

# METALWORLD

Devoted to Foundry & Non-Ferrous Metals Industry

Vol. 20 No. 05

May 2021

Registered-RNI No. MAHENG/2002/7908

[www.metalworld.co.in](http://www.metalworld.co.in)



■ Greycast Patent on Titanium Based Alloys makes India as Atmanirbhar Bharat

**Yash Singh**

CEO, Greycast Founders and Director,  
Amar Founders Pvt. Ltd.

■ Acutrak® - Direct Electric Heat (DEH) system well suited for Aluminum Die casting operation



■ M&M Foundry unit won the most coveted "Rise Awards 2020" Most Impactful Sustainability Project Award : 2020

■ BALCO embraces smart technologies to combat COVID-19 and boost productivity

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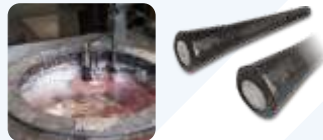
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# METALWORLD

Devoted to Foundry & Non-Ferrous Metals Industry

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## D. A. Chandekar Editor

Dear Readers,

As an important input for infrastructure building, metal has always been very vital industry for the growth of the national economy. No industry can exist without the usage of metals and thus it is the main driver for not only the industry but also for the present structure of the society. The professionals like me who have spent multiple decades in this industry will always take pride in this association with the core industry like metals. A lot of sectors like infra, auto, construction, engineering and so many others use metals as a major input and their fortune is in a way linked with that of metals. Thus it is always a good feeling to be associated with such an important industry vertical of the economy.

The reason to narrate all this is that today our industry has added one more feather in its cap. As we all know, the second wave of the deadly corona virus has hit our country and we are all fighting with it for our survival. The country as on today lacks medical equipments as well as the infrastructure to combat this pandemic. All our big metal producing plants have diverted their funds and also the

## Editorial Desk



infrastructure to support this medical emergency. Steel plants have been diverting their oxygen for this purpose instead of using the same for iron & steel production. It is the manifestation of their love for the country, for the people and our industry has made all of us, the whole metals fraternity, feel proud about it. Today, a lot of big covid hospitals, covid care centres are being developed by integrated metal producers and thousands of patients across the country being treated there are thanking our industry. It is a really great feeling !

We all remember that in the first wave of this deadly pandemic, there was an acute shortage of ventilators and related equipment. Many companies from auto sector like Tata Motors, Mahindra & Mahindra rose to the occasion, quickly developed cost effective and multi user model of ventilators indigenously and supplied in huge numbers for this medical emergency. Mind well, they had to forego their regular vehicle production during this period. What a great patriotic gesture ! Like this a lot of help was extended by other industries as well. At individual level too, we see countless examples of such humanely behaviour. The corona pandemic is no doubt disastrous and may have posed a big threat to human existence but at the same time, has taught us a few lessons of humanity as well.

Our country may be fragmented with many religions, castes, languages, cultures etc. but such incidences assure us that from within we are one and especially at the time of crisis, we will forget all our differences and fight the situation in a united manner. Jai Hind !

*Write your comments :*

**<https://metalworldac.wordpress.com>**



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# ALUMINIUM

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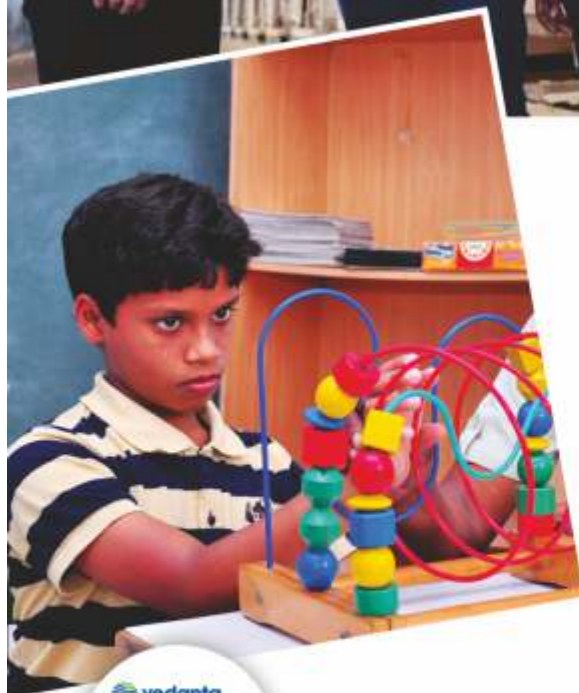
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## Greycast Patent on Titanium Based Alloys makes India as Atmanirbhar Bharat



"Our Patent for the invention of a new Titanium based alloy, in the Non Sparking tools industry has been approved. Our invention is to form an integral part in the Non-sparking tools industry, and led to an invention in an industry, which had not experienced any kind of change in the last 100 years."

**Yash Singh**

CEO, Greycast Founders and Director,  
Amar Founders Pvt. Ltd.

Yash Singh envisioned GREY Group in 2015 to exponentially expand his conventionally run family managed foundry business.

He leads Greycast Founders (CEO) & Amar Founders Pvt. Ltd. (Director) with manufacturing competencies in manufacturing and exports of metal castings for various Oil, Gas and Petrochemical equipment manufacturers.

At 25, he was also the youngest chairman of Institute of Indian Foundrymen – Greater Mumbai Chapter, the youngest chairman in the 70 years of the said Institute, which is the apex body of the foundry industry in the country.



sparking tools industry, and led to an invention in an industry, which had not experienced any kind of change in the last 100 years. Non-sparking tools are those tools which are used in areas which are combustible in nature, for eg. Oil & Gas industries, the same are also widely used in plastic and in the ammunition industry. This new technology has a forward integration to our existing manufacturing business.

Since, the foundry business always requires some form of research and study in a day-to-day life of a Foundryman, Yash stumbled upon the ill-effects being caused by the usage of Copper Beryllium in the non sparking tools industry.

Copper Beryllium has been used as an alloy in the non-sparking tools industry

D A Chandekar, Editor& CEO, Metalworld had an exclusive interaction with Yash Singh, CEO and Director of Greycast Founders & Amar Founders Pvt. Ltd. respectively.

Excerpts :

**As being the successful youngest entrepreneurs in the**

**foundry, how do you analyze the role of innovation for the successful business model?**

In March 2021, my Patent for the invention of a new Titanium based alloy, in the Non Sparking tools industry has been approved. Our invention is to form an integral part in the Non-





## Face to Face

for many decades now, however, Copper Beryllium poses several threats and disadvantages of its usage. A significant disadvantage of Copper Beryllium is the toxicity of its dust, fumes and soluble salts, which can cause a severe health hazard to the workforce dealing in Copper Beryllium, which is known as Chronic Beryllium Disease popularly known as (CBD), an irreversible and sometimes fatal scarring of lungs.

OSHA (Occupational Safety and Health Administration) a body



responsible for protecting worker health and safety in the United States has been formulating plans and standards for the general industry, construction and the shipyard industry to limit the exposure to beryllium amongst the employees and to inculcate certain procedures to control the serious and sometimes fatal diseases which comes with the use of Beryllium.

In 2017, The Occupational Safety and

Health Administration (OSHA) issued a final rule to prevent chronic beryllium disease and lung cancer in American workers by limiting their exposure to beryllium and beryllium compounds. The rule contains standards for refineries, general industry, construction, and shipyards.

Since, the usage of Copper Beryllium has not been barred by any country or organisation, it is being used rampantly in all the industries. In order to rectify the use of Copper Beryllium, we were able to come up with an alloy called Copper Titanium which has not only the properties of not creating a spark while in use, but also has a significantly better tensile strength than Aluminium Bronze or even Copper Beryllium (two of the most famously used alloys in the non-sparking tools industry).

In the year 2020, we founded a new start-up, GREY Safety Tools Pvt. Ltd., for the marketing and distribution of these non-sparking tools manufactured using the new, patented Titanium alloy. Within just a year the new vertical has been able to cater to major Oil & Gas giants in the country of the likes of IOCL, BPCL, HPCL, ONGC, GAIL etc. saving their expensive imports cost and providing a giant leap towards our Make

in India campaign. The company is rapidly growing by adding distributors in all Oil producing regions of Middle East, North America and Russia.

Our patented technology has not only reduced the health hazards in the non sparking tools industry but also eliminates expensive imports and enhances manufacturing of such non sparking tools in India.

