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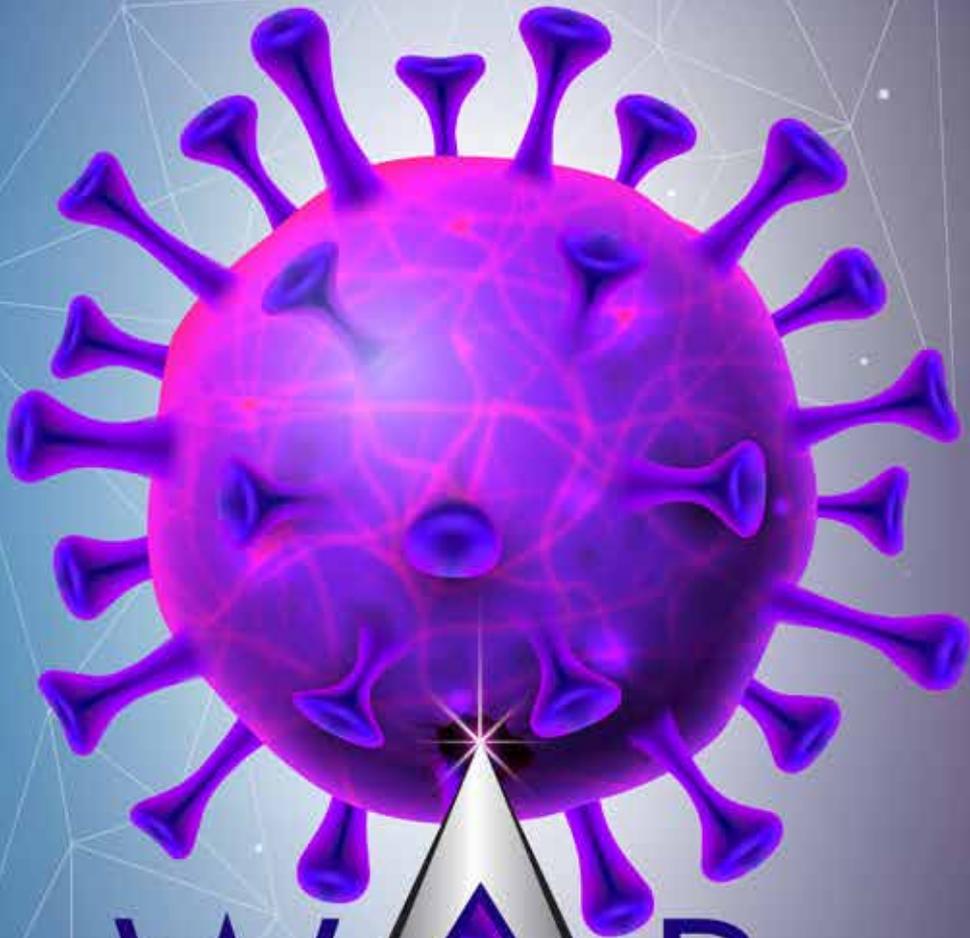
ULTIMATE GUIDE TO PROFITABLE MANUFACTURING

THE MACHINIST

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WAR AGAINST COVID 19

Industry fights on every front

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Boost for industry

Medical Devices
Changing landscape

Maintenance
Proactive approach

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HUMANITY 4.0

Our industry has always measured the progress of human civilisation in terms of the various industrial revolutions. Accordingly, at present, we have been going through Industry 4.0. Unfortunately, this era of great industrial development has experienced a big halt due to an unprecedented global calamity. An industry that could not be stopped even during different wars – including two world wars – has had to take an abrupt and uncertain break due to the outbreak of Covid19.

Indeed, these are extremely challenging times for all of us. Our very existence has been threatened by a crisis unforeseen by any of us. There are only two simple possibilities leading out of this – either we all perish, or we all rise again. But whatever happens, we are all in it together!

The success story of our civilisation has been written by the indomitable human spirit, which has defeated such adversaries throughout the history of humanity. And I am sure that the human spirit will overcome this crisis as well. We will create and experience the second possibility of the above two – we will rise again. But that is going to take time. And it is going to take not just time but also a lot of courage, compassion and constraint.

Importantly, we cannot afford to be complacent now. Our very existence is at stake. So, let us take good care of ourselves and adhere to all the rules and regulations set up by the relevant authorities in the interest of community well-being. That's why, our entire team whole heartedly supports our government and all others who are fighting this menace called coronavirus.

In this time of difficulty, we also stand with all our stakeholders. Our digital channels of communication (including our website www.themachinist.in) are open for you. If there is any critical message that you want to take to the industry at large, please do not hesitate to approach us. We have been with you in the journey called Industry 4.0. We will continue to be with you in the journey called Humanity 4.0 as well.

Editor & Chief Community Officer

THE MACHINIST

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Foreign Trade Policy 2015-2020 extended for one year

THE UNION COMMERCE AND INDUSTRY MINISTRY recently announced changes in the Foreign Trade Policy (FTP) of Government of India. The present Policy which came into force on 1st April, 2015, is for 5 years and has validity upto 31st March, 2020. In view of the unprecedented current situation arising out of the pandemic Novel COVID-19, the Govt. has decided to continue relief under various export promotion schemes by granting extension of the existing Foreign Trade Policy by another one year i.e. up to 31st March, 2021. Several other relief measures have also been announced to support trade



and industry. To provide continuity in the policy regime, the current FTP, valid till 31.03.2020 has been extended till 31.03.2021. Similar extension is made in the related procedures, by extending

validity of Hand Book of Procedures. Benefit under all the Export Promotion Schemes (except SEIS) and other schemes, available as on date, will continue to be available for another 12 months. Decision on continuation of SEIS will be taken and notified subsequently. Similarly, validity period of the Status Holder Certificates is also extended. This will enable the Status Holders to continue to avail the specified facilities/benefits.

Exemption from payment of IGST and Compensation Cess on the imports made under Advance/EPCG Authorisations and by EOUs etc. has been extended up to 31.03.2021.

Kubota Corporation to invest in Escorts Limited

KUBOTA CORPORATION (KUBOTA) will acquire 10 percent equity stake, on a post capital reduction basis, in Escorts Ltd. (Escorts) in order to integrate and deepen their relationship towards achieving their mutual ambition of global leadership. Upon completion of this transaction, Escorts and Kubota will partner to become a leading player in the Indian market and a hub of product development, manufacturing and sourcing for global markets. The existing 60:40 Joint Venture between Kubota and Escorts, namely Escorts Kubota



India Private Limited ("EKI"), will continue to operate.

Nikhil Nanda, CMD, Escorts Ltd., said, "At Escorts, we believe in strategic global partnership with an objective to address global farm mechanization needs. We are pleased to partner with Kubota

to offer farmers with innovative solutions and thereby maximize productivity for profitable growth in domestic and export geographies."

Yuichi Kitao, President and Representative Director, Kubota, Japan, said, "We are excited to make strategic investment in Escorts. It is a validation of our mutual commitment to offer best in class technology products for global markets and thereby enhance customer experience. Through this collaboration, we believe that we will cater to India and other growing economies which require high-end technology and new age tractors to address growing demands of highly mechanized farming."

KSB India bags order worth Rs. 100 crore



KSB INDIA has localized slurry recirculation pumps required for Flue Gas Desulphurisation (FGD) applications. The company has recently bagged total order worth Rs. 100 crore for the supply of slurry recirculation pumps in FGD plants to be installed across ten National Thermal Power Corporation (NTPC) sites in India. FGD systems will be installed in power plants having a total generation capacity of 166 GW in the coming years. Globally, the company has delivered more than 1400 slurry recirculation pumps (Size: DN ≥ 400) and more than 3000 process pumps to the secondary circuits across more than 260 FGD plants worldwide. KSB started manufacturing pumps in India from 1960 and has expanded its manufacturing base across six locations in the last 60 years. KSB India has invested a substantial amount in putting up a world-class facility at Shirwal, Pune to supply the pumps required for FGD applications are supplied from KSB's latest world-class facility at Shirwal near Pune.

India to buy Israeli Light Machine Guns

THE INDIAN ARMED FORCES' long-standing requirement of a modern state-of-the-art Light Machine Gun (LMG) has finally fructified. The Acquisition Wing of Ministry of Defence has signed the capital acquisition contract with Israel Weapon Industries for procurement of 16,479 LMGs at a cost of Rs 880 crore with the approval of Raksha Mantri Rajnath Singh. The contracted Negev 7.62X51 mm LMG is a combat proven weapon and currently used by several countries around the globe. This LMG will greatly enhance the lethality and range of a soldier vis-a-vis the presently used weapon. The provisioning of this operationally urgent and very critically needed weapon will boost the confidence of the frontline troops and provide much needed combat power to the Armed Forces.

thyssenkrupp to build first industrial-scale cement plant in Cameroon

thyssenkrupp is to fit the first cement plant with a system for the production of calcined clay for the Dutch-based company Cimpor Global Holdings. The technology developed by thyssenkrupp lowers CO₂ emissions in cement production by up to 40 percent. It involves replacing part of the cement clinker with calcined, i.e. thermally activated, clay. Cimpor Global Holdings will use the technology, known as “polysius activated clay”, on an industrial scale at a new plant being built near the Cameroon sea port of Kribi. On completion in fall 2021, the plant will save more than 120,000 tons of CO₂ emissions every year.

An important building material, ce-



ment is produced by an energy-intensive process in which large quantities of carbon dioxide are emitted. “At thyssenkrupp we are convinced that CO₂-neutral cement production is fundamentally possible and can be achieved in several steps,” says Pablo Hofelich, CEO of the Cement Technologies business unit. “We are already very advanced in many areas on the technology side. We offer our customers products that reduce environmental impact and at the same time reduce costs, making it possible for example to significantly cut CO₂ and nitrogen oxide emissions and reduce the use of raw materials, water, or fossil fuels such as coal and gas.”

India rejoins IASA as a full member

RECOGNIZING THE MUTUAL BENEFITS of scientific collaboration in a broad field of activities of global concern and interest, India has rejoined the International Institute for Applied Systems Analysis (IIASA) as a full member through the Technology Information, Forecasting, and Assessment Council (TIFAC). Research collaborations between IIASA and India stretch back to the 1970s and continue to bring new insights into the challenges the country and wider region face. In particular, past collaborations have provided a global perspective, interdisciplinary research expertise, and policy relevance to issues ranging from the future of India’s energy system to tackling air pollution. This partnership is set to be strengthened and expanded by the country’s membership of IIASA through the Technology Information, Forecasting and Assessment Council (TIFAC), an autonomous body under the Department of Science and Technology of the Government of India. TIFAC will represent India as National Member Organization on the IIASA Council with support from the Department of Science and Technology. India’s membership of IIASA will initially be for five years from January 2020, after which it will automatically be renewed.

Thermal plants to have 2,43,034 MW capacity by 2021-22

THE MINISTER OF STATE (INDEPENDENT CHARGE) for Power, New & Renewable Energy R.K. Singh has said that as per the extant National Electricity Plan, the installed capacity of thermal power plants of the country, comprising of Coal based and Gas & diesel based plants, is likely to be 243,037 MW in 2021-22 out of a total projected Installed Capacity of 479,419 MW. The Plant Load Factor (PLF) of Coal-based capacity in 2021-22 is likely to be 56.5 percent. He added that generators supplying power under Power Purchase Agreement (PPA) will not suffer financial loss due to underutilization of their power generation capacity as they are entitled to full recovery of fixed charges from the beneficiaries, subject to achieving the normative availability. Singh further said that the PLF/generation of thermal, (coal/lignite based) Stations depends on total electricity demand in the country which is affected by climate/weather conditions, growth of electricity demand in various sectors and generation from various other sources like hydro, nuclear, gas etc.

ARCI finds breakthrough in the ICE system

INTERNATIONAL ADVANCED CENTRE for Powder Metallurgy & New Materials (ARCI), an autonomous R&D Centre of Department of Science and Technology (DST), has developed ultrafast laser surface texturing technology, which can improve the fuel efficiency of internal combustion engines.

Laser surface micro-texturing, which offers precise control of the size, shape and density of micro-surface texture features has gained momentum as a way to control friction and wear. In this technology, a pulsating laser beam creates micro-dimples or grooves on the

surface of materials in a very controlled manner. Such textures can trap wear debris when operating under dry sliding conditions and sometimes provide effects like enhancing oil supply which can lower friction coefficients and may enable reduced wear rate.

The texture surfaces were created on automotive internal combustion engine components, piston rings and cylinder liners using 100 fs pulse duration laser. The micro dimples of 10-20 µm diameter and about 5-10 µm deep which have been created with laser beams had a regular pattern. The created textures were

tested in an engine test rig under different speeds and temperatures of coolant and lubrication oil, and it was observed that there was a 16 percent reduction in the lube oil consumption with the use of texture on the piston rings. The 10-hour lube oil consumption test shows that the blowby substantially reduced with textured rings.

Fabrication of a pattern of micro dimples or grooves on the surface of materials results in a change in surface topography which generates additional hydrodynamic pressure, thereby increasing the load-carrying capacity of the surfaces.

Lockheed Martin elects James D. Taiclet as President & CEO



The Board of Directors of Lockheed Martin has elected James D. Taiclet, 59, as president and CEO, effective June 15. Taiclet will continue to serve as a member of the corporation's board, which he joined in 2018. He has served as chairman, president and CEO of American Tower Corporation since 2004 and CEO since 2003. Taiclet will succeed Marillyn A. Hewson, 66, who has served as chairman, president and CEO since 2014 and president and CEO since 2013. Hewson will become executive chairman of the board, also effective June 15, subject to her re-election to the board by the stockholders at the upcoming annual meeting. "I know it is the right time to transition the leadership of Lockheed Martin. The corporation is strong, as evidenced by our outstanding financial results last year and a record backlog of business. We have a bright future – particularly with Jim and our outstanding leadership team at the helm," said Hewson.

Abhijit Roy is Chairman of CII Eastern Region



Abhijit Roy, Managing director and CEO of Berger Paints India Ltd., has been elected as the chairman of CII Eastern Region for 2020 – 21. He took over the charge as the Chairman from Chandra Sekhar Ghosh, MD & CEO Bandhan Bank. This announcement was made in a gracious ceremony in the presence of CII Vice President T.V Narendran, Chandrajit Banerjee, Director General of CII and other notable guests and dignitaries in Kolkata. Abhijit Roy is a Mechanical Engineer from Jadavpur University, Kolkata and an MBA from IIM, Bangalore. He joined Berger Paints in 1996 as a product manager, after enriching stints in multiple companies. He took over as MD and CEO of Berger Paints from July 2012. The meteoric rise of Berger Paint's fortune in the last few years has been largely attributed to his leadership.

