

# FORGINGS TODAY

## COVER STORY

### IMTEX Forming & Tooltech 2020 Attracted Record Visitors

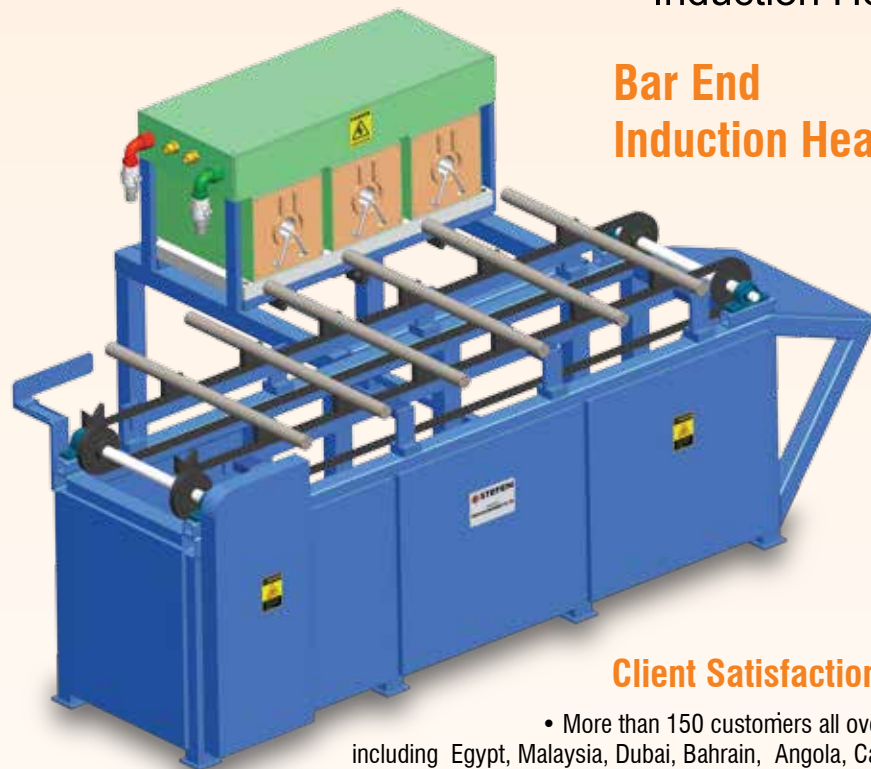
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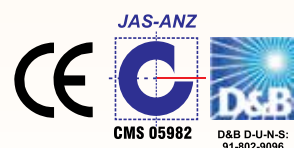
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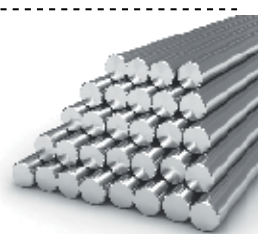


## Forged Bars

- Round/Flats
- Machined

## Bright Bars

- Peeled
- Cold Drawn

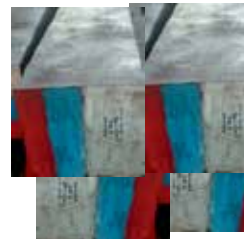


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### NATIONAL OFFICES

#### HEAD OFFICE (PUNJAB)

+91 92160 22273  
+91 99991 16145  
info@kiscosteel.com  
sales3@kiscosteel.com

#### DELHI NCR

+91 93139 06169  
+91 99991 16146  
kiscocastings@gmail.com  
sales1@kiscosteel.com

#### BENGALURU

+91 92160 22273  
+91 98861 96083  
sales@kiscosteel.com  
shashiagni@rediffmail.com

#### CHENNAI

+91 94440 15463  
+91 93139 06169  
madhu.himaja@gmail.com  
kiscocastings@gmail.com

#### MUMBAI / WESTERN REGION

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Machine tools are the life line of engineering industry. Technical advancement in this sector has led us to have multi-tasking, automatic, highly accurate and extremely fast CNC machine tools. This edition cover story presents details on IMTEX, a highly respected show on machine tools.



The 6th edition of Asia's largest exhibition on metal forming, IMTEX Forming 2020 & Tooltech 2020, organized by Indian Machine Tool Manufacturers' Association (IMTMA) at Bangalore International Exhibition Centre (BIEC), Bengaluru, from 23rd to 28th January 2020, concluded on an encouraging note.

There were as many as 605 exhibitors including 4 country pavilions, 47,944 visitors from 26 countries. Business orders and enquiries were higher than previous edition.

The feedback from the exhibitors has been impressive and most were satisfied with the business orders and enquiries that they generated. Several domestic and foreign business visitors sourced machines for their production units. Visitors connected with latest innovations in 3D printing and Industry 4.0.

Trade delegations had a strong presence at the show with 158 trade delegations attending the exhibition. Delegations from industry associations such as Automotive Component Manufacturers' Association, Bangalore Chamber of Industry and Commerce, Peenya Industry Association and various other industry sectors also visited the show.

The regular features and contents are very much there in this edition as well to make it a complete document on forging industry.

Rajendra Kumar Jain  
Editor, **Forgings Today**  
March 1, 2020

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## Editor

Rajendra Kumar Jain  
editor@forgingstoday.com

## Editorial Board

Vasant Khisty  
Prafull Mokashi  
M.K.Jain  
K.L.Girdhar  
D.G.Chivate  
Bikash Musib

## Design and Layout

Charulata, Noopur Jain

## Concept

Satyam Grafix, New Delhi

## Publisher

Rajendra Kumar Jain  
BE Hons.Mech, PGDMgmt

## Editorial Office

409, Mass Apartments,  
Plot 24, Sector 10,  
Dwarka, New Delhi 110075  
Ph.: 9810749109,  
9911118374, 9810337739  
info@forgingstoday.com  
forgingstoday@gmail.com  
www.forgingstoday.com

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The feedback from the exhibitors has been impressive and most were satisfied with the business orders and enquiries that they

generated. Several domestic and foreign business visitors sourced machines for their production units. Visitors connected with latest innovations in 3D printing and Industry 4.0, which are vital for moving the Indian exhibition industry forward. A live demo on implementing Industry 4.0 in manufacturing was organized at IMTMA Technology Centre during the show.

International Buyer-Seller Meet attracted 15 delegates from 8 countries. Delegates from Egypt, France, Guatemala, Kenya, Russian Federation, Sri Lanka, United Arab Emirates, and Uzbekistan participated in the buyer seller meet resulting in exploring business possibilities. The i2 Academia Pavilion (a platform for academic institutions to showcase their research for the industry) featured







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52 institutions including IITs. The first prize was awarded to MIT Art, Design and Technology University, Pune.

To further the cause of making Indian exhibitions 'Green', IMTMA constituted the Eco Design Awards in 2019 and continued this initiative in IMTEX Forming 2020 as well with 63 contestants. The award participation increased by 50% in comparison to 2019 due to the active support from the exhibitors and stand contractors. Neumatica Technologies, Ampco Metal India, Carl Zeiss India, ETA Technology, Salvagnini Machinery India and Amada (India) were conferred the Top Performer awards. Light Mechanics was given award for Commitment to Excel. Givi Misure, Ortlinghaus Drive Technology, Balluff Automation India, Mitutoyo South Asia, Messer Cutting Systems and Trumpf (India) were conferred with Commendation for Achievement.

Manufacturing Quiz Contest featured 118 students from 25 institutions. IMTMA also organized the Jagruti-IMTMA Youth Programme to familiarize engineering students with the machine tool industry. Twenty students from 9 institutions across India attended the programme.

Trade delegations had a strong presence at the show with 158 trade delegations attending

the exhibition. Delegations from public sector undertakings such as Bharat Electronics Limited, Bharat Earth Movers Limited, COFMOW, Rail Wheel Factory, Indian Space Research Organisation, Defence Research and Development Organisation, Hindustan Aeronautics Limited, Ordnance Factory Board, etc. visited the show.

Delegations from industry associations such as Automotive Component Manufacturers' Association, Tractor and Farm Equipment Limited, Bangalore Chamber of Industry and Commerce, Peenya Industry Association and delegations from auto component and automobile sectors such as Maruti Suzuki India Limited, Bajaj Auto, Hero Motocorp, Mahindra & Mahindra, Tata Motors, Toyota Kirloskar Auto Parts, Force Motors, Toyota Kirloskar Motors and various other industry sectors also visited the show.





