also unveiled its first maintenance shed set up on design, build and operate model at Roza in Uttar Pradesh. Jain believes this facility will also play a significant role in the Company’s operations in India. The state-of-the-art Roza Maintenance Shed in the Shah-jahanpur district of Uttar Pradesh has been built on 20 acres land with an investment of over Rs.200 crore (US\$ 35 million). “It will have a remote monitoring centre to track the performance of locomotives and live trouble-shooting in case of any problems. It will also house a modern training institute for Indian Railways pilots with full motion simulator. The maintenance shed itself will use digital and analytical tools linked with the remote monitoring centre there to improve availability and reliability of the locomotive fleet,” Jain informs.

Digital future

There is a huge focus on digitalisation across the business world. How does Jain look at it in the context of GE Transportation? “GE Transportation today offers a portfolio of digital solutions which can be applied to rail operations, rail yards, ports and terminals. These solutions either improve the asset performance or optimize a network by making it more intelligent or just improve visibility and analytics across a system. This helps improve asset utilisation, reduces costs and improves throughput of the system leading to lower operating ratio,” Jain shares. Interestingly, GE today tracks and monitors over 17000 locomotives and through its diagnostics and analytics tools, helps railways across the world achieve high levels of reliability and availability.

The locomotives being delivered to Indian Railways have been digitally enabled to allow remote monitoring and diagnostics. “These locomotives have also been pre-wired to install additional digital train performance solutions in future like Locotrol for multi-loco operation to run longer trains,” Jain adds.

Focus on skill development

Locomotive manufacturing and service operations are complex processes requiring specialised skill sets and it is therefore important to hire and retain talent at remote sites. “GE has been committed towards the skill development initiatives



Successful delivery of the first two of the 1000 diesel-electric locomotives to Indian Railways as part of the Diesel Locomotives Marhowra Project

On India’s ambitious high-speed network project

“Every country in the world is focusing on growing its high-speed network. It’s a step in the right direction as it will enhance the speed and comfort for the passenger. High-speed network is very capital intensive. The key to sustainable growth is to identify economically viable routes and establish high-speed solutions as has been done in the Ahmedabad – Mumbai sector.”

of the Government of India and therefore has worked with 16 government diploma institutes in the region to induct 90 diploma graduates for the early career roles from institutes. Specific emphasis was also laid down on creating diversity and inducting women in our teams. We then invested on training and development of these diploma graduates to impart specialised skills which included advanced engineering skills, exposure to manufacturing processes along with soft skills,” Jain says.

GE Transportation is also investing in partnership with government institutes for offering specialised training in the fields of painting, welding etc., which will help in skill development and job-creation for the youth in the region.

“It is worth mentioning that the Principal of one of the Polytechnics in Patna, who recently met her students after they had completed our training, was pleasantly surprised at her students’ new-found confidence. She complimented us on the significant difference she saw in the girls and the larger impact these girls would create as role models in their communities by pursuing technical course and getting jobs and standing on their own. Hearing such feedback gives us a sense of purpose that our project is beyond building locomotives,” Jain shares with pride. 



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Manufacturing needs to spread its horizon in all directions to make growth truly inclusive. Above – The ancient wheel of the Sun chariot at Konark, Odisha. All pics by Niranjan Mudholkar

Turning the wheels to East!

The Machinist magazine recently made a quick tour of Odisha to understand what the State is doing to promote industrial growth.

By Niranjan Mudholkar

What are the key ingredients required for industries to flourish in any region? The list is simple to make (but challenging to implement) - easy availability of natural resources, connectivity, skilled workers, finance, supply chain, vital utilities like power & water, supporting infrastructure and ease of doing business with the right kind of policy framework and implementation. "The State of Odisha is now ready to welcome industries with all these facilities," says Sanjeev Chopra, Principal Secretary, Industries Department, Government of Odisha. "So far, many industries haven't looked at Odisha as manufacturing destination and we want to now change that perception. Importantly, we are putting in all the required efforts to bring about this change," he says.

"So far, many industries haven't looked at Odisha as a manufacturing destination and we want to now change that perception. Importantly, we are putting in all the required efforts to bring about this change."

Sanjeev Chopra, Principal Secretary, Industries Department, Government of Odisha

Growth zone

Indeed, Odisha is one of the fastest growing economies in the country. In 2016-17, Odisha registered a GSDP growth rate of 7.94 percent, surpassing the national GDP growth rate of 7.1 percent, indicating that the economy in Odisha is on a higher

Facilities visited by The Machinist

iMerit Technology, Bhubaneswar – providing AI based and machine learning to solutions to global clientele.

Falcon Marine Export facility, Bhubaneswar – India's largest sea food exporter.

Hindustan Coca-Cola Beverages Pvt. Ltd., Khurda – Coca Cola's third largest bottling plant in India.

Paradip Port – One of the key maritime gateways on the East Coast of India.

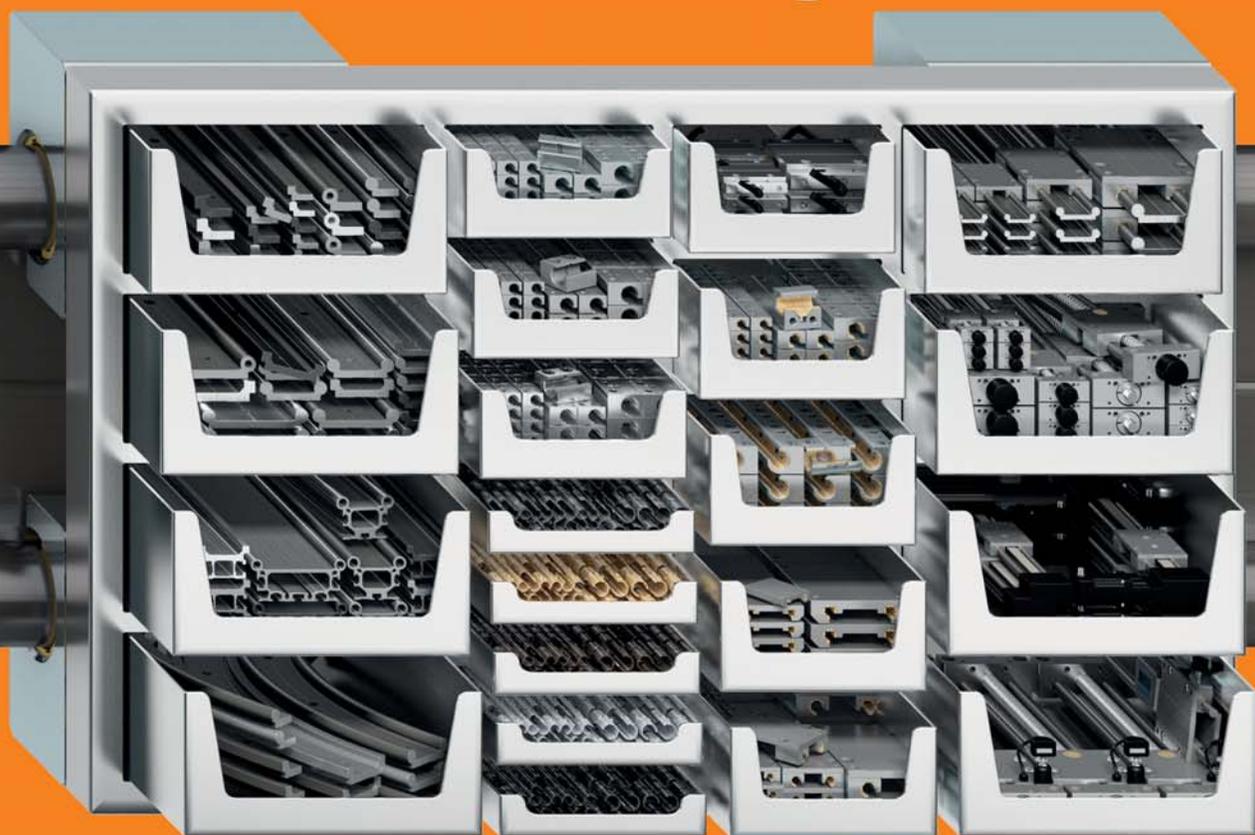
Paradip Phosphates Limited – One of the largest fertilizer producing facilities in India.

Paradip Plastics Park (Work in Progress) – Aimed at creating a manufacturing base for the downstream plastic industry.

Note: Except for the plastics park (which is still under development), all of the other facilities are running successfully and are contributing considerably to the success of their respective organisations.

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“Paradeep port is the largest in the country in terms of cargo handling capacity, networked with other ports at Dhamra and Gopalpur.”

Rinkesh Roy, Chairman, Paradip Port Trust

growth trajectory. “The state has set a vision to attract investments worth Rs. 2.5 lakh crore and generate employment for 30 lakh citizens by 2025 through six focus sectors that include - Agro & Food Processing, Ancillary & Downstream in Metals, Electronics Manufacturing & IT/ITeS, Chemicals, Petrochemicals & Plastics, Textiles & Apparel and Tourism,” says Chopra. It is also worth mentioning that Odisha is one of India’s most resource rich regions. According to Chopra, the State’s mineral production of over US\$ 3.6 billion forms 11.1 percent of the total value of mineral production in India. The state is the India’s largest producer of chromite, iron ore and bauxite. It is the second largest producer of coal and the third



“15 years back Adventz Group has taken over Paradeep Phosphates Limited (PPL), which was at that time nearly sick and perpetually loss making with huge liability. PPL has not only been emerged as profit making company, but it is now on significant growth trajectory.”

V. K. Sinha, COO, PPL.

“To provide a further boost to the defence manufacturing sector, Odisha Government will announce its defence manufacturing policy in the next three months.”

Sanjeev Chopra

largest producer of manganese.

Focussed on industries

Currently, Odisha has three investment zones, seven sector specific clusters and 106 industrial estates. One of the first of its kind projects developed by the state is India’s only integrated missile test range in Chandipur. “To provide a further boost to the defence manufacturing sector, Odisha Government will announce its defence manufacturing policy in the next three months,” says Chopra. Other noteworthy projects developed by Odisha include the Paradip Petroleum, Chemicals & Petrochemicals Investment Region (One of the 4 PCPIRs in India), the Info valley with an exclusive Electronics System Design Manufacturing cluster, the Sea Food Park (First of its kind in India) and the Angul Aluminium park (Odisha is already contributing to 54 percent of India’s total smelting capacity).

Well connected

Strategically located on the east coast of India with a long coastline of 480 km, Odisha offers good overall connectivity. “Odisha has a robust road network of 10,000 km of National and State highways that connects the hinterland of resource-rich regions and mother plants to largest ports on the east coast for easy access to the markets of ASEAN region. This is very strongly supported by a rail network of 2,540 km for a seamless movement of freight,” Chopra informs.

Driving of ease of doing business

“Being one of the pioneer in Single Window Clearance procedures, the state has drastically reduced timelines for various approvals; green category projects are accorded approval in 15 days while for other industries, the final project approval is accorded in less than 30 days. Only recently, Odisha launched first of its kind single window portal called GO-SWIFT that will support the investors throughout the entire life cycle of the project,” Chopra shares.