Thereby aiding the vision of Atmanirbhar Bharat by providing an import substitute for a key product, non-sparking tools used in Oil & Gas refineries. Albeit not being an engineer by education, I am able to obtain a patent for the manufacturing of the critical titanium alloy as an import substitute for the expensive Beryllium non-sparking tools used by all refineries in our country.

Therefore, our efforts on the invention of this patent have been highly successful, as this patented technology has been vastly accepted and embraced by almost all the PSUs in India, and they have been reaping benefits of this new alloy. The PSUs in India have been able to cut down their costs of imports caused by the use of Copper Beryllium. The non sparking tools industry in India have been able to almost eliminate imports completely by this invention.





## Face to Face

In my opinion we would be able to spread the awareness and the misuse of Copper Beryllium all over the world. Hence, our team at Grey Safety Tools Private Limited is overly optimistic that this alloy shall change the way the non-sparking tools industry functions, and that no industrial worker shall have to face the grim effect of the use of Copper Beryllium.

An innovator at heart, during Covid lockdown in 2020, we have also been successful in filing another patent in the Oil & Gas industry, and has been able to solve numerous problems, which are acquainted with the valves used in refineries.

**Do you think that your operational excellence could bode well for the company in the future?**

I have been awarded with the prestigious Young Foundryman of the Year

Award at the Indian Foundry Congress at New Delhi in 2018. I have completed my studies from the SP Jain Institute. I am responsible for the expansion and overall management of the business of their Company. I have been instrumental in leading the core team of their Company. I am trying my best to devote my entire valuable time for the company's growth in the capacity of CEO.

**What are the best casting solution you offered to your customers?**

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**Could up please tell us more about your strategy towards product quality?**

We are an ISO 9001: 2008 certified company. The quality approach of our organisation adds an extra dimension to our product. Experience is an invisible ingredient poured into every casting made by us. Checks and Rechecks are continuously exercised at various stages to ensure that only the perfect product reaches our customers. We are a Crisil Rated company with our CV code: 200655124519. At Grey Cast Founders quality is the way of life. ■



**Amar Founders Pvt. Ltd.**



Mr. Yash Singh receiving the prestigious Young Foundryman of the Year 2018 award held at Indian Foundry Congress in New Delhi.



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# Acutrak® - Direct Electric Heat (DEH) system well suited for Aluminum Die casting operation

## Introduction

Traditional aluminum melting furnaces include fossil fuel fired furnaces, resistance furnaces and Induction furnaces. Increased interest in aluminum melting equipment is driven by the growth in aluminum production in especially in aluminum castings. Aluminum's lightweight and superior mechanical properties make it the metal of choice in the energy conscious transportation industry. As per AFS the production of aluminum will continue to increase worldwide at a rate of 3.9%. Aluminum before it is cast in to final shape is often melted two or three times and modern melting equipment must meet a number of requirements including energy efficiency, minimum metal loss, superior metal quality and ease of use. Beside operational efficiency and product quality, the furnace should be affordable as an initial investment and in maintenance costs. By their construction the furnaces can be divided into crucible, reverb and induction. The sources of energy used by the furnaces may be liquid

fuel, gas or electricity.

Energy cost is the prevailing factor in selecting proper furnace. The prices for natural gas and oil have increased as the world supply for these commodities is limited. The direct burning of fuel causes environmental problems. Electricity on the other hand is generated from coal, wind, solar and nuclear sources.

## Types of furnaces available for aluminum melting

### Wet bath Reverb furnace



The wet bath reverb furnace melts the metal by radiating heat into the metal surface. The burners used have typically been conventional with high velocity or with radiant roof design. Metal is charged directly into the bath. It has been the most common furnace approach in the large casting foundry.

### Dry hearth furnaces



The dry hearth furnace consists of two chambers, dry and wet. They provide flexibility in melting all sorts of scrap and large sows and T-bars. The furnace allows all melting done in a sloping hearth from where metal flows in to a separate holding chamber. Since both the melt and hold chamber are separately controlled, it allows for close temperature control. These furnaces typically use conventional burners but also can be provided with regenerative burners.



**Prakash Chaubal**  
Sr. Vice President  
(Business Development),  
Inductotherm (India)  
Pvt. Ltd.,

### Stack Melters.







## Technology

The stack melters like dry hearth furnace also has two chambers dry and wet. The original stack or tower melters accepts all charges through exhaust stack. The heat normally exhausted is used to preheat the scrap or ingot being charged reducing the fuel usage per kg melted.

### Electric furnaces

#### Electric resistance crucible furnace



Electric resistance crucible furnace is most commonly heated with metallic elements or silicon carbide rods. In resistance furnace, electric current heats silicon carbide rods or high temperature wire elements to a high temperature. The heat is then radiated onto the crucible walls. These furnaces are well insulated with ceramic fibre and are available in number of configurations such as stationary, tilt and bail transfer. Efficiency of resistance furnace is better than fuel furnace. But the temperature regulation is very poor due to huge amount of energy stored outside the metal bath in

heating elements, crucible and insulation. Schematic construction and distribution of stored energy in crucible resistance furnace is shown in figure 1. These furnaces are commonly used in holding applications at diecasting machines.

#### Induction Furnace

Induction furnace transfers the energy into the molten bath by inducing AC current directly into the metal by a magnetic field generated by an induction coil. Efficiency of induction furnace depends on the ratio between electrical resistivity of molten metal and resistivity of copper coil.



Aluminum has low electrical resistivity compare to copper and therefore efficiency of aluminum induction furnace is only 55 to 60 % (as compared to 75 to 80% when an induction furnace is used to melt ferrous metal).

Because 40 to 45 % of power is lost in the coil, the coil is typically water cooled.

Electromagnetic forces inherent to induction vigorously steers lightweight aluminum. But sever stirring may break this protective thin oxide layer on the molten metal surface and can cause excessive formation of dross and inclusion in molten metal. Therefore in most cases the power density and frequency of furnace are limited to minimize the dross formation.

The induction furnace has the best thermal regulation of all aluminum melting furnaces, because the energy is delivered directly to the molten bath and no other components stores the heat.

#### Direct Electric Heat (DEH) furnace – the real answer.



Answering the aluminum industry need for an efficient, reliable, highly productive, controllable and furnace with improved safety, Inductotherm came out with new type of furnace called Acutrak® Direct



## Technology

Electric Heat (DEH) furnace which effectively uses an air-cooled induction coil to directly heat an electrically resistive crucible, typically made up of silicon carbide. Because silicon carbide naturally has the high resistivity, the coil is selected such that 95% energy is released in the crucible wall. This facilitates higher furnace efficiency. However the same skin effect that helps concentrate induction current in the crucible would also be responsible for the concentration of electric current in a thin layer on the inner surface of a typical induction coil negatively affecting furnace efficiency.

This problem was resolved by replacing traditional copper tubing with a special conductor. This special conductor helped to eliminate "skin effect" in the coil, resulting in further increase in furnace efficiency. The combination of highly resistive crucible and highly conductive coil conductor resulted in exceptionally high furnace efficiency of about 95 %.

The construction of the furnace minimizes the heat losses conducted to the outside and therefore limiting the hold power to 5%. Because the losses in the coil is so low, the traditional

coil losses is replaced by air-cooling, increasing safety.

The high frequency that allows concentration of 95% of the current in the crucible wall also minimizes electromagnetic stirring force in the molten bath assuring gentle movement of the metal. The protective oxide surface is preserved and therefore the loss of metal to dross is absolutely minimal.

Finally since only the molten bath and the silicon carbide crucible are hot, the external storage of energy is minimal. Therefore the temperature overshoot is small – on the order of 5 to 7 degree C. And can be predicted and controlled easily by the control system.

### References:

- 1) Direct Electric Heat Melting furnaces for Aluminum and Non-Ferrous Metals – Oleg Fishman – Inductotherm Furnace Group
- 2) Inductotherm – Acutrak Bulletin – M2554 - 2009 ■





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## News Update

### EV game-changer for Aluminium-based battery can triple the range



Lithium-ion battery-powered electric vehicles for sale take about 8-10 hours to fully charge when connected to an AC wall box charger. EV running costs are significantly lower, but at the same time, range concerns are what automakers around the world are trying to address.

A study conducted by the Australian clean tech company Graphene Manufacturing Group (GMG) in collaboration with the University of Queensland invented a coin cell that uses perforated graphene surfaces in an aluminum-ion battery.

