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CEO CORNER



India : The rocking years ahead

The COVID-19 pandemic has been unprecedented on many counts pertaining to public health, national security, and the global economy. Not since the Spanish Flu of 1918 has a pandemic brought economic powerhouses to such a standstill.

But in the midst of this pandemic, as industries stall, there could be another form of disruption, in the sense used in Silicon Valley to signify the winds of change. What winds of change blow toward India?

With the ongoing trade disputes before the COVID-19 outbreak, Washington and Beijing have continuously locked horns. These developments have accelerated global firms' strategic plans to diversify manufacturing bases away from China, as a way of insuring against supply chain disruptions. Asian economic powers have begun to announce incentives to move production out of China too, with Japan even earmarking a \$2.2 billion fund to encourage manufacturers to do just that.

India's expanding economy and robust middle class provides a lucrative market while its abundant skilled and semi-skilled labor adds to the country's ability to support bulk manufacturing, assembly, and processing. Furthermore, India's overlooked eastern coast is strategically placed to connect with Asia-Pacific markets, an advantage to optimize supply chains and minimize transportation costs.

In addition, India's cost advantages come alongside its democratic fabric, with an emphasis on transparency and rules-based international order. India's willingness to meet its supplier obligations without weaponizing trade provides the global business community with predictability and fair trade. Hence India will have rocking years ahead if we cope up ourselves with demand from the world with quality by usage of skilled people in syn with technology advancements.

Read this month cover story to unveil the potential of our country with expert insights from the industry.

CEO



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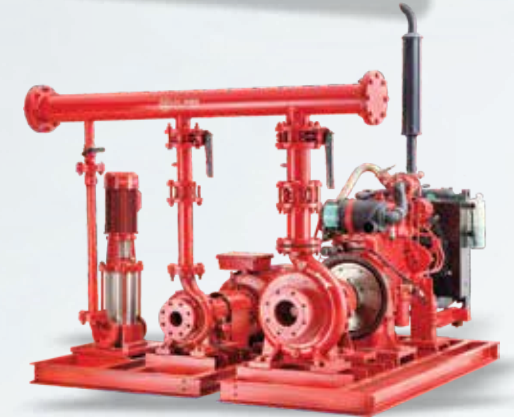
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JSPL records highest exports during Covid-19

Jindal Steel & Power Limited (JSPL) reported its highest ever exports of steel & related products during April 2020. The company exported 248,000 MT of steel & related products, which is a growth of 109% (m-o-m). Export contributed to 74% of its total sales volume.

Despite challenging times, JSPL India reported 5% growth (y-o-y) in the production of steel & granulated pig iron to 550,000 MT during April 2020. The Group has recorded 655,000 MT of consolidated steel production in April 2020.

All plant operations strictly adhered to the MHA guidelines and shop floor operations resorted to staggered working to ensure proper physical distancing.



India's largest Blast Furnace at JSPL-Angul has recorded the highest ever production of 298,000 MT of hot metal during April 2020. Blast furnace maintained an average production of ~10,000 MT+ on a working day basis.

VR Sharma, Managing Director - JSPL said, "With the continuous support of Indian Railways and various ports in the eastern part of the country (viz Gangavaram, Vizag, Paradip, etc), JSPL continues with steel production to support the Indian economy by earning precious foreign currency by exporting our products."

"JSPL is exporting steel to China, Malaysia, Germany, Spain, Italy, Denmark, France, Saudi Arabia, Oman, Qatar, and UAE. We are also catering to the prestigious export order of Rail blooms from France to manufacture Rails in France for high-speed railways" Sharma further added.

JSPL reported standalone sales of 335,000 MT, the balance production is under shipment and stocked at the port waiting for vessels, which will be accounted in the month of May 2020. JSPL recorded consolidated sales of 456,000 MT during April 2020. JSPL's Oman Steel plant reported 106,000 MT of steel production while steel sales stood at 120,000 MT in April 2020.

Asian Paints extends support to painters and contractors

The COVID-19 pandemic has made things difficult for painters and contractors since a vast majority of them are daily wage earners. To help them during these turbulent times, Asian Paints has transferred money directly to the contractors' bank accounts through a Direct Bank Transfer mechanism.

This has benefited more than 40,000 contractors across the country. Additionally, Asian Paints has also started a Helpline for contractors that will provide basic information about the COVID-19 virus and precautions which can be taken to reduce chances of transmission. The helpline will be available at all times to respond to any queries around the same. There is also an effort to reach out to the community through NGOs to provide masks and sanitizers so that the Painter/Contractor community is equipped to fight the pandemic.

Elaborating more on this drive, Amit Syngle, CEO & MD, Asian Paints Limited said, "Contractors have always been a key stakeholder for Asian Paints. The Direct Bank Transfer drive has significantly helped the contractors and their families meet their immediate and essential family needs in these testing times."

For more information www.atlascopcogroup.com

Atlas Copco India appoints new Managing Director



Atlas Copco India has appointed Frans Van Neikerk as the new Managing Director and Vice president India Holding, effective January 2020. He will be responsible for the company's operations in India and Bangladesh.

Frans van Niekerk, a South African citizen, has more than 20 years of experience within the Atlas Copco Group, most recently as Vice President of Southern Africa Holding. Be-

fore that he has held a variety of Business Control functions for the Mining and Rock Excavation Technique business area in South Africa, as well as in Southeast Asia, Chile and Sweden. "With his long and international experience he is very suitable to contribute to our presence and development in the important Indian market," said Hans Ola Meyer, Senior Vice President Controlling and Finance and CFO. Frans' education includes studies in accounting and economics from Lyceum correspondence college in South

Africa. He succeeds Giovanni Valent who is retiring after 25 years in the Atlas Group.

Commenting on his new role, Frans said, "I am delighted to be appointed as Managing Director for Atlas Copco India and look forward to working with the team to grow the India market even further. We will continue serving our impressive portfolio of clients with the robust approach that Atlas Copco is known for, assuring a seamless delivery of our services."

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Medical Protection Devices to fight against Covid-19

DEP team has developed products to support the medical industry and combat Covid-19. The team has joined hands with the local manufacturing suppliers and has developed personal protection medical devices.



These include:

- **Aerosol Blocker:** The Aerosol Blocker helps with the prevention of infectious water droplets / breathe vapour from circulating. It creates a barrier and can prevent the spread of airborne aerosol droplets from infected patients during times that they cough/speak/sputter.
- **Protective Face Shield:** It provides protection to the eyes and face of the user from direct spray and splatter. Available in multiple styles to fit diverse preferences, the full-face shields are offered with masks and reusable

frames. The shield has a clear plastic of appropriate thickness and curved shield design which helps with maximum visibility and coverage.

“Designing these medical devices is DEP’s contribution to the medical fraternity who are in the frontline, battling to save lives. These are the first few devices in the series of more which we plan to release,” said Radha Krishnan, Founder and President, Detroit Engineered Products.

For more information www.depusa.com/meshworks

Metso’s Megaliner concept to also include discharge systems

Metso has expanded its Megaliner concept to also include discharge systems. Megaliner™ for discharge systems simplifies and speeds up grinding mill relines by up to 50%, as well as dramatically improves safety for mining operations.

The Megaliner for discharge systems integrates dischargers, grates, lifter bars and filling segments in one unit, reducing the number of components used by as much as up to 70%.

The new solution has a minimized number of attachment points and the bolts used to attach the liners are inserted from the outside of the mill, meaning that no workers are needed in the danger-zone inside the mill.

In addition, the liner bolts are much shorter and well protected from dust, corrosion and general mechanical damage. The traditional

long bolts through the grate, the pulp lifter and the mill discharge head are not used, making it up to 70% faster to knock out the bolts. It also eliminates the need for risky and expensive recoilless hammers.

“The discharge system of a grinding mill is the most complex and time-consuming part of the mill to reline. There are also significant risks involved when changing out heavy liners in a tough environment under time pressure. We are therefore thrilled to be able to offer a faster, but at the same time much safer solution that will reduce risks and increase uptime for our customers,” said Anssi Poutanen, Vice President, Mill Lining Solutions, Metso.

Megaliner is now available for all sections of a mill

For more information www.metso.com

Oerlikon Balzers receives Airbus qualification



The RS 50 is located in Ferrières-en-Brie near Paris, a major Aerospace certified production facility of Oerlikon Balzers.

Oerlikon Balzers announced it has received qualification from Airbus for its RS 50 coating system, which uses the latest carbon coating technology. The RS 50 is located in Ferrières-en-Brie near Paris, a major Aerospace certified production facility of Oerlikon Balzers. The coating system has been selected and

approved by Airbus to secure REACH-compliant PVD coatings with BALINIT C.

The RS 50 coating system is capable of producing BALINIT C coatings according to AIPS 02-04-007 Airbus specification. BALINIT C, a non-hazardous and REACH-compliant alternative to hard chrome plating,

is a coating applied to aerospace components made of steel, titanium and various alloys that helps reduce surface fatigue, withstand wear, and high loads, whilst being lightweight and exhibiting low-friction.

For more information www.oerlikon.com/balzers

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JAL wins the National Award for Export Excellence for the third time

Jindal Aluminium Limited (JAL) announced that it has been awarded the 'National Award for Export Excellence - Star Performer for 2017-2018.' This prestigious award by the Engineering Export Promotion Council (EEPC) has recognized JAL as the highest exporter in the group of 'Aluminium & Articles thereof' under Large Enterprise Category.'

The certificate and trophy of this honor were presented to Anil Agarwal, President, Jindal Aluminium Limited by B. S. Bhalla, Addl. Sec, Ministry of Commerce in the



presence of other dignitaries of EEPC-India, Kamna Raj Aggarwal, Regional Chairperson (NR), Mahesh K. Desai, Sr. Vice Chairman, Ravi Sehgal, Chairman, and Arun

Kumar Garodia, Vice Chairman; at an event in New Delhi.

Remarking on this noteworthy accomplishment, Pragun Jindal Khaitan said,

"We are very humbled to have been honored on such a valued platform. We as an organization have always aimed at achieving higher standards of productivity, quality, and economy in our operations. Receiving the export award for the third time recognizes our commitment and capacity to fulfill the global demand. We shall continue to maintain the testament of quality and commitment for our customers in the years to come."

For more information www.jindalaluminium.com

Ziehl-Abegg's elevator division records an all-time high

The elevator drives division at Ziehl-Abegg has been running at an all-time high for the past two months. 2019 had already been a record-breaking year for the elevator specialists at the electric motor manufacturer Ziehl-Abegg, with sales of more than 72 million euros. In the current year, business in the elevator division has continued at the same record level as in the previous year.

"We are currently 12% up on the previous year," says CEO Peter Fenkl. The orders are coming mainly from Europe and Southeast Asia.

Ziehl-Abegg is benefitting from being located in Germany. In contrast to Southern Europe, where in Italy and Spain many companies are closed, production in Southern Ger-



Demand for Ziehl-Abegg's electric motors for the elevator industry is currently 12 percent up on the record previous year.

many is in full swing. Even in the current corona crisis, the supply chain is working and supplies to production are secured, with even kit manufacturers in Spain ordering elevator motors and control units from Ziehl-Abegg in Hohenlohe. A large proportion of the volume is coming from new construction projects.

For more information www.ziehl-abegg.com

Cooperation for providing clean water in Ethiopian Village

The community in drought-stricken Serdo was devastated to learn the water from their newly bored well was so heavily contaminated with fluoride and salt that it had to be sealed. All hope of the end of a persistent struggle to find safe water was gone.

Until, that is, USAID, CARE Ethiopia, Puretec Israel and DuPont Water Solutions joined forces to build a solution that would sustain the community for decades. Sixteen reverse osmosis (RO) elements were donated by DuPont to provide clean, cool water to some 2,000 citizens.

Commissioned in October 2019, the Serdo water scheme is now providing 5,000 liters per hour of safe water, stopping the need for lengthy

walks to fetch it or truck delivery into the town. The solution is being kept sustainable through the technical training of regional water managers and community-based operators and technicians.

President of the Afar regional state, His Excellency Awol Arba stated, "This project will enable the community to focus on other aspects of life," in the inauguration in October 2019, in which he and U.S. Ambassador to Ethiopia Michael Raynor, turned on the tap. The Ambassador underlined the importance of the project to "alleviate a serious situation where this community simply did not have access to reliable and safe drinking water."

For more information [Web: www.dupont.com](http://www.dupont.com)

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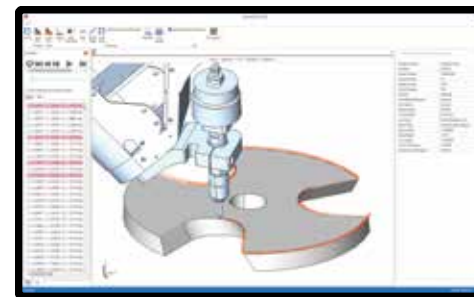


SigmaTEK Launches Version 20 of the SigmaNEST Product Portfolio

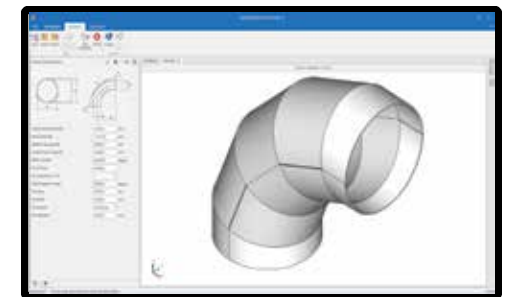
SigmaTEK Systems, a leader in developing CAD/CAM software solutions for the fabrication industry

We are pleased to announce the latest release of the flagship SigmaNEST product portfolio. Version 20 is a substantial release introducing many new features in all areas of the product with continued emphasis on user-experience, optimizing material utilization, and data management.

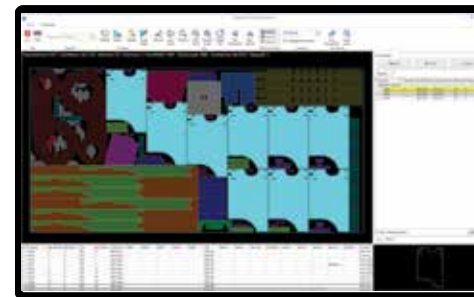
A new SigmaTEK Launcher provides a common, customizable desktop platform from which users can easily access core SigmaTEK products, and eco-system applications such as license manager, database utilities, and help resources. The Launcher also displays a live social media feed to ensure users are fully up-to-date with the latest product information, trade shows, and educational webinar schedules.



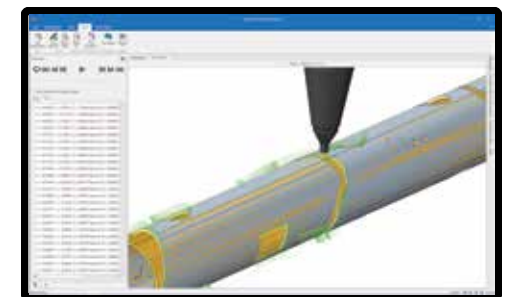
Version 20 delivers innovative bevel capabilities such as advanced toolpath generation, and rule-based corner transitioning



SigmaDEVELOP, a 3D system for standard ducting and HVAC geometry can convert multi-piece common line gores into a single no-kerf, common line part



Color Offload is a shopfloor tool that uses color-coding to track parts by next operation



Version 20 of SigmaTUBE includes support for new inventory profiles, and tab and notch enhancements

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HP mobilizing 3D printing to battle COVID-19

HP Inc. and its global digital manufacturing community are mobilizing their 3D printing teams, technology, experience, and production capacity to help deliver critical parts in the effort to battle the COVID-19 pandemic.

More than 1,000 3D printed parts have already been delivered to local hospitals. HP's 3D R&D centers in Barcelona, Spain; Corvallis, Oregon; San Diego, California; and Vancouver, Washington are collaborating with partners around the world in a coordinated effort to increase production.

Initial applications being validated and finalized for industrial production include face masks, face shields, mask adjusters, nasal swabs, hands-free door openers, and respirator parts. HP is also coordinating with government, health, and industry agencies in numerous countries to ensure a synchronized approach.

HP and its partners will also be making the validated design files for many of the parts that do not require complex assembly freely available for download.

For more information
Web: www.hp.com

Altem Technologies bags Dassault Systèmes Platinum Partner Award for the year 2020

Altem Technologies Pvt Ltd, a leading PLM and Additive Manufacturing company in India has been awarded as 'Platinum Partner 2020' at the recently concluded Dassault Systèmes Customer Process Experience – Value Up India 2020 in Mahabalipuram, Tamil Nadu, India.