According to Chopra, Odisha has undertaken several initiatives over the past year in terms of implementation of ease of doing business framework, creating an enabling policy framework and development of state-of-the art industrial infrastructure facilities to make it easy for companies to set up and do business in the State. Odisha also has a huge industry ready land bank of 1,00,000 acres, which can be viewed through the GIS based Govt. of Odisha Industrial Portal for Land Use and Service (GOiPLUS). “The success experienced by large conglomerates across different sectors is a testimony to Odisha’s conducive industrial ecosystem,” he adds. 



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Improving convenience, reliability and efficiency

Manish Bhatia, President Building Products Division and CEO Evok Retail, HSIL Ltd talks to The Machinist about importance of logistics in the manufacturing sector.

By Swati Deshpande

Q Logistics plays an important role in the success of a company. What is your take on it?

Effectively organized logistics plays a significant role in the overall success of the company. It is the vein that connects the supply chain from the raw material sourcing point for the company, to other business units like manufacturing, warehousing, shipment and ultimately, product delivery. Monitoring and controlling this flow so that each department is in tandem with the others with clear delivery timelines ensures the company's success in the near and far future as these largely affect sales and profits.

Businesses can have a competitive edge over others when the logistics is efficient and demand is fulfilled at stipulated timelines. Inventory is a big part of any manufacturing business and its management should be in alignment with the timelines of service delivery. At the end of the day, the right logistics strategy and its execution help companies save money which can be reinvested in other areas key to an organization's growth like R&D and new product development to cater to evolving consumer needs.

Q In what way has GST helped to bring the cost of logistics down for the manufacturing sector?

The GST has helped to bring down the cost of logistics in more ways than one for the manufacturing sector. It has eliminated tax on tax, reduced multiple taxes on a single product and compliance cost which is key to a reduction in cost for the sector. Before GST, most of the supply chain management was subject to different taxes operating in different states. GST brings in an element of uniformity in the tax regime which

The GST is prompting logistics suppliers and their customer companies to achieve more efficiency through warehouse consolidation, a reconsideration of road freight strategy and the ensuing investment in upgrades of the company's existing systems.



Businesses can have a competitive edge over others when the logistics is efficient and demand is fulfilled at stipulated timelines.

helps businesses to focus more on optimizing efficiency instead.

Q What are the key challenges that your company faces in logistical matters?

Like most companies, we also face logistical challenges and are continuously striving to minimize them. Some of the key challenges that we face are damages, pilferage and extra freight cost demanded by labour unions in comparison to market rates. Seasonal demands create a shortage of trucks which becomes an added logistical cost. We follow best practices to ensure that these challenges are duly addressed and met.

The GST is prompting logistics suppliers and their customer companies to achieve more efficiency through warehouse consolidation, a reconsideration of road freight strategy and the ensuing investment in upgrades of the company's existing systems. This will proportionally curtail the logistics cost for the manufacturing sector in India.



Various infrastructure projects and industrial corridors are being developed in the country. How will it make the logistics for the manufacturing industry easier and cheaper?

There has been much deliberation on infrastructure projects and industrial corridors in the country which will ultimately accelerate growth for all sectors, including the manufacturing and logistics industry. This is largely owing to the 'Make in India' initiative by the Government of India. The network connectivity between states is getting stronger and this will result in reduced lead times in service delivery. This in turn will be instrumental in reducing the logistics costs for the manufacturing industry.

Dedicated Freight Corridors will also be instrumental in the improvement of logistics. It lays emphasis on connecting economically viable centres in a way that will allow for improved transportation of goods between these centres whilst minimising logistics cost. Inland navigable waterways are also being reviewed for greater efficiency and cost reduction in logistics.

How is technology helping the industry to simplify the process of logistics of its products and materials?

Technology is playing a huge role in the manufacturing industry as with most other industries today. When it comes

Technology is playing a huge role in the manufacturing industry as with most other industries today. When it comes to logistics in the manufacturing sector, it is acting as an enabler in making surface transport more organised.

to logistics in the manufacturing sector, it is acting as an enabler in making surface transport more organised. Technology is also helping in improving convenience, reliability and efficiency in the logistics' space. It is reducing inefficiencies in the existing market such as low capacity utilization of vehicles, supply-demand information gap, vehicle availability, etc. By addressing these challenges, the logistic spend of the company is significantly reduced with logistics being made more accurate and cost effective. The use of technology like barcodes, RFID, vehicle tracking and WMS help monitor the process of logistics, making it simpler for the company to better control their business and delivery timelines.

Automation is well poised to accentuate efficiency. For example, a supply chain has points 1, 2, 3 and 4 leading up to the ultimate delivery point. When all points are automated, they lend themselves to superior performance resulting in greater efficiencies and service standards. Technology is the enabler towards this objective. 




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Impact of blockchain

How blockchain is affecting industrial manufacturing and supply chain logistics

By Michela Menting

Blockchain is essentially a ledger technology that uses cryptography to provide an authoritative record of secure transactions. By doing away with a trusted centralized middle man responsible for the ledger, blockchain allows for a “trustless trust.” The three primary transformative features are immutability, transparency, and autonomy.

The transactions, once verified and accepted, are cemented into blocks and then appended to the chain. The synchronized replication across all distributed nodes and the use of cryptographic hashing is what provides the transparency — the immutable record — of transactions, with the data viewable to all the participants.

Blockchain has truly evolved from its bitcoin origin a decade ago and has moved beyond cryptocurrency just for digital payments. Now, business logic can be programmed through smart contracts and contractual agreements that can be automatically executed between peer-to-peer or machine to machine (M2M).

This provides a new level of autonomy. Smart contracts can be programmed to do many things: release funds, communicate information, and record and embed data, all in a pre-programmed, self-executing, and autonomous manner. Furthermore, digital identities can be created for physical properties and intangible assets with the ownership of those controlled through smart contracts.

Moving beyond smart contracts is the idea of decentralized autonomous organizations (DAOs). At the core, they are AI-based autonomous agents. DAOs are best defined as a set of long-lasting smart contracts. They can be a party to a smart contract, but they can also be used to implement more complex governance structures — owning, exchanging and trading resources, interacting with other parties (human and machine), and executing pre-defined tasks.

Industrial drivers

The key drivers for blockchain and Industry 4.0 are automation, connectivity, and digitization. Couple that with greater intelligence through analytics and data rationalization, and the implementation of smarter operations can begin. Industrial IoT and cyberphysical systems represent the most popular realization of those key drivers. Industry 4.0 is making use of new technology developments, such as IoT and cyber systems, to improve operations and management in industrial settings. Supporting these are global investments to expand the implementation of technology and consortium efforts to increase inter-operability and integration within the evolution.

The transition to Industry 4.0 won't be easy. The industrial vendor landscape is still relatively conservative, stemming from a siloed structure where OEMs like to keep tight control over processes. At the same time, the plant network is rather fragmented with a mix of propriety and open source technology. Logistically, machine lifespan and safety can be critical issues, and any changes that will affect those will take time. Overall, the industry in general is a bit slower to change. They need to carefully weigh the benefits of undergoing significant structural changes. But the ecosystem is changing toward increased technology adoption.

The key drivers for blockchain and Industry 4.0 are automation, connectivity, and digitization.

Industry 4.0 issues

Technology adoption to an Industry 4.0 context is not without a range of issues. Contract manufacturing, for example, is increasingly on the rise, and new players from the technology sector are targeting the industry, making logistics more complex and creating a crowded supply chain, meaning less visibility end-to-end. This can also lead to issues with accountability and auditing. Thus, participants can only see so far either upstream or downstream. There are also the continuing issues of IP theft, counterfeiting and the cloning of products that are

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increasingly common in contract manufacturing and along the supply chain. Overall, there are a lot of teething issues around 4.0 operational processes and adopting new technologies. Operators need to integrate them with existing legacy systems, which can be a complex affair, making for uncertain uptime, slower provisioning, and trickier maintenance.

Blockchain enablement

Blockchain enablement is where blockchain can step in to resolve some issues — not by replacing the existing technology — but by bridging some of those gaps and offering some solutions to these ingrained issues. For example, public ledger can provide transparency and visibility end-to-end from the product source all the way through to final form and delivery post-market. Smart contracts and DAOs can make deployments more autonomous and more intelligent, enabling machines to carry out tasks faster by taking them over from the human element and essentially automating them.

The barriers and challenges to blockchain

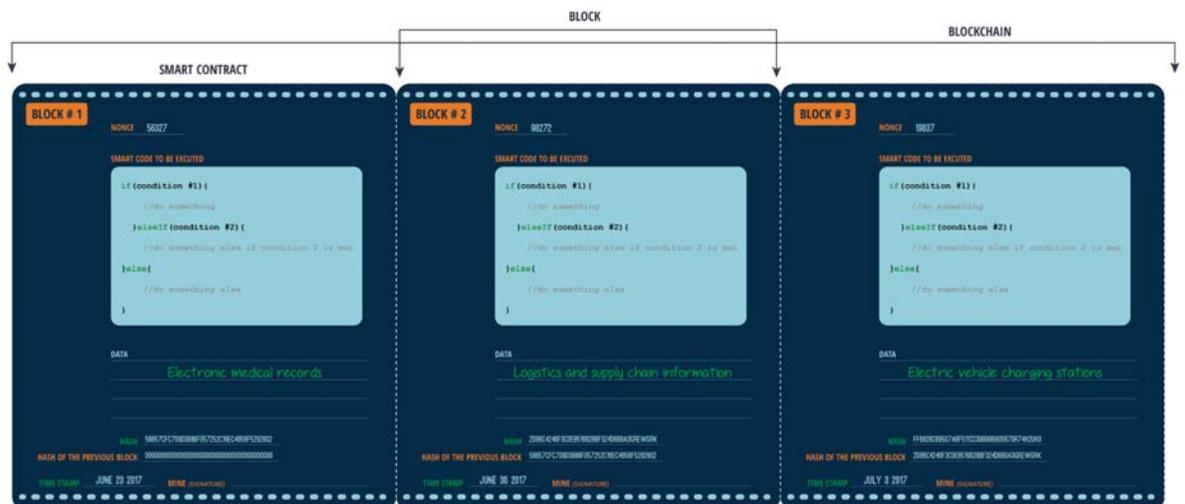
Despite its potential, blockchain does face some challenges and barriers to growth. It is still a nascent technology, despite bitcoin and cryptocurrency — which one could consider the 1.0 version — being a decade old. The focus on blockchain now centers around how to commercialize a 2.0 version, with smart contracts and DAOs. The key takeaway to remember is trustless trust and breaking down barriers that have formed around centralized systems. Blockchain will not stick in areas that are controlled end-to-end by one entity, where there is already trust in the process. Blockchain for the sake of blockchain is simply not a good business model. For participants, of

course, the big questions will be around cost: What is it going to cost to implement and deploy? What is it going to cost to replace, especially where some costs are already sunk for existing infrastructure? What kind of resources are needed to keep it up and running?

