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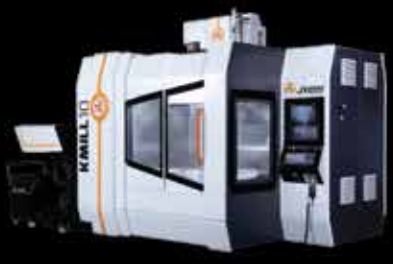

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Acceleration ahead!

According to the latest World Bank regional economic update on South Asia, growth in India is firming up and it is projected to accelerate further. This growth, the update says, is prompted by the adoption of the Goods and Services Tax and the recapitalization of banks. India's economic growth is projected to rise to 7.3 percent in FY 2018/19, and to 7.5 percent in the following two years, with stronger private spending and export growth as the key drivers. Of course, the World Bank is not alone in forecasting a positive outlook for the nation's economy. Recently, even the IMF has said that India's economy is picking up and growth prospects look bright—partly thanks to the implementation of recent policies, such as the nationwide goods and services tax.

"THE TIME IS JUST RIPE TO TAKE THINGS TO THE NEXT LEVEL NOW. WE JUST NEED TO KEEP DOING THINGS RIGHT AND MAINTAIN THE MOMENTUM."

Incidentally, the quick estimates of Index of Industrial Production (IIP) for July 2018 stands at 125.8, which is 6.6 percent higher as compared to the level in July 2017. The cumulative growth for the period April-July 2018 over the corresponding period of the previous year stands at 5.4 percent! The Indices of Industrial Production for the Mining, Manufacturing and Electricity sectors for the month of July 2018 stand at 95.8, 127.6 and 162.1 respectively, with the corresponding growth rates of 3.7 percent, 7.0 percent and 6.7 percent as compared to July 2017.

Even the Nikkei India PMI points out that country's manufacturing economy recorded an improvement in growth during September amid firmer gains in new orders, output and employment. "Solid growth of the manufacturing sector during the latest survey period extended the current run of expansion to 14 months," it adds. The time is just ripe to take things to the next level now. We just need to keep doing things right and maintain the momentum.

Editor & Chief Community Officer

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Worldwide Media Pvt. Ltd.

Chief Executive Officer **Deepak Lamba**

Chief Financial Officer **Subramaniam S**

Publisher, Print & Production Controller **Joji Varghese**

Brand Publisher **Rishi Sutrave**
rishi.sutrave@wwm.co.in
+91 9820580009

Editor & Chief Community Officer **Niranjan Mudholkar**
niranjan.mudholkar@wwm.co.in
+91 9819531819

Associate Editor **Swati Deshpande**
swati.deshpande1@wwm.co.in
+91 99204 00833

Assistant Art Director **Sanjay Dalvi**
sanjay.dalvi@wwm.co.in

Project Coordinator **Fiona Fernandes**
fiona.fernandes@wwm.co.in

ADVERTISING

South **Mahadev B**
mahadev.b@wwm.co.in
+91 9448483475

Prabhugoud Patil
prabhugoud.patil@wwm.co.in
+91 9980432663

West & North **Ranjan Haldar**
ranjan.haldar@wwm.co.in
+91 9167267474

SUBSCRIPTIONS
subscriptions.rmd@timesgroup.com
022 67427209 / 67427206

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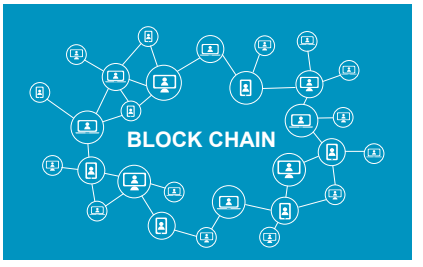

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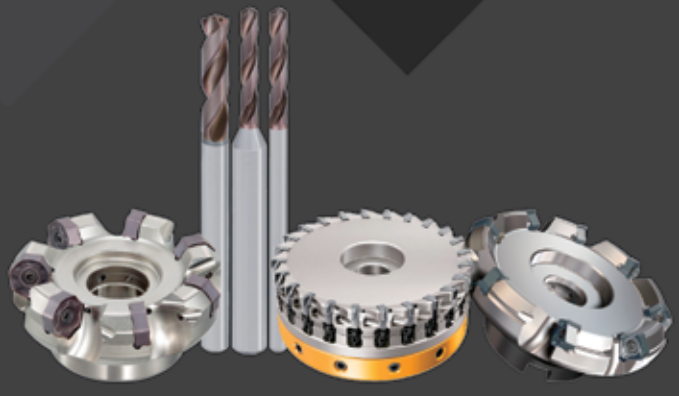

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NEWS

PM Modi conferred Champions of Earth Award 2018

INDIA'S PRIME MINISTER NARENDRA MODI was conferred the Champions of the Earth Award 2018 for Policy Leadership by UN Secretary General Antonio Guterres. In his address, the Prime Minister said that the award is for all those unknown faces, who work in far-flung settlements, mountainous regions, tribal areas for years. He emphasized that the award is an honour for the India's continual, new, eternal and ancient tradition and is the reflection of our commitment for sustainable energy. He also congratulated the other laureates of the award in other categories. Modi underlined that climate and calamity have a direct relationship with culture and till the concerns over climate become a part of culture, it will be difficult to escape calamities. Stating that India's sensitivity towards environment is today being acknowledged the world over, Modi underlined that in India, nature has been considered a living entity as well as a being that co-exists. He referred to the Clean Air campaign to sensitise ground-level functionaries and general public to enforce the habit of environmental protection.

Speaking on the occasion, Secretary General, United Nations, Antonio Guterres said, "Today we recognise a statesman, who embodies the true meaning of leadership." Guterres praised the sensitivity towards nature & environment being a part of Indian tradition. "I must confess that the impact of PM Modi's decisions has already reached the executive office of United Nations. PM Modi decided that India should restrict the use of single use plastic in less than five years. In the office of United Nations, I have decided that there is no single use of plastic", the UN Secretary General said. He said that climate action is the right approach from the point of view of environment, economy & development.

Indian Railways sign MoC with Russian Railways

RECENTLY, a Memorandum of Cooperation (MoC) was signed between the Ministry of India and the Joint Stock Company 'Russian Railways'. The MoC intends to carry forward the activities taken up under the Memorandum of Understanding (MoU) signed between the two countries in December, 2015. The Memorandum of cooperation includes: Implementation of speed up gradation project of Nagpur-Secunderabad section ; Setting up of single traffic control centre for managing mixed traffic at local level; Best practices in freight cargo operation; Development of multi modal terminals ; Exchange of best technologies being practiced by the two countries and Training and advanced qualification improvement of Indian railway employees with the involvement of Russian railway-related higher education establishments.

The cooperation agreement was signed by Chairman, Railway Board, Ashwani Lohani from Indian side and Oleg Belozerov, CEO & Chairman of Russian Railways.

A MoU was signed between Ministry of Railways and Ministry of Transport of Russian Federation for development of cooperation in transport education. The MoU aims at providing organizational and methodological support to higher educational institutions implementing joint projects in the field of transport education of both countries. It also envisages cooperation between Russian University of Transport and the National Rail Transportation Institute, Vadodara to jointly organize educational transport seminars, including participation in shaping their themes, facilitating the search for partners, organizing mutual visits and preparation of methodical and regulatory documents.

Ashok Leyland opens its EV facility in Ennore

ASHOK LEYLAND inaugurated its cutting edge electric vehicle (EV) facility in its Ennore plant. It is India's first integrated facility for design, prototyping, testing, process prototyping and solutions design. The in-house facilities include engineering, prototyping & testing for Motors, Battery Modules and Packs and a Power Electronics Lab. Keeping in mind the rapidly evolving and changing market & technology, it has been conceived as an in-house start-up facility in order to stay flexible & fast. Sharing his views, Vinod Dasari, MD, Ashok Leyland, said, "In our 70th year, we are laying the foundation for our future. The EV Centre in Ennore will give us the edge throughout the evolution of eMobility. Currently, we are the only OEM globally to offer different Energy Management strategies and an architecture which is modular. Our plan is to start working on new product platforms in EVs such as eLCV, Low Floor City Buses, Last Mile Connectivity and Power Solutions products.

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Alstom wins a contract for Mumbai Metro Line 3

ALSTOM has been awarded a contract worth around €315 million to supply 248 metro cars for Mumbai Metro Line 3 by the Mumbai Metro Rail Corporation Limited (MMRCL). The Mumbai Metro Line 3 is a 33.5-km long underground stretch connecting the busiest and congested regions in Mumbai. The metro line will connect Cuffe Parade business district to SEEPZ in the north-central with 26 underground and one street-level station.

This contract is the biggest rolling stock contract for Alstom in India in the urban sector and envisages design, delivery and commissioning of 31 lightweight, fully-furnished modern passenger train sets of 8 cars each. Alstom will be responsible for training of operating and maintenance staff for Mumbai Metro Line-3 system as well. It is also the first time that the metro cars will have 75% motorization, as stipulated in the MoUD guidelines, enabling quick acceleration and deceleration thereby bringing about greater efficiency in operations. The trains will be also equipped with regenerative braking system aiding significant reduction in carbon emissions. In addition to the above features, it will be also the first UTO (Unattended Train Operation) project in Mumbai and second in India after Delhi Line L7/8.

While the complete designing and development of the metro cars will be undertaken out of Alstom's Bangalore (India) engineering centre in close collaboration with France, the 248 metro cars will be manufactured from its state-of-the-art rolling stock manufacturing unit at Sri City near Chennai (India).

DAC approves equipment worth Rs 9,100 crore

PURSUING THE GOAL of indigenisation and self-reliance, the Defence Acquisition Council (DAC), chaired by Raksha Mantri Smt. Nirmala Sitharaman approved procurement of equipment for the Defence Forces valued at over Rs 9,100 crore. This includes two Regiments of Akash Missile Systems under the 'Buy (Indian)' category from M/s BDL. The Missile to be procured is an upgraded version of the previously inducted Akash missiles and will include seeker technology, possess 360-degree coverage and will be of compact configuration with reduced signature. The upgraded Akash Weapon System is operationally critical equipment which will provide protection to vital assets.

The DAC also accorded approval for progressing Design and Development of Individual Under Water Breathing Apparatus (IUWBA) for T 90 Tanks. Developed by DRDO Lab DEBEL, the IUWBA is used by the crew of Tanks as a safety gear and is required by the Tank crew for emergency escape when negotiating water obstacles while deep fording. The DAC also accorded approval for Design and Development of Test Equipment for Guided Weapons System of T 90 Tank. The equipment is being developed by DRDO and will give an indigenous solution to the Test Equipment used for checking the Guided Weapon System of Tank T 90. The equipment earlier procured from foreign OEMs, has been developed indigenously and is in pursuit of the Government's 'Make in India' initiative.

thyssenkrupp inks contract worth Rs.410 Crore with Mazagon Docks Shipbuilders

THYSSENKRUPP has been awarded a Rs.410 Crore contract with Mazagon Docks Shipbuilders Limited (MDL) to refit the Indian Navy's Shishumar-class non-nuclear submarine, INS Shishumar. The Medium Refit and Life Certification (MRLC) contract for the submarine will commence in October this year and is expected to be completed by 2021. The upgrade will extend the operational life of the submarine by at least 10 years.

Dr. Rolf Wirtz, CEO of thyssenkrupp Marine Systems: "We are looking forward to working with MDL to perform the deep modernization work to ensure that INS Shishumar remains a very capable combat submarine for the Indian Navy over the years to come. Our experience with the Shishumar class and the outstanding skills of MDL's employees are the basis for the return of the submarine back to the Indian Navy in great shape." Dr. Gurnad Sodhi, Managing Director of thyssenkrupp Marine Systems India added: "This contract once again reiterates our long-standing commitment to the country and is another milestone in the 'Make in India' defence program."

The Indian Navy is planning subsequent overhauls of the remaining three HDW Class 209 Type 1500 assets that were commissioned between 1986 and 1994 and which form the Indian Navy's 10th submarine squadron based in Mumbai. Supplied by thyssenkrupp, the first two submarines were assembled at the Howaldtswerke-Deutsche Werft (HDW) at Kiel, Germany, while the third and fourth submarines were manufactured by means of material packages and Transfer of Technology (ToT) at MDL, Mumbai. These were the first submarines ever to be built in India.

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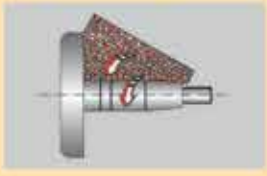

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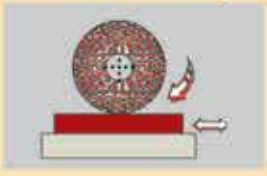

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• MARK YOUR DIARY •

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

International Mining & Machinery Exhibition October 31–November 3, 2018 Kolkata, India *www.immeindia.in*	**Wire India Show** November 27–29, 2018 Mumbai, India *www.wire-india.com*	**Metallurgy Show** November 27–29, 2018 Mumbai, India *www.metallurgy-india.com*	**IMTEX 2019** January 24–30, 2019 Bengaluru, India *www.imtex.in*
Taipei International Machine Tool Show March 4–9, 2019 Taipei, Taiwan *www.timtos.com.tw*	**International Engineering Sourcing Show (IESS)** March 14–16, 2019 Chennai, India' *www.iesshow.in*	**Hannover Messe** April 1–5, 2019 Hannover, Germany *www.hannovermesse.de*	**Bauma** April 8–14, 2019 Munich, Germany *www.bauma.de*
intec Coimbatore June 6–10, 2019 Coimbatore, India *www.intec.codissia.com*	**Automotive Engineering Show India 2019 (Chennai)** July 4–6, 2019 Chennai, India *www.automotive-engineering-show.in*	**EMO Hannover 2019** September 16–21, 2019 Hannover, Germany *www.emo-hannover.de*	**Excon** December 10–14, 2019 Bengaluru, India *www.excon.in*

OUR INHOUSE UPCOMING EVENTS

The Economic Times POLYMERS Global Conference on Plastics in Automotive — October 26, 2018, Novotel, Pune

MACHINIST GLOBAL MANUFACTURING SUMMIT — Inspire • Integrate • Innovate! — December 5, 2018, Hyatt Regency, Pune

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The Economic Times POLYMERS Awards 2019 — Excellence in Plastics — Coming soon

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DAIMLER INDIA CV APPOINTS NEW MD & CEO

Daimler Trucks announces a change in leadership with its successful commercial vehicle business in India: As of November 1st 2018, Satyakam Arya (45), currently Head of Customer Services at Daimler Trucks Asia and Chairman of PABCO Ltd., will take over as Managing Director and CEO of Daimler India Commercial Vehicles (DICV). He will succeed Erich Nesselhauf (55), who will return to Daimler headquarters in Germany to take over global responsibility for Manufacturing Engineering at Daimler Trucks, starting October 1st 2018. Just a few days ago Daimler's truck team in India celebrated an important production anniversary: With the production of the 100,000th commercial vehicle in its Chennai plant in Southern India DICV reached another important milestone.

Martin Daum, member of the Board of Management of Daimler AG, Daimler Trucks & Buses "We are writing a success story here: As the first newcomer in this challenging market we managed to build more than 100,000 vehicles in India since start of production in 2012. Erich Nesselhauf massively contributed to this success with his extraordinary commitment and his know how. With Satyakam Arya, a commercial vehicle expert from our local leadership team with a deep understanding of the markets in India and Asia, will now continue the growth trajectory of DICV."