Bosch Power Tools India appoints Nishant Sinha



Bosch Power Tools India has appointed Nishant Sinha as the Regional Business Director for India & SAARC. Nishant will bring his rich business experience to lead the growth of the power tools products, accessories, measuring tools, lawn & garden tools, and after-service businesses across multiple channels at Bosch Power Tools. Sinha aims to develop a stronger customer-connect and focus on effective channel expansion for deeper market penetration of the power tools division. With an advanced approach, Nishant along with his team will work to broaden the reach of power tools, accessories, and measuring tools through alternate channels, while also strengthening the digital and services network of the brand. On his appointment, Nishant Sinha said, "I am happy to lead the Bosch Power Tools division in India and SAARC and look forward to fostering a collaborative work culture delivering high-performance stand-

ards to provide superior value to the customers and stakeholders. Bosch Power Tools in India and SAARC have exceptional people and an innovation-oriented work culture that has ensured its past successes as a market leader. I endeavour to channelize its full potential to propel growth and a wider outreach with customer-focused quality-driven initiatives."

Éric Martel to be Bombardier's new CEO

Bombardier (TSX: BBD.B) has announced that Éric Martel has been appointed President and Chief Executive Officer, and a member of the Bombardier Board of Directors, effective April 6, 2020. Éric Martel joins Bombardier from Hydro-Québec, where he has served as President and Chief Executive Officer since July 2015. With revenues of approximately \$10 billion (USD), Hydro-Québec is one of the largest producers of hydroelectricity in the world. Prior to joining Hydro-Québec, Éric Martel held a number of leadership positions at Bombardier, including President of the Business Aircraft Division and President of the Customer Services and Specialized Aircraft Division. "Éric is the right leader at the right time for Bombardier, as the company is completing its turnaround plan and focusing on growing its leading business aviation franchise. He is an engaging builder with a deep understanding of our organization and product portfolio as well as of the global business aircraft industry," said Pierre Beaudoin, Chairman of the Bombardier Board of Directors.

• MARK YOUR DIARY •

A list of key events happening between July 2020 to January 2021, both nationally and internationally.

**JULY 7-9
2020**

Transport India 2020
New Delhi
<http://www.transportindiaexpo.com/>

**JULY 13-17,
2020**

Hannover Messe
Hannover, Germany
<https://www.hannovermesse.de/en/>

**AUGUST 26-
28, 2020**

Coat India 2020
New Delhi, India
<http://www.coatindia.in/>

**AUGUST
27-29, 2020**

Bus World India
Bengaluru
india.busworld.org

**AUGUST 27-29,
2020**

IMEX 2020
New Delhi, India
<https://imexonline.com/Home>

**SEPTEMBER
14 -19, 2020**

IMTS
Chicago, USA
www.imts.com

**OCTOBER 5-9,
2020**

SIMTOS
Seoul, South Korea
www.simtos.org

**OCTOBER
8-10, 2020**

India Chem 2020
Mumbai
www.indiachem.in

**NOVEMBER
23-25, 2020**

Wire & Cable India 2020
Mumbai, India
<https://www.wire-india.com/>

**DECEMBER 3-5,
2020**

Alucast 2020
Chennai, India
<http://www.alucastexpo.com/home>

**AUGUST 24-27,
2020**

Die & Mould India
Mumbai, India
<https://www.diemouldindia.org/>

**JANUARY 21-27,
2021**

IMTEX 2021
Bengaluru, India
<https://www.imtex.in/imtex2021/>

**OUR INHOUSE
UPCOMING
EVENTS**



To be announced soon



September 2020, Pune

By Dr. Srini Srinivasan

ACCELERATING THE MANUFACTURING SECTOR

The technological evolution of manufacturing is transforming the skill requirements of its workforce. Technology is changing both the type of workers needed and the type of skills that are required.

The manufacturing sector is one of the most significant growth drivers for the Indian economy. The growth of the manufacturing industry into an economic powerhouse can only be achieved when it incorporates technological transformation in the sector. Prime Minister of India, Narendra Modi, launched the 'Make in India' program to place India on the world map as a manufacturing hub and give India a global recognition. With the help of 'Make in India' drive, India is on the path of becoming the hub for hi-tech manufacturing as global giants have either set up or are in the process of setting up manufacturing plants in India, attracted by India's market of more than a billion consumers and increasing purchasing power. India is expected to become the fifth largest manufacturing country in the world by the end of the year 2020. The government aims to achieve a 25 percent GDP share and 100 million new jobs in the sector by 2022.

A significant part of employment in India comes from the manufacturing sector. Around 24 percent of India's total employed population was working in the industrial sector in 2018. By 2035, India is expected



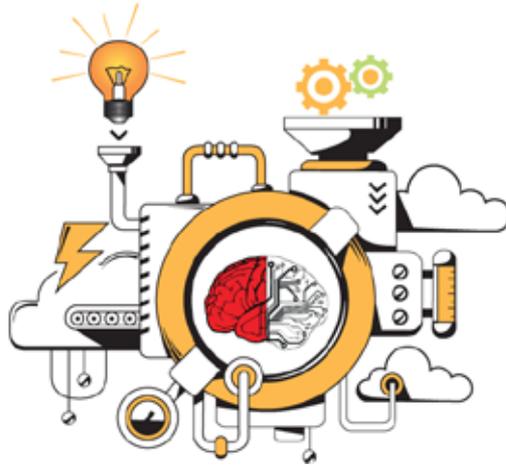
to be manufacturing for the world in areas where it has a competitive edge in terms of raw material supply as well as backward and forward integration. This requires both R&D and vastly improved education and massive skill development initiatives to increase the productivity of a young workforce. There is a need for creating an ecosystem of continuous technology development, up-gradation, upskilling, and adaptation to make the products competitive.

NEW MULTIDISCIPLINARY COMPETENCIES

The technological evolution of manufacturing is transforming the skill requirements of its workforce. Technology is changing both the type of workers needed and the type of skills that are required. Advanced manufacturing requires professionals with new multidisciplinary competencies, combining mechanics and software knowledge & skills. Besides, manufacturing jobs will demand professionals to be equipped with



"India is expected to be manufacturing for the world. This requires both R&D and vastly improved education and massive skill development initiatives to increase the productivity of a young workforce."



There is a need for creating an ecosystem of continuous technology development, up-gradation, upskilling, and adaptation to make the products competitive.

holistic abilities involving deep technical specialization coupled with business awareness. The survey results for this year's Pulse of the Profession® revealed that an average 13.5 percent of investment is wasted due to poor project performance in the manufacturing industry way more than the average 11.4 percent wastage reported across all sectors. And, the primary cause of project failure is attributed due to poor upfront planning.



Project professionals will be required to ace far more than the triple constraint of scope, time and budget. Pulse data show most Organisations must place nearly an equal emphasis on developing leadership skills as they do technical skills.

Importantly, Organisations that undervalue project management as a strategic competency for driving change report an average of 67 percent more of their projects failing outright.

Given the above, the three areas that need to be addressed to accelerate the growth of manufacturing industry are as follows:

ABILITY IS AGILITY

It doesn't matter how brilliant a strategy might be or how amazing a product idea is if it's rendered moot by a supply-chain disruption or a new technology. Organisations that can fail fast and pivot to what's next are best positioned for the future. Organisations with high agility report more projects successfully meeting original goals and business intent— whether they use predic-

tive (71 percent), agile (68 percent), or hybrid (72 percent) approaches—than those with low agility using the same approaches (see below figure).

TECHNOLOGY RULES—BUT PEOPLE INFLUENCE

Most executive leaders understand that emerging technologies might be the difference between a breakthrough year and just an okay one. But disruptive technologies like AI and machine learning are only as smart as the people behind them. There's a fundamental shift in how work is getting done. More people in all roles will be hired to manage a portfolio of projects, and increasingly, those projects will be tied to technology. That means people and companies must build their TQ, or Technology Quotient. Coupled with the arrival of The Project Economy, there's an even greater demand for skilling and training in TQ combined with Project Management, or PMTQ skills.

IT'S A PROJECT LEADER'S WORLD

With so much change, executives are increasingly turning to project leaders to help them turn ideas into reality. And that often requires mixing tried-and-true skills with emerging ones. So, yes, project professionals must be up on automation and design thinking, but they won't get far without people skills. Project professionals will be required to ace far more than the triple constraint of scope, time and budget. Pulse data show most Organisations must place nearly an equal emphasis on developing leadership skills as they do technical skills.

THE PROJECT ECONOMY

Now an essential business asset, change happens through projects. Organisations are undergoing a fundamental paradigm shift in which projects are no longer adjacent to operations but instead primary to how work gets done, and problems get solved. In today's C-suite—and tomorrow's—it is the portfolio that disrupts, that innovates, that expands and thrives. In many ways, the Organisation is its projects—led by a variety of titles, executed through a variety of approaches, and focused unwaveringly on delivering financial and societal value. This is what we call The Project Economy. 

The author is Managing Director – Project Management Institute (PMI) India

By Indra Guha

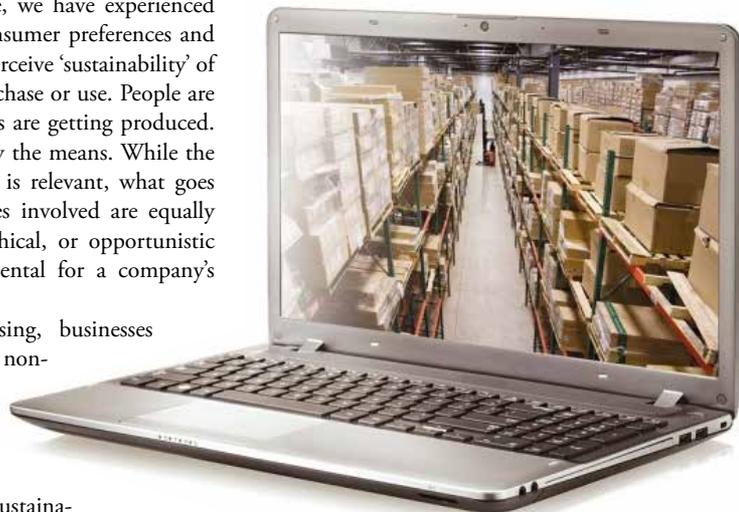
DRIVING SUSTAINABILITY IN SUPPLY CHAINS

With competition increasing, businesses are incrementally outsourcing non-core activities resulting in a complex multi-country supply chain network. This mesh makes it challenging to implement and monitor sustainable sourcing strategies.

During the last decade, we have experienced a stark change in consumer preferences and the way consumers perceive 'sustainability' of the product they purchase or use. People are conscious about the way things are getting produced. The end does not always justify the means. While the usefulness of the end product is relevant, what goes into the product and processes involved are equally important. Irresponsible, unethical, or opportunistic behaviour has become detrimental for a company's reputation.

With competition increasing, businesses are incrementally outsourcing non-core activities resulting in a complex multi-country supply chain network. This mesh makes it challenging to implement and monitor sustainable sourcing strategies. In most cases the place of production can be traced to developing nations. The production process, part or whole, is often carried out in factories of the supplier. The focal company which sells the product under their brand name, is legally not responsible for the conditions at the point of production. Nevertheless, the focal company/brand gets badly hit if the chain falters on critical sustainability counts. This calls for association by guilt. We have seen some of the biggest brands face the music at different times owing to supply chain issues in different sustainability areas.

There are very clear advantages lined up for Sustainable Supply Chain Management (SSCM) practices. One, it can provide competitive advantage – innovative ways of optimising on natural resource management,



fulfilling social responsibilities and a robust governance framework puts business in good stead as a positive differentiating factor; on the other, the licence to operate is gradually becoming more stringent with stakeholders demanding sustainability management across the value chain.

There has been debate on whether a consumer is ready to shell out more for the sake of procuring products that address the environmental and social concerns



"With awareness and ethics driving the consumption behaviour, consumption pattern is rapidly changing as consumers turn towards fair trade products, environmentally friendly products, social enterprise products, and local foods."



IOT Technology is driving sustainability in supply chains. In the shipping and manufacturing industries, the “worldwide web” is now being deployed to encourage more energy-efficient operational and communication strategies for a low-carbon economy.

across its value chain. Growing news coverage on supply chain issues has given rise to a more knowledgeable and aware customer, while companies strive to balance ‘compulsion’ with ‘responsibility’. With awareness and ethics driving the consumption behaviour, consumption pattern is rapidly changing as consumers turn towards fair trade products, environmentally friendly products, social enterprise products, and local foods. Ethical consumption trends have exerted a significant demand on the corporate environment and require firms to produce products and conduct business activities in a way that fulfils social, economic, and environmental responsibilities across the value chain.

To further the cause of sustainable development, United Nations adopted a 2030 Agenda for Sustainable Development, wherein 17 Sustainable Development Goals (SDG) were adopted in 2015. The Goals include Affordable and clean energy (SDG-7), Industry, innovation and infrastructure (SDG-9), Responsible consumption and production (SDG-12). The interlinkages are obviously very strong. For products to be sustainable, processes need to be sustainable and supply chain being an integral part of manufacturing processes need to take the sustainable route.

While embedding sustainability in supply chain management is a significant first step, it will be impactful only when sustainability is extended to product life management (PLM). The integration of supply chain in business involves a strategic plan starting at the design stage. We find supply chain deeply embedded in the robust 1980s analysis framework of competitive strategy (Porter’s Framework) for business, and considers sustainability aspects; however, the landscape over the last four decades has become more cognitive and reactive to the sustainability agenda. Enterprise risk and opportunity cannot ignore sustainability attributes as seemingly intangible. Looking at it through the lens of sustainability scenario analysis, followed by R&D on lifecycle with a circular approach to help build in life cycle sustainability at the design stage of business, is the key to tomorrow’s competitive advantage.

With increasing awareness and the realisation of the long-term impacts of sustainability on the resilience of business, there is a marked shift towards integrating

supply chain sustainability in business strategies.

Technology has come up with wonderful enablers for integration.....IOT Technology is driving

sustainability in supply chains. In the shipping and manufacturing industries, the “worldwide web” is now being deployed to encourage more energy-efficient operational and communication strategies for a low-carbon economy. Every resource – fossil fuels, water, space – that can be more effectively managed with the help of cutting-edge tools represents a factor of production that can be conserved. There are several customised IT tools to address supply chain issues, which all focusses on resolving a problem. But the crux lies in the seamless integration of the focal company with its supply chain players.

Rolling out a sustainable supply chain framework, can start with mapping suppliers critical to business continuity and segregate them based on key parameters. Segmenting the vendor base can be done based on strategic items, leverage items, bottleneck items and non-critical items. For each of these segments one can then map the material sustainability parameters to arrive at the sustainability framework to be adopted. Relevant sustainability parameters for respective groups/clusters can be determined together with the suppliers based on which policies, practices and engagement protocols can be customised. The success lies in the approach and how we make it inclusive at all stages to share ownership of the entire program.

Businesses need to take their suppliers under their wings and create a platform of mutual exchange of knowledge and information to cross pollinate and facilitate leading practices on sustainability. Organisations are progressively realising that partnership is the key to sustainability. There are many ways of doing this, but the ultimate aim should be to have a clean planet and a green planet where all of us can thrive and flourish. The policies, procedures and processes that follow, need to be developed taking care of the critical players into consideration. It is not about a post facto integration and aligning supply chain to the organisation’s standards, but to develop and on-board all the critical players through the stages of the journey, leaving no one behind. 