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# Forgings News and Developments

## Bharat Forge incorporates Kalyani Centre for Precision Technology

Bharat Forge informed the exchanges that the company has promoted and incorporated a wholly owned subsidiary company - Kalyani Centre for Precision Technology Ltd. (KCPTL). KCPTL will be engaged in the business of manufacturing, machining, fabricating, assemblies, forgings, castings, supplier of engines, crankshafts, gears, machinery, vehicles, trucks, railway coaches, railway carriages, ships, aircrafts, tools, spares, parts and other engineering products.



KCPTL will use advanced technologies to undertake its objectives. This will help the Company to expand its business. The current market cap of the company is Rs22, 897.65cr.

Source: [indiainfoline.com](http://indiainfoline.com)

## India becomes second largest crude steel producer

India has surpassed Japan in terms of annual steel production, becoming the second largest producer of crude steel in the world, after China.

As per data issued by the World Steel Association, India's crude steel production in 2018 was 109.3 million tonnes, an increase of 7.7 percent from 101.5 million tonnes in 2017, announced India's Ministry of Steel. India produced 111.2 million tonnes of crude steel in 2019. Meanwhile, Japan produced 99.3 million tonnes in 2019, down 4.8 percent from the previous year.

Speaking in the Indian Parliament Wednesday, Minister of Steel Dharmendra Pradhan said that

steel was a deregulated sector and the government of India did not set any annual targets for steel production.

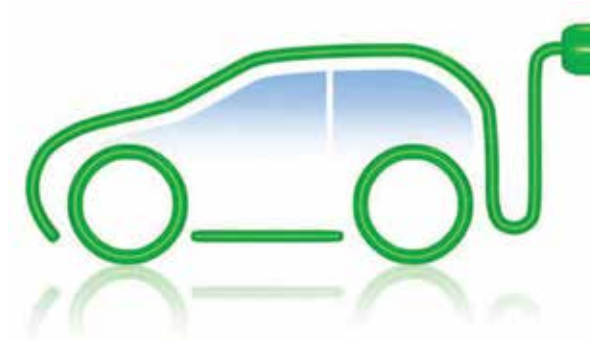


Decision on quantity of steel production was taken by individual companies based on commercial considerations and market requirements, he added.

Source: [Xinhua](http://Xinhua), [hellenicshippingnews.com](http://hellenicshippingnews.com)

## Economics behind e-vehicle batteries

The portion of the costs of the drivetrain of EVs — the system in a motor vehicle which connects the transmission to the drive axles — in comparison to the cost of the entire vehicle is four percentage points lower when compared to ICE vehicles. This is primarily due to less parts in the electric drivetrain. However, the battery pack takes up nearly half the cost of an electric vehicle. For any meaningful reduction in the physical value of EVs, the cost of battery packs needs to reduce significantly.







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The predominant battery chemistry used in EVs is lithium-ion batteries (Li-ion). No new technologies are on the horizon for immediate commercial usage.

The cost of the materials or key-components of the battery, namely the cathode, anode, electrolyte, separator, among others, contribute the most (60%) to the total cost. Labour charges, overheads and profit margins account for the rest.

Labour is a relatively minuscule component of the overall cost. Any reduction in the cost of the battery pack will have to come from a reduction in materials cost or the manufacturing overhead.

The price of these battery packs has consistently fallen over the past few years. This decrease is in part due to technological improvements, economies of scale and increased demand for lithium-ion batteries. Fierce competition between major manufacturers has also been instrumental in bringing down prices.

It is not clear if the battery cost can be reduced even further. Given that raw materials account for 60% of the cost of the battery pack, the room for further cost reduction is rather limited.

In India, EV adoption will be driven by two-wheelers rather than cars in high numbers on because India's mobility market is driven more by two wheelers. According to the NITI Aayog, 79% of vehicles on Indian roads are two-wheelers.

Three-wheelers and cars that cost less than ₹10 lakh account for 4% and 12% of the vehicle population, respectively.

Two-wheelers will also need smaller batteries when compared to cars and hence the overall affordable cost. India needs to manufacture Li-ion cells in-house. Now, cells are imported and assembled into batteries. Setting up a Li-ion manufacturing unit requires high capital expenditure. But battery manufacturing in India is expected to grow as electric vehicles grow.

*Source: The Hindu, Dr. S. Venkatraman is R&D Manager, Duracell*

### RINL produces first forged wheel at Lalganj plant in Rai Bareilly

Rashtriya Ispat Nigam Limited, a Navratna PSU, has successfully conducted trial of forging line from its forged wheel plant at Lalganj near Rae Bareilly in Uttar Pradesh.



Chairman-cum-Managing Director P.K. Rath, Director (Projects) K.K. Ghosh, Director (Commercial) D.K. Mohanty and Director (Operations) A.K. Saxena along with Laxmi Raman, Executive Director, Railway Board, Kluge of SMS Germany, Greiner of SMS India, senior officials of RINL and MECON witnessed the production of first forged wheel from the plant.



RINL has set up the forged wheel plant at a cost of INR 1,680 crore. The plant will have production capacity of 100,000 high speed wheels per annum. The plant will supply wheels to the Indian Railways. The raw material for the Lalganj plant will be supplied from VSP. It will be transported by train.

*Source: The Hindu, Strategic Research Institute, Steelguru*





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### Electric vehicle batteries will dwarf grid's energy-storage needs

There will be more than enough batteries in electric vehicles by 2050 to support a grid that runs on solar and wind—if the two are connected by smart chargers, according to experts at the International Renewable Energy Agency.



Electric vehicles are expected to carry 40 terawatt-hours of battery storage by that date, said Francisco Boshell, IRENA's team lead for renewable energy technology standards and markets, compared to nine terawatts of stationary storage.

"If we see this not from a transport perspective but from a power-sector perspective it also means that a massive electricity storage capacity would be available with all these batteries on wheels," Boshell said in webinar posted by IRENA this week.

Source: *forbes.com*

### Otto Fuchs orders aluminium multi chamber melting furnace from Hertwich

Otto Fuchs KG supplements its casthouse in Meinerzhagen with one Ecomelt-PS150 melting furnace and two tilting holding and casting furnaces from Hertwich Engineering, a company of the SMS group.

The new recycling furnace will be the fifth Ecomelt furnace and with a capacity of 7.7 t/h the largest one at Otto Fuchs. Both casting furnaces, which are also part of the scope of supply, are designed for a capacity of 20 t. This order maintains the successful partnership between Otto Fuchs and Hertwich, which already exists for more than 15 years.

As an internationally operating and leading company in the non-ferrous metals industry, Otto Fuchs KG is especially known as a powerful supplier of high-quality semi-finished products (forgings, extrusion products and rolled rings made of aluminium or other metals) and forged car wheels ready for mounting. Among other things, Otto Fuchs forging products are used in automotive, aerospace and construction industry.

The Ecomelt-PS150 furnace currently on order with a melting capacity of 7.7 t/h is the largest multi chamber melting furnace installed at Otto Fuchs to date. It combines scrap preheating and submersion melting of decoated scrap in one compact unit. The entire furnace process is fully automated by a measurement and control system.

Scrap is top charged into the vertical arranged preheat shaft and preheated to a maximum temperature of 500°C. Within this temperature range, partial melting is ruled out. Combustion gases are ducted from the main chamber to the melting chamber and the preheat shaft.



As a result of the steadily increasing consumption of aluminium, the amount of turnaround scrap for recycling will further grow in the future.

Scrap production increases considerably: While in 1995 some 400,000 tons of scrap were generated in Germany, in 2007 (before the financial crisis) the total scrap production was already 850.000 tons. In 2020 the German scrap production volume is estimated to be more than 1.5 Mio. Tons.

Due to its material value aluminium recycling is economically viable. With the operation of five Hertwich Ecomelt furnaces, Otto Fuchs has adapted optimally to this development.

Source: *aluminiumtoday.com*





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### Videx launches automated hot forging line

Videx has launched a new fully automated, but with no robots, hot forging line of between six and ten machines, replacing the traditional separate forging presses and trimming operation machines.

Debuted earlier this year at Fastener Fair Stuttgart, the new line comprises of a bar feeder and bar shear, to cut the bars to length – it may also start with wire coils. The line also includes a chamfer machine with optional turning stations; extrusion machine, extruding the chamfered end from major to pitch diameter; induction heating machine; double blow, solid die forging machines with five stations – one feed station, two forging stations and two ejecting stations; cooling conveyor; and a thread rolling machine.