The point to consider about blockchain is you don't need substantial investment or change to integrate it. It's not about sharing everything you have in your database or replacing them completely with blockchain. It's about selecting what you want to share from your own data so the blockchain can then abstract it and share on a new ledger that can then be permissioned to other participants. Of course, there will be a need for minimal integration, but it's about leveraging the tools already in place. RFID (radio frequency identification) is a prime example of how to incorporate blockchain into a tool that already exists and make better use of it — which potentially becomes more about plug-ins and APIs than replacing a whole infrastructure.

Another concern will be around scale: How quickly and cost-effectively can the solution scale? When you're a small manufacturer with one product, that may be less of an issue, but if you are the Walgreens or Unilevers of the world, how will that work out on a global scale? We know that there are scale and energy consumption issues with cryptocurrencies and mining. These may not always be necessary for smart contracts and DAOs, but they can be used. With the decreasing cost of cloud storage, this could become less of an issue, but implementors still need to consider that they may have hundreds of participant nodes, each with a copy of a ledger that will grow incrementally over time and have real-time requirements. This may be difficult to achieve with synchronized replication

It's not about sharing everything you have in your database. It's about selecting what you want to share so the blockchain can then abstract it and share on a new ledger that can then be permissioned to other participants.



Blockchain can be utilized through smart contracts that can be programmed to execute automatically.

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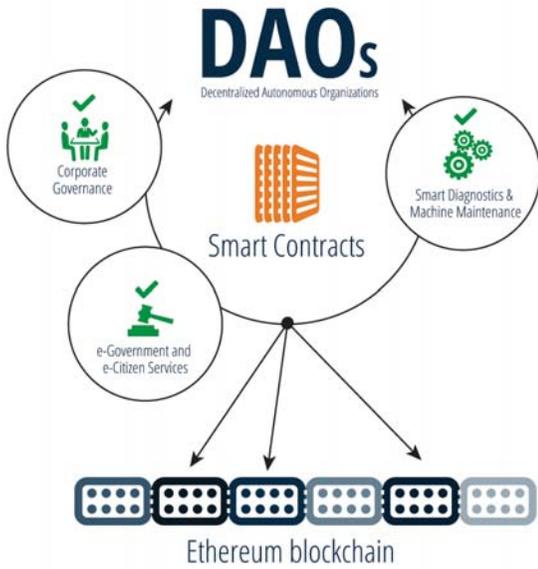
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Decentralized Autonomous Organizations can be used to implement more complex governance structures, such as interacting with third parties and executing pre-defined tasks.

across hundreds of participants of a large ledger. The questions to consider are: How fast can this replication be done? How fast can the smart contract be executed? Will all the participants have the bandwidth to integrate with blockchain, without creating new friction or excluding other players that are enabled to participate? These are elements to consider in the complex supply chain that may have dozens or hundreds of different parties to it.

Also, as a nascent technology, there are still many unknowns to consider. Smart contracts and DAOs have been hacked in the past, many fraudulent ICOs (initial coin offerings) still exist, and even where they are considered legitimate, blockchain sits in a regulatory gray area. How will blockchain affect data retention or data deletion regulation? What about data protection or privacy laws? (After all, there's often a good reason data isn't shared among all participants.) Perhaps this is also where the cryptography features of the block can provide some security — but to what extent? These are questions that have to be asked and need to be addressed. Beyond that, there could still be resistance to adoption.

In an optimistic scenario, we could see tech and market maturity of Blockchain 2.0 by 2025. This realization will only be possible if we answer below questions positively:

- What can blockchain solve in industrial applications?

- How can blockchain enhance Industry 4.0?

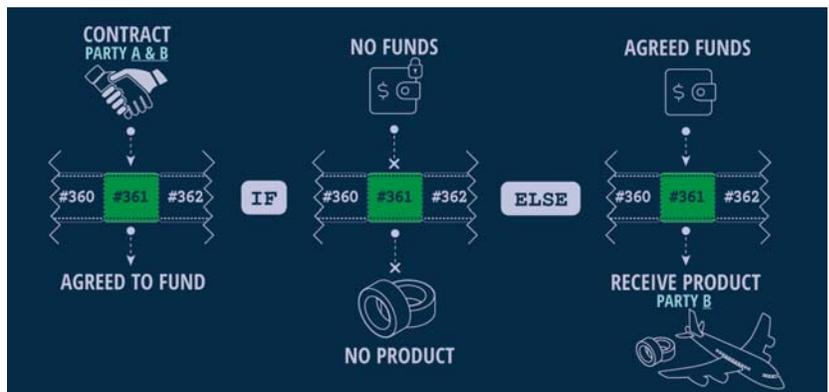
In the latter scenario, if blockchain can increase automation, efficiently leverage machine intelligence, streamline processes and logistics, then we have a good shot at having a successful technology being used in Industry 4.0.

From a management perspective, blockchain can provide a more dynamic registry for inventory and enable asset tracking as well. Smart contracts can automatically trigger inventory renewal based on certain conditions—a low stock alert, triggered by the sale of the last few items, for example—order replacements, make a payment, and schedule and track delivery, all in real time. In this scenario, a DAO could be leveraged where more complex rules can be set by the inventory or asset owner, or where there may be multiple inventory suppliers. The DAO could trigger a bidding event, choosing a supplier based on price, availability, or delivery, thereby, allowing the organization to weigh each factor more or less favorably, depending on need directly into the smart contracts of the DAO. This is the result of the combination of analytics and intelligence that can be leveraged autonomously by the blockchain.

Another use case can be centered around smart diagnostics. By leveraging machine intelligence and end-to-end communications, the devices in a production line could trigger the ordering of a new part or an off-schedule service maintenance autonomously. One could code prognostic health management and even predictive maintenance intrinsically into a DAO or smart contract.

Anti-counterfeiting is another headache for OEMs that can be minimized through a blockchain solution. Time-product information and movement into a blockchain can not only allow for tracking from fabrication to the end user, but also this intelligence could monitor suspicious behavior.

From a management perspective, blockchain can provide a more dynamic registry for inventory and enable asset tracking as well.



Blockchain can facilitate on-demand manufacturing, leading to faster, more accurate inventory management and asset tracking.



Hypothetically, if a tracked product with a unique identity suddenly starts multiplying inexplicably, the OEM can potentially more easily find where the fraud took place. Any product without an ID tied to a blockchain can be immediately determined counterfeit.

More generally, blockchain can provide a platform for product life-cycle management. DAOs could connect various smart contracts that could serve for device onboarding, patch management, servicing, feature updates, OTA (over-the-air) provisioning, or any type of remote management service that can take place post-market. There is tremendous potential for Industrial IoT as a whole.

Supply chain logistics

Blockchain can solve several issues in logistics, notably around lack of visibility, as the supply chain can get very crowded. Consumers may have limited visibility of where their purchases come from. For example, you take the supermarket or restaurant at its word that they have followed the required legal and ethical steps, stating what is written on the sticker at purchase is true. However, when you place all the major participants—from the farmer to the consumer—on the blockchain, you can get a much clearer picture of the product's history. You can learn whether or not it has been certified, if it conforms to a certain standard, who certified it, the results of that quality control, and even previous ownership. One can also imagine the value of that information in a second-hand market.

For those in the middle, blockchain also provides better visibility into tracking and monitoring the product from inception to delivery. As the various participants in the supply chain engage with the products, their actions are logged and recorded. Then, once certain conditions are met, smart contracts can be written to trigger payment, delivery, or insurance coverage. This provides a much clearer audit trail and traceability of the product as well.

What's more, the blockchain can also provide information on identity and ownership, which includes smart contracts that can trigger registration, authentication, and access control. This would help leverage digital product memory, but also provide information on who owned it and at what time, for example. Over time, this could also mean the resolution to potential liability and responsibility issues.

On a broader logistics level, blockchain more generally can eliminate a lot of the paperwork — storing digital copies of the necessary documentation and having that updated across the ledger. Some examples may include letters of credit for international shipping, billing information, delivery routes, and hiring the right transport company; this information can



Supply chain logistics become clearer with blockchain, giving all participants better visibility into product tracking from inception to delivery.

Blockchain can solve several issues in logistics, notably around lack of visibility, as the supply chain can get very crowded.

be coded into a smart contract to then trigger certain actions further down the supply chain.

Global marketplaces can also be hosted on the blockchain. They could provide increased visibility into supplier reputation, product prices, and availability, all in one place — perhaps also enabling the rating of suppliers, based on how well their smart contracts performed. An organization could include the ability to bid on offers, tied into a broader DAO for the manufacturer's certification, quality assurance, as well as payment and delivery of that product. All told, there are several use cases that can be leveraged in both supply chain logistics and industrial manufacturing, with some overlap certain to occur.

Conclusion

We can see Blockchain 2.0 and smart contracts as having a place in the industrial sector because there is synergy with Industry 4.0, and it could sufficiently address a number of pain points: added transparency, automation, optimization, and reducing friction. There is also an opportunity to leverage it with industrial manufacturing (on-demand manufacturing, inventory management, and anti-counterfeiting protection) and supply chain logistics (digital product memory, tracking and monitoring, authentication and access control, as well as payment and delivery management). Initially, the vendor ecosystem will consist of primarily proof-of-concepts and pilots, followed by an emerging dynamic start-up market. Commercialization is expected in the next 3-5 years but will hinge on effectively addressing barriers around cost, scale, and security. 

*The author is the Research Director at ABI Research
Article and Images Courtesy: ABI Research*



Going beyond the ordinary

While strengthening its position in the LED TV market, the Company now plans to launch air conditioners, washing machines, smart sound bars and refrigerators, says **Nirav Patel**, CMD, Abaj Electronics Pvt. Ltd.

By **Niranjan Mudholkar**

Tell us about your entrepreneurial journey as the founder of Abaj World.

It's a riveting story of success. Way back in 2012, the foundation of Abaj World was laid. Hailing from the small village of Kadi Taluka of Mehsana District of Gujarat, I graduated as BE (Electronic and communication) in the year 2011. I left the family business to walk my own path. After completing studies, I felt the need to make a name for myself outside my family owned real estate businesses. Then I decided to give the entrepreneur inside me a go and focused on starting my own business.

Starting your own venture different from a family business is harder than you initially think, but interestingly enough, it gets easier as you set a vision and work on it step by step. I started with share market trading, but it was not a smooth start. After bearing a loss of Rs.50,000, I decided to switch to a stock brokerage company by the name SMC Global, which is listed amongst top five franchises globally. This was not enough for me. In 2010, while working for Kaynet I came across a customer who had imported LED TV from Thailand and was struggling with two to three containers for its sales. I helped him out and managed to sell those containers. While I had done this easily I thought that I could get into this venture. Also, I had placed one of the LEDs in my own office and perceived no difference between an LG, a Samsung or this



“The company is investing about Rs.54 crore in its new plant in Gujarat. The manufacturing facility is likely to be operational by July 2018. It will be equipped to produce 6,00,000 units per annum of LED Televisions.”

product which that customer was selling under the name of Smart View.