SIAM APPOINTS RAJAN WADHERA AS ITS NEW PRESIDENT

The Executive Committee of the Society of Indian Automobile Manufacturers (SIAM), the apex body of the Indian automotive industry, has elected Rajan Wadhera as its new President. He is also the President – Automotive Sector, Mahindra & Mahindra.

He succeeds Dr Abhay Firodia, Chairman, Force Motors Ltd. Wadhera has been SIAM's Vice President till now.

The election for new office bearers was conducted during the Executive Committee Meeting, which was held after SIAM's Annual General Meeting recently.

The members of SIAM also elected Kenichi Ayukawa, as Vice President of SIAM. Ayukawa has been Managing Director & CEO, Maruti Suzuki India Limited since April 1, 2013.

Vinod Aggarwal, MD & CEO, Volvo Eicher Commercial Vehicles (VECV) has been elected as Treasurer of SIAM. He replaces Kenichi Ayukawa.

KULDEEP SINGH TO HEAD CONTINENTAL'S MODIPURAM PLANT

Continental has announced the appointment of Kuldeep Singh as plant manager for its tire plant in Modipuram-Meerut, India. Kuldeep Singh succeeds Vivek Devgun who left Continental in June 2018.

"It's an honor to be part of Continental, which is such a diverse corporation with state-of-the-art tire manufacturing technology," says Kuldeep Singh. Asked for his objectives in the new position he points out: "The Modipuram team has done an excellent job in integrating into the global manufacturing landscape of Continental. Top quality and customer satisfaction, sustainable operations and business growth, respecting the health and safety standards, lean manufacturing and top process cost, as well as a people-oriented culture, are my main goals."

"The Continental tire plant in Modipuram has developed multifold since its acquisition in the year 2011. Therefore, with Kuldeep Singh on board, we have won an experienced professional with solid management experience in the industry and within Continental. Kuldeep Singh, together with our local team, will ensure also in the future a steady development of the plant and top products for the Indian market," highlights Patrick Haarmann, Head of Manufacturing Commercial Vehicle Truck Tires. He also acknowledged Vivek Devgun for his five years of services to the plant.

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AIRBUS APPOINTS NEW CHIEF COMMERCIAL OFFICER

Airbus SE has appointed Christian Scherer, 56, Chief Commercial Officer (CCO), replacing Eric Schulz, who has decided to leave the company for personal reasons. Christian Scherer will start his new assignment with immediate effect. He will report to Airbus Chief Executive Officer (CEO) Tom Enders.

Tom Enders, Airbus CEO, said: "With Christian Scherer we see one of our most customer-focused leaders at the commercial helm of Airbus. Over his various assignments I greatly valued his international mind-set, his strategic vision, and tremendous commercial expertise." He added: "We regret Eric Schulz's decision. We wish him all the best for his future."

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NEW MD APPOINTED FOR ROMACO PHARMATECHNIK

Markus Regner has been appointed new Managing Director of the Karlsruhe (Germany) based Romaco Pharmatechnik GmbH. Together with Romaco CFO/COO Carsten Strenger, he is responsible for the running of the facility where Romaco's Noack and Siebler brands are manufactured.

The Romaco Group has just appointed Markus Regner (51) as new Managing Director of Romaco Pharmatechnik GmbH, the facility where Romaco's Noack and Siebler brands are manufactured in Karlsruhe (Germany). Amongst other things, Mr. Regner will be responsible for sales, customer service, operations and engineering. He will work alongside Carsten Strenger, who will remain CFO/COO of Romaco Holding GmbH as well as joint Managing Director of Romaco Pharmatechnik GmbH.

"Markus Regner is a true all-rounder with an inside knowledge of the industry", emphasised Jörg Pieper, CEO Romaco Group. "We're delighted that he has agreed to join the Romaco management. He has an impressive biography and is thoroughly familiar with the complex executive functions of a mid-market company – a leader who is very much in touch with the grass roots."

AKZONOBEL INDIA APPOINTS RAJIV RAJGOPAL AS MD

The Board of Directors of Akzo Nobel India Limited (ANIL) have approved the appointment of Rajiv Rajgopal as the Managing Director of the company, effective from November 1, 2018.

Amit Jain, Chairman, Akzo Nobel India Limited, commented, "I warmly welcome Rajiv back to India from his current assignment heading the Middle-East and Africa region. Rajiv's earlier experience at managing and profitably growing the Dulux business in India, makes him the ideal candidate to take Akzo Nobel India to greater heights."

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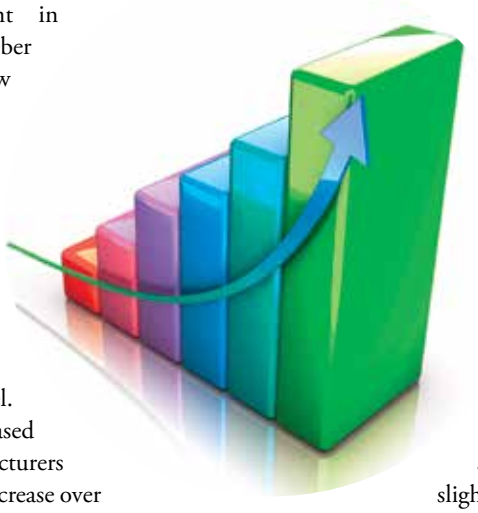
Manufacturing grows again!

With new work increasing, manufacturing production was subsequently raised for a fourteenth successive month.

India's manufacturing economy recorded an improvement in growth during September amid firmer gains in new orders, output and employment. Sales rose from both domestic and foreign clients, whilst manufacturers raised their buying activity and bolstered stocks of purchases in anticipation of further growth. On the price front, input costs rose at a stronger rate amid reports of higher prices for fuel and steel. Charges were subsequently increased at a slightly firmer pace. Manufacturers remain confident that output will increase over the coming year.



The Nikkei India Manufacturing Purchasing Managers' Index® (PMI®) strengthened slightly in September to reach a level of 52.2 (up from 51.7 in August). Solid growth of the manufacturing sector during the latest survey period extended the current run of expansion to 14 months. Underpinning the overall expansion was a firmer increase in levels of new work. Solid growth was linked to gains in both domestic and foreign demand. Indeed, export sales strengthened, with the net gain the best recorded since the start of the year. High product quality was noted as a factor supporting total new order book growth.

With new work increasing, manufacturing production was subsequently raised for a fourteenth successive month. Intermediate goods producers signalled a particularly strong increase in production, although growth was registered across all market groups.

Rising new work and increased production helped to drive growth of buying activity during September. In turn, this helped manufacturers to build inventories of purchases. Although modest, growth in pre-production goods was the sharpest recorded by the survey since May 2017.

Despite higher levels of new business, manufacturers were just about able to keep on top of their workloads in September. Backlogs of work were down slightly, the first such decline since March, whilst there was a further increase in manpower: staffing levels rose for a sixth successive month and at the fastest rate since June.

Meanwhile, price pressures intensified, with latest data showing that input costs rose to the greatest degree since June. There were reports that a strong US dollar and supply shortages had exacerbated high global prices for steel and fuel. Manufacturers passed on higher costs wherever possible via an increase in their own charges.

Latest data indicated a modest, but nonetheless stronger, rise in output prices compared to August. Finally, manufacturers are confident that output will be higher in 12 months' time. Planned new product launches and developments, plus firmer market demand, all contributed to positive sentiment. That said, confidence softened slightly in September and was at a three-month low.

> "Growth of India's manufacturing sector picked up during the latest survey period, reflective of strengthening demand especially from foreign clients, which helped to drive export growth up to its highest level since the turn of the year."
>
> **Paul Smith,** Economics Director at IHS Markit and author of the report

Commenting on the Indian Manufacturing PMI survey data, Paul Smith, Economics Director at IHS Markit and author of the report, said: "Growth of India's manufacturing sector picked up during the latest survey period, reflective of strengthening demand especially from foreign clients, which helped to drive export growth up to its highest level since the turn of the year.

"However, cost pressures reignited in September, exacerbated by a stronger US dollar which continues to raise the relative price faced by Indian manufacturers for goods such as steel and fuel. Output charges increased subsequently, albeit at a rate that remains well below the equivalent measure for input prices.

"Rising prices continued to weigh on sentiment, with confidence dropping a little to reach a three-month low. Nonetheless, on balance, firms remain confident that output will continue to rise, buoyed by recent new business wins and expectations this will continue over the next 12 months."

Source: Nikkei, IHS Markit.

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World's first **hydrogen fuel cell train** enters passenger service

Recently, the world's first hydrogen fuel cell train rolled into the station. The Coradia iLint, built by Alstom in Salzgitter, Germany, is equipped with fuel cells which convert hydrogen and oxygen into electricity, thus eliminating pollutant emissions related to propulsion. From September 17 onwards, two such trains have entered commercial service according to a fixed timetable in Lower Saxony, Germany.

For the time being, it is travellers in EVB's Elbe-Weser network who can look forward to a world-first journey on the low-noise, zero-emission trains that reach up to 140 km/h. On behalf of LNVG, the Coradia iLint trains will be operated on nearly 100km of line running between Cuxhaven, Bremerhaven, Bremervörde and Buxtehude, replacing EVB's existing diesel fleet. The new trains will be fuelled at a mobile hydrogen filling station. The gaseous hydrogen will be pumped into the trains from a 40-foot-high steel container next to the tracks at Bremervörde station. With one tank, they can run throughout the network the whole day, thanks to a total autonomy of 1000 km. A stationary filling station on EVB premises is scheduled to go into operation in 2021, when Alstom will deliver a further 14 Coradia iLint trains to LNVG.

"This is a revolution for Alstom and for the future of mobility. The world's first hydrogen fuel cell train is entering passenger service and is ready for serial production," emphasises Henri Poupart-Lafarge, Chairman and CEO of Alstom. "The Coradia iLint heralds a new era in emission-free rail transport. It is an innovation that results from French-German teamwork and exemplifies successful cross-border cooperation."

> "This is a revolution for Alstom and for the future of mobility. The world's first hydrogen fuel cell train is entering passenger service and is ready for serial production. The Coradia iLint heralds a new era in emission-free rail transport. It is an innovation that results from French-German teamwork and exemplifies successful cross-border cooperation."
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> **Henri Poupart-Lafarge,** Chairman and CEO, Alstom

Dr. Bernd Althusmann, Lower Saxony's Minister of Economy and Transport, whose department has supported LNVG's purchase of another 14 hydrogen trains with more than €81 million, mentioned: "With the test operation starting recently, Lower Saxony is performing real pioneering work in local transport in cooperation with Alstom and EVB. The emission-free drive technology of the Coradia iLint provides a climate-friendly alternative to conventional diesel trains, particularly on non-electrified lines," he explains. "In successfully proving the operability of the fuel cell technology in daily service, we will set the course for rail transport to be largely operated climate-friendly and emission-free in the future. The state government of Lower Saxony is proud of putting this trendsetting project on the track together with LNVG."

With around 2 million rail passengers and around 4 million bus passengers per year, EVB figures among the largest mobility providers in the Elbe-Weser triangle. The traditional company, which boasts a history of more than 100 years and around 550 employees, is looking forward to the "train of the future." Dr. Marcel Frank, Managing Director of EVB, emphasizes: "It is a great milestone that we will use the world's first hydrogen-powered train in our Elbe-Weser network in passenger service between Cuxhaven, Bremerhaven, Bremervörde and Buxtehude, not only for the region and for us, but also for passenger rail transport worldwide. For EVB, this is the entry to emission-free mobility."

Source: Alstom

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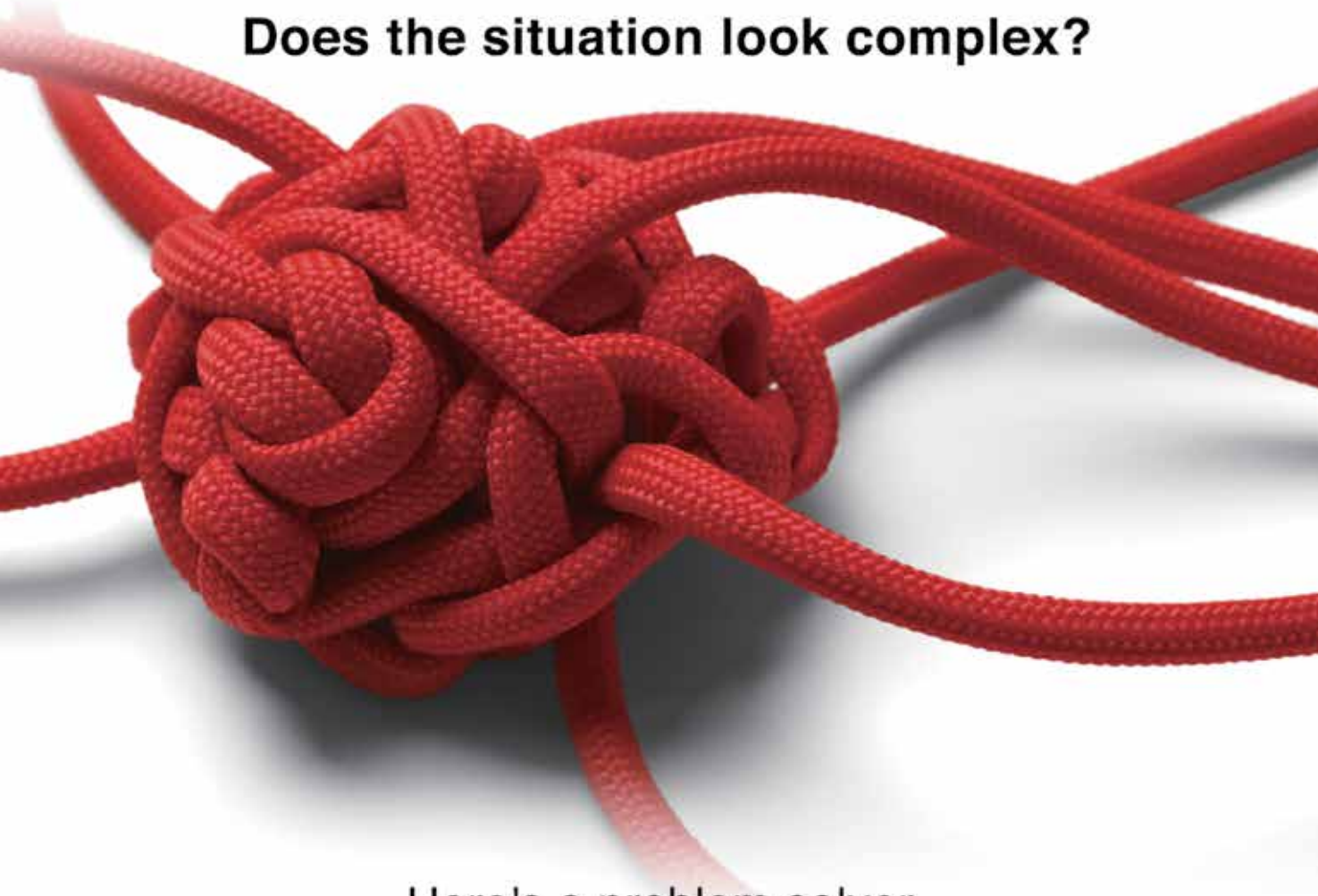

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Strategic partnership

An automotive giant is collaborating with a technology giant to accelerate its digital transformation.