The forging machines are available in 300MT, 400MT and 500MT for M20 to M48, M64 and M76 in lengths of 200mm – 1,000mm under head. The head (hex for example) is formed in a closed die and it does not need trimming. The production rate is 4 – 6 parts per minute.



The chamfered and extruded bars are fed into the die by a pneumatic piston. The feed dial then indexes the parts to the first forging station, which upsets the parts and breaks the scale. To complete the head shape, parts are then moved to the second forging station. After heading, the parts are ejected to a conveyor that transfers them onto a cooling conveyor – saving intermediate storage and handling – before the parts are placed into the thread rolling machine. The machines are available either independent or as complete lines.

Source: [videx-machine.com](http://videx-machine.com), [fastenerandfixing.com](http://fastenerandfixing.com)

### Steelmaker orders key furnace equipment to produce advanced high strength

A US steel producer recently purchased key process equipment for the existing continuous galvanizing line (CGL) at its Columbus, Mississippi, plant.

Steel Dynamics Inc., based in Fort Wayne, Indiana, plans to modify its current CGL#1 to produce advanced high strength steels (AHSS) for the automotive industry.



ANDRITZ, an international technology group providing plants, systems, equipment, and services for various industries, will supply engineering and delivery of a new direct-fired furnace (DFF), new differential rapid jet cooling (DRJC), and after pot coolers (APC). The project will be implemented during the fourth quarter of 2020.

The ANDRITZ delivery also includes the supply of model-predictive advanced furnace control (AFC) for the complete furnace sections as well as automation and electrical equipment and supervision of erection and commissioning.

Source: [heattreattoday.com](http://heattreattoday.com)

### How Bharat Forge stays relevant in disruptive times explains Baba Kalyani



Baba Kalyani, the global forging icon and Chairman and Managing Director of BFL has said that the Indian market has been in a difficult situation. The demand side is extremely weak right now. As demand



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picks up, we should see a strong recovery. We foresee the next quarter also as a weak quarter. But starting FY21, we should start seeing recovery taking place. We are already beginning to see the end of the trough and step by step demand will start going up.

I believe FY21 will be better than FY20 but I do not think it will come back to FY19 levels which was probably the peak level in all the markets. The Indian CV market was at 461,000-470,000. It is currently running at 250,000. So, in order to get back to 470,000, it will take a little time.

Commercial vehicle demand will start picking up only after April because right now everybody is cleaning up BS-IV inventories and building up small volumes of BS-VI because nobody knows the impact in terms of customer acceptance of BS-VI vehicles at higher price. That just has to play out in the next quarter.

Baba Kalyani emphasises that Bharat Forge is not just a forging company, it is a technology company. The relevance of this business is extremely high. Nowhere in the world can you make products without somebody like us being present.

We have been readying ourselves for the EV business for the last two years. We have invested in light weighting technology and all this will happen. In the next six months, people will want to reduce weights of their vehicles. There will be a move towards aluminium. This is what we are doing in Europe, we are restructuring our business to increase our production of aluminium components for which we have amazingly strong demand.

In 2008, we decided to diversify into non-automotive components. Today almost 40-45% of our business is in that segment. We have opened up three or four new segments, defence being one and the EV sector being another. Aluminium light weighting components make for a third sector. So, five years from now, a very large portion of our business will be non-automotive.

The only area of automotive business where we will continue to grow and we are creating very good traction is going to be in highly specialised

components in the passenger car business and irrespective of whether these become electric or remain with IC engine, components will be required as these are largely chassis based components.

*Source: Economic Times, ET Now*

### Hyundai India developing affordable electric vehicle for the masses

Hyundai Motor India recently rolled out its three millionth car from its Chennai production facility. During the event, a top official from the company said that the company is in the process of developing an electric vehicle in the next two-three years to serve the mass market.

After formally signing on the bonnet of the three millionth car which was unveiled at the facility, HMIL's Managing Director S S Kim said the company was developing a mass market electric vehicle for India and the same will be introduced in two - three years. In terms of price it will be affordable, he told reporters without being specific on the price.

Hyundai Motor India had, in 2019, introduced the electric vehicle 'Kona' priced at around Rs 25 lakh. The company has claimed the vehicle delivers a range of 452 km in a single charge under standard testing conditions. Globally, the company has sold over 15,000 units in markets like Canada, USA, Europe, Russia, Korea and Australia. On the three millionth car, Kim said the company's latest sedan Hyundai Aura has been rechristened with a left hand drive as 'Grand i10' for the Colombian market.







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The company has already announced Rs 7,000 crore additional investments, which include new product launches and powertrain enhancement, he added. Chennai Port Trust chairman P Raveendran, who was present on the occasion, congratulated Hyundai Motor India for reaching the export milestone. He said the Port Trust started focusing on three Cs - containers, cars and cruise.

Hyundai Motor India ships 13 models of cars across segments, including the electric vehicle 'Kona', to 88 countries in the continents of Africa, Middle-East, Latin America, Australia and the Asia-Pacific. HMIL has 515 dealers and 1,329 service points across India.

*Source: Financial Express, PTI, Reuters*

### **Tata Steel capex likely to touch ₹9,000 cr in FY20**

Tata Steel Ltd is expecting its capex during the current fiscal to touch the ₹9,000-crore mark, company sources said. The steel major, however, will take a cautious approach at the capital allocation for the next financial year, they said.

The steel maker had, earlier, said that it would revise the planned capital expenditure for the 2019-20 to ₹8,000 crore from ₹12,000 crore for the group. The company had invested around ₹1,367 crore for its India operation, including about ₹935 crore expenditure for its Kalinganagar plant in Odisha, they said.

"The pellet plant will help us to bring down costs while the cold-rolling mill to add value to the product mix. We maintain our target to commission the same in about a year from now," the company had informed the analysts.

*Source: PTI, hellenicshippingnews.com*

### **Electric car onset leaves lubricant industry facing Kodak's fate**

With demand expected to decline from 2025, lubricant makers are wary of Eastman Kodak's demise when it failed to grasp the potential of the digital camera in the 1970s. The \$146 billion lubricants industry is at risk of suffering the

same fate as Kodak, thanks to the rise of electric vehicles.

From Volkswagen AG to Nissan Motor Co., carmakers are switching to battery-powered models that use fewer greases than combustion vehicles. With demand expected to decline from 2025, lubricant makers are wary of Eastman Kodak's demise when it failed to grasp the potential of the digital camera in the 1970s.



For decades, lubricant makers have been preoccupied with squeezing more fuel efficiency from combustion engines and increasing the mileage between oil changes. EVs present a new set of challenges to their piston counterparts that typically use 40 different oils. They need a grease that can cool and lubricate the motor, while also protecting the electronics on-board and being compatible with non-metal materials like plastics.

There are signs the pressure is already poised to affect companies. Demand for automotive lubricants, which reached about 20 million tons last year, is supposed to be flat for the "foreseeable future" due to the impact of EVs, the growing use of synthetic lubricants and economic pressures, according to research from energy consultant Kline & Company.

Other oil majors, who are fighting the effects of the push to de-carbonize on multiple fronts, have also focused on creating new products. Royal Dutch Shell Plc, the largest global supplier of finished lubricants, has developed a line of fluids engineered specifically for the high-tech powertrains of hybrids and EVs. Total SA launched two brands of lubricants for EVs last year, while Petronas announced its own EV brand this year.



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Like Castrol, Fuchs has created a dedicated international team of managers and researchers solely focused on developing and marketing lubricants for EVs, Lindemann said. With carmakers desperate to extend the range, coming up with a new formula capable of a 1% gain in efficiency could boost driving range by 4 miles, BP's Hall said.

*Source: ET Auto*

### Global forging lubricants market report

Forging lubricants are added to improve the efficiency and productivity of the forging process. These lubricants improve the efficiency of the process by reducing friction between dies and work pieces. A typical forging lubricant may comprise demineralized water, graphite, binding agents, stabilizers, thickeners and corrosion inhibitors.



Lubrication of dies promotes smooth motion between metal and metal, easy handling and release of the forged part, cooling of the system to remove undesirable heat from dies, and protection of dies, which increases the average life span of dies. There has been an increase in the use of water-based forging lubricants for efficient cooling of the system.