Giving it a serious thought, I felt if China could establish itself as a strong player in the electronic goods market in India then why is it that our country is lagging. Why can't an Indian brand be a game changer? I realized this lag as electronics had no base in India. The ecosystem was completely lacking. Also, there was no local manufacturing; electronic items were often being imported. Then and there I decided to step in. And this is how the seed of Abaj World was sown.

Tell us about Abaj World's upcoming manufacturing facility with regards to its location, size, and capacity. How much investment are you making the same?

The brand which has started its voyage with imports of LED TVs is geared up to set up its own state of the art manufacturing facility at Ghumasan Village, Taluka: Kadi, Dist. Mehsana (North Gujarat) to manufacture LED TVs. The proposed new plant will come up on SH41 State Highway, 50 Kms from Ahmedabad and it will be equipped to produce 6,00,000 units per annum of LED Televisions. In addition to LED





Televisions, Abaj has also debuted in other consumer durable categories including ACs, Washing Machines and Sound System etc. The company will invest about Rs.54 crore in this plant. The company today boasts of making volumes as high as 7000-8000 units per month. And definitely, this plant will double up the capacity.

The manufacturing facility is likely to be operational by July 2018. The investment in line with the government's 'Make in India' initiative to produce energy efficient and innovative products for the Indian market. The land has been procured and by the end of first quarter of 2018-19 (FY) the first phase of the plant will be ready. In addition to building a state-of-the-art facility, we are committed to creating a world-class manufacturing ecosystem in the region, with a base of globally benchmarked vendors and suppliers, which will together generate over 100 new jobs, thereby accelerating the socio-economic progress in the state.

Q Tell us about your R&D and design capabilities.

At present, the R&D of Abaj Group is based in Ahmedabad. Also, we are planning to start the designing of products in China as it has world famous designers. The operations in China will commence in mid-August in 2018.

Q Market is highly competitive with the presence of many big and well-established names. How do you plan to The Indian television competes with these mega brands?

Well as such there are no challenges that we are facing as the market is wide open and very accommodating. We offer superior technology and design at best cheapest price scale. And, if we talk about the industry then bigger television screens have always been much sought after. With a surge in consumers' disposable incomes, the demand for Smart Televisions has shot up, contributing around 18-20 percent to sales in India's electronics sector. India's television industry is expected to expand to \$16.8 billion by 2020 from \$9.4 billion in 2016.

There is humongous demand and Abaj is all set to cover the entire spectrum.

Q Tell us about your diversification plans into other product segments beyond television.

LED Televisions has been the primary focus of the brand. The company currently sells over 20 models of LED televisions. The home-grown company is now expanding its product portfolio. After ruling Indian living rooms with LED TVs, the 'Ultimate Life's Things' brand, Abaj is now betting big on the consumer electronic market with plans to launch air conditioners, washing machines, smart sound bars, refrigerators and many other technologically advanced products. We are constantly extending our portfolio focusing on innovation and technology that's why we call Abaj - Ultimate Life's Thing.

"At present, the R&D of Abaj Group is based in Ahmedabad. Also, we are planning to start the designing of products in China as it has world famous designers. The operations in China will commence in mid-August in 2018."

Q Your aim is to make Abaj a Rs.100 crore company by 2020 from the current turnover of Rs.60 crore. What is the strategy to achieve this growth?

We are working on continuous technological and design innovations. Launching more consumer-friendly products has been the key to the success of the Brand and this would be our primary strategy for growth.

To fortify our presence, Abaj has set up a network of 75 distributors and 1400 dealers. The company further plans to add 150 distributors and 3000 retailers by 2020. The products will also be available online. The company also plans to sell through institutional sales network and modern sales.

Abaj is currently operating in eight states Gujarat, Maharashtra, Punjab, Chhattisgarh, Uttar Pradesh, Madhya Pradesh, Rajasthan and Tamil Nadu. Further, the company will be expanding operations in all major metro and non-metro cities including Karnataka, Andhra Pradesh, Maharashtra, Kolkata, Bihar, Jharkhand, Greater Punjab and Delhi NCR. The company intends to be present across India by the end of the year.

The company is growing at 259 percent annually and clocked revenue of over Rs.60 crore last fiscal. It is expecting a turnover of Rs.150 crore by 2018-2019.

Q Manufacturing is not an obvious option when it comes to entrepreneurship in India. What advice would you share for budding entrepreneurs?

I can share two fundamental principles that I have believed in:

1. Don't view challenges as hurdles
2. Believe in your instincts. 



BMW opens autonomous driving campus in Unterschleißheim, Germany

The BMW Group recently opened its autonomous driving campus in Unterschleißheim. Klaus Fröhlich, Member of the Board of Management of BMW AG responsible for Development and Research, and Bavarian state premier Markus Söder were present for the inauguration of a forward-looking development facility that showcases the BMW Group's transformation into a tech company.



The BMW Group's campus for autonomous driving is a state-of-the-art centre of excellence that covers every base when it comes to offering greater capacity for innovation and increased development efficiency – and ultimately securing the company's future sustainability.

15 months ago, the BMW Group took the decision to pool together its development expertise in the fields of vehicle connectivity and highly / fully automated driving at a single location. The campus, which offers 23,000 square metres of office space with room for 1,800 employees, was completed in record time. The site's optimum infrastructure, its proximity to the Research and Innovation Centre, and the nearby link to the motorway network helped to swing the decision in its favour.

The BMW Group is intending to drive forward development of highly automated vehicles with the new campus in Unterschleißheim, and is looking to recruit IT specialists and software developers in the areas of artificial intelligence, machine learning and data analysis.

Magna opens new facility in the U.K.

Magna has opened an aluminium casting facility in Telford, England, which will supply structural castings to Jaguar Land Rover. The new facility is approximately 225,000 square feet and is expected to employ 300 people. Magna management was joined by Jaguar Land Rover executives and members of local government to celebrate the grand opening of the facility. The new facility will use Magna's patented vacuum die-casting process. The advanced lightweight aluminium castings help maximize strength and stiffness and minimize weight, which improves fuel economy, safety and handling. As electrified and hybrid powertrains become more common in the automotive industry, high-pressure aluminium castings can be a key factor in reducing overall vehicle weight.

"With this new aluminium casting facility, we have established a world-class center of excellence to bring the most advanced structural casting technologies to the U.K.," said John Farrell, president of Cosma International.

Ben Goater, general manager of Cosma Castings U.K. said: "The manufacture of aluminium castings is an important building block for the next generation of all-aluminium and multi-material vehicle architectures."

M&M to make luxury electric vehicles under the brand of Automobili Pininfarina

Mahindra & Mahindra Ltd has launched Automobili Pininfarina, the world's newest sustainable luxury car brand. Automobili Pininfarina, promoted by Mahindra & Mahindra Ltd., will be based in Europe. The company will design, engineer and manufacture high technology, extreme performance, luxury electric vehicles for the most discerning global customers.

Automobili Pininfarina will combine Pininfarina's legendary automotive design prowess with Mahindra's growing electric vehicle (EV) expertise gained from its participation in the Formula E electric racing car championship. Automobili Pininfarina plans to launch its first model, a 'Pininfarina' badged electric hypercar, in 2020.

Paolo Pininfarina, Chairman, Pininfarina SpA, "We are pleased to welcome the new company, Automobili Pininfarina which represents an additional client for Pininfarina SpA, joining the list of the many prestigious car makers for which we will be designing cars in the future. This project helps me and my family to realize my grandfather's dream of seeing outstanding innovative cars solely branded Pininfarina on the roads."

Suzuki begins export of all-new Swift

Suzuki Motor Corporation (SMC) has begun exporting its all-new Swift produced at Suzuki Motor Gujarat Pvt Ltd (SMG), SMC's 100 percent subsidiary to produce automobiles in India. Production of the all-new Swift started at SMG in January 2018. It was shipped from Mumbai Port to South Africa, with Maruti Suzuki as its merchant exporter.

Export of vehicles from India is expanding to over 100 countries and regions including Europe, Japan, Asia, Africa, and Latin America. In FY2017, total number of exports of Maruti Suzuki reached to 126,000 units (102 percent year-on-year). Through this SMC will support 'Make in India' initiatives by the Government of India.



Maruti Suzuki India launches new version of Vitara Brezza

Maruti Suzuki India Ltd (MSIL) has introduced the SUV Vitara Brezza with a new, enhanced look, and the convenience of the acclaimed Auto Gear Shift (AGS) as an option.

The exterior and interior features have been given a makeover, enhancing the bold and sporty character of the country's most popular SUV. It also complies with advanced safety regulations, including pedestrian safety, ahead of regulation timelines.

The refreshed version comes loaded with new safety features comprising ISOFIX child restraint system, high speed warning alert, dual air bags, ABS with EBD, reverse parking sensors and front seat belt pre-tensioners and force limiters. These features have now been made standard across all vari-

ants. Vitara Brezza is already certified for offset and side impact crash tests since its launch. MSIL's two-pedal technology, Auto Gear Shift, is now being offered on this model.

R. S. Kalsi, Senior Executive Director (Marketing and Sales), MSIL said: "Vitara Brezza has been a game changer for India's SUV market. We have enhanced its allure to meet aspirations of our young customers. They now have the option of Auto Gear Shift, the acclaimed two-pedal technology, for enhanced convenience. AGS has been very well accepted by customers, and sales of AGS variants in the Maruti Suzuki portfolio have tripled in three years. By making this technology available on Vitara Brezza, together with a refreshed design, we expect India's number one SUV to become even more attractive."

WABCO extends contract for air compressor technology

WABCO Holdings Inc. has extended its long-term agreement to supply air compressor technology for a major global manufacturer of trucks and buses, which is headquartered in Europe. Under the agreement, valued at almost \$100 million, WABCO will continue to supply the commercial vehicle manufacturer its proven comp™ clutch compressors, as well as water-cooled w-comp and m-comp non-water-cooled crankcase air compressors, across Europe, the Americas and Asia.

Offering significantly enhanced fuel economy, WABCO's 318cc and 636cc single and twin cylinder compressors feature either an integrated clutch or an Optimized Power Reduction system which reduces power consumption during the off-load phase. The water-cooled crankcase compressors significantly reduce oil carry-over and carbon build up resulting in lower maintenance costs. In addition to greater fuel efficiency as a result of the compressor's reduced energy demands the compressor's lower noise levels also enhance driver comfort.

"This important supply agreement clearly demonstrates the value our customers place on WABCO being able to meet their needs with industry-leading technology in all markets that they choose to operate in," said Jorge Solis, WABCO President, Truck, Bus and Car OEM Division. "WABCO's globally proven air compressor design offers customers multiple benefits including a reduction in fuel and vehicle operating costs, as well as superior unit performance to value."

