

News and Views...

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GRAND BUSINESS CARNIVAL FOR METAL, MACHINERY AND MANUFACTURING INDUSTRIES



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INDUSTRY NEWS



India's Covid Recovery Rate Over 92%, Case Fatality Rate At 1.49%: Centre

The Union Ministry of Health and Family Welfare on Wednesday informed that the country's recovery rate reached 92.09 per cent while the case fatality rate stands at 1.49 per cent.

53,357 patients have recovered and discharged in the last 24 hours, taking the overall recoveries to 76,56,478, according to the Union Health Ministry's release.

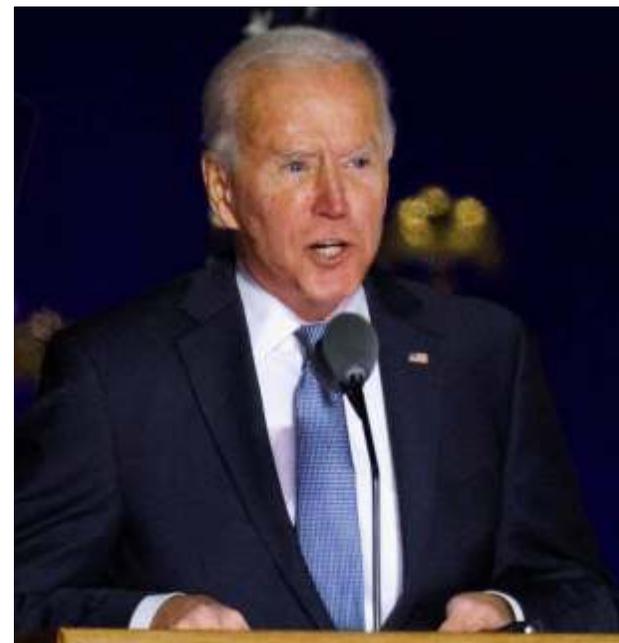
80 per cent of the new recovered cases are observed to be concentrated in 10 States and Union Territories. Kerala is leading with more than 8,000 single day recoveries followed by Karnataka with more than 7,000 recoveries.

On Wednesday, India's coronavirus tally crossed 83-lakh mark after new 46,254 infections were reported in the past 24 hours. The coronavirus cases in the country continue to decline further but the overall infections reached 83,13,877 including 5,33,787 active cases.

76 per cent of the new confirmed cases are from 10 States and UTs. Kerala and Delhi have contributed the maximum to the new cases with more than 6,000 cases each, the ministry said.

514 case fatalities have been reported in the past 24 hours. Of these, nearly 80 per cent are concentrated in ten States/UTs.

- **NDTV**



President-elect Joe Biden declared it was "time to heal" a deeply divided America in his first speech after prevailing on Saturday in a bitter election, even as president Donald Trump refused to concede.

Biden's victory in the battleground state of Pennsylvania put him over the threshold of 270 electoral college votes he needed to clinch the presidency, ending four days of nail-biting suspense and sending his supporters into the streets of major cities in celebration.

However, Donald Trump stated that the election was "far from over" and promised legal challenges by his re-election campaign

- **The Times of India**



Explained: What does President-elect Joe Biden mean for India and its relationship with the US?

Democrat Joe Biden has been declared the winner of the 2020 US presidential election, defeating Donald Trump, according to news agency The Associated Press.

So, will Joe Biden be good for India?

This is something every Indian wants to know. Here is what his stance could be like in some key areas, judging by his past record and statements.

Has Joe Biden been a friend of India?

Much before he became Vice President in the Barack Obama administration, Biden had advocated a stronger relationship with India.

Biden played an important role, both as Chairman of the Senate Foreign Relations Committee and later as Vice President, in systematically deepening strategic engagement with India.

In fact, in 2006, three years before he became the Vice-President of the US, Biden announced his vision for the future of US-India relations: “My dream is that in 2020, the two closest nations in the world will be India and the United States,” he had said.

Although (then) Senator Obama was initially hesitant to support the Indo-US nuclear deal, Biden led the charge and worked with both Democrats and Republicans, to approve the nuclear deal in the US Congress in 2008.

What was his contribution during his term as VP in the Obama administration?

Biden was one of the key advocates of strengthening the Indo-US partnership, especially in strategic areas. During that time, the US officially declared its support for India’s membership in a reformed and expanded United Nations Security Council. This had been a key demand of successive Indian governments, which was fulfilled by Washington during Biden’s term as VP.

The Obama-Biden Administration also named India a “Major Defense Partner” – a status

approved by the US Congress – which made it easier to share advanced and critical technology to India to strengthen defence ties. This was crucial since it was for the first time that any country was given this status, outside of the US’s traditional alliance system.

In fact, in August 2016, at the fag end of the Obama administration, the two sides signed the Logistics Exchange Memorandum of Agreement (LEMOA), the first of the three “foundational pacts” for deeper military cooperation.

LEMOA allows the militaries of the US and India to replenish from each other’s bases, and access supplies, spare parts and services from each other’s land facilities, air bases, and ports, which can then be reimbursed.

LEMOA is extremely useful for India-US Navy-to-Navy cooperation, since the two countries are cooperating closely in the Indo-Pacific. To put the usefulness of this agreement in simple terms, it is like being able to stop at a friend’s garage or workshop to refuel your car or get it repaired when you are far away from your own home or workshop.

Later on, Trump administration signed the remaining foundational pacts – COMCASA and BECA.

What has Biden’s approach been towards terrorism?

Obama and Biden also strengthened

cooperation with India to fight terrorism in each of their countries and across the region.

“Biden believes there can be no tolerance for terrorism in South Asia – cross-border or otherwise”, his campaign document says.

While there is not much he said during his time in the administration on Pakistan-sponsored terrorism, New Delhi hopes that he will be carrying forward the legacy of the US administration’s approach towards India-Pakistan when it comes to cross-border terrorism

What about immigration and visas for Indians, specially H1B visas for skilled professionals?

This has been a major concern for Indians under the Trump administration. As Democrats are seen to be more liberal on immigration, Biden is expected to be softer towards Indians who go to the US to study, work and live there, and aspire for a better life.

He has promised to support family-based immigration, increase the number of visas offered for permanent, work-based immigration, reform the temporary visa system for high-skill, specialty jobs, eliminate the limits on employment-based green cards. He has also promised to restore the naturalisation process for green card holders.

But as the Trump administration has tightened the rules, it may not be very easy for Biden to reverse some of the approaches adopted in the last four years.

Overall, will he be a good President for India? Over the last 20 years, every US President – Bill Clinton, George W Bush, Barack Obama and Donald Trump – had differences on many issues, but if there was one common theme on which all of them agreed was this: a stronger relationship with India.

What that means is that there has been a tradition of bipartisan support in favour of better ties with India, and every US President has made it better than what he inherited from his predecessor over the last two decades.

So, to cut a long story short, there is no reason to believe that Biden will not continue the tradition – but of course, he will have his own style and nuances, and will put his personal stamp on the relationship.

– *The Indian Express*

Covid-19 vaccine from Pfizer and BioNTech is strongly effective, early data from large trial indicate

Pfizer and partner BioNTech said Monday that their vaccine against Covid-19 was strongly effective, exceeding expectations with results that are likely to be met with cautious excitement – and relief – in the face of the global pandemic.

The vaccine is the first to be tested in the United States to generate late-stage data. The



companies said an early analysis of the results showed that individuals who received two injections of the vaccine three weeks apart experienced more than 90% fewer cases of symptomatic Covid-19 than those who received a placebo. For months, researchers have cautioned that a vaccine that might only be 60% or 70% effective.

The Phase 3 study is ongoing and additional data could affect results.

In keeping with guidance from the Food and Drug Administration, the companies will not file for an emergency use authorization to distribute the vaccine until they reach another milestone: when half of the patients in their study have been observed for any safety issues for at least two months following their second dose. Pfizer expects to cross that threshold in the third week of November.

“I’ve been in vaccine development for 35 years,” William Gruber, Pfizer’s senior vice president of vaccine clinical research and development, told

STAT. “I’ve seen some really good things. This is extraordinary.” He later added: “This really bodes well for us being able to get a handle on the epidemic and get us out of this situation.”

Although it is a bright spot in the battle against the pandemic and a triumph for Pfizer and BioNTech, a German company, key information about the vaccine is not yet available. There is no information yet on whether the vaccine prevents severe cases, the type that can cause hospitalization and death.

Nor is there any information yet on whether it prevents people from carrying the virus that causes Covid-19, SARS-CoV-2, without symptoms.

Without more information, it’s too early to start predicting how much of an impact the vaccine could make, said Michael Osterholm, director of the University of Minnesota’s Center for Infectious Diseases Research and Policy.