Craig Nicol, CEO of GMC, said: "These aluminum-graphene batteries operate at the same voltage and have a similar shape to lithium-ion batteries. However, because they are hybrid battery superconductors, they can hold three times as much energy and can be recharged. It takes up to 1/70."

GMG uses technology developed at UQ to manufacture commercial battery prototypes for watches, phones,

laptops, electric vehicles and grid storage. The true distinguishing factor for these batteries is the extremely high power density of up to 7,000 watts / kg, which provides a very high charge rate.

Nicole said, "Currently, in 6 months we will provide a commercial prototype of a coin battery for customer testing, and in 18 months we will provide a commercial prototype of a pouch pack used in mobile phones, laptops, etc. for customer testing. I'm considering it." According to GMG Chief Scientific Officer Ashok Nanjundan, this can provide a true alternative with battery technology that can replace existing lithium-ion batteries in almost any application.

"Our batteries currently have a nominal voltage of 1.7 volts, which increases the energy density as we work to increase the voltage and replace existing batteries directly," says Nanjundan.

Graphene aluminium-ion batteries extend battery life (so far, over 2,000 charge / discharge cycle tests without compromising performance), battery safety (very low fire potential), and environmental friendliness. It has a great advantage in terms of reducing the impact (improving recyclability).

In addition, the use of nickel, cobalt and copper is not required to manufacture aluminum-graphene batteries. "So it will give sovereignty and resilience around the energy sector. Aluminum is one of the most recyclable metals and reduces stress on the mining industry," said Craig. EV game changer? Aluminum-based battery triples range and charges 70 times faster

### Vedanta - Aluminium, Zinc India continue to drive earnings - ICICI Securities



Vedanta reported lower than expected EBITDA with Q4FY21 print at Rs90.3bn against Rs101.7bn expected. Oil and gas, power and Zinc international operations disappointed, while Aluminium operations continue to surprise on the back of better than expected cost control. FY21 witnessed lowest Aluminium COP in last 7 years at US\$1,347/te, down 20% YoY, while achieving highest ever Aluminium production of 1.969mnte, with 2.1mtpa run rate achieved in Q4FY21. Aluminium along with Zinc India operations continue to drive earnings for Vedanta, as Oil and gas continue to disappoint. FY22E growth capex guidance has been set at US\$1.1bn against



## News Update

US\$300mn for FY21. Rs63bn capex has been announced in the Aluminium operations including Lanjigarh refinery expansion from 2mtpa to 5mtpa for Rs46.8bn. We maintain REDUCE with a revised target price of Rs248 at FY23E PB of 1.5x given our revised FY23E RoE expectations.

- Rs63bn capex announced, to further augment earnings from the Aluminium business. 3mtpa expansion of Lanjigarh refinery (targeted completion of Q1FY23) for Rs46.8bn; Rs10.5bn for 100ktpa Jharsuguda smelter expansion along with investment in rail infrastructure. Rs3.48bn has been allocated for expansion of rolled product facility at BALCO from 50ktpa to 130ktpa. Rolling capacity (billet) in Jharsuguda smelter to be increased by 120ktpa with an investment of Rs1.94bn. Aluminium projects added US\$300mn towards growth capex in FY22E. Q4FY21 EBITDA surprised because of higher sales and better than expected cost control.

- Oil and gas business EBITDA disappoints. While operating costs have increased from US\$7.7/boe to US\$9/boe QoQ, EBITDA hardly increased US\$0.9/barrel even as Brent prices increased US\$14/barrel. There can be many reason for the margin underperformance including higher discount applicable to increasingly higher gas production. Production lags expectations, increasing only 3.3%QoQ in Q4FY21. Management guides for 175-185kboepd in FY22, another muted print with 105-106kboepd of base production (down 6-7% YoY) and 70-80kboepd from the growth projects. There is a natural decline of 20% that Rajasthan is experiencing, restricted at 6-7% through decline management and optimisation activities. US\$203mn has been allocated towards additional infill wells.

- Zinc International: Gamsberg Ramp up Plan. Vedanta plans to ramp up Gamsberg from 145kte in FY21 to 190-210kte in FY22E; capacity in the first phase of the expansion being 240ktpa. The increase is targeted through i) improvement in equipment run hours by 30% ii) improve recovery from 75 to 85% and iii) increase mill and crusher throughput with a target ore treatment of 4.8mtpa. Given the current RnR and the ability to access the same through multiple open pit mines, with the stabilization of the concentrator plant operations management feels confident to soon embark for the next phase of expansion in Gamsberg i.e 500ktpa. Q4FY21 disappointed on volumes as well as margins. While Gamsberg has been ramping up, Zinc international is not being able to deliver the expected earnings trigger.

## Novelis posts 180% rise in net profit to \$176 million for March quarter



Novelis, a wholly-owned subsidiary of Hindalco Industries posted a 179.3 per cent rise in net income to USD 176 million for the quarter ended March 31, 2021.

The company had posted a net income of USD 63 million in the year-ago period, Hindalco Industries said in a filing to BSE.

"Novelis Inc, the world leader in aluminum rolling and recycling...reported net income attributable to its common shareholder of \$176 million in the fourth quarter of fiscal year 2021, and net income from continuing operations of \$180 million, up 179 percent and 186 percent, respectively, versus the prior year," the filing said.

The company's net sales during the quarter increased to USD 3,631 million, over USD 2,726 million in the year-ago period.

Net sales increased 33 per cent over the prior year to USD 3.6 billion for the fourth quarter of fiscal 2021, primarily driven by a 21 per cent growth in shipments, favourable product mix and higher average aluminum prices, it said.

"Guided by our purpose and driven by the resilience of our people and the strength of our partnerships, we safely navigated this extraordinary year to achieve outstanding results," Novelis Inc President and CEO Steve Fisher said.

"With the ongoing successful integration of Aleris, a diverse and innovative product portfolio, and unmatched geographic footprint, we have proven our ability to deliver sustainable aluminum solutions to customers in a way that resulted in record financial performance.

"Looking forward we will continue to pursue growth opportunities through organic investment, while working towards creating a more sustainable and circular future for our business, industry, and society," Fisher added.

Novelis' primary focus remains the health and well-being of its employees. The company continues to closely monitor the changing landscape with respect to the COVID-19 pandemic and is taking actions to manage its business and support customers, it added.

Novelis has bolstered its environmental health and safety protocols to align with guidance from global health authorities and government agencies across company operations to help ensure the safety of its employees, customers, suppliers, communities and other stakeholders.



## News Update

### Liquid Medical Oxygen supplies by Jindal Stainless

New Delhi, May 6, 2021: In the wake of the rising demand for Liquid Medical Oxygen (LMO) due to the second wave of the pandemic, Jindal Stainless has been constantly supplying LMO from both stainless steel manufacturing facilities in Hisar in Haryana and Jajpur in Odisha. At present, the daily dispatch of LMO from the Hisar unit is ~9.5 tonnes/day on an average to nearly 50+ medical facilities in Haryana and Delhi-NCR. The Odisha unit has been supplying 40 tonnes/day LMO to several medical facilities in Odisha and Andhra Pradesh.

Over the last two weeks, Jindal Stainless has dispatched a total of 845 tonnes of total LMO to various medical facilities across the country. Additionally, the Company has agreed to supply LMO to the upcoming 500-bed COVID Hospital being set up in the premises of OP Jindal Modern School in Hisar.

### Nalco extends support to create health infra in Odisha



State-owned Nalco said it is supporting the 70-bed Covid centre at Saheed Laxman Naik Medical College at Koraput, Odisha to make the facility fully operational.

Similarly, Nalco is also supporting a 66-bed COVID healthcare facility at ESI Hospital in Angul, Odisha by bearing the cost of the total operation and maintenance of the facility, the PSU said in a statement.

### Amara Raja Group announces inoculation drive for all its employees and their families

As a responsible corporate citizen committed to give back to the community it serves, Amara Raja Group, recently announced that it would be carrying out inoculation drive for all its employees and their immediate family members. Safeguarding employees' health and wellbeing has always been one of the topmost priorities for Amara Raja Group. The announcement comes soon after the Government launched its vaccination program for all Indian citizens aged between 18 and 44.

For all their plant location employees, Amara Raja will initiate the workplace vaccination programme as per the Government guidelines, partnering with authorised healthcare organisations/agencies/PVCs and ensure that each of their employees get vaccinated, irrespective of their age, 18+. For all other employees, in non-plant locations, the cost for vaccination will be reimbursed to the employees.