Siemens partners with American Center for Mobility

Siemens PLM Software and American Center for Mobility (ACM) announced a new partnership that brings Siemens' Simulation and Test solution for Automotive to ACM to support virtual and physical testing and validation of automated and connected vehicles. Siemens is already part

of similar strategic initiatives in Singapore and the Netherlands, once considered to be early adopters of AV technology, applications and solutions and now leaders in the testing and deployment of autonomous vehicles and infrastructure in real-world environments. Siemens PLM Software also partners with other leading companies in supporting ACM including AT&T, Visteon Corporation, Toyota, Ford and Hyundai America Technical Center Inc., Microsoft, Subaru of America, Inc., and Adient.

"Our unique and complete representation of the digital twin integrates electronics, software and hardware based systems. Because we cover all three of these disciplines in our digital twin, we can use these twins to run accurate simulations of the complex vehicle behavior found in autonomous vehicle systems," said Tony Hemmelgarn, CEO of Siemens PLM Software.





Cultivating Success!

Grease plays a major role in an agricultural equipment's working and also helps in increasing the life of the parts of the machine as well as of the overall machine.

By Ravinder Arora

Preet Agro Industries from Nabha district Patiala, Punjab, is a leading name in the farm equipment sector. With a customer-oriented approach, it is focussed on increasing the productivity and profitability of farmers and other clients by the providing them quality combine machines and other agricultural equipment.

The beginning

Hari Singh, the company's Founder and Managing Director, who comes from a small village of Patiala, started his journey in 1980 with a tractor and mechanical repair workshop at a rented place. Later, he named this workshop Preet Agro Industries and started manufacturing agricultural implements. Motivated by the good response to his products, he purchased land for setting up a manufacturing unit. The hard work paid off with Preet Agro Industries recording huge growth and becoming an established brand.

The small venture actually reached the heights of success in year 2000 when this company established a big unit on four acres of land and started manufacturing combine machines ripper and tractors. Hari Singh was accompanied by his son and other family members and together they took the company to the next level. Earlier, the company had a meagre turnover. However, as the company started growing, it reached an annual turnover Rs.300 crore. "Today, the company manufactures 11 models for tractors from 25HP to 110HP and nine models of combine machines. The Preet 987 model of combine is the best-selling product of the company and we have captured 45 percent of the total combine market share," share the Company's Co-founder-Director Gurcharan Singh.

The spread

Presently the company manufactures ten combines and 44 tractors per day. "Now, the target is to increase the production by more than ten times with the launch of new expanded plant. Presently, the company is also exporting 40 percent of its tractors and 25 percent of the combine machines of its total production," says Gurcharan Singh.

Sharing more information about the Company's overall offerings, Handeep Singh, the Company's Director, says that



"Customers started giving us a positive feedback that there is no need of going to mechanics for grease change and that their maintenance cost has decreased."

Gurcharan Singh, Co-founder-Director of Preet Agro

the product catalogue includes products like reversible disc harrow, seed drill, M.B. plough, Cheezal plough, cultivator, B.T. cotton seed drill, etc. which are made using the finest grade of raw materials. "These tools are high in terms of quality, durability and can lend years of problem-free services to the end users."

"Clients form our top priority and it is our constant endeavour to ensure hundred percent satisfaction for them. Not only do we provide a standard range of products, but we also provide customised solutions. All the tools are engineered and designed keeping in mind the comfort of the farmers. The tools are easy to operate and long lasting as well, thus providing complete value for money to the clients," Gurcharan Singh informs.

"What give us an edge over our competitors operating in a similar arena are our competitive prices and timely delivery of the products. Our company is closely associated with prestigious Chambers of Commerce and Industrial Associations. We have always striven for perfection and would continue to do so in the future as well. We aim to expand further and capture new territories which may prove to be lucrative," states Handeep Singh.

The partnership

According to Handeep Singh, the company's products like combine machines etc., which have various models are the best in the agriculture field because of the use of best quality components, oil and grease. He claims that the company's products give immense happiness and satisfaction to farmers because of zero maintenance cost on grease. He further adds that Preet Agro's combine machines need grease only one time



at the manufacturing point and after that there's no need to apply grease on the parts like bearing of the combine. "This is possible only because of the MotulTech products which we are using," he says.

Preet Agro started using the MotulTech grease in 2013 after doing a rigorous and successful field test. In this field test, they used the grease for one year on a trial basis. "We got incredibly positive results in the machines after using the MotulTech product," Handeep Singh shares. After this, Preet Agro started using the MotulTech products across its product portfolio. "We know that grease plays a major role in the combine's working and also helps in increasing the life of the parts of the



"Preet Agro's combine machines need grease only one time at the manufacturing point and after that there's no need to apply grease on the parts like bearing of the combine."

Handeep Singh, Director of Preet Agro

Partner in success

MotulTech is the industrial lubricants division of the Motul group, an international French industrial group, a specialist for more than 160 years in high performance lubricants. "The company enjoys worldwide repute and is unanimously recognised for the quality of its products, capacity to innovate and involvement in the world of competition," says Yatendra Kumar, Business Head, MotulTech India.



MotulTech develops, manufactures and markets industrial high technology lubricants for the machining and transformation of metals, as well as high performance lubrication for industrial equipment.

MotulTech has its presence in many countries through its products and services as well as production and R&D. In India, Motul Tech develops and manufactures specific high-performance product ranges for the industry, in metal working, industrial and specialty lubrication, aluminium die casting.

MotulTech offers specific products in demanding segments such as aluminium die casting and aeronautic machining. "With the performance and technology background coming from automotive competition, Motul offers a different approach to its industrial customers with tailor made solutions. MotulTech will adapt its solutions to its customers' needs where others will ask the customers to adapt to their products!

"MotulTech guarantees to its Indian industrial customers high quality and performance products, extensive sales and technical support (including lab services), a performing supply chain, and overall innovative and smart solutions in the industrial lubricants field," Kumar adds.

machine as well as of the overall machine. After using the MotulTech grease at the manufacturing stage, there is no need to repeat the grease in the combine machines. We are getting very good response in volume sales with the use of MotulTech products. The MotulTech products are good in quality and they also help increasing the shelf life of the machines," he adds.

According to Gurcharan Singh, Preet Agro has reached a high level of customer satisfaction after using MotulTech products. "Customers started giving us a positive feedback that there is no need of going to mechanics for grease change and that their maintenance cost has decreased. The sales volume has increased, and the breakdown has reached zero. Earlier, there were complaints about technical problems in the bearings of the combine machines due to the lower quality of grease and oil. This was a major setback for the company and its image, but now the complaints have reduced to zero. The customers have no such complaints," he says.

"All in all, the fine quality of the product and customers' satisfaction is helping us to achieve the sale targets and the company is blooming, growing by leaps and bounds," adds Handeep Singh.

Going ahead

Preet Agro has now decided to use 100 percent MotulTech products in its mega project, which is in the pipeline at present. The Company has set a target of making more than 1500 combines per year with a strong focus on the export markets. The company has also aims to to manufacture 300 tractors per day. "For this project, we will be using MotulTech products for their better performance," Gurcharan Singh says.

He further says: "Preet Agro Industries always provides our clients with quality products. International grade quality is ensured at all levels, right from the procurement of raw materials to the fabrication of the final products. Each finished item is thoroughly checked by our team of quality professionals, who do not leave scope for any flaw. Each agricultural implement is tested for its performance and durability and only those meeting all the requisite standards are then dispatched for sale into the market." 

The writer is a freelance journalist based in Ludhiana, Punjab.

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Liebherr opens new manufacturing unit in Aurangabad

Liebherr inaugurated its manufacturing unit in India; at the Shendra Industrial Park in Aurangabad, Maharashtra. The factory was inaugurated by two of the Liebherr Group's shareholders Dr. Isolde Liebherr & Stefanie Wohlfarth in the presence of other dignitaries. This is Liebherr's first refrigerator factory in India. Spread over 50 acres, this facility is equipped with smart manufacturing features, processes and assets capable of relaying accurate data and integrated traceability system for production planning and review. With production in full swing, the total production capacity is around 500,000 units a year. The domestic appliances product division manufactures refrigerators and freezers in five



countries for domestic and commercial use, including India. Talking on the occasion, Dr. Isolde Liebherr said, "India is an important growth market for us. We see a huge scope for cooling appliances in India as the rapid changes in lifestyle have led to rise in demand of those appliances, which makes life more comfortable and easier. With the establishment of the new

factory in India, we are able to offer our very best high-end technology to the Indian market". She further added, "Our first factory was inaugurated in 1954 and the fact that it is still operational in Germany and producing a high number of premium appliances is a true testimony to the quality standards and performance levels adhered by us."

SPX FLOW opens new facility to expand IT & eng. services

SPX FLOW has launched a 300-seater facility in Bengaluru to expand the IT and Engineering services and a state-of-the-art factory in Ahmedabad, as part of the India investment and expansion program. The global leadership team has been on a 3-city tour as part of the India growth program. SPX FLOW has a significant global presence in pumps, valves, mixers, dehydration, hydraulic tools and heat exchangers. As part of the growth and expansion, SPX FLOW is looking at hiring 200 people by 2020 including key leadership talents in India.



SPX FLOW India currently has a workforce strength of 550 people across cities and contributes to less than 5% of the global revenue. Some of the clients in India include Danone, Amul, Bamul, ONGC, Reliance, NTPC, among others. The Engineering and IT center in Bangalore already cater to global operations across various sites. India has a balanced representation of both businesses and functions. There is quite a bit of push to grow order book and also expand IT and Engineering.

Announcing this, Marc Michael, Global CEO & President, SPX FLOW, said that expansion of capabilities in India is an important part of the company's growth strategy. "Over the past year, we have made significant investments to build our team and expand our operations in India with emphasis on improving our ability to serve customers in the local market and to support certain areas of our global business activities."

Honeywell expands its manufacturing facility in Pune

Honeywell has announced the expansion of its Fulgaon manufacturing facility in Pune to meet the growing demand for automation solutions and factory instrumentation more effectively. In line with the growth of the Indian manufacturing sector, Honeywell continues to invest in its local production capabilities by doubling the operational space of the plant to 151,000 square feet. The state-of-the-art facility enables Honeywell to provide enhanced expertise and training capabilities to customers and expand its production range.

Originally built in 2014, the facility integrates advanced engineering, testing and manufacturing of equipment for the process industries such as refining, oil and gas, pulp and paper, power generation, chemicals, life sciences, and metals, minerals and mining. In addition, it offers a customer integration center, thermal solutions and smart metering factories, and a Honeywell Intelligrated® demonstration center. The center provides an immersive experience by letting customers interact with technologies that make manufacturing safer, more secure, comfortable and energy efficient.

"The expansion of our plant allows us to now commercialize new technologies that are researched and developed in Honeywell technology development centers here in India and globally and with that to widen our product range and meet future customer demand," said Ashish M Gaikwad, managing director, Honeywell Automation India Limited. "In alignment with the government's 'Make in India' mission, we continue to leverage the existing local manufacturing expertise and support our domestic as well as international customers."