A number of factors have boosted the demand for forging lubricants over the forecast period. There has been significant improvement in die life. A large amount of raw material is injected into complex dies. As a result, due to the complexity of dies, all the parts of dies are not uniformly cooled. To improve the efficiency of parts, a number of complex forging dies are being manufactured, which lead to the deposition of materials in

complex geometries. As a result, there has been a growing need of forging lubricants to cope with uneven cooling and thermal management and easy removal of forged parts.

The global demand for forging lubricants is anticipated to be dominated by Asia Pacific. With significant growth in metal machinery, automotive and other major end use industries in the region, the global demand for forging lubricants is projected to grow. India and China are projected to hold a dominant share in the global forging lubricants market over the forecast period.

Some of the market participants identified across the value chain of the global forging lubricants market include, Henkel Corporation, Chem-Trend L.P., Quaker Chemical Corporation, Moresco Corporation, The Hill and Griffith Company, Houghton International Inc. Condat Group, Hardcastle Petrofer Pvt. Ltd., Chemtool Incorporated, Acme Refining LLC, Lubgraf

The research report presents a comprehensive assessment of the market and contains thoughtful insights, facts, historical data, and statistically supported and industry-validated market data. It also contains projections using a suitable set of assumptions and methodologies. The research report provides analysis and information according to market segments such as geographies, application, and industry.

*Source: newstechmarkets.com, factmr.com*

### Eco-tourism startup plans to introduce zero emission e-bikes

Tourists can now go around Mysuru sightseeing its destinations in zero-emission electric vehicles, with the launch of Electric Vehicle Tourism Initiative here on Monday. The "green" transport is available for tourists and also locals at select places.

B:Live, an eco-tourism start-up, has launched the EV tourism concept, introducing the e-bikes which can be rented out. The e-bikes are presently available at Grand Mercure, Radisson Blu and Windflower, hospitality destinations, which have come forward to support the eco-friendly



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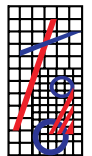
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initiative by providing charging hubs and dockets for the e-bikes.



Mysuru is the first city in the State to get the startup's EV tourism after Goa, Gujarat and Puducherry. Expitours, Mysuru is the experience partner of the startup which brings the e-tours live, a release said here.

According to the start-up, the e-bikes deliver 50 km range per charge with digital screens for multi-info display and come with an accelerator and pedal-assist mode for safe and effortless riding.

"The services will be launched soon in Hampi, Kodagu and Srirangapatna," said Shashi, who

looks after the start-up's PR, adding that each destination in Mysuru will have at least 50 e-bikes in the next few days. "Tourists and locals can take the ride buying the pre-paid token by submitting a valid ID proof," he added.

Source: The Hindu

## Bharat Forge signs MoU with General Atomics

Bharat Forge (BFL), the world's leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, BFL and General Atomics' Electromagnetic Systems Group (GA-EMS) will investigate opportunities to develop and integrate power generation, storage, control and distribution technologies related to surface and undersea naval platforms, and advanced projectiles for weapon system platforms to address Indian defence requirements.

Speaking on the occasion, Baba Kalyani, Chairman and Managing Director BFL said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making India self-reliant in defence vertical. This partnership with General Atomics is a firm step in the direction to develop new technologies in-house to produce benchmark products for naval systems, reduce expenditure due to dependency on imports and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge to develop strategies for bringing advanced power, energy, and weapon system capabilities to India in support of Indian defence initiatives," stated Scott Forney, president of GA-EMS. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms."

Source: manufacturingtodayindia.com

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### ExxonMobil looks to set up lubes blending plant in India

Texas-based Exxon Mobil Corporation, one of the world's largest oil and gas company, sells its lubricants under the brand name Mobil and has been present in the Indian market for a few years now. ExxonMobil is planning to set up a lube blending plant in Khopoli in Raigad, Maharashtra. The company wants this facility to be one of its largest in Asia with over 500,000 barrels per year capacity.

In an emailed response the company said, "As a matter of practice, we do not comment on market rumours and speculation. ExxonMobil continuously evaluates its global portfolio of businesses and opportunities for growth, restructuring, acquisition or divestment, depending upon fit with its overall strategic business objectives."

With energy efficiency improvements, the global energy demand growth will decline by around 25% over the next 20 years. Thus emerging markets of non-OECD (Organisation for Economic Co-operation and Development) nations will account for essentially all energy demand growth, led by

economies in the Asia Pacific region, such as China and India.

"India is still an emerging vehicle market and we see huge growth opportunity in that space. Lubricants growth will only mirror auto and industrial growth," added the second executive. Personal mobility segment is the largest growth segment for lubricants companies, followed by industrials.

However, it's not only the lubricant segment that ExxonMobil finds attractive in India. The company has been, over the past few months forging tie-ups with various stakeholders to further its presence in the country.

Source: tankterminals.com, Live Mint

### India's electric car ambitions could stumble on lack of lithium

India's ambition of becoming a global hub for making electric vehicles faces one major hurdle: its lack of access to lithium.

India's EV production will rely on imports from China of lithium chemicals used to make cathodes

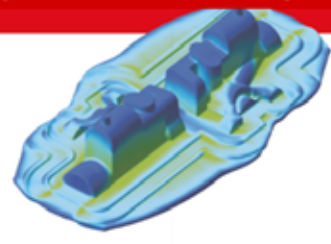
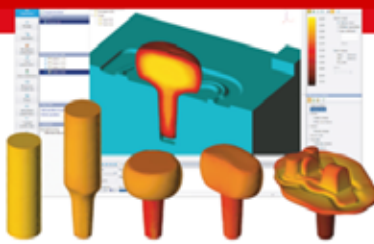
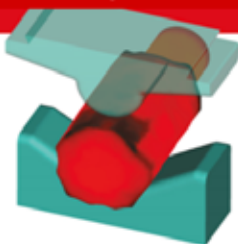
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and battery cells, according to Jasmeet Singh Kalsi, director at Manikaran Power Ltd., which is exploring setting up India's first lithium refinery. "China has a thriving lithium chemical, battery cathode, battery cell and EV supply chain. India has none."



Several plans are under way to build lithium-ion battery factories in India. Meanwhile, China -- the largest electric vehicle market in the world -- is dominant in the battery supply chain. Around three-quarters of battery cell manufacturing capacity is in China, and Chinese companies have unparalleled control of required domestic and foreign battery raw materials and processing facilities, according to BNEF.

"Indian companies have been involved in trying to prospect for stakes in overseas resources, and possibly on-shoring more raw materials production capacity in India," said Sophie Lu, head of metals and mining for "But there are very little synergies right now because further up the value chain, battery components manufacturing capacity does not seem to be planned extensively for India."

A joint venture called Khanij Bidesh India Ltd. has been formed between three state-run companies -- National Aluminium Co., Hindustan Copper Ltd. and Mineral Exploration Corp. -- to acquire lithium and cobalt mines overseas. Amara Raja Batteries Ltd., the country's second-biggest traditional battery maker by value, will build a lithium-ion assembly plant, while Suzuki Motor Corp. along with Toshiba Corp. and Denso Corp. is setting up a lithium-ion battery manufacturing plant.

Manikaran signed an agreement with Australia's Neometals in June to jointly fund the evaluation of developing a lithium refinery in India with a capacity of 10,000 tons to 15,000 tons of the finished product. That capacity falls short of India's projected requirement of 200,000 tons of lithium hydroxide by 2030, Kalsi said.

Electric vehicles are "slowly going to take off, not with the speed the government perceives it to be, but going ahead the market is going to get pretty huge," he said.

*Source: The Economic Times, theprint.in*

### New automatic tool changer increases production level

MC Machinery Systems has introduced its new high-capacity automatic tool changer (ATC) for its BH series of dual-drive press brakes. The ATC is designed to increase production levels and utilization rates while reducing setup time, especially in high-mix, low-volume environments.

The ATC allows for fully automated tool setup and removal, freeing up the operator to perform other tasks. Its available 107.3 x 170.6 foot storage capacity allows for the greatest tooling variation on the market ranging from high-runner V-dies to specialized hemming or offset tools.

Up to two-inch V-die openings and 19.7-inch lengths can be placed with the single, large-capacity tool manipulator with the added functionality of pick and place for small tool sections for setups that do not require the full setup to be removed. The manipulator is also equipped with a tool & bed cleaner that runs automatically during tool changes.