Beyond the employees, Amara Raja also announced that it

will provide reimbursement of the cost of vaccination for three immediate members of the family of all employees. Being eligible for this inoculation himself, Mr. JayadevGalla, Co-Founder and Vice Chairman, Amara Raja Group said, *"The second wave of the pandemic has gripped us all and the situation presently is worryingly unprecedented and uncertain. While, as an Organisation, we really laud the Government for their concerted efforts to help us wade out of the health crisis, we wanted to do the best we can on our part. We understand how indispensable it is for everyone to get vaccinated at the earliest and therefore, we are undertaking this collective drive for each of our employees, across ranks, as well as their immediate family members. We will actively participate and lead other such initiatives in the future, as and when the need arises."* Prior to the pandemic, in the past, Amara Raja Group had undertaken several such initiatives for the benefit of their employees and other stakeholders.

### Epsilon & Beowulf Mining sign MOU to set-up Joint Venture operations in Finland

· Epsilon & Beowulf to jointly establish strategic processing hub for both natural flake and recycled graphite in Finland  
· JV to market anode material for the lithium-ion batteries in the Nordics and Europe

Epsilon Advance Material (EAMPL), a subsidiary of Epsilon Carbon, signed a MOU with Beowulf Mining plc to establish a joint venture company in Finland.

The MOU acts as a formal market entry vehicle for Epsilon for supplying anode material into Europe by firmly

establishing itself in Finland. The MoU also enables Beowulf's wholly-owned subsidiary Oy Fennoscandian Resources AB ("Fennoscandian") to build its downstream capability, collaborating with a strong and innovative technology/processing partner.

According to the agreement, Epsilon and Beowulf will jointly develop a strategic processing hub for both natural flake and recycled graphite in Finland. The JV with its Active Anode Material project targets to be a prominent





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## News Update

player in the European Lithium-ion Battery ecosystem. Commenting on the MOU with Beowulf, Mr Vikram Handa, Managing Director of Epsilon Advance Materials Private Limited said, "We actively support the development of the Finnish Active Anode Material supply ecosystem and with the Beowulf MoU we see potential to develop a Finland based Natural Graphite business. Over the past three years Epsilon has been working closely on a range of innovative Carbon Products which will create substantial value over the long term. We are happy to partner with Beowulf and derive sustainable value from their Resource Base Aitolampi asset."

According to Kurt Budge, Chief Executive Officer of Beowulf, "We are very pleased to have signed a MoU with EAMPL. This MoU is part of our acceleration plan for Fennoscandian, as the Company fulfils its role as a potential future supplier of the raw materials, that Finland and Europe need for manufacturing lithium-ion batteries. In EAMPL, we have found a partner who shares our sustainability values and we are looking to an exciting future ahead."

About Beowulf Mining Plc: Beowulf Mining plc is an exploration and development company, listed on the AIM market of the London Stock Exchange and the Spotlight

Exchange in Sweden. Beowulf's vision is to build a sustainable and innovative mining company, which creates value by developing mining assets in partnership with communities, delivering production and generating cash flow, and in so doing meets society's ongoing need for metals. The Company's asset portfolio is diversified by commodity, geography and the development stage of its various projects, and features metals and minerals in demand to facilitate an economic 'Green Transition' and for addressing the climate emergency. Fennoscandian Resources ("Fennoscandian"), the Company's graphite business, is pursuing a strategy to develop a resource/production base of natural flake graphite that can provide 'security of supply' and enable Finland to achieve its ambition of self-sufficiency in battery manufacturing. The Company is a recipient of Business Finland funding, which is supporting Fennoscandian to move downstream, and develop its knowledge in processing and manufacturing value-added graphite products. The Company is developing the Aitolampi graphite asset, which has a contained graphite resource of 1,275,000 million tonnes, possessing almost perfect crystallinity, an important prerequisite for high tech applications, such as lithium ion batteries.

## Ask Chemicals Special powder enhances productivity and quality



The mold powder from ASK Chemicals Metallurgy is a multifunctional inoculant

that has been specially developed for the requirements of the production of centrifugal cast pipes made of spheroidal graphite and lamellar graphite cast iron. In addition to the efficient separating effect, the product fulfills other important features and is also available in customer-specific formulations on request.

The mold powder prevents or reduces wear on the water-cooled die molds. On the inside of the mold, the powder acts as a protective barrier against the hot melt, which extends the life of the mold. If the mold powder is used with very badly worn molds, increasing the addition rate can help to compensate for imperfections, avoid surface defects on the casting and ultimately reduce rework. The excellent separating effect of the mold powder makes it much easier to draw the pipe and prevents the mold from being damaged by stuck cast parts.

Strong inoculation effect improves quality

As inoculant experts, ASK Chemicals Metallurgy paid particular attention to the inoculation effect when formulating the product. The use of water-cooled die

molds in centrifugal casting leads to the formation of undesirable carbides and, as a result, to an impairment of the mechanical properties of the final product and even to the cast iron pipes fracturing. The particularly strong inoculation effect of the mold powder from ASK Chemicals Metallurgy reduces the formation of carbides and leads to the targeted and desired structure formation. "Our customers are using this product very successfully in the production of centrifugally cast pipes made of cast iron with spheroidal graphite or lamellar graphite," explains Thomas Feichtner, Global Business Line Manager Metallurgy. "If necessary, our experienced metallurgists from technical service work together with the customer on-site to determine the best formulation of the mold powder for the specific application and individual circumstances."





### India to explore if there can be co-development of mining and ecology

The decision by the Forest Advisory Committee of the Ministry of Environment, Forest and Climate Change (MoEFCC) came during its meeting on March 24, 2021. The panel was hearing the request of Odisha Mining Corporation (OMC) regarding the non-forestry use of 1,243.27 hectares of forest land for Dubna-Sakradihi iron and manganese ore mines in the Keonjhar region of Odisha. Of the total forest area required for the mining project, 957 hectares are moderately dense forest while 175 hectares is open forest.

It was considered earlier by the forest panel in January 2020 when the Committee had deferred the proposal seeking certain clarifications from the Odisha government which was finally sent in February 2021.

The Committee "after thorough deliberation and discussion with the nodal officer of Odisha" and others recommended, "the proposal for in-principle approval" for the project with several conditions.

It stipulated that the encroachment over the forest land in the proposed area shall be removed by the state government and it shall be ensured that "rehabilitation of evicted encroachers does not take place on forest land."

The expert forest panel observed that the user agency (OMC) "does not propose to subject the whole lease area to mining/ancillary use in one go in the beginning of the proposed lease period."

"Some areas may be worked 10/20 years after the commencement of leases, and such areas could be

productively used for growing short rotation forestry crops in such interim period. If so, the life cycle ecological cost of the mining project would reduce considerably, besides financial benefits to the leaseholders," said the panel in the minutes of the meeting.

The FAC directed that the Odisha government shall, therefore "initiate a pilot study, at the cost of user agency, through an institute of national repute like ICFRE (Indian Council of Forestry Research and Education, IIFM (Indian Institute of Forest Management), which can explore a model of use of the degraded forests within the mining lease for more productive biological uses (raising short rotation forestry crops)."

It noted that these short rotation crops for intermittent periods during the "currency of mining lease period in a way that the ecological services continue to flow in an augmented manner and at the same time mining activities are not adversely affected."

Some of the ecological services that these rotation forestry crops could provide are biodiversity conservation, carbon storage, provision of clean drinking water and other non-timber goods.

The forest panel was of the view that such a model should enable the mining company to raise additional revenue from the lease area and, "if successful, such models could be replicated elsewhere also for co-development of mining and ecology."

### Reforms in the mining sector need to be reviewed

Mining has been a critical economic activity since pre-historic times and is closely linked with the development of human civilisation. In the modern world, mining has become central to the industrial progress of nations. India is a resource-rich country and mineral deposits are found over 17 per cent of the geographic area of the nation. However, the mining of major minerals is spread over only around 3.258 lakh hectares as per the annual report of the Ministry of Mines for 2020.

The growth of industries is linked to the efficiency of our mining operations. The progress in the production of steel, automobiles, the shipping industry, the railways and ports and so on, is directly linked to the productivity of the mining sector. Besides bringing economic progress mining provides employment to a large number of unorganised sector workers and the rural population. It provides direct employment to over one crore people and helps more than five crore earn their livelihood.

However, there are negative impacts of mining as it destroys the soil, causes severe environmental damage and pollutes the water bodies and rivers and adjoining agricultural fields.