Entering into a strategic partnership, Volkswagen and Microsoft Corp. will collaborate to develop the 'Volkswagen Automotive Cloud', one of the largest dedicated automotive industry clouds for all future Volkswagen digital services and mobility offerings. Volkswagen therefore continues to forge ahead with its digital transformation at full speed. With Microsoft as its strategic partner, the company is taking a decisive step in its digital transformation into a mobility provider with a fully connected vehicle fleet and the digital ecosystem "Volkswagen We".

Via the Volkswagen Automotive Cloud, Volkswagen will considerably optimize the interconnection of vehicle, cloud-based platform and customer-centric ecosystem. (Concept Car).

"The strategic partnership with Microsoft will turbocharge our digital transformation," said Dr. Herbert Diess, CEO of Volkswagen AG. "Volkswagen, as one of the world's largest automakers, and Microsoft, with its unique technological expertise, are outstandingly well-matched. Together, we will play a key role in shaping the future of auto-mobility."

"Volkswagen is harnessing technology to digitally transform and deliver innovative new connected car services to its customers," said Satya Nadella, CEO of Microsoft. "The world's leading companies run on Azure, and we are thrilled that Volkswagen has chosen Microsoft. Together we will reimagine the driving experience for people everywhere."

> "Together we will reimagine the driving experience for people everywhere."
>
> **Satya Nadella,** CEO of Microsoft.

From 2020 onwards, more than 5 million new Volkswagen brand vehicles per year will be fully connected and will be part of the Internet of Things (IoT) in the cloud. The profound partnership between the two companies will lay the foundation for combining the global cloud expertise of Microsoft with the experience of Volkswagen as an automaker with a global market presence.

Together, the two companies will develop the technological basis for a comprehensive industrial automotive cloud. In the future, all in-car services for vehicles of the core Volkswagen brand as well as the Group-wide cloud-based platform (also known as One Digital Platform, ODP) will be built on Microsoft's Azure cloud platform and services as well as Azure IoT Edge. This will streamline the technical landscape.

> "Together, we will play a key role in shaping the future of auto-mobility."
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> **Dr. Herbert Diess,** CEO of Volkswagen AG.

Via the Volkswagen Automotive Cloud, Volkswagen will considerably optimize the interconnection of vehicle, cloud-based platform and customer-centric services for all brands, such as the "Volkswagen We" ecosystem.

By building the Volkswagen Automotive Cloud, Volkswagen will be able to leverage consistent mobility services across its entire portfolio and to provide new services and solutions such as in-car consumer experiences, telematics, and securely connect data between the car and the cloud.

As part of the new entity, Volkswagen will establish a new automotive cloud development office in North America near Microsoft's headquarters. To help usher in a new wave of automotive transformation, Microsoft will provide hands-on support to Volkswagen as it ramps up its new automotive cloud development office, human resources management and consulting services. The workforce is expected to grow to about 300 engineers in the near future.

In the long term, the solutions developed through the strategic partnership will be rolled out to other Volkswagen Group brands in all regions of the world, building the foundation for all customer-centric services of the brands. This includes the Volkswagen ID. electric family as well as conventionally-powered models. In the future, Volkswagen's fleet of cars will become mobile 'internet of things' hubs linked by Microsoft Azure.

Source: Volkswagen AG

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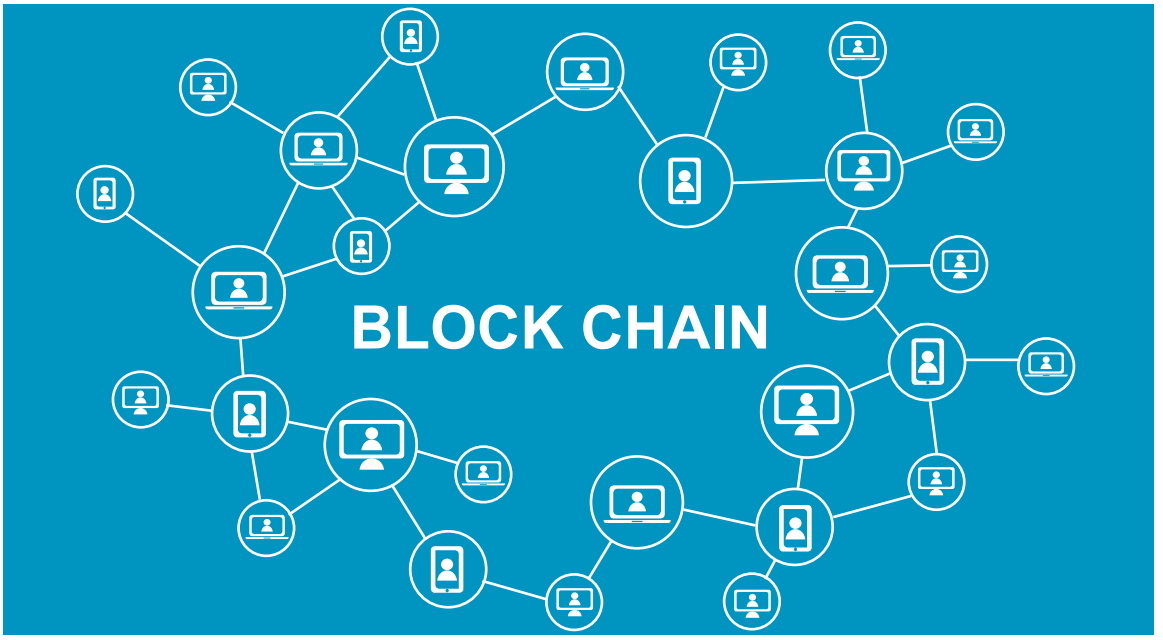

The **new Blockbuster!**

Can blockchain maximize ROI and also solve technology asymmetry problems? Here are some interesting observations.

By Job K Joseph

Cryptocurrency burst into limelight in 2007 heralding the arrival of a new-age digital currency called bitcoin. Over the past 10 years, bitcoin has enjoyed a lot of hype and hysteria, attracting high-profile investments into massive server farm rigs for bitcoin mining, and into trading exchanges for investors who wished to hop on the bandwagon without having to get their hands dirty in mining hardware. Despite being accused of being a highly speculative instrument, bitcoin deserves credit for bringing into the mainstream a radical technology concept that we now call blockchain. Blockchain is essentially a distributed, highly secure, encrypted and immutable ledger of transactions that is accessible to all its participants.

Industry analysts and technology leaders have dubbed blockchain the next big transformation engine. For example, MarketsAndMarkets, a leading B2B research firm, suggests that the blockchain market will grow annually at nearly 80 percent through 2022, changing the way organizations do business. The banking and financial services segment was the first to adopt blockchain-based technology platforms, thanks to the sheer volume and value of the transactions they process. In recent years, multiple competing blockchain technology infrastructure platforms such as Ethereum, Hyperledger, Quorum, Multichain, Corda and Blockstream have emerged vying for increased attention and investments from enterprises. Most large enterprise software platform vendors have also outlined their blockchain-ready product roadmaps, seeking to reduce the barrier to entry for their existing or prospective customers.

> "The leading blockchain platform providers must lead the way by engaging with industries to roll out upgrades that integrate industry specific value-chain personas and roles, coupled with a credit-based smart-contract template that binds the participants and enables profit sharing."

Network effects and technology standardization

Drawing parallels between blockchain and manufacturing/supply chain analytics is inevitable. Both depend on leveraging the power of data, past and present, to generate valuable business insights for the participants. The business value that can be created using blockchain is also contingent on the availability of the complete spectrum of data sources across the value chain – akin to what we know as "network effect." This means

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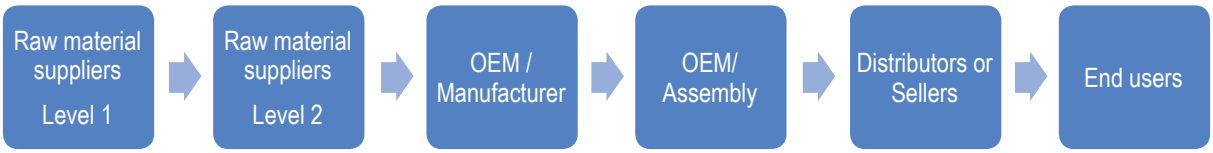

"The business value that can be created using blockchain is also contingent on the availability of the complete spectrum of data sources across the value chain – akin to what we know as network effect."

that for a complicated industry such as the high-tech segment, having all or most of the ecosystem entities as participants in the blockchain becomes necessary for it be successful.

Use cases

The top two blockchain use cases relevant to the high-tech industry are smart contracts and anti-counterfeiting. For example, a multinational electronics manufacturer built an experimental "chained finance" blockchain system for managing payments, movement of goods and contracts, thus enabling and codifying a trusted relationship among its suppliers, partners, factories and customers. To build a blockchain use case, the various participants need to integrate their internal enterprise supply chain/ERP/master data systems and web/mobile applications to the external blockchain network via a standardized integration layer. The major enterprise software platform providers are trying to make these integrations less taxing by adopting a cloud-enabled, blockchain-ready approach in their product roadmaps, including integration interfaces.

The ROI asymmetry problem

In a manufacturing/supply chain ecosystem, if we consider anti-counterfeiting as an example, the maximum direct savings are created for the product owner/OEM. The industry would look forward to the "sponsor" taking the initiative to form a solid business case and guide its adoption in the ecosystem. Similarly, a smart-contracts use case delivers higher benefits towards the forward half of the value chain due to the higher volume of contracts and commission/inventory transactions.

A distributor/seller or a raw material supplier would assume that unless the blockchain indirectly boosts their sales volume and/or revenue by creating more market share for the product owner/OEM, or reduces their costs, they don't stand to gain much. The non-core participants will likely assume the rewards for their participation in the blockchain bear a higher risk and will hesitate to bear the impact of the increased capital and operating expenses.

So, what if there was a way to equitably share the business benefits?

What about a built-in smart-contract?

What if every blockchain platform use case deployment came with a built-in smart contract template, aligned to the target industry segment, which can be used to bind each participant? Such a contract would also define tiers and roles in the value chain, entrusting each with specific transaction volume commitments. It would also provide a means for reasonable "credits" to be earned for their active and sustained participation. The participants can choose to cash the credits periodically from the use case sponsor entities or stay "invested" in the relationship by deferring encashment until they see tangible revenue/cost savings. What if the smart contract can incentivize the participants to stay invested by implementing a tenure or volume-linked credit multiplication scheme? A credit and multiplier mechanism of this nature can serve to reduce risk of the perceived ROI of the participants and encourage the participants to collaborate for mutual success.

Building the ecosystem

This point of view establishes specific implications and takeaways. The leading blockchain platform providers must lead the way by engaging with industries to roll out upgrades that integrate industry specific value-chain personas and roles, coupled with a credit-based smart-contract template that binds the participants and enables profit sharing. The OEMs, their suppliers and partners need to do their part by engaging in industry events around blockchain. They can also participate by giving their key technology, manufacturing and supply chain leaders a time-bound objective of engaging with the consortia and the external technology ecosystem to evaluate, define and realize their blockchain roadmap.

"To build a blockchain use case, the various participants need to integrate their internal enterprise supply chain/ERP/master data systems and web/mobile applications to the external blockchain network via a standardized integration layer."

The author is Senior Practice Manager – Technology BU, Wipro Ltd.

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ABB wins major order

ABB will supply high-voltage direct current (HVDC) converter stations in Tajikistan and Pakistan as part of a World Bank-supported $330 million order to be executed as a consortium project with Spanish Engineering, Procurement, Construction (EPC) company, Cobra, which will be responsible for the construction and installation of the associated substations.

ABB's HVDC converter stations will be part of the CASA-1000 project, which will enable the efficient transmission of renewable hydropower over a distance of 800 kilometers from generation sites in the Kyrgyz Republic and Tajikistan to high consumption areas in Pakistan. The CASA-1000 link will have the capacity to transmit 1,300 megawatts (MW) of electricity at 500 kilovolts (kV).

"ABB's advanced HVDC solution will bring much needed and clean electricity to consumers and enable the sharing of resources by interconnecting the region," said Claudio Facchin, president of ABB's Power Grids division. "This project is another example of our commitment to integrating renewables and reinforces ABB's position as a partner of choice for enabling a stronger, smarter and greener grid."

Siemens commissions landfill gas-to-energy project

Siemens and Southern Idaho Solid Waste (SISW) recently announced the successful commissioning of two SGE-56HM gas engines that are providing environmentally friendly electrical power for a landfill gas-to-energy project at the Milner Butte Landfill in Burley, Idaho. Siemens' gas capture engines are helping to convert 1,000 tons of landfill waste daily into energy but SISW officials expect that amount to increase in the near future.

To capture methane and convert it into electricity, the Milner Butte Landfill deployed two Siemens SGE-56HM gas generator sets to run on the waste gas from the landfill and generate electrical power. Once the landfill gas is converted to electricity, it is transported to Idaho Power through a 20-year purchase agreement and is used by the community as a low-cost source of power. To date, the two engines have been generating enough power for approximately 2,000 homes. Each set is rated at 1,300kWe and includes generator controls and a power panel. Siemens SGE-HM series is purpose-built for landfill gas-to-energy power applications. By incorporating advanced technology and design into the cylinder heads, valves, camshafts, and turbochargers, the SGE-56HM engine provides customers like SISW with a high-performing low-operating-cost solution. "We expect these engines to remain in operation for 20 to 30 years," said Josh Bartlome, executive director at SISW. "They're big engines built for endurance."

BHEL signs Technology Collaboration Agreement with Babcock

For offering state-of-the-art competitive air pollution control products, Bharat Heavy Electricals Limited (BHEL) has entered into a Technology Collaboration Agreement (TCA) with Babcock Power Environmental Inc., USA (BPE) for Selective Catalytic Reduction (SCR) Systems for De-NOx application.

In the presence of Atul Sobti, CMD, BHEL, and Mr. Nathan Hevrony, Chairman, Babcock Power Inc., USA, the TCA was signed by Subrata Biswas, Director (E, R&D), BHEL and Dr. Clayton A. Erickson, Sr. Vice President(Environment Technology & Products), BPE, USA. Other senior officials from BHEL and Babcock Power Inc. were also present on this occasion.

Azure Power to electrify HAL

Azure Power has received a letter of intent for a 6 MW solar project won an auction conducted by Odisha Renewable Energy Development Agency (OREDA) for Hindustan Aeronautics Ltd (HAL). Azure Power expects to sign a 25-year power purchase agreement with HAL which has a domestic debt rating of AAA by CRISIL, a S&P company, at a tariff of INR 3.13 (~US 4.6 cents) per kWh. The project will be developed by Azure Power within HAL estate area of approx 30 acres.

Speaking on this occasion, Inderpreet Wadhwa, Founder, Chairman and CEO, Azure Power said, "With this win, we continue to demonstrate our strong project development, engineering & execution capabilities. We are delighted to make this contribution towards the realization of our Hon'ble Prime Minister's commitment towards clean and green energy, through solar power generation."