The ATC is engineered for operators of all experience levels. Programs can be created offline using DiamondBend software, at the control, or imported from other MOS controlled press brakes. Further support for operators is available with MC Machinery's VIDERE operator support system for real-time bending information, sequences, and automatic tool changes.

"More companies are looking at adding tool changers to their forming departments," stated



David Bray, Product Manager, Press Brakes. "This trend has gained momentum due to a perfect storm of industry and market factors, such as updating their laser processing equipment or finding qualified people to staff their forming departments."

Metalworking companies are seeking ways to add efficiency to their blanking departments. The BH Dual Drive ATC offers the largest storage with the most flexibility, it is the conclusive solution for customers looking for improved production and increased efficiency."

Machines equipped with the ATC are not limited to the tools in the changer's storage. The machine can be used as a stand-alone press brake or automated system, allowing for the flexibility for one-off jobs.

*Source: news.thomasnet.com, mcmachinery.com*

### **POSCO establishes new brand for its construction steels**

POSCO has unveiled a new brand called INNOVILT to better promote its construction and corrosion-resistant steels as well as other products. According to a POSCO announcement, INNOVILT steels will be used in buildings, bridges, and other infrastructure projects.

"We hope that POSCO's INNOVILT will pave the path toward creating and expanding demands for steel in which both downstream and upstream industries work together to meet that goal," said Hyun-Chul Kim, who represented South Korea's Ministry of Trade, Industry and Energy during a brand launch event.

Some of the products under the new INNOVILT brand include interior and exterior materials with durability and design as well as earthquake-resistant materials. The company said the new brand will be easily identifiable to professional and end users. Customers will also be able to "select premium products as if they were selecting daily household items or home appliances," it said.

*Source: aist.org*

### **Sheffield forgings firm buys rival division in £50m turnover plan**

A Sheffield forgings firm has bought a division from a rival under plans to reach £50m-a-year sales. Independent Forgings & Alloys has acquired Doncasters Precision Forgings from Doncasters Group.



The deal will increase capacity threefold, to 680,000 sq ft, and expand IFA's capabilities to create a one-stop-shop as the only Western forge with open-die, closed-die, ring-rolling, hammer forging and rotary forging on a single site.

IFA is based on Livesey Street, Owlerton. The company was acquired by the current management team from Doncasters Group in 2001.

*Source: thestar.co.uk*

### **MG Motors' electric vehicle sold out before launch**

MG Motors (Morris Garages) that sells the Hector brand of a premium SUV has received bookings for a little over 2,800 units in 27 days for MG ZS, its electric vehicle model that is set to go on sale shortly.

This number is more than the total number (1,071) of electric cars sold in India in calendar year 2019. MG has stopped registrations for the ZS (expected to sell for Rs 20 lakh) and will cater to 2,409 of the total bookings. The ZS EV will initially launch in the Delhi region, Mumbai, Ahmedabad, Bengaluru and Hyderabad.

This response to the ZS shows car buyers will pay a premium for an EV as long as it hits the sweet spot of price to value. The trend is prompting

automobile makers to introduce models that address issues such as range anxiety and charging, while having the latest features; those in the mass and luxury segment of the passenger vehicle market are also preparing for offerings in the EV space.



The central government's thrust on EVs is fuelling these plans. It has earmarked Rs 10,000 crore for three years till 2022 for its FAME-II scheme in this regard. Though this is an incentive scheme for only commercial vehicles, its focus on creating an enabling infrastructure has encouraged all. A reduction in the goods and services tax on EVs to 5 per cent, from 12 per cent, has helped.

The highest number of bookings for the model came from Bengaluru, followed by Hyderabad. Close to 40 per cent of the bookings were online. This underscores a significant shift in favour of digital media in consumer behaviour within the automotive space, MG said.

*Source: Business Standard*

### Superheat launches the superheat SmartFurnace

Superheat's top priority has always been to provide the world's leading on-site heat treatment. To follow suit, the company has introduced the Superheat SmartFurnace™, an on-site furnace that

provides immediate, 24/7 heat treatment services for the ultimate client-controlled experience.

Simply follow the loading and unloading instructions, and eliminate the need to bring components offsite to a stationed heat treatment furnace. The Superheat SmartCenter™ then remotely manages, controls and operates all aspects of the heat cycle functions, including quality assurance documentation, calibration and maintenance requirements.



By ensuring this offering is certified to API Spec 16A Appendix D (recommended practices for heat-treating equipment), Superheat is supplying the highest industry standard of quality to clients regarding their heat treatment furnace needs.

*Source: bicmagazine.com, superheat.com*

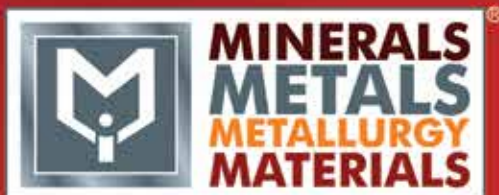
### Tata Steel Oct-Dec sales volume rises 17% in India

World's second-most geographically diversified steel producer, Tata Steel Limited reported a 17 percent rise in Oct-Dec sales volume to 4.84 million tons in the Indian market over the preceding quarter of Jul-Sep, while the production volume remained flattish, a company statement said.

With consolidated turnover of 22.67 billion U.S. dollars excluding South East Asian operations, the company's branded product & retail segment grew 23 percent over the sequential quarter while industrial products and projects grew by 12 percent during the same period in Asia's third largest economy, the statement said.

*Source: Xinhua, hellenicshippingnews.com*





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[CIN : U92490DL2004PECT24343]  
B1001-1014, 10th Floor, Statesman House Building,  
29, Barakhamba Road, New Delhi - 110001, INDIA  
Tel: +91 11 66295800, Email: ed.india@hyve.group  
Website: www.india.hyve.group, www.hyve.group

**Shailendra Malik**, Project Head - Ph.: +91-9873949319, e-mail: shailendra.malik@hyve.group  
**Abhimanyu Gupta**, Asst. Manager - Sales, Ph.: +91-9999851286, e-mail: abhimanyu.gupta@hyve.group  
**Anjali Choudhary**, Asst. Manager - Sales, Ph.: +91-9811384163, e-mail: anjali.choudhary@hyve.group  
**Animesh Gupta**, Sr. Executive - Sales, Ph.: +91-9899099766, e-mail: animesh.gupta@hyve.group

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## Melting furnace 4.0 - Thinking ahead

By Sven-Olaf Sauke, head of R & D at ZPF GmbH.



The future is moving inexorably towards smart factories, but many smelting plants are still stuck with their assembly line production in industry 2.0 without IT support.

Central elements of a modern factory of the 21st century, such as the interface to a central database server or an intelligent, yet heat-resistant automation including sensor technology enabling all facilities to communicate with each other, are frequently not available.

Although there are numerous protocols for this purpose, the possibility of retrofitting these protocols standards does not exist in many older facilities. A lack of expenditure resources and the absence of visions for the future have often led to missed opportunities. Therefore, research strategies that build on each other are always recommended in order to keep up with the times. Only in this way can a smelting plant face the numerous challenges of the future in the long term.

ZPF GmbH has been investing for years in close cooperation with various universities, supported by the Federal Ministry for Economic Affairs and Energy (BMWi) and other research sponsors, in order to meet the current requirements of the industry and create a basis for innovative products.

A major challenge in industry 4.0 is currently the automation of so-called predictive maintenance. In this process, the machine park is monitored on an ongoing basis and throughout the entire process.

(continuous system monitoring) to perform condition-based maintenance work. In a Smart Factory with a melting furnace, for example, cleaning could be carried out by a robot that knows all the parameters of a furnace and can take action in good time already before a critical

degree of contamination is reached. Consequently, the robot automatically prevents a later complete breakdown of the system and a standstill of the entire machine park in just a few minutes.

However, as long as there is no suitable and at the same time safe sensor technology that can withstand the extremely high temperatures, these essential parameters cannot be recorded, even though they are the basis for industry 4.0. In order to master these complex automation tasks, the entire factory needs extensive knowledge of all important plant data - from the filling level of the furnace to the degree of contamination in the bath area. For this reason, ZPF, for example, has already laid the foundations for solutions for intelligently networked melting furnaces through various research projects in the past.