The author is Partner, Sustainability and Climate Change, Thinkthrough Consulting

BIG BOOST

Government of India has approved to offer financial incentive of 25 percent of capital expenditure for the manufacturing of goods

The Union Cabinet chaired by Prime Minister Narendra Modi has approved to offer financial incentive of 25 percent of capital expenditure for the manufacturing of goods that constitute the supply chain of an electronic product under the Scheme for Promotion of manufacturing of Electronic Components and Semiconductors (SPECES). The scheme will help offset the disability for domestic manufacturing of electronic components and semiconductors in order to strengthen the electronic manufacturing ecosystem in the country.

Financial Implications: The total cost of the scheme is approximately Rs.3,285 crore, which includes the incentive outlay of approximately Rs.3,252 crore and the administrative expense to the tune of Rs.32 crore.

Benefits: The proposal when implemented will lead to the development of electronic components manufacturing ecosystem in the country. Following are the expected outputs/outcomes in terms of measurable in-

“These schemes I am sure would not only neutralize cost disadvantages in manufacturing to a great extent but also help India to be part of global value chain.”

Manish Sharma, Chairman, FICCI Electronics Manufacturing and President and CEO, Panasonic India and South Asia

dicators for the scheme:

Development of electronic components manufacturing ecosystem in the country and deepening of Electronics value chain.

New investments in Electronics Sector to the tune of at least Rs. 20,000 crore.

Direct employment of approximately 1,50,000 is expected to be created in the manufacturing units supported under the scheme, including indirect employment of about three times of direct employment as per industry estimates. Thus, total employment potential of the scheme is approximately 6,00,000.

Reducing dependence on import of components by large scale domestic manufacturing that will also enhance the digital security of the nation.

Background: The vision of National Policy on Electronics 2019 (NPE 2019) notified on 25.02.2019 is to position India as a global hub for Electronics System Design and Manufacturing (ESDM) by encouraging and driving capabilities in the country for developing core components, including, chipsets, and creating an enabling environment for the industry to compete globally.

It is, therefore proposed to provide an incentive of 25 percent on capital expenditure on plant, machinery, equipment, associated utilities and technology, including for Research & Development to the industrial units making investment for manufacturing of electronic components, semiconductors, ATMP, specialized sub-assemblies and capital goods for these items, in the specified categories. 

EMC 2.0 Scheme also approved

The Union Cabinet chaired by Prime Minister Narendra Modi has also approved financial assistance to the Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme for development of world class infrastructure along with common facilities and amenities through Electronics Manufacturing Clusters (EMCs). It is expected that these EMCs would aid the growth of the ESDM sector, help development of entrepreneurial ecosystem, drive innovation and catalyze the economic growth of the region by attracting investments in the sector, increasing employment opportunities and tax revenues. The EMC 2.0 Scheme would support setting up of both Electronics Manufacturing Clusters (EMCs) and Common Facility Centers (CFCs). For the purpose of this Scheme, an EMC would be set up in geographical areas of certain minimum extent, preferably contiguous, where the focus is on development of basic infrastructure, amenities and other common facilities for the ESDM units. For a CFC, there should be a significant number of existing ESDM units located in the area and the focus is on upgrading common technical infrastructure and providing common facilities for the ESDM units in such EMCs, Industrial Areas/Parks/industrial corridors.

By Niranjana Mudholkar

TIME TO RESTART

It has been a roller coaster ride for many of us in machine tools industry. We saw market being upbeat about investments and also being very cautious one too, says **Siddhu Jolad**, MD, Radcam Technologies.



“We have done fair amount of business in the machine tool industry segment for last year. Although most of part of the year was spent on brand building we were lucky enough to encash good amount of orders.”

How would you analyse the machine tools industry's performance over the last one year in India?

It has been a roller coaster ride for many of us in machine tools industry. We saw market being upbeat about investments and also being very cautious one too.

Talking specifically about your organisation, how did you fare in comparison with the rest of the industry in the last year?

We have done fair amount of business in the machine tool industry segment for last year. Although most of part of the year was spent on brand building we were lucky enough to encash good amount of orders.

With concepts like Industry 4.0, Smart Factories and Digital Machining, customers today are demanding technological advancements like smart machines, connected machines and so on. How are you helping your customers on this front?

Our machines have always been top notch in the segment and were already equipped with 4.0 requirements. The machines are smart enough, robot compatible and automated to run without human interaction for a complete shift!!

Many machine makers are today supporting cus-

tomers through a well-equipped technology center. Tell us about your initiatives in this regard.

We have opened a technology center two years ago for India, the technology center houses a machine of each technology that we represent. This helps customers understand what's new with our machines and how they can benefit.

SMEs form a key component of the Indian manufacturing segment. However, their needs and approaches are different than those of the large enterprises. How are you catering to their requirements?

SMEs need a lot of educating as compared to big organisations, this forms a huge part of our sales cycle. They also need a lot of guidance and support in terms of before and after they migrate to new technology. But it has its own fun to deal with SMEs and with big organisations.

3D Printing or Additive Manufacturing is slowly but steadily creating its place in the Indian manufacturing industry as well. How do you see it impacting your business?

3D printing will carve its own niche in the market and it doesn't mean it will gobble up any other segment of it. There is enough scope of machine tools that existed since many decades to co-exist and do their part of the manufacturing as everything can't be done with one technology.

The year 2019 hasn't been a great year for Indian manufacturing and obviously for the machine tool industry as well. Do you see the situation changing going ahead? How much of an impact will the Corona Virus outbreak is likely to have?

Epidemics and pandemics have affected human race before Corona too. This will pass and industries will get back to business soon, but hopefully in better organised and equipped way I hope. This is a restart that no one could have afforded otherwise, and it better be an opportunity grabbed with both hands than a missed one. 

By Bino George

ELEVATE MACHINE HEALTH IN 2020

Technology can help manufacturers turn over a new leaf and strive for a more proactive approach to maintenance.

The manufacturing industry is extremely asset-driven. With increased customer demands in an ever-growing competitive landscape, manufacturers can no longer let the threat of a machine breakdown affect their production. To achieve Industry 4.0 and to prepare for a future where smart machines accelerate overall business success, manufacturers are increasingly focusing on predictive maintenance, remote monitoring and asset management issues.

Shortcoming and opportunities can come into sharp focus, along with commitments to improve and the funding to make it happen. For plant maintenance teams, a high volume of emergency service requests is frequently a top issue. Jumping from one urgent work order to the next is highly inefficient and disruptive. Fortunately, technology can help manufacturers turn over a new leaf and strive for a more proactive approach to maintenance. Predictive maintenance is becoming an integral focus in manufacturing industries to obtain operational efficiencies of equipment. Since the consequences of machine failures are too high, this ability to identify patterns and forecast potential equipment failure allows manufacturers to optimize equipment lifetime and minimise unplanned downtime.

DIGITALIZATION TO LAY THE FOUNDATION

Today, maintenance is seen as a key priority in the manufacturing companies, in India, keeping the opportunity to digitally transform the business. Once a plant is in reactive mode and is chasing emergencies, it is hard to get in front of the issue, especially if the equipment



is past its prime. Manufacturers often had to make do with outdated assets and patched solutions. Factories hungry for growth are racing to adopt digital technologies and deploy advanced innovations to increase responsiveness, agility, and customer engagement.

Digitalization will lay a foundation for improved productivity and reliability. Innovative concepts in Industry 4.0 can provide optimum support in predictive maintenance. The accelerating pace of technological adoption significantly reduces man-hours on maintenance, decreasing machine downtimes and repair time, constantly improving the production flow. The power of technologies and solutions such as 3D-printing, virtual reality, augmented reality, cloud computing, AI, IoT, with ERP, supply chain management and enterprise asset management (EAM) provide a competitive edge in addressing manufacturing needs in various areas of maintenance, production and warehouse management.

BEING PROACTIVE

In the age of digital transformation, EAM solutions eliminate silos and increase productivity across the company. It focuses on capturing data, analysing the data across assets and acting on the insights of the data for asset maintenance, a three-step dynamic condition-monitoring framework.

Enterprises are rolling out new customer-centric services - new partnerships are on the horizon, and key Internet of Things (IoT) and Artificial Intelligence (AI) initiatives are being tested. It is more important than ever that machinery and equipment perform as need-



“Predictive maintenance is becoming an integral focus in manufacturing industries to obtain operational efficiencies of equipment.”



Digitalization will lay a foundation for improved productivity and reliability. Innovative concepts in Industry 4.0 can provide optimum support in predictive maintenance.

ed. It is a high-stakes landscape. No company wants to risk highly-visible disruptions damaging credibility while in the midst of negotiating a merger or signing a multi-year customer contract.

This is why turning to proactive asset maintenance and Condition-Based Monitoring (CBM) is so important today. Manufacturers on the cusp of a new era need their machinery operating at peak performance. If current systems are performing as needed, technicians can focus on other priorities such as new deployments, embracing sensor technology, reducing waste, improving sustainability and scaling for expansion.

WHERE TO BEGIN?

EAM solutions are a necessity to tracking and monitoring complex plant assets. The more complex the asset, the more critical it is for systems to help manage the high-tech components. Computerized machinery with digital displays, built-in safety protocols, voice recognition and AI-assisted functionality often require version upgrades. Security updates and data back-ups are other ongoing tasks that modern cloud-connected equipment, like robotics, may require. Yesterday's

maintenance solution will be ill-equipped to keep pace with the challenges.

Modern EAM solutions, though, bring a wealth of features which make proactive equipment service feasible. Manufacturers can up-level their goals and re-set expectations, focusing on prevention rather than repair.

FINAL TAKEAWAY

Manufacturers are in a pivotal position. Opportunities for growth are within reach as market conditions improve and digital technologies promise to unlock new revenue models, automation, and customer alignment. Delays from unexpected downtime and the need for frequent emergency repairs can easily become a drain on the organization—just when optimal performance is needed most. From gathering data to asset management, adopting next-gen technologies are practical and critical to scale reliability, optimize operations and initial machinery investment. Asset management in any commercial or industrial organization—can help manufacturers run their equipment more efficiently and add longevity to those units by adding years to the life of assets. Setting resolutions to be more proactive will help the asset maintenance team make better use of resources, helping the enterprise feel confident about its critical shop floor equipment. 

The author is Director, Solution Consulting, Infor India

ZF AND WOLONG ELECTRIC JV TAKES OFF

ZF Friedrichshafen AG and the Wolong Electric Group Co., Ltd. have officially signed off on their joint venture. The partners will develop and produce electric motors and electric components for various vehicle applications at the Chinese Shenyang location, among others, working under the name 'Wolong ZF Automotive E-Motors Co. Ltd.'. Volume production is slated to start next year. The new joint venture will also supply components for the new ZF hybrid transmission.

"The joint venture with Wolong reinforces our market position and our competitive edge in China as well, which continues to be the biggest market for electromobility in the world," says Jörg Grotendorst, Head of the ZF E-Mobility Division. "As we're already using the available capacities for production and development on-site, we can start operations immediately." ZF holds a 26 percent share in the joint venture.

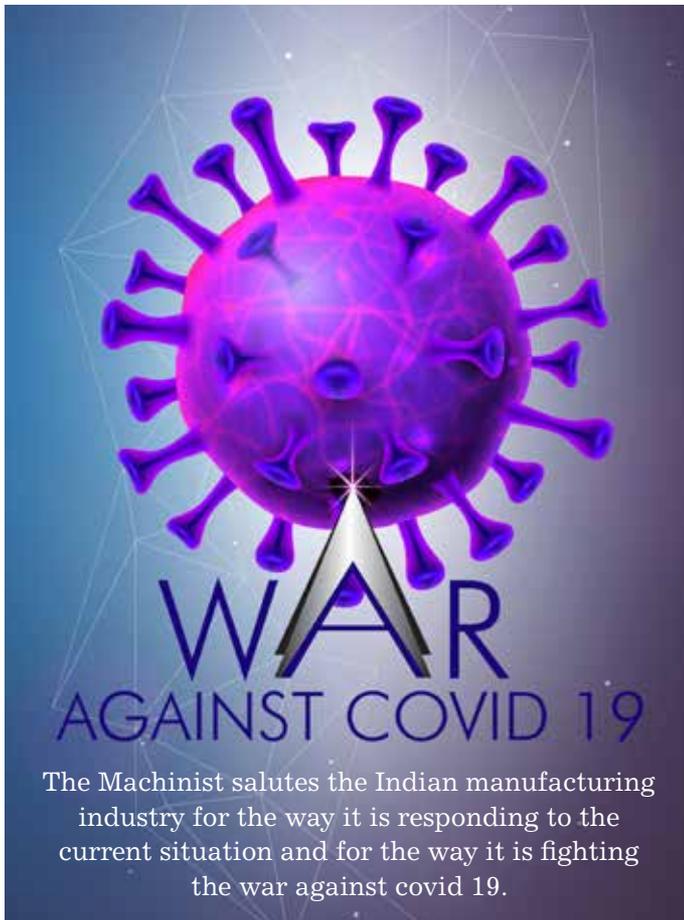
Wolong has been a supplier for the ZF E-Mobility Division in China since 2018. In November 2019, the partners agreed to start a joint venture.



A joint venture with a global outlook

Volume production for the Wolong ZF Automotive E Motors Co. Ltd. venture has been slated to start on the Chinese market in 2021. "Founding Wolong ZF Automotive E-Motors Co Ltd. also opens up a global perspective for us," explains Jiancheng Chen, Chairman of Wolong Electric. "We want to make this joint venture a global market leader for vehicle motors which use sustainable sources of energy." To back this ambition, plans have been made to open other locations in the EU and North America. By 2025, around 2000 employees are expected to work in production and development for Wolong ZF Automotive E Motors Co Ltd.

By Niranjana Mudholkar



Unprecedented! That's the first word that comes to my mind when I think of the global scenario today arising out of the covid 19 outbreak.

Never before has the world had to deal with a catastrophe of this scale, scope and spread. But it is here, and we need to deal with it as comprehensively as possible. And dealing with it requires new approaches. Like India's Prime Minister Narendra Modi has said 'the present situation is an epoch changing event in mankind's history and we must evolve to counter its impact'. Yes, the need of the hour is to evolve. While it is critical that the challenge must be faced collectively, every segment of the society and every component of the economy will have to come up

with its own method of tackling with the crisis and its aftermath. Likewise for the manufacturing industry; it must respond keeping one eye on the current scenario and another on the future. And given its track record, I am sure that the industry will understand, adapt and transform.

It is equally humbling (and a matter of pride) to see the way the industry has reacted and responded to the situation and the way it is fighting the war against covid 19. The industry seems to be following what Kamal Bali, President & MD of Volvo Group India has underlined in a message to all: "I want you to remember that humanity shines in the toughest moments. In the times of this crisis, I want all of you to SEE – Support, Empathise and Empower." This is exactly what the industry is doing today and I am sure it will continue to do so. Indian manufacturing has always taken its social responsibilities seriously and sincerely.

In fact, India's manufacturing organisations have always set high standards when it comes to CSR activities. Their participation in the war against covid 19 has obviously taken the role of CSR to another level. When Ashok Leyland or M&M open up their kitchens to feed covid 19 warriors or people affected by the crisis, it shows their resolve to make a positive difference. Whether it is producing face masks or ventilators or PPEs, Indian manufacturers are leaving no stone unturned in their efforts. Through this story, we endeavour to understand how the industry is contributing to the cause.