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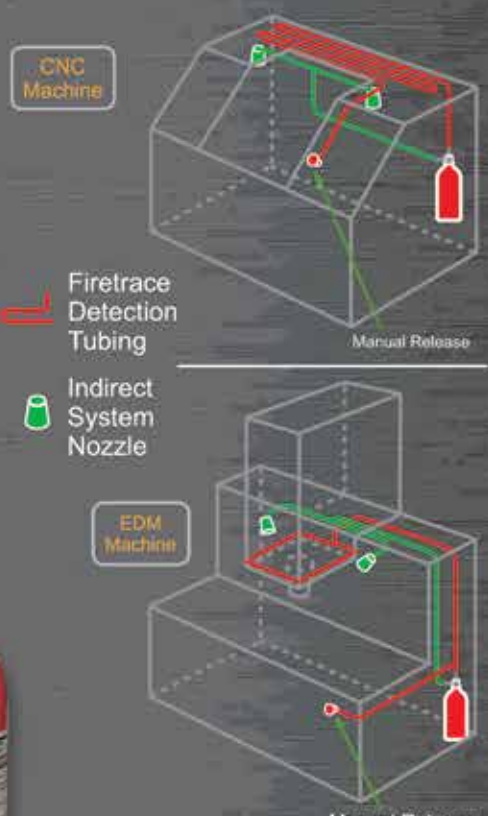

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New program for **battery storage** for **energy systems**

World Bank Group Commits $1 Billion for Battery Storage to Ramp Up Renewable Energy Globally

Recently the World Bank Group committed $1 billion for a new global program to accelerate investments in battery storage for energy systems in developing and middle-income countries. The program is expected to help these countries ramp up their use of renewables – particularly wind and solar power – improve energy security, increase grid stability and expand access to electricity.

The $1 billion in World Bank Group financing is expected to mobilize another $4 billion in concessional climate financing and public and private investments. The program aims to finance 17.5 gigawatt hours (GWh) of battery storage by 2025 – more than triple the 4-5 GWh currently installed in all developing countries.

"For developing countries, this can be a game changer," said World Bank Group President Jim Yong Kim. "Battery storage can help countries leapfrog to the next generation of power generation technology, expand energy access, and set the stage for much cleaner, more stable, energy systems."

Currently, batteries used in energy generation systems are expensive, and most projects are concentrated in developed countries. The "Accelerating Battery Storage for Development" program, in response to demand from countries, will finance and de-risk investments such as utility-scale solar parks with battery storage, off-grid systems – including mini-grids – and stand-alone batteries that can help stabilize and strengthen grids.

Currently, batteries used in energy generation systems are expensive, and most projects are concentrated in developed countries. The Accelerating Battery Storage for Development program, in response to demand from countries, will finance and de-risk investments.

The program will also support large-scale demonstration projects for new storage technologies suitable for developing countries' needs – such as batteries that are long-lasting, resilient to harsh conditions and high temperatures, and that present minimal environmental risks.

"Batteries are critical to decarbonizing the world's power systems. They allow us to store wind and solar energy and deploy it when it's needed most to provide people with clean, affordable, round-the-clock power." Dr. Kim said. "We call on our partners to join us and match the investments we're making today. We can create new markets for battery storage in countries with high wind and solar potential, growing energy demand, and populations that still live without reliable electricity."

The World Bank Group is putting $1 billion of its own funds towards this new program and will fundraise another $1 billion in concessional climate funds through channels such as the Climate Investment Funds' Clean Technology Fund (CTF). The program is expected to raise an additional $3 billion from public and private funds and investors.

The new program will also convene a global think tank on battery storage, bringing together national laboratories, research institutions, development agencies and philanthropies to foster international technological cooperation and training that can develop and adapt new storage solutions tailored for the needs and conditions of developing countries.

The World Bank Group has been working with countries to support the deployment of batteries together with solar and wind power for several years, with projects currently underway in Africa, South Asia, and the Pacific. The Bank Group has financed roughly 15 percent of the stationary battery storage capacity already deployed or currently under development in developing countries, mostly through mini-grid projects and in island states to improve resilience.

Source: The World Bank

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The ELC 160 is a modular laser welding machine that can be configured to perform a multitude of different tasks. The machine is equipped with a number of joining stations and welding attachments. The resetting process is NC controlled which allows for whole component families to be manufactured without the need for manual setting. Expansion options: joining of the components, induction pre- and post-heating, laser welding, laser marking, workpiece measuring – all on a single machine.

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Celebrating **brand excellence**

Best brands in the Metal Cutting industry were felicitated during a red carpet event at Bengaluru. Here is an overview of the ceremony.

The Indian manufacturing industry today has a variety of options when it comes to choosing its metal cutting partners. However, with a gamut of Indian and international players competing in the market, how can the industry know which is the best brand for it? Therefore, in the best interest of the Indian manufacturing industry, The Economic Times along with its Knowledge Partner – BDB India consolidated the list of 50 best brands in the mental cutting industry. From this list, 25 featured brands were felicitated at the red-carpet event that took place in Bangalore recently. Chief Guest - Kamal Bali, President & Managing Director, Volvo Group India graced the occasion.

Further to this, featured brands are compiled in the Coffee Table Book namely The Economic Times Best Brands in Metal Cutting 2018. It is a first and the only definitive guide to the Best Brands in the Indian Metal Cutting Industry.

THE ECONOMIC TIMES

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Ace Manufacturing Systems Ltd. (AMSL)

Ace Manufacturing Systems which is popularly known as AMS. It is one of the largest manufacturers of Machining Centers in India. The company has expertise in manufacturing of CNC vertical machining centers, CNC horizontal machining centers and in providing manufacturing solutions centered around these products.

Acemicromatic Manufacturing Intelligence Technologies (AMiT)

Acemicromatic Manufacturing Intelligence Technologies which is popularly known as AMIT. The company's software is aimed at delivering greater operational excellence, productivity. It aspires to be the global leader in providing innovative productivity solutions for manufacturing.

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ACOEM Ecotech Industries Pvt Limited
Alex Machine Tools
Blaser Swisslube India Pvt. Ltd.
Blum Novotest Measuring & Testing Technology Pvt Ltd
Carborundum Universal Limited
Carl Zeiss India (Bangalore) Pvt. Ltd.
Cosmos Impex (I) Pvt. Ltd.
Doosan Machine Tools India Pvt. Ltd.
Forbes & Company Limited (Totem)
Grind Master Machines Pvt. Ltd.
igus (India) Private Limited
Jyoti Cnc Automation Ltd.
LMT Tools
Marposs India Pvt Ltd
Micromatic Grinding Technologies (MGT)
MMC Hardmetal India Pvt Ltd. A Subsidiary Of Mitsubishi Materials
Motul Lubricants
Phillips Machine Tools India
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special purpose machines for metal finishing, deburring, microfinishing & industrial robotic automation. It is the largest machine tools exporter from India with over 4500 machine installations worldwide.

igus (India) Private Limited

igus' operations in India started in 1998 with headquarters in Bangalore. The company undertakes turnkey projects in moving cable management system in numerous industries including material handling, power plants, defence, automation, etc.

Jyoti CNC Automation Ltd.

Jyoti CNC Automation Ltd is the largest one-stop solution for computerized machine cutting tools. The company's products are manufactured and assembled locally with a customer centric approach. The company caters to wide range of industries including automobile, aerospace, agriculture, defence, etc.

LMT Tools

LMT Tools is one of the most renowned specialists in the development and production of precision tools. The company's passion for precision ensures that industrial customers implement unparalleled quality at the interface between the machine and the workpiece.

Marposs India Pvt Ltd

Marposs is leader in precision equipment for measurement and control in the production environment. The company is present directly with its own sales and service organization in more than 20 countries.

Micromatic Grinding Technologies (MGT)

Micromatic Grinding Technologies is also known as MGT. Starting in a rented shed, MGT now has three plants at Ghaziabad and one plant in Bangalore. Over the years, MGT has strived to build an organization with the motto of "Becoming the Best".

MMC Hardmetal India Pvt Ltd. A Subsidiary of Mitsubishi Materials

The company's product portfolio includes a variety of cutting tools made for drilling, milling and turning. These tools are developed to serve sectors like automotive, aerospace, medical, mould and die and general machining.

Motul Lubricants

MotulTech is the industrial lubricants division of the Motul group. In India, MotulTech develops and manufactures specific high-performance product ranges for the metal working industry. The company also offers industrial and specialty lubrication.

Phillips Machine Tools India

Phillips Machine Tools India is a hundred percent owned subsidiary of Phillips Corporation, USA. It is one of the renowned machine tools brand in the country. And it is the biggest distributor for Haas CNC machines globally and in India as well.

TaeguTec India

TaeguTec India is a leading supplier of modern machining solutions to a wide variety of industries such as automotive, mould and die, aerospace, power generation and many others. With an entire range of turnkey solutions and tailor-mades, TaeguTec is considered as a preferred tooling partner in the industry.

Ucam Pvt. Ltd.

UCAM specializes into manufacturing of precision CNC rotary tables, index tables and pallet changing solutions for machine tool applications. These products find their applications in various industries including automobile, aerospace, medical & orthopaedic implants, pumps & valves, etc.

Wendt (India) Limited

Wendt is a leading manufacturer of Super Abrasive Grinding wheels (Diamond and Cubic Boron Nitride), Special Purpose Grinding Machines and tools. The company offers functionally superior products & services for grinding and machining of 'Hard–To–Process Materials'.

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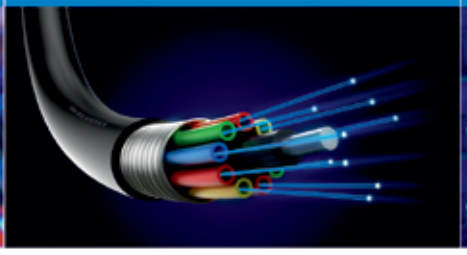

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Towards a collaborative future!

We are a large nation, with excellent resources and people. If we can act like one single market – we can do wonders, says **Kamal Bali,** President & MD, Volvo Group India.

By Niranjan Mudholkar

Kamal Bali, President & MD, Volvo Group India, is happy and excited. And why not? The business growth for the Volvo Group in India over the last couple of years has been very encouraging. "In fact, last two years have been even better. We have the highest growth ever during this phase," he shares with a warm smile. Although, due to the company policy, he did not share the individual revenue breakup from the three different segments – trucks, buses and construction equipment – in terms of percentage, he did mention that 'the growth trend is applicable across all the Group businesses'.

The Group has also been quite active with regards to its exports business. Volvo Construction Equipment exports to South America, Asia and Volvo Buses to South Asia, South Africa. "Additionally, India is an important base for supporting the Volvo Group across the areas of product development, IT and process support. India is also the hub for medium-duty engine for the Volvo Group," Bali says.

Manufacturing strength

The Group's manufacturing strength in India is also significant. Volvo Group in India has three factories near Bangalore - Volvo Buses; Volvo Trucks & Volvo Construction Equipment. "Additionally, we have four industrial set ups in our JV company – VE Commercial Vehicles. In India, we have been a serial investor over the last 20 years and we are positive with regard to the future growth scenario in India. While we cannot communicate future plans, we can say if and when the requirement arises, we will not shy away to invest and expand further," Bali adds.

"Additionally, India is an important base for supporting the Volvo Group across the areas of product development, IT and process support. India is also the hub for medium-duty engine for the Volvo Group."

Transition to Bharat Stage VI

The Indian government's diktat of directly transitioning from Bharat stage (BS) IV emission norms to BS VI emission norms (equivalent of Euro VI) did cause a lot of consternation initially. However, most of the industry is gearing up to tackle with this challenge as it understands the environmental implications of the same. Volvo Group is also happily progressing towards the new norms. "We welcome the new emission regulations and are ready for the transition. In India, we already have our engine factory through the joint venture, producing and supplying Euro VI engines for Volvo Group products globally. So, we are in a good position in this regard," Bali informs.

Electric mobility

Globally, Volvo group has already delivered over 4,000 electrified buses across various markets. So, it's not a concept anymore in the case of the Group. In India, there is good ambition and various steps are being taken. "In fact, Volvo was the first to deliver hybrid buses [to Navi Mumbai]. We remain deeply engaged with electric bus stakeholders and we are closely following the development of the eco-system and the requirements for the India circumstances. It's a matter of finding the right market condition, where we can bring in a commercially viable solution for the long-term," Bali states.

"Now, we will begin selling our electric trucks too. As for the future, we have already displayed our preparedness with driverless trucks in mining; platooning in highway trucks supporting the movement towards a more eco-efficient and safer mobility."

Sustainability development

Whether it is the transition to the Bharat Stage VI emission norms or whether it is the progress towards electric mobility, these are the manifestations of the society's focus on sustainable development. So, how does Volvo Group see it in its own context? Bali acknowledges that there is a clear demand emerging from customers and authorities for solutions that are sustainable. "I think businesses will not be viable if we do not cater to the aspect of sustainability. Nations and societies have become increasingly serious with regard to resource scarcity, global warming and cities which are increasingly congested and polluted. The fifth cause of death in 2030 will be traffic accidents, passing HIV/Aids and malaria. As for air quality, only 12 percent of the people living in cities reside in cities which comply with WHO air quality guideline levels. About half of the urban population being monitored is exposed to noise pollution that is at least 2.5 times higher than the WHO recommendations," he explains.

Incidentally, the Volvo Group was the first company to declare its environment charter at the 1972 UN Stockholm conference on environment. "Today, we are signatories to the United Nations (UN) Global Compact, partner in the WWF Climate Savers program, and supporter of the UN 2030 Agenda for Sustainable Development. Driving prosperity through transport solutions – our mission - demands that we keep in focus our entire value chain activities, the sustainable nature of our transport solutions and the way we operate as a corporate citizen," Bali informs.

Bali emphasizes that the Volvo Group remains deeply committed in the arena of sustainable development and there is much progress being made on how the Group is leading and dealing with the future of sustainable transport. "Back in 2007, Volvo Group actually displayed seven different fuels on seven different commercial vehicles. The message was – we can be ready with the solution, but we need directions from government and the authorities across the world," he adds with a smile.

Fuel efficiency

Bali claims that the fuel efficiency of Volvo engines globally has improved by 40 percent over the last two decades and that the Group has a commitment to improve fuel efficiency by one percent each year in its trucks. "We already have around 5,000 Volvo hybrid, plug-in and electric buses sold around the globe commercially. Now, we will begin selling our electric trucks too. As for the future, we have already displayed our preparedness with driverless trucks in mining; platooning in highway trucks supporting the movement towards a more eco-efficient and safer mobility," he shares.

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The A Brand

Volvo Group has a quantified commitment for the longer term as part of its WWF climate saver partnership program. "We are in the midst of targets set for 2015-2020. Here in production, we aim to improve energy efficiency in production, by executing energy saving activities, reaching a level of 150 GWH by 2020. When it comes to products, we aim to reduce total lifetime CO2 emissions from products sold between 2015 and 2020, by a cumulative saving of at least 40M tons, compared to 2013 models. We have an additional area of transport logistics, where we aim to reduce CO2 emissions per produced unit from the Volvo Group freight transport by 20 percent by 2020," Bali says.

"We welcome the new emission regulations and are ready for the transition. In India, we already have our engine factory through the joint venture, producing and supplying Euro VI engines for Volvo Group Products globally."