On this achievement, Sharath Chandra (VP, Software Sales, Altem Technologies) recognizing the hard work done by the Altem team, dedicated the award to the vast base of Altem customers. Sharath said, "It is a proud moment for Altem to be recognized as the Platinum Partner and this would not have been possible without the continuous support of our customers



in giving us business. I also congratulate my entire team at Altem for this success."

Partner Rewards is a program within the Dassault Systèmes eco-system to recognize and reward Business Partners who on one hand share Dassault Systèmes vision and mindset based on sales per-

formance and efficiency, strategic alignment and commitment with Dassault Systèmes, and on the other marketing and other investments thereby having a consistent and sustainable growth.

Partner Rewards Program establishes a framework that enables, rewards, and supports each partner in growing business based on engagement, alignment, performance and investment with Dassault Systèmes. Platinum is the highest tier in the program, for Business Partners who are highly engaged in Dassault Systèmes' business. Platinum is followed by Gold, Silver and Bronze.

Web: www.altem.com

B&R enables continuous, secure monitoring of machine data from a distance

With LogTunnel feature of Secure Remote Maintenance solution, B&R is facilitating companies to check in on plants and machinery anywhere in the world from office or on the go. It even enables taking control of it if necessary – as though you were right there on site. Through continuous data logging, LogTunnel allows you to detect faulty components early and optimize service intervals.

Setup is a simple matter of drag-and-drop and requires no special IT know-how. Simultaneous logging and maintenance the ongoing LogTunnel connection is not affected when a technician connects temporarily to perform remote maintenance – logging continues uninterrupted. Machine data can be stored on a central database server, in the cloud or at a data center, where it remains



available for later analysis.

Secure connection: Secure Remote Maintenance functions in accordance with all the latest IT and cybersecurity guidelines. Machine builders have runtime access to machine parameters from their entire installed base. All access is logged in detail for later traceability.

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Turning COVID-19 crisis into INDIA'S MANUFACTURING opportunity

As India continues to fight a two-front war against coronavirus and looming economic crisis, the government and experts are seeing some silver linings to the corona cloud. They are stressing that the crisis could turn into an opportunity for the nation. And this opportunity comes from the sector that possibly has been the worst hit due to lockdown—Manufacturing.

While China has been a global manufacturing epicentre for over three decades, Covid-19 may alter the situation. Countries across the world are realizing that they cannot remain dependent on a single country and are looking to diversify their manufacturing capacity beyond China. There are reports of countries like Korea and Japan embarking on de-risking strategy and pulling out investments from China. Courtesy its huge market size, lower wage costs and strategic placement and connectivity with Asia-Pacific markets, India is definitely well-placed to emerge as a suitable alternative destination.

We, at Engineering Review, spoke to the industry leaders to understand how India can capitalize on this opportunity and emerge as a global manufacturing powerhouse. Excerpts:



Shreegopal Kabra,
Managing Director & Group President,
RR Global

Talks of making India a manufacturing hub has been doing the rounds for a while now. The current government's ambitious 'Make in India' policy was a huge step towards realizing this potential. Hoping that India can counter the over dependence of the world on

Industry and government need to work in tandem to realize this vision

China with mass manufacturing at a similar pace and deliver even better in terms of quality.

We still have a long way to go to realize this potential. Covid-19 has given us a unique opportunity. In terms of population, we are the only nation close enough to China. However, to make India a global manufacturing hub the government needs to develop business friendly policies, continue to develop ease of doing business, make it a more tax friendly economy, particularly for export-based industries, this entire idea has to be seen keeping long-term goals in mind for the next 10-20 years.

Improvisation lies in the hands of those leading their industries. Focus needs to be given on developing products of quality, safety. How those products are developed into brands and how those brands in turn continue to communicate with their end-user, how the industry or company helps develop a better quality of work-life balance for its employees, how they are able to retain the very best in India or procure the best from overseas.

Emphasis should be on rigorous R&D and world-class quality

We have examples from across various



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Shashi Amin,
President & SBU Head Cables
Polycab India

To evaluate the shift of industries from China to other countries, we must understand what kind of manufacturing industries we are talking about alongside the various factors driving investment decisions in the neighbouring countries of Southeast Asia. A large part of international firms that see China as a huge consumer market will continue their activities in China. However, firms that use China as a manufacturing hub serving different markets are more likely to relocate these activities to other countries with lower production costs.

Over the last decade, ever increasing labour cost in China due to rapid industrialization can be considered as the primary reason for companies moving out of China. However, China has been able to compensate the same

industries that highlight how Indian brands can compete with the very best from pretty much anywhere. Yet, they are few and far between. This is the most ideal time to make changes both by the government and by each industry. We have to work in tandem if India is to be the new manufacturing hub of the world.

Covid-19 has made one thing very clear, the way we do business, our responsibility as citizens and business owners towards the country and society at large will have to change for the

better if we are to thrive in a post-Covid world. There are already opportunities, but how we approach them will change. Customers have always been the king, however the post-Covid customer will expect a lot more from the brand in terms of quality, safety, service, availability and more. It now depends on us to live up to the customers' expectations. This in turn will ensure Indian industries invest in rigorous R&D, churning out products of world class quality helping brands from India compete with the very best across the world. ■

India's huge domestic market adds to its prospects of emerging as a manufacturing capital

partly by increasing its productivity largely due to investment in machinery and automation resulting in more output per worker. But this does not hold true for labour intensive industries such as textiles, household appliances, toys etc. This is also evident from slowing growth rate of inward FDI flow to China decreasing from 25% in 2009 to 9% in 2018. In addition to this underlying issue, the outbreak of US-China trade tensions more than a year ago and its recent response in tackling the Covid-19 pandemic are definitely going to accelerate the move of various companies away from China. Notably, Japanese government has advised its companies to shift their operations from China within a year. Many other international companies like Harley Davidson, Nintendo and Apple, etc. have already started or are planning to shift their operations out of China.

Having said that, we need to consider which countries are going to benefit the most from this changing shift. In my view, this will depend upon key factors such as lower wages, ease of doing business, political stability and export basket similarity with China. Other than India, there are few Southeast Asian

countries such as Vietnam, Thailand and Malaysia who are likely to benefit the most. However, the benefits will be distributed amongst the countries as mentioned rather than one country emerging out as the winner.

However, with the additional prospect of being a huge consumption hub, India becomes the most attractive destination for companies who are also eyeing India's domestic market. India scores high on the factors such as low wages, availability of working age population and political stability by virtue of being the world's largest democracy. Hence in the post-Covid world, India might emerge as one of the global manufacturing hubs supported by few other Southeast Asian countries.

Ease of Doing business key to attracting investments

The US has already been vocal about India being a potential destination for businesses shifting from China. Going forward, becoming the frontline runner for being the next global manufacturing hub will depend upon how India is able to bring about structural reforms to improve the ease of doing business index. India is currently ranked 63rd by the

World bank in its latest report on Ease of Doing Business (2020).

State governments should take the initiative and play a leading role in attracting opportunities for investments by providing incentives and business friendly policies especially in the matter of fast-tracked policy clearances,

fair labour laws, land acquisitions and infrastructure. The Uttar Pradesh Chief Minister Yogi Adityanath recently had a video conference with a number of American companies and is working on a package to attract them. The Tamil Nadu Chief Minister has set up a special investment promotion task force to

attract investments from multinationals specially from Japan, Korea, Taiwan, Singapore and the US. Political diplomacy between nations can also play a significant role in this shift and foreign ministry must leverage its strong relationship that it has developed in the recent past to influence the same. ■

'Despite its teething issues, India is a better alternative'



Shashwata Dutta,
Managing Director,
Mecc Alte India

its teething issues would have been a far better option than China. Many companies took the right decision and are much happier today. Auto majors like Suzuki, Honda, Volkswagen, are reaping huge benefits. The learning is that, if investors come to India with an unbiased approach and intending to build the nation, they will be hugely rewarded. It is not just an opportunity for India, it is actually an occasion for companies around the world to move into India.

Need to adopt investor-friendly measures

India is a democracy, having a strong judiciary and of course a big market but we have to become more investor-friendly. We must identify the areas where we need foreign investment. India can be a fertile ground for companies in the field of engineering, manu-

facturing, textile, defence, chemicals/pharma, IT and ITeS, gems and jewellery, and electronics. Once the areas are identified, the investors must be given a red carpet welcome and single window service. Same facilities should also be provided to Indian investors.

India has a huge low-cost workforce which can be trained very fast. I believe they are also highly productive if the environment is conducive. Changes in Labour Laws to make it partially flexible and linked to productivity will be a big incentive for investors. It will eventually help generate more employment for our youth.

With these changes, India will never be short of investors. But we do not want people to come to India for making a fast buck. India needs investors who have a grand vision and are also willing to invest in world-class technology. ■

Focus needs to be on technology, training and plant modernization

Yes, India can definitely emerge as a global manufacturing hub and for that technology will play an integral role. Covid-19 is bringing on an automation boom. To serve a wide range of automation applications and vertical market segments, multi-network & cloud connectivity is an entry ticket into global automation. Indian

Device manufactures understand this and are open to experiment with hi-tech industrial communication and Industry 4.0 solutions. We see this trend growing day by day.

We have many projects going on with leading Indian OEMs, government organizations who have taken the initiative to use our hi-tech indus-

trial communication & IIoT solutions in their products to compete with global players by investing in R&D for making their systems compatible with the latest technology available worldwide. As Indian subsidiary, we at Hilscher, are doing all that is required to make Indian companies go global in automation.

Fast-Tracking technology adoption is the need of the hour

Current challenges are lack of knowledge of IOT solutions in

Industry and readiness to adopt new technology. To cater to this changing environment, training is of course something, which is required at all levels. One has to be updated with the advancement of the technology and usage, what the technology offers. One has to be innovative in looking for applications.

Now many of the Indian plants are being modernized with newer systems, which are faster and can fulfil the new norms of information and safety. We have done our bit to ensure that these

transitions are smooth by providing FDT/DTM technology for all our products. FDT/DTM technology provides a single platform to combine many options to achieve higher levels of automation manufacturing. We do provide customized solutions and training on these solutions to make life simpler for our customers.

In order to ensure that India emerges as the next manufacturing powerhouse, we need to create more ways to learn, keep up with the change and address society's greatest needs. ■

Suitable policies required to spur long-term sustainability and rapid growth

the lowest in Southeast Asia. Easy and minimal tax structure may invite corporates to set the base in India.

Turning crisis into an opportunity

Approaching the end of World War II, Winston Churchill is credited with first saying "Never let a good crisis go to waste". Leaders have an important role to play and are expected to carry a positive and progressive mind-set. Inclusive leadership skills are required

to differentiate between the short-term impact and long-term impacts of pandemic and make suitable policies to create a strong foundation for long-term sustainability and rapid growth.

It may sound like Ctrl+Alt+Del situation for a few but still, the restart is with experience and knowledge! Most importantly, the situation needs to be dealt with patience

and confidence, responding proactively. Businesses are paralyzed with the lack of liquidity, it is extremely critical to manage cash flow and develop a robust business continuity plan. Carefully revisiting HR policies pertaining to work from home, paid/unpaid leaves, medical leaves, keeping in mind the job security of the employees, as well as the current financial health of your business.

With every crisis comes an opportunity. Use the idle time of your employees to build their capabilities with the help of digital learning resources. It may be a right time to redesign organization structure simplifying the structure and workflows in line with revised business strategy. It's also crucial to optimize capital structure, rethink marketing approach and strategy, and also reorganize the sales function. ■



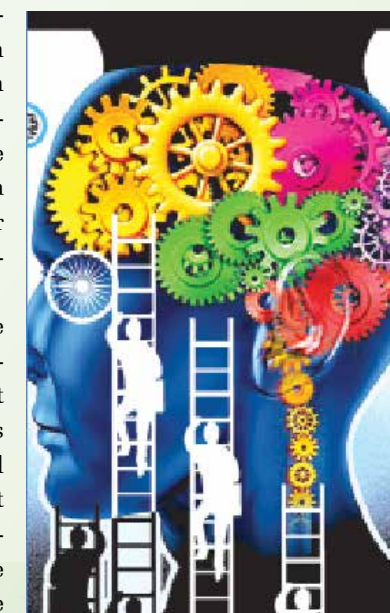
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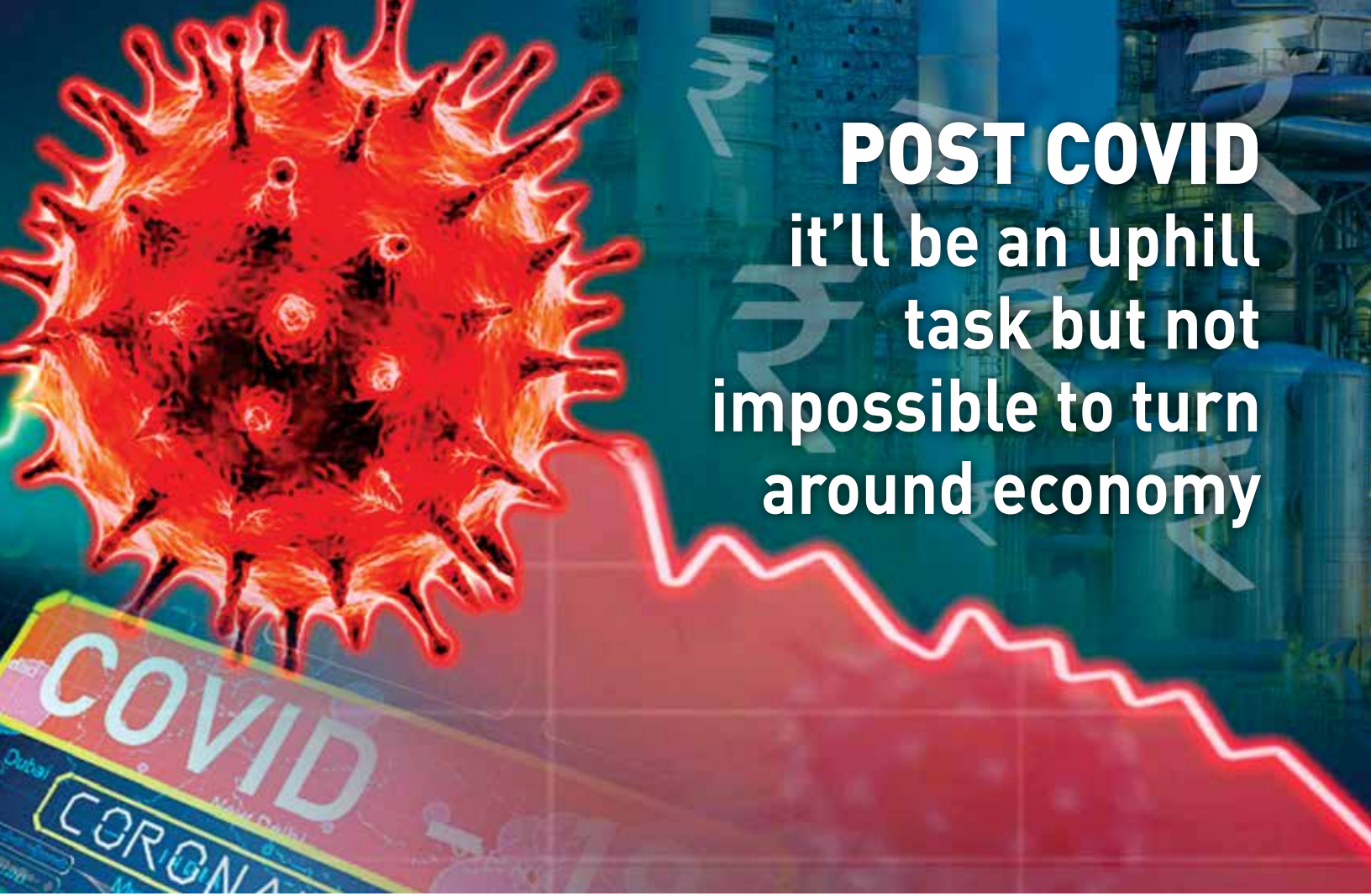
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The year 2020 has brought a new level of challenges for economies around the world. Recession brewing up throughout 2019 and seemingly unending Covid-19 pandemic—individuals, organizations, nations—everyone is affected. A war situation indeed!