JCB India Ltd has partnered with Asian Institute of Medical Sciences, Faridabad to support the fight against covid 19. This project will be partially funded through JCB India's CSR initiative. The company has made a commitment to fund PPEs, medicines, testing kits, security suits and consumables for doctors



"We are all in it together, and when we do the right things, we will come out better off than before. We need to be prepared for a marathon post this pandemic."

Kamal Bali, President & MD of Volvo Group India



Manufacturing of face shields at Skoda Auto Volkswagen Pvt Ltd

and healthcare workers. This will jointly enhance the preparedness for comprehensive support to affected patients in Faridabad and surrounding areas during the covid 19 outbreak.

Subir Kumar Chowdhury, MD & CEO, JCB India said “We have initiated a multipronged prevention, mitigation and ongoing support strategy with Asian Institute of Medical Sciences to deal with covid 19 related patients. This is in line with keeping with our company value of supporting and enhancing the communities in which we operate in. We are certain that this partnership will provide the requisite assistance to the people of Faridabad, where our India headquarters is located. We are actively assessing similar initiatives in areas where our other factories are located.” Earlier in the covid 19 crisis, through its CSR initiatives, JCB India also commenced a significant ongoing response programme for distribution of food and essential supplies in communities where the company operates in.

Škoda Auto Volkswagen India Private Limited (ŠAVWIPL) has pledged financial aid of Rs one crore

Race to make in-house PPE overall

Indian Railways has taken up the in-house production of PPE type overall on a mission mode. An overall produced by Jagadhari workshop was recently cleared by a DRDO lab, authorised for the purpose. Approved design and material will now be used for making this protective overall by other workshops under different zones. This PPE overall will offer much needed protection to Railway Doctors and paramedics working on the front line of COVID care at hospitals of Railways. Facilities are being geared up in Railways to make up to 1000 such protective overall for Railway doctors & paramedics every day. Around 17 workshops would be striving to contribute to this exercise. Railways is considering to supply 50 percent of the innovated PPE garment to other medical professionals of the country. Material for all the overalls is being procured centrally at Jagadhari which is located near many big textile industries in Punjab. In the days to come, the production facilities can be further ramped up.

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We all are faced with an unprecedented challenge and the world has become as one community in its efforts towards arresting the spread of covid 19.

Dr. Raghupati Singhania, CMD, JK Tyre & Industries

towards the setup of the dedicated covid 19 facility by Pune based Sassoon General Hospital. The contribution is made towards essential medical consumables and critical care equipment for the medical team and patients fighting the covid 19. In addition, ŠAVWIPL is donating over 35,000 sanitizers to hospitals in Pune, Aurangabad and Mumbai and will distribute over 50,000 food packets in the Aurangabad region. The company is also producing reusable face shields within the Chakan factory which will be distributed amongst healthcare providers treating covid 19 patients. The company is also lending its support to Annamitra Foundation for distributing 50,000 food packets to the needy people in and around Aurangabad till the lockdown is lifted. The company is also looking at utilising its global supply chain capabilities to organise essential medical supplies that India needs to fight the covid 19 pandemic.

India's premier defence organisation, the Defence Research and Development Organisation (DRDO) has been tracking the spread of Coronavirus since the world media started reporting its devastating impact in China's Wuhan Province. In fact, the DRDO took a call in first week of March 2020 to enhance efforts to create counter measures to stop the spread of the disease in India. By then, the number of affected people in India had already crossed 30. It also started focusing on creating mass supply solutions of critical medical requirements, if covid 19 becomes a crisis. Accordingly, DRDO has four different items ready to be deployed in 'War against covid 19' including masks and sanitisers.

Springfit mattress is producing and donating two lakh face masks to support healthcare and other essential service workers across the country who are at the frontline battle against the covid 19 global pandemic. “Our thoughts and prayers are with the ones suffering from this pandemic and with the fearless healthcare workers who are caring for them 24X7. In the present circumstances, we will be making around 2,00,000 surgical masks in a month that will be donated across the country. We are also planning to have our two other factories follow the Coimbatore factory's lead for the next



Springfit is producing and donating two lakh face masks

several days. We are making the best possible use of our company's significant manufacturing capacity to provide our community with surgical masks. I believe if all the MSME come together and help country in such situation we don't have to look back for the issues what we are facing today," said Springfit's Director, Nitin Gupta. Also, to help ensure the supply to meet the continually increasing demands of the face masks over the next several weeks, Springfit will look to increase production.

Jindal Aluminium Limited (JAL) has contributed Rs five crore to PM's Citizen Assistance and Relief in Emergency Situation (PM CARES) Fund in order to help the government in the fight against coronavirus pandemic in India. Dr. Sitaram Jindal, Chairman, and Managing Director, Jindal Aluminium Limited said, "We are confident that India will conquer the covid 19 crisis. In this exceptionally difficult period, we have



We stand strong with the nation in this hour of crisis and will do everything within our capacity to win the battle against this deadly disease.

Dr. Sitaram Jindal, CMD, Jindal Aluminium Limited

made our humble support to the PM-CARES fund towards relief efforts. We at Jindal Aluminium Limited stand strong with the nation in this hour of crisis and will do everything within our capacity to win the battle against this deadly disease."

Ashok Leyland is actively working with the Government authorities and supporting them in tackling the covid 19 crisis. The company has aligned itself with the Department of Health and Family Welfare for various initiatives like supplying protective items like 3-ply masks, N95 masks, disposable gloves, liquid handwash, sanitisers, body suits for health service personnel and so on. Balachandar NV, President – HR, Communications, & CSR, Ashok Leyland, said, "We shall work with the Government at every step and stay supportive of all their initiatives in the coming days."

The Kalyani Group has pledged assistance via di-

rect contribution of Rs 25 crore to the PM CARES Fund to fight against the covid 19 pandemic. Baba Kalyani, Chairman, Bharat Forge Limited, said "The group is committed to assist the central and state government and the local authorities in all possible ways to deal with the pandemic. We are also using our group R&D facilities to look at ways of easing the shortage of critical medical equipment's including ventilators, Respiratory equipment and other sanitation/hygiene equipment. As part of our CSR activity we have started addressing the food requirements of the local community and will increase the efforts in the coming days."

The Godrej Group has also issued a statement expressing its solidarity with the nation in its fight against the covid19 outbreak. To start with, the Group earmarked a fund of Rs.50 crore for community support and relief initiatives in India.

Continuing its bid to support the country's fight against the covid 19, JK Tyre & Industries Ltd has implemented a series of public relief measures to ensure safety and health of citizens across plant locations in Mysore, Banmore, Kankroli, Chennai and Haridwar. In its ongoing commitment to extend support for immediate on-ground response, the company is reaching out to over 10,000 daily wage earners and migrants with food supplies in every region. JK Tyre has also organised medical health camps across 25 villages and conducted surveys in residential localities situated in the vicinity of its manufacturing facilities across India. JK Tyre realises the need for creating mass awareness at the community level and has been organising drives to educate the commercial drivers, suppliers and other vendors about the precautionary measures against spread of covid 19. To ensure safety of citizens in public places, masks and sanitizers are being distributed across all key locations.

Dr. Raghupati Singhania, Chairman & Managing Director, JK Tyre & Industries, said, "We all are faced with an unprecedented challenge and the world has become as one community in its efforts towards arresting the spread of covid 19. While we are ensuring the safety of our family and employees, there is a large section of society that remains deprived of basic facilities. We are humbled to play our part in the relief efforts aimed towards the marginalised communities."

Of course, there are many more organisations that are contributing in the war against covid 19 in every possible way. They all understand that it's going to be a long war but they are ready for it. As Bali of Volvo Group India says: "we are all in it together, and when we do the right things, we will come out better off than before. We need to be prepared for a marathon post this pandemic." 

BMW Group to invest EUR 30 bln for new tech

The BMW Group is embracing the transformation of the automotive industry with great confidence and investing heavily in research and development with a view to shaping the mobility of the future for the benefit of its customers.

In the context of the spread of coronavirus, the Chairman of the Board of Management of BMW AG, Oliver Zipse, pointed out in Munich on Wednesday:

“Solidarity and responsible action are called for. In our society it is the duty of the strong to protect the weak. The BMW Group therefore fully supports the measures aimed at containing the spread of coronavirus.” The BMW Group is responding to the foreseeable development in demand on the global automobile



markets by adjusting production volumes at an early stage and will make full use of the broad range of instruments available to it to maximise flexibility.

“New technologies are key to the future of mobility. Up to 2025, we intend to invest more than 30 billion euros in research and development to underscore our position as an innovation leader. This also expresses our confidence for the future business development,” said

Zipse. “The ability to integrate diverse technologies to form a complete system is vitally important. Those companies capable of developing and combining hardware and software in equal measure will shape the future of the automobile. In this respect, we are quite clearly in the fast lane.”

TKM recognized for safety practices Karnataka Govt.



Toyota Kirloskar Motor was recently awarded by Department of Factories & Boilers, Industrial Safety & Health, Government of Karnataka for its ‘Outstanding Performance in Best Safe Practices’ in 2019 at the recently concluded 49th National Safety Day celebrations in Bangalore. The award recognizes relentless efforts of TKM in creating an inclusive safety environment for its customers, employees and society altogether through their impactful initiatives. Toyota Kirloskar Motor team received the award from Minister for Labour & Sugar, A Shivaram Hebbar, Govt. of Karnataka.

Safety is one of the high priority areas and TKM has adopted a holistic safety approach – “safety first culture” with employees not only in the plant but across our value chain, Manufacturing Safe Cars, Developing Safe Drivers & Building Safer Environment. This belief, along with the company’s collaborative outreach has driven TKM to create advancements and innovations in safety. Besides, in-lieu with its vision 2025 “Grow India and Grow with India”, the company has committed all its concerted efforts to contribute for the enrichment of quality of life of society in areas of Safety, Technology and Quality by its strong Corporate Social Responsibility (CSR) initiatives.

Tata Motors Lucknow plant going green

Tata Motors Lucknow plant has minimized the use of energy in its functions and processes with its constructive and consistent efforts. The company’s Lucknow plant has adopted an Energy Management System (EMS), which has ensured a substantial reduction of 38 percent in specific energy consumption over the last four years, i.e. from 406 kWh / equivalent vehicle in FY2015-16 to 250 kWh / equivalent vehicle in FY2018-19. Tata Motors’ Lucknow plant is moving swiftly towards improving its energy efficiency by leveraging innovation, optimizing operations, implementing energy-efficient technologies, adoption of energy conservation measures, use of renewable sources of energy, low-cost automation and introducing employee suggestion schemes.



Speaking on the initiatives, Pramod Choudhary, Plant Head - Tata Motors Lucknow, “Environment protection features as a top priority agenda in our business and we have set the action plans for carbon emission control, energy conservation, water conservation, and waste management. Our Lucknow plant has always been cognizant of the need for energy conservation.”

Maruti Suzuki invites entries from startups

Maruti Suzuki India Limited (MSIL) invites applications from startups for the fourth cohort under its Mobility & Automobile Innovation Lab (MAIL) initiative. MSIL is now engaged with nine startup firms selected in the previous three rounds of MAIL program. In the first three cohorts, many enthusiastic startups submitted entries. Of these, best 25 firms from each cohort were invited for the next round. While the third cohort is still on, a total of nine startups were selected from first two cohorts of MAIL program. Under the MAIL program, applications are invited from startups working in the areas of mobility and automobile space. The winners get an opportunity to undertake paid proof of concept (POC) with Maruti Suzuki to develop business solutions for any live use case. The teams get opportunity of real time implementation of the solutions offered. Currently, seven POCs are underway in MSIL.

By Niranjana Mudholkar

MESSAGE IN A BOTTLE!

The local economy has been a major aid for the glass container industry, allowing manufacturers to grow even during these uncertain times, says **Rajesh Khosla** President & CEO of AGI glaspac

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

Glass packaging faces fierce competition from other forms of packaging in India. Despite the low per capita consumption levels, the country's glass container industry is buoyant, with rising demand from local beverage, alcohol, food, pharmaceuticals and cosmetics industries. The industry is experiencing a surge in demand, owing largely to the growing purchasing power, urbanisation, modern retail and increasing awareness about the environment, health and hygiene among consumers. The industry's success is likely to continue or possibly improve even further in the future due to rising disposable income and India's GDP rate in the medium term. The local economy has been a major aid for the glass container industry, allowing manufacturers to grow even during these uncertain times.

How the container glass manufacturing sector is helping FMCG and Pharmaceutical companies fight



"The manufacturers also use a cleanroom environment for glass manufacturing to prevent contamination in glass bottles. Hence, it avoids all kinds of contamination during the storage and supply of products for these companies."



Covid-19 through the supply chain mechanism?

Glass packaging has been one of the important sources of packaging for FMCG and pharma companies. Glass is the only packaging material with the GRAS status from the US FDA. The manufacturers also use a cleanroom environment for glass manufacturing to prevent contamination in glass bottles. Hence, it avoids all kinds of contamination during the storage and supply of products for these companies. On the logistics front, it has been difficult for us to supply to these companies. However, some of the state governments have now included the packaging industry under the list of industries exempted from the lockdown. The recent exemption of non-essential goods will help most of the factories with raw materials. The glass manufacturing sector should be proactive at this stage as the pharma and other essential sectors are putting their utmost efforts into fighting this crisis.

What are the challenges faced by manufacturing companies to deliver products during this lockdown period, and how are they tackling them?

The manufacturing companies faced a lot of trouble when it came to logistics as the lockdown curbed the movement of goods in and out of the districts. The government eased our efforts by including the glass manufacturing sector under essential services. The recent ex-

empt of non-essential goods will help most of the factories with supply materials. As the manufacturing sector faces a huge crisis when it comes to unavailability of raw materials, most companies have stored enough raw materials beforehand to run their business. Few companies will also have an added advantage when they have their own factories manufacturing the required materials, such as sand.

How the company is supporting some of the liquor industry who is providing helping hand to the Government to provide essential good supplies like sanitizers?

In recent days, our country has seen a huge demand for alcohol-based hand sanitizers due to the current crisis. Hence various stores across India have seen shortages for this product. To keep the supply in pace with the demand, we are partnering with some of our liquor clients to come up with bottles suitable for hand sanitizers.

What changes has AGI made to adhere with the government regulations in a fight against the current world crisis?

AGI has made various changes involving the following aspects: input material; workforce; and outward transportation. The input materials are various raw materials that are used for glass production. Soda ash, a primary raw material, has been stocked for up to two months to cater to the demand. AGI has its own sand manufacturing plant, but due to the lockdown, there are chances that certain operations will run partially. Oil, gas and other fuels won't be hit as the industry has informed us that there won't be any shortage. Machinery parts and cartons used for packaging have been stopped or delayed. We are looking at alternative options from local vendors. We have also driven various awareness programmes through banners, leaflets, workshops, etc., to bring in safety as the utmost priority for the workers. The company has also initiated temperature checks and sanitisation at entry and punching areas. Hot water dispensers have been implemented in various areas. The employees are only following virtual interactions for customer and internal meetings. All the outgoing and incoming transportation is being carefully monitored to avoid any spread of the virus. We have given



truck drivers proper awareness and information on the outbreak of the virus. Truck drivers are not allowed to enter without washing their hands. Hand sanitizers have been made available for the truck drivers and cleaners.