“I don’t want to dampen any enthusiasm for this vaccine. I just want us to be realistic,” Osterholm said. “For a vaccine to really have maximal impact, it’s going to have to also reduce severe illness and death. And we just don’t know yet.”

Because the vaccine has been studied for only a matter of months, it is impossible to say how long it will protect against infection with the virus. The vaccine does cause side effects, including aches and fevers, according to previously published data. Gruber said that he believed the side effect profile was comparable to standard adult vaccines, but probably worse than Pfizer’s

pneumonia vaccine, Prevnar, or a flu shot.

The results have not been peer-reviewed by outside scientists or published in a medical journal, and even Pfizer and BioNTech have been given no other details about how the vaccine performed by the independent monitors overseeing the study.

Initial supplies of the vaccine, if authorized, will be limited. Pfizer says up to 50 million doses could be available globally. By the end of the year, with 1.3 billion available in 2021. There are also expected to be distribution challenges. The vaccine must be stored at super-cold temperatures, which could make it extremely difficult to deliver to many places. Pfizer has said it is confident those issues can be managed.

Although the estimate of the efficacy of the vaccine could change as the study is completed, it is close to a best-case scenario. That also bodes well for other vaccines in the late stages of testing, including those developed by Moderna, AstraZeneca, and Johnson & Johnson.

“If that headline really number really holds up, that is huge. That is much better than I was expecting and it will make a huge difference,” said Ashish Jha, the dean of the School of Public Health at Brown University. He cautioned, however, that it is always difficult to evaluate science via press release and that researchers will need to see the full results. He noted that side effects are something to watch, because even if there are no serious long-term complications, people feeling sick for a day or two could lead some to be

hesitant to take a vaccine.

Both Pfizer’s vaccine and Moderna’s use messenger-RNA, or mRNA, technology, which uses genetic material to cause the body to create a protein from the virus; the immune system then recognizes the virus and learns to attack. Other vaccines in the late stages of development use genetically engineered viruses for a similar purpose, or pieces of protein that are directly injected. No mRNA product has ever been approved by regulators.

The story of how the data have been analyzed seems to include no small amount of drama. Pfizer, seeing an opportunity to both help battle a pandemic and demonstrate its research prowess, made decisions that were always likely to make its study the first of a Covid-19 vaccine to produce data – including its decision to have an independent group of researchers, known as a data safety and monitoring board, take an early look at the data in the 44,000-volunteer study before its completion.

The first analysis was to occur after 32 volunteers – both those who received the vaccine and those on placebo – had contracted Covid-19. If fewer than six volunteers in the group who received the vaccine had developed Covid-19, the companies would make an announcement that the vaccine appeared to be effective. The study would continue until at least 164 cases of Covid-19 – individuals with at least one symptom and a positive test result – had been reported.



India's economy stable, all sectors looking up, says PM Modi

Pitching India's resilience during the COVID-19 pandemic as a signal of its inherent strengths, Prime Minister Narendra Modi on Thursday said India's economy has been stable and all sectors are now looking up, as he invited global money managers looking for "returns with reliability" to invest in the country.

Mr. Modi said the government is finalising a "pioneering multi-modal connectivity infrastructure masterplan" under the National Infrastructure Pipeline, which envisages investments of \$1.5 trillion. "We are building millions of affordable houses for the neo-middle class. We want investment not just in big cities but smaller cities and towns too," the PM said, citing the GIFT City in Gujarat as one such city being developed.

"Today, each sector in India is looking up – manufacturing, infrastructure, technology,

agriculture, finance, and even social sectors like health and education... India is the place to be if you want returns with reliability, demand with democracy, stability with sustainability, and growth with a green approach," the PM said.

Addressing a virtual global investor round table attended by 20 large global investment funds managing over \$6 trillion, the PM said India's "brave fight during the pandemic reflected its sense of responsibility, spirit of compassion, national unity and the spark of innovation".

"India has shown remarkable resilience in this pandemic, be it fighting the virus or ensuring economic stability. This resilience is driven by the strength of our systems, support of our people and stability of our policies," Mr Modi said, explaining that social distancing and wearing of masks practised by the people helped India put up a strong fight against the COVID-19 virus.

"We are building a new India which is free of old practices... India's quest to become 'Atma Nirbhar' is not just a vision, but a well-planned economic strategy," the PM said, listing out recent administrative reforms as well as legislative changes in areas such as agriculture, labour, education, manufacturing and the "rationalisation of the public sector".

The stability of India's policies has made it a preferred investment destination, the PM said, citing the 13% rise in FDI (foreign direct investment) inflows in the first five months of this year.

"I am happy that the global investor community has been showing confidence in our future... Your active participation in this round table increases the confidence even more," he told top officials of these global institutional investors, which included sovereign wealth funds as well as pension funds.

"I am aware that I am addressing some of the best financial brains, who can convert new areas of innovation and growth into sustainable business propositions. At the same time, I am conscious of your requirement to provide the funds in your trust the best and safest long-term returns. Therefore, I would like to emphasise that our approach is of finding long-term and sustainable solutions for issues. Such an approach mixes very well with your requirements," the PM said.

"I am happy to see your eagerness to enhance your engagements with us and hope that our better understanding of each other's perspectives will result in a better alignment of your plans and our vision," he said, stressing that the country would do whatever it takes to become the engine of global growth resurgence.

"India's growth has the potential to catalyse global economic resurgence. Any achievements by India will have a multiplier effect on the world's development and welfare. A strong and vibrant India can contribute to the stabilisation of the world economic order," he concluded.

– *The Hindu*

TataMD launches test for Covid-19; ready with 1 mn tests a month capacity

Tata Medical and Diagnostics Ltd (TataMD) on Monday launched new diagnostic testing for COVID-19 -- claiming it to be more efficient and simpler than the existing ones -- with the ability to scale up test on a large scale across the country.

The company's test 'TataMD CHECK' has been developed in partnership with CSIR-IGIB (Council of Scientific and Industrial Research-Institute of Genomics and Integrative Biology). It has been approved by Indian Council of Medical Research and Drug Controller General of India (DCGI) and will be available through diagnostic centres and hospitals across India shortly, the company said.

To make the test available across India, the company is talking to hospital chains, diagnostic players and laboratories for partnership and it is ready with a monthly production capacity of 10 lakh units a month to start with at its Chennai factory.

"We have come to a solution which provides end-to-end testing experience. We make the testing much more efficient and reliable and scalable, that creates more access and availability. Moreover, this whole thing is developed in India," Tata Medical and Diagnostics Ltd CEO Girish Krishnamurthy told PTI.

In June, CSIR-IGIB came up with a breakthrough to detect the COVID-19 virus by gene sensing through innovation on a platform called FELUDA using the latest CRISPR technology, which is generally used for gene editing, he added.

"We partnered with IGIB lab and then worked very closely with them. Getting the whole science from the lab into a product, today we are ready for a commercial launch of the product within about 100 days. We worked very very hard to get this system," he added.

TataMD CHECK is a paper strip-based test with an image-based visual result readout. It requires standard laboratory equipment and small batches of tests can be conducted. Moreover, it has a fast reaction time of 45-50 minutes in the laboratory and the total testing time from RNA-extracted samples in the lab to result is 75 minutes only, the company said.

Also, it can "provide high quality, quick results using standard equipment and minimally trained staff allow for rapid adoption and scale with potential to reach remote locations of the country".

Elaborating on the advantages of the test, Krishnamurthy said this product does not require any complicated machine, unlike the current testing models, thereby making it easier to set it up in a lab. Besides, it also takes lesser steps as compared to the current models and hence making it less complicated and reducing inefficiencies.



Moreover, a major advantage of the company's test is that testing can be done in any denomination of sample, while the current models of testing require the test to be run in batches of a certain number of samples and bring out the results in a batch.

"Here, this test can be done in any denomination. That makes it very very efficient. From the time a sample is taken and brought to the lab, you can publish the results almost immediately," he claimed.

When asked about the company's preparedness to meet demand, he said, "Today we have

created a capacity for one million per month to start with. Then we will scale it as we move along and mature it. (We are) scaling it for the need of the country because we are here to solve the problem and whatever it takes to solve the problem we will do".

The company is currently producing the testing kit in its factory in Chennai, he said.

When asked about pricing of the test, Krishnamurthy said it is currently getting standardised and regulated by the states.

"The testing pricing is done through the laboratories and diagnostics. We give the whole end-to-end testing model to the labs and diagnostics, so the pricing comes from them, but since we have a lot of efficiencies and other things we are building in, automatically it will play an impact on the pricing," he said without putting an exact number.