The mineral extraction operations have been in the eye of a storm for decades as environmentalists have accused the mining companies of illegal prospecting. The Supreme Court intervened and issued directions to set mining on the right trajectory, especially in the States of Karnataka, Odisha and Goa. The apex court's appointed task force for Environmental Impact Analysis of iron ore mining in Karnataka during 2011-12, recommended steps for scientifically-sound and environmentally-sustainable mining practices. This included a futuristic plan of action for the next 50 years and the creation of a District Mineral Fund for the development of mining-affected areas.





## News Update

### Top mining districts in Jharkhand poor on environmental parameters

Jharkhand accounts for more than two-fifths of the mineral wealth of the country -- including 27 per cent of its coal resources, 26 per cent of its iron ore resources, and 18 per cent of its copper ore resources.

A Sustainable Mining Attractiveness Index (SMAI) developed by Delhi based Centre for Social and Economic Progress (CSEP) has revealed that the best performing districts in terms of mining activities among the 24 districts of Jharkhand ranked lowest on environment parameter while the lowest ranked districts in terms of mining ranked among the top 10 on the environment pillar.

### ICSG sees copper supply outstripping demand in 2021, 2022

Following a significant copper shortfall last year that drove a price rally, the International Copper Study Group (ICSG) is saying that copper supply will outstrip demand this year and next year.

The ICSG is forecasting market surpluses of 80 000 t and 110 000 t for 2021 and 2022, respectively. This is after a sharp increase in Chinese apparent refined copper usage pushed the market to a deficit of 600 000 t in 2020.

The group notes that world copper mine production, adjusted for historical disruption factors, is expected to increase by 3.5% in 2021 and 3.7% in 2022, as output recovers from the 2020 Covid-19 constraints and new projects enter production.

Some of the major copper mines starting in 2021 and 2022 include Kamo-a-Kakula in the Democratic Republic, Quellaveco in Peru, Spence-SGO and Quebrada Blanca QB in Chile, as well as Udokan in Russia.

Refined copper production is forecast to rise by 3% in 2021 and 2022.

Apparent refined copper usage is expected to remain unchanged in 2021 and to grow by 3% in 2022. The ICSG notes that copper is essential to economic activity and even more so to the modern technological society and will thus continue to report sustained demand growth.

### Covid-19 second wave: Sterlite Copper dispatches first batch of medical oxygen

Vedanta-owned Sterlite copper smelter plant in Thoothukudi has dispatched the first batch of medical-grade oxygen to Tirunelveli Medical College Hospital. Following the orders of the Supreme Court, the Tamil Nadu Government in April provided permission for the copper smelter plant to reopen and operate its oxygen units for a



period of four months.

Thoothukudi Collector K Senthil Raj, who flagged off the consignment, said the first tanker with 4.8 tonnes of medical-grade oxygen was dispatched at 7 am. Police personnel were been deployed to escort the vehicle to the destination.

A statement from the Vedanta management said that they would be dispatching two oxygen tankers on a daily basis in the beginning and would gradually scale it up as they expand production. They said that one of their oxygen plants commenced production on May 12.

"The oxygen supplied is of 98.6% purity and has received the necessary medical-grade certifications. We are now working with experts to resolve the logistics involved in transporting the oxygen produced in our facility to required parts of India, and are coordinating with authorized nodal agencies in this regard," the statement read.

The members of the monitoring committee constituted by the state government to supervise the production of the medical oxygen plant first visited the plant on May 5. Collector K Senthil Raj, who is the state-appointed chairperson of the committee inspected the various facilities and provided permission to supply water and electricity to the plant. The committee made a second visit on Wednesday to review the preparations before providing a green signal for the commencement of the production. The second plant in the unit is also expected to generate oxygen within a couple of weeks.

### Rio Tinto invests C\$25.6m in Canadian copper junior

The share price of Toronto-listed Western Copper and Gold surged 24% on Monday, after the company announced a C\$25.6-million strategic investment by Rio Tinto Canada to advance its Casino project in the Yukon. Rio Tinto has agreed to subscribe for, and purchase, 11.8-million shares at C\$2.17 each, resulting in the major owning about 8% of Western's outstanding common shares.



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## News Update

### BHP readies to grow copper output

Diversified miner BHP has unveiled plans to grow output from its 'future-facing commodities', with CEO Mike Henry saying that plans were in place to increase average copper production over the next five years by more than 300 000 t/y.

Speaking at the Bank of America Securities 2021 Global Metals, Mining and Steel Conference, Henry noted that the company's current portfolio was well positioned to support the expected increase in demand for commodities that would assist in global decarbonisation and economic growth.

"Government stimulus and pro-growth agendas, which are expected to remain in place for an extended period, are anticipated to lead to robust growth, a lift in inflation and solid demand for mineral resources and oil and gas. This is occurring at a time when our industry's capital discipline and decline in exploration success over a number of years means there are fewer high quality growth projects in the industry pipeline to meet this demand," Henry said.

"The drive to more rapidly decarbonise the globe may also accelerate demand for many of the products we produce. A growing number of governments are committing to tackling climate change with greater ambition and are cooperating to do so. A transition to a world where warming is limited to no more than 1.5 degrees above pre-industrial levels is positive for BHP and would allow us to create significant value.

"In a Paris-aligned scenario, we expect a more than doubling of the amount of primary copper and a

quadrupling of the amount of primary nickel demand over the next 30 years, as was produced over the last 30.

"Demand for steel will almost double on this basis, and potash will be vital for more efficient agricultural practices. And as the shift to cleaner energy sources occurs, the world will still need oil and gas to power mobility and everyday life on its pathway to decarbonisation," he said.

Henry noted that BHP remained focused on systematically unlocking even greater performance from its equipment and infrastructure, saying the company was enabling its people and investing in capability.

"Our portfolio is well-positioned. We produce commodities essential to everyday life, global economic growth and the energy transition. Around 60% of our production is in commodities that support steel-making, which we anticipate will see strong demand as the world decarbonises. Around one-quarter of our portfolio is currently in 'future-facing commodities', which for us are copper, nickel and potash, and we expect to grow this over the coming years. This includes an increase in average copper production over the next five years of more than 300 000 t per annum, equivalent to adding another Spence to the portfolio.

"Given our rock-solid foundations of a strong balance sheet and disciplined approach to capital allocation, we are positioned well to be able to continue to pursue new opportunities for growth.

As we have done for over a century, we will continue to meet the world's changing and growing demand for commodities."

### China April aluminium output hits record high as output curbs ease

*Primary aluminium output in China, by far the world's biggest producer of the metal, was 3.35 million tonnes in April, the National Bureau of Statistics said. That was up 2.3 percent from 3.276 million tonnes in March and 12.4 percent higher than production in April 2020.*



In the first four months of the year, China produced 13.02 million tonnes, a rise of 9.6 percent from the same period a year earlier, the data

showed.

April's daily output was 111,667 tonnes, a record high, versus 105,700 daily tonnes in March, which has one more day.

"Record high daily and monthly production are mainly due to high prices and ramp-ups of new capacity in China," said Wan Ling, aluminium analyst at CRU research.

Shanghai aluminium prices rose to multi-year highs during a stellar rally in recent weeks, giving smelters strong incentive to produce more.

Prices topped 20,000 yuan (\$3,106.70) per tonne last week, hitting their highest since 2011, and were trading around 19,800 yuan on Monday morning.





## News Update

### Vedanta Aluminium sets capex target of \$300 m for current fiscal



Vedanta Aluminium has set a capital expenditure target of \$300 million for the current fiscal, its Chief Executive Officer Ajay Kapur has said.

"Our most significant expansion will be at our Lanjigarh alumina refinery," Kapur said. "Subject to government approvals, the majority of our projects should be completed over the next 2-3 years," Kapur told *BusinessLine*.

Vedanta Aluminium, a vertical of Vedanta Ltd, is India's largest aluminium maker, producing 1.96 million tonnes in 2020-21. The business aims to ramp up its annual aluminium production capacity to 3 million tonnes, Kapur said.

#### Raw material

The production of aluminium requires twice the amount of alumina as raw material. Vedanta is raising the annual capacity of the Lanjigarh refinery, which produces alumina from bauxite, to 5 million tonnes from 2 million tonnes. Additionally, Vedanta also imported around 2 million tonnes of alumina in the just-concluded financial year, Kapur said. Both the Lanjigarh refinery and the firm's flagship Jharsuguda aluminium plant are situated in Odisha.