Tell us about some of the new innovations in the glass packaging solutions by AGI

AGI has recently provided the following packaging solutions:

- Offering a new tempering method for strengthening glass containers
- Creating a lightweight container in different geometric shapes
- Using newer technologies like single-stage forming to produce thinner but stronger glass containers
- Developing a coating on the surface of the glass to avoid strength loss
- Creating heat-resistant pyrex glass
- Creating internal embossing glass bottles

Apart from that, in 2019, we invested in natural gas to curb carbon emission. We also installed machinery like end-of-the-line packaging for robotic case packer, case palletiser, cullet washing system, automated dry optical sorting system, etc.

How is AGI growth of glass industry with plastic phasing out by 2020?

The demand for glass packaging is expected to grow exponentially by next year. AGI has already installed the additional capacity to meet the rising demand, and there is no shortage of glass. Narrow neck press and blow (NNPB) process can produce the best glass bottles, and the current trend is towards tempering, using appealing colours, and other value additions that will overcome the shortages and create a good supply chain to the consumer.

There won't be much cost involved as most of the pharma products till 2011 used glass, and hence switching back to glass is not a challenge. Already, stability data is available with all the pharma companies. The pharma companies that USFDA has already approved glass. With plastic phasing out in the next year, the demand for glass bottles is increasing substantially and even end consumers have started indicating a preference glass. An increase in the price of the glass bottles may be at regular intervals only with the increase in raw material costs. AGI has hence taken all this into

due consideration. One of the initiatives is our retail segment Greendrop Glassware, which deals with B2C and e-commerce.

How's been the business for AGI in the last one year and what's driving the growth?

In 2019, AGI invested in natural gas to curb carbon emission. We also installed machinery like end-of-the-line packaging for robotic case packer, case palletiser, cullet washing system, automated dry optical sorting system, etc. This investment in new technology has brought in innovations.

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

The domestic market constitutes 90 per cent, and exports form 10 per cent of our revenues.

Tell us about the overall manufacturing capacities and capabilities of AGI.

AGI glaspac creates an environment where innovation, research and development, as well as best practices, are an integral part of the working culture. Besides, all the manufacturing tools like business excellence, TPM,

invested in improving our manufacturing process, using cost-effective alternative raw materials, developing new products and ensuring the highest quality standards.

Locational Advantage: The presence of our units close to our customers' filling locations results in substantial savings in logistical and freight costs.

Enriching Client Relationships: We have forged meaningful relationships with our institutional clients; many of them have been associated with us for decades.

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

At AGI, sustainability is one of our key corporate values inspiring our employees every single day as they go about their work. We always strive hard to create sustainable value through our digital transformation efforts across industries and geographies. Some of our few initiatives are as follows:

Solar Power Facility: As a part of our sustainability strategy, we have added a renewable power source, solar energy, in our consumption portfolio. We have successfully installed a solar rooftop and ground-mounted solar power plant for 8.5 MW power capacity. The system is "On-Grid" and connected directly to our system. Annual estimated energy generation is 12,264 Mwh. These systems are future-ready and are gaining significant popularity as a viable means to reduce carbon emissions. The solar energy generation is not only contributing to green power generation but also helping us in rationalising the energy cost. We are planning to set up more 8MW power capacity of the facility shortly.

Waste Heat Recovery for Furnaces: At present, we use regenerators for waste heat recovery from the furnace. These generators potentially generate around 500 kW to 700 kW of electricity.

ESP to Reduce Emissions from Furnace: AGI's Electro Static Precipitator (ESP) is a filtration device that removes fine particles, like dust and smoke, from gas. It is designed to maintain Suspended Particulate Matter (SPM) concentration within permissible limits as specified by the State Pollution Control Boards.

Water Recycling Plant: Wastewater recycling helps us to minimise the environmental footprint. Recycling and reuse of the existing water and wastewater are critical to protect our precious resources for domestic, agriculture, commercial and industrial needs.

AGI's Natural Gas Supply Facility: AGI glaspac had made an agreement with Bhagyanagar Gas Limited and Gujarat State Petroleum Corporation for the supply of natural gas to Hyderabad and Bhongir, respectively. With these efforts, AGI is moving toward reducing the carbon footprint. 



The Company has also initiated temperature checks and sanitisation at entry and punching areas. Hot water dispensers have been implemented in various areas. The employees are only following virtual interactions for customer and internal meetings.

and so on have been introduced in manufacturing. Our customers love to work with us due to our differentiators, which are as follows:

Diverse Product Range: We are equipped to manufacture five ml to 4000 ml of glass bottles in various shapes, sizes and colours.

Broad-based Expertise: From mould making, quartz mining to printing-applied-colour labelling, we have a broad range of expertise. We also have in-depth technical knowledge of batch houses, furnaces, production processes, cold-end inspection and product packaging, which enable us to manufacture technologically advanced and quality products.

Accelerated Response: We are capable of rapidly adapting to changing customer preferences, consistently offering customised products.

Operational Excellence: We adopt the principles of continuous improvement, robust batch planning, minimal wastage and quality control.

Robust R&D: Our research and development team is

By Anand Srinivasan

CHANGING LANDSCAPE OF MEDICAL DEVICES INDUSTRY IN INDIA

Currently, India imports 80 percent of its medical devices and efforts need to be made to encourage manufacturing of medical devices locally.

The Healthcare Industry in India is one of the most important sectors not only for its social significance, but also in terms of generating revenue and employment. Due to increasing health awareness, penetration of health insurance and government healthcare schemes like Ayushman Bharat, the Indian Healthcare Sector is experiencing a new wave of opportunities. There are, however, some important challenges that the sector needs to address in order to make healthcare accessible, affordable and of consistent quality. As per a FICCI-KPMG report, India's healthcare sector is poised to touch a whopping US\$280 billion in size by 2025 and grow at a compound annual growth rate of 16 percent. Medical Devices industry is one of the most important industries in the healthcare sector to ensure safety and well-being of patients across the world. Currently, India imports 80 percent of its medical devices and efforts need to be made to encourage manufacturing of medical devices locally. With the right use of innovation and technology, medical devices need to be constantly improvised and upgraded to meet the highest quality of standards and global norms.



RIGHT FRAMEWORK

The Government of India made a very positive move last year by proposing a single regulatory framework for all medical devices to meet certain standards of quality and efficacy. India has approximately 800 medical device manufacturers, but standard regulation for materials used in medical devices still remains a major concern for the health sector. Currently, only 23 categories of medical devices are regulated in India under the Drugs and Cosmetics (D&C) Act and the recent concerns raised over the safety of patients requires bringing all medical devices under regulation. While the recent development from the Health Ministry to reach a consensus on the Medical Devices Bill to improve safety and promote domestic manufacturing

of Medical Devices is underway, it will be equally important to ensure the right use of raw materials to maintain the highest quality standards.

SIGNIFICANCE OF RIGHT MATERIAL

Selection of the right material for developing a medical device is the primary step considering parameters of functionality, logistics, budget, and prior standardisation set. Physical properties like density, transparency and electrical conductivity are essential for many devices and chemical properties like resistance to degradation through contact with lubricants, solvents, moistures or electromagnetic radiations also need to be critically noted. India is among the top 20 global medical devices market and is the fourth largest medical devices market in Asia after Japan, China, and South Korea. As per the industry estimates, the medical devices industry in India is poised to reach US\$50 billion and keeping in mind the potential of future economic growth from the medical devices industry it is evident that India is on its way to becoming future-ready. 



"With the right use of innovation and technology, medical devices need to be constantly improvised and upgraded to meet the highest quality of standards and global norms."

The author is MD, Covestro India

By Niranjana Mudholkar

ENGINEERING WITH EFFICIENCY

Improvement in efficiency in all spheres of activities is critical for Indian companies, who want to increase their business both domestically and internationally, says **Umesh Pai**, Managing Director, EPLAN Software & Services Pvt Ltd

The stated focus of Eplan is on 'efficient engineering'. What is the significance of efficient engineering in the current scenario?

Efficient Engineering is always significant, but more so now. Even if we ignore the current status of the world due to virus infection and assume world returns to normal slowly, for Indian companies who want to increase their business both domestically and internationally, improvement in efficiency in all spheres of their activities is critical. Since product usually forms the heart of any company's offering, engineering assumes a very critical paradigm. Various studies have shown that engineering or design stage can control the cost of a product upto 80 percent. So, any improvement in this stage greatly assists companies in reducing cost and being competitive without compromising on quality and time to market.

How are you helping your customers to accomplish efficient engineering?

We have a globally proven methodology to help customers in efficient engineering. We have a well-honed practise called "Eplan Experience" which has eight fields of action which help customers in all aspects of their product development right from conceptualization, product structuring, working with different domains, software, international codes and standards, design method, etc. So, our offering really starts from process consulting leading to engineering software followed by a thorough implementation supported by a team of global experts.

What role can automation play for realising the goal of making India a preferred manufacturing destination for the global companies?



It's rather a necessary condition to survive. Our customers compete with Chinese suppliers globally on pricing. So reducing cost without compromising on quality is imperative. We are talking of automation not only in the sense of manufacturing automation. We need to look at engineering or design automation as well so that our customers do very less error while engineering and respond to customers' requirements quickly, all this without adding more resources. It's their requirement to optimise their resources. Hence, automation is a one of the cornerstones in making India a preferred manufacturing hub. The demand is always to "do more", act quickly, delivery speedily and reduce cost or, at least, deliver at the same cost.

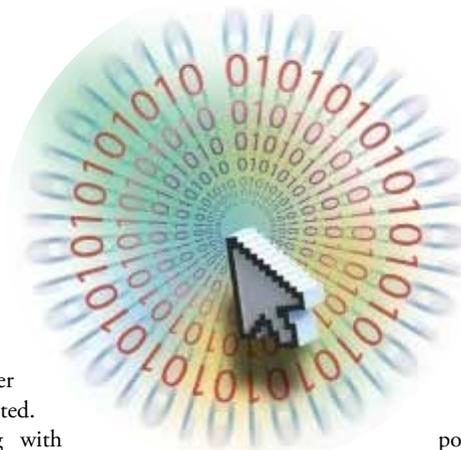
What exactly is the Eplan Data Portal? How useful is it for design engineers?

Eplan Dataportal is a repository of components with all the details that an electrical and automation engi-



"Various studies have shown that engineering or design stage can control the cost of a product upto 80 percent. So, any improvement in this stage greatly assists companies in reducing cost and being competitive without compromising on quality and time to market."

neer would need while he or she designs the product. Today our engineers spend a great deal of time looking for this kind of information either at their supplier websites or catalogues. The process also is prone with possibilities of human error other than lots of time getting wasted. Eplan works together along with these component manufacturers to provide our customers this data on our portal. This data is very significant for both the operators and suppliers, and has a great value in terms of manufacturing automation, simulation, maintenance, and asset management. In fact, this is one of our strategic initiatives to provide our customers with



The demand is always to “do more”, act quickly, delivery speedily and reduce cost or, at least, deliver at the same cost.

it Automation ML or any other evolving platforms/associations.

How important is it to create a digital twin for every product while implementing Industry 4.0 on the shopfloor?

Digital twin is indeed very important. It's the single source of truth when it comes to the shopfloor and Industry 4.0. However it's a rather complex topic and needs multilevel

coordination between factory owner/operator, system suppliers and their Industry 4.0 technology provider. But the intrinsic value of this twin is enormous and will scale up as one starts to explore the possibilities. For all the talk today, we still are at very early stage of exploiting this concept with very few technology providers who can do justice.

Similarly, end-to-end connectivity and digitally integrated enterprise initiatives are indispensable issues for manufacturing industries today. How can Eplan enable its customers on this aspect?

We do play a significant role in the overall scheme of things. As explained earlier, we have large broad based alliances with global system and technology providers we would be an important cog in the full system. When it comes to electrical and automation domain we indeed are a global standard when topics like digital twin, virtual commissioning are considered. I would say our strong alliances position us very strongly in the scheme of things.

Shopfloors need to continuously improve while optimizing their resources to stay competitive. Can Eplan help its customers on this front? How?

Of course, we can help. We in fact do this at two planes. One with system supplier by providing them tools to efficiently engineer their systems to the satisfaction of their customers. And with over all operator level, with digital twin concept fully implemented, the customer can actually do lot of simulation, what if analysis etc. to stay ahead of his enormous challenges and be competitive. 

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Digital twin is indeed very important. It's the single source of truth when it comes to the shopfloor and Industry 4.0. However it's a rather complex topic and needs multilevel coordination.

data along with our partners where we are doing significant investments worldwide. We have the goal of being a single and most authentic platform where in our customers can look up to get up-to-date electrical automation component data.

Interoperability and data synchronisation are extremely critical aspects in today's competitive manufacturing environment. Tell us what Eplan is doing on this front?

Absolutely correct. Interoperability and data synchronisation will rather be a multiplying factor for global team collaborate in real time and work in tandem. We are very happy to be associates of world leading software and system providers, be in the field of mechanical engineering, PDM/PLM, resource planning partners, automation software providers or in system houses. This in fact is one of our major strengths. We continuously strive to be up to date in this filed, be

By Niranjana Mudholkar

THE ART OF OPTIMUM PRODUCTIVITY

U C Dosi, Chief General Manager – Production at Jindal Aluminium Limited, explains how and why the Company leads the aluminium extrusions market in the country and is one of the foremost companies in aluminium flat-rolled products in India.



Tell us something about your manufacturing footprint and capabilities for both extruded products as well as for rolled products.

Jindal Aluminium Limited (JAL) is India's largest aluminium extrusion company having an inheritance that spans over 50 years. Started in the year 1968, the company's primary business is manufacturing of aluminium extruded and flat-rolled products. The company has a turnover of Rs.30 Billion (US\$ 435 mn) with a production of above 1.25 lac ton in the FY 2018-19. Jindal Aluminium Limited leads the aluminium extrusions market in the country and is one of the foremost companies in aluminium flat-rolled products in India. Apart from India, the company exports to 42 countries across the globe.

Presently, Jindal Aluminium Limited has about 30 percent share in the domestic market. It has more than 80 distributors for extrusion and 29 dealers for rolled products. With a wide range of aluminium alloys in its manufactur-

ing range, Jindal Aluminium Limited is the primary choice of customers ranging from various segments like architecture, aviation, defence, auto, electrical, electronics, engineering, façade, and solar to name a few.

Jindal Aluminium Limited's vision is to become the major supplier of quality aluminium extrusions and rolled products in the international market. The longstanding objective of the brand is to supply to its customers both in the national as well as a universal market with a product at a price, which to them embodies value, and is being delivered in a manner that surpasses their expectations.

While metrics like productivity and efficiency play a key role within a manufacturing organisation, what the customer values most is quality. What system does your organisation follow to ensure the quality of your products? What are the highlights of this system?