The Schmersal Group inaugurates global support IT centre in Pune

Manufacturer of electromechanical safety and lift switchgear and systems, Schmersal India Private Ltd., a subsidiary of The Schmersal Group, Germany, inaugurated its first global support IT centre in Pune. The Centre inaugurated by Michael Ambros, MD, K.A. Schmersal GmbH & Co. KG., is spread across an area of 3305 square feet with a workforce of 15 Functional and Technical Consultants.

At the launch of the Centre, Ambros expressed, "This is the first global support activity that has been established outside Germany, and India has been recognised as one of the competence centres with skilled resources to provide support for SAP implementation and software development to the entire Schmersal Group. This activity has also led to increased employment opportunities for the Indians"

With the motto, 'turning workplaces into safer places' Schmersal India started operations in 2007 as a sales organisation to participate in the growing India market for machine safety. In 2012, a cornerstone for the production factory in India was laid in Ranjangaon near Pune, Maharashtra, with



Norbert von Poblitzki (left), Head of IT – Schmersal Group, Michael Ambros (middle) Managing Director of K.A. Schmersal GmbH & Co. KG., inaugurating the new office

a total investment of about 8 million Euros, by the Schmersal Group in the construction of the new factory which started production in July 2013 and today has a headcount of 86 employees.

To further strengthen its India presence, the Company plans on adding more skilled manpower to enhance their local R&D centre and Product Management to focus on developing more products for the Indian market.

"Embracing the 'Make in India' initiative, the manufacturing facility in Schmersal India is enhancing its product range by designing and manufacturing customised safety products

as per the needs of the customer specific application, for the local market as well as export to the Schmersal Group from their 100% export-oriented unit (EOU) located within the current Indian factory. Also, we have set up a free trade and warehousing zone (FTWZ) near Mumbai, which is specifically for global Indian companies who are allowed to import goods at a special concessional duty," proclaimed Sagar Bho-sale, the Managing Director, Schmersal India Pvt. Ltd.

Magna opens new plant in Mexico

Magna executives were joined by Governor Juan Manuel Carreras Lopez, members of local government, customers and employees to celebrate the grand opening of a new body & chassis manufacturing facility in San Luis Potosí, Mexico.

"We are so glad that Magna, a global company, decided to invest in San Luis Potosí. Magna could choose any country in the world and their decision shows confidence in Mexico," said Governor Lopez. "My special recognition to all Magna San Luis employees, all of you are world-class employees."

The 189,000-square-foot facility will produce structural welded assemblies for global automakers including BMW and Mercedes-Benz. It currently employs 400 people and is expected to grow to approximately 1,000 employees at full production.

"On behalf of Magna, I want to thank the local community and the state of San Luis Potosí for their ongoing support and collaboration on this project," said Sandro Passera, Vice President of Cosma Mexico. "They have helped make it possible for us to continue growing our world-class manufacturing operation, and we are excited for the opportunity to support our customers from this new facility."

Syrma to invest US\$ 10 mn in India

San Jose and Chennai based Syrma Technology, a leading electronic products and solutions provider, has announced its foray into the Indian market and its plans to set up its fifth manufacturing unit in the Delhi-Mumbai corridor. This unit will service the opportunities in the burgeoning National market and will focus especially on the Auto, Industrial, Aero & Defence and Healthcare sectors where the company has proven expertise.

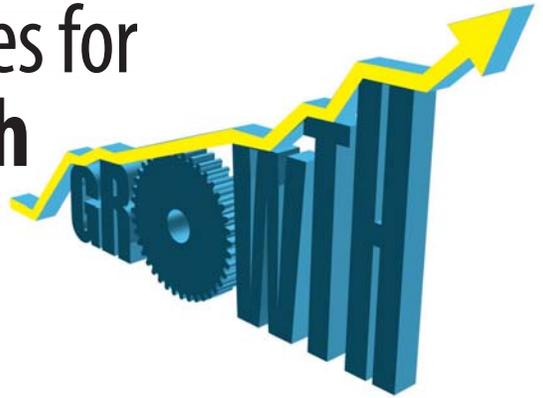
Syrma Technology, a part of the Tandon Group, has 1800 employees across its four facilities in India. The company currently focuses primarily on the export market and its core business has been growing at a CAGR of over 27 percent in the last three years. Apart from two units in MEPZ, it has two other manufacturing units located in Tamil Nadu and Maharashtra.

The company helps its customers add intelligence to products by providing solutions around design, build and innovate. An Export-oriented Unit based in Madras Export Processing Zone (MEPZ), Syrma designs and manufactures RFID tags, Magnetic products, Printed Circuit Boards Assembly (PCBAs) and box builds for a wide range of applications. The company has more than 100 customers in over 20 countries and has produced & distributed over 200 mn OEM products.



Manufacturing improves for ninth straight month

Supported by faster expansions in output and new orders.



Manufacturing conditions improved for the ninth consecutive month in April, supported by faster expansions in output and new orders. Greater production requirements stimulated job creation and encouraged companies to engage in input buying. On the price front, inflationary pressures continued to ease in April, with the softest increases for input costs and output charges reported since September 2017 and July 2017 respectively.

The Nikkei India Manufacturing Purchasing Managers' Index (PMI) rose from 51.0 to 51.6 in April. This was indicative of a faster improvement in the health of India's manufacturing economy than in the prior month, but pointed to a modest upturn that was weaker than the series trend. A key factor contributing to the upward movement in the headline PMI index was a solid rise in output. Output growth was solid and picked-up from March's five-month low, but remained slightly below the average for the current nine-month period of expansion. According to panellists, favourable demand conditions supported the latest upturn. Greater production in consumption and intermediate groups outweighed the decline in investment goods.

Reflecting sustained growth in production and new orders, Indian manufacturers were prompted to raise their purchasing activity for the sixth consecutive month in April.

New business rose for the sixth consecutive month. Although modest, the rate of expansion accelerated since March. Panellists reported that stronger market demand led to greater client wins. As was the case with output, growth was registered in consumption and intermediate goods.

New orders from overseas rose for the sixth successive month in April, albeit only marginally. Moreover, the rate of expansion moderated to the weakest since November 2017. Following a marginal decline in March, outstanding work rose during April. Delayed payments from clients partly led to the latest increase in backlogs, according to anecdotal evidence.

Improvements in demand conditions and rising production resulted in job creation during April. That said, growth was marginal. Reflecting sustained growth in production and

new orders, Indian manufacturers were prompted to raise their purchasing activity for the sixth consecutive month in April. Despite being modest, the rate of increase accelerated to the strongest since January.

Meanwhile, divergences were recorded for both pre- and post-production stocks. The former rose at the fastest pace in 2018 so far, while inventories of finished goods were depleted at the joint-fastest rate in the survey history. Indian manufacturers faced higher input costs during April, thereby extending the current period of inflation to just over two-and-a-half years. Although solid, input cost inflation moderated for the second month in a row to the weakest since last September. Meanwhile, firms raised their selling prices at the weakest rate in the current nine-month sequence of inflation.

Finally, business sentiment was at the strongest level seen since the implementation of the Goods and Services Tax in July 2017. Optimism reflected expectations that new business and demand conditions will improve over the coming 12 months, according to panellists.

Commenting on the Indian Manufacturing PMI survey data, Aashna Dodhia, Economist at IHS Markit and author of the report, said: "The Indian manufacturing economy started the quarter on a slightly stronger footing as growth picked-up from March's five-month low, buoyed by stronger demand conditions. "Putting the PMI data under a magnifying glass, consumer goods was again the bright spot, with output growth being the fastest among all the three market groups. Meanwhile, investment goods was the weakest performing category as both production and new orders declined during April. "Encouragingly, PMI data highlighted inflationary pressures moderated for the second month in a row, with input cost and output charge inflation at the weakest since September 2017 and July 2017 respectively." Business sentiment was at the strongest level seen since the implementation of the Goods and Services Tax in July 2017, driven by expectations that underlying demand will improve further over the next 12 months, and subsequently firms reported a renewed increase in job recruitment." 

Source: IHS Markit

Jury Speak

Ten industry leaders evaluated nominations for the 4th edition of The Machinist Super Shopfloor Awards 2018.



Ace Micromotic
Group Presents

4th **The MACHINIST Super SHOPFLOOR Awards**
Powered By **MOTUL TECH**

The fourth edition of The Machinist Super Shopfloor Awards has received overwhelming response from all over the country. Top manufacturing brands from the discrete industries have sent entries across ten categories and two segments (large and SMEs). In fact, nominations were pouring in the last moment.

These nominations were presented to a ten-member jury



“Being a jury member for The Machinist Super Shopfloor Awards is a unique exercise. I am happy to be part of it as the platform is created to encourage the industry. It is an enriching experience for me as well.”

Sham Arjunwadkar,
Chairman, IIF National Centre for Technical Services
Senior National Council Member of IIF



“With The Machinist Super Shopfloor Awards, the magazine has taken a good initiative to encourage the manufacturing industry. Till this platform came into existence, the Indian manufacturing industry lacked a motivation factor.

This motivation in-turn will help the shopfloors to perform better and eventually lead to become global leaders.”

Amit Pendse, Managing Director
Electronica Plastic Machines Ltd.



“I must congratulate The Machinist team for coming up with the simple and practical methodology for the awards platform for the manufacturing industry. This made our assessment process easy and efficient. Also, the categories of the awards such as Innovation are very important for the industry from the Make in India perspective.”

Vikas Kadlag, Managing Director
Metalis Group India Business Unit



“It’s an enriching experience to be a jury member for The Machinist Super Shopfloor Awards. As we go through various nominations from difference categories, we also learn a lot from various innovative methods that they are

following. The Machinist is doing great job by bringing these players together to participate in the nomination process.”

Prof. Dr. Madhu Ranjan, Emeritus Professor
College of Engineering Pune



“It was my first experience to be a jury member for The Machinist Super Shopfloor Awards. I am thrilled to see the tremendous response that this platform has received. It will definitely encourage the industry to achieve new heights.”

Abhijit Janugade, Head - Production & Maintenance
Draexlmaier Manufacturing India



"Today, through these nominations assessment process, I have seen Indian industry undertaking excellent R&D initiatives through internal resources, which we can tag as real term 'innovation'. And I am impressed with pace that the Indian industry is moving forward in."

Ramendra Kumar Sharma, Co-Founder & MD, Daejung India



"My experience has been interesting. I congratulate the team Machinist for encouraging the industry to come forward and participate in the Awards. I feel such platforms contribute to Make in India initiative to a large extent.

I must say that topics and categories are very futuristic and will help the industry."

Dr. Dhananjay Kumar, MD (Electric Vehicle), Thor Power Corporation



"The standard of nominations is excellent. Not only nominations but the whole standard of the Indian manufacturing industry has gone up. I am very proud of certain areas such as safety, digital manufacturing, etc. where the Indian industry has raised the bar."

Bireshwar Mitra, Executive Director, Sharda Motor Industries Ltd



"I have been associated with The Machinist Super Shopfloor Awards since its inception. It has been an exciting experience. The level of maturity in the nominations that we saw in the first edition and what we see now has improved tremendously. Also, this platform is well spread all over the country. I saw nominations from all nooks and corners of the country."