Vedanta last year won a case in the Supreme Court against public-sector alumina producer National Aluminium Company Ltd (NALCO) to be able to buy the alumina that NALCO exports. Though both NALCO and Vedanta have their production units in Odisha, the order requires NALCO to supply alumina to Vedanta at the Visakhapatnam port. Given the logistical hurdles, imports have remained a preferred way to meet the shortfall in Vedanta's in-house production of alumina, Kapur added.

The expansion of alumina capacity is aimed at plugging this gap, but the Lanjigarh refinery has also faced difficulty in sourcing its own raw material bauxite.

#### Bauxite reserves

Alumina production requires three times the amount of

bauxite. While half of India's vast bauxite reserves are based in Odisha, no bauxite mines have been successfully auctioned across India over the past six years. Vedanta met half of its bauxite demand through domestic procurement from public-sector miners and the other half from imports during last fiscal, Kapur said.

"We have urged the State government to expeditiously bring bauxite mines into auction," he added.

The firm also plans to set up an industrial park at Jharsuguda jointly with the Odisha government, Kapur said. "Our smelter and power plant can supply hot metal and electricity to MSME units at the aluminium park, who can be given a favourable policy environment," he said, adding that the business plans to spend ₹100 crore on this project.

Vedanta has committed to supply 3 lakh tonnes of hot metal to the proposed park, to be built in the vicinity of its aluminium smelter, where downstream ancillary industries would be able to set up their manufacturing units and draw hot metal from the smelter to manufacture their end-product.

"This will save them major transportation and remelting cost. We are under discussion with the Odisha government to finalise the modalities," Kapur said.

Vedanta Limited, a subsidiary of Vedanta Resources Limited, is one of the world's leading Oil & Gas and Metals company with significant operations in Oil & Gas, Zinc, Lead, Silver, Copper, Iron Ore, Steel, and Aluminium & Power across India, South Africa, Namibia, and Australia. For two decades, Vedanta has been contributing to India's growth story, currently contributing 1 percent of India's GDP. The company is among the top private sector contributors to the exchequer with the highest ever contribution of INR 42,560 Crore in FY 2019.

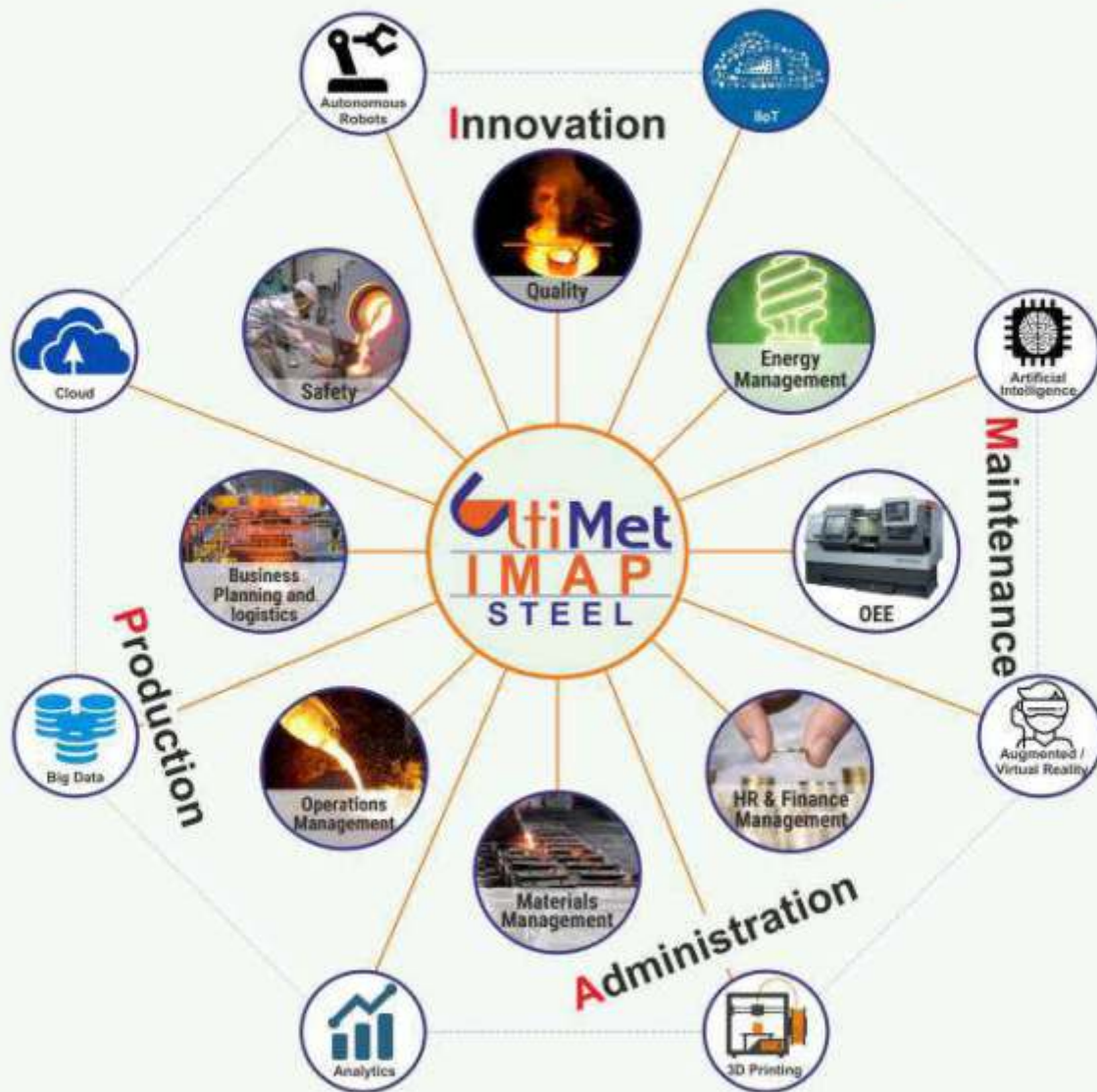
Governance and sustainable development are at the core of Vedanta's strategy, with a strong focus on health, safety, and environment and on enhancing the lives of local communities. The company has been conferred the CII-ITC Sustainability Award, the FICCI CSR Award, Dun & Bradstreet Awards in Metals & Mining, and certified as a Great Place to Work. Vedanta Limited is listed on the Bombay Stock Exchange and the National Stock Exchange in India and has ADRs listed on the New York Stock Exchange.

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## Feature

# M&M Foundry unit won the most coveted “Rise Awards 2020” Most Impactful Sustainability Project Award: 2020

**“Covid-19 pandemic** is the right time to contribute to the nation and society to fight against this unseen demon. M&M frontliner warriors were battling outside to save us so how about we are providing them the protection to break the cycle of transmission”.

**Amar Patil, M&M Auto Division**

Mahindra & Mahindra (M&M) Kandivali Plant is the mother plant of Mahindra Auto Sector division that operates on the Product Unit Concept. There are six product units producing aggregates and vehicle—Axle, Body, Engine, Foundry, Transmission and Vehicle. Apart from vehicle production, the plant produces and supplies aggregates to the company's other plants like Nashik, Chakan, Haridwar and Zahirabad, Igatpuri of Auto Division and to Mahindra Farm Division. Mahindra Kandivali plant has a Grey Cast Iron captive foundry which was commissioned in the year 1971. It has a built-up area of 2.5 acre and a dispatch capacity of 15,000 metric tons. The company

produces DI Cylinder Heads and Crank Case Castings which are one of the most difficult castings in the foundry industry. The Cylinder Heads constitute almost 80 percent of its production. The company is a Single Source for these casting products. Its customers are Auto Division, Farm Division, Power-all Gen-

sets and Agri business. It also exports castings to Mitsubishi Tractors Japan as well as Mahindra USA.

Recently, Mahindra & Mahindra Foundry division has been selected for RISE AWARDS 2020 which is the most impactful sustainability project award 2020 for achieving their sustainability goal.

While executing this project, team has challenged the conventional thinking and adopted innovative yet frugal solution which has resulted into multifold benefits in terms of carbon emission, productivity, Quality & Cost.







### 1. Platinum Award – Crisis Innovation: 2020.

From March 2020 Covid 19 started hitting India and since then it created panicking situation in everyone's life. In- fact march to June was a peak period where people were facing life and death situation mainly due to transmission of virus was increasing at a rapid speed. too much of negative news were around, Migrants went back to their hometown, Economy was hit, everyone's life was impacted.