At Jindal Aluminium Limited, we lay a lot of emphasis on maintaining and improving our product's quality. In order to deliver customers with first-rate products without compromising on the quality factor, we have incorporated advanced equipment within our manufacturing unit: Below-mentioned are the highlights of these equipment:

Batch type Homogenizing Furnace for better finish and quality: Jindal Aluminium Limited has introduced



“The proper alignment of mechanical parts coupled with the continuous functioning of the press with no breakdowns has resulted in a higher productivity level and reduce our operating cost.”



batch type homogenizing furnace to refine the quality and finish of the products. With the enhanced homogenizing and correct microstructure of aluminium logs the surface finish of the aluminium profiles has majorly upgraded, which has resulted in scratch free products.

Intensive Cooling System to produce defect-free material: For all our round rods and critical profiles, we have an onboard high-tech intensive cooling system in our presses. This helps in producing the profiles without any distortion and deformation but also condenses our secondary solution treatment requirements to achieve good mechanical properties and hardness during extrusion itself. This has in turn helped to recover the product quality enabling us to produce defect-free materials.

Tunnel Furnace for uniform heating: We have introduced sophisticated automatic tunnel furnaces for heating the logs during the process of aluminium extrusion. Since these furnaces have a very good temperature controlling system and uniform heating system, we are able to extrude the material without any defects and with a better finish.

Polyurethane Rollers in place of PVC Rollers: On our finished extruded material handling conveyors, we have introduced Polyurethane rollers that have assisted to transfer the material with no scratches and roller marks, which in turn have upgraded our product quality.

Tell us about some of the advance manufacturing technologies used in your manufacturing plant/s. Tell us how these technologies are helping you in terms of productivity and overall efficiency.

To augment our productivity and to increase efficiency, we have been adopting and introducing the latest technology for the best operating efficiencies. Some of them are enumerated below:

Introduction of tunnel furnace: In order to heat the logs in our plant equivalently with a very close temperature, we have introduced tunnel furnaces in our extrusion presses. This has enabled the company to

generate defect-free extrusion with an enhanced finish with optimum productivity.

Refining the hydraulic oil quality: For the purpose of online cleaning of hydraulic oil, we introduced a cutting-edge oil filtration system, which abridged the levels of oil adulteration to a great degree. It has helped us to reduce the breakdown owing to the failure of a sophisticated hydraulic system due to oil contamination. It has also abetted us in running the plant unceasingly without any breakdown, which in turn has added value to our productivity.

Intensive cooling system: By introducing this innovative technology, it has assisted us to reduce secondary correction by manufacturing defect-free material with preferred mechanical properties. Because of this, we are able to produce superior quality products without performing any recurrent correction work. Additionally, these technologies have majorly contributed in saving our manpower and additional manual processing.

There is an increasing pressure on manufacturers to keep their prices competitive in the face of a bad market and intense competition. How are you reducing costs at the shop floor level?

Comprehending the current market conditions and the intense competition prevailing in the industry, JAL has undertaken the following steps to retain our competitive edge:

Increasing the breakthrough pressure: By surging the breakthrough pressure, we are capable to extrude most of the profiles at a much faster speed. The art is that productivity should be just optimum, as a very high productivity may distort the extrusion. This is where our experience of 50 years comes in handy.

Very low plant breakdown: Our plant breakdown is one of the lowest in the industry. We have been able to reduce it by ensuring that all the important parts of the plant are checked periodically so that our presses function seamlessly without any failure. The proper alignment of mechanical parts coupled with the continuous functioning of the press with no breakdowns has resulted in a higher productivity level and reduce our operating cost.

Shortening dead cycle time: After monitoring the hydraulic process, we have marginally revised the hydraulic circuit by diverting unused oil of the press to be used to reduce idle press speed which has amplified press speed and abridged the total dead cycle time, the end result being better production.

Upgradation of the quality of water: By maintaining good water quality with unceasing purification and the addition of beneficial chemicals to evade the for-



mation of algae, we are able to maintain water quality which is utilised for the purpose of cooling hydraulic oil in the press. This supports us to improve and preserve the temperature of the oil and curtail failure of hydraulic components.

How do you perceive the role of your supply chain partners? What are your expectations from them?

We have a network of distributors, retailers, who play a crucial role in making our product available throughout the country and meeting the demand of the end-consumers.

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By surging the breakthrough pressure, we are capable to extrude most of the profiles at a much faster speed. The art is that productivity should be just optimum, as a very high productivity may distort the extrusion.

Supply chains all across the globe are becoming instantaneous in movement and innovation. Hence, adding a competent supply chain partner can surely lend a company powerful and a planned leverage to meet novel trends and customer demands without having the need to make substantial infrastructure investments. While planning to get associated with a supply chain partner, we put a lot of importance on factors like the distributor's and retailer's ownership and location. This is because depending on the location they operate; we estimate if our company has a demand in that particular region and also gauge if we strategize to have any plans of expansion in those markets. We undertake a proper cultural understanding of how business is executed wherever our partner is based. We also expect our partners to be financially stable and they must be equipped with disaster recovery plans, cash-on-hand, footprint estimates, sourcing areas and costs, and customer concentrations. Comprehending these factors enables us in adding utmost value to our partnership.

Where does 'Safety' feature in your priority list?

The aspect of safety is of paramount significance for us and is one of the top-most priorities. Jindal Aluminium Limited has been following all the safety norms and guidelines without any compromise. All our aluminium plants are absolutely free of any hazards and on an everyday basis with tonnes of aluminium are safely melted, casted and extruded. The company has a vigorous management system framework which ensures safety consciousness through sound safety measures, process safety management and an integrated emergency response. Our security and prevention measures are directed towards safeguarding the health of our employees, contractors and site workers, thus ensuring there are no fatalities. By continuously advancing our cautionary practices we safeguard to control and mitigate potential health hazards.

Due to growing environmental awareness, manufacturers are working towards converging economic and ecological objectives at the production and logistics levels. Tell us about this in the context of your manufacturing operations.

The company strives hard to abide to the environmental guidelines and follow ecological practices at our production and logistic level. Mentioned below are a couple of sustainable strategies that are followed in our manufacturing operations:

Conversion of the furnace from oil to gas: Initially, our furnaces were running with FO & LDO, which have been converted to LNG. This conversion has not only condensed our pollution level but has also reduced the ambient temperature in our plant and neighbouring areas. Additionally, our cost of production has also been cut down since the gas requires no atomizing, which has helped in reducing the power consumption value.

Automatic storage and transfer system: We have introduced an automatic vertical log storage system for the purpose of storing the logs for extrusions. This has enabled us to store the logs vertically. Along with saving a lot of storage space, the automatic storage and transfer system have helped us to shrink manpower.

Upgrading the performance of melting furnace: We have altered the refractory material in the furnace with superior quality one, which helped us to run the furnace unceasingly for about 6 to 9 months' time. Along with reducing the breakdowns of the furnace, it has also reduced our needless maintenance and saving of time and materials. This further contributes towards saving a lot of manpower and materials. Additionally, our production cost and fuel consumption have also been reduced majorly. 

By Niranjan Mudholkar

EXPLORING LIMITLESS POSSIBILITIES

Additive Manufacturing is at the cusp of industrialisation globally. It has moved from being used only in Prototypes to be a part of every company's manufacturing plans, says **Sridhar Balaram**, Founder & MD of Intech Additive Solutions



How's been the journey so far?

In 2011, when we were recovering from the after math of the Lehmann Brothers, I developed a hunger for innovation and started thinking out of the box. While I was researching out on Laser Induction Hardening, I hit upon Laser Sintering. The technology was so exciting with limitless possibilities and many application ideas poured in. I had sleepless and sleepless nights for more than a week. The fact that this technology was novel and in line with my line of work and interest motivated me to initiate a start-up in 2012.

We started off as service provider in metal 3D printing with our first machine in 2014 with a great urge to achieve novel heights and to be a first of a kind service provider. As we made our journey in this technology we realised that there were gaps to be filled in this technology. To fill the gaps, we started working on our first Software, AMOptoMet, a parameter optimization software that provides right parameters with better surface finish thereby reducing the time on Design of Experiments (DOE) and R&D for building 3D parts "Right First time". This software is a first of its kind in the Additive Manufacturing (AM) industry which entailed the need for the AM technology in India,

As we moved ahead with the machines servicing the AM industry, A strong urge under Make In India

concept fuelled us to start the manufacturing of our own 3D printing machines in 2017 and after three years of R&D, we launched the first commercial grade Metal 3D printer "iFusion" designed, developed and manufactured by us - to the AM community during Intech 2020.

During the process of building the printer, we saw the need of simple and easy software to for the prebuild process and thus AMBuilder was envisioned in 2018 and is going to be a reality very soon in 2020.

We have thus come a long way from being simply a service provider, to a complete end-to-end solution provider enabling us to be a lead player in the field of digital manufacturing.

Briefly share some information about the most interesting project undertaken by Intech till date.

We have not been an equipment manufacturer in the entire journey of our manufacturing avenues. The development of iFusion series of 3D printers has been the most interesting project that we have taken up and have been successful with the launch of the printer. This project has provided us to unveil the strengths that a country like India is capable off. iFusion series of printers is completely designed, developed and manufactured by young engineers of India at our Bangalore facility at Intech.

How would you analyse the evolution of additive manufacturing both in India as well as globally?

Additive Manufacturing is at the cusp of industrialisation globally. It has moved from being used only in Prototypes to be a part of every company's manufacturing plans. As AM matures with newer manufacturing technologies, increased applications, larger and highly productive machines, newer alloys and software which drives the hardware, costs are decreasing, making the process more productive, hence driving the industrialisation of AM. While India has been a bit behind the curve and has some catching up to do, there has been a lot of work off late happening in India and it is a question of time before this technology will reach the same levels as in the industrialised countries



“Business will never be the same again mentally, emotionally, financially. Corona Virus has and will have a deep impact on business for some time to come. However I anticipate recalibration of business and process post the war against Covid 19.”

Tell us more about the different types of this technology.

Additive manufacturing (AM) can be described as a technique of blending materials by either fusion, binding, or solidifying materials such as liquid resin and powders. It builds part in a layer-by-layer fashion using 3D CAD modelling. The terminologies such as 3D printing (3DP), rapid prototyping (RP), direct digital manufacturing (DDM), rapid manufacturing (RM), and solid freeform fabrication (SFF) can be used to describe AM processes.

Some of the most common types of 3D printing technologies in use today and to name a few such as Stereolithography (SLA), Digital Light Processing (DLP), Fused deposition Modelling (FDM), Selective Laser Sintering (SLS), Selective Laser Melting (SLM), Electronic Beam Melting (EBM), Laminated Object Manufacturing (LOM), Binder Jetting (BJ) & Material Jetting (MJ) are a few.

Each process and piece of equipment has pros and cons associated with it. These usually involve aspects such as speed, costs, versatility with respect to feedstock material, geometrical limitations and tolerances, as well as a mechanical and appearance properties of the products such as strength, texture and colour.

3D printing uses two materials for printing across industries namely polymers and metals. One reason Metal 3D printing has become such a hot topic is that parts can be serially 3D printed for Low mass production. In fact, some parts created with metal 3D printing are already just as good, if not better, than those manufactured by traditional methods.

Selective Laser Melting (SLM) and Direct Metal Laser Sintering (DMLS) are two metal additive manufacturing processes that belong to the powder bed fusion 3D printing family. Both SLM and DMLS are used in industrial applications to create end-use engineering products.

Which are the ideal applications of additive manufacturing?

Additive manufacturing initially was started a process for concept modelling and rapid prototyping. AM has expanded over the last few years and is applied in many areas of our lives. From prototyping and tooling to direct part manufacturing in industrial sectors such as architectural, medical, dental, aerospace, automotive, furniture and jewellery, new and innovative applications are constantly being developed. To fit to an industry, AM can be used in the ideal applications such as fully functional prototypes, production tools, tooling such as molds and inserts, rigid housings, ductwork, spare parts and heat exchangers and heatsinks to name a few.

What are the key advantages of additive manufacturing vis-à-vis traditional manufacturing?

Since the introduction of AM in the 1980s, the benefits of producing small amounts of complex parts have been well understood to manufacturers. With new technology evolving and so many companies adopting AM in recent years, more and more advantages are being explored. Some of the key advantages of AM are:

Reduced Tooling Costs: A major cost driver in manufacturing is tooling cost, and for many low-volume manufacturing companies it can be a sizable impediment to entry because it requires a significant amount of capital expense before the first unit is produced. However, additive manufacturing uses tools built on site at a fraction of a cost of traditional tooling.

Quicker Speed to Market: A critical method for churning out a complex part to the market is to reduce production lead time. By leveraging additive manufacturing, an organisation can enter a new market in days, not weeks or months.

Easily Test Complex Component Geometries: Bringing a complex component to market carries much more risk than something that has a more simplistic design because more can go wrong with complex geometry. To de-risk a product launch, it's important to test and retest the designs so that when your company enters the market, you've already worked out the failure modes associated with a specific design.

Traditionally, this was done after production tools were cut and the initial parts were produced from them. This required new tooling or tooling adjustments, which often carry expensive price tags and schedule impacts.

Better Component Quality: Components that have



intricate parts, especially small components, can benefit from the additive manufacturing processes. Typically, components with small moving pieces require strict manufacturing tolerances and highly controlled assembly processes to reduce the number of component defects. Using the additive manufacturing technology of today, manufacturers can print entire components, moving pieces and all, with extremely precise tolerances. Thus, improving product quality and reducing failure risk.

Aerospace manufacturing uses a variety of materials like steel, aluminium, titanium as well as different plastics. How is additive manufacturing addressing this material complexity?

Aerospace industry was one of the first to embrace additive manufacturing globally with the American and then European aerospace majors using AM extensively. Over the years, the aerospace industry has certified more and more parts which can be manufactured through AM. The demand from aerospace majors is what made the powder manufacturers come out with aluminium, titanium and steel alloys that can be used for metal AM and so is the case with plastic also.

How can one be sure of the structural integrity of a metal component made using additive manufacturing? Also, is it true that many components (made with additive manufacturing) require post-process machining? How does this impact the manufacturing process from the cost and time perspective?

Thanks to the efforts of well-known educational institutes globally, there has been a lot of R&D on the mechanical properties and structural integrity of all parts which are being manufactured using AM. Apart from this, R&D by alloy manufacturers, equipment manufacturers and some large service bureaus have ensured that AM is accepted not only for industrial use, but also in the medical and dental industry.

Post processing is one of the operations of an AM set up. Some amount of post processing is required after any additive manufacturing activity in order to bring out the required characteristics. While post pro-

cessing does have an impact on costs, many companies are investing in post processing equipment which increases productivity and drives down costs.

Has the corona virus outbreak affected your businesses? In what way and how are you dealing with the same?

Business will never be the same again mentally, emotionally, financially. Corona Virus has and will have a deep impact on business for some time to come. However I anticipate recalibration of business and process post the war against Covid 19. Digital manufacturing will emerge as a result.

At Intech, we have halted our manufacturing and are using our time to realign our focus, our vision and mission. Our teams are busy, re-grouping and re-strategizing. We have charted a long list of activities covering online reskilling and training activities including virtual research & knowledge accreditation, use of digital tools, teamwork and closing in on existing gaps. It's business as usual for the software teams. We are also encouraging teams to read more and indulge in brain exercising.

What do we need to learn from this pandemic?