He further said, "We are not selling a test, we are selling a testing experience. The pricing is on the overall testing, which is done by hospitals, laboratories and diagnostic centres. We are giving a very efficient and simple test to them and that will play a role with them".

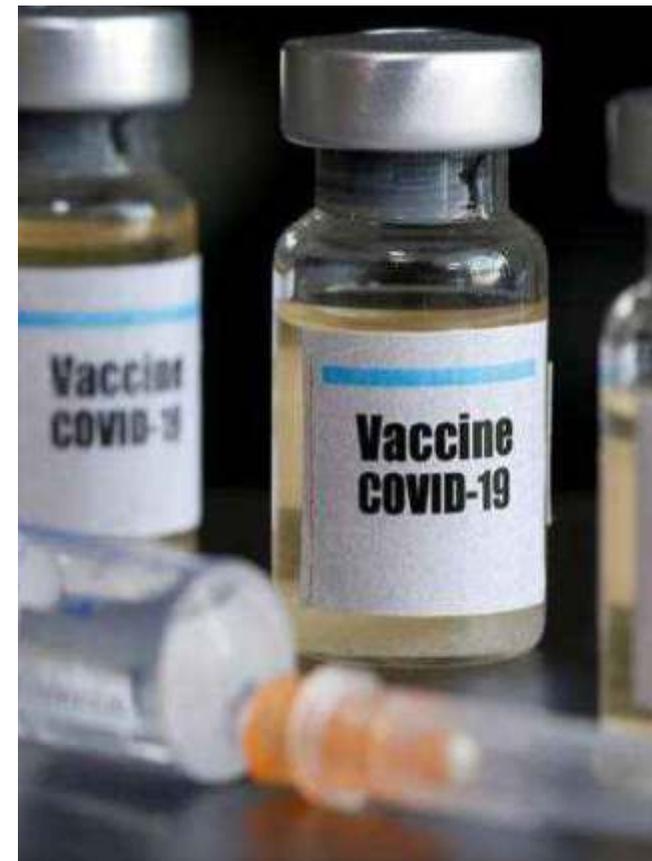
On the company's future plans, he said, "We are entering into the diagnostics space with a fantastic futuristic technology which is in line with our strategy. The TATA Medical and Diagnostics is focussing on science-based futuristic technology to address a larger

problem and COVID happened to be the first problem we are trying to solve".

The similar technology has got a lot of relevance in a lot of other areas and other diseases, he said, adding "certainly we will be coming into multiple fronts for product and space. The problem here and now is COVID-19 and there is a huge demand and huge problem to be solved. That is our first focus..."

Krishnamurthy said, "The pandemic has encouraged us to reflect on the healthcare sector and our role in bridging the many gaps that exist. Our collaboration with R&D institutions will continue to be a critical part of our strategy to introduce new diagnostic technologies like CRISPR, and develop R&D-led healthcare solutions for consumers for COVID and other infectious diseases".

- Business Standard



Hyve India Pvt Ltd has come up with a weekly e news alert program - **'Market News & Views'** This program will cover Industry Updates, Launch of New Technologies, Partnership Opportunities, Industry Views & CSR activities. The purpose of this program is to keep customers up to date with developments in the Industry.

INDUSTRY UPDATES



Steel scrap prices stay strong in Asian market

Prices of steel scrap throughout Asia trended up over the week of October 23-30, with prices of both domestic and imported scrap in many regions

increasing, according to Mysteel's latest survey.

In China, Shagang Group, China's largest electric-arc-furnace steelmaker, raised its steel scrap buying prices by Yuan 50/tonne (\$7.4/t) on October 24 to attract more deliveries to its plants, as reported.

– *Metal Junction*

ArcelorMittal beats profit expectations after lockdown low

ArcelorMittal, the world's largest steelmaker, reported third-quarter core profit above expectations on Thursday as the easing of COVID-19 lockdowns led to improved demand in all regions.

The company, which makes around 5% of the world's steel, said core profit (EBITDA) fell 15% from a year earlier to \$901 million, compared with an average expectation of \$838 million in a company-compiled poll.

CEO Lakshmi Mittal said in a statement that steel markets had recovered from a very challenging second quarter, with particular improvement in profits in Brazil and its unit grouping South Africa, Kazakhstan and Ukraine.

– *Metal Junction*



Minor fire mishap at Vizag Steel Plant

A minor fire mishap took place at the Visakhapatnam steel plant authorities, fire broke out due to leakage of oil from the lubrication system in the turbine area of Power Plant -2 around 4.45 a.m. CISF(Central Industrial Security Force) fire services were called and fire was brought under control immediately. The damage is being assessed to bring back the PP2 at the earliest

– *Metal Junction*

Shagang raises steel scrap buying prices by \$15/t

Shagang Group (Shagang), China's largest electric-arc-furnace (EAF) steelmaker, has raised its steel scrap procurement price again effective November 5, just one week after the previous rise and more substantially by Yuan 100/tonne (\$14.7/t), suggesting the domestic steel mills' good appetite for scrap while limited availability and on the support of the rebar price hitting the year's high, Myteel Global noted.

The hike, the most substantial so far this year, doubled from the price rise by Yuan 50/t price on October 31, and is more than Shagang's usual scrap price rises by Yuan 30-50/t most of the time, and with the adjustment, the company, located in East China's Jiangsu province, is paying Yuan 2,890-2,950/t for HMS grade scrap including delivery and the 13% VAT, according to the release.

The latest scrap price adjustment is in the context that China's domestic steel price have been on the rise since the start of November, and as of November 4, Mysteel's average price for HRB400 20mm dia rebar hit its year's high of Yuan 3,916/t and including the 13% VAT, up Yuan 17/t on day or Yuan 91/t on week.

Higher procurement prices, however, may fail to stop steel scrap delivery from further declines, a Jiangsu market watcher warned.

"Together with Shagang's previous price rise, these may not be able to ease the supply tightness much in the short term especially when the supply reduction is more seasonal," he added.

Winter usually makes it hard for scrap collection, separation and processing in China, Mysteel Global understands.

As of November 4, scrap delivery to Shagang's Zhangjiagang steelworks had stayed on the downtrend, having slid by another 28.5% on day or 30% from last Friday to 11,802 tonne/day, a market watcher close to the mill shared.

Scrap suppliers have indeed shown limited enthusiasm of selling despite recent price rises as the demand may not ease any soon now that the steel prices have been on the rise, and Chinese steel producers will consume more scrap in their high steel production, a scrap supplier in East China's Zhejiang province confirmed.

"Steel mills' demand for steel scrap remains strong, so we are still unwilling to increase sales by any larger degree. Instead, we are planning to hold onto some of tonnage we have sourced from the local collectors for the winter season," he said.

In immediate response to Shagang's scrap price rise, China's spot transaction price of the 6-8mm common-grade carbon steel scrap in Zhangjiagang rose Yuan 50/t on day to Yuan

The worst is over, says JSW Steel

2,540/t excluding the 13% VAT as of November 5, according to Mysteel's survey.

– *Metal Junction*





POSCO: Biggest Beneficiary of Favorable Steel Supply-Demand Dynamics

We maintain BUY and raise our TP by 20% (KRW250,000→KRW300,000) to reflect: (1) An increase in 36m fwd foreseeable ROE (4.3%→4.5%) (2) A drop in cost of equity (7.2%→6.7%) arising from lowered 52w adj. beta Improving demand for steel products should boost product prices and sales volume, which was reflected in our ROE. As a result, we expect 2020-23E CAGR EPS to be 22%. Our P/B-ROE-derived TP (6.7% COE; 4.5% ROE; 1.6% TGR) has 37.0% upside (vs. last closing price), so we maintain BUY. At one point, POSCO's relative return to the KOSPI was -30% YTD, but the stock's rebound since October narrowed the underperformance to 11%.

– *Metal Junction*

Sandvik gets ISO 13485:2016 medical certification for titanium powder plant

Sandvik's new powder plant in Sweden has recently received the 'ISO 13485:2016' medical certification for Osprey® titanium powders, now approved for use in the additive manufacturing of medical applications. 3D printing of implants enables rapid manufacturing directly from an individual's anatomical data – enhancing the healing process and improving the prognosis for the patient.

Sandvik's titanium powder plant, located in Sandviken Sweden, was inaugurated in the end of 2019, with more than 150 guests including end-users in key industries like aerospace and medical. Since then, extensive work has been ongoing to ramp-up the highly automated plant, fine-tuning the process and optimizing the powder to ensure the best possible consistency, morphology and quality required for additive manufacturing. As a result of this meticulous and structured work, the 'ISO 13485:2016' certification for medical was recently received in August. Earlier this year, the same powder plant also achieved the prestigious 'AS9100D' aerospace certification.