International firms currently working in China are planning to make India their new destination. It is known that 300 companies are preparing to set up their units in India. Countries like Japan, America, and South Korea, which have so far been dependent on China, are looking forward to India to shift their base. India has already announced certain concessions for the corporate sector and this is attracting international attention. India's corporate tax rate is





POST COVID it'll be an uphill task but not impossible to turn around economy

Summary: The attack of the Coronavirus has definitely changed the world for good. In the process it has devastated plenty of reputations as well as economies. As we near the end of the lockdown it is time to plan for the future, look for opportunities and learn from drawbacks. It is imperative that the government comes out with an exit plan. While the most powerful country on earth, the USA, was found flailing in the face of the virus attack, India, fortunately, managed the pandemic comparatively better. Negative comments of various degrees have appeared in the media. If the IMF has forecast that the Indian economy will grow at 1.9 per cent the Barclay's Bank has stated it would be zero per cent. Job losses to the tune of 400 million worldwide has been predicted.

Something beyond human control has struck. Perhaps we could not stop it from attacking but we can always fight it and come out victorious. We must now start thinking about the post Covid-19 scenario. Sooner or later we will definitely get out of this lockdown and make efforts to get back to a somewhat normal life.

According to a few webinars held immediately after the lock down by some prominent economists everything is not

yet lost. So far, India has not been affected as badly as it was expected. Compared to many highly developed countries India has managed far better. However, in absolute terms experts feel the Indian economy stands to lose anything between Rs 9 lakh crore and Rs 11 lakh crore from its GDP. Recouping this cash drain will be a Herculean task but it shouldn't be impossible.

The experts at the webinars spoke about certain points about what should

be done to revive the economy.

First, we should realise that this is a Human Economic Financial (HEF) crisis which completely different from 2008 and should take a minimum of nine months to recover to a certain extent.

Second, banks have to be on a tighter leash to keep non-performing assets (NPAs) in check. Your bank sanction letters don't matter now, only the amount in your account does. Banks are going to revise your sanctions and make dras-

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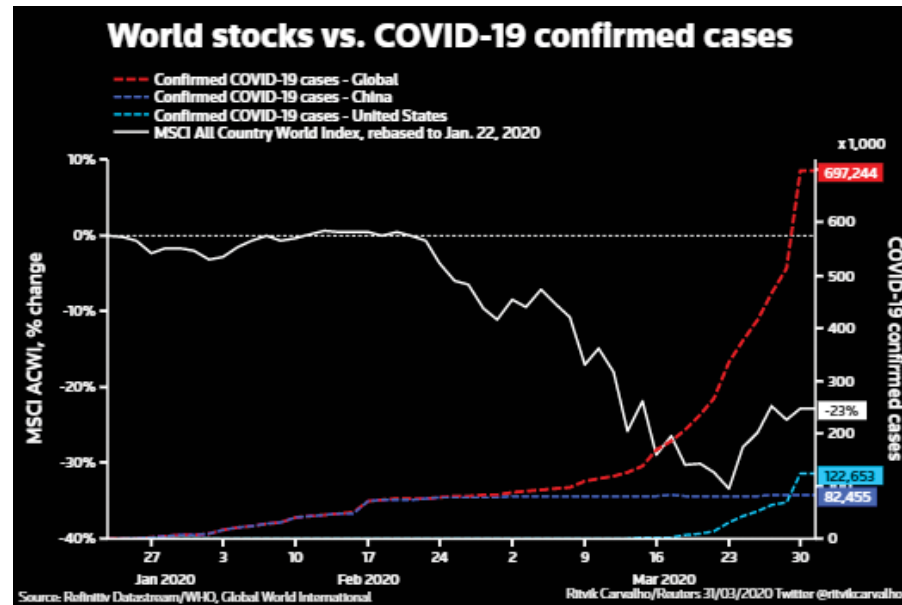
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tic reductions, if they see a credit risk. The current situation will also lead to a drastic re-evaluation of the billion-dollar start-ups. The valuations will be challenged. Cash burn will be frowned upon and it'll be tough to raise new cash. Leverage is a double-edged sword. It can lift you or bring you down.

A couple of days ago the government has relaxed some restrictions of the lockdown. However, restarting manufacturing is going to be difficult. As the labour force will be forced to choose between fear of life or earning a livelihood. To manage this, labour has to be incentivised to return and management has to guarantee them security of life, food and lodging if required. Company managements have to become more prudent by cutting costs, downsizing and no increments/bonus. Getting cash flow back should be first priority.

Consumer credit has to increase as well as per capita income. India is very low on both accounts.

Public and private partnership actually works, YES Bank is a good example. Though it is a competitor, government didn't allow it to fail as repercussions would have been more damaging. The

government should have stepped up and done the same for PMC Bank and IL&FS. Things would have been different.

RBI should step forward and purchase corporate debt. This is a common practice by central banks across the world. NBFCs should be regulated more. If required, new banking licences should be stopped. Banks have an exposure of 12 lakh crore to these NBFCs.

Force Majeure - this term has been doing the rounds a lot these days. It was brought up in a govt gazette couple of weeks ago regarding payment to its vendors. Now many companies, including large companies are taking advantage of this and trying to skip their lease payment to the vendors. This should be used only when companies are actually not in a position to pay and not because they can avail a certain clause. As this can have a ripple effect on the economy.

Equity markets have been hit badly but should bounce back over time. There are only two per cent equity investors in India against 40-60 per cent in some countries. Mutual fund penetration is also very low at 12 per cent compared to 62 per cent globally. First time investors should be encouraged to invest in mutual funds as they are less risky.



Arijit Nag is a freelance journalist who writes on various aspects of the economy and current affairs.

Large companies can within 24 to 48 hrs get QIP from foreign funds and now should be encouraged to raise more money from public.

A McKinsey report said that during 2018 to 2022, a billion people in the world will be in the middle class category of which 650 million will be in Asia and 318 million will be from India. India will be huge in consumption numbers though financial savings have decreased due to increased consumer spending.

The three things that should be kept in mind in the path to recovery and they are:

- Financial sector should be strong, else economy will collapse. NBFCs need stricter supervision.
- The poor should be supported more and steps be taken for them to be brought out of poverty. In any crisis, they are the first affected and last to recover but are the backbone of India.
- Simplify rules for investment and remove complicated tax rules.

I expect the government to come up with a major stimulus scheme shortly. In fact, I had expected the Prime Minister to announce a major package to boost the economy during his last address to the nation but he did not. Hope he does it at the earliest. Various economists have suggested a myriad of solutions and it is expected the Prime Minister will heed their words.

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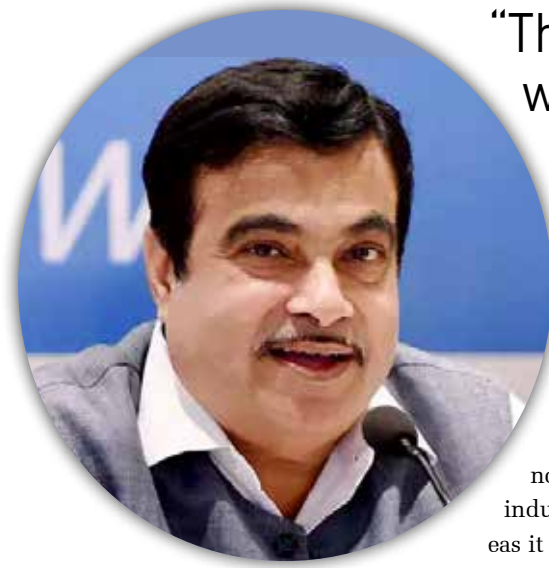
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“The corona war is continuing but now we are in position that we need to understand how to fight & at the same time we have to start our daily life”

Q: Expectation has been building for several weeks now that a package will be released by the government specially a package to provide some relief to the MSME sector. What is the timeline, what is the realistic timeline that we should expect the package to be revealed?

Presently we are facing very critical problem. The Indian industry is facing the problem, but it is not only India, the whole world economy is facing the problem. Government is with the business and the industry. Regarding MSME, they are also facing the problem. So, first of all government has already taken some decisions that upto March end the banks have already restructured 6 lakh MSMEs and we are giving permission to them upto December 31. We are expecting that they can complete the restructuring of upto 25 lakh MSMEs. At the same time 3 months deferred payment is there and additional working capital of 20 percent is also sanctioned and that can be again really a strength for MSME. The corona war is continuing but now we are in position that we need to understand how to fight with corona and at the same time we have to start our daily life. This is the way in which we are trying to find out our way out.

Now the national highway road con-

struction we have already started, 65-70 percent traffic is on the road and at the same time export, import has started, banking operations are going on and now we are trying to start small scale industries work also. In many green areas it has already started and in some of the area by taking preventive measures and guidelines given by the government, now we are giving the permission to start it. I am confident that it is a problem but it is a blessing in disguise also. As far as the reaction from the western world particularly the reaction of European countries, USA and reaction from the Prime Minister of Japan, that whatever the investment and industry of the Japanese people in China, the Japan government has declared a special package and that is the reason that those who are ready to come out of China, the Japanese government is giving them the package. So, this is an opportunity. China is in a position to be a very sound in economy in the world and now because there is hatred about China, it is an opportunity for Indian economy, Indian industry and Indian entrepreneurs to take the advantage of it and we will definitely take the advantage of it and we should be positive about it.

Government is with all businessmen, all industry and at the same time with all MSMEs. Already I have had interaction with different type of people by video conferencing and we have received lot of good suggestions and we have already forwarded all suggestions to finance ministry and Prime Minister's office. I am confident that in due course of time, presently I am in Nagpur but definitely

the government is seriously working on all these proposals and whatever is possible for the government, government will do it.

Q: You said that your ministry has forwarded recommendations to the finance ministry and a decision will be taken in due course but the feedback from MSME is that this is no longer a question of when, it is a solvency crisis now for a lot of the MSMEs who have seen zero cash flows at least in the last 40 odd days. So what have you suggested, have suggested that there be a fund, we have been hearing reports that there could be a corpus of Rs 40000 crore which can be extended to provide line of credit to the tune of Rs 3 lakh crore, give me some specifics of what we should expect for this sector?

Presently the working capital of the MSMEs is already increased. I also found some problems in it when Nagpur Chamber of Commerce people meet me, they tell me that government, state government office for stamp and registry are closed and without making the documentation it will be difficult for bank to issue the 20 percent additional working capital. I spoke with the State Bank of India chairman and he said that we need to complete the legal formality but he asked me whether government is ready to give the promise that they will not compound it and then we can think about it but after that the chief secretary of Maharashtra, I have discussed with him and he issued an order and now in Nagpur State Bank of India has released additional working capital. In the whole country the process is going on. So it is the time for the coun-

try and all stakeholders, they need to understand that the state government is also in problem, they have no money to give salary for next month, the revenue of central government is also reduced, banks are also in a challenging position, so we need an integrated approach. Everyone is in problem and we cannot compare our economy with Japan's economy and US's economy. Still our government is very clear that whatever is best possible for us to give support to the MSME industry we will do it. I am confident that we have to save everybody, we have to protect everybody and we are taking all stakeholders together and we need to march ahead and the government is also seriously thinking on it.

Q: Are you suggesting that there isn't enough room available for the government to provide any big-ticket relief. So, MSMEs should be happy with the working capital extensions that they are being given with the moratorium that is being given but this assumption that there could be a large package, that assumption should perhaps be put on the backburner for now?

There is a serious thinking in the government, we are trying our level best, we are already consulting with all stakeholders and all the time different departments are consulting each other and we are trying our level best to get a good package to MSME where the problem is serious and we are supporting them. I am expecting that as early as possible the package will be declared by the government.

Q: Have you recommended because the feedback from bankers that we have got is that there needs to be a credit guarantee provided by the government, is that part of your recommendations to the ministry of finance?

Whatever the scheme which are launched by MSME, we are ensuring that fund with the Financial Insurance Trust we have

deposited. Rs 1 lakh crore we have given MSME loan from the banks side where Rs 1500 crore as a premium we have already deposited into insurance and 75 percent loan there is a guarantee. Only for 25 percent the banks need to take the collateral. All type of loans which banks are giving the MSMEs, they are secured and they are insured. At the same time banks are also liberal, 5-6 schemes are there. We are also thinking with some immediate decisions and for long term policy decision by which we can strengthen MSME, where we can increase the productivity, increase the export, the import substitute whatever thing we should find out. We have decided to publish a book within a month that from last year what are our exports and what are our imports and how our MSME will get through that they can also be in position to making of the products which are imported.

Q: I want to link this to the comment that you made that this is in fact a blessing in disguise for the Indian economy because we can make use of the advantage and the opportunity that this throws up because people are trying to move business out of China. So, what will be the specific measures that the government will announce or is likely to announce to ensure that we can make use of this opportunity, please try and give me some specific that the government is now focusing on and when we should expect those to be announced?

We have economic corridors, from NHAI now we are planning to move to make industrial clusters, logistic parks which are connected to ports, airports and railway stations. I will give you the example of Mumbai-Delhi Express Highway. This new express highway 12 lane cement concrete road is going to reduce the distance between Mumbai to Delhi by 220 kilometers. The most important thing is the land acquisition cost is coming to Rs 10-15 lakh per acre. There is central-

ization of industry into Noida, Gurgaon, Mumbai, Pune, Chennai and Bangalore, so this is the time that 115 aspirant districts, the rural agriculture tribal areas where we can make some forest based raw material available, so I am confident that we have appointed a special joint secretary and he will make the coordination with the state governments and all foreign companies which want to invest in India they will get all type of clearances within 3 months and they will get red carpet treatment, transparency, time bound decision making process, corruption free system and at the same time it is a friendly for development and investment. There are lot of concessions already available for different type of industries, we will give the same concessions also for foreign investment also. So, we are thinking that which are the major concessions which we can offer to foreign investment in the country.

Already we have increased the limits, in infrastructure 100 percent foreign investment is possible, there is no problem, so for majority industry already government is taking lot of decisions and I am confident that this is the time because the whole world has got lot of hatred for Chinese. So, as they want to shift from China, the most available place where the skilled manpower is available and where ports are available, infrastructure is available, water, power, transport and communication is available, so most ideal place after China is India and that is the reason behind my argument.

Q: If the government has done an examination of why we have actually seen a move out of China to countries like Vietnam, Cambodia etc., in fact large chunk of the manufacturing opportunity has gone to the South East Asian countries, it hasn't come to India, has there been an assessment on why and what is the government's plan to course correct?

When I have interaction by video confer-

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ence, in one of the program, I interacted with 6000 scholars from 15 universities from around the world, even they are giving me the feedback that there is a mind change now and majority investors, particularly the good industries which are having good rating, they are now keenly interested to establish their establishment in India. So, after all it is depending upon our approach also. Government is very friendly, we are developing good infrastructure - water, power, transport and communication four important things which are very important for industry and now they are available in India. Our ports are good, efficiency has increased, from export import point of view it is also an ideal place and I am confident that we will get the advantage of all these situations. So, we should be positive, we should think positive with full confidence. This is the time that all stakeholders, we should encourage people, encourage industry, create confidence in their mind for the future.

Q: Have you suggested that the moratorium that has been granted by the RBI which is a 3-month moratorium, that be extended? Do you believe that, that will need to be extended, do you also believe that the advisory that the government has issued saying that all companies must continue to pay salaries even through the lockdown process and a lot of the MSMEs have moved court saying that we are unable to pay. Is the government thinking about helping MSMEs from a salary perspective to create a salary support fund especially as far as the MSME sector is concerned?

These are all genuine and legitimate problems. However, as a MSME minister it is not possible for me to declare anything about it. It is a confidential thing. We are already had interaction with all stakeholders, all associations, all chambers, FICCI, CII, everything and now on the basis of that, our department is al-

ready making the research and study of all these proposals and we are already sending it to the finance ministry.

Q: I just want to ask you whether you believe that salary support fund is a legitimate ask of the MSMEs and whether the government is at all considering that?

We are considering many different things but, in this position, to give any indication as to what my department has recommended to finance ministry will not be appropriate. I will assure you and all the MSMEs that we are very serious, sensitive, we understand the situation and we will try our level best, whatever best is possible for the government we will do it for the MSMEs.

Q: Can there be any relaxation on the government advisory asking people to pay salaries through the lockdown period because the lockdown has now been extended even though some relaxations have come in, but a lot of MSMEs as I pointed out have expressed their inability to pay salaries, some have even moved court, is there any thinking within the government to provide some relaxation so that these businesses remain solvent?