Specific to India

So, what are the steps being taken specifically in India in the area of sustainable transport? Bali is quick with the response: "Volvo Buses in India actually set the public transport agenda in India – with the objective to motivate citizens to opt for public transport versus personal vehicles. Today, Volvo City Buses operate in 35 Indian cities."

Bali further says that Volvo products – trucks, buses, construction equipment, engines – have all demonstrated the capability to 'to do more with less' – lesser fuel per ton/km or passenger/km, lesser emissions, lesser space used, fewer vehicles used. "The above has been achieved in every segment we have established, namely Tipper trucks for mining, Over-dimensional cargo trucks, high capacity construction equipment, our engines for marine and industrial applications."

Bali says that the Volvo Group has kept very high focus on the drivers and operators since the start of its business - and in India it has already crossed 100,000 drivers and operators being trained. As Bali points out correctly, good drivers can indeed have a major impact on safety, fuel economy and the overall maintenance of a vehicle. "When it comes to alternate fuels and electro mobility, we are in close engagement with authorities on the development taking place. We also have a strong focus on making our production units use clean /

The pace and the right tools to change the future trends!

The challenge is indeed big for us all, across stakeholders, across industries. Nevertheless, there are many new opportunities that could help us going forward. The combination of new approaches to transport efficiency; electro mobility; connectivity and automation are allowing us to imagine objectives that we would not think about a decade back. Consider the objectives of Vision Zero, zero emissions and Zero Downtime. We are able to have these emissions because of digital technology that allows us to turn information into pro-active decisions; automation is reducing the opportunity for human errors as well as improving eco-efficiency; while connectivity is getting the entire eco-system to talk to each other as one single system. This allows us to consider a future with zero fatalities, zero emissions and zero downtime in a vehicle.

Additionally, much more is happening elsewhere which will profoundly impact all industries. The way production takes place and products are distributed – methods and technologies – is going to dramatically change. This will imply much less space utilized, reduced emissions from the industry as well as the amount of resources we consume in manufacturing & distribution. Among these forthcoming technologies is range of developments - 3D-printing, Machine learning, advanced robots, the drop of cost for batteries, self-driving vehicles, drones delivering goods, etc.

However, it's important to keep in mind that this is about taking big leaps into the future. At the same time, we should not overlook the need to be efficient and smart with the tools we have today. For just as we speak, cities are getting increasingly congested and the air worsening.

By Kamal Bali

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renewable energy. Just recently all three factories [Volvo trucks, Volvo buses and Volvo CE] are now powered by renewable energy [solar] replacing 70-80 percent of the existing power supply," he states.

"We have to be innovative and see what India needs with an open mind and embark on initiatives and approaches that are best for India."

Partnerships

The Volvo Group has also built cooperation and research partnerships with academia and other stakeholders as well as skill development. As for India, it has an association with IISC with regard to research in the area of advanced automobile technology. "When it comes to suppliers, Volvo Group sets stringent requirements for its direct suppliers in terms of the environment, human rights and business ethics, and require our suppliers to pass these requirements onward in the supply chain. Moreover, it requires that these suppliers apply these requirements onward in the supplier chain in accordance with our Code of Conduct," Bali adds.

Feasibility

With regards to the emerging trends in mobility, one question is often asked that is of their feasibility in the Indian context, particularly in the near future. But Bali says electro-mobility and alternate fuels are already a focus as per government direction, schemes and plans in India. "We now need to come together to build the eco-system. Driverless vehicles look tough when you consider highway traffic, but to think again in a large country like India there are many circumstances – mining; closed campuses; city centers; key highways – which could leap frog towards greater automation. We have to be innovative and see what India needs with an open mind and embark on initiatives and approaches that are best for India," Bali adds with confidence.

Enabling collaborations

Speaking about eco-systems means collaboration and innovation. How can that be enabled in India? Bali believes that it is important for us in India to build a regulatory frame work which promotes R&D and provides financial support in the area. It is important to also build a culture where we have access to readily available information in the future technology areas across stakeholders - industry/academy/authorities/market/customer/ et al. This would be an important foundation for a strong collaborative culture between all stakeholders – academia, authorities, industry, market, society, various other stakeholders.

"When we seek to innovate and collaborate we will always face obstacles and failures too. We should not be shy of that. What we need is to be able to quickly come together on demonstrable projects with a shared vision amongst various stakeholders. This, of course, also means that as a nation we need to build clearly policies and road maps that provide a common thread for all – in the form of a shared vision we believe in. This allows for all to channelize their energy, time and money in the right areas," he emphasizes.

Bali also understand that none of this can happen if we do not build an entrepreneurial mindset – whether it be an R&D person, academician or the someone in the industry or even the government. And he has a good example to share in this context of the European Innovation Partnerships (EIPs), which is a new approach to EU research and innovation.

"EIPs are challenge-driven, focusing on societal benefits, with a rapid modernisation of the associated sectors and markets. EIPs act across the whole research and innovation chain, bringing together all relevant actors at EU, national and regional levels in order to step up R&D, co-ordinate investments, demonstrations, and fast track enabling factors such as regulations and standards. They also mobilise demand through public procurement. We need such collaborative framework in India too. We are a large nation, with excellent resources and people. If we can act like one single market – we can do wonders," he signs off on an optimistic note.

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Bonfiglioli sets up a new facility in Chennai

Bonfiglioli Transmissions Pvt. Ltd., the Indian subsidiary of Bonfiglioli Riduttori S.p.A., has opened a new manufacturing facility in Chennai, India. Operations commenced in September 2018. The new 1,32,000-square-foot facility has been built adjacent to the existing plant at the SIDCO Industrial Area in Thirumudivakkam. It houses modern assembly lines, a global R&D center and test labs, all built to the highest quality and safety standards, consistent with Bonfiglioli locations worldwide. With a capacity of 75,000 units per year, the new facility will enable Bonfiglioli to serve existing and new markets and customers in off-highway, construction, mining, agriculture and material handling applications.

On the development, Sonia Bonfiglioli, Chairman of Bonfiglioli Group, says, "We have believed in the potential of this country since 1999, when we laid the cornerstone in Chennai. We have grown over the years, investing in plants, research and development centers, and highly specialized staff. India is a key country for Bonfiglioli, and the good results up to now show we were right when we started the business here in Chennai. This expansion in India is part of the company's global investment strategy in production and assembly facilities. Indeed, we are convinced that our factories are the first step in bringing value to our customers. With high-tech, real-time smart production and superior solutions, we will be able to cater to growing, evolving needs in India and in our overseas markets across the USA, Italy, China and Germany."

This new investment is part of a wider expansion plan for India, which includes the existing facility in Chennai and a plant in Mannur, located close to Sriperumbudur, both focused on making gearboxes and gear motors for mobile machinery, wind turbines and industrial processes.

Honda 2Wheelers to expand capacity

Honda Motorcycle & Scooter India Pvt. Ltd., the 100% subsidiary of Honda Motor Company, Japan recently announced that it will expand the annual production capacity of its fourth two-wheeler production plant.

Honda 2Wheeler's fourth production plant is located at Vithalapur, Gujarat. Inaugurated in February 2016 with a production capacity of 0.6 million units initially, the factory was expanded to 1.2 million capacity in June 2016.

The company will additionally invest Rs. 6300 million to build a new production line within the existing plant site. The new production line will add 0.6 million units and increase the total annual production capacity of scooters only facility at Vithalapur to 1.8 million units by the year 2020.

This expansion will increase Honda 2Wheeler India's overall annual production capacity to 7 million units by year 2020.

Elaborating on this milestone, Minoru Kato, President & CEO - Honda Motorcycle & Scooter India Pvt. Ltd. said, "Over the years, Honda has been investing and expanding its capacity to enhance customer's joy in the largest 2Wheeler market of the world. The additional capacity at our 4th factory reinforces our commitment to serve our customers faster, who have reposed their trust in brand Honda."

JSW Steel's Vijayanagar plant wins Deming Prize

JSW Steel has been awarded the Deming Prize for its Vijayanagar Works manufacturing unit. The JSW Vijayanagar Works is the largest single location integrated steel plant in the world to be awarded the prestigious Deming Prize for excellence in Total Quality Management (TQM). The Deming Application Prize is a world-renowned annual quality award presented by the Union of Japanese Scientists and Engineers (JUSE) to companies that have achieved distinctive performance benchmarks through the application of TQM. The Deming Prize will be formally presented to JSW Steel on November 14, 2018 in Tokyo.

Commenting on this achievement, Seshagiri Rao, Joint Managing Director of JSW Steel and Group CFO said, "JSW Steel is privileged to be honoured with the Deming Prize for our Quality Management at Vijayanagar Works steel plant. It is testimony of JSW Steel's uncompromising commitment to the TQM benchmarks we have set and achieved over the last several years. This coveted award complements our strong partnership with Original Equipment Manufacturers many of whom are Deming prize winners themselves. Our journey over the years has been exciting and this award is a tremendous inspiration for everyone at JSW Steel to move forward with the winning spirit and achieve new heights."

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Birla Carbon Spain announces €5 million investments

Birla Carbon Spain (BCS) has announced investment of €5 mn towards sustainability and energy efficiency projects, to increase its production from 80,000 to 95,000 tons per year. This announcement is in line with Birla Carbon's earlier announcement, to support customers in growing markets. The plant also inaugurated a new administrative office and laboratory complex within its premises.

Commenting on this positive development, Dr. Santrupt B Misra, Chief Executive Officer, Birla Carbon, stated, "At Birla Carbon, we are always striving to create our next opportunity. We always find such exciting opportunities by keenly listening to our customers and by identifying their needs around innovation and improvements. Birla Carbon's Purpose – "Share the Strength", brings the spirit of collaboration, engagement and action alive. Our investment into our Spain facility is yet another example of it".

The inauguration event was attended by Miguel Angel Revilla, President of Cantabria, John Loudermilk, Chief Operating Officer, Birla Carbon, John Davidson, Regional President, Europe and Africa region, Birla Carbon and other political and business leaders in the region.

Speaking at the inauguration, John Loudermilk, said, "Birla Carbon is committed to investing in the future of our plants. While we are continuously innovating to ensure our products align to market needs, our technology teams are constantly working towards enhancing our processes to be more sustainable and efficient. Our announcement today, not only drives productivity higher but makes us more sustainable".

BCS's investment of €5 mn in the plant will achieve greater reliability and sustainability of its manufacturing process. The installation of new equipment in one of its manufacturing lines and the re-engineering of other critical equipment uses one of the best available technologies in the carbon black industry. These improvements will lead to greater productivity and environmental performance, as well as reliability.

Schwing Stetter to set up new manufacturing facility

Schwing Stetter India announced its plans to set up a new manufacturing facility in SIPCOT Industrial Area, Cheyyar, Tiruvannamalai District, Tamil Nadu which is 60 km away from their existing facilities. The new unit, spreading over 53 acres, is a step towards strengthening Schwing Stetter's commitment to the Indian market and focus on to meet the emerging infrastructure boom in India and export potential in Asia and African markets. Schwing Stetter India have made the payment towards the cost of the land to SIPCOT today.

Schwing Stetter will be investing about 350 crores in two phases towards installing this technology-enabled and environmentally-sustainable manufacturing facility. The new site aims to focus on new product launches and support the progression of engineered products from the prototype stage to serial production.

Speaking about the announcement, Anand Sundaresan, Vice Chairman and Managing Director, Schwing Stetter India said, "The new facility is core to Schwing Stetter's long-term strategy to expand and reinforce our position as one of India's leading concrete equipment manufacturers. We are hopeful of full cooperation from the Government of Tamil Nadu for their support towards the success of the plant."

V. G. Sakthikumar, Managing Director - Schwing Stetter Sales and Services Private Ltd. said, "Boosting our existing production to cope up with industry demands has been a great challenge for us. With the launch of this new facility, we endeavour to launch a new line of exciting, state-of-the-art products to suit the demands of the global market."

Lanxess to build new production plant

Lanxess is continuing to invest in its global production network for high-performance plastics and is building another compounding facility at its Krefeld-Uerdingen site, Germany, for a mid double-digit million euro amount. Starting in the second half of 2019, Lanxess will produce Durethan & Pocan engineering plastics, which are used primarily in the automotive as well as the electrical and electronics industry. In addition, a warehouse and a silo facility will be built. Construction will begin in the fourth quarter of 2018 and the investment will create around 20 new jobs at the Krefeld-Uerdingen site.

"The high-performance plastics business is a central pillar of our growth strategy. By expanding capacity, we are further strengthening our position as a provider of innovative product solutions for modern mobility. At the same time, we are making even better use of the potential of our integrated value chain for these products," said Hubert Fink, Member of the Lanxess Board of Management. "The investment also shows that we are strongly committed to North Rhine-Westphalia as a business location."

Lanxess already operates a polymerization and compounding plant for high-performance plastics in Krefeld-Uerdingen. With the new investment, Lanxess is once again strengthening the importance of the site for the company.

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Varroc Lighting Systems signs joint venture with ELBA

Varroc Lighting Systems has announced the signing of a joint venture agreement with ELBA, a privately-held lighting and electronics company based in Romania.

The joint venture will focus on electronics manufacturing, and – given the constantly increasing electronic content of lighting products - will significantly support Varroc Lighting's successful growth in Europe. The joint venture will be located in Timisoara, Romania. Terms of the agreement were not disclosed.

"Varroc already designs and develops all of its own electronics hardware and software, the addition of vertically integrating the manufacturing will further support our profitable growth," said Varroc Lighting Systems President and CEO Stephane Vedie. "ELBA is recognized as a lighting specialist in the European market, and we are looking forward to a successful partnership with them."

"The global lighting market is facing major changes, where

electronics integration is key to address the actual and future needs of the final customer," said Bogdan Cocian, CEO of ELBA. We are eager to start this new JV, in partnership with Varroc, to vertically integrate and optimize our supply of electronic components."

Volvo Trucks showcases future transport solution

Volvo Trucks has presented a new transport solution consisting of autonomous e-commercial vehicles that can contribute to more efficient, safer & cleaner transportation. The long-term goal is to offer companies that need continuous transport services between fixed hubs a complement to today's offerings. Volvo Trucks' future transport solution is intended to be used for regular and repetitive tasks characterised by relatively short distances, large volumes of goods and high delivery precision.

"Our system can be seen as an extension of the advanced logistics solutions that many industries already apply today. Since we use autonomous vehicles with no exhaust emissions and low noise, their operation can take place at any time of day or night. The solution utilises existing road infrastructure and load carriers, making it easier to recoup costs and allowing for integration with existing operations," explains Mikael Karlsson, Vice President Autonomous Solutions.

The operation is handled by autonomous EVs linked to a cloud service and a transport control centre. The vehicles are equipped with sophisticated systems for autonomous driving.

Ashok Leyland to supply 200 buses to Bangladesh

Ashok Leyland has won an order from Bangladesh Road Transport Corporation (BRTC) for the supply of 200 buses. The order is for Single Decker AC buses, which includes Intercity AC buses & City AC buses. These Completely Built-Up (CBU) units for BRTC (Bangladesh Road Transport Corporation) will be procured against a tender under Indian Line of Credit.

Vinod K. Dasari, MD, Ashok Leyland, said, "We continue to serve the Bangladesh market and this repeat order, after the double-decker bus order, is a testament of the trust they have in our brand. Bangladesh continues to be one of our most important export markets. And it will continue to play a key role in our strategy of increasing our export share in total revenue."