Hemant Watve, MD, WILO Mather & Platt Pumps Pvt. Ltd

Jury Team 2018

Hemant Watve, *Managing Director*
WILO Mather And Platt Pumps Pvt. Ltd.

Dr. Dhananjay Kumar, *MD (Electric Vehicle)*
Thor Power Corporation

Dinesh Jagdale, *Director & CEO*,
Panama Renewable Energy Group

Vikas Kadlag, *Managing Director*
Metalis Group India Business Unit

Ramendra Kumar Sharma, *Co-Founder & MD*
Daejung India

Bireshwar Mitra, *Executive Director*
Sharda Motor Industries Ltd.

Amit Pendse, *Managing Director*
Electronica Plastic Machines Ltd.

Prof. Dr. Madhu Ranjan, *Emeritus Professor*
College of Engineering Pune

Abhijit Janugade, *Head - Production & Maintenance*
Draexlmaier Manufacturing India

Sham Arjunwadkar,
Chairman, IIF National Centre for Technical Services
Senior National Council Member of IIF



"This job of assessing nominations was very exiting. I thoroughly enjoyed it. Also, through this, I could get a feel of how the industry is really progressing. I feel The Machinist Super Shopfloor Awards has a long way to go."

Dinesh Jagdale, Director & CEO, Panama Renewable Energy Group

team in Pune today. With a combined experience of more than three hundred years, these industry captains are well respected individuals with great knowledge and expertise in the manufacturing sector. Dr. Dhananjay Kumar, MD, Thor Power, who has been an integral part of our Jury Team right from the first edition, noted that the quality of nominations has been consistently good throughout the four years.

The evaluation results in determining the winners of The Machinist Super Shopfloor Awards, who will take home the coveted Machie Trophy. The Super Jury Meet, which was conducted at ibis Vimannagar in Pune, has further reinforced the credibility and reputation of the Machie Trophy. This year, the Machie Trophy will be awarded to the winning shopfloors at a fantastic awards ceremony in Mumbai on May 31, 2018.

Cutting Tools Partner



Associate Partners



Media Partner





Die & Mould India International Exhibition concludes on a high note

Exhibitor count increased by 20 percent from last edition and 30 percent increment in floor space

The 11th Biennial Die & Mould India International Exhibition (DMI) came to an end on April 14, 2018. The four-day event organised by TAGMA India showcased the latest products and solutions for the die & mould industry.

This edition of the trade fair that was held in Mumbai saw 300 exhibitors from 19 countries presenting a variety of products and services for die & mould and other related industries. The number of visitors too increased two-fold as compared to the previous edition.

With a 15 percent increase in exhibitors than the previous edition and 45 percent increase in this venue, DMI 2018 resulted in a huge success.

TAGMA has been working towards the benefit of the Indian die & mould industry for more than two decades. The industry body has been successfully organising trade shows, events, seminars and other activities keeping in mind the interests of the tooling industry. One such event is the Die & Mould India International Exhibition.

Suresh P Prabhu, Minister of Commerce & Industry and Civil Aviation of India addressed the gathering through a video message during the inauguration ceremony. "We are happy to see such an event related to die & mould being organised in Mumbai. TAGMA is doing a great job by encouraging the industry. Design is very important for manufacturing; it is a critical area and requires expertise. The industry has our support and we hope the new standards will help the industry and further provide a boost to the economy."

Jamshyd N Godrej, Chairman of the Board of Godrej & Boyce Manufacturing Company Limited and the Chief Guest for the inauguration added, "I have always propagated the idea of exhibitions. Exhibitions like DMI help people understand the kind of development that has happened in a particular industry."

Guest of Honour, Cabinet Minister, Maharashtra Legislative Assembly, Raj K Purohit said, "Die & mould, also known as the mother industry serves as the backbone of manufacturing. The same way TAGMA has the power to mould the future of the Indian die & mould industry. Exhibition of this stature will help the industry grow.

The exhibition that was first organised in 1998 has come a



Inauguration of Die & Mould India International Exhibition 2018

long way. This year's exhibit range included additive manufacturing, CAD/CAM system related to dies and moulds, CNC Milling Machining Centre, coating, cutting tools, digitizing, dies & moulds, press tools, jigs, fixtures, gauges, heat treatment, hot runner system, machine tools and accessories for dies and moulds, measuring machines, quality assurance, mould base and standard parts of dies & moulds, toolings, moulding machines/ die casting machines, sheet metal presses and ancillaries, precision machining, rapid prototyping and tooling, surface treatment, texturizing, tool steel, all ancillary materials equipment accessories consumables, services and automation covering die and mould industry.

Tagma also organised 'TAGMA CET Partner Meet' on the sidelines of DMI 2018. Around 40 like-minded industry experts came together to discuss the growth path and further strengthen the Indian tooling industry with the help of TAGMA CET.

The meet was structured to bring together like-minded industry experts to discuss the growth path and further strengthen the Indian tooling industry with the help of TAGMA CET.

"We aim to make a difference and act as a growth catalyst for the industry. Keeping this in mind we organise such events. An exhibition of this stature is an effort to provide the best in class service to the industry," said DK Sharma, President, TAGMA India. 



Adapting new technologies

At Die & Mould India 2018, Anand Prakasam, Country Manager, EOS India, talks to The Machinist about the company's business in the India.

By Swati Deshpande



Aerospace has been at the helm of affairs. Space is another industry we are concentrating on. Additionally, we are heavily focusing on the heavy engineering typically the large power plants, turbo machinery, etc.

Q Tell us about your display at Die & Mould India trade fair.

For this exhibition, our focus had been only on injection moulding and die casting. Our display was set up to spread awareness amongst visitors about the use of 3D printing technology in the tooling industry. I feel there is immense scope for additive manufacturing technology in this industry.

Q How open the manufacturing industry to accept the new technology?

Aerospace and medical equipment manufacturing industries have adopted 3D printing to a large extent. However, when it comes other industries, the key parameter is if we can meet the industry's requirement on the parameters of cost. Tool & die industry has conventional approach and people are reluctant to try new things. Often they are interested in the additive manufacturing technique however pricing is a major constraint.

Q Apart from the tooling industry, which are the focus industries for EOS India?

Of course, aerospace has been at the helm of affairs. Space is another industry that we are concentrating on. Recently we had associated with ISRO to manufacture a part for GLSV 17. It is working in the satellite that is now settled in the orbit. Additionally, we are focusing on the heavy engineering typically the large power plants, turbo machinery, etc. for their spare parts. There is dearth of spare parts in this industry and that's where we are focusing on. And for last three months we are also targeting the medical implants manufacturing. We are all set to install an implant production system in IIT Bombay.

Q Can you please elaborate on the implants manufacturing business?

When we are talking about implants, we exist only in the segment of custom implants. We are not present in the standard implants market. Some patients who undergo surgeries such as for tumours need specific profiles. Such implants are custom made. We feel that it's a very big market and hence we are focusing on the same.

Q How do you see the adoption rate for 3D printing growing?

Just to give you an idea about the trend, it took us 20 years to sell first 1,000 machines. Next 5-6 years to sell set of 1,000 machines and within last couple of years we sold 1,000 machines globally. That is the rate of adoption for 3D printing machines. You can see the same trend in India. We have installed 70 machines in here. It took us 12 years to sell first 20 machines. Then within 6-7 years we sold next 20 machines and in last two years we have sold another 20 machines in the country.

Q How do you foresee the growth of the market?

There are multiple initiatives from government for businesses e.g. a big Tech Park is coming in the Visakhapatnam. Also, lot of investment can be seen on the horizon in the medical sector. As I mentioned, space industry is adopting 3D printing in a big way. As India is launching other countries' satellites in the orbit, ISRO is looking for cheaper and lighter solutions. In this case 3D printing is a viable option. Also, considering these favourable conditions, I see the future for the 3D printing technology to be quite bright in the country. 



On the path of growth

Andreas Möller, Product Manager Threading, LMT Tools, talks to The Machinist at the Die & Mould 2018 exhibition about company's offering in this category.

By Swati Deshpande

Please tell us about your display at Die & Mould 2018?

When it comes to offerings for the die & mould industry, LMT Tools has wide variety of products. We had our entire range for the industry on display at the trade fair. The products applications ranged from roughing, finishing and semi-finishing. For the first time in India, we displayed our new product range namely CopyMax. These tools efficiently cater to the mould & die industry. Additionally, they can also be used in the industries such as general engineering, energy sector, etc.

The current year looks promising and we look forward to continue our journey on the path of growth.

and India. So, India is a very important market for us. We have been growing in this market year on year and the last year as well was good for us. After initial hic-ups due to the GST implementation, the market recovered well in the second half of the year. The current year also looks promising and we look forward to continue our journey on the path of growth.

How has been the last year for LMT Tools in India?

LMT Tools has four major markets — Europe, USA, China

Which industries drive this growth?

Automotive is one of the major industries that drives the growth of the company in India. Besides, die & mould, general machining and energy also play an important role. Medical equipment and aerospace are other few segments, which are gaining significance. 

Being people centric

Vineet Seth, Managing Director, Mastercam India Pvt .Ltd. talks to The Machinist about the changes that the manufacturing industry is undergoing

How has been last year for your company?

It's been 18 months since we started operations. Although Mastercam has been present in the country for many years, now we have more focused approach. We are opening our direct offices in addition to adding partners. Our partner network has also grown considerably.

Speaking about the market, the industry has seen ups and downs in the year gone by. GST implementation was a hard task for the industry; however, the industry bounced back soon after. GST is not the only culprit for lack of growth there are so many other factors such as global trends, etc. that contribute towards the growth of the industry.

How do you see the Indian manufacturing industry adapting new technologies?

Manufacturing industry is changing. Lot of machine tools that come in the market nowadays go in the advanced manufacturing applications rather than day to day applications. 3D printing technology is also becoming popular.

Specifically, the automotive industry is undergoing a tremendous change. BS VI and electric vehicles have added a



The industry has seen ups and downs in the year gone by. GST implementation was a hard task for the industry; however, the industry recovered from its impact soon after.

different dimension to the journey of the automotive industry in the country. I believe that automobile companies will stop new developments in combustion engines way before 2030.

How was the Die & Mould 2018 trade fair for you?

Platforms such as trade exhibitions are great way to meet and greet. Generally, we have a busy stall as we are very people centric. We don't look at the trade fairs as a selling tool, but we look at it as a platform to project ourselves. 