### Enoptal – from refractory materials to burner technology

At this point, the ZPF project “Enoptal” serves as an example for the beginning of such a research chain. As a result of the climate policy surrounding Directive 2009/29/EC, aluminium producers and processors with a total rated thermal input of 20 MW had to limit their CO<sub>2</sub> emissions from 2013 and purchase new certificates if necessary. This put pressure on companies in the aluminium industry to find timely solutions for lower CO<sub>2</sub> emissions. Following this, more investment was made in the development of efficient burner technology to reduce energy costs and reduce the impact of greenhouse gases on the environment. The charging methods and cleaning intervals of the furnaces as well as

the melting losses were examined and the influence these parameters have on the critical emission values.

The research project “Enoptal” was funded by the Federal Ministry for Economic Affairs and Energy, supervised by the Project Administrator Jülich, conducted together with the Technical University Bergakademie Freiberg and successfully completed in 2011. With the help of various field tests, the essential parameters of a melting and holding furnace with a melting capacity of 300 kg/h



and a holding capacity of 700 kg were determined and optimization potential was identified for the refractory material and the burner arrangement resulting in energy savings of up to 10 percent. These fundamental results formed the basis for the next major research project.

### **Edusal-I + II – from burner technology to sensor technology**

As the next step in this research chain, the melting plant together with other plant components was at the centre of the task in order to optimize the entire furnace system. The aim was to search for further energy saving potentials in melting processes with aluminium, to minimise melting loss, to improve process monitoring and to create the basis for a modern and efficient heat recovery system.

Since the field of “measurement technology” in particular has large gaps, the possibilities for a system for monitoring and control were examined in cooperation with the Federal Ministry for Economic Affairs and Energy, the Technical University Bergakademie Freiberg and the Leibniz University of Hanover. The focus in the projects “Edusal-I and II” was mainly on the development of a measuring technique for the sensory detection of the furnace chamber.



The camera system selected at the IFUM in Hanover for the measurement of height changes

in the aluminium furnace was tested during trials at the Technical University Freiberg.

*Source: ZPF GmbH + IFUM*

In some areas, water-cooled, optical systems are used for furnace interior monitoring - for example after the repair of glass troughs.

Although these provide an insight into the condition of the refractory lining and other process parameters, for safety reasons they cannot be used in rough everyday operation or must not be used by operators of aluminium melting plants. If such a system is damaged and the water is unintentionally heated from 20 °C to 900 °C, the sudden change in volume of the water can lead to explosions and thus to serious damage to property and persons. For the first time, the measurement method developed with the associated software made it possible to precisely determine the amount and position of material on the melting bridge during melting operation. In this context, a dynamic burner system was developed that can be regularly aligned to the melting charge via the recorded measurement data and thus increases the efficiency of the overall system.

In addition, the plant was equipped with a heat exchanger system. With the help of the exhaust gas, the required burner air is heated in the heat exchanger and directed to the burners. This heating results in a higher temperature level during the combustion process and leads to significant gas savings. Due to the design of the system, a series product could be generated directly from research. The research project ended successfully in 2016 and enabled a further increase in energy efficiency of up to 15 percent in the melting plant. On this basis, assemblies were revised for series use. Today there are already plants for trial operation, which have been successfully used there. The measured values from the research project are confirmed at these plants in the rough melting operation.

### **ALSO 4.0 – from sensor technology to automation**

Thanks to the findings from the Edusal II project on sensor technology, a non-contact optical test method was developed which

detects a change in the state of the aluminium block.



ZPF has developed a dynamic burner system that can be continuously aligned to the melting charge via the recorded measurement data and thus increases the efficiency of the overall system.

Source: ZPF GmbH



This is a camera system with a special evaluation logic that is able to detect non-molten aluminium on the bridge during the melting process. This new sensor technology enables an objective evaluation of the melting process in the aluminium furnace and the user can automatically determine the current quantities of the material to be molten. In this way, characteristic values can be derived for

objective evaluation of the melting performance guaranteeing continuous monitoring throughout the entire melting process. It also opens up further possibilities for automatic control processes within a Smart Factory.

All results of these research projects serve as a basis for the current project called ALSO 4.0 (Aluminium melting furnace 4.0).

Research on control and evaluation options for automation, required for further steps in the process chain, is conducted in close cooperation with the Technical University Bergakademie Freiberg, the University of Bremen and the Leibniz University of Hanover as well as aluminium melting furnace operator and is funded by the Federal Ministry for Economic Affairs and Energy. In this process, the areas to be examined are extended to the entire furnace system and the first prerequisites are created for integrating adjacent peripherals and achieving the desired increase in efficiency. The frequently described scarcity of resources will be the driver for further technical development, which cannot be achieved without research work. Long-term and systematic research pays off.

### Shot blasting machine – Tumblast type

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Source: [sfecindia.net](http://sfecindia.net)

### Regenerative forging furnace

These forging furnaces have three dimensional heat storage different refractory insulation materials are used in the furnace wall, top and bottom. 3D protection, prevents heat loss and greatly reduces energy loss. Multi-nozzle design, according to requirements of customers to design nozzle number, size and layout, uniform heating, easy maintenance.



#### Product advantage include:

1. Three dimensional heat storage different refractory insulation materials are used in the furnace wall, top and bottom. 3D protection, prevents heat loss and greatly reduces energy loss.
2. Multi-nozzle design, according to requirements of customers to design nozzle number, size and layout, uniform heating, easy maintenance.
3. Air combustion ratio is reasonable, make combustion reach the best state, air surplus coefficient is small, and oxidation residue is few.





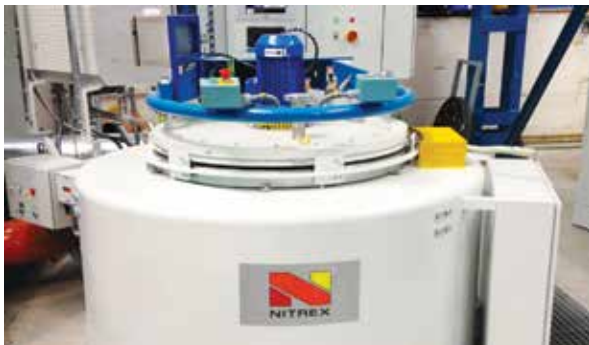
4. Control furnace temperature accuracy about  $\pm 10^{\circ}\text{C}$ , furnace temperature keep  $\pm 15^{\circ}\text{C}$  in the same zone. Using PLC control mode, will realize a variety of heating processes.
5. The furnace structure from the outside to the inside is steel plate, insulation layer, storage area, heating area, this will be convenient maintenance.
6. Using frequency conversion technology, automatic control fan's air supply and ventilation.
7. The main part of the equipment can be completed before leaving the factory, save time and ensure construction quality.
8. Multi-directional safety protection in the process of starting, running and stopping.
9. Intelligent combustion and reduce gas consumption, fuel consumption per ton can be controlled within 35-60 m3.

Source: [m.wgfurnace.com](http://m.wgfurnace.com)

### Auto partner enters agreement for new nitriding technology

An automotive partner based in the Czech Republic has entered an agreement with a nitriding company based in Montreal, Canada, for a new nitriding system to enhance the durability of stainless steel.

The high performance metals division of Voestalpine AG has entered an agreement with Nitrex Metal, a company that focuses on nitriding/nitrocarburizing technologies, to bring new innovations in stainless steel hardening technologies to the Czech Republic.



"The agreement builds on a strong partnership and confirms the market potential of hardening

technologies for stainless steels," said Marcin Stoklosa, special projects manager of Nitrex Metal.

"We are excited about bringing these innovative heat-treat processes to the Czech Republic market. Nitrex's proven technologies offer numerous benefits to our industrial customers looking to maximize the life span and quality of their engineered parts and components," said Zbyněk Drda, Voestalpine Heat Treatment Manager.

Capable of treating 304, 316 and 412 grade stainless steels, the new system with integral process technologies Nitreg<sup>®</sup>-S and Nano-S<sup>™</sup> optimizes the mechanical performance and economic return by making these steels extremely wear and corrosion resistant and capable of achieving a longer useful life. Post cleaning of treated parts and added production steps such as machining are eliminated.