“Getting the ISO 13485:2016 medical certification will allow our medical customers to complete the necessary regulatory supplier

approvals when bringing a medical application to market, utilizing Osprey® titanium powders from Sandvik,” says Keith Murray, VP and Head of Global Sales at Sandvik Additive Manufacturing.

The properties of the metal powders used directly impact the reliability of the performance of the AM-process, as well as the quality and performance of the finished product. This medical certification ensures that best practices and continuous improvement techniques – including the company's development, manufacturing, and testing capabilities – are leveraged during all stages of the powder lifecycle, resulting in a safer medical device.

– *Machine Tools World*





Recovery in automotive steel sheets to underpin earnings turnaround in 2021

For 2021, we estimate K-IFRS

consolidated revenue/OP of KRW63.59tn (+8.4% YoY)/KRW3.54tn (+59.0% YoY; 5.6% OPM), which meets the market consensus of KRW3.41tn (as of Nov 4). Currently normalizing manufacturing activity for automakers indicates a move toward recovering sales volume for automotive steel sheets, which would underpin an earnings turnaround. Meanwhile, the effect of cost savings via an increase in the proportion of fine iron ore—which contributed to profitability improvement in 3Q20—should weaken. If the usage of fine iron ore is prolonged, blast furnaces should have problems with air permeability.

– *Metal Junction*

Steel sheet spreads to remain flat with upside potential

Putting year-end seasonal factors aside, we think POSCO will see a modest rise in profitability throughout 2021 thanks to continually expanding steel sheet spreads. There is a six-month lag for booking feedstock prices, so the surge in iron ore prices that began in 3Q20 should be reflected in 4Q20-1H21. The recent rebound in met coal prices should add to cost pressure in 1H21, but we expect this to be offset by a rise in steel sheet prices; coal prices gain strength at year-end, driven by heating and hoarding demand.

– *Metal Junction*

BHEL's Make in India – Business Vertical to Empower Self Reliance

Bharat Heavy Electricals Ltd (BHEL) has recently established a new business vertical 'Make in India (MII) Business Development Group'. In line with the objectives of 'Make in India, Make for the World' and AtmaNirbhar Bharat, the group will bring together several initiatives taken by the company in recent times. These include; in-house development and manufacture of items currently being bought out / imported by the company, in-house development and manufacture of major items in the country's engineering imports

basket, and working with global OEMs for manufacturing items / sub-assemblies for India as well as for exports.

The company also has an Expression of Interest inviting global manufacturing companies to leverage on its facilities and capabilities to set up a manufacturing base in India as well as strive towards Indigenisation of the major imports especially in the capital goods sector. These measures should greatly enhance its ongoing efforts and enhance capacity utilization across the entire company, towards the vision of the Honorable Prime Minister's vision of an AtmaNirbhar Bharat movement.

BHEL was developed for the purpose of achieving self-sufficiency in the power sector. To this end, the company has covered the entire equipment

manufacturing range of the power sector generation (coal, gas, lignite, hydro, nuclear, renewables) and transmission segments. The company supplied equipment contributes to over 50 percent of the power generated in the country. Over the years, the company has diversified into several engineering and manufacturing activities in the core sectors of the economy and has been a leader in indigenous manufacturing in the country.

– *Modern Manufacturing India*



Hindustan Zinc Signs MoU to Set Up Zinc Smelter Plant

Hindustan Zinc Ltd (HZL) recently signed a Memorandum of Understanding (MoU) with the Government of Gujarat to set up 300 KTPA greenfield zinc smelter at Doswada, Gujarat Industrial Development Corporation (GIDC). The facility will be spread across 415 acres and entail an investment of Rs. 5000 to Rs. 10000 crore in phases creating more than 5000 direct and indirect jobs by 2022.

The facility will be set up with a zero-discharge technology and will be among the lowest-cost smelters in the world. Located in proximity with port and key markets of consumption, it will produce Zinc and other minor metals.

The MoU was signed by M K Das, IAS, Additional Chief Secretary, Industries and Mines, Government of Gujarat and Arun Misra, CEO, Hindustan Zinc in the presence of Hon'ble Chief

Minister of Gujarat, Shri Vijay Rupani. Anil Agarwal, Founder and Non-Executive, Chairman, Vedanta Ltd virtually attended the signing. This is one of the largest MoUs signed by the state of Gujarat under the State's modified industrial policy.

"We will extend all support to ensure that the plant is commissioned in stipulated time. The plant will substantially increase employment and thereby boost the economy in the region," commented the Chief Minister of Gujarat.

"It is my honour to lead the foray of our group company Hindustan Zinc into the illustrious state of Gujarat. At Vedanta Group, we believe that tough times are the best times to invest into the future. This new plant is not just a world-class facility but the culmination of the Group's learning in creating a model that embodies the highest standards of efficiency, eco-friendliness, technology and automation, quality and infrastructure," elaborated Agarwal.

"Vedanta Group and Hindustan Zinc have always held community development and upliftment agenda as the focal point of our business. We are excited to set up coast-based operations in the state of Gujarat and the location could not be more apt for this project," said Misra.

– *Modern Manufacturing India*

ABB Enhances High-Speed Industrial Robots Portfolio With Codian Acquisition

ABB has acquired Codian Robotics B.V., a leading provider of delta robots, which are used primarily for high-precision pick and place applications. Codian Robotics' offering includes a hygienic design line, ideal for hygiene-sensitive industries including food and beverage and

pharmaceuticals. With the transaction, ABB is accelerating its engagement in the growing field of delta robots.

Codian Robotics is located in Ede, the Netherlands and employs 20 people globally. The company will continue to serve its customers directly. The acquisition was signed and closed on October 1, 2020 and both parties agreed not to disclose any details regarding the purchase price.

"Our acquisition underscores our focus on breakthrough technology, helping our customers to fully realize the potential of automation and increase their flexibility in a rapidly changing business landscape," said Sami Atiya, President of ABB Robotics & Discrete Automation. "Codian Robotics' technologies and industry expertise are the perfect addition to our suite of food and beverage,

pharmaceutical, service robotics and logistics solutions, while also supporting ABB's machine-centric robotics offering."

"Over the years, we have developed an extensive product portfolio. ABB's impressive global presence and industry expertise will help us make our portfolio available globally. I am looking forward to working together to write the next chapter of our success story," said Freek Hartman, Founder of Codian Robotics.

While today the majority of robots in the food and beverage industry are not designed for touching food, Codian Robotics' portfolio includes a hygienic design that allows safe, open food processing.

"There is a strong need for pick and place robots that ensure high hygienic standards, accelerated by the COVID-19 pandemic. Our food and beverage, pharmaceutical and logistics customers are particularly interested in the potential of automation, enabling supply chains to continue to function, while protecting employee welfare," added Atiya.

In the future, ABB will be able to provide its customers with a broader range of delta robots and integrated solutions from a single source, contributing to ABB's machine-centric robotics strategy which integrates machine automation and robot control into a single platform, says a release.

– *Engineering Review*

Global HP Study Finds Digital Manufacturing Can Drive Economic Growth, Innovation And Sustainable Production

On 15th October 2020 at its global Innovation Summit, HP and members of its worldwide partner and customer community along with industry experts showcased the power of digital

manufacturing to transform industries. Underpinning the event was a new HP study delivering insights on digital manufacturing technologies and trends such as industrial 3D printing. As a leader driving this digital transformation, HP's Summit featured discussions with executives from Additive Integrity, Decathlon, Forecast3D, IDC, Nissan, Solize, the World Economic Forum, and more.

Surveying thousands of manufacturing executives across the globe, HP's Digital Manufacturing Trend Report finds that companies are increasingly investing in advanced 3D printing solutions that provide the agility, speed, and flexibility necessary to grow their business and become more resilient in an ever-changing environment.

One of the key insights from the global manufacturing industry is that regardless of sector or location, companies are looking to 3D printing to

strengthen their supply chains, become more agile, and create more innovative product development and

manufacturing strategies. This is underscored by arising investment in 3D printing, support for 3D printing as a viable alternative to traditional manufacturing, and a greater desire for closer ecosystem collaboration to drive adoption.

Manufacturing decision makers also see opportunities for accelerated innovation, recognizing that 3D printing is uniquely suited for the mass personalization of new products, and by also reducing waste and promoting a more sustainable economy.

"The global manufacturing sector is clearly signaling a desire for greater supply chain resiliency, more

manufacturing flexibility, increased speed of innovation, and stronger environmental sustainability," said Ramon Pastor, General Manager, HP 3D Printing & Digital Manufacturing. "And they are seeing industrial 3D printing as a way to not only lower costs and go to market faster, but as a unique competitive advantage that accelerates innovation for customers."