The way we look at business is going to change, at least for some time to come. A strong pursuit for advanced technology is geeky. There will be a big thrust for Make & Made in India. Government of India is most likely to enhance its support to such initiatives.

You have been a serial entrepreneur in the manufacturing industry. That's a rare breed given the complexities of scale and scope related to the different industry sectors that you operate in. What inspired you to do so?

Establishing and working across several engineering industries has equipped one with a lot of knowledge and experience. Exposure in a steel foundry, induction hardening shop, machine shops, and so on has been a boon. Everything I did has been around metal forming and its treatment. Managing of part to product level experience has louvered the bandwidth of engineering for me. Although I had established several small engineering firms and technology, I was unsatisfied. I felt there was a gap and I had not reached my best potential, so I continued my hunt for my engineering satisfaction. With this knowledge level and the hunger to do something different drove me to look out for a novel business and Direct Metal Laser Sintering was the right one! 

By Rajeev Kaul

STRATEGIC ADVANTAGE

Skill development programs allow an organisation to remain agile and prepare for future disruptions while staying ahead of the curve.

The rapidly changing global manufacturing landscape demands upskilling. The reason is simple: digital transformation has redefined the nature of work across major industries.

Future jobs will require an entirely new set of skills and competencies from the workforce. With over 600 million people below the age of 25 years, India has one of the youngest workforces in the world. This means that they need to be equipped with the right skills to help the country remain globally competitive. Skill development initiatives and reskilling programs are critical in creating the workplace of tomorrow.

Skilling in the manufacturing sector: With India poised to become a preferred destination for manufacturing, businesses need to realign their strategy to make skilling a key priority. The government has already initiated several programs such as 'Make in India', 'Skill India' and 'Digital India' to leverage the potential of the country's large pool of workforce and accelerate economic growth. A skilled workforce will be able transform India into a global manufacturing hub in this decade. In recent years, India's aerospace manufacturing industry has witnessed global OEMs expanding their horizon to the country to globalise their supply chain in a cost optimized manner. The industry is currently booming and has leveraged global tendencies to deliver the best quality of products.

Need for skilling in aerospace manufacturing: Con-



sidering that aerospace manufacturing industry follows a 'zero-error' policy, it demands a highly specialized skillset for these critical processes. Even though the industry is very aspirational, it is niche in terms of its approach and skills. There is a scarcity of quality aerospace centric education and vocation training in engineering colleges. This has increased the existing skill-gap extensively.

In light of this skill gap and lack of awareness, aerospace companies encourage talent with mechanical, electrical and electronic engineering education background suitable to upskill. The organisation provides them training and upsills them to meet the requirement. Similarly, 'Training and Development' is another key focus area to enable existing employees to reskill themselves continuously and meet the dynamic job requirements. This reduces wastage of raw materials on the shop floor while improving efficiency and speedy adoption of new technologies.

Learning with Aequus: As one of the global leaders of precision engineering and manufacturing for the aerospace industry, Aequus realised the need to bridge this skill gap and to nurture skilled talent to make India the manufacturing hub for aerospace industry. The company introduced Aerospace Knowledge Center (AKC)



"In recent years, India's aerospace manufacturing industry has witnessed global OEMs expanding their horizon to the country to globalise their supply chain in a cost optimized manner."

Candidates trained under the defined training modules of AKC		
Level	Skills	Number of candidates trained
Level 1	Basics of CNC machining, quality, production & engineering	620
Level 2	Advance concept on CNC complicated parts machining, ME, production planning, quality, FMS	236
Level 2	Functional aspects of Aerospace parts machining	93

to provide a 30-month long program to fresh engineering graduates and diploma holders.

The primary objective of AKC is to bridge the knowledge gap by helping new recruits understand industry norms, applications and enhance their performance. The course is split into three levels. The level 1 comprises of basic training and qualified candidates move to level 2 for advanced training. Once both these levels are completed, they move to Level 3 to receive function-based training. Through such systematic training, companies can prepare the workforce to re-

ceive optimal productivity and quality. AKC has successfully trained over 620 candidates till date.

Besides this, Aerospace Knowledge Center has also been partnering with engineering colleges and technical universities to include aerospace manufacturing as part of their curriculum.

Skill development programs allow an organisation to remain agile and prepare for future disruptions while staying ahead of the curve. 

The author is MD & CEO, Aequus Aerospace

Toyota & Hino to jointly develop fuel cell truck

Toyota Motor Corporation (Toyota) and Hino Motors, Ltd. (Hino) have agreed to jointly develop a heavy-duty fuel cell truck, and to proceed with initiatives toward its practical use through verification tests and other means.

For the electrification of commercial vehicles, the optimum powertrain must be adopted to ensure both outstanding environmental performance and just-right practicality as a business vehicle in terms of cruising range, load capacity, and other aspects depending on the usage. Heavy-duty trucks are typically used for highway transportation; therefore, they are required to have sufficient cruising range and load capacity as well as fast refueling capability. For this reason, fuel cell vehicles that run on hydrogen with its higher energy density are considered effective. The heavy-duty fuel cell truck in this joint development project is based on Hino Profia, and is being developed

taking maximum advantage of the technologies both Toyota and Hino have cultivated over the years. The chassis is specially designed with the optimum packaging for a fuel cell vehicle, and steps are being taken through comprehensive weight reduction to ensure a sufficient load capacity. The powertrain is equipped with two Toyo-

ta fuel cell stacks that have been newly developed for Toyota's next Mirai and includes vehicle driving control that applies heavy-duty hybrid vehicle technologies, developed by Hino. Also, cruising range will be set at approximately 600 km, aiming to meet high standards in both environmental performance and practicality as a commercial vehicle.



Xpeng P7 receives permit for U.S. road tests

The Xpeng P7 received its import permit for research purposes from the National Highway Traffic Safety Administration

(NHTSA) of the U.S. Department of Transportation (DOT) last week. Such permits allow vehicles manufactured outside the U.S. to be tested on public roads in the United States. Xpeng Motors has also received a renewed Autonomous Vehicles Testing Permit from the Department of Motor Vehicles (DMV) of the California State Transportation Agency. These qualifications mean that the Xpeng P7, equipped with advanced Smart Electric Platform Architecture (SEPA), has met all the requirements of the U.S. Customs and Border Protection (U.S. CBP) for imported vehicles, and can conduct road tests in California. "Testing on the roads in the US will supplement the tremendous amount of tests we've already done in China. It's another step forward for our closed-loop R&D approach to autonomous driving, including developing full-scenario vehicle perception capabilities, positioning, planning, decision-making, testing and upgrading. This is the only way to maintain our long-term competitive advantage," said Dr. Xinzhou Wu, View President of Autonomous Driving at Xpeng Motors.



MEASURES TO DEAL WITH LOCKDOWN

Industry body makes a range of suggestions for easing the stress of the industry and economy in the current testing times.

As the nation battles the outbreak of the novel Coronavirus, going for lockdown for 3 weeks, CII has emphasized on the need for ensuring smooth supply of essential goods and continuity and sustainability of businesses during this challenging time. While the government is continuously announcing measures to reduce the stress from lockdown and ensure continuing flow of essential goods and services, CII has identified an exhaustive list of measures that need to be introduced on urgent basis.

“It is crucial to ensure that the lockdown of the country is as painless as possible. We acknowledge a series of landmark initiatives being introduced by the government on continuous basis to reduce the pain of society and the economy. We appreciate various measures undertaken by the government to facilitate sustainability and continuity of businesses in the country. CII shall continue supporting the government in its initiatives by providing regular feedback from the industry,” stated Dr Chandrajit Banerjee, Director General, CII.

In the latest note to the government, CII has made a range of suggestions for easing the stress of the industry and economy in the current testing times. Some of the key suggestions include the following.

One, while the government has permitted the suppliers of essential commodities to operate during the lockdown period, transportation bottlenecks of various nature have led to serious challenges across states. We must work in the direction of addressing these bottlenecks urgently, which would include measures like prioritizing trucks carrying essential goods for fast clearances at check-posts, reducing multiple checks and

stoppages by police, ensuring provision of food and water for drivers on the route, and relaxing payment of toll tax during the lockdown period.

Two, lack of staff of various stakeholders, including customs, CFS, logistics etc. in the trading eco-system has resulted in inordinate delay in delivery of essential items and likewise delay in export of essential items. Customs, Port Terminals, CFS are facing difficulty in clearances of even essential commodity due to lack of availability drivers, forklift/top lifter crane/kalmar operators, labor etc. Staff under this category need to be facilitated

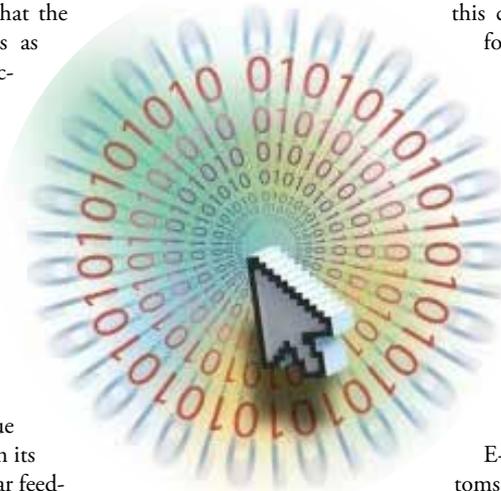
for reporting with necessary precautions. There is also need to waive off the late fees on delayed filing of Bills of Entry, demurrage and detention charges on the traders. The ICEGATE should also be updated not to calculate late filing fees upto 30th April.

Three, all exports shipments of essential and emergency commodity, which are self-sealed by

E-Sealing provision of the Customs, should be considered as direct Let Export Order and should be allowed Direct Port Entry instead of being routed

through parking plaza with a lot of human interaction. Trade financing has also become an issue as physical submission of documents to bank is currently difficult. To overcome this, businesses may be allowed to submit the necessary documents online in a secured manner. Four, the government may consider duty exemption for items being imported for fighting the COVID-19 pandemic, like protective body gear, isolation chambers, ventilators, testing kits etc.

Five, while essential commodities attract a penalty, if order fulfilment is not done in stipulated time to government bodies, no Penalty should be levied for the



time being, as the industry is facing severe crunch of Manpower, Raw Material and packaging materials.

Six, the government may consider including soaps, handwash, sanitizers and packaging industry as 'Essential Commodities' so that their production and supplies continue. Hand Sanitisers are unaffordable for the common people. Reduction of GST from the current level of 18 percent to nil would help in making it more affordable. Also, fumigation / pesticide service providers should be included in the list of essential goods so as to help the private sector to share the responsibility of sanitization with the government.

Seven, many educational and higher centres of learning are developing medical equipment and products such as a low-cost test kit for the virus and high efficacy sanitizer. They should be encouraged to transferring the technology to the industry on a royalty basis.

Eight, with the financial year coming to close, it is important to allow a fraction of the staff in banking and financial services to work onsite to complete international client obligations like book closure and regulation filing between last week of March and the first ten days of April 2020.

Nine, MSMEs in this challenging time need to be treated with special care. CII recommends that interest

rates for their borrowing should be reduced by at least 2 percent for next one year. Also, essential commodity manufacturers SMEs should be allowed 20 percent-30 percent additional working capital for 3-4-month, without the need of additional collaterals or securities. State/Central government should speedily clear the pending dues on SMES engaged in provision of essential commodities.

Ten, there is ambiguity in interpretation of 'Essential goods and Services' and their supply chain across states. The government may consider having a uniform definition of 'essential goods and services' across all states to include IT/ITES/ Telecom/Banking, financial services, among others. Further, with view to cut time in seeking approvals and reduce burden of the authorities, companies in this challenging time should be allowed to self-certify for undertaking production, transport, distribution etc of essential goods and services.

"We are confident that these recommendations would prove to be helpful in minimizing the pains of the lockdown. We remain committed to work with the government and provide our regular feedback in this time of COVID-19 crisis, which is impacting one and all," stated Banerjee. 

FUND FOR MSMES TO TACKLE COVID-19

The Confederation of Indian Industry (CII) has announced setting up of a CII COVID Rehabilitation and Relief Fund (CRR) to assist small enterprises or MSME in rehabilitation. This decision was taken by a CII Forum on Covid-19 which is leading industry response measures to the Coronavirus pandemic.

Following widespread discussions with MSME members across the country, specific measures have been suggested by CII to curtail the impact of Coronavirus on the MSME sector. "Multiple actions need to be taken on extension of bank loans, a special fund, steps regarding filing of GST and improving welfare of workers. CII stands ready to support MSME sector in this hour of need through the CII COVID Rehabilitation and Relief Fund," stated Shreekant Somany, Chairman, CII National Council on MSME.

With MSME facing a cash crunch, CII requested for additional ad-hoc sanction of working capital to the tune of 25 percent of sanctioned limit as a relief measure. The industry body suggested deferment of EMIs and interest rate on working capital as well. Setting up of a special MSME Factoring fund to

enable MSMEs to discount their bills to approved retailers in 15 days and permit retailers to pay in 120 days would help in faster realization, said CII.

Creation of a corpus by the Government to help MSMEs tide over the crisis would help them to pay wages, according to CII. Extension of NPA norms in genuine cases to 150 days from the present 90 days and if required by industry, ad-hoc limits to an extent of 25 percent of sanctioned limits may be allowed by banks on SOS basis to overcome temporary liquidity crunch, would also provide temporary relief, said CII.

Measures for improving welfare of the MSME workers during the temporary shutdown period are required as well, said CII. Some of these could include supporting laid off workers during the crisis period, handling the statutory compliance of compensating workers in case of shutdown and exploring insurance cover options through the Employee State Insurance Corporation (ESIC), 90 days extension for payment of Employer's contribution of PF and ESIS, Insurance cover or part financing wages for those laid off due to Corona Virus through ESIC or new Govt Schemes, allowing of CSR funds to support payment of wages to laid off Workers, among others.

GUARANTEED 5 MILLION CYCLES AT A LOW PRICE

New chainflex M control cables have a 20 percent thinner structure and save space in the energy chain

With its advanced chainflex M cable series, igus now proves that quality and low price are not mutually exclusive. After four years of research, the motion cable specialist presented the new control cables CF880/CF881 and CF890/CF891 at SPS. An up to 20 per cent thinner cable structure ensures lower bend radii. This allows the user to save installation space inside the energy chain and they are cost effective. The chainflex M series has a tested service life of five million cycles and comes with a 36 month guarantee.

A good e-chain cable at a small price! That was and still is the promise that drives the chainflex M series of cables, which igus introduced for the first time in 2013. Since then a lot has happened not only in mechanical engineering but also in cable development. Due to the increasing automation in the industry, faster and faster machines are called for. Accordingly, the development of lighter and smaller cables is required to reduce high accelerated masses. That is why igus is keen on further developing its cost-effective cable series without increasing costs. The first breakthrough came in 2015: instead of one million guaranteed cycles, the manufacturer promises a service life of over five million cycles, and all at the same price. Just in time for SPS, igus presented its next development success: "Thanks to a new structural design, we can produce chainflex M control cables that are up to 20 per cent thinner. Our customers benefit from this because the cables have a smaller bend radius and take up less space in the energy chain. The user can save costs in this way," explains Rainer Rössel, head of chainflex cables at igus GmbH. The new chainflex M cable series is now available as control cables with PVC (CF880/CF881) or igusPUR outer jacket (CF890/CF891) with or without shield. The cables are very suitable for short travels on simple classic machines such as stone, paper or wood processing, for example.