We are considering all type of problems which our MSMEs are facing. We are already in communication with different stakeholders, we have already discussed the problems within, we are talking with the Reserve Bank of India, nationalized banks and other banks, we are also now talking with the finance ministry and already we have collected all the things but this is a matter which will not be appropriate for me to declare anything but we are very positive and we need to do something and that is the reason we are serious and as early as possible we are expecting good decision.

Q: Has there been an assessment that NHA has done on what this lockdown period has meant in terms of loss, has

there been a calculation that the NHA and the ministry have undertaken?

Already we have taken a decision to start the road construction work and my information is 60-70 percent work has now started. Most important thing is we need, steel, cement etc., in some places there are problems, the other problem is in some road construction we need to take permission from the district collector, the state government guidelines are already there. We are also planning for making of 2000 logistic parks, 2000 road side amenities and also, we are now trying to develop bus port in the big cities. Also, we are now requesting government to give us a mandate for making of ropeway, cable car in the hill area because the cost of road is very high.

Q: I also want to get in a quick word from you on the auto sector. Something that I know you have been pushing for very long, is the scrappage policy. Should we give up on that? Should the auto sector give up on the scrappage policy given the government's fiscal constraint or do you believe that that policy is likely to see the light of the day? Will scrappage policy see the light of day?

Scrappage policy already we have completed. We have already taken the opinion of different departments and as early as possible we will immediately implement the policy. I understand the importance of it, there is delay but we are very much committed for that and after lockdown I am going to Delhi and definitely we will start the working on this policy.

Q: When you say you will start working on the policy, will you incentivize scrappage because the draft policy so far has been to disincentives the used old cars but will you incentivize and are fiscal incentives even possible as of today given the situation that the government finds itself in?

We are discussing issues of incentivizing

with the finance ministry and with the approval of the finance ministry only I will be able to give you an exact answer. We are trying our level best to see what are the benefits and incentives we can offer for this and that is the reason that the policy is delayed.

Q: There must be an assessment, as you have put your recommendations to the finance ministry together for the MSME sector, there must be an assessment that the government has done on what the pain is in the MSME sector, how many MSMEs are likely to be faced with a solvency problem, what has been the impact of COVID on the MSME sector, can you share that with us at least?

We understand the problems MSMEs are facing, what type of help they need, what type of defer payment and in which sector they need, at the same time what is the problem with the working capital. There is also a big problem, the MSME what they supply to state government undertaking, central government undertaking and major industries, they are not getting their payments and that is one of the crucial issues in MSME. So, we need to find out some way out on that. When I discuss this with FICCI, CII, I request all the major industries that you do one thing, whatever the small payments of the small people, the MSME people, please issue the main thing.

Q: What is the current outstanding as of today?

It is a big amount. It will not be appropriate for me to declare that amount but it is a big amount. So, it is very important for MSME to get their payment as early as possible.

Q: The issue of labour is going to be a critical one for all industries - MSMEs as well as large industries. Do you believe that the issue with migrant labours ought to have been handled better, with more sensitivity and care? Especially now we are seeing stranded labour going back or wanting to go back to their villages and even the labour minister himself said that he is worried about when the labour will return and what the impact will be on the economy, do you share that concern?

Yes there is lot of labour migration from one city to another city, one state to another state, it is really a crucial issue. We are facing this problem in national highway. All the toll operators and other people I suggested them to take all the preventive measures that you can make for them - food, shelter, water, everything. It is really a big problem, thousands of people are going back to their home but at the same time the most important thing in the solution is to start small scale industry, to start industries, start the government contract work under the guideline of government for protecting the people from corona-virus, that is very important. Now it is the time for the country,

we need to understand, we need to train that corona is there, lockdown is there and we need to take the industry, business and run that. So, we need to make more than 1-meter distance - social distance between two people, use masks mandatorily everywhere out of house or whenever you are moving on the road. Third important thing is using sanitizer. So, these are important that things that we need to take the preventive measure and industry should take the preventive measure of food and shelter and ensure that it is not going to create spreading of corona. So, after taking these preventive measures we need to understand how we can survive in this time and this is where we have to find a way out for both the things. This is not contradiction but we need to understand this and we have to go ahead. The district collectors are now giving lot of permissions, I am expecting positively that the future time period we will be out of this problem and we will resolve it and we will go ahead. ■

Source : Extracts from interview of Shri Nitin Gadkari, Minister of MSMEs and Road & Transport with CNBC-TV18

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I have braved many new frontiers, and it has paid: Satish Bhat



Satish Bhat,
Managing Director,
Ador Welding Limited

Organisation:
Ador Welding Limited

Year established : 1951

Products & services :
All products in the space of Welding & Cutting - Equipment and Consumables, Welding Automation, Process Equipment, Flares & EPCs, Welding Education & Skill Development

Last turnover :
Rs.535 Crores

Q. As CEO of the company, how do you define leadership?

I feel that my leadership style is a combination of Strategic, Collaborative and a Coach. The approach involves not only the Leadership team but also other Adorians in the process of decision-making and empowering them has enabled us to achieve maximum growth. It has also enabled me to boost strategic thinking at my DRs Level and at other key positions. I was able to develop leaders from within the company by identifying and nurturing their strengths and potential for specific roles. It doesn't mean we do not have lateral hires in the organisation at various levels but the numbers are few. I am glad I along with Ador Welding fam-

ily could create a Sustainable team culture within the company to ensure we truly imbibe "Move Fast, Break Barriers" culture.

Q. Trust is the bedrock of leadership, they say. And winning and retaining loyalty the well thought out objective. Do you subscribe to these?

I completely agree with the thought mentioned above. Trust & Loyalty are the backbone in any growing company. Loyalty is not only from the suppliers but also the customers, dealers and above all employees. The DNA of the company is to take everyone forward along with it and to deliver enhanced performance in committed timelines. Our Compa-

ny believes in sharing knowledge, best practices, and business plans with our stakeholders. We work closely with all of them to improve their operations and value creation at their organisation. As a result, we have suppliers/business partners associated with us since the inception of AWL or more than a few decades. Our company has definite plans for growth and all of us are working towards achieving it. In fact, the employee turnover at AWL is lower than the industry and almost nil at Key Talent Group.

Q. How often did you brave new frontiers? Could you give a recent example?

Since I become the Managing Director of

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the company in May 2012, I have braved many new frontiers. This mind-set is essential if anyone wants to be successful in an ever-evolving dynamic market. Be it crossing 300 Crores Business alone in Consumables, growing “SGP” group of products to make it a sizeable business of Rs.50 crores in a couple of years from a single digit number in the past, offering of Three years of warranty on the Welding Equipment, taking up fabrication and execution job outside the boundaries of India, focusing on Welding Automation business to make it a technical excellence centre at AWL to attract IITians and Technical experts from various engineering Institutes in India to apply their knowledge to bring in efficient solutions at lowest cost for the Indian consumers including MSMEs, achieving Digitalization level as good as Big companies. etc. The journey is ongoing and tough to include many significant frontiers. We have now decided to focus on the Stainless Steel and Ni, Mo and Cr products. We are investing in in-house manufacturing to bring the cost down and make it affordable for Indian fabricators. This will enable Indian customers to bring down their dependency on Imports and save forex for India.



putting a lot of thrust on In-house R&D of new products by using Local Talent from reputed technical schools. As a result, now hardly any Equipment is being imported. We are spending approximately 2% of PBT for the upliftment of the society by educating, skilling and employing students below the poverty line.

Q. What are the values that underpin your business?

Our endeavour is to “Bring in efficiency in the operations of the customers by offering best-in-class products and services at the lowest cost, thereby adding greater value to their business”. We are striving to be one of the Best Corporate Citizens by abiding to the corporate governance norms. We believe in giving back to nature and society more than what we take from it and finally we will protect and conserve the environment for the future generations.

Q. What are the lessons you have learnt from the past - from own experience, from the marketplace and from competition?

One of the most important lessons is to never get bogged down owing to past failures and remain skeptical about future. Things which have not worked in the past will not necessary fail in current times if implemented differently. Other important aspect is “we can do it in India”. Yes we can develop as good technologies as done by the best of companies in the welding industry in the world to meet the requirements of Indian and international consumers. Welding machines also need to look nice and hence we changed the look of all our future generation welding machines. Last, but not the least, never shy from implementing best practices even if they are implemented by the competitor or other Industries.

Q. What are the radical transformations you have brought in your organisation?

I was able to transform HR, Finance, IT and Marketing as strategic functions from routine transaction functions. Another transformation was to right size the Organisation. We now talk of productivity more often in every function. I have also inculcated the culture of Innovation across the company which has helped us bring down cost by 20% over FY 2016 in spite of increase in power and labour costs. Import content down from 27% in 2014 to 5% in the last FY by adopting ‘Make in India’ program. We are also

Q. What are your outstanding achievements?

I think I was able to change the way people look towards Welding Industry now. The way we particularly operate almost matches the top Manufacturing/IT Companies. On the Business front we have crossed Rs.500 crores and in fact would have been very close to 600 crores last FY itself, had Covid 19 not affected our business. The company has received Best Employer Brand Award from ET Now, Best R&D efforts by CII, Best CEO of the Year twice - once from World HRD Congress and once from ET Now, The Most Trusted CEO Award at the WCRC International Summit, Asia’s Most Trusted Companies Award by IBC Brand Consulting, USA, TOP 100 HR professionals in India, Companies of the Year Award by Business Connect, CEO of the Year (Cutting & Welding Excellence) and so on. The quality of products manufactured at AWL is so good that we are the only Indian company offering three years warranty on its Welding Equipment. Digitalisation of almost all key Business processes at AWL, have enabled us to make faster and timely decisions for achieving the vision.

Q. How would you charter the future of your organisation?

We want to be the Best! We are aiming to be Rs.1000 crores Company by 2024-25 wherein almost all products & solutions required by welding process users will be offered by AWL. Along with Business, I want my company to be in the same league of top employers.

Q. What’s the secret of your success?

A few things kept me moving up and up are Listening ability, Empowerment, Continuous learning, Care and support of all stakeholders, work-life balance, adopting contemporary practices and technologies, just to name few.

[As told to P.K. Balasubramanian]

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Automated Steering Assembly line with End of Line Testing

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- Automated ball feeding & press
- Automated breather feeding & press
- Automated circlip fitment
- Automatic crimping
- Automatic tightening based on torque
- Air leak test
- Automatic pallet return
- Servo press

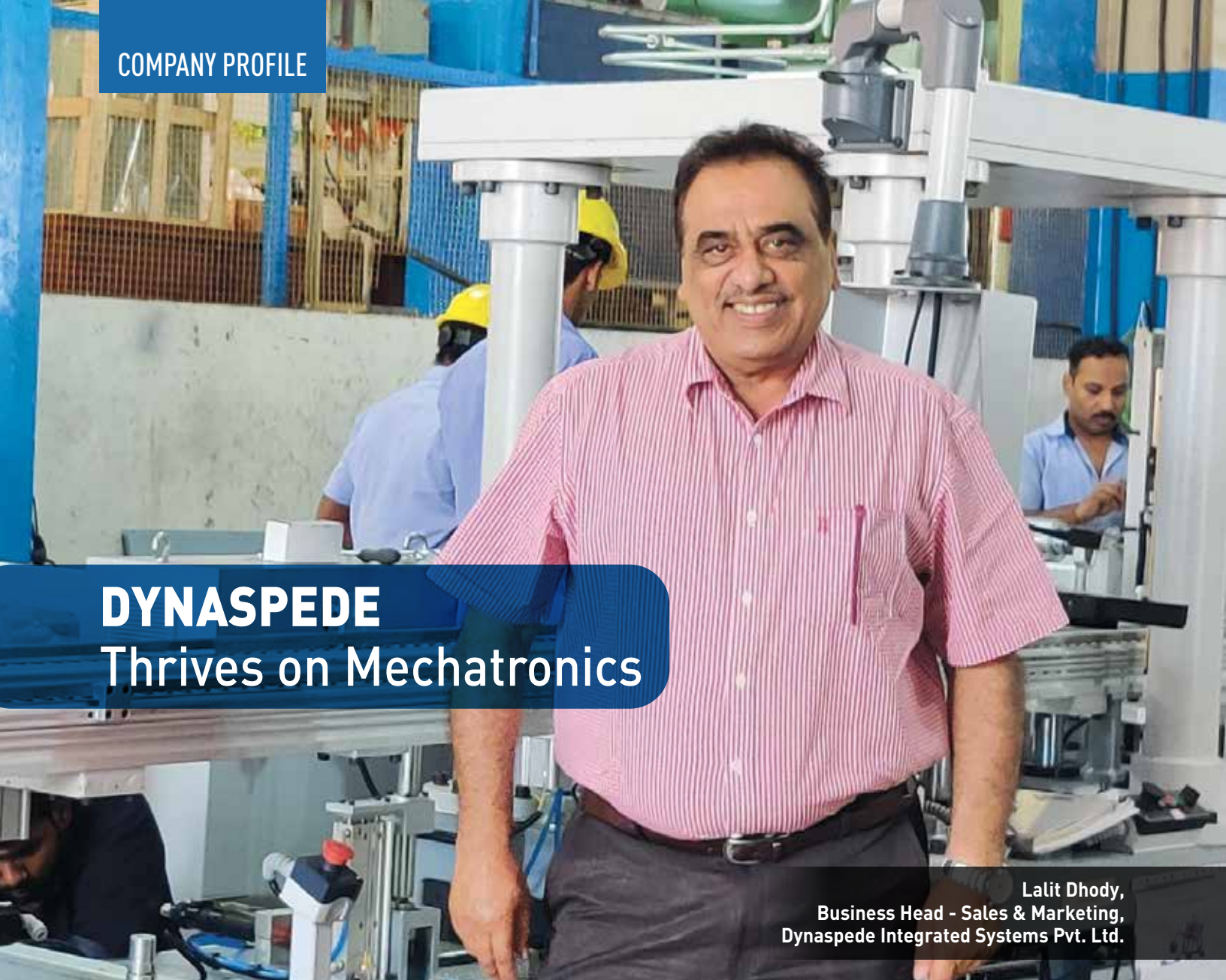


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DYNASPEDE Thrives on Mechatronics

Lalit Dhody,
Business Head - Sales & Marketing,
Dynaspede Integrated Systems Pvt. Ltd.

Dynaspede Integrated Systems (P) Ltd. headquartered in Hosur, specialises in the design and manufacture of electro-mechanical components and sub-systems for a wide spectrum of industries in the Mechatronics business sector. It has extended service offerings in Engineering design, Product development, Prototyping and Testing. Dynaspede also offers contract manufacturing facilities and distribution services for its partners through its network.

Sprawling Infrastructure

The company's facilities in Hosur, Tamil Nadu occupy over 100,000 sq. ft. area, employing over 260 people. Its manu-

facturing facilities are distributed across multiple locations supported by a mature and effective vendor network. Its manufacturing capabilities include Sheet metal fabrication and finishing, Tooling and Machining, Electronic assembly and Precision engineering.

Dynaspede has eight branch offices across India managing its sales and service network and extending effective pre-sales and after-sales services to its customers. The strength of Dynaspede lies in its ability to synchronise skills in various disciplines of engineering and offer reliable solutions both in Design and Manufacture for its partners and customers.

Ever-expanding Product Range

Dynaspede was started in the year 1978 with Mechatronics as its core competence. A wide variety of electro-mechanical components and sub-systems including electronic drives, clutches, brakes, gear transmissions, electronic sensors, and digital motion control products have been developed and manufactured. Its Electro-mechanical system engineering capabilities have grown over the years to include customized solutions in Machine assembly, Robotics and Plant engineering.

Dynaspede is also manufacturing and distributing various Power Electronics products namely Aluminum foil wound

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Dynaspede is funded by some of India's largest private equity funds, Kotak Mahindra and SIDBI. Technology development is sourced through a combination of affiliations with specialised institutions of higher learning and investments in boutique research and development outfits. The company is managed by a team of experienced senior management staff headed by Mr. Mohan Ram, Whole-time Director and CFO presently encompasses a complete range of capabilities for designing and manufacturing complex machines and integrated systems from concept to installation.

Facilities Galore

The in-house facilities like R & D, Ma-

chining, Gear Shop, Metrology, Electronics Assembly, Fabrication and Heat Treatment, form the backbone of the organization.