NEW TECHNOLOGIES

Agnee Engineering

Ultra-High Vacuum Furnace

In order to cater to the diverse requirements of honorable clients, we are able to offer Ultra High Vacuum Furnaces. The offered range of ultra-high vacuum furnaces is made utilizing high grade raw material and highly advanced technology in strict compliance with the international quality standards. Along with this, the offered range of ultra-high vacuum furnace is ideally utilized for effective heat treating of material. The offered range is considered a roller hearth type with an AC motor drive. Exhibiting a clean processing alternative, the offered range ensures a clean environment.

Features:

- No change in surface structure
- Composition or properties of steel
- No oxidation or DE-carburizing
- No need to clean after treatment
- No heat loss

Other advantages:

- High temperature
- High vacuum
- Process containment
- Fast and frequent temperature changes
- Gas or pressure changes
- Best suited for degassing, bright annealing, aging, case hardening, vacuum coating, brazing and sintering



Cotex Chem Pvt. Ltd.

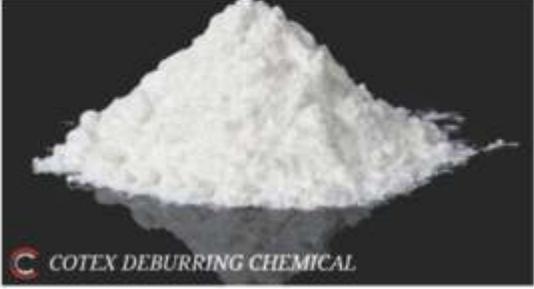
We are offering Cotex Deburring and polishing Chemicals to provide and improve working and non-working components surfaces towards both functional and aesthetic ends, which meets most ferrous and non-ferrous requirements, combinations to suit unique

Chemicals refer to chemicals that are added to components and media to increase the deburring, remove scales, polish the parts, etc. Our chemicals dissolve in water and form a solution to enhance the action of media and enable superior surface finish.

Chemicals play a very important role in vibratory finishing. As the success or failure to achieve desired results on the part being treated is very often determined by the type of compound selected and how it is used.

The main purpose of chemicals is:

- To do the necessary work (such as deburring, cutting, polishing, degreasing, scale removal, inhibiting, etc.) on the component, in conjunction with the proper media.
- To provide lubrication between media and the component.
- To get better polish.
- As our knowledge many metal industries as specially hand tool industries are using Ordinary chemicals which does not have as good result compare to our Cotex deburring and polishing chemicals.
- Below are few point of comparison between Ordinary chemicals and Cotex Deburring chemicals, which will help you to know how best are our Chemicals.

ORDINARY CHEMICALS	COTEX DEBURRING CHEMICALS (COTEX DC)
	
<p>The ph. value of ordinary chemicals is 1.8 – 2.0 which is very acidic in nature.</p>	<p>Where the ph. value of Cotex DC (Deburring chemicals) is nearly to neutral.</p>
<p>After the process ordinary chemicals is not completely soluble in water.</p>	<p>The Cotex DC is fully soluble in water after the process.</p>
<p>In terms of time taken by ordinary chemicals is almost like 6 to 8 hours to complete.</p>	<p>The Cotex DC finishes the process within 3 to 4 hours, which save 50% of time taken by Ordinary chemicals.</p>
<p>In terms of labor and power, per day minimum 3 batches of deburring can be done.</p>	<p>As it saves 50% of time in process so with that other 50% saved time you can have yours next batch of deburring and per day minimum 6 batches can be done with same labor and power.</p>
<p>Consuming of Ordinary chemicals is nearly 7.5 kilograms.</p>	<p>Where the consuming of our DC chemicals is nearly 5 kilograms.</p>
<p>Finishing wise Ordinary chemicals give normal finish and polish</p>	<p>The finishing and polishing of our COTEX DC is superior than any other ordinary chemicals</p>

PARTNERSHIP OPPORTUNITIES

Partnership gives an excellent opportunity to stand out from the crowd, reinforce, enhance and establish corporate visibility amongst the targeted audience. Partnership is a great way to reinforce your brand message with benefits including:

- Enhance your leadership status
- Educate and inspire a targeted audience with your products and services
- Raise brand awareness and create preference to a targeted audience
- Build leadership status in the industry
- Create positive PR and raise awareness of the organization as a whole
- Build brand positioning through associative imagery
- Create internal emotional commitment to the brand
- Provide innovative solutions to the industry
- Provide revenue generating ideas



INDUSTRY SPEAK



Gaurav Sehgal

Director

M/S PYE Tools Pvt. Ltd.

The current PANDEMIC situation resulting in Lockdown/Curfew was never anticipated. The movement of the universe came to a halt, endangering our survival. .

Now Lockdowns are easing, industrial units are reopening and life resuming. This is the right time to adopt measures that help us to progress. There surely lies an opportunity in every crisis. Post Covid India could be very different if it is planned well. It can be huge opportunity. Covid-19 has given us the opportunity to expand our business in the post Covid era. The decisions we make today will determine what lies ahead. It is up to us as individuals/industrial houses and governments to take ownership of the future. We must remember to recover and rebuild responsibly. Since at present import/export has

been affected, we will have to cope with the indigenous raw material and will have to find buyers for our products in domestic markets. The package announced by the Govt. of India could encompass fiscal stimulus, liquidity in the system, tax deferral, credit protection, business-continuity and sustenance assistance for small enterprises. History shows that usually stern hardships result in blessings in disguise in due course of time.



MEDIA SPEAK

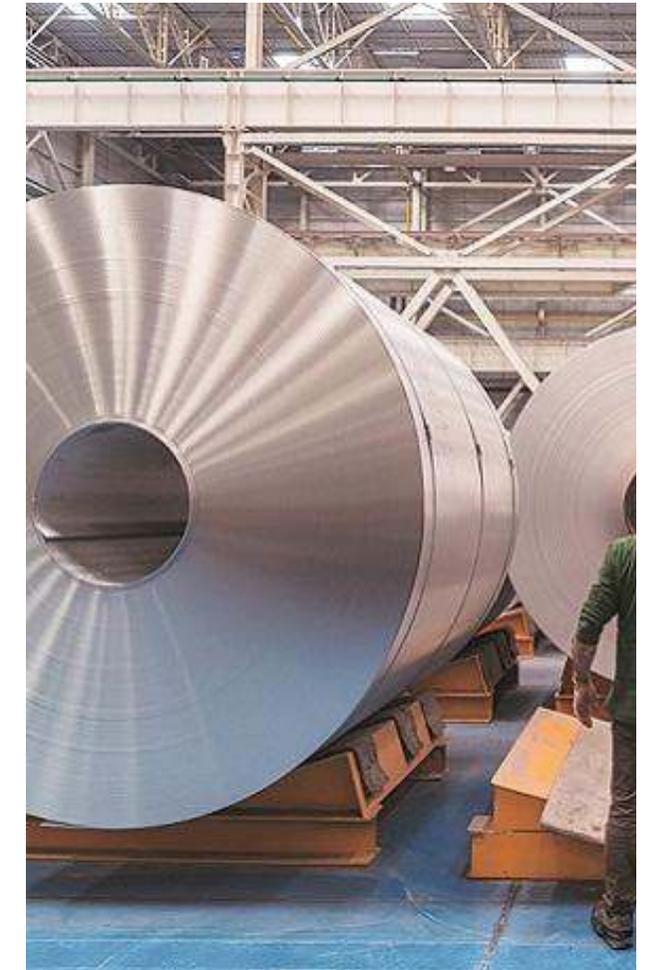
Q3 recovery in steel demand better than expected

Many nations witnessed an unprecedented drop in steel demand, in the second quarter of 2020, at the height of the first wave of coronavirus infections. During this time, several individual country PMI readings fell to the lowest levels ever recorded. The most severe drop was in the IHS Markit India Manufacturing PMI which fell to just 27.4 in April. However, in the third quarter, global steel demand improved, as manufacturing activity resumed, with the lifting of restrictions.

The post-lockdown recovery in steel demand has been stronger than initially anticipated, for most countries. As a result, the PMI readings for the majority of nations showed considerable improvement, during the July/September period. Many returned above 50 – indicating an expanding economy. Several individual country PMIs even surpassed pre-pandemic figures, most notably Brazil. The IHS Markit Brazil Manufacturing PMI rose to 66.7 in October – from the coronavirus-induced low point of 36.0 in April.

In China, the first country to be hit by the pandemic, the resumption in activity started

towards the end of the first quarter. The country's Caixin General Manufacturing PMI only dropped below 50 during two months of this year – February and April. The Chinese authorities' ability to quickly suppress and control the virus, coupled with the government's stimulus measures, resulted in a relatively strong domestic economic recovery.