The nationwide lockdown limited movement of the entire Population in India, Increasing Corona Cases, Janata Curfew & Lockdown was just the beginning of the long battle.

While we were staying safe at home the only category that was working selflessly and were at the forefront to fight against this outbreak was our frontline warriors.

By that time the medical authorities found that, the only solution to control the spread of coronavirus was to break the cycle of transmission. And to do that, one needs a protection or to be protected.

While responding to Covid-19 pandemic situation, Mr. Amar Patil, Auto Farm Division, M&M highlighted that " This is the

right time to contribute to the nation and society to fight against this unseen demon. our front liners were battling outside to save us so how about we are providing them the protection to break the cycle of transmission".

Hence knowing the problem there, M&M Team found an opportunity on providing the protection to our frontline warriors by creating Mahindra Face shields.

During the lockdown period, M&M Foundry plant courageously decided to prepare a team to manufacture face shields within the premises. It was an incredibly challenging task but under the guidance of our seniors we made it possible, and it all began on 29th March at our Kandivali Plant referring Design from our strategic alliance Partner – Ford.

Developing this idea of the face shields was a task and we went through multifold challenges because we are an auto making company plus everything was shut outside, there was a lack of manpower & raw material. But nothing stopped us. Our team came together to fulfil this mission.

The final Mahindra faceshield was ready

for packaging & dispatch on 2nd April. It was durable and can be sanitized for repeated usage, very light in weight, could easily accommodate eyeglasses & nose mask under the shield. It is Medically approved, and it has strong transparency. All these qualities helped our frontline warriors to break the virus transmission.

During Pandemic, total Face shields manufactured across all plant locations by our own employees were 4.6 lakhs. All face shields were distributed free for the cause under Mahindra Rise Philosophy. The distribution was done in 20 States and across 33 cities in India. This includes the tier 1, tier 2 & tier 3 cities.





## Feature

# BALCO embraces smart technologies to combat COVID-19 and boost productivity



Bharat Aluminium Company (BALCO), India's iconic aluminium producer, has been one of the first companies in India to explore the field of smart technologies in its manufacturing set up to monitor assets and processes and have real time analytics. Currently, amid the pandemic also, the company has deployed a smart combination of high-end technology and indigenous innovations to ensure health and safety of employees while maintaining continuity of business operations. BALCO believes in being an innovation driver.

Speaking on BALCO's vision and manufacturing



prowess Abhijit Pati, CEO and Director, BALCO, said, "The safety and security of our people and assets are of

paramount importance to us. BALCO has been one of the early adopters in India to explore the field of smart technologies in its operational set-up. These investments and skills further bolster the culture of safety and productivity that we have meticulously fostered across the organization. These technologies are standing us in good stead in the wake of COVID-19. We are ensuring a future-ready organization that can sustain production against all odds for a self-reliant India."

For integrating smart automation in its plant operations and to cease any manual intervention, BALCO has set up end to end Digital Dashboards for real-time data and trend monitoring of Power Plant operations, ensuring digitalization of the entire process. The digital dashboard is a key driver which gives access to historical data & digitized reports and reduces downtime time, enables quick decision making and analysis without manual intervention. BALCO has also completed the integration of control rooms of Coal Handling Plant of 540 MW and 1200 MW power plants and has established a

Centralized Control Room to avoid hampering of operations in case of any emergency due to the pandemic.

To bolster its security system BALCO has integrated various technological advancement into its security operations which have proven to be transformational in ensuring safety of people and asset during the pandemic. BALCO has launched an automated and highly sophisticated Centralised Security Operations Centre (CSOC) which has several cutting-edge security solutions ranging from edge-based security analytics for incident detection and response to effective management of security resources on the ground, besides enablement of intelligence collection. Deployment of CSOC enables BALCO's Security, Traffic Safety and Supply Chain Security functions to leverage digital intelligence and data insights for better and agile decision making.

Deepak Sharma, Safety Officer, RK Transport and Construction (RKTC), BALCO's logistics partner for coal handling said, "With the integration of digitalization in the traffic management system, the truck movement has become safer and swifter and there are no congestions in traffic. This initiative has brought down the downtime of vehicle movement and has increased productivity."

Also, to mitigate the risk of unauthorized entry due to the temporary stopping of Biometric entry to curb any



## Feature

transmission of COVID-19, BALCO has added a new feature in its Security application- Sentinel which passively fetches data from the 'ID Card' based through 'NFC technology'. The application enables the user to check the real-time status (Active/In-Active/Blacklisted) of ID cards. An auto-generated email is triggered to CSOC on daily basis consisting of data of the number of ID card checked, list of Officers who have physical checked the ID Card and generating exception reports.

Amid the pandemic, BALCO is ensuring proper care of employees, their

families and business partners who have been affected by COVID 19. A 24\*7 helpdesk has been set up by BALCO to provide support and answer queries of the community members and provide ambulance services to the people in need. The medical team has been providing daily information to patients via teleconsultation including information about medicine intake, healthy lifestyle, and symptoms. To implement social distancing at the hospital home delivery services of medicines for current and retired BALCO employees is being executed.

Bharat Aluminium

Company Limited (BALCO) is India's iconic aluminium producer. It is owned 49% by the Government of India and 51% by Vedanta Limited. Vedanta Limited is the world's 6th largest diversified natural resources company and the largest producer of aluminium in India. BALCO operates a 0.57 million tonne per annum aluminium smelter in Korba, Chhattisgarh. It is also a leader in value-added aluminium products that find critical applications in core industries. With its world-class smelter and power plants, the company fulfills its mission of spurring emerging applications of aluminium as the 'Metal of the Future' for a greener tomorrow.

## Metal Industry loses a dedicated volunteer



**JAYANT SHAH**  
Chairman, Superkino Equipments Pvt. Ltd.

Covid 19 has been dealing cruel blows one after the other old-aged Metal fraternity entrepreneur, Shri Jayant Shah who left for heavenly abode on 29<sup>th</sup> March. Reacting to such shocking news, we can simply say that the world remains a hellish place. Late Mr. Jayant Shah was a self-made first-generation entrepreneur who built his aluminium casting unit - Superkino Equipment Pvt. Ltd., along with his brother, from scratch. He was a mechanical engineer by profession. His business enterprises is a major supplier to switchgear and transformer industries.

A foundryman to the core, he joined the Institute of Indian Foundrymen and was elevated as the Chairman of its Greater Mumbai Chapter through his ability and sheer hard work. As he always wanted to give back to society.

He was always advocating the interactions with other professional bodies particularly with ASM International India Chapter. With his enthusiastic support, a number of joint conferences and exhibitions were organised successfully. He also took ASM membership about six years back. In this short span, with his knowledge of the metal industry, he contributed to the success of MET + HTS, the mega events of ASM in 2016 and 2018. In spite of his senior stature, he used to always request the

organising committee to give him any suitable responsibility, and worked diligently towards its completion.

ASM members will always remember him as an affable person who used to forget his age barrier and he used to participate at ASM events like courses, technical talks, industry visits, get-togethers. Apart from ASM, Jayantbhai served on the national council of IIF for a few years.

Late Shri Jayant Shah sir was part of 'Metalworld' magazine's editorial board and had contributed many innovative ideas in his tenure. He will be always remembered as the most dedicated innovative entrepreneurs of the metal industry and he has deftly handled many responsibilities for the growth of Metal Industry.

**Long Live Jayantbhai !!!**

**S.S. Sabnis**  
Secretary, ASM INC





## Society of Indian Automobile Manufacturers

### Monthly Performance: April 2021

**Production:** The total production of Passenger Vehicles\*, Three Wheelers, Two Wheelers and Quadricycle in the month of April 2021 was 1,875,698 units.

#### **Domestic Sales:**

Passenger Vehicle\* sales was 261,633 units in April 2021.

Three-wheeler sales was 13,728 units in April 2021.

Two-wheeler sales was 995,097 units in April 2021.

Commenting on the April 2021 data, **Mr Rajesh Menon, Director General, SIAM** said “As our country battles with the second wave of COVID-19 pandemic, the Indian Automobile Industry has been standing shoulder to shoulder with the Government and local authorities to provide all essential medical and non-medical support to the society, in this difficult time.