The Design & Development Team consists of experts in machine design & control technology, academicians, application specialists, software and hardware engineers working in an institutional environment, supported by modern CAE facilities. From the simple design of a base plate to the complexities of automatic controls, every piece of equipment from Dynaspede reflects a commitment to excellence. The in-house metrology and calibration facilities provide for mechanical and electronic measurements with an accuracy traceable to international test standards.

In a Class Apart

Dynaspede's Repertoire includes superior engineering and development capabil-

ities, robust manufacturing setup, Small enough to scale up and large enough to be agile, Focus on value creation and lasting relationships, and Strong global clientele spanning automotive, aerospace / aviation, defence, and other industrial sectors.

What sets Dynaspede apart is the collaborative approach of its dedicated professionals who do not hesitate to say: "We enjoy spending long hours to match customer expectations with our own. Within the family of Dynaspede, we keep driving a point or two... no hard selling in pre-sales matters, no matter what... and no soft pedaling in after-sales matters," all dictum geared towards maintaining our Business Ethics ...to conduct our business with honesty, integrity and dependability."

- P.K. Balasubramanian



Dynaspede Engineers at the Assembly line



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Convincing your customers that you supply consistent high quality isn't easy. Quality assurance of parts and components is often not enough to prove you are a trusted partner. Due to increasing government regulations, compliance pressure and customer requirements, the additional demand for full traceability of products is present for most manufacturers of metal or plastic components.

Manufacturer responsibility

Despite extensive tests and process regulations, the quality of single products or lots sometimes has unwanted variations. There are many factors that can influence output, including changing machine tools or process parameters, raw material input or shift changes. If parts are identified as bad or if there is a malfunction, it has to be traced back to its origin as quickly and accurately as possible. Therefore, the responsibility of the manufacturer does not end at the shipping department. The producer of discrete metal and plastic parts has to find ways to ensure flawless traceability to protect customers and brand reputation. When looking for an easy-to-use, efficient and secure solution, weighing instruments can provide exact batch building and customizable labeling functions for distinct identification.

Challenges in traceability

To be traceable, some industries require that every work piece is labeled. If the raw material cost is high or the components are critical to a product's structure or functionality, it makes sense to opt for single-piece labeling or identification.



For TIER 3 products that are shipped in bulk quantities and are typically worth only a few cents, this practice is simply too costly. An efficient and practical solution is required.

Weighing to build batches

Efficient piece-counting solutions provide the effective way to build batches and separate charges. Fill packages, kits and shipping boxes and simply weigh them against a preset target number of pieces or weight. With weighing-assisted counting, you can determine the exact amount of parts supplied to customers securely.

Label for easy identification

Once the exact number of parts is defined, you have to supply labels to make your products identifiable internally and for customers. Simply providing product and batch number is not enough. Time of shipment or delivery,

manufacturing date or operator identification have to be supplied. Additionally, barcodes, according to industry standards, have to be included to ensure fast handling along the transport chain and to easily recall data in your own system. With that set up, you are able to efficiently trace back bulk goods quickly and securely. In case your customer has specific requirements, you can arrange an individually customizable label solution. Counting scales provide data management and labeling solutions to comply with your labeling needs. There is no way around it; providing documentation of compliance is essential. There is one way to be on the safe side use smart weighing solutions.

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Birla Precision : Spring Jaw Chuck

You mention a Spring-Jaw chuck. How does it function?

This is somewhat of a second cousin to the Diaphragm Chuck. It operates in much the same fashion. An air or hydraulic cylinder provides a push on the bar, which forces open the Spring Jaws. When the pressure is released, the jaws return and grip the work piece. Here too, the gripping power is about 90 percent of that required to release the jaws. The main difference between the Diaphragm Chuck and Spring Jaw Chuck is that in Spring Jaw Chucks each individual Jaw has an ability to apply independent clamping force on workpiece whereas Diaphragm Chuck is a solid disc. For this reason, the spring-jaw chuck can better accommodate some variations in work pieces and it does a better job of naturally squaring the workpiece as it is gripped. The Spring-Jaw chuck is often used to hold gears.

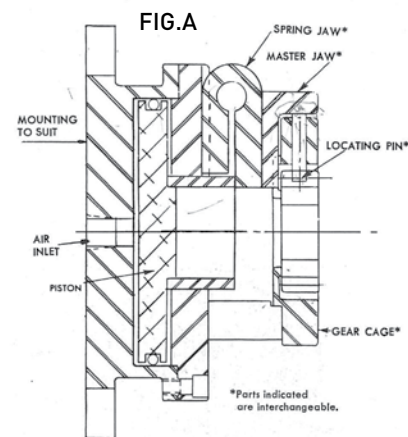
The Jaws are equipped with pins to locate on the pitch diameter of the gear as shown in Fig A. Another variation is the use of Spring Jaws to hold cages. FIG.B

Types of Medium Gear Production, Spring Jaw Chucks Based on operating System are

- Air Drawbar operated
- Hydraulic Drawbar operated
- Manually operated

Main Advantages of Spring Jaw Chucks are

1. Accurate holding from the pitch line of gears.
2. Errors Average out.
3. Universal.
4. Two level, double diaphragm effect chucking possible with standard chuck.
5. Jaws act independently. FIG. C
6. Jaws, Cages, Locating Pins and End Stops are ...ALL INTERCHANGEABLE.



7. Cages can be furnished for other chucks.
8. Chucks for all Bevels- Spur, Spiral, Hypoid etc.

SINGE ROW TYPE

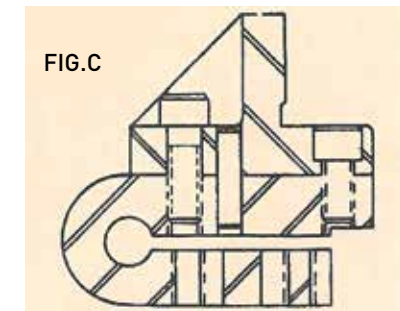
Special locating pins hold this part securely for deep hole grind. Special pins are available for soft tooth gears.

Gear Chucks (Spring Jaw Type)

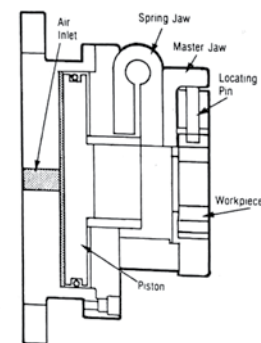
Model	: Gear Range(Pitch Dia)
GCS 200	: 25-125 mm
GCS 280	: 100- 200 mm
GCS 370	: 190-290 mm
GCS 455	: 280- 380mm

SPRING JAW ARE AUTOMATICALLY SELF - COMPENSATING

Each Jaw will operate independently thus giving accurate location from all segments even though there might be out-of-roundness due to distortion in heat treating or machining. "Averaging out" the errors improves the quality of gears at no extra cost.



If gear teeth are to be ground on later operations, a Gear Chuck should be used to grind the bore so that grinding allowance will be uniform on the teeth when they are ground to prevent burning or cracking – thus running the part on the last operation.



Cages for Existing Chucks



A variety of cages can be furnished for all chucks. Send us your problems, along with gear details drawing and machine details.



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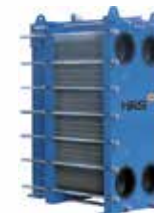


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The NORDCON APP and the NORDAC ACCESS BT Bluetooth stick for all NORD electronic components are used for drive monitoring via a dashboard, drive analysis via a convenient oscilloscope function and drive parameterization of NORD drive systems. The dashboard-based visualization can be used for drive monitoring and fault diagnosis. With a help function and rapid access to parameters, parameterization of drive units is simple and easy. In stand-alone operation, the NORDAC ACCESS BT can also be used for backup and recovery of drive parameters. The NORDCON APP and NORDAC ACCESS BT are available for all NORD drive electronics and can be used with decentralized frequency inverters as well as control cabinet inverters like the new NORDAC PRO SK 500P.

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tween a drive and a PC is also possible. The app is available for iOS and Android operating systems in the App Store or in Google Play.

About NORD DRIVESYSTEMS

With more than 4,000 employees, NORD DRIVESYSTEMS has developed, produced and sold drive technology for over 50 years, and is one of the leading global full-service providers in the industry. In addition to standard drives, NORD delivers application-specific concepts and solutions for special requirements such as energy-saving drives or explosion-protected systems. In the 2018 financial year, annual sales amounted to € 700 million NORD now has subsidiaries and sales partners in 98 countries worldwide. The extensive sales and service network guarantees optimal

availability, enabling short delivery times and customer-oriented service. NORD produces a very diverse range of drives for torques from 10 Nm up to over 250 kNm, supplies electric motors in the power range of 0.12 kW to 1,000 kW, and supplies the required power electronics with frequency inverters of up to 160 kW. Inverter solutions are available for conventional control cabinet installations as well as for decentralised, fully-integrated drive units.



For more information
Website: www.nord.com



The NORDCON APP and NORDAC ACCESS BT offer a mobile commissioning and service solution for all NORD drives.



Cross Roller Bearing



Cooling Nut System



Wide Rail Type



Full Roller Type



Actuator KM Series



Precision Ball Screw Spline



High Lead Series

Headquarter



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FAX: +886-4-25120834
E-mail: sales@pmi-amt.com.tw
Website: www.pmi-amt.com

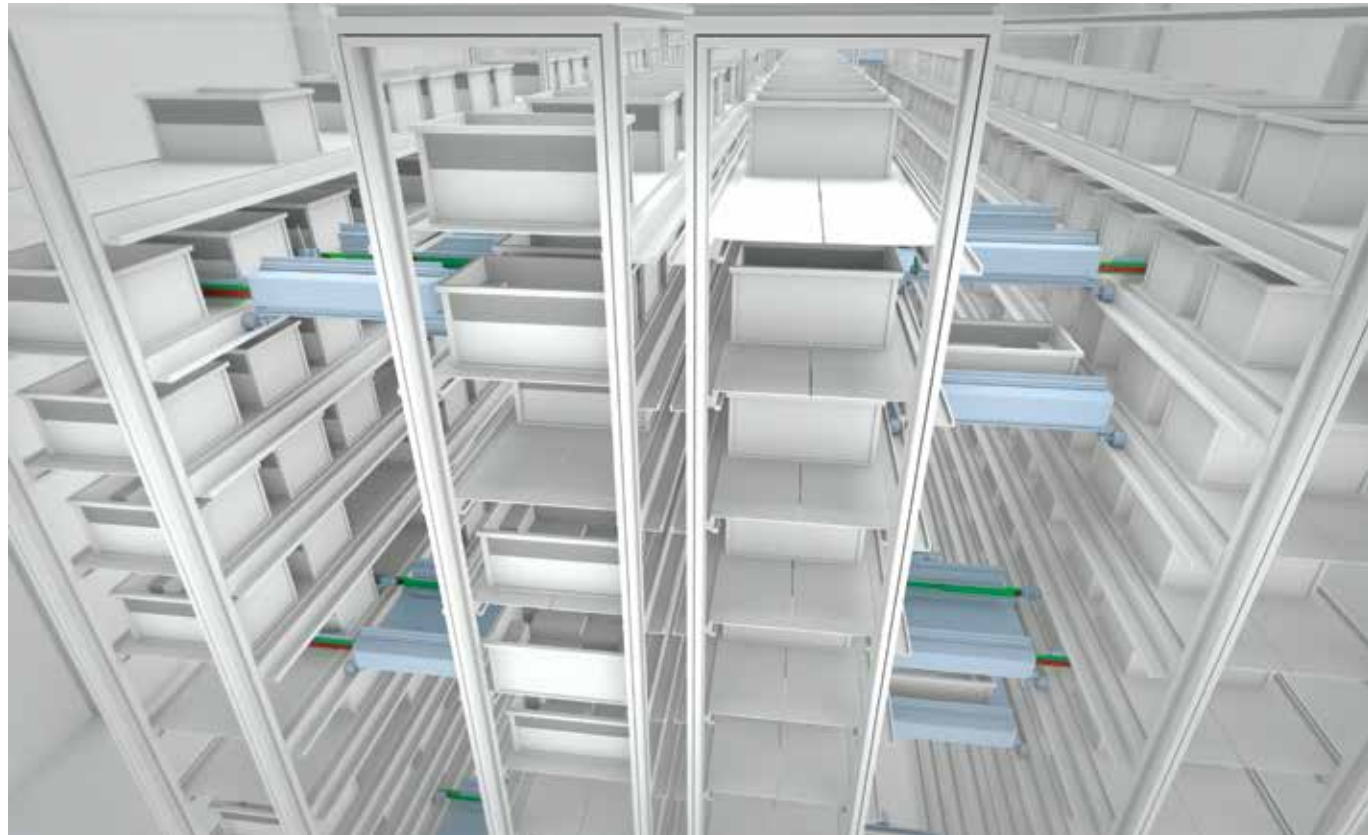
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ROLLON WAREHOUSE SOLUTIONS

Reliability and speed in ever-decreasing dimensions: Rollon offers complete mechanical components and solutions to make shuttle and stacker cranes more efficient and support the growth of a sector in continuous expansion.



In a market worth tens of billions of dollars, a second or an inch gained can make a difference. Especially if we talk about the intralogistics sector, at the root of the e-commerce revolution, whose growth in these years has gone hand in hand with increasingly efficient automated processes within the warehouses.

Processes such as those in which Rollon has specialized, which proposes solutions to generate reliability and speed in ever smaller contents, ie the ingredients necessary for an efficient warehouse at the time of the e-commerce explosion.

To help achieve the required rate of

efficiency, Rollon offers a wide range of products alongside specific know-how matured in the customization of solutions, in order to meet the different needs of the individual applications in all fields of intralogistics.

SHUTTLES

Today, shuttles run unceasingly between the shelves of automated warehouses carrying Rollon telescopic rails to manage the extraction process, picking products from shelves and placing them elsewhere. This crucial process is repeated millions of times. Therefore, it is fundamental that these telescopic rails have the right characteristics.

Which features do they need?

Cross-section dimensions

A difference of one centimeter on a single rail is multiplied by thousands of slots along shelves that are hundreds of meters in length, and this turns into meters or tens of meters of space available for new slots. A compact rail, like ASN, means that the warehouse can store more objects in the same amount of space

Rigidity

The extraction system must be extremely rigid. Telescopic rails used in these applications must have extremely limit-

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ROLLON[®]
BY TIMKEN

Linear solutions global provider.

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Linear Line

Actuator Line

Telescopic Line

Actuator System Line

ROLLON India Pvt. Ltd. - INDIA



1st floor Regus Gem Business Centre
26/1 Hosur road, Bommanahalli
Bangalore 560068, INDIA
www.rollonindia.in - info@rollonindia.in

Rollon is a global provider of **linear motion solutions** for several industrial sectors, such as: **industrial machines, railway, automation, packaging and logistics, aerospace.**

ed play (two-place decimal tolerance) or a total absence of play. In this context, Rollon brand products are particularly efficient: for example, the ASN telescopic rails have induction hardened raceways that allow them to maintain coupling and preserve rigidity.

Double and over-extending strokes

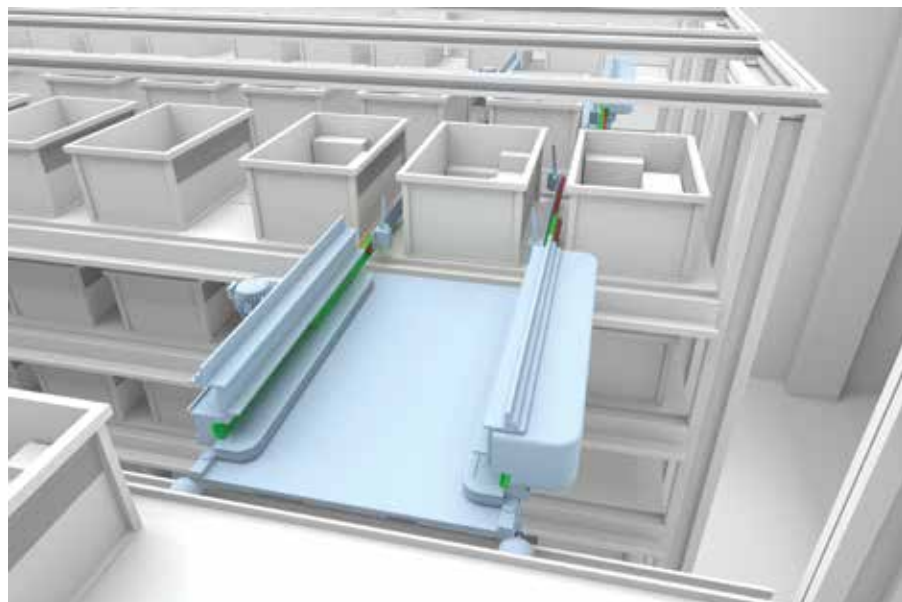
Shuttles need to extract products in two directions, and Rollon solutions such as ASN and DE telescopic rails allow them to do that, thanks to the double stroke configuration option. Another issue is that, in order to reach more distant products, shuttles require a stroke with rails that are longer than the usual 50%. With Rollon rails, strokes can be extended up to 75%. If two pairs of two-stage extraction rails are used, a total extraction of 150% of the width of the shuttle is achieved.