With the control cables from igus, which are up to 20 percent thinner, tested and cost-effective, the user can now save installation space in the energy chain and also additional costs. (Source: igus GmbH)

"THANKS TO A NEW STRUCTURAL DESIGN, WE CAN PRODUCE CHAINFLEX M CONTROL CABLES THAT ARE UP TO 20 PER CENT THINNER. OUR CUSTOMERS BENEFIT FROM THIS BECAUSE THE CABLES HAVE A SMALLER BEND RADIUS AND TAKE UP LESS SPACE IN THE ENERGY CHAIN. THE USER CAN SAVE COSTS IN THIS WAY."

RAINER RÖSSEL, HEAD OF CHAINFLEX CABLES AT IGUS GMBH.

Reliability guaranteed at cost-effective price

For more than 25 years, igus has been a specialist in the development of cables intended for use in the energy chain. The company tests its products under realistic conditions in the company's own 3,800 square metre test laboratory in Cologne - and these tests go on all the way until they fail completely. igus has been investing in the further development and long-

term testing of its established chainflex M cable series for four years. The laboratory tests have shown that the cables can easily handle five million cycles. On all cables, including the optimised chainflex M series, igus issues a unique guarantee of 36 months worldwide based on its test data.

For more information, contact:
Ravikumar Alloli, Product Manager
- chainflex®; igus (India) Private
Limited; Email: ravikumar@igus.in

FICCI ISSUES WARNING ON ILLICIT PRODUCTS

FICCI CASCADE (Committee Against Smuggling and Counterfeiting Activities Destroying the Economy) jointly with The Transnational Alliance to Combat Illicit Trade (TRACIT), have issued a statement warning consumers about the risks and growing availability of fake, falsified and substandard medical, healthcare and other products. Both organizations report a surge in ineffective, fraudulent products that undermine public health. Anil Rajput, Chairman, FICCI CASCADE said, "Arresting the sale

of illicit goods at the time of this unprecedented crisis needs our immediate and unwavering attention. It is well known that illicit trade exacerbates unemployment, bleeds the economy and causes tremendous harm to the health and safety of the people. The current situation which is already witnessing a severe socio-economic distress, sale of fake and smuggled goods will only worsen the problem. Stern actions should be taken to see that criminals do not profit from this pandemic by selling illicit products."

TWO-IN-ONE!

New eroding and grinding machine from Walter with the well-known 'Two-in-One' concept



'Two-in-One' eroding and grinding machine Helitronic Raptor Diamond from Walter

For some time the market has been demanding that machine tools must be 'more flexible', 'universal' and 'automated'. The equally important requirements of 'more specialised' and 'more cost-effective' often cannot be reconciled with these demands. However, this is exactly what Walter has achieved with the latest extension of the EDM machine portfolio, the Helitronic Raptor Diamond. Walter offers the right machine solution for the eroding of tools for every customer application.

Flexible and cost-effective

The Helitronic Raptor Diamond is a flexible and universal tool erosion and grinding machine especially designed for the re-sharpening of PCD tools. Equipped with the 'Two-in-One' concept from Walter, which has been tried and tested for almost two decades. Whether for wood or metal tools, the Helitronic Raptor Diamond offers highest flexibility. It is equipped with the Fine Pulse Technology, which since its introduction a few years ago has set new standards in eroding technology. With the finest frequency, users can produce a perfect surface finish and cutting edge on a PCD tool without compromising the machining time.

The specialized equipment of the Helitronic Raptor Diamond

Further equipment features are:

- Fine Pulse Technology
- 11,5 KW spindle motor
- Grinding and EDM software HELITRONIC TOOL STUDIO
- Walter Window Mode P51 / P52
- Top loader (option)
- Glass scales (option)
- Torque drive for the A axis (option)
- Probe for measuring the grinding wheels (option)
- Manual support steady rest (option), and other options.

'Specialized' means in this case: optimising the important equipment options so that the Helitronic Raptor Diamond is targeted at the re-sharpening sector of PCD tools, in which one usually:

- does not require a large variety of automation
- does not require automatic tool support systems
- does not require an

- unlike other machines from Walter – is not configured for optional wheel/electrode changer, robot loader or hydraulic tool support systems. As with all other Walter 'Two-in-One' EDM and grinding machines, the standard delivery includes the electrode/grinding wheel mounting via an HSK interface.

Tools with a maximum



Top loader during chucking

- automatic change of electrodes and grinding wheels
- but still requires a high degree of flexibility in the working area for large and diverse types of tools.

For this reason, the Helitronic Raptor Diamond

diameter of 400 mm and a maximum length of 270 mm including end face operation can be eroded or ground with the Helitronic Raptor Diamond. For automatic loading of up to 500 tools, an optional top loader, integrated in the working area, is available.

LATEST ADDITIONS STRENGTHEN DIE AND MOLD CAPABILITIES

In recent years, global manufacturer Dormer Pramet has expanded its assortment of indexable and solid round tools to support a variety of die and mold applications.

In recent years, global manufacturer Dormer Pramet has expanded its assortment of indexable and solid round tools to support a variety of die and mold applications.

This diverse industry features a wide array of molding components, often featuring materials in a condition that makes them difficult to machine, with a requirement for tools capable of supporting high feeds, as well as large material removal rates.

Common components include plastic injection molds, forging dies, die casting and micro molds, with each requiring application specific tooling. This range of applications covers heavy roughing through to fine finishing.

Dormer Pramet works with a wide range of die and mold manufacturers, from companies making small components, such as molds for bottles and mobile phone cases, up to large forgings. Workpieces are often made from difficult to machine materials, such as pre-hardened steel, hardened tool steel and stainless steel.

The most typical include P20, H13 and D2 tool steel materials, based on international standards. P20 is a versatile, low-alloy material which offers good levels of toughness and moderate strength. It is commonly used for plastic injection molds and die castings.

A versatile chromium-molybdenum material, H13 is suitable for applications where temperatures fluctuate during the machining process. It resists thermal fatigue and cracking which can occur when creating the molds at different stages.

Finally, D2 is high carbon and chromium tool steel, which exhibits good levels of wear and abrasion resistant properties. It is generally heat-treated to a hardness of around 62 HRC, where it can still be machined using the correct tools and machining strategies. The high levels



Dormer Pramet works with a wide range of die and mold manufacturers, from companies making small components to large forgings.

“OUR DIE AND MOLD RANGE FEATURES BOTH INDEXABLE AND SOLID TOOLING. THIS MEANS WE CAN PROVIDE CUTTING TOOLS FOR A WIDE RANGE OF OPERATIONS. OUR MILLING ASSORTMENT PROVIDES THE BULK OF THIS OFFER, FROM HEAVY ROUGHING THROUGH TO FINE FINISHING. THE PROGRAM INCLUDES COPY MILLING, FACE MILLING, SHOULDER MILLING AND HIGH FEED MILLING CUTTERS.”

PAVEL JASS, SEGMENT MANAGER FOR DIE AND MOLD

of chromium give it a medium level of corrosion resistance when hardened.

With the many different workpiece materials and variety of sizes involving several machining operations, having the right cutting tools is paramount. Dormer Pramet offers numerous standard and special tools - primarily milling cutters - to support the production of small batch quantities for specific applications.

Also, due to this varied nature of the industry, end users require a good level of technical support and advice to acquire the right

high-quality tooling. To help its customers build knowledge and expertise, Dormer Pramet has developed a dedicated team for the die and mold segment.

Leading this is Pavel Jass, segment manager for die and mold. He said: “Our die and mold range features both indexable and solid tooling. This means we can provide cutting tools for a wide range of operations. Our milling assortment provides the bulk of this offer, from heavy roughing through to fine finishing. The program includes copy milling, face milling, shoulder milling and high feed milling cutters.”

As part of its expansion into the die and mold segment, Dormer Pramet has built a



With eight cutting edges, the square-shaped SNGX11 represents an extremely economical solution.



The SBN10 cutters are suitable for a variety of milling operations, with its unique pocket design, from roughing to finishing.

comprehensive high feed milling assortment with several recent introductions. The SBN10 cutters, for example, are suitable for a variety of milling operations, with its unique pocket design, from roughing to finishing. A range of diameters are available from 16 - 42mm, with multiple design options.

This cutter is supported by a range of BNGX10 inserts, for depths of cut up to 1mm. The patented double-sided insert with four cutting edges provides a highly cost effective and versatile option.

In addition, the new double-sided SNGX11 insert support high feed milling up to 1.7mm depths of cut. Added in November 2019, the assortment's strong main cutting edge ensures high levels of durability

“ALSO, DUE TO THIS VARIED NATURE OF THE INDUSTRY, END USERS REQUIRE A GOOD LEVEL OF TECHNICAL SUPPORT AND ADVICE TO ACQUIRE THE RIGHT HIGH-QUALITY TOOLING. TO HELP ITS CUSTOMERS BUILD KNOWLEDGE AND EXPERTISE, DORMER PRAMET HAS DEVELOPED A DEDICATED TEAM FOR THE DIE AND MOLD SEGMENT.”

and process security – especially when machining corners inside a pocket. With eight cutting edges, the square-shaped SNGX11 also represents an extremely economical solution.

Another key operation in die and mold applications is copy milling. Dormer Pramet's family of indexable milling tools includes the SCN05C cutters for semi-finishing and finishing of steels, hardened steels and cast irons.

Its close pitch increases the number of teeth and enables at least 20 per cent higher productivity than standard pitch cutters. Offering decreased levels of vibration, it has been optimized for smooth cutting of corners and pockets.

Also, Dormer Pramet's SRC10 small diameter cutters are available in diameters from 25 - 66mm and



Dormer Pramet's family of indexable milling tools includes the SCN05C cutters for semi-finishing and finishing of steels, hardened steels and cast irons.

in a variety of styles. All incorporate through coolant, a high number of teeth and feature a pocket design which gives maximum support to inserts with eight facets.

The manufacturer's indexable ball nose cutters (including ZP, XP, SRC and PPH), provide another choice when roughing to semi-finishing a pocket. The Multiside XP range, for example, is a high-performance profiling solution, featuring the patented SideLok™ clamping system for a high level of stability, especially in five-axis machining of complex surfaces.

From a round tools perspective, Dormer Pramet's solid ball nose cutters support 3D profile milling and contouring of complex surfaces. The S2xx and S5xx assortment for hardened steels is available in short to extra-long lengths and feature a double-radii to reduce cutting forces and support higher feed.

An enlarged web withstands radial forces generated when machining hardened steels, while a reinforced rake design increases stability and metal removal rates.

Also, the S7xx program of solid carbide cutters provide a multi-material milling option. All cutters in this range feature an extra margin on the cutting edge for a highly stable and secure process. A variety of diameters, lengths, flute designs and coatings, as well as roughing profile and corner radii options, make this assortment a good all-round choice.

In particular, the S766 and S767 end mills include differential pitch for chatter free machining, excellent surface finish and an unequal helix to reduce cutting forces and improve machining performance. The unequal helix enhances the effects given by differential pitch allowing even higher speeds.

This wide array of cutting tools demonstrates Dormer Pramet's commitment to the die and mold segment, with further additions planned in the coming years.

For more information, visit www.dormerpramet.com or contact your local sales office.

THE EASILY ADJUSTABLE, FLEXIBLE SCHUNK GRIPPER FOR COBOTS!

Flexible gripper with long, adjustable stroke for simple automation with cobots

The long stroke of the SCHUNK Co-act gripper EGH can cover a very wide range of workpieces. The gripper fingers are particularly suited for positioning over the entire stroke. The robust parallel movement of the fingers ensures constant gripping force at a position over the entire stroke. Height compensation for the robot is not required.

Description: Flexible gripper with long, adjustable stroke for simple automation with cobots

Field of application: Flexible gripping and moving of small to medium-sized workpieces in the areas of handling, assembly, and electronics.

Easy and quick assembly

The design of the SCHUNK Co-act gripper EGH enables the gripper to be attached to the robot quickly and easily. First the included adapter plate is attached to the robot flange using the supplied fastening material. Subsequently, due to the assembly quick-release fastener, the gripper can be attached easily to the adapter plate with the enclosed hexagon socket wrench. Finally, you just need to establish the electric connection.

A starter kit is available for quick and easy installation of the SCHUNK Co-act gripper EGH.



The long stroke of the SCHUNK Co-act gripper EGH can cover a very wide range of workpieces. The gripper fingers are particularly suited for positioning over the entire stroke. Image courtesy: Schunk

This contains all the necessary components to successfully mount the gripper onto the robot and to put it

into operation.

Advantages – Your benefits

- Long and freely programmable stroke for flexible workpiece handling.
- Plug & Work for a quick and simple start of production.
- Integrated status display for a visual indicator of the application state.
- Control via IO-Link enables the repositioning of the gripper finger and the evaluation of the gripper condition.
- Gripping movement with parallel kinematics for constant gripping force over the entire stroke.
- Easily accessible assembly quick-release fastener for quick and easy attachment of the gripper to the robot.
- Optionally attachable flexible fingers for increased flexibility and the gripper's range of application.

LIFTKET APPOINTS SAEESH NEVREKAR AS EXECUTIVE DIRECTOR IN INDIA

Liftket has re-established itself in India. Saeesh Nevrekar has joined as the Executive Director at its Indian subsidiary Liftket India Pvt. Ltd which will be relocated to Pune area in the next few months. Saeesh will be responsible for Liftket's business in India.

Saeesh Nevrekar and Jürgen Dlugi, Liftket's CEO are "old buddies" and colleagues with similar career paths. Saeesh brings with him a rich experience of over 20 years in the hoisting business. "We first met 20 years ago when we tried to have a collaboration between our respective companies. Years later we met at our previous employer's in similar position - we have always had the same entrepreneurial spirit and ambition level. Now it's the perfect timing for both Mr. Nevrekar and Liftket, as both are in perfect shape and the timing is perfect as the Indian market is very

important for us," says Jürgen Dlugi.

Simultaneously, Liftket has announced the acquisition of Hoystek Canada from Jack Richard. Jack will now join Liftket and take over the responsibility for its North American Entertainment activities.

Jack has personally been in touch with Liftket products since 2001 and started his own company two years ago. In this time, he did an incredible job to promote Liftket. "From day one we felt that Jack is "our man" in North America - it was a logical consequence to join forces and therefore establish our base in Americas," says Jürgen Dlugi, Liftket's CEO. Together we will grow our local presence to improve further customer service and availability of products locally. A new set up has been established and a new team is already in place.

THE ULTIMATE GUIDE TO PROFITABLE MANUFACTURING
MACHINIST



November 2020 | Bengaluru

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Sixth Edition



Coming Soon

Highlights

- Understand how new technological tools are revolutionizing manufacturing.
- Evaluate opportunities and challenges in the new ways of doing business.
 - Know strategies to maintain organizational growth in difficult times.
- Learn Global Best Practices through case studies, presentations and discussions.
 - Exchange ideas, insights and information with leaders and peers.

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