Mahindra Group to achieve carbon neutrality by 2040

Mahindra & Mahindra (M&M) announced its commitment to become a carbon neutral company by 2040. M&M will focus on energy efficiency & use of renewable power to achieve this target. Residual emissions will be addressed through carbon sinks. Anand Mahindra, Chairman, Mahindra Group & co-chair of the Global Climate Action Summit committed that his entire group of businesses would become carbon neutral. This is significant because earlier Mahindra had pledged that only its flagship company—M&M—would become carbon neutral by 2040. However, after listening to leaders speak, he upped the ante on his commitment by extending that pledge to the entire group.

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Initiative by THE TIMES GROUP

Audi introduces first fully electrically powered SUV

The Audi e-tron is the first fully electrically powered series production model from the brand with the four rings. The company will present its sporty full-size SUV – which is suitable for everyday use – to the world for the first time in San Francisco.

The electric SUV is powered by two powerful electric motors that are locally CO2-neutral and virtually silent.

A key factor for the sporty character and outstanding transverse dynamics is the low and central position at which the battery system is installed. It gives the vehicle a range that is suitable for driving long distances. During far more than 90 percent of all decelerations, the Audi e-tron recovers energy solely via its electric motors. The electric SUV taps its maximum recuperation potential in combination with the integrated electrohydraulic brake control system. Audi is the world's first carmaker to use such a system in an electrically powered series production vehicle. The cleverly designed aerodynamics also contribute significantly to its efficiency. One highlight of this concept are the optional virtual exterior mirrors – a worldwide first in a series production model.

Federal-Mogul Powertrain's new electrification strategy

Federal-Mogul Powertrain has launched its new electrification strategy for medium- and heavy-duty vehicles IAA Commercial Vehicles show in Hanover, Germany. Developed by its Controlled Power Technologies product group, the company is displaying a cost-effective, fully scalable, modular approach that can be optimized for the unique demands of each commercial vehicle segment & application. The technology portfolio can be individually customized & integrated to meet specific needs of engine manufacturers to economically meet their emission & efficiency targets.

"One of the key questions that motivates us at Federal-Mogul is how we can improve fuel economy and CO2 emissions in commercial vehicles by harvesting waste energy, including both vehicle kinetic energy that is lost during braking and exhaust gas energy. Our solution must include how to then store it efficiently and return it to do useful work," said Gian Maria Olivetti, Chief Technology Officer, Federal-Mogul Powertrain. "Electrification can provide an attractive answer, but for medium- and heavy-duty commercial vehicles the most efficient way to achieve this is very different to that for passenger cars, so attempting to adapt traction-focused technologies can lead to solutions that are far from ideal," said Nick Pascoe, MD, Federal-Mogul Controlled Power Ltd.

BEML flags off nation's first 205t electric dump truck

BEML L, has launched an indigenously designed and developed nation's first 205T Electric Drive Rear Dump Truck (Model BH205-E). This will address the growing demand for higher capacity equipment in the mining industry.

At a function held at Mysore recently (Sep 10, 2018), Deepak Kumar Hota, CMD, BEML and P. K. Sinha, CMD, Northern Coalfields Limited (NCL), flagged off the equipment, for its use in NCL Project.

BH205E is an electric drive rear dump truck for large scale mining operations. Indigenously designed and developed BH205E Dump Truck is powered by Tier II emission compliant Modular Common Rail Electronic Engine with 2300 HP. The AC drive system has been engineered to provide exceptional haul road performance with reduced maintenance.

Hyundai Motor to develop holographic AR navigation

Hyundai Motor Company has announced a new strategic investment into Swiss deep-tech startup WayRay AG to expedite the development of holographic augmented reality (AR) navigation system for future vehicles, aiming to implement it to its mass-produced vehicles as early as 2020. This partnership will help Hyundai achieve its vision for future mobility, whilst providing drivers with a brand-new value, merging state-of-the-art visual technology and in-vehicle infotainment systems. "WayRay has remarkable expertise in both hardware & software development for holographic AR display systems. The Hyundai-WayRay collaboration will help us establish a brand new eco-system that harnesses AR technology to enhance not only navigation systems, but also establish an AR platform for smart city & smart mobility," said Dr. Youngcho Chi, Chief Innovation Officer & Executive Vice President of Hyundai Motor Group.

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Continental Gurgaon celebrates 1 million units of EBS

Continental has announced the completion of one million units of Electronic Brake Systems (EBS) from its Gurgaon Plant. Continental set up a line for localization of Anti-lock Brake Systems (ABS) assembly, besides Electronic Stability Control (ESC) systems, at Gurgaon in 2016. With increasing awareness and acceptance of safety technologies in vehicles, India is emerging as a focus market for airbags, ABS and ESC, for light vehicles, 4-wheeler and 2-wheeler markets.

Further to investments in 2016, the company set up a production line to localize ABS Electronic Control Units (ECU) in its Bangalore plant in 2018. According to Krishan Kohli, Head of Continental's Vehicle Dynamics business in India, "Innovative technologies and intelligent systems for vehicles are imperative for a future with zero accidents. Continental is well-equipped to support India towards achieving this. We are actively pursuing our long-term strategy towards the realization of "Vision Zero".

Greaves Cotton to acquire majority stake in Ampere

Greaves Cotton has announced that they have entered into definitive agreements pursuant to which Greaves Cotton will acquire a majority stake in EV company Ampere Vehicles Pvt. Ltd, subject to customary closing conditions. This acquisition will accelerate the development of clean energy technology solutions for mobility needs of passengers and small businesses. Ampere is one of the leading brands in the last mile mobility electric vehicles segment. It has strong in-house capabilities in designing, developing, manufacturing and marketing electric vehicles with a wide range of applications. Greaves will be able to leverage its distribution, aftermarket and service strengths to help Ampere grow more rapidly. Greaves aims to create enhanced value for its shareholders by investing in advanced clean energy technologies through partnerships in India and worldwide. This acquisition in the electric mobility segment underscores the strategic intent of Greaves. Nagesh Basavanhalli, MD & CEO, Greaves Cotton Limited, said, "Greaves and Ampere will be a synergistic combination of our excellence in frugal engineering & manufacturing with a new age electric mobility solutions company."

Mahindra posts 14 percent growth in automotive sales

Mahindra & Mahindra Ltd. (M&M Ltd.) has announced its auto sales performance for September 2018 which stood at 55,022 vehicles, compared to 53,752 vehicles during September 2017, a growth of 2 percent. For the first half of the financial year, the company posted a growth of 14 percent, having sold 2,90,645 vehicles.

The company's domestic sales touched 51,268 vehicles during September 2018, as against 50,545 vehicles in September 2017. The Passenger Vehicles segment (which includes UVs, Cars and Vans) sold 21,411 vehicles in September 2018, as against 25,414 vehicles in September 2017.

In the Commercial Vehicles segment, the company sold 22,917 vehicles in September 2018, registering a 19 percent growth. In the Medium and Heavy Commercial Vehicles segment, M&M sold 1,064 vehicles for the month, a growth of 20 percent. Exports for September 2018 stood at 3,754 vehicles, a growth of 17 percent.

Honda, Cruise & General Motors to collaborate

Cruise and General Motors Co. have recently announced that they have joined forces with Honda (TYO: 7267) to pursue the shared goal of transforming mobility through the large-scale deployment of autonomous vehicle technology. Honda will work jointly with Cruise and General Motors to fund and develop a purpose-built autonomous vehicle for Cruise that can serve a wide variety of use cases and be manufactured at high volume for global deployment. In addition, Cruise, General Motors and Honda will explore global opportunities for commercial deployment of the Cruise network. Honda will contribute approximately $2 billion over 12 years to these initiatives, which, together with a $750 million equity investment in Cruise, brings its total commitment to the project to $2.75 billion. In addition to the recently announced SoftBank investments, this transaction brings the post-money valuation of Cruise to $14.6 billion. "This is the logical next step in General Motors and Honda's relationship, given our joint work on electric vehicles, and our close integration with Cruise," said General Motors Chairman and CEO Mary Barra.

As per the Advertisement in Deccan Herald on 05-10-2018 the last date for submission of Applications is extended upto 31-12-2018, 5.00 p.m.

Last date extended to 31-12-2018

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Date: 06.09.2018

NOTIFICATION

APPLICATIONS ARE INVITED FOR ALLOTMENT OF INDUSTRIAL PLOTS AT TMTP EXCLUSIVELY FOR MANUFACTURERS OF MACHINE TOOLS AND THEIR ANCILLARY UNITS

Government of Karnataka (Through SPV) is developing an Integrated Machine Tool Park with State-of-the-Art Industrial Infrastructure coupled with an eco-friendly layout in an extent of about 530 acres of land at Vasanthanarasapura, Tumakuru District, with assistance from Department of Heavy Industry, Government of India to attract investments in the machine tools sector. It is an integral part of Tumakuru Industrial Node on the proposed Chennai - Bengaluru-Chithradurga, Industrial corridor and is located adjacent to proposed Japan Industrial Park.

This is a golden opportunity for manufacturers of Machine Tools, accessories, attachments, sub-system assemblies, components and parts, dies and moulds, tools and tooling, consumables and others directly related to machine tool industry and service providers and units providing support to the machine tool industry to set up their units in TMTP.

The Karnataka State Industrial Policy 2014-19 intends to offer special impetus with incentives & concessions and special rate for industrial plots.

Applications from the prospective and interested entrepreneurs can be submitted online in the website of Karnataka Udyoga Mitra **(http://kum.karnataka.gov.in), (http://ebizkarnataka.gov.in)**. The filled in applications should be submitted by **5.00 p.m. on 06.10.2018.** Further details and detailed notification is available on the website. For any further guidance with respect to Machine Tool Park, the agencies may contact Sri Revannagowda, Managing Director, (Mobile : 9845521224), Karnataka Udyog Mitra, 3rd Floor, Khanija Bhavan #49, Race Course Road, Bengaluru-560001 or any of the following officers.

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What's driving the **future of trucking** industry?

With the advent of the connected car changing how tech giants will operate in future, the initiation of the digital truck provides the freight industry with new opportunities for growth and innovation.

By Berthold Puchta

A recent PwC truck study on 'the era of digitized trucking' has made a few startling predictions about the effect of disruptive automation technologies on the trucking industry. It says that trucking logistics cost will reduce by 47 percent in 2030 with a 40 percent drop in delivery lead-time, as the trucks in use on the road will increase to 78 percent of the time, as against the prevalent industry average in Europe, which is 29 percent.

Studies show that autonomous vehicles (AV) could generate about US$ 800 billion per year in revenue in 2030 and US$ 7 trillion per year by 2050. While the long-term benefits of AVs are diverse, substantial financial incentive encompasses the route to true autonomy in transportation.

Even though the market potential seems to be substantial, on a business level such novel technology involves few challenges for Original Equipment Manufacturers (OEMs). Hence, significant stakeholders in the current system might disappear; and the process of goods to be delivered will be fully automated.

Autonomous Driving – The Era of Digitized Trucking?

With the advent of the connected car changing how tech giants will operate in future, the initiation of the digital truck provides the freight industry with new opportunities for growth and innovation. The combination of new technologies such as digitized supply chain, driverless trucks and robotic delivery hubs holds the capability to transform the trucking and logistics sector into an ecosystem of autonomous vehicles very soon.

"If we add up all the incremental technological changes throughout the delivery system of connected trucks from the first mile to the last, then the logistics business will fundamentally change."

AVs will become the vehicle of a new era by improving utilization through remote maintenance, increasing efficiency, while boosting safety. Eventually, these trucks will drive themselves, freeup drivers to take over the administrative tasks and may even do away with human intervention altogether.

Trucking 4.0 – Mapping the New Revolution

Industry 4.0 is gaining momentum with the drastic changes it is ushering into the world of manufacturing. Similarly, Trucking 4.0 has emerged as a move to smarten transportation and supply chain enhancements with dynamic logistics network configuration.

If we add up all the incremental technological changes throughout the delivery system of connected trucks from the first mile to the last, then the logistics business will fundamentally change. The Global Truck Study 2018 estimated that around 80 percent of these savings are attributed to the reduction of personnel in the logistic industry.

The automotive revenue pool significantly increases and diversify towards the on-demand mobility services and data-driven services. This model hence generates savings beyond the supply chain segments and could create up to $1.5 trillion additional revenue potential by 2030, which ameliorates the annual automotive industry growth by 4.4 percent.

Still on the Road to Implications…

Even though the market potential is quite substantial, OEMs face a lot of disruption, implications, and transformation in their journey to design. The changes in both trucking and

"The acknowledgment of disruptive changes across industry segments and OEMs demonstrate that AVs and Autonomous Trucks are a closer reality than originally thought."

logistics fall under two categories – technology and business models.

The Technological Model

The technological changes require OEMs to stay competitive in the market with a need to expand their product portfolio include new powertrains and focus production on autonomous long-haul trucks. Such a design mandate will change the nature of trucks into a self-driving container. However, these technological innovations involve three key challenges for OEMs:

1. Driverless trucks attract new non-automotive competitors in the market;
2. High cost of new technologies and long-term realization; significant operating cost savings could be fully realized only when full automation has been achieved
3. Lack of supporting infrastructure, cyber security concerns
4. Blurry boundaries in deciding who would take up the role of system integrator – OEMs or suppliers?

The Business Model

As for the business model option, OEMs could benefit more by transforming themselves into MaaS (Mobility-as-a-Service) providers to compete with fleet companies. Under such a scenario, any autonomous truck can be summoned with a signal to start and reach the correct destination or warehouse. Alternatively, a truck which is already on the road can be easily redirected to a new address.

All these innovations lead to an automated supply chain network resulting in a complete business model change for the OEMs. In fact, as a MaaS providers OEMs need to compete with trucking and leasing companies which operate fleets of autonomous trucks. If this is not the scenario, then OEMs might fall out of the entire value chain to tech companies, which will, in the long run, automate the roles now performed by trucking and logistics operators.

Blazing a trail to Autonomous Driving

The acknowledgment of disruptive changes across industry segments and OEMs demonstrate that AVs and Autonomous Trucks are a closer reality than originally thought. Some of the key market players have already started investing to ensure opportunities emerging in AVs. The autonomous revolution is proving to bring dramatic shifts across industries and create a business beneficiary effect.

The author is Industry Leader – Transportation, QuEST Global

Building **Brand India**

Kamal Bali, President & Managing Director, Volvo Group India highlights the importance of maintaining equilibrium between quality and pricing.

The Economic Times Best Metal Cutting Brands 2018 were felicitated recently at the hands of Kamal Bali, President & Managing Director, Volvo Group India. While speaking at the event Bali highlighted the importance of 'Brand India'. He further explained that, "Countries like Germany and China have built their brands. Germany is known for quality of its products while Chinese manufacturers are known for low priced solutions. Now we need to build the brand India that talks about high quality products at reasonable price."

In order to achieve this, companies have to be competitive at the global level. Highlighting on this point he said, "While initiatives such as Make in India and ease for doing business are helping the manufacturing industry to get its new identity, the industry should equally contribute to it. For this, the industry has to be globally competitive. This can be achieved through being compatible to changes and continuous improvement."