Synchronization

To meet the needs of clients and offer a synchronized product, Rollon has proven that it is an expert at customization. Starting with the DE telescopic rails, the Group has created a personalized solution: the DEF43Z, a synchronized rail with a rack and pinion mechanism. However, Rollon's customization abilities can even go further to provide mechanical systems integrated with personalized components that meet the client's specific needs. These components range from belt mechanisms for synchronization to ground raceways for further improving sliding movements. They also include rails with ball bearings integrated into a special intermediate element that can guarantee maximum rigidity.

STACKER CRANES

These devices perform an intermediate rotation. Stacker cranes are systems that run on both a horizontal and vertical axis to reach products on warehouse shelves. Due to evolutions in its product



range and recent corporate acquisitions that have fostered its growth in the linear actuator sector, Rollon is now able to offer complete solutions for stacker cranes, formed by an X-axis and a Z-axis, ideal for managing small and medium-sized loads.

In this case, the right products to use are belt-driven actuators from the Smart System line, which guarantee speed and high acceleration along with no need to lubricate the belt. This combination provides the perfect solution for stressful work cycles. Smart System actuators are also supplied with all mounting accessories and fasteners needed for simple, quick integration between products, to allow the fast, easy assembly of an efficient stacker crane.

VERTICAL WAREHOUSES

Over the years, Rollon products have been confirmed as reliable reference points also in vertical warehouses, because they make it possible to store materials on different shelves and to move them with automated means to make them accessible. This is where Rollon's DSS telescopic rails come in handy. Thanks to their high load (up to 500 kg per pair of rails) and low degree of bending, they allow the operator to ex-

tract the tray holding the materials and to re-insert it inside the drawer easily.

ROLLON: A CAPILLARY ORGANIZATION ON A GLOBAL SCALE

Rollon is close to its customers, both locally and internationally. Rollon's industrial and distribution organization has been developed to reach the customer on a global basis through a wide-spread network.

The Company can count on production sites, assembly logistics and a wide distribution network all over the world. The company is also present in India with its branch in Bangalore.



*For more information:
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Enhancing the longevity of critical machinery with high-performance vibration isolation

ITT Enidine Wire Rope Isolators provide unsurpassed multi-axis vibration isolation to prevent equipment failure

Minimizing the amount of vibration your machines experience is critical to their long-term performance. Vibration fatigue can cause premature equipment failure and expensive machine downtime. But finding a way to reliably and cost-effectively counteract it has always been a challenge.

Enter ITT Enidine Wire Rope Isolators. Engineered with a rugged, all-metal design comprised of stainless steel cable and aluminum retaining bars, the wire rope isolators provide unsurpassed multi-axis vibration isolation. They require almost no maintenance. They're environmentally stable and highly resistant to extreme temperatures, oil, ozone, abrasives and chemicals.

The wire rope isolators also come complete with a patented crimping pattern. Along with an array of versatile mounting options and sizes, this design makes products ideal for a broad range of applications in the Commercial, Industrial and Defense industries. All of ITT Enidine's wire rope isolators meet



the industry standards of DEF-STND 0755, MIL-STD-810, BV43-44, MIL-STD-167, STANAG-042, MIL-S-901 and MIL-E-5400.

The best part? Even if your application parameters fall outside our standard product line, ITT Enidine has the engineering capabilities to design, test and recommend a custom solution to suit your specific needs. For more than 50 years, the company has partnered with its customers to provide value that extends beyond products — leveraging its extensive knowledge to address their most challenging applications.

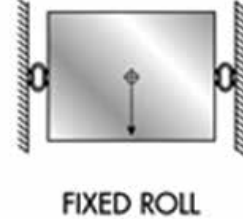
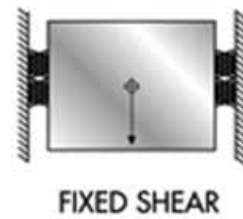
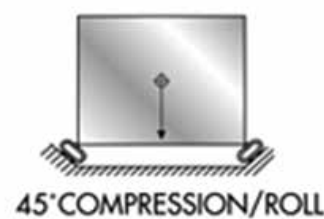
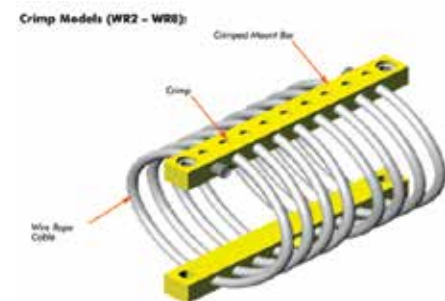
solutions in Gas Management, Shock and Vibration, Static & Dust controls, Lubrication and Air Moving Products. Shavo is a full service organization with design, assembly, sales support, service, installation, and commissioning functions

Building on our heritage of innovation and high technology we have partnered with world leader ITT Enidine to deliver enduring solutions to key industries in the area of Shock and Vibration solutions



For more information,
Mr. Rushil Shah,
Shavo Technologies Pvt. Ltd.,
on +91-7030938211, 7410004817.
Website : www.shavogroup.com
E Mail : corporate@shavogroup.com

About Shavo Technologies Pvt. Ltd.
Shavo is a leading diversified company specialized in highly engineered Advanced Control Technologies. Singularly focussed on technical expertise, quality and reliability, Shavo Technologies is your source for premier high-tech



ALWAYS AHEAD...

Manufacturer of Precision Turned Brass Components in India

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FACTORY

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Email: snehal@shivombrass.in | yash@shivombrass.co.in
Website: www.shivombrass.co.in

PMI : Cross Roller Bearing

equipment. The bearings produced by the test are classified that according to the accuracy of the ISO standard.

- **High Rigidity High Load Capacity:** Rollers crossed at right angles between inner and outer rings, the roller and groove contact area compare with ball bearings is bigger and contributing to miniaturization and increase load capacity and rigidity.
- **Save Space:** Traditional Ball bearing combination space larger than Cross roller bearing about 1.5~2 times, reduce the design space and miniaturization.
- **Specification Diversification:** Bore diameter 20mm to 110mm available for selection.

, CRBF can be assembled on the device according to the customers use , reduce the costs and delivery.



3. Robots Installation Type - CRBR
Robots Installation type CRBR the outer ring is made of two split pieces, inner ring as a whole structure, mounting holes for direct fixing on mating mounting surface are available, east installation , suitable for harmonic drive CSG (CSF) series and Multi-axis robot.



3. Customization TYPE CRBX
Customers can provide design drawings to PMI , develop customized cross roller bearing products.



For more information

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PRECISION MOTION INDUSTRIES, INC.
E-mail: sales@pmi-ant.com.tw
Website: www.pmi-ant.com
Agent & Distributor in India **SUPER SLIDE**
SUPERSLIDES & BALLSCREWS CO. INDIA PVT. LTD.
E-mail: sales@superslides.in / info@superslides.in
Website: www.superslides.in

Product Category

1. Standard Type - CRB

The outer ring is separable, this model is used in locations where accuracy of the inner ring is required. Ex: Rotary part of hollow rotary table.



2. Mounting Holed Type - CRBF

Mounting holes for direct fixing on outer and inner ring , helps produce smaller and lightweight equipment ,product design becomes more compact

Features

To solve the problem of reducing the mechanism which use one bearing to replace two bearing solution. PMI 's designs and manufactures a variety of cross roller bearings that can handle radial, thrust and moment loads at the same time. These compact bearing feature rollers crossed at right angles between inner and outer rings. This structure can reduce the combined height required for bearings, achieving high rigidity and excellent load capacity. There are currently Standard type CRB, Mounting Holed type CRBF, Robots Installation type CRBR and Customization type CRBX for choose.

Product Application

It suitable used in the rotating parts of machine tools, industrial robots ,measuring instrument and IC manufacturing.

Product Characteristics

- **High Accuracy:** PMI offers precision cross roller bearing in the P2, P4, P5, P6 and P0 grades that to satisfy the needs of customers for precision

SCHAEFFLER



FAG

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igus 3D printing service for Automotive Industry: low wear plastic parts in 3 days!

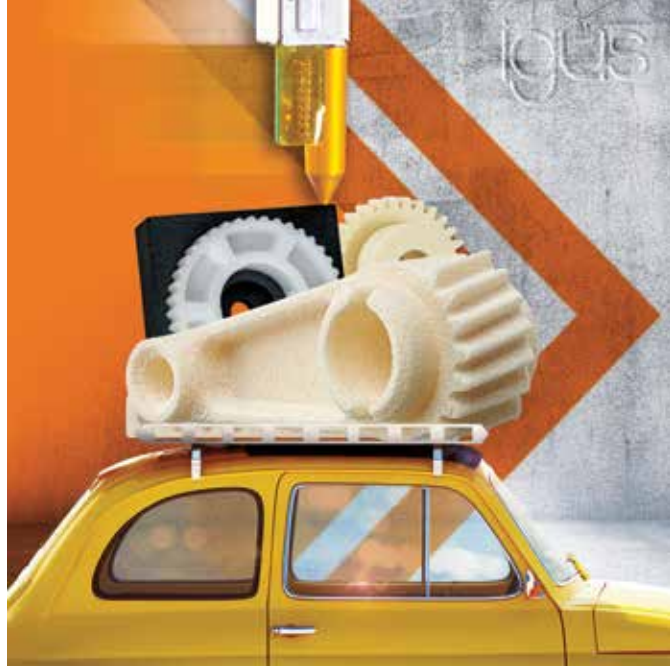
Production-ready, long-lasting special parts from the 3D printer, increase design freedom in the automotive industry

Additive manufacturing gives designers new freedom and flexibility in the design of special solutions, including the development of efficient vehicle components. If lightweight and durable wear-resistant parts are required, igus offers the right solution from its 3D printing service. Users can order their special part made of tribologically optimised polymers from igus online in just a few seconds. You can choose from over 55 lubrication-free iglidur materials.

A quick response time and customised design are daily business in the development divisions of the automotive industry. Accordingly, the industry needs partners who deliver special solutions in small quantities, cost-effectively and in the shortest possible time. Because responding quickly to new requirements creates real competitive advantages in the hard fought automotive market. The expanded 3D printing service from igus is particularly suitable for the short-term production of wear-resistant parts. The motion plastics specialist uses 3D printing to cost-effectively produce prototypes or batches within a very short time. The main advantage of additive manufacturing: the designer has maximum freedom in the design of his component, without having to invest in expensive steel tools with long delivery times. igus manufactures the solutions from its highly wear-resistant iglidur tribo-polymers. Tests in the igus laboratory show that they are up to 50 times more abrasion-resistant than standard polymers and can keep up with injection-moulded parts in terms of wear resistance. The printed wear-resistant parts made of high-performance polymers are also lightweight and quiet in motion - important criteria for vehicle construction. Printed solutions from igus are already being used in turbochargers, as pivot bearings in wheel carriers or for mounting a gas ring in special vehicle construction.

print2mold process ensures the free choice of materials

In the igus 3D printing service, the user can freely choose between different manufacturing processes: they can either manufacture their component using the laser sintering process with the iglidur I3 or iglidur I6 tribo-polymers or alternatively using seven different filaments using the FDM process. For the individual component to be made from the ideal iglidur ma-



At igus, wear-resistant parts with complex geometries made of tribo-polymers can be produced within a few days. (Source: igus GmbH)

terial for the respective application, igus also offers the print2mold process. An injection moulding tool is printed for the special solution and is then used in the injection moulding machine. This allows the user to make free use of the iglidur material range with its 55 tribo-polymers.

Wear-resistant components requested online

The way to a lubrication-free special solution is very simple: call up the 3D printing service at www.igus.in/iglidur-designer, upload the STEP file of the component and select the appropriate material. The price for production (in the print2mold process including the costs for the injection moulding tool) as well as information about the material, precision and flexural strength are shown online. After selecting the appropriate tribo-polymer, the user can enter the quantity and directly request a quotation from igus or order the parts. The additively manufactured special solutions are available for shipping in just 3 to 5 days. In the case of the print2mold process, the injection-moulded solutions are ready for shipping after 10 business days.

For more information
Web: www.igus.in



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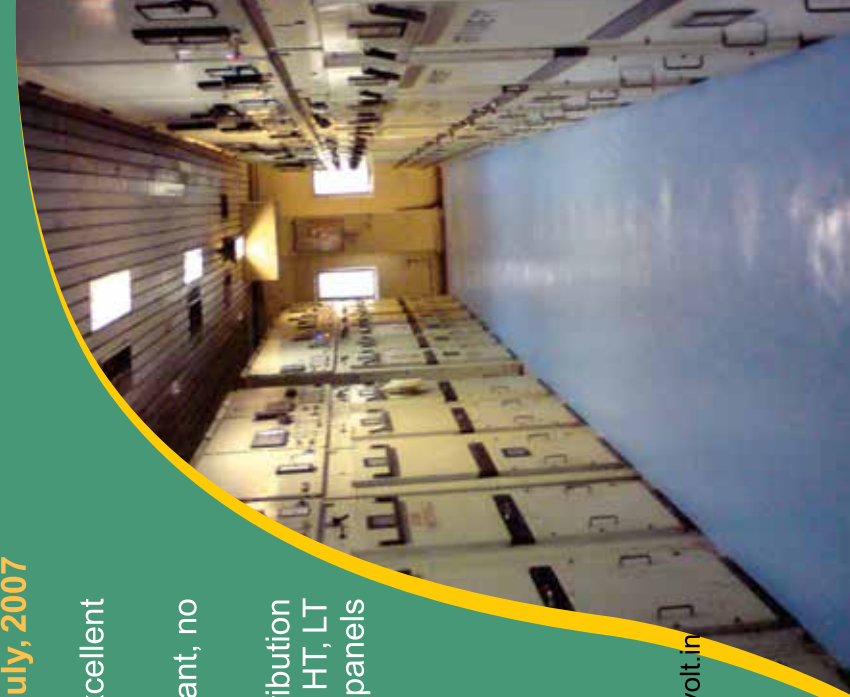
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FLIR Introduces next generation of compact HD thermal cameras

Easy-to-Use FLIR A8580 Camera Series offers simplified connections, precision data, and sharp thermal images

FLIR Systems recently announced the FLIR A8580 series of thermal science cameras: a 1.3 megapixel, entry-level cooled camera designed for a wide range of industrial, military, science, and product research and development (R&D) applications. This camera records blur-free images of high-speed targets, offers a wide range of precision, manual and motorized lenses, and integrates seamlessly with the new FLIR Research Studio thermal analysis software – all providing the user with a high-end experience in a compact, easy-to-use camera.