New from the ground up

Walter has unveiled two brand new Helitronic models at this year's GrindTec industry trade show: the Helitronic Power 400 grinding machine and the Helitronic Power Diamond 400 grinding and eroding machine. Walter's latest machines feature a grinding wheel / electrode changer and extended traverse, and can now machine tools up to 380 mm in length, surpassing the previous limit of 280 mm. This is an increase of over 35 percent. But the two machines offer more than just longer workpiece lengths. Walter engineers completely redesigned the Helitronic Power and Helitronic Power Diamond multi-functional machines. "The new Helitronic Power 400 and Helitronic Power Diamond 400 machines are more in line with our Helitronic Vision models. They're basically two completely new machines," says Torsten Wörner, product manager in the grinding department at Walter. For example, the base of both machines was completely remodelled. The new, more rigid machine bed ensures even better damping behaviour which in turn facilitates greater precision and higher surface quality. The C-axis of the standard version of both new machines is driven by a worm drive. A low-maintenance and



extremely accurate torque motor is also available as an optional feature.

The engineers also used the pneumatically driven steady rests and tailstocks from the Helitronic Vision series. This means that the steady rests and tailstocks are less prone to leaks, require less maintenance and are much cleaner. They also absorb less heat than components that use hydraulic oil, thus ensuring even greater precision. Like all 'Two-in-one' machines from Walter, The New Helitronic Power Diamond 400 also uses Fine Pulse Technology. "For over a year, this technology has been at the forefront when it comes to surface quality, cutting edge roughness and process stability of

PCD tools," says Siegfried Hegele, product manager in the eroding department at Walter. Unlike the previous models, the Helitronic Power Diamond 400 and Helitronic Power 400 machines can be automated with a top loader for up to 500 tools, a robot loader for up to 7,500 tools or the robot loader 25. The robot loader 25, which has a carrying capacity of 25 kg including grippers, was previously only available as an option for Helitronic Vision machines. Both machines use the Helitronic Tool Studio grinding and eroding software.

UPDATE

Renishaw supports UK and India business ties

Rhydian Pountney, Managing Director of Renishaw UK Sales Ltd, recently attended the Access India event as part of the Make in India initiative. Set alongside a backdrop of the Commonwealth Heads of Government Meeting in London, UK, the event gave British small and medium enterprises (SMEs) the opportunity to meet with large manufacturing businesses and government representatives, to facilitate bilateral investment and help SMEs to set up Indian manufacturing operations.

The Make in India initiative was launched by Prime Minister Narendra Modi in September 2014 to strengthen the Indian design and manufacturing industries. The Access India Programme (AIP) is a newly launched scheme, specifically aimed at innovative SMEs in the UK, which forms part of the Make in India Initiative. Led by India's Department of Industrial Policy and Promotion (DIPP), the programme is run in conjunction with the Indian High Commission in London and the UK India Business Council (UKIBC).



The first event, hosted at Buckingham Gate, was attended by Ramesh Abhishek, Secretary of the DIPP, who was introduced to major UK investors in India and SMEs on the AIP. Companies in attendance included Renishaw, BAE Systems, Rolls Royce, JCB, Perkins Engines and TVS Supply Chain Solutions. As part of his role, Rhydian Pountney acts as a mentor for the first 24 SMEs selected for the AIP programme, offering support and advice

on how to set up operations in India. "Trade between India and the UK is on the rise," explained Pountney. "Leading this trend are large, multinational companies. To facilitate stronger trade links and increased UK investment in India, the AIP encourages SMEs to learn from the successes of multinationals with a long-standing, established presence in India.

"This allows UK SMEs to access the benefits of opening facilities in India," continued Pountney. "India offers a strong technical skill base, one of the fastest growing economies and a good location to export to the rest of Asia and beyond." 



Service life more than doubled with plain bearings in roller chain for long travels

At the Hannover Messe, igus showcased the new P4.1 roller chain for crane and gantry use with optional intelligent wear monitoring.

In order to increase the uptime of crane systems and gantries, igus has now combined its core competencies in the areas of plain bearing technology and energy chains. In the P4.1 roller chain for long travels, newly developed tri-biologically optimised plain bearings ensure lubrication-free mounting of the individual chain links. This significantly prolongs the service life of the energy chain. Optionally, the P4.1 e-chain can be part of the igus predictive maintenance concept with a new isense wear sensor.

The P4 system has been the solution for demanding applications for many years. The P4 roller chain series has already proven itself in over 1,000 crane and gantry applications worldwide, with travel distances of up to 800 metres, high speeds of more than five metres per second, and several million cycles with low vibration and low noise. Using rollers integrated in the chain link, the friction is reduced to a minimum and the service life prolonged to the maximum. Due to the offset between upper run and lower run, the plastic rollers are not rolled over, but roll past each other to allow very smooth running. As a result, the coefficient of friction decreases and the drive power is reduced by 57 percent. Users like the world's largest crane manufacturer ZPMC have been relying on the reliable profile roller chain for many years. With the new lubrication-free and maintenance-free plain bearings made of high-performance plastics, igus has now developed the e-chain even further.

New P4.1: Merging of two core competences

Since 1964, igus has been developing and producing high-performance plastics for lubrication-free plain bearings and tough e-chains. Through the experience in both areas and the research of new plastic compounds, igus developers were able to further optimise the P4.1 roller chain in order to significantly increase reliability and availability. There is a bearing point for pivoting in every connection of the chain links. This has now been re-equipped with a maintenance-free tribo-polymer plain bearing, which more than doubles the service life. In this way, container cranes in ports, for example, can now achieve



a service life of more than 15 years or 20,000 plus operating hours, with low maintenance and high reliability.

Intelligent networking and predictive maintenance with isense

Optionally, the new P4.1 can be equipped with smart monitoring sensors, such as a wear sensor for the newly installed plain bearings. From a defined wear limit, this can issue a signal to the igus icom communication module and maintenance can be planned in advance. Depending on the customer's requirements, the data of the

The P4 roller chain series has already proven itself in over 1,000 crane and gantry applications worldwide, with travel distances of up to 800 metres, high speeds of more than five metres per second, and several million cycles with low vibration and low noise.

icom module can be used differently: with a direct integration into the existing software environment and intranet solution for a pure maintenance message or with the connection to the igus data centre for an intelligent and dynamic service life prediction. In this case, the maintenance recommendations via Machine Learning and AI algorithms are constantly compared and defined with the data from many existing applications. Thanks to the intelligent networking of the P4.1 roller chain, the maintenance engineer can access the service life data of the energy chain at any time at any location.

For more information, please contact:

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Hydraulic expansion toolholder

Outside a slim heat shrinking contour – inside a clever hydraulic expansion technology

With the SCHUNK TENDO Slim 4ax hydraulic expansion toolholder, it is now possible to combine the complete outside geometry of heat shrinking mountings according to DIN 69882-8 with the proven qualities of SCHUNK hydraulic expansion technology. The slim precision mounting makes it ideal for use in series production, particularly in the automotive industry. It was particularly designed for axial operations, and shows its strength during milling close to interfering contours, countersinking, and reaming in 5-axis centers and the die and mould industry. Test series prove that the mountings with the vibration-damping properties of the hydraulic expansion technology have considerably improved the process during milling operation. The hydraulic expansion toolholder design reduces peak cutting -amplitude of the force progression in Y-direction, which results in less deflection of the tool. By reducing the load of the cross cutter and the cutting edge, considerably longer service life can be achieved. Additionally, the user benefits from having exact gauges for holes and maximum precision at the workpiece.

Easy exchange via Plug & Work

As with every SCHUNK TENDO hydraulic expansion toolholder, the SCHUNK TENDO Slim 4ax also has permanently high run-out accuracies, perfect vibration damping, and a fast tool change with a wrench. Even narrow shape and position tolerances can be met precisely, therefore investments in high-priced peripheral devices are not required. Since the precision mounting can replace conventional heat shrinking toolholders by Plug & Work



By reducing the load of the cross cutter and the cutting edge, considerably longer service life can be achieved. Additionally, the user benefits from having exact gauges for holes and maximum precision at the workpiece.

with-out having to reprogram the machine, the benefits can be tested in a real application. SCHUNK TENDO Slim 4ax can be used without expensive peripheral devices. The MQL-capable mounting is dirt-resistant and is extremely low-maintenance. In contrast to the heat shrinking toolholders, it has a permanently high run-out accuracy of < 0,003 mm at an unclamped length of 2.5 x D and a balance grade of G 2.5 at 25,000 rpm, the SCHUNK TENDO Slim 4ax seamlessly fits into the proven hydraulic expansion toolholder program from SCHUNK. In the first step, the mountings are available for the interfaces HSK-A63 with ø 10 mm/L1=120 mm, ø 12 mm/L1=90 mm, ø 12 mm/L1=120 mm, ø 14 mm/L1=90 mm, ø 14 mm/L1=120 mm, and ø 20 mm/L1=90 mm. Further variants with ø 6 mm bis 32 mm and L1-dimension of 90 mm, 120 mm, and 160 mm are already planned.

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UPDATE

Mobile manufacturing industry to mark Rs 132,000 cr by 2018

Indian mobile manufacturing industry is expected to touch Rs 1,32,000 cr. by end of 2018, said Ravi Shankar Prasad, Union Minister, of Electronics & Information Technology said at an ASSOCHAM event. India manufactured about 110 million mobile phones in 2015-16 as compared to 60 million in 2014-15 showing a growth of over 90 percent. In value terms India's mobile manufacturing industry produced mobile phones worth Rs 54,000 cr. in FY15-16 compared to Rs.18,900 cr. in FY14-15. The same reached Rs. 94,000 cr. by end of 2017, said the Minister.

In terms of volume, in 2014 India produced 5 core mobile phone made locally in India which reached to 15 crore in 2015-16. In 2017 the Indian mobile manufacturing industry

produced 22 million mobile phones. "The industry would produce 50 million mobile phones by 2020," said the minister.

"In terms of electronics manufacturing units, the minister said within three years, the industry added 120 such units. Two-third of these are mobile manufacturing units and there 54 such units in Noida alone. These industries employ 5 lakh people," he added.

Prasad further said that India has the world's third largest start-up community after US and England. He said that his ministry is working in mission mode to make India's digital sector \$1 trillion economy in next five years and has potential to create 50 lakh to 70 lakh new jobs.

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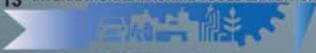


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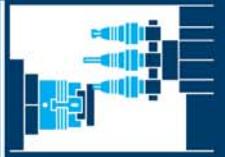
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by

SCHUNK



+ **< 60** seconds
jaw change
ROTA THW *plus* Power Lathe Chuck



+ **300%**
better surface quality
TEIN|D|O *FURN*
Hydraulic Expansion Toolholder



+ **1,200** different types
SCHUNK Standard Chuck Jaws



Superior Clamping and Gripping

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Everything for your
Lathe

More than 1,700 components for
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smart milling

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D2MILL90°GN

HIGH PERFORMANCE SOLUTION FOR FULL DEPTH 90° SLOT/SHOULDER MILLING.

- True 90° Shoulder generation capability with 4 corners.
- High productivity inserts characterized by thicker and stronger cutting edges.
- High helix on cutting edge ensures smoother cutting.
- Double sided durable insert with high positive rake angle for low cutting loads and temperature.
- Can be used on low to medium powered machines.
- Available in both Face mill and End mill options.

4 EDGES
smart
milling

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COST SOUNDS LIKE A
FOUR-LETTER
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