He continued, "In this regard Indian manufacturers will have to consider few trends that are to shape the future of the manufacturing industry. Elaborating on the same, Bali said, "In the coming future, five trends will shape the manufacturing industry – Digitalisation, Rapid Urbanisation, Skills Development, Sustainability and Customers' approach."

> "In the coming future, five trends will shape the manufacturing industry – Digitalisation, Rapid Urbanisation, Skills Development, Sustainability and Customers' approach."

Adding to it, he mentioned that digitalisation is no more the future but it's a present now. "The management of every company has to keep a close eye on this trend. In order to be relevant in the industry, it is absolutely necessary to embrace digitalisation."

This new trend also calls for a new skill sets. Speaking on it, he said, "Due to changing times and ways of manufacturing, the skills set required are also changing at fast pace. In fact, it is difficult to predict the skills set that would be required five years from now. Hence, in order to be relevant with changing times, it is imperative to adapt to new skills. The company's management plays an important role in identifying these skills set and train the staff accordingly."

Touching upon further trends in the list, Bali said added, "Rapid urbanisation will affect the manufacturing industry.

By 2050, almost 70 percent of the population is expected to be living in cities. As the needs of such huge urbanised population has to be fulfilled, it calls for immense stress on the manufacturing industry in the years to come."

Further he mentioned that not only the customers' demographics but also their preferences are changing. "Customers no more want products but they need solutions. It is important to identify the changing needs of the customers and provide solutions accordingly."

Lastly, he also emphasised on this growth of the manufacturing to be sustainable for businesses and the environment. In this regard, Bali said, "whatever we do today as a business entity, we need to take environment into consideration. It is high time now that we adapt green manufacturing practices. It is necessary to main balance between sustainability of the business and the environment."

GE Power to deliver India's first **low NOx Boiler Technology**

GE Power announced that its technology has been selected by NTPC and Tata Chemicals to upgrade two coal-fired boilers in India with its low NOx firing system. This is the first installation of this technology in India and it will be implemented at NTPC's 2x490 thermal plant in Dadri, Uttar Pradesh and the 136 TPH Boiler Tata project in Mithapur, Gujarat. GE Power's technology can help reduce NOx generation by up to 40% from current levels in these units. Today, India is the world's third largest producer of electricity, the majority of which is produced using coal. With more than 170 GW of India's coal-fired fleet operating on sub-critical levels, the implementation of this low NOx boiler technology can help the country reduce its NOx by up to 50% from the current level.

"This is the first order by any utility or industrial company in India for the firing system modification to reduce the NOx generation at the primary source of combustion boilers," said Andrew DeLeone, MD, GE Power India Ltd. "The success of these projects will benchmark the technology and technical specifications for future low NOx firing system modification in India. For India, where coal is & will remain the energy mainstay for a long time, GE's technology can play a major role in making the thermal power plants efficient and environment friendly." The implementation of this technology is in response to India's new coal plant emission regulations that require all utility boilers as well as industrial &captive plant boilers to modify their firing systems to improve NOx emissions. "We have more than 20 years of expertise with this technology & it's in use in 1,200 units around the world," said Pascal Radue, General Manager, Clean Combustion, GE's Steam Power's business. "As countries have implemented stringent emission standards, we've been able to help our customers by delivering the right technology in a way that minimises the disruption an outage can have on their operations. We'll use that same experience to help our customers in India."

Source: GE Power

Pune Machine Tool Expo concludes successfully

Regional Machine Tool Expo organized to address requirements of the OEMs in the Tier II and Tier III cities

The second edition of the Pune Machine Tool Expo 2018 – Western India's one of the most prominent B2B exhibition, was a phenomenal success as it concluded on September 30, 2018. With more than 85 exhibitors, the machine tool exhibition attracted over 9,500 visitors and more than 75 trade delegations from various industry sectors such as auto component, automobiles, capital goods, dies and tool, defence and aerospace. Along with host city Pune, the event attracted impressive number of delegates and visitors from the Tier II and Tier III cities such as Aurangabad, Nagpur, Kolhapur, Mumbai, Satara, Ahmednagar, Nasik besides the neighboring states of Gujarat and Madhya Pradesh.

With more than 85 exhibitors, the machine tool exhibition attracted over 9,500 visitors and more than 75 trade delegations from various industry sectors such as auto component, automobiles, capital goods, dies and tool, defence and aerospace.

Footfall

Visitors from Germany and Poland attended the event, while latest technologies from countries like Germany, US, UK, China, Switzerland, Spain, Japan, France and Italy were also on display.

Organized by the Indian Machine Tools Manufacture's Association (IMTMA), the exhibition was held for four days and served as a platform to demonstrate the latest manufacturing technologies. The expo covered both metal cutting and metal forming technologies including automation and robotics, tooling systems, CAD/CAM and other technologies, which are essential for today's manufacturing.

The Pune Machine Tool Expo, spread across three halls covering 4,500 sqmts, turned out to be fruitful both for the visitors as well as the exhibitors and most of the exhibitors were highly satisfied and impressed with the quality of the crowd and the business opportunities that the exhibition provided them.

Exhibitors' feedback

"The exhibition is highly organized. The 4-axis, 5-axis machinery displayed is worth viewing. The overall experience has been quite good. I have earlier visited IMTEX and get the same feeling at hashtag PMTX 2018 too." Says Ashish Bhosale, Owner, Ashish Industries.

The success of Pune Machine Tool Expo has given further impetus to the IMTMA's idea of Regional Machine Tool Expos – to address requirements of the Original Equipment Manufacturers (OEMs) of the various industry sectors in the Tier II and Tier III cities in the various regions of India.

Continuing with the idea, the next Regional Machine Tool Exhibition will be the third edition of Delhi Machine Tool Expo, which will be held in 2019 at Pragati Maidan, before returning to Pune in 2020.

Source: IMTMA

India's first **SECI auction wind project** completed

Sembcorp Energy India Limited (SEIL) and Suzlon Group have announced the completion of the first SECI 1 wind power project in India. Sembcorp Green Infra Limited, a fully owned subsidiary of SEIL, won this project in the first round of wind bids conducted by the Solar Energy Corporation of India (SECI) on behalf of the Government of India's Ministry of New and Renewable Energy (MNRE), in April 2017. Sembcorp's 250 MW project is the first wind power project, under the first reverse wind auctions in India, with the entire capacity completed ahead of the SECI timelines. Suzlon is the Engineering, Procurement and Construction (EPC) partner for the project. The wind project located at Chandragiri in Tamil Nadu consists of 119 units of Suzlon's 2.1 MW S111-120m Wind Turbine Generators (WTGs). Under long term Power Purchase Agreement (PPA) between Sembcorp and Power Trading Corporation (PTC), power generated from the project will be supplied to the states of Jharkhand, Bihar, Uttar Pradesh and Delhi. Vipul Tuli, Managing Director, Sembcorp Energy India Limited, said, "This project adds to Sembcorp's growing renewable energy portfolio worldwide and strengthens our collective track record in clean energy. J.P. Chalasani, Group CEO, Suzlon Group, said, "We partnered with Sembcorp from the pre-bid stage and delivered the full capacity ahead of the SECI timelines despite the challenges, uncertainties and initial teething issues of the new bidding regime for wind. We are glad we could live up to the trust and confidence of our customers and have successfully met the stringent due diligence and quality standards of Sembcorp. This is indeed a proud moment for us and we thank SECI, all our partners, vendors and stakeholders who have been part of this successful project execution. This is a testament of our joint commitment to "Make in India" and "Powering a Greener Tomorrow" for our nation."

Building an **innovative culture Innovation Award**

LAPP India is organising Innovation Award to recognise, encourage and award customers from across industries

LAPP India organised the first edition of LAPP Innovation Award in the year 2015 to promote innovation among their customers as a way of marking the 10th year of the collaboration with PSG College of Technology. It is now the second edition of the LAPP Innovation Award to mark the 20th anniversary of LAPP India. The initiative aims to recognise, encourage and award customers from across industries that are using LAPP products and solutions, which are 'Made in India' for sustainable growth. It creates industry awareness on the importance of cable and connection technology in providing an efficient, reliable and innovative product/solution. Another objective of this initiative is to address areas like energy savings, improvement in productivity and environmental sustainability.

One of the objectives of this initiative is to address areas like energy savings, improvement in productivity and environmental sustainability.

The applications will be scrutinised by an eminent jury formed by the members from LAPP India, PSG Centre of Excellence and Engineers India Ltd. This year, LAPP will award four winners, each from one region (North, South, East and West). The winners will be felicitated in Bengaluru on November 16, 2018 during the 20-year-anniversary celebrations. The prize will entitle each winner INR 1,50,000, and the winning solution may be promoted through an advertising campaign.

LAPP also has a tie-up with RV College of Engineering, Bengaluru. This Centre of Excellence has proved to be productive for both the institution and LAPP by providing new product designs about latest trends and prototypes. The centre consists of a laboratory facility with end-to-end cable research and testing equipment. It gives students an opportunity to develop sustainable and comprehensive cabling technology solutions. LAPP also sponsored their hybrid car under the Ashwa Racing Foundation by providing them with cables for designing the car. This year, RV College won second place at the Formula Hybrid car race in the US.

Moreover, the company has signed a Memorandum of Understanding (MoU) with Symbiosis University of Applied Sciences, Indore. It is in the process of collaborating with the institution to develop a curriculum for the students, aiding as knowledge partner, supporting joint research projects and providing internship/on-the-job training for greater understanding of the cable and connectivity solutions.

All these centres would focus on applied research, which, in turn, would have an impact on future product design and development.

Source: Lapp India

UPDATE

Liebherr and **LEEL Electricals** to cooperate in India

Liebherr-Transportation Systems GmbH & Co KG and LEEL Electricals Ltd. have signed a Letter of Intent regarding a potential cooperation in the Indian market. Both companies are aiming to increase the collaboration in the fields of development, manufacturing and sales of air conditioning systems and thermal management systems for any kind of rail vehicles. In addition, the agreement comprises customer service in conjunction with maintenance and repair of the respective products and systems.

Liebherr-Transportation Systems as a global system provider of state-of-the-art air conditioning solutions and LEEL Electricals as a competent and well established partner of the Indian rail industry, strongly believe that bundling the competences of both companies will create new opportunities to jointly generate sustainable added value for their customers in India.

Source: Liebherr

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A new **chapter of growth**

Radcam Technologies and Euromac Group have recently collaborated to bring the latest European technology to India through a state-of-the-art technology center.

Radcam Technologies MD Siddhu Jolad and Euromac Group President Eugenio Lenzotti have recently collaborated to cater to the Indian market. "We have collaborated to bring the latest European technology to India. Euromac always had a commanding technology with patented features when it comes to punching and bending machines. We would like to take this forward in a much bigger way. About 50 machines a year in India in the initial years is the intent. Although we may face the challenge of competing with price from China, we are confident of Euromac, which has got a technology edge and of the Radcam team which has hard working people. Also, we have a client base who values quality over price, due to which the target will be easily achievable," said Siddhu Jolad.

Multiple roles

This technology center can be a learning place and will be used for R&D as well as for sales and support. "When we say learning place, what we intend to do is have academia interactions, where we bring fresh minds and showcase our technology. When we say it will be R&D Centre, it can be a give and take with intelligent manpower of India put to test with latest development trends. Information can flow from India to Italy or from Italy to India; it will be that level of Technology center," Jolad added.

"This technology center can be a learning place and will be used for R&D as well as for sales and support."

"We are going to cover pan India exclusively and hence the proximity to the airport. There will be a lot of customer visits and apart from that the service centre will have whatever spares the customer needs. Spares can be shipped immediately for quick support. We already have dedicated sales and support teams.

Technical sales

In the meanwhile, we also have people who are techno-commercial; we understand that it is technical sales and every person who is a salesman also needs to know the machine, needs to operate the machine, and should be able to suggest the right machine when he studies the customer drawing!! That is when your knowledge and experience come into picture. Because we have so many variants like mbx, mtx, stx and it can be six or 12 stations. Only if the sales person has the required technical knowledge, he can suggest the right kind of machine for the customer to get value for the money, depending on the load he gets in a month, or what kind of material he is cutting. Hence every salesman needs to be a technical salesman."

"There are German machines, there are Japanese machine and there are Italian machines. Everybody cuts the same material, but it is the passion of the people that will make it different.

Jolad further said that it's the people that make a difference to a product. "There are German machines, there are Japanese machine and there are Italian machines. Everybody cuts the same material, but it is the passion of the people that will make it different. All Euromac machines are built and tested in Italy and use the most sorted parts from all over the world. That's how we have good products with long life and less maintenance."

Voltas JV Voltbek partners with Future Supply Chain

Future Supply Chain Solutions Limited (FSC), a leading third-party supply chain solutions specialist and logistics service provider from Future Group, has signed an agreement with Voltbek Home Appliances Private Limited (Voltbek). Voltbek is a an equal partnership joint venture between Voltas Limited and Arçelik, a leading player in home appliances industry and part of the Koç Group – Turkey's largest industrial and services conglomerate. Appointed as its logistics partner, FSC will design and manage a pan-India supply chain strategy for their complete range of consumer electronic products under the brand name Voltas Beko, including refrigerators, washing machines, microwaves and dishwashers. FSC will act as an end-to-end logistics service provider to Voltbek and will cater to the entire warehousing and transportation needs with an aim to improve lead time while optimizing supply chain costs.

Commenting on this, Pradeep Bakshi, MD & CEO, Voltas Limited said "We are very happy to associate with a strong logistics partner like Future Supply Chain. I am sure this will provide a well-oiled supply chain and an entrenched market reach." Commenting on this, Mayur Toshniwal, Managing Director, Future Supply Chain said "We are delighted to announce our multi-year partnership with Voltbek, a new consumer durable brand recently launched in India backed by strong lineage. We look forward to working closely with the Voltbek team in creating a reliable and efficient supply chain for them. This partnership will further strengthen our existing customer base and lay a strong foundation for FSC, as we continue to deliver strong growth in years to come."

Tata Steel ranks #1 Dow Jones Sustainability Index

Tata Steel has been adjudged as the 'Steel Industry Leader' globally by the Dow Jones Sustainability Index 2018 (DJSI). Tata Steel is also the only India-based company to emerge as a winner among all 60 sectors evaluated for DJSI 2018. Tata Steel Ltd leads the Steel industry in RobecoSAM's Corporate Sustainability Assessment based on its Total Sustainability Score in 2018. This is the second year in last three years that Tata Steel has been adjudged the Industry Leader amongst 24 Steel Companies globally.

"We are honored to be ranked the number one company in the steel sector globally. It is a recognition of our efforts towards sustainability and relentless pursuit for a better tomorrow. By its very nature, steel manufacturing is one of the most challenging businesses from the perspective of sustainability. This recognition encourages us to stay committed to our focus on creating a sustainable ecosystem and benchmark with best in class for further improvement," said T. V. Narendran, CEO and MD, Tata Steel.

SABIC set to buy 24.99 percent stake in Clariant

Clariant has announced that SABIC has received the final outstanding regulatory approvals from the competition authorities for the purchase of a 24.99% stake in Clariant. Therefore, an unconditional closing of the purchase will take place in the next days which makes SABIC Clariant's largest strategic anchor shareholder, and second anchor shareholder beside the group of former shareholders of Süd-Chemie. SABIC entered into a purchase agreement regarding the acquisition of the stake in Clariant in January 2018. "With SABIC receiving all the regulatory approvals and the transaction set to be completed, we look forward to further developing the strategic relationship between both companies in order to generate value for all stakeholders", said Hariolf Kottmann, CEO of Clariant. Clariant and SABIC are discussing about possible future collaborations that will generate value for the stakeholders of both companies. Any outcome of these discussions will be presented in due course.