How does Industry 4.0 impact traditional manufacturing?

Industry 4.0 is a widely discussed topic, with artificial intelligence (AI), big data and machine learning a key element of current developments. But what do these digital activities mean and how will they impact traditional manufacturing?

At Dormer Pramet, the global cutting tool manufacturer, has begun to incorporate Industry 4.0 within its production processes and is working with IBM, one of the world's leading data analysis companies, on several key projects.

This includes using large amounts of data to map the value chain throughout every department of its production unit in Sumperk, Czech Republic, and incorporating computer software to identify defects in tools during the early stages of manufacture. In the first project, Dormer Pramet used advanced algorithms and statistical methods to track every indexable product order from the last two years and how the item moved through the production unit, creating a network model of the entire factory.

This model described how the machines interacted with each other and showed how any process disruptions, such as unscheduled machine downtime, can spread through the entire system. It identified critical points in the process where small issues can cause major inefficiencies later. All were ranked by severity to help focus where improvements were needed to optimize performance and achieve the greatest impact.

In the second phase of the project, Dormer Pramet looked at the definition of the metrics that quantified as an issue, such as quality, maintenance downtime or compliance with the production plan. These metrics were again analyzed to identify further areas of operational change and suggest specific improvements.

Meanwhile, Dormer Pramet is using an IBM inspection station, implemented within a pressing machine, to scan inserts using a series of cameras, lights and moving mechanical elements. This is during the first

phase of the production process and can help improve the quality of its products at the very beginning of manufacture.

An automatic machine image recognition is performed to locate, as well as identify the type and severity of the defect. This detection uses artificial neural networks – a computerised model which improves performance over-time. Therefore, its success depends on the accuracy of the recognition.

This accuracy is influenced by the number of defect images and their variability which are inputted into the system. By adding as many examples and information as possible will continuously help to teach the machine what is right and what is wrong on a product. This not only increases the accuracy of recognition, but helps to detect less obvious defects, reduce false alarms and identify problem characteristics.

All these digital elements and projects aim to enhance Dormer Pramet's existing high standards of manufacturing capabilities, built on a century of knowledge and expertise. It will use them to further improve its production processes, increase quality of cutting tools, reduce waste and advance the service provided to customers.

Each of these elements form part of the company's 'Make the Shift 2030' activities which have been established to help create a more sustainable business.

– *Machine Tools World*



DMG MORI Plans Green Manufacturing and Goes Climate-Neutral

DMG MORI will manufacture all machines (from raw materials to delivery) completely climate-neutral from 2021 onwards. The company's manufacturing / production solutions also provide the highest energy efficiency at the customers' premises. DMG MORI

machines play a key role in the reduction of green technologies. Since May 2020, the 'Company Carbon Footprint' of the firm, which covers its own value creation, has been climate neutral. The company avoids emissions in all areas, among others through modern heating, ventilation, and cooling concepts. Simultaneously, it uses self-generated regenerative energy and purchases exclusively green electricity at almost every location. The residual Co2 emissions, which cannot be avoided, are compensated by investments in sustainable and certified climate protection projects.

It bundles its integrated initiatives for climate-neutrality into three areas. Firstly, in 'GREENMACHINE', the company to offset CO2 emissions that occur in the supply chain and customers worldwide will receive completely climate-neutrally produced machines from all its production plants from 2021 onwards, for example in the production of raw materials such as cast steel.

Secondly, 'GREENMODE' focuses on energy and emission-efficient machine operation through specific CELOS apps, consumption-optimized components such as LED lighting, the recuperation of braking energy and intelligent control of all units. Lastly, in 'GREENTECH', the

company advances the production and further development of green technologies. Customers use DMG MORI machines to produce highly innovative components, e.g. parts for wind power plants, hydroelectric power plants, fuel cells or electric mobility. The company has built up specific know-how in Excellence Centers for many years, to support its customers worldwide.

"Climate protection concerns each and every one of us. Technological leadership and environmental protection go hand in hand. DMG MORI, therefore, takes on complete responsibility," explained Christian Thönes, Chairman - Executive Board, DMG MORI

AKTIENGESELLSCHAFT. "From 2021, the entire value chain of our manufacturing solutions – from raw materials to delivery of our machines to the customer – will be CO2-neutral. This makes DMG MORI one of the first industrial companies worldwide to have a climate-neutral 'Product Carbon Footprint'. We also consistently improve the energy efficiency of our machines. In the production of environmentally friendly technologies, we are an innovation leader."

– *Modern Manufacturing India*

Hand Tools Market Statistics - 2027

The global hand tools market size was valued at \$22,200.0 million in 2019, and is projected to reach \$30,381.0 million by 2027, registering a CAGR of 4.1% from 2020 to 2027.

Hand tools constitute tools and equipment that are not powered by electricity. These tools find their application in daily gardening, agriculture, and framing. Since, the tools are manually operated their application is restricted to certain tasks and skills. Moreover, major factors that drive the growth of the hand tools market include increase in demand from automotive maintenance and repair sector along with advancements in the production technology of hand tools. In addition, increase in use of hand tools in industrial applications is another factor that drives the overall market growth. However, low profit margin due to acute competition and lack of skilled professionals are some key challenges that restrain the growth of the global hand tools market. In addition, growth in popularity of power tools and their versatile application is expected to hinder the growth of this market during the forecast period. Further, the recovery of the construction industries is also expected to fuel the demand for hand tools. However, the growth in machinery and equipment manufacturing sectors around the globe offers lucrative growth

opportunities for the market players during the forecast period.

Moreover, growth in the aerospace industry is an important opportunity leading toward the growth of the market, particularly in Germany. According to the Germany Trade and Invest (GTAI) agency, the German aerospace industry generated revenues of over \$44.5 billion in 2018 and is one of the best performing industries in the country. The aerospace industry is also a major consumer of hand tools, which, thereby, boosts the growth of the hand tools market in Europe.

The advanced industrial growth in developed countries such as the U.S. and Germany drives the attention of hand tool and accessory manufacturers around the globe. The strong foothold of various brands in the German market bolsters the dependence on hand tools for the production and assembly of automobiles, aerospace, and other such products. This motivates the hand tool manufacturers to launch advanced and efficient tools and accessories. For instance, Robert Bosch Power Tools GmbH, a subsidiary of Robert Bosch Group, based in Germany, generated around 15% sales only from Germany. Through its brands Bosch and Dremel, it has launched over 100 types of hand tools, accessories, and measuring tools for the German market in 2019.

The global hand tools market is classified into type, end-user, distribution channel, and region. By type, the market is segmented into wrench, plier, screw drivers, hammers, cable cutter, and others. By end user, the market is categorized into DIY, professional, and industrial. By distribution channel, the market is bifurcated into retail and online. By region, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA. Asia-Pacific is expected to dominate the global market during the analysis period due to growth in urbanization and increase in infrastructure investments. Moreover, China is one of the major exporters of hand tools globally. The rapid industrial development of China has motivated the hand tools and accessories manufacturers to establish their production units in the country. The low labor and material costs in China help the manufacturers to produce hand tools and accessories at lower prices as well as to attain high manufacturing productivities. The Chinese hand tools market also includes many small manufacturers who generally serve the Asian demand for hand tools. Furthermore, the developing automotive, electronics, aerospace industries in China creates opportunities for the growth of hand tools in China.-

Allied Market Research

IoT To Play Critical Role In Post-Covid Recovery Of Industry

As the contagion took over the world, the rules of living life changed. Businesses of all types radically changed their dynamics. One of the first sectors to benefit from the pandemic is the Internet of Things (IoT). IoT has already been playing a crucial role in industrial activities and it will have an even bigger role in the days to come.

Just like any other crisis, the COVID-19 pandemic has also proved to be a catalyst for change. The strictures imposed by the global pandemic have forced us to evaluate every possibility, from remote working to touchless delivery to automation and many more. And these developments led to the Internet of Things (IoT) devices, sensors, scanners and other connected solutions becoming a necessity. As the pandemic forced almost all businesses to change their working practices and priorities in a matter of weeks, research reports and numerous use cases have further substantiated that IoT is becoming a

catalyst for business continuity during challenging times and will continue thereafter.

An IoT spotlight research report of Vodafone 2020 says that IoT has played a vital role in supporting business continuity as the COVID-19 pandemic hit companies across the globe. The international study covering nearly 2000 businesses in 13 markets including India showed that more than three-quarters of respondents have increased the pace of IoT projects during the pandemic.