The A8580 series includes four mid-wave infrared models as well as a long-wave model that provides better uniformity and stability through cooldowns than other, similar LWIR cameras. This unique LWIR camera also offers wide temperature calibration ranges, reducing the need for repeated testing to fully measure a high dynamic scene, and fast integration times. All five models produce sharp, 1280x1024 thermal pixel imagery for a 30% improvement over



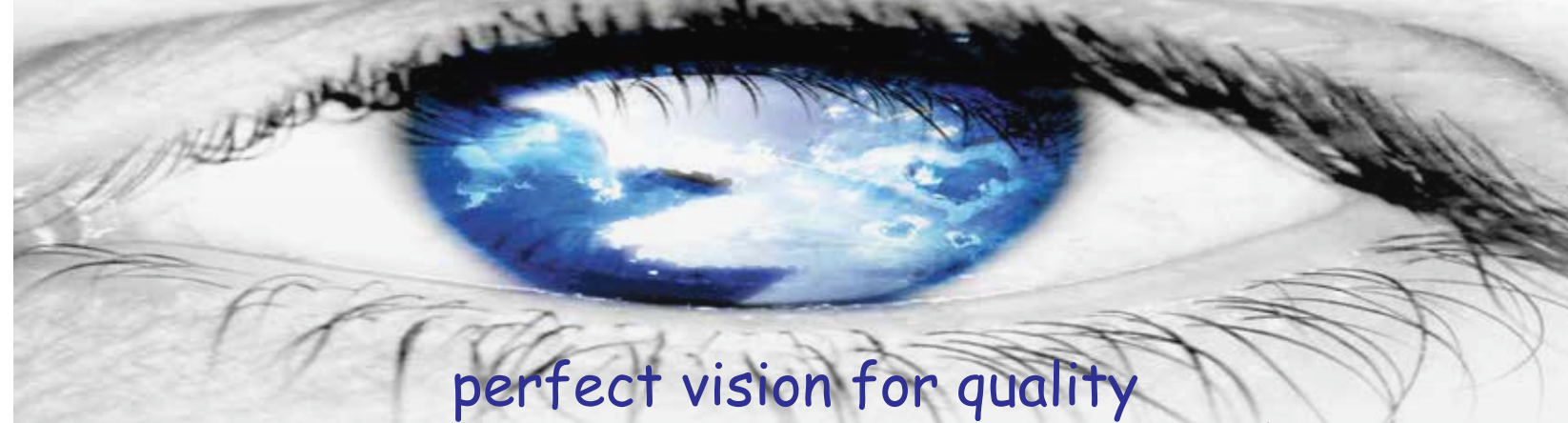
previous FLIR compact science cameras. Users can maximize the number of pixels on their target through a suite of lens options, from the 200-millimeter telephoto lens to the 3x microscope lens for imaging extremely small targets. The cameras' quick response times and advanced triggering options help users record crisply focused images of fast-moving targets or accurately measure rapid changes in temperature. An internal filter mechanism allows the user to quickly switch between standard and high temperature ranges with a click of a button instead of manually changing neu-

tral density filters.

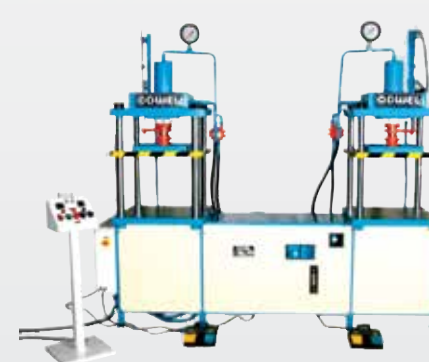
Despite the advanced features, FLIR designed the A8580 with simplified connections and controls so it's easy to set up and begin testing. The camera ramps up quickly and connects via Gigabit Ethernet or CoaXPress to a computer running FLIR Research Studio software. This included software allows users to view the live camera image, record the image stream, and evaluate thermal data from multiple FLIR cameras and recorded sources simultaneously.

FLIR A8580 series science cameras are available for purchase globally through the FLIR authorized network of distributors.

For more information
www.flir.com/A8580-MWIR or
www.flir.com/A8580-SLS.



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 TeleFax : +91-2827-296113, Web Site : www.thedowel.com / E-mail : dowel@thedowel.com

Next generation MPD technology enables fast & easy partial discharge testing



The MPD 800 universal partial discharge measurement and analysis system includes many time-saving features.

MPD 800, the next generation of MPD technology from OMICRON, features an expanded adjustable PD frequency range of up to 35 MHz, a faster 125 MS/s sampling rate, an increased PD localization time greater than 130 μ s, and more powerful digital PD filtering capabilities – all of which greatly increase the sensitivity of PD measurements

OMICRON's MPD 800 universal partial discharge (PD) measurement and analysis system represents the next generation of the company's innovative MPD PD testing technology, which is based on 20 years of MPD customer experience, feedback and their expanding list of requirements for PD testing. Established hardware and software features have been enhanced and new functionality has been added to make the MPD 800 the most complete, accurate, and flexible solution available

for PD testing in various applications.

Standard-compliant PD testing

The MPD 800 system performs IEC and IEEE standard-compliant PD measurements and analysis for routine and type testing, factory and site acceptance testing (commissioning), as well as repair testing and troubleshooting in the field.

With very high measurement accuracy, the MPD 800 system enables users to reliably detect, localize and assess the risk of potentially failure-causing PD

activity in the insulation of various electrical assets and components. These include power transformers, rotating electrical machines (motors and generators), power cables, switchgear, and industrial drives, as well as bushings, insulators, capacitors and busbars.

High-performance specifications

The MPD 800 system features an expanded adjustable PD frequency range of up to 35 MHz, a faster 125 MS/s sampling rate, an increased PD localization time

greater than 130 μ s, and more powerful digital PD filtering capabilities – all of which greatly increase the sensitivity of PD measurements. Additional advanced software-based filtering techniques have been enhanced, such as channel gating, 3PARD (3-Phase Amplitude Relation Diagram) and 3FREQ (3-Center Frequency Relation Diagram), to allow users to reliably distinguish between harmful PD and external noise to ensure highly accurate and reliable PD analysis.

For efficient factory testing on power transformers, the MPD 800 system simultaneously measures and analyzes both PD (QIEC) and Radio Influence Voltage (RIV) according to IEEE, NEMA and CISPR standards. Powerful PD localization techniques accurately pinpoint the location of PD-related defects along entire lengths of power cables.

Convenient battery-powered operation

The rugged and lightweight (1.2 kg / 26.5 lbs.) MPD 800 PD measurement device is powered with the portable re-chargeable battery supplied with the system for up to 16 hours of continuous PD testing. Multiple batteries can be connected via daisy-chain for longer testing periods.

Multi-channel PD measurements

The MPD 800 measurement device includes two fiber-optic PD input channels for either synchronous, two-channel PD measurements or a single-channel PD measurement plus a gating channel to reduce surrounding interference without the need for an additional device.

The MPD 800 system can be easily expanded with up to 20 measurement devices connected via daisy chain with fiber optic cables supplied by OMICRON to perform synchronous, multi-channel PD testing at several distributed measurement points. The MPD 800 system software provides users with a convenient overview of the measurement setup with all connected devices and the PD measurement data for each measurement channel.

Safe fiber optic connections

The use of fiber optic cable connections enables precise synchronicity of all connected MPD 800 measurement devices located in the high-voltage area to a master control device in a safe working area. Fiber optic cables reduce the influence of interference coupling, minimize ground loops, and ensure user safety due to the galvanic isolation they provide.

PD measurement recording

The MPD 800 system software records PD data sets in real time as measurements are being performed to be replayed later for analysis and reporting. The recorded PD data includes all measurement values and relevant system settings, allowing users to apply various analysis and disturbance reduction functions in post analysis without having to repeat the measurement. The recorded PD data sets can also be cut individually and replayed slowly to focus on relevant PD events and analyze them in greater detail.

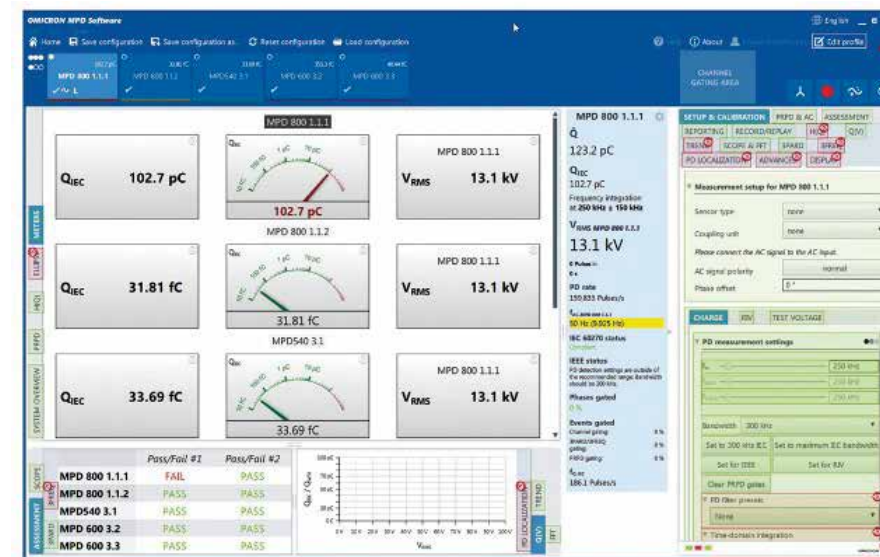
Flexible, multi-language PD analysis software

The MPD 800 measurement and analysis software is available in multiple languages, including simplified Chinese, English, German, French, Japanese, Portuguese and Russian. Users can easily adjust calibration and measurement settings, as well as how data is displayed. Individualized reports can be created based on user requirements.

Customizable user profiles

Users can also define individual test specifications, including calibration and measurement settings, based on applicable international standards for specific types of PD tests and test objects, and save them as profiles for current and future use. In addition, users can decide which of the available PD measurement and analysis software features they need for a particular PD measurement, hiding those they do not need at any time for individualized PD testing and reporting. These capabilities make PD testing and analysis much more efficient and easier for users at all skill levels.

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The multi-language MPD software can be easily configured for individualized PD testing and reporting.

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More Precision thermoIMAGER TIM QVGA-HD-T100 // Thermal imager for body screening



Thermal imaging camera for body temperature screening

thermoIMAGER TIM QVGA-HD-T100

The TIM QVGA-HD-T100 is a compact thermal imager for automatic body temperature screening. This camera is designed for temperature measurement of a group of people and for targeted temperature measurement of an individual person. The software automatically recognizes

and displays people with increased body temperature. The software setup is adapted to body temperature and is suitable for common Windows PCs or the Micro-Epsilon NetPCQ (industrial PC with passive cooling). The record/snapshot functions automatically store the thermal images. With its compact design and USB port, the camera is easy to install and can be easily set up and dismantled. The thermal imager is intended for visitor and staff entrances, security gates, train stations and airports.

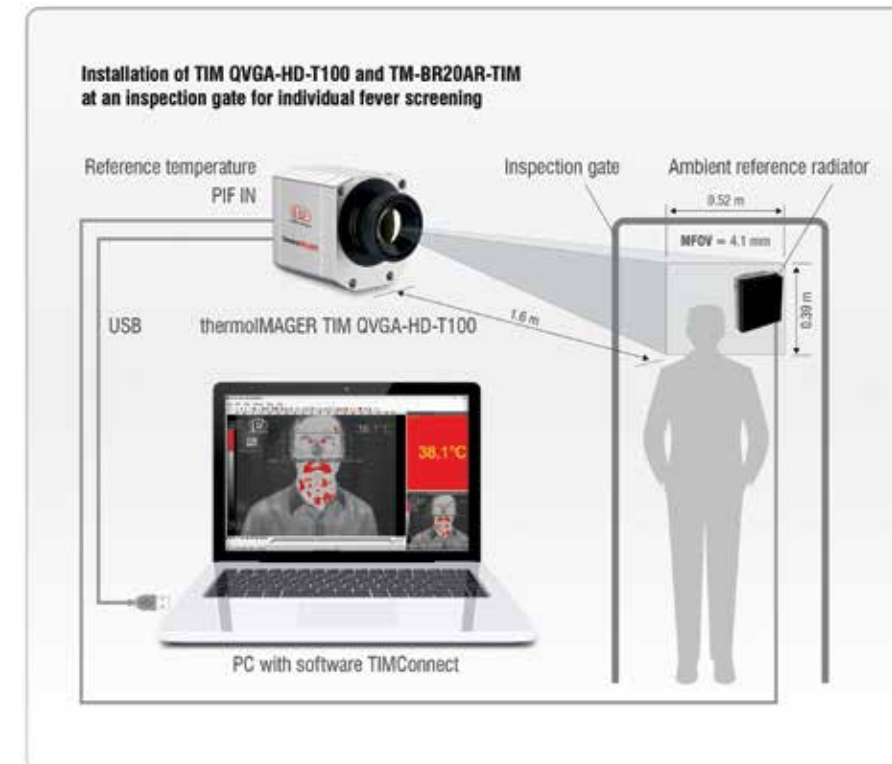
thermoIMAGER TIM QVGA-HD-T100

- Detector with 382 x 288 pixels
- Measuring range from -20 °C to 100 °C
- Fast, real-time thermal imager with up to 80 Hz
- Very high thermal sensitivity with 40 mK
- Compact design
- Lightweight (320 g incl. lens)
- TIMConnect software delivered with Software Developer Kit
- Certificate of calibration for 35 °C is included in the scope of supply

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Ambient reference radiator TM-BR20AR-TIM



Industrial process interface with fail-safe monitoring
Integration of thermal imaging cameras in automated processes



thermoIMAGER TIM NetPCQ
PC solution for thermal imager applications

Sensors and Systems from Micro-Epsilon



Sensors and systems for displacement, distance and position



Sensors and measurement devices for non-contact temperature measurement



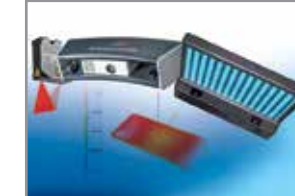
Measuring and inspection systems for metal strips, plastics and rubber



Optical micrometers and fiber optics, measuring and test amplifiers



Color recognition sensors, LED analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection



For more information
Web: www.micro-epsilon.com



High Velocity Oxy-Fuel Process

Thermal Spray Applications Get a Boost in India

Thermal Spray is becoming one of the fastest growing welding and surfacing technologies when it comes to meeting the need for prolonging the working life of a critical component or enhancing the mean life before failure for better economics, competitiveness and lower environmental impact in comparison to many other conventional processes.

It provides a shield to the machine components to resist both primary and secondary industrial wear and achieves this with deposition of just a few microns which not only makes the entire process very economical but also saves the machine components from the adverse effects of heat affected zone.

This technology is fast becoming the most potent process to drive cost eco-

nomics and extensively used in industries as sophisticated as aviation and additive manufacturing and in conventional brick and mortar industries like steel, power, glass, oil & gas, engineering and so many others.

The success of thermal spray processes to a great extent determined by the selection of the right kind of consumables depending on the working environment and base material, grain size distributions, process used for overlaying and spraying parameters

Weldwell Group, the industry leader in providing advanced and state of the art welding consumables, has collaborated with two market leaders in thermal spray consumables namely **SENTESE-BIR** and **Powder Alloys Corporation** to make these world class products locally available to the Indian

industry at a market competitive price to bridge the existing gap

SENTESE-BIR is a renowned European producer of gas atomized thermal spray powders having its manufacturing facilities located in Izmir, Turkey. Customer orientation, innovations and bespoke products backed by a dynamic and research oriented structure have been trademarks of **SENTESE-BIR** since its foundation more than 30 years back.

SENTESE-BIR's Cobalt and Nickel based powders engineered for different applications, processes and grain size distributions requirements, are used across the industry be it a critical spray on control valves, engine vales, glass moulds, canter or a worn out components to get the best out of these critical vital machine parts going

under tough wear cycles.

Powders are manufactured following a strict quality control guideline and sieved for different processes such as Plasma Transferred Arc, High Velocity Oxy Fuel, Fuse and Spray, Laser Cladding and Plasma Spray. The particle size distribution differentiates the metal powders from one process to the other. Technical help is available to customers for the right selection of thermal spray powders for their applications.

SENTESE-BIR's thermal spray powders are marketed under the brand name of **FORTECOAT**. In addition to thermal spray powders, **SENTESE-BIR** also makes metal powder based brazing pastes for brazing of critical parts and powders for additive manufacturing.

The second manufacturer of thermal spray powder with which Weldwell Group has collaborated is **Powder Alloys Corporation (PAC)** having its manufacturing facility in the state of Ohio, USA.

Powder Alloys Corporation is a versatile manufacturer of metal, ceramic, carbides and super alloys pow-



ders. They serve a variety of industries including oil & gas, power, steel, bio-medical, aviation, industrial gas turbine as well as emerging markets such as additive manufacturing.