Siemens closes Mendix acquisition

Siemens has recently closed the acquisition of Mendix, eight weeks after the transaction was announced as part of the company's Vision 2020+ strategy. As enterprises invest to digitalize their operations, demand for business applications is growing significantly faster than the capacity of IT organizations to deliver them. This gap between business demand for smart applications and lack of adequate developer talent has created unprecedented demand for low-code, high productivity platforms. With the addition of Mendix, Siemens enters the rapidly growing low-code application development market and will invest in Mendix to build on its market-leading position, across both its existing customer verticals and the Siemens customer base. "Siemens will continue to invest in Mendix's independent go-to-market operations, product roadmap, brand and developer community, building on our legacy as the most innovative and open low-code cloud platform," said Derek Roos, co-founder and CEO of Mendix. "Our platform will remain industry and ecosystem agnostic. We will build on our industry-first partnerships with SAP and IBM, and we're going to bring even more differentiated software solutions to market by combining Siemens' deep vertical know-how with the Mendix platform."

Easy and secure transfer of process data to mobile end devices

The TwinCAT IoT Communicator makes it easy for PLCs to communicate with mobile devices by connecting the TwinCAT controller directly and securely to a messaging service through TLS encryption. For smartphone and tablet users, the associated IoT Communicator App ensures that process data can be represented on all mobile devices in a clear overview. Alarms are sent to the device as push messages.

The TwinCAT 3 IoT Communicator exchanges data using a publish/subscribe mechanism. Since no special firewall settings are needed, integration into an existing IT network is easy. Information is exchanged via a message broker that uses the standardised MQTT protocol and acts as a central messaging service in a cloud or local network. A high level of communication security is guaranteed by proven TLS encryption (up to version 1.2).

Transmitted process data can be displayed on mobile devices using the IoT Communicator App, which is available for both Android and iOS operating systems. The IoT Communicator App also incorporates an integrated QR code scanner to facilitate entry of access data for communication between the broker and individual users.

The TwinCAT IoT Communicator simplifies the transmission of push messages. It offers a number of advantages over conventional e-mail and SMS messages by visualizing live data, variables and status values. This makes the IoT Communicator an ideal addition to the related TwinCAT IoT and TwinCAT Analytics software products.

For smartphone and tablet users, the associated IoT Communicator App ensures that process data can be represented on all mobile devices in a clear overview. Alarms are sent to the device as push messages.

Source: Beckhoff Automation

UPDATE

Hitachi Koki announces **aggressive business plans for India**

Hitachi Koki has announced its aggressive business plans for India. Now rebranded as HiKOKI, the company's India arm has been operating since 1996 and is the largest and fastest growing subsidiary in Asia (after Japan). HiKOKI India has registered steady growth over last 20 years CAGR of 16 percent. It is aiming to scale up its dealer count from 600 to 1000 by 2020. During the Financial year 2017-18, HiKOKI India sold 3,60,000 tools and aims to sell 4,00,000 tools during FY 2018-19. Simultaneous to its rebranding efforts, the company is also launching new technology Multi Volt tools. Identifying a visible shift from corded to cordless tools among end users, HiKOKI is planning to introduce affordable, user-friendly cordless and DIY tools in the India market.

According to Mr. Dattatraya Joshi – Executive Director & Secretary, Hitachi Koki India Pvt Ltd. "The power tools market is estimated at Rs.4000 crore and is growing rapidly at 7 percent, and is projected to grow at a steady pace for the next 10 years. Backed by powerful govt. initiatives to boost the manufacturing sector such as Make-in-India, Skill India etc., India gives us a unique opportunity for growth, innovation and contribution when compared to other developed countries. There is a growing demand for quality and world-class tools which can enable India to compete globally. Keeping this demand in mind, we are strengthening our business and customizing our offerings for the Indian market and its unique requirements. We are foreseeing growth opportunities shifting to Tier II and III cities hence, we are looking to strengthen our base in this area and increase our market share. Overall, we are aiming to make India our growth engine for the coming years and our dynamic new partnership with KKR is further enabling us to accelerate this growth and pursue our goals more aggressively."

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New tools to simplify broaching applications

Broaching is an application used for precision machining of many industrial part types. The most common applications of broaching are keyways and splines. ISCAR engineers have developed a range of unique high precision tools for broaching applications of workpieces in small batches.

Keyway grooves: Machining keyway grooves is becoming more prevalent in general engineering & applications in the industries like automotive, heavy duty, gear, weapon & more.

Keyway tool designs, when used with dedicated broaching machines, are designed for long production runs. The ISCARBROACH tools enable finishing a complete part which improves machining cycles and provides high quality solutions for small batches of parts. ISCAR's broaching tools can broach blind or through holes applications. The traditional production of blind keyholes involves expensive die sink (EDM) operations. With relief grooves or cross holes, blind keyways can be broached on a CNC machining center with ISCAR's broaching tools. Besides solutions for machining the standard material groups, ISCAR's broaching tool designs provide high accuracy and repeatability characteristics and allow keyway applications on difficult to machine materials such as titanium, Inconel and stainless steel.

Lathe/milling solutions: The growing demand for an appropriate solution to keyway grooves using a lathe/milling machine, has led ISCAR's R&D engineers to develop a line of products for highly accurate broaching applications. ISCAR's broaching line offers many advantages:

- Full machining process in a single clamping – ISCAR's broaching line enables the machining of a complete part in a single clamping process, saving precious lead time
- High accuracy: Use of CNC lathe provides higher accuracy compared to the typical dedicated broaching machine
- Better surface finish – The CNC machine's high stability results in better part surface finish
- Machining small batches – The ability to use a lathe eliminates any dependency on having to subcontract a project, which represents a significant advantage for small batch parts production
- Cost savings – While the traditional production of keyway grooves involve expensive EDM / wire cutting operations, ISCAR's broaching line offers a cheaper and faster solution for machining such grooves

Broaching product lines

ISCAR has developed 2 standard product lines for broaching. Each product line has inserts & their appropriate holders:

ISCAR XNUWB Line: The XNUWB standard product line provides an indexable solution for parts with hole diameters

starting from Ø22 mm and a width range of 5-12mm.

ISCAR SCB Line: The SCB standard line is a solid carbide solution suitable for smaller parts with hole diameters starting from Ø10 mm and a width range of 5-12mm.

Standard inserts are available in IC908 PVD coated grade, suitable for a wide range of materials & machining conditions.

Precision broaching: ISCAR recommends the following machining tips for precision broaching operations:

- Make a relief groove at the end of the cut
- For better chip evacuation, set the tool in 12 o'clock position
- Always retract without touching the material
- Using coolant is highly recommended
- Avoid interrupted cuts

Typical cutting conditions recommended for broaching

Typical conditions: Vc = 4000 – 8000 mm/min, Ap = 0.02-0.08 mm

Special solutions: In addition to its standard line, ISCAR is also engaged in developing targeted solutions for different broaching applications, such as tooth broaching, square broaching, hexagon broaching and other geometric shapes.

Many industries use broaching to produce high precision components. Typical broaching application parts include gears, transmission shafts, compressor vane slots, pump rotors & bodies, riffle barrels, lock cylinders,etc. No matter which industry, ISCAR's experts can guide a full engineering broaching process to assure maximum productivity on the shopfloor.

Source: ISCAR

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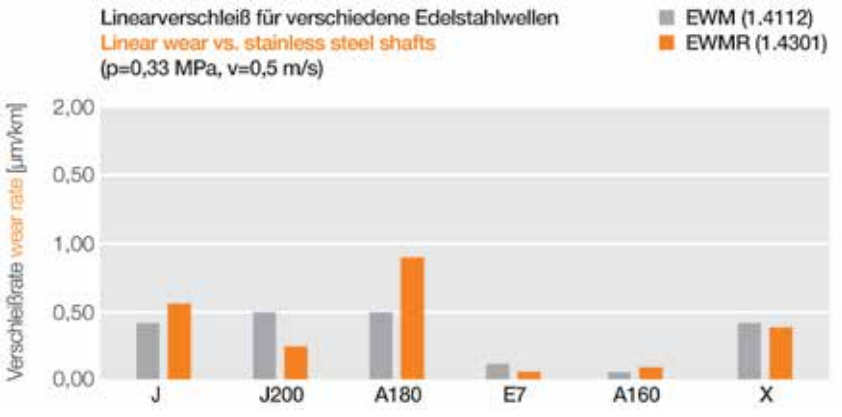
New FDA and EU compliant linear systems

igus is expanding its range of liners with the FDA and EU-compliant high-performance plastic iglidur A160

Linear guide systems from igus ensure the precise and quick adjustment of machines in the food and beverage industry. Integrated, maintenance-free and wear-resistant liners used in the carriages enable the linear guides to glide without lubrication. The company igus has now developed an FDA and EU-compliant liner made from the high-performance plastic iglidur A160, which is particularly suitable for the special hygienic requirements of the food industry. It is particularly characterised by its long service life on FDA and EU-compliant stainless steel shafts and in wet areas.

Clean, lubrication-free and corrosion-resistant: these are requirements in the food industry for the installed machine elements. This increasingly makes maintenance-free plastic solutions the right choice. Lubrication-free linear guide systems from igus are already used in numerous applications in the food and packaging industry due to their wide range of performance, be it in beverage filling systems or in the bottle processing industry. Liners made of high-performance plastics ensure a smooth and clean adjustment. Especially for applications in the food industry, users can now rely on hygienic linear guides thanks to the new lubrication-free linear plain bearings made of iglidur A160. The blue material complies with the FDA and EU Regulation 10/2011 EC and is therefore suited for the special requirements of the food industry. The iglidur A160 has a high and online-calculable service life on stainless steel shafts, even in wet areas. The high-performance plastic is also characterised by its high media resistance. Another advantage: the liner is impervious to contamination thanks to the integrated dirt channels, and is easy to clean and replace. The new linear bearing component is currently available in eight dimensions for all drylin W housing bearings and carriages as well as for all drylin R round guides.



The wear test in the in-house igus test laboratory demonstrates that the liner made of iglidur A160 is the optimum sliding partner for stainless steel shafts.

Liners made of high-performance plastics ensure a smooth and clean adjustment. Especially for applications in the food industry, users can now rely on hygienic linear guides thanks to the new lubrication-free linear plain bearings made of iglidur A160.

Tested wear resistance on stainless steel shafts

In the company's own 2,750 square-metre test laboratory, igus has tested the new liner on various stainless steel shafts vis-a-vis plastic liners that are already in the igus range made of iglidur J200, iglidur J, iglidur A180, iglidur E7 and iglidur X. The iglidur J200 is an established standard material on aluminium shafts, while iglidur J is suitable for all shaft surfaces. For users who rely on drylin linear systems with steel shafts, igus has, with the iglidur E7, an endurance runner in its product range, while the use of iglidur X liners is particularly suitable for applications requiring high temperature resistance and high chemical resistance. The wear test clearly showed that the new iglidur A160 liner has the best wear values on various stainless steel shafts. Therefore, the new liner is an ideal sliding partner for stainless steel linear guides used in the food industry.

For more information, contact:
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Polygonal clamping technology for driven tools

In the future, the high-precision SCHUNK TRIBOS polygonal clamping technology will also be used for lathes and automatic revolving transfer machines. SCHUNK, the competence leader for gripping systems and clamping technology, has developed special polygonal toolholders with ER cone for this purpose, which can be combined with all commercially available mountings for ER collets and with driven tools in particular. The clamping system uses the high accuracy of the ER taper and combines this with the precision of polygonal clamping technology. Instead of the less precise collet chuck, the TRIBOS mounting is simply inserted into the toolholder provided and fastened using the ER clamping nut. The advantage: the tools can be pre-adjusted in the TRIBOS mountings with an accuracy of 0.01 mm in length and can be exchanged in the collet chuck in a few steps.

In this way, the user benefits from the shortest set-up times, and from a considerably higher repeat accuracy in the clamping system in terms of concentricity and projecting lengths compared to ER collet chucks.

Specialists for micro and volume machining

TRIBOS even clamps tools with the smallest shank diameter with high precision. The one-part clamping system is resistant to dirt and has a high radial rigidity. TRIBOS polygonal toolholder with ER cone will be available in two designs from mid-2018: TRIBOS-Mini ER is an expert in the field of micro-machining and sets the benchmark when it comes to small shank diameters and particularly delicate machining.

TRIBOS-RM ER, on the other hand, specializes in precise volume machining in high speed ranges. Its tremendous clamping forces enable high machining performance with excellent concentricity, and thus boost productivity. The truss-like design dampens vibrations and ensures that the tool has a long service life. Both designs will be available in sizes ER 11, ER 16, ER 20, ER 25, and ER 32 for clamping diameters from 1 to 6 mm (TRIBOS-Mini) or 3 mm to 12 mm (TRIBOS-RM).

Virtually maintenance-free and wear-resistant

Due to a high concentricity and repeat accuracy and a balancing grade of G 2.5 at 25,000 rpm, the TRIBOS toolholders meet even the toughest requirements. Because the clamping system operates without any moving parts, it is not mechanically sensitive.

Virtually maintenance-free and wear-resistant clamping is ensured. Endurance tests show no evidence of material fatigue, even after the clamping procedure has been repeated a thousand times. This makes TRIBOS clearly superior to other clamping technology like some ER collet chucks. Virtually maintenance and wear-free, the precision toolholders provide brilliant surfaces, minimal tool wear, and high machining performance in various industries. Meanwhile, TRIBOS has developed into one of the most comprehensive ranges for high-precision tool clamping.

For more info, contact:
Satish Sadasivan
SCHUNK Intec India Pvt Ltd
info@in.schunk.com
www.in.schunk.com

MARKET

Global Metal Forming Machine Tools Market 2018-2022

Technavio research analysts forecast the global metal forming machine tools market to grow at a CAGR of around 4% during the forecast period. Government initiatives to promote the machine tools industry is one of the major trends witnessed in the global metal forming machine tools market. The Ministry of International Trade and Industry in Japan has taken the initiative to rationalize the machine tools industry by implementing strategic M&As. The Indian government has allowed 100% FDIin the machine tools industry.

Large-scale industrial automation worldwide

The globalization of the overall industrial manufacturing sector has resulted in an increase in the quality and efficiency of manufacturing processes. This has led to a rise in the adoption of automated machine tools in the manufacturing sector. The investments in the global process automation applications have been increasing, with the emphasis being given to technology, software, services, hardware, & communication protocol used for automation.

According to a senior analyst at Technavio for research on the tools and components sector, "Automated equipment and robotics can assist in ensuring the consistency of the final manufactured product. They eradicate the scope of human error and thereby, impact the overall quality of production. Hence, automation helps in precisely controlling and manipulating manufacturing processes to maintain quality."

Segmentation analysis

APAC held the largest share of the market in 2017, accounting for close to 59% share. It was followed by EMEA and the Americas respectively. APAC is expected to dominate the market throughout the period 2018-2022.

Source: Technavio

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