Essentially, adopters of the technology believed IoT was vital to keep them going, with 84 per cent indicating that the technology was key to maintaining business continuity during the pandemic. As a result, the study showed 84 per cent now viewed the integration of IoT devices with workers as a higher priority, and 73 per cent agreed that the pandemic would accelerate their adoption plans.

The study also showed that IoT continues to generate value and return on investment (ROI) for adopters, and 87 per cent agreed their core business strategy has changed for the better as a result of adopting IoT.

“IoT has grown up. It’s no longer just about increasing return on investment or providing cost savings to businesses – it’s changing the way they think and

operate,” said Erik Brenneis, Internet of Things Director at Vodafone Business.

Says Ashvin Vellody, Partner, Deloitte Touche Tohmatsu India LLP, “for businesses across the globe, numerous IoT use cases exist for most industry sectors where IoT, along with other exponential technologies, is powering operational efficiencies, latest business models, and smarter and sustainable communities.”

“With the proliferation of connected devices and evolving AI capabilities, the applicability of IoT is set to expand for businesses, consumers, and citizens,” says Vellody.

With the emergence of IoT applications in diverse verticals, enterprises can now leverage the use of innovative technology to accelerate digitalisation and create new opportunities.

For instance, IoT applications can help eating joints attest to food quality in real time, municipalities may start deploying smart meters, employees may have to work in a more remote yet connected setup, and automatic disinfectants may be a norm in public places such as hotels, shopping malls, gyms and movie halls to improve air quality and cleanliness.

Already the healthcare and wellness industries are developing innovative applications with wearables for remote



monitoring, disease prediction and diagnosis. Additionally, the agriculture industry is also experimenting with more efficient irrigation and soil monitoring through connected IoT technologies.

But what's proving to be a barrier to the increased adoption of IoT is a lack of vision and short-term value realisation, lack of right talent and skills for implementing and maintaining IoT ecosystem. Another challenge is with its large bandwidth and low latency, 5G network is uniquely suited for IoT connectivity.

Besides, technical challenges of connectivity, compatibility,

interoperability, and cybersecurity are the other key barriers to IoT adoption in India. IoT needs a healthy ecosystem of vendors, OEMs, and service providers. Connections between devices and systems are a recurring challenge for implementers. One of the major reasons contributing to failure of IoT implementation is the interoperability between systems.

Even from the business point of view, IoT deployments have exhaustively boosted employee productivity (49%) and improved customer experience (59%). Moreover, IoT data is also considered as becoming essential to support decision making in businesses (59%), and the majority of adopters (84%) thought that IoT would allow them to do things they

couldn't do before. IoT data was also helping 84 per cent of businesses meet their sustainability goals.

As per the latest IDC report, spending on software and hardware related to IoT is projected to grow rapidly across the world, from \$726 billion in 2019 to \$1.1 trillion in 2023. Further, the report reveals that Asia-Pacific accounted for most of the spending on IoT in 2019, with India spending \$20.6 billion.

There is no doubt that IoT is at the core of digitalisation and enables new ways of functioning and those embracing IoT believe that the benefits clearly outweigh the risks. Especially, this year, IoT has been critical to businesses and has made remarkable difference for adopters, widening the gap even further between those who have implemented this technology and those who haven't. Organisations that have failed to adopt IoT within five years will have fallen behind, meaning IoT can create sustainable, long-term, competitive advantage. In spite of the challenges of 2020, businesses expect that IoT will play a key role in the future success of their business.

For instance, a customer, on average, pays Rs 14 as a logistics cost for a bar of milk chocolate they buy for Rs 100 in India. Due to the incorporation of IoT in the supply and delivery process, this cost stands at Rs 9 in developed countries like

the US. This in turn means, for a chocolate company client there is a potential to save Rs 5 for every Rs 100 and automatically make the product cheaper for a common buyer.

This is just one example highlighting the critical role that the Internet of Things (IoT) can play in the supply chain in the future. It'll be the same story in the other sectors as well in the days to come.

- Engineering Review





Why Do You Need A Predictive Maintenance Strategy To Succeed?

Technology has saturated nearly every step of the manufacturing process. As more facilities embrace Industry 4.0, technologies like AI, automation and the IoT are making factories safer, more efficient places. Predictive maintenance can bring the same benefits to machine repair.

Many manufacturing technologies improve the operation of machinery, but that's not all machine ownership entails. You also have to consider the maintenance and repair of any devices, robotic or not. Proper, proactive care can extend a machine's life and functionality, and vice versa.

Manufacturers spent at least \$50 billion on maintenance and repair in 2016. Today, your facility may host more advanced, complicated machinery, making repairs even costlier. To make the

most of your mechanical investments, you need optimal care, and predictive maintenance enables that.

The Risks of Run-to-Failure Operation

The most straightforward approach to maintenance is running machines until they malfunction. Run-to-failure operation often isn't as extreme as waiting until something breaks, but typically looks like running something until an issue is noticeable. While this approach maximizes a machine's uptime until the point of failure, it comes with considerable risks.

Most notably, run-to-failure operation increases the likelihood of a catastrophic malfunction, which can be costly and dangerous. Without attention, seemingly minor issues can snowball into much more severe ones that cost more to repair. Some of these may even threaten any employees working on or near the machine when it breaks.

While run-to-failure temporarily avoids downtime, it will eventually lead to expensive interruptions. Malfunctions will cause unexpected stoppages, disrupting the entire manufacturing process by ceasing or slowing production until repairs occur. You'll need a more proactive approach to maintenance to avoid these monetary and safety risks.

Traditional Preventive Maintenance Misses the Mark

Most manufacturers try to avoid run-to-failure to some degree, typically adopting preventive maintenance. This approach involves scheduled downtime to perform routine procedures on machines, preventing major issues. Preventive maintenance can add 20 years to a machine's life, but traditional methods aren't perfect.

Typically, preventive maintenance looks like getting the oil changed in your car, where you perform small tune-ups on a schedule. The trouble with this approach comes when a machine doesn't need any maintenance. There's a chance you could be stopping production, however briefly, when you don't need to.

Scheduled maintenance can also make inventory management more complicated than it needs to be. You'll have to decide which parts you need on hand and when to order them, which can be challenging to determine. You can end up with a surplus of one component or find yourself needing another you didn't anticipate.

Predictive Maintenance Fixes Issues on Both Sides

Predictive maintenance provides a solution to the shortcomings of both these approaches to repair. This method is preventive, but unlike traditional,

scheduled preventive maintenance, it involves addressing needs as they arise by using machinery to predict when a machine needs a specific tune-up or repair and addressing it before it leads to malfunctions.

Like traditional preventive approaches, predictive maintenance takes time to fix small issues before they become more severe. Unlike conventional methods, though, it's need-based, so you don't have to worry about unnecessary downtime for unneeded repairs. It enables you to run your machines with the least amount of disruption possible.

Since this method relies on predictions, it also addresses the issue of inventory management. An advanced enough system can tell you what you need before the problem becomes disruptive. You can then acquire the parts you need to do the job.

How Does Predictive Maintenance Work?
Predictive maintenance relies on IoT technology that records data on a machine's performance. You may already use these devices to measure things like efficiency, as many smart factories do. The predictive approach to repair takes these readings and runs them through an algorithm that looks for potential maintenance issues.

Since manufacturers must filter and analyze data to draw insights from it, AI is

crucial here. Making predictions like this based on data is AI's specialty. AI also gets better at understanding each machine's maintenance needs the more you use it.

Through machine learning, AI programs can teach themselves how to recognize new patterns. Since every machine ages differently, this adaptability is crucial to reliable predictive maintenance. Your predictive maintenance strategy's effectiveness hinges on your AI and how you train it.

Developing and Applying Your Predictive Maintenance Strategy

As helpful as it would be, applying predictive maintenance to every machine in your facility at once isn't realistic. It's better and more feasible to take a more gradual approach, developing it on a few systems before expanding. As a starting point, look for any machines that are integral to your process and need frequent maintenance.

Start with these machines, either installing new IoT sensors or using existing ones to gather performance and mechanical data. Then, start running this data through an AI program capable of predictive analytics. Train it to make connections between things like oil levels and the need for maintenance.

While you focus on developing AI, don't forget about your human maintenance crew. They must have access to machine data to respond as quickly as possible before the AI becomes adept at predicting maintenance needs. They may also be able to see areas where the AI falls short and make recommendations.

As you develop your predictive maintenance system on one or two machines, apply preventive maintenance to everything else. If your manual maintenance systems are similar to the AI-based one, transitioning will go more smoothly. From there, once you're satisfied with your predictive maintenance's performance, start applying it elsewhere.

Protect Your Investments

Industrial machines are a substantial investment. If you don't take care of them, you could end up losing much more money than necessary. Predictive maintenance will help you get the highest return on your investment you can.