PAC is a more than 40 years old organization having deep roots in providing hardfacing and super alloys

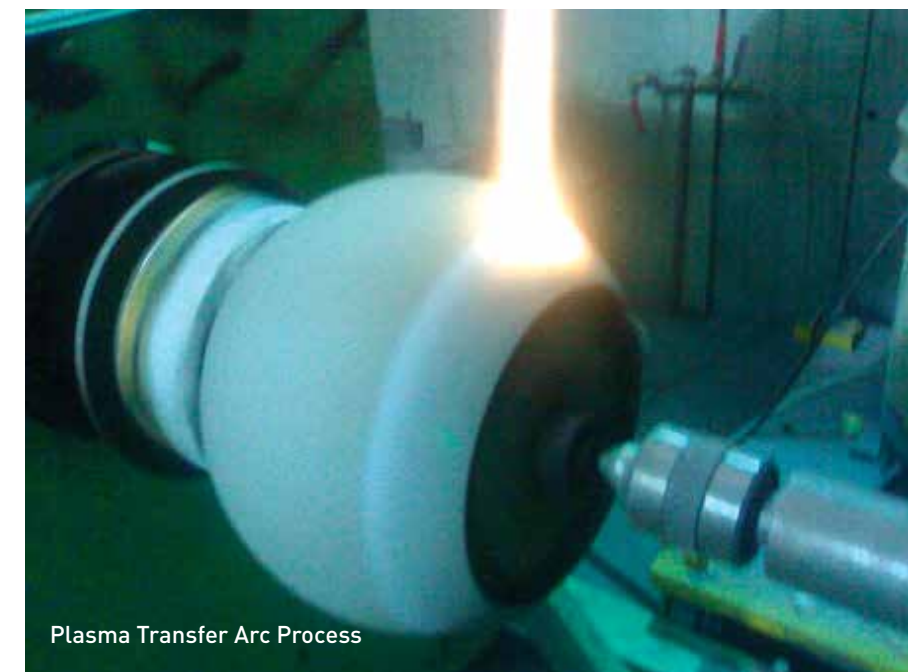
thermal spray powders to industry globally to fight industrial wear and enhance the working life of critical machine components. The technology developed by **PAC** includes inert gas atomization, composite cladding, agglomeration, sintering, plasma densification and hydride / dehydride.

PAC has a large numbers of OEM approvals across the industry including aviation. The array of approvals includes some of the world leaders like GE, Pratt & Whitney, Honeywell, Siemens, Rolls Royce etc.

The exhaustive list of **PAC** thermal spray powders includes carbide, zirconia, ceramic, titanium, metals based powders manufactured for a complete range of processes such as High Velocity Oxy-Fuel (HVOF), Plasma Transfer Arc (PTA), Laser Cladding, Plasma and Spray / Fuse. Powders are marketed under the brand name of **PAC**.

For any sales and product enquiries, mail : sales@weldwell.com Web: www.weldwell.com

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Plasma Transfer Arc Process

Bringing Design Accuracy to Healthcare Products



<http://designtechproducts.com/>

GSK Consumer Healthcare, an associate of GlaxoSmithKline plc., one of the largest pharmaceutical companies in the world, aims to provide everyday healthcare products that help people do more, feel better and live longer. These products, which are sold in more than 150 countries, include household names like Boost, Crocin, ENO and Horlicks. Its office in India has won a large number of awards in 2019, such as Brand of the Year, Best Sales and Operations Planning Practice in Pharma and Advancement of Women.

Good Products Deserve Good Design

GSK leaves no stone unturned in its effort to provide better healthcare products and maintain its dominance in the market. Being an industry leader, GSK is fully aware of the importance of product packaging (color, shape, aesthetics,

etc.), which can help grab the customer's attention and build a personal connection. As a result, it is a priority for its design team to promptly respond to any changes in the market and come up with new packaging ideas that address those changes.

Before 2011, GSK used soft tooling to create prototypes for its packaging, which it outsourced due to an absence of an internal team. Yet, the long prototyping process made worse by multiple iterations led to delays in delivery and cost escalations. Furthermore, outsourcing always carried a confidentiality risk, which was a headache for an international company.

Frustrated by these issues, GSK decided to adopt new technologies specifically 3D printing, the star in Industry 4.0.

The Requirements Are High

While GSK needed the basic value that 3D printing technologies typically provide such as speed, accuracy and cost-saving they also had unique requirements. Because most of its products fell in the fast-moving consumer healthcare segment, GSK

wanted its packaging to be aestheti-



cally pleasing, recognizable and memorable. Consequently, when its engineers were looking for a professional 3D printer, they wanted something that could print multiple colors and multiple materials. Additionally, they needed to be able to print different levels of transparency.

With these special requirements in mind, GSK turned to DesignTech. Headquartered in Kothrud, Pune, DesignTech is a company that provides comprehensive additive manufacturing solutions (in addition to other services) and has been ranked amongst NASCCOM Top 50 Emerging Companies in India. When approached by GSK, DesignTech immediately proposed the Stratasys® J750 3D printer, Stratasys flagship PolyJet

“

The Stratasys J750 3D printer delivers aesthetically appealing components with full functionality. We can now quickly print multi-color and multi-material transparent and opaque packaging prototypes that help us deliberate and make quicker decisions about our launch strategies.

Sanil Prasad, Head Packaging, GSK

”

system. The J750 can deliver unrivaled aesthetic performance, including true, full-color capability with texture mapping and color gradients. As the first PANTONE Validated 3D printer, the J750 can print over 500,000 colors and the materials cover a wide range of Shore values and transparencies. It also promises prototypes that look, feel and operate like the real thing.

Together, GSK and DesignTech tried out the J750 using it to 3D print multicolored bottle lids, sachets and toothbrushes with multicolored bristles. The parts exhibited breathtaking accuracy and the J750 also delivered a convincing transmittance percentage for GSPG bottles. After the teams from both companies had analyzed GSK's current and future requirements for product packaging, GSK decided to purchase the

Stratasys J750 3D printer.

Streamlining the Process and Everything Else

With continuous support from DesignTech, GSK now prints the packaging components of all its consumer healthcare products such as bottles with various textures, colored bottle labels with a transparent bottle body, tablets and tablet containers, caps, lids, jars, etc. with its new J750 3D printer.

The team has even successfully printed a bottle with exactly the same transparency as the original Horlicks bottle. And thanks to the part accuracy, different stakeholders at GSK (marketing, packaging, supply chain, etc.) can now assess and finalize the packaging designs with ease and confidence.

Amazed by the potential the J750

has to offer, the GSK team has since expanded the printer's applications, printing prototypes for sample products from other divisions, such as oral health, pain relief, nutrition and digestive health.

The GSK team has been impressed by how the J750 has helped them save both time and money a project that used to take a whole month can now be completed within a day and a half. The Stratasys J750 3D printer delivers aesthetically appealing components with full functionality, states Sanil Prasad, Head of Packaging at GSK.

We can now quickly print multicolor and multimaterial transparent and opaque packaging prototypes that help us deliberate and make quicker decisions about our launch strategies.

Now with everything done in-house, there are no more worries about confidentiality. In addition, the consistently high-quality parts printed by the Stratasys J750 always pass functional, thermal, tolerance and dimensional accuracy tests with ease.

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For more information
www.stratasys.com

Pioneer in intuitive programming

- Offer the easiest-to-use & most adaptable alternative Automation Solution for specialized & demanding needs
- An experienced technical team
- A pioneer in the simplification of programming



em4 - MORE THAN JUST A PLC

- All-in-one fully connected nano-PLC
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- Accurate & performant sensor measurement



Millenium 3 - Logic Controller

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- Easy to program
- Multiple configuration options.

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- In addition to high-performance products, advice and support, offers tailor-made solutions for any application



MONITORING RELAYS:

- Close-up protection for total availability of equipment
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- Optimise continuity of service.

TIMERS:

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- Multi voltage

For more information

InnoVista Sensors India Pvt Ltd

Div 1, BNR Complex, Plot No.92/1A, 1st Floor,
H P Avenue Road, Konappana Agrahara,
Electronic City -Phase 1, Bangalore - 560100, India
E-mail: india@innovistasensors.com
Web: www.innovistasensors.com

DYNASPEDE Product Line for Process Industries



Dynaspede has long established its name as solution engineers in the paper, film, foil, and converting industries. Dynaspede's market offerings include Pneumatic & Powder Brakes and Clutches with loadcells and tension indicators for printing, coating, laminating, slitting, sheeting, corrugating and other industries. The company also provides stock solutions for speed control of industrial machines and

processes. These include:

- Magnetic Particle Brakes & clutches
- Pneumatic Brakes & Clutches
- Electronic Control Panels
- Loadcells and Tachos
- Electronic Controllers

Dynaspede's solutions include analogue / digital AC/DC or eddy current drives, DC injection brakes, planetary gear units / gear boxes and electronics to match.

For more information

Dynaspede Integrated Systems Pvt. Ltd.

135-136A, Sipcot Industrial Complex
Hosur-635 126, Tamil Nadu

Phone: +91 7601800900 / 87540 46162

Email: usha@dynaspede.com / lalit@dynaspede.net

Website: www.dynaspede.com

High Precison Link Conveyors: A range in constant evolution

Cam Driven Systems (CDS), a division of the Bettinelli S.p.A. group, offers the widest range of positioners, rotary tables and cam mech-

anisms for the automation processes. CDS Precision Link Conveyors TSL, TL and TXL provide the industry's **highest accuracy** and **repeat-**



ability for automated assembly and manufacturing machinery platforms combined with the highest dynamic performance available on the market.

The precision link conveyor TL series has been designed to meet the requirements of high productivity and +reliability of modern automation, combined with excellent precision and speed, with a high degree of versatility to offer customers the most suitable solution. They are used on machines that require stability, precision, high speeds and low maintenance. They are different in terms of body width, allowing great flexibility and a more accurate choice during the designing phase.

The need of the market and customer orientation, added to the desire of CDS to want to expand and improve its product range has brought new innovations to the TL series:

TSL 200 : In TL 200, the depth of the body has been reduced, with the same stroke, with a consequent reduction of the gearwheel

diameter and a better ratio with the driver unit and a better positional accuracy. This makes the machine far more compact and it is

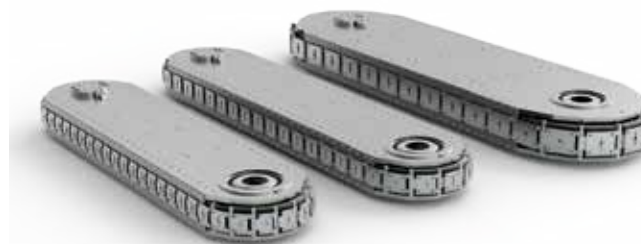
a great advantage to the machine builder.

PLASTIC PROTECTIONS: In the TL range, the plastic protections have been studied to be applied on pallets in order to guarantee an anti-intrusion covering for the components being processed. These covers are printed in 3D.

SPECIAL LINKS CHAIN: Together with the plastic protections a new links chain has been developed. The latter is equipped with special seals to reduce the accumulation of powders or abrasive material during the process and increase the protection of leads and bushes.

In a nutshell, following are the salient features of these conveyors:

- Versatile and compact modular-component design
- Precision machined cast iron chemical-nickel plated links
- Precision chordal compensation cams
- Cam Driven for fixed indexing motion or servo driven for flexible position



tioning

The competitive price and fast lead time together with

CDS quality and reliability make this series very attractive for the market.

For more information

Bettinelli Automation Components Pvt. Ltd.

Subsidiary of Bettinelli F.Illi S.p.A.

Office # 3, 1st Floor Destination Center

Magarpatta City Hadapsar Pune 411-013 India

Phone 91-20-6723-6481

Website:www.bettinelli.in

Welding Fume Extractor, King Extractor-II-MU 3

Welding Fume Extractor, King Extractor-II-MU 3 is a mobile mechanical high efficiency self-cleaning filter designed for workplaces. The filter cleans air from different kinds of dry dust, welding aerosols & other dry contaminants from most industrial processes. The filter cartridge is cleaned automatically without interrupting the filtration process. The cleaning extends the cartridge service periods and minimizes maintenance.



- The filter can be used at workplaces unreachable to other ventilating equipment, &
- The filter requires connection to a general compressed air supply.

The Filter is designed for continuous indoor operation under the following climatic conditions:

- Air temperature from +10 deg. C to +45 deg.C.
- Relative humidity : 80% at 25 deg. C
- The compact construction integrates the filter, extraction arm and fan

The standard delivery set includes Built-in fan, Control console, Filtering cartridge of respective type, Spark arrester, Oil separator with reduction box for compressed air system, and Electrical grounded cable L= 5 m with plug.

For more information :

Ador Welding Ltd.

Akurdi, Chinchwad, Pune 411 019

Phone: 020-4070 6000 ,

Email: cmo@adorians.com, Web: www.adorwelding.com

Foam Nitrile Coating (Sumo)

The Gloves are knitted on computerized knitting machines using different threads or yarns like Poly-Cotton, Polyester, Para Aramid, Nylon & than the coating of different Polymers like PVC, Latex, Nitrile, Polyurethane etc. done on sophisticated machines/ automated dipping lines under stringent quality control to meet the superior quality to satisfy the customer requirements keeping in mind the high level of safety. The Palm Coated Gloves offer excellent dexterity, comfort & to perform the job of general handling light to heavy handling. Handling of sheet metals, Assembly of small components.



foamed Nitrile offers excellent dexterity with secured dry & oily grip while providing greater breathability. The superior dexterity for most tactile of applications.

Application

- Components Handling
- General Assembly
- Electronics Industries
- Light Engineering work

Features & Benefits

This specific formulation of

For more information

Marvel Gloves Industries

187/188, 2nd Floor, Ashoka Shopping Centre,
G.T. Hospital Complex, L. T. Marg, Mumbai 400 001 INDIA
Phone : +91 22 2262 6546 / 2262 6876
Email : marvelgloves@gmail.com, www.marvelgloves.com

ITI-160(P) Portable Digital METAL Hardness Tester

Advantages

Largest screen 3 inch , showing all functions and parameters.it is the largest screen of leeb hardness tester, easy read and operate.



Main Application

- Die cavity of molds
- Bearings and other parts
- Failure analysis of pressure vessel, steam generator and other equipment
- Heavy work piece
- The installed machinery and permanently assembled parts
- Testing surface of a small

- hollow space
- Material identification in the warehouse of metallic materials
- Rapid testing in large range and multi-measuring areas for large-scale work piece

Technical Specifications

- Measuring range: HLD (170~960) HLD
- Measuring direction: 360°
- Hardness Scale: HL, HB, HRB, HRC, HRA, HV, HS
- Display: 3 inch screen,
- Data memory: 600 groups
- max.(relative to impact times 32~1)
- Printing paper: width is (57.5±0.5)mm, diameter is 30mm
- Battery pack: 6V NI-MH
- Battery charger: 9V/500mA
- Continuous working period: about 150 hours (With backlight off, no printing)
- Communication interface: USB1.1
- Outline dimensions: 210mm×85mm×35mm (Instruments weight : 350 Gram)

ITI-1600 High-precision Thickness Gage (NEW)

Ultrasonic Thickness Gauges are designed to improve safety and ensure reliability of material subject to corrosion or erosion. Corrosion gauges with their dual-element transducers are the primary inspection tool used to measure the remaining walls of components such as pipelines, pressure vessels, storage tanks, and numerous other applications..

Precision gauges use single-element transducers to provide the thinnest range and highest degree of accuracy possible. Common applications include metals and a variety of non-metals (i.e. glass, ceramic, plastic, etc.).

Standard Delivery:

Main Unit,, Probe, Data Ca-

India Tools & Instruments Co. – BOMBAY - INDIA

Tel: 022-23428862 / 9819345050

E-mail: ojus_itico@hotmail.com / web:www.indiatool.net



tachyon¹
/tæki.on/ or tachyonic
noun

is a hypothetical particle that always moves faster than light. Conceptualized by a team of scientists Which includes Indian scientists Mr. V.K. Deshpande and Mr. E.C.G Sudarshan in 1962.

Ta(e)ch nology is On

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TACHYON

Fast rapid of 60m/min in all 3 axis

Fast acceleration upto 1.5 G

High speed APC with pallet changing time of 3.5 sec *

High speed ATC with tool to tool change time of 1 sec

5th axis tilting table on both pallets



New Era Begins for the
High Speed Drill Tap Applications...!

JYOTI CNC AUTOMATION LTD.

G – 506, G.I.D.C. Lodhika, Village : Metoda, Dist : Rajkot – 360021, Gujarat (INDIA). T +91-2827-235100/235101, E info@jyoti.co.in, sales@jyoti.co.in

jyoti.co.in

SAY NO TO FIRE & SMOKE, YES TO SAFETY.



LSOH



PVC

AKALMAND BANO, SAHI CHUNO.

RR KÄBEL
WIRES & CABLES



REACH +
RoHS +
CPR Compliant



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