Source: [heattreattoday.com](http://heattreattoday.com)

### WMU orders TwinServo press from Schuler

Weser Metall Umformtechnik (WMU) GmbH fully relies on digitization and networking. The automotive supplier from Germany, has ordered not only a TwinServo press with Smart Assist from Schuler, but also equips three more systems with the digital helper. In addition, WMU is accelerating the production start of the new machine with virtual operator training and virtual commissioning.



This is made possible by the digital twin of the 1,600-ton press with TwinServo technology

(TST), which is connected to the control system including machine and system visualization. Thus, all functions can be simulated on the computer in order to test software in advance and adapt it to the needs of the customer, for example. In addition, the employees of WMU get to know the system while it is still being set up – and without taking the risk of incorrect operation.



The Smart Assist also supports the start of production of the press. The digital assistant software – which not only runs on the press control but also on a tablet or similar mobile device – guides the user through the setup process step-by-step with the aid of videos and graphics, optimizes the movement curves of slide and transfer fully automatically, and transfers the data to the overall system. In addition to the new TST system, WMU also equips two Schuler MSD servo presses with 400 and 630 tons of press force and a 2,000-ton TSD machine.



The solutions from Schuler's Smart Press Shop were one of the decisive factors for placing the order, in addition to various other decision-making criteria. Schuler has set itself the goal of being the world's leading digital press manufacturer

Source: [schulergroup.com](http://schulergroup.com)

### The world of Industry 4.0 really amazing

Industry 4.0 refers to the fourth industrial revolution. The first was mechanization, the second was mass production, the third automation.

The world of Industry 4.0 is a little like a painter with amazing colours (cyber-physical systems, artificial intelligence, cloud computing—choose your buzzword), yet has only a really small canvas to work with. Grow the canvas, and the colours really start to then one realizes how amazing the resulting picture can be.



The size of the canvas matters. Not long ago the canvas was small, much of it an enhancement of predictive maintenance. If you connect a lot of machines and add the power of cloud computing, you can predict failures before they happen. You can also extract true machine uptime information (OEE) and put together some really effective analyses.

A laser cutting machine receives real-time feedback that tells it to slow its approach to a corner or over a rough surface. An automated part offloading system tries to lift a piece out of a nest, fails, tries again, and learns. This data feeds back to the cloud, which receives data from similar machines, which in turn helps develop better solutions: a better way to lift a part, a better way to cut around a sharp corner.

Parts are denested and sorted automatically—again, using data both from the local shop floor and from the cloud—then move on to forming, with bend simulations that consider individual operator preferences as well as the movement of workpieces between each step of a staged bend

Source: [thefabricator.com](http://thefabricator.com)





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# Exhibitions and Conferences

## HT Courses organises certificate course in heat treatment

HTCourses.com an academy for continued education of heat treatment professionals had organised a specialised course titled as Heat Treatment Metallurgy on January 10-11, 2020 in Gurgaon.



This program was conducted by Mr. K S Boob, consultant & trainer who superannuated as head of quality at NBC Bearings. He has 40+ years of hands on experience in design & development, manufacturing, materials & metallurgy, quality assurance & management systems. Mr. KS Boob is currently an empaneled auditor with BVQI. The course was presented by HeattreatMart & Media Partner Forgings Today.

The course was well attended by participants from major companies like Sona BLW Precision Forgings, Roop Automotives Ltd, Hero Motocorp, Hoganas India Pvt Ltd, Highway Industries Ltd, Pyrotherm Technologies, Kisco Castings India Ltd, Flovel Energy, Nitin Castings India Ltd. Eurosense Analyticals, etc

## International Metal Technology 2020 Taiwan

The 2020 International Metal Technology (iMT Taiwan), organized by Kaigo and co-organized by the Taiwan Casting Industry Association, with assistance from the Taichung City Government, will take place from June 12 to 15 this year at the Taichung International Exhibition Center. The trade show will exhibit Taiwan's solid industrial prowess to the fullest, covering a host of sectors including metal materials, casting, forging, metallurgy, heat treatment, metal molding technology and whole plant equipment.

iMT Taiwan is a leading trade show for the metal industry in the Asia-Pacific region, and is

the only one of its kind in Taiwan. Concluding with resounding success, the fifth iMT Taiwan in 2019 brought together 142 exhibitors from 13 countries, and a total of 5,982 specialist visitors, many of whom professional buyers and purchase representatives from countries with advanced metal industries, such as Germany, Japan, the UK and the US, as well as emerging markets like India, Vietnam, Thailand.

As the organizer, Kaigo boasts more than 40 years of professional experience in event organizing. The company is also a close partner for one of the world's top metal-focused trade fairs: GMTN—GIFA, METEC, THERMPROCESS and NEWCAST—held in Düsseldorf, Germany.

For 2019's event, Kaigo invited multiple members of media from various countries, including Heat Processing, an official media partner of GMTN, and India's Forgings Today. This year, Kaigo will continue to strengthen its promotional efforts in pioneering industrial markets across Europe, the US and Asia, to further boost trade show results.

The sixth iMT Taiwan aims to offer the widest variety of products in the metal industry. According to the Chairman of the co-organizing Taiwan Casting Industry Association, Kun-Cheng, Liao, "iMT Taiwan is an exhibition that presents a number of key metal manufacturing processes, from casting, forging to heat treatment. The event also showcases automated integrated forging solutions that have materials, processing equipment and consistent manufacturing processes all covered, serving as the optimal exchange platform for both buyers and exhibitors.

iMT 2020 is expected to continue setting new records with a high-quality program and reach wider global business audience.

Source: [kaigo.com.tw](http://kaigo.com.tw), [imttaiwan.com](http://imttaiwan.com)

## AMTEX 2020: unprecedented response from the exhibitors

Since 2001, Asian Machine Tool Exhibition (AMTEX) has been taking place in New Delhi to cater the growing market of machine tools and



manufacturing industries of northern and western India. In its past edition, AMTEX achieved fantastic results, bringing together 20,878 trade visitors and 469 exhibitors representing countries such as Germany, Italy, Netherlands, South Korea, China and Taiwan.

AMTEX 2020 takes place in New Delhi on 10-13 July 2020 co-located with Automation & Robotics and Intertool.

Continuous rapid industrial growth drives the machine tool and manufacturing sectors across Northern and Western India. Both exhibitors and visitors are recognising the continuously increasing value they get at AMTEX. Reed Triune Exhibitions continues to establish AMTEX as a globally recognised trade fair. AMTEX 2020 to be held in the newly built, state-of-the-art halls of its home venue – Pragati Maidan in New Delhi



Manufacturing has emerged as one of the high growth sectors in India. Prime Minister of India, Shri Narendra Modi launched the 'Make in India' program to place India on the world map as a manufacturing hub and give global recognition to the Indian economy. India's \$2.6 trillion economy surpassed France's in 2017 to be the world's sixth largest according to World Bank data.

Reed Exhibitions the world's leading organiser of trade fairs, continues to successfully internationalise AMTEX through its offices in more than 30 countries: In 2020, the geographic representation of exhibitors will further expand with growing participation. More importantly, specific efforts are made to drive ever increasing numbers of buyers.

### Messe Frankfurt acquires license to organise Busworld in India

Messe Frankfurt Trade Fairs India Pvt Ltd, the Indian subsidiary of the Group, has acquired the license to organise Busworld - the world's leading B2B exhibition for the bus and coach sector from Busworld International CVBA. The agreement strengthens Messe Frankfurt's position as the leading exhibition organiser for the mobility segment. Busworld India 2020, the 9th edition in the series, will be organised in Bengaluru.

The mobility and logistics industries are facing radical changes globally. With 50 trade fairs, conferences and other events worldwide, Messe Frankfurt showcases the current state of the art in the automotive aftermarket, transport and logistics sectors – and where the future of mobility is headed. With Busworld India now in its fleet, Messe Frankfurt is targeting further portfolio development and expanding expertise in defined industry sectors in line with its corporate strategy.

India is on an ambitious journey to electrify 30% of its vehicle fleets by 2030 as proposed by government think tank NITI Aayog. The Indian government is exploring new ways to switch to electric vehicles with a number of initiatives being implemented. Testing of operational feasibility of electric buses, cars, two-wheelers, rickshaws, taxis and goods vehicles, are already making in-roads.

The growing opportunities in the country have also led to a sharp growth for Busworld fair that has doubled the number of visitors in India and grown in space. Its latest edition in 2018 played host to over 115 exhibitors from 11 countries and 8,000 visitors. Under the umbrella of Messe Frankfurt's mobility events, the first Busworld India will take place in Bengaluru from the 27 – 29 August 2020.