Predictive maintenance takes the smart factory to a new extent, applying performance analytics to repair, not just operation. As you move toward a connected facility, this method is a crucial step toward success. Without it, your IoT investments will go underused, and your machines will experience a shorter life.

– *Engineering Review*

Grand Business Carnival

6 co located events and one Grand Business Carnival for Metal, Machinery and Manufacturing industries

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- CWE - for **Advanced Cutting and Welding Equipment & Technology including Laser Technology**
- IMEX - for **Latest Machine Tools** (CNC, Laser, Shot Blasting, Measuring & Testing Equipment and more.....)
- UMEX – for **Economical Pre-owned machinery in the industry**
- World of Metal – for **Mineral, Metal, Metallurgy & Materials**
- TECHINDIA - for **Engineering and Manufacturing** (Pumps, Valves, Compressors and more.....)



A Sneak Preview

- Expected Presence of **500+** leading Exhibitors from **15+** countries
- **4 Open Seminars**
 - > *Hand Tools, Power Tools & Fasteners Know-How*
 - > *Advancements In Cutting & Welding Equipment*
 - > *Machine Tools: Bringing Depth to Manufacturing in Industries*
 - > *Technology Innovation for Metal & Metallurgy Industries*
- Various New Launches by exhibitors.



Business Connect Program

- Market News & Views, a weekly e news alert program covering Industry Updates ,Launch of New Technologies , Partnership Opportunities , Industry Views, CSR activities
- International Business Networking Program (IBNP) a monthly webinar covering key industry across Indian as well as some neighboring countries including China, Taiwan, Bangladesh, etc
- Open Seminars during the event, a unique opportunity to have face to face interaction with industry leader and knowledge transfer



Contact Us



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3-5 SEPTEMBER 2021 at Bombay Exhibition Centre, Mumbai, India

SOME LEADING COMPANIES AT THE EVENTS

Agnee Engineering



"Agnee Engineering" is one of the leading producers, manufacturers and

exporters of heat treatment furnaces, non-ferrous

melting & holding furnaces and industrial ovens, roller hearth annealing furnaces, gas carburizing furnaces, retort furnaces, heating ovens, rotary retort furnaces & driers. With over a decade of experience and expertise in thermal technology, we have emerged as a formidable solutions provider for industrial furnace & oven installation. The secret of our success lies in the fact that we are thoroughly involved in a project from the conceptualization stage for a new industrial furnace or oven installation right through to its completion.

At Agnee engineering, our keen interest towards the latest findings in the

advancement in thermal technologies provides us the advantage of the new innovations and inventions in the industry. All the clients who have had an association with us for their project requirements are a testament to this. The advantage they have received from this has developed bonds of trust that only quality service over a period of time can germinate.

PYE Tools Pvt Ltd



Our Company is a business entity established in 1983. Mr. B.S. Sehgal (Managing Director), a foresighted person along with his team share

responsibilities in different functional areas and work with focused & target-oriented approach. Mr. Gaurav Sehgal (Executive Director) looks after Operations of the Company. He is Bachelor's in Engineering (Mechanical) from Thapar University & Master's in Business Administration (MBA-Finance) from Clark University,

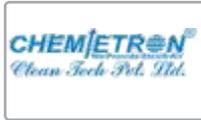
Massachusetts, United States of America. Mr. Pankaj Sehgal looks after the dealership network and Mr. Anoop Sehgal share responsibility towards technical side of manufacturing operations. We are the largest manufacturers of Pliers, Screw Drivers and variety of Hand Tools in India. Over the period of time with continuous dedication and teamwork, the company has expanded its product range with the development of sound infrastructure and strong business ties with its stakeholders. It is AN ISO 9001 Certified Company by TUV Rheinland of Germany. The Company uses exclusive quality raw materials to manufacture variety of Hand Tools. Our constant emphasis is on producing high quality and cost-competitive products in a safe and motivating work environment

ensuring absolute trust in our brand PYE. The Company boast of an established network of around 500 Authorized Dealers spread all across India, with a substantial share of revenues from overseas markets such as Middle East, Confederation of Independent States (CIS) and United States of America. Our company is awarded with ONE STAR EXPORT HOUSE status holder certificate by Government of India. Our motto is to strive for excellence in all spheres through dedicated teamwork and technological up gradation while supporting the principle of continuous improvement. Increasing demand of PYE products is an indicator that our product quality has been approved by actual users in India as well as abroad.

For more details, you may please visit us at <http://www.pyetools.com>



Chemietron Clean Tech Pvt. Ltd



Chemietron Clean Tech Pvt. Ltd., established in the year 1980, is amongst the

leading manufacturers, suppliers, traders, importers and exporters of a highly commendable range of Clean Room Equipment. The provided array is known to be made up of the finest Air Filter, Air Shower and Air Handling Unit, which are widely admired and preferred.

Manufacturing of the offered assortment is done by following the standards set by the industry and using quality approved raw materials and latest machines. This ensures the offered product's optimum finishing, higher sturdiness, durability and dimensional accuracy. In addition to this, the provided collection of the product is available at the most reasonable rate possible with us. We are exporting our products Dubai, Ghana and Nigeria.

We are backed by a highly developed and modern infrastructure facility, for reasons of commanding the firm's operations in the best possible way; it has been divided into several units. The established facility is upgraded on a regular period of time, for reasons of increasing our productivity and to extend our organization reach across the market. With the help of our great distribution network, we are able to deliver the offered products on time at the clients place. Apart from this, we are offering all

the products in different stipulations to choose from.

Under the leadership of our owner, Mr. Chirag Kadia, we have managed to reach such peak of success. His understanding of the business and ability to manage and analyze, have enabled us in generating a smoother path to success in the industry.

Products

Air Filter

We deem it a pleasure to introduce ourselves as one of the leading in complete solution provider of Clean Room System for more than 35 Years.

We are manufacturer of Air Filter with all range of Air Filtration in house at Ahmedabad. We are manufacturing entire range of Air Filters right from Pre-Filter, Fine Filter, HEPA, ULPA, Pocket Filter, Disposable Filter etc. We having all mfg. process with Automatic Machines to maintain quality & standard of the product. We are attaching herewith our Clean Room Equipment & Air Filters technical leaflets for your ready reference. We are sure you will appreciate our product and we look forward to more opportunities and long term association with your esteemed organization.



Cotex Chem Pvt. Ltd.



We Cotex Chem Pvt. Ltd., we were established in 1996. We are located at Dombivali M.I.D.C.,

near Mumbai. We are recognized as a trustworthy company & we are the leading manufacturer & supplier of the best quality products in hand tools and other metal industries. We are an ISO 9001:2015 Certified company, with over 24 years of expertise in manufacturing of Inorganic chemicals and vibratory finishing chemicals, with installed capacity of more than 500 metric tons per month.

Owing to our tie-ups with various well-known chemical companies across the globe, we have been able to provide best quality chemicals all over India. The products range offered by us consists of drubbing chemicals, polishing chemicals, finishing chemicals and many more.



Himalayan Power Machines Co.



Himalayan Power Machines Co. is located in a beautiful Bandal Valley, A foot hills of

TEHRI GARHWAL, 17 Km from DEHRADUN CITY. Promoters of this new Company are successful and leading player, in the filed of Portable Power Generation & after Sales Network. We have a team of India's Best Engineers, engaged Consistently for development of best POWER PRODUCT to fulfill growing Electrical needs at household, commercially as well for small Industries and Institutions.

Our New Delhi Development & Testing Centre equipped with Modern State of Art machines to Cater Demand of International Standard DIES & MOULDS needed for our NEW GENERATOR MODELS.

With forceful technical strength, the company has strong developing ability in professional design and production of Serial Products such as Portable Multifuel Run (Petrol, Kerosene, LPG, CNG) Generator & Engines upto 7.5 KVA, Diesel Portable Generator, silent portable generators, Rear Earth Magnet Brushless Alternators 1 KVA to 7.5 KVA, Single Phase, 3 Phase, Generator Cum-Welder Sets & Inverter Battery Charges for 5 KW Invertors for 24 Hrs Backup.

Himalayan Power Machine Co. is eager to be with you to make greater achievements with our high quality products and best after sales service network.





...and many more



...and many more



Wishes you a
Happy and Prosperous

Diwali

COMBATING
COVID-19

Basic
Protective
Measures



USE FACE MASK



CLEAN AND DISINFECT



WASH YOUR HANDS
FREQUENTLY



KEEP DISTANCE
FROM OTHERS



AVOID TOUCHING
EYES, NOSE OR MOUTH



STAY AT HOME
WHEN YOU ARE SICK