*Vehicle manufacturing has been restricted and OEMs have come forward for augmenting Oxygen supply for medical use. Industry is putting all efforts to increase the availability of oxygen by providing oxygen generating plants, concentrators, cylinders, mobile oxygen vans, setting-up vehicle tracking system in oxygen carrying vehicles to reduce their turn-around-time, etc. In fact, some members have also tied up with PSA plant manufacturers to de-bottleneck their operations and scale up production of oxygen plants. Other efforts include augmenting medical care facilities and infrastructure.*

*As expected, the COVID wave has impacted the sales of vehicles in the month of April 2021. Sales of Passenger vehicles fell by about (-) 10.07 %, compared to March 2021, due to various restrictions in States which have been experiencing surge in COVID-19 cases. Sales of Two-Wheelers have also plummeted by (-) 33.52 %, while Three-Wheelers witnessed a de-growth of (-) 57.01 %, from March 2021 to April 2021.*

*Supply Chain related production challenges continue with the lockdown restrictions in many parts of the country. The demand has been clearly impacted by second wave of COVID-19, both in terms of low consumer sentiments and closure of dealerships due to lockdown restrictions”.*



## Society of Indian Automobile Manufacturers

### Domestic Sales

Segment/Subsegment	Domestic Sales (in Numbers)		
	Mar-21	Apr-21	% Change
<b>Passenger Vehicles (PVs)*</b>			
Passenger Cars	1,56,985	1,41,194	-10.06%
Utility Vehicles (UVs)	1,22,350	1,08,871	-11.02%
Vans	11,604	11,568	-0.31%
<b>Total Passenger Vehicles (PVs)</b>	<b>2,90,939</b>	<b>2,61,633</b>	<b>-10.07%</b>
<b>Three Wheelers</b>			
Passenger Carrier	21,614	9,248	-57.21%
Goods Carrier	10,316	4,480	-56.57%
<b>Total Three Wheelers</b>	<b>31,930</b>	<b>13,728</b>	<b>-57.01%</b>
<b>Two Wheelers</b>			
Scooter/ Scooterette	4,57,677	3,00,462	-34.35%
Motorcycle/Step-Throughs	9,93,996	6,67,841	-32.81%
Mopeds	44,688	25,977	-41.87%
Electric Two Wheelers	445	817	83.60%
<b>Total Two Wheelers</b>	<b>14,96,806</b>	<b>9,95,097</b>	<b>-33.52%</b>
<b>Quadricycle</b>	<b>7</b>	<b>0</b>	
<b>Grand Total of All Categories</b>	<b>18,19,682</b>	<b>12,70,458</b>	<b>-30.18%</b>

### Production

Segment/Subsegment	Production (in Numbers)		
	Mar-21	Apr-21	% Change
<b>Passenger Vehicles (PVs)*</b>			
Passenger Cars	1,90,588	1,66,546	-12.61%
Utility Vehicles (UVs)	1,41,704	1,27,452	-10.06%
Vans	12,057	11,954	-0.85%
<b>Total Passenger Vehicles (PVs)</b>	<b>3,44,349</b>	<b>3,05,952</b>	<b>-11.15%</b>
<b>Three Wheelers</b>			
Passenger Carrier	62,589	56,394	-9.90%
Goods Carrier	11,142	7,190	-35.47%
<b>Total Three Wheelers</b>	<b>73,731</b>	<b>63,584</b>	<b>-13.76%</b>
<b>Two Wheelers</b>			
Scooter/ Scooterette	5,18,395	3,66,928	-29.22%
Motorcycle/Step-Throughs	13,81,625	10,99,192	-20.44%
Mopeds	50,135	38,624	-22.96%
Electric Two Wheelers	666	909	36.49%
<b>Total Two Wheelers</b>	<b>19,50,821</b>	<b>15,05,653</b>	<b>-22.82%</b>
<b>Quadricycle</b>	<b>336</b>	<b>509</b>	<b>51.49%</b>
<b>Grand Total of All Categories</b>	<b>23,69,237</b>	<b>18,75,698</b>	<b>-20.83%</b>



## Statistics

### Exports

Segment/Subsegment	Exports (in Numbers)		
	Mar-21	Apr-21	% Change
<b>Passenger Vehicles (PVs)*</b>			
Passenger Cars	25,909	24,750	-4.47%
Utility Vehicles (UVs)	13,992	17,209	22.99%
Vans	282	66	-76.60%
<b>Total Passenger Vehicles (PVs)</b>	<b>40,183</b>	<b>42,025</b>	<b>4.58%</b>
<b>Three Wheelers</b>			
Passenger Carrier	38,767	45,742	17.99%
Goods Carrier	1,005	695	-30.85%
<b>Total Three Wheelers</b>	<b>39,772</b>	<b>46,437</b>	<b>16.76%</b>
<b>Two Wheelers</b>			
Scooter/ Scooterette	27,883	40,024	43.54%
Motorcycle/Step-Throughs	3,27,347	3,89,511	18.99%
Mopeds	942	1,776	88.54%
Electric Two Wheelers	-	-	
<b>Total Two Wheelers</b>	<b>3,56,172</b>	<b>4,31,311</b>	<b>21.10%</b>
<b>Quadricycle</b>	270	516	91.11%
<b>Grand Total of All Categories</b>	<b>4,36,397</b>	<b>5,20,289</b>	<b>19.22%</b>

\* BMW, Mercedes, Tata Motors & Volvo Auto data is not available.

SIAM						
Summary Report: Production, Domestic Sales & Exports data for the month of April 2021						
						Report I (Number of Vehicles)
Category	Production		Domestic Sales		Exports	
Segment/Subsegment	April		April		April	
	2020	2021	2020	2021	2020	2021
<b>Passenger Vehicles (PVs)*</b>						
Passenger Cars	-	166,546	-	141,194	2,753	24,750
Utility Vehicles(UVs)	187	127,452	-	108,871	1,324	17,209
Vans	-	11,954	-	11,568	-	66
<b>Total Passenger Vehicles (PVs)</b>	<b>187</b>	<b>305,952</b>	<b>-</b>	<b>261,633</b>	<b>4,077</b>	<b>42,025</b>
<b>Three Wheelers</b>						
Passenger Carrier	3,026	56,394	-	9,248	7,181	45,742
Goods Carrier	100	7,190	23	4,480	56	695
<b>Total Three Wheelers</b>	<b>3,126</b>	<b>63,584</b>	<b>23</b>	<b>13,728</b>	<b>7,237</b>	<b>46,437</b>
<b>Two Wheelers</b>						
Scooter/ Scooterette	-	366,928	-	300,462	1,830	40,024
Motorcycle/Step-Throughs	12,407	1,099,192	-	667,841	43,918	389,511
Mopeds	-	38,624	-	25,977	132	1,776
Electric Two Wheelers	-	909	-	817	-	-
<b>Total Two Wheelers</b>	<b>12,407</b>	<b>1,505,653</b>	<b>-</b>	<b>995,097</b>	<b>45,880</b>	<b>431,311</b>
<b>Quadricycle</b>						
Quadricycle	21	509	-	-	138	516
<b>Grand Total</b>	<b>15,741</b>	<b>1,875,698</b>	<b>23</b>	<b>1,270,458</b>	<b>57,332</b>	<b>520,289</b>

\* BMW, Mercedes, Tata Motors and Volvo Auto data is not available

Rajesh Menon, Director General, SIAM





Scottish  
Chemical  
Industries



## Empowering Metallurgy

### Our Products

- ▶ Hexachloroethane
- ▶ Degaser 200 / 190 / N2
- ▶ Nucleant 2
- ▶ Lomag (*Magnesium Remover*)
- ▶ Sodium / Calcium Remover
- ▶ Foundry Fluxes
- ▶ Granulated Fluxes
- ▶ Fused + Granulated Fluxes (*Scot-Mag*)
- ▶ Coatings
- ▶ AlSi / AlTi Alloys
- ▶ AlTi5B1 Coils / Ingots
- ▶ Al -Mn, Al-Cu, Al-Cr Alloys
- ▶ Al-Boron 3-10%
- ▶ Mn / Fe / Cu / Cr / Ti Adal Tablets
- ▶ Magnesium Ingots
- ▶ Silicon Metal
- ▶ Ceramic Foam Filters
- ▶ Refractory Products
- ▶ Silicon Carbide Crucibles
- ▶ Coil Feeding Machine
- ▶ Mobile Degassing Unit
- ▶ Hydrogen Testing Machine
- ▶ Pet Straps

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