### International Seminar on Forming Technology 2020

R&D, innovations, trends and best practices in manufacturing were the key highlights at the International Seminar of Forming Technology (ISFT 2020), organized by Indian Machine Tool Manufacturers' Association (IMTMA) on 22nd January 2020 at Bangalore International Exhibition Centre (BIEC), Bengaluru, coinciding with IMTEX Forming 2020 & Tooltech 2020.



Over 300 delegates from various segments of manufacturing industry such as automotive, aerospace, defence, railway establishments, consumer durables, general engineering, and so on, participated in the seminar to explore the rapid technology transitions in forming industry.

Spread over 3 concurrent sessions and 6 technology tracks, experts from Austria, Belgium, Germany, Sweden, Holland, UK, USA, Switzerland, Italy and India facilitated sessions at the seminar.



Speakers presented latest developments in metal forming technologies such as Laser Technology, Future of Bending Automation, Innovative CMT Processes, Next Generation Stamping Technology, Production Solutions for High Strength Aluminium, Additive Applications in Aerospace Industry, to name a few.

Welcoming the delegates to ISFT 2020, Mr. Indradev Babu, President, IMTMA said, "The response to this seminar clearly indicates the importance of forming technology in manufacturing. Visitors presence encourages us

to create a platform like this to share the emerging trends in this technology arena."



With India embarking on a new phase in manufacturing on a new phase in manufacturing, ISFT 2020 was an important event for metal forming manufacturers to focus on technology and adding depth in their manufacturing process. For delegates attending the seminar, it was also an opportunity to visit IMTEX Forming 2020 and get a first-hand view of the latest technologies in metal forming on display from reputed companies across the globe.

### Trade fair for industrial heat exchangers and heat transfer technology

Industrial heat recovery, industrial heat exchangers, and heat transfer technology systems are in the focus of WTT-Expo, the international trade fair to be held for the first time as part of Tube Düsseldorf at the Düsseldorf Exhibition Centre from 30 March to 1 April 2020.

Energy-efficient systems for heat transfer are in demand: energy is increasingly becoming a key cost factor for companies. As a result especially manufacturing companies are again investing more in energy efficiency. According to the current "Energieeffizienz-Index (EEI)", almost three quarters of all companies spend more than 10% of their total investment on this.

At WTT-Expo exhibitors from the sectors of industrial heating and cooling technology will again demonstrate how companies can produce at optimised costs while making a sustainable contribution to minimising emissions at the same time.





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8th International Exhibition  
for the Wire and Cable Industries



9th All Indian Exhibition & Conference  
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8th International Exhibition &  
Conference on Metallurgical Technology  
Processes, Material Handling and Services



9th International Trade Fair  
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### FOR MORE INFORMATION, PLEASE CONTACT

For wire India & Tube India

**Mr. Avnish Seth**

Senior Project Manager

Tel. +91 (0)11 4855 0065

Email: SethA@md-india.com

For METEC INDIA &  
INDIA ESSEN WELDING & CUTTING

**Ms. Amruta Dhumal**

Project Manager

Tel.: +91 (0)11 4855 0059

Email: DhumalA@md-india.com

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Reason enough for Messe Düsseldorf to hold the three-day WTT-Expo as an independent trade fair in Hall 7.1 as part of Tube 2020.

Organisers expect exhibitors to attend WTT-Expo from Germany and the neighbouring countries, who will display equipment, apparatus, products and services from industrial heat exchanger and heat transfer technologies. The comprehensive line-up of this trade fair ranges from planning and construction to the complex area of maintenance.

Source: [pp-publico.de](http://pp-publico.de), [wwwTube.de](http://wwwTube.de).

### 4th MET & 14th HTS Set for October 2020 in Mumbai

On October 13-15, in Mumbai, India, the 2020 International Exhibition & Conference on Materials, Engineering, and Technology, co-located with the 2020 Heat Treat Show, will provide a comprehensive business platform chain for defence, transportation, and energy organizations as well as the heat treat industry.



This is MET's 4th year and will showcase the latest and key developments in engineering and technologies for materials; foster face-to-face interactions, hands-on experiences, and high-level networking; and will see participation from other government organizations, PSUs, corporates, MSMEs, and the R&D sector.

HTS 2020, in its 14th year, will be a 3-day showcase for displays and launches of the latest heat treat equipment, technologies, and services, and will provide an exciting mix of technical presentations, keynote addresses, and educational and skill development forums.

Source: [heattreattoday.com](http://heattreattoday.com), [htsindiaexpo.com](http://htsindiaexpo.com), [metindiaexpo.com](http://metindiaexpo.com)

### NMAMIT bags second best research work award

NMAM Institute of Technology, Nitte exhibited its research work related to manufacturing at the Industry-Academia Pavilion in International Machine Tool Exhibition-2020 (IMTEX-2020) event, organized by the Indian Machine Tool Manufacturer's Association (IMTMA) from January 23 to 28 at Bengaluru International Exhibition Center (BIEC).

As many as 50 engineering institutions from different parts of the country participated in this event.

A jury committee formed by IMTMA reviewed the research work presented by the institutes based on innovation and technology, manufacturing technology relevance, environmental aspects, project status, industrial partnership, project recognition, communication and clarity of presentation.



The research work entitled 'Two-axis TIG welding of Aluminium alloy with synchronized pulsating wire feeder' presented by NMAMIT won the 2nd best research work award among the research projects presented by 50 different institutions. This research work was carried out at the Center for System Design Fabrication & Testing and 'NMAMIT-Fronius Center for Welding Technology' under the guidance of Dr. Muralidhara and Dr Vijeesh Vijayan in collaboration with M/s Copernicus Mobility, Mangaluru.

### National seminar on Make in India 2.0

The two-day National Seminar hosted by Xavier Institute of Management and Entrepreneurship (XIME) on 'Make in India: Making It Work' ended with amazing power packed sessions highlighting ways in which not only the manufacturing industry but all industries including SMEs and start-ups can contribute towards making the national campaign





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a success. The seminar, emphasized on the various policies that can act as an effective instrument to enhance GDP and generate employment alongside intellectual thoughts and opinions from industry leaders.



Attended by over 100 delegates from different industries across Karnataka to understand the strategies, policies, initiatives and actions, the concluding day of National Seminar at XIME witnessed four interesting fire-chat sessions titled:



1. Perspectives on Make in India: Prof. C. P. Chandrashekar, Former Professor of Economics, JNU; Mr. Rajeev Gowda, MP, Rajya Sabha and Mr. Narayanan Ramachandran, Advisor, Takshashila Institute
2. Firm-level Competitiveness II: Mr. L Krishnan, MD, TaeguTec India Pvt. Ltd.; Mr. Shrinivas G. Shirgurkar, MD, ACE Designers Ltd. and Prof. A. Anantharaman, Provost, XIME Group
3. Innovation for Competitiveness: Ms. Smita Purushottam, IFS (Retd.), Former Ambassador to Switzerland & Chairperson, SITARA; Mr. Rakesh Sasibhushan, CMD, Antrix Corp. and Mr. Nitin Kunkolienker, President, MAIT

4. Conference summary: Prof. Philip, Chairman & Founder - XIME, Bangalore; Mr. Vinay Deshpande, Chairman, Encore Software Limited; Mr. Vikram Kirloskar, President, CII, Prof. J Alexander, Chairman – XIME Kochi & Dr. R Sridhar, Director, XIME Bangalore

After five years of launching Make in India, it is now time to take a step towards initiating Make in India 2.0. The dignitaries at the Seminar emphasized that it will not be possible to achieve, if the country continues to stay swadesi in its educational approach. Making a transition from being swadesi to global in their industrial and occupational approach will help manufacturers and other industry members witness a gradual positive change. The conference also focused on the importance to stay aware of the changes happening around and develop a healthy organizational culture to ensure healthy economic growth.



The two-day seminar brought out some brilliant suggestions and prescriptions from the speakers in the past two days. Through this initiative, XIME with its legacy of 25+ years, successfully focused on discussing and debating the policies, strategies and steps that should be taken in future with regards to not only manufacturing but also sectors such as agriculture, information technology and software, pharmaceutical, skill development, design-based technology to achieve overall organizational growth.





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