

# FORTUNE

JUNE 2022

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# GAME CHANGERS IN MANUFACTURING

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Global Manufacturing Destination**



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## Game Changers in Manufacturing

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## DRIVERS THAT DETERMINE SUCCESS OF INDUSTRIES

**ANAND LOUIE**

Director, International Research Institute for Manufacturing



The mighty manufacturing sector is probably the biggest driver of socio-economic prosperity the world over. It has been true for many generations now, that a country's success on a global platform is defined by its manufacturing sector. It is also true that the recent volatility in the geo-political climate and the resultant impact on the socio-economic culture has adversely impacted the manufacturing sector too. Now, more than ever, the companies need actionable advice and growth-oriented thought-leadership. And therefore, global consulting companies, such as International Research Institute for Manufacturing (IRIM), are important to their clients and also valued by them. IRIM has been partner to the manufacturing industry for nearly a decade now.

The last 15 years have seen some monumental changes in the world's economic order including the latest COVID-19 pandemic and the resultant breakdown of global supply chains which has impacted the stability of world economies. Amongst these steep challenges India, driven by its domestic demand and supply capabilities has managed to stay the course. This has been possible because of the visionary industry leaders of the Indian manufacturing sector, who have not only dared to stay ahead of the curve, but have also sailed their companies deftly through some very difficult times. They have been the trendsetters that have driven the techno-commercial transformation of the manufacturing sector in India.

Mr Anand Louie, Director, IRIM, India shares, "We identify ideological trendsetters and over the years the three indicators that have emerged which drive a successful company are - building capacity ahead of demand, consumer/customer focus, and structured and sustained implementation of improvement initiatives. All these three factors are enabled

through advanced manufacturing technologies and digitalisation of business processes. Our primary mission is to engage stalwarts from the group of elite companies and recognise them as trendsetters of what Indian manufacturing should be. In this process we hope to inspire the larger Indian industry towards positive transformation.

**"At IRIM, we try to affect change in the growth trajectory of a company by encouraging them to take measured and calculated risks and invest pragmatically in future projects by predicting the industry mega-trends 5-10 years ahead of time. We believe and profess that all businesses should be on an everlasting drive towards better customer experience, so consumer/customer focus is a priority, besides how technology and digitalization can enable and transform the processes in all these three aspects across industry sectors."**

This is for the first time that we thought of having this collection of thoughts, ideas and examples for readers to understand what made these companies as successful as they are today. The idea is to inspire more companies to learn from

their fraternities' shared wisdom and rise to make India a favoured manufacturing destination. IRIM also enables innovative companies that may already be market leaders in their sector, to look beyond challenges of their local ecosystem."

"At IRIM, we try to affect change in the growth trajectory of a company by encouraging them to take measured and calculated risks and invest pragmatically in future projects by predicting the industry mega-trends 5-10 years ahead of time. We believe and profess that all businesses should be on an everlasting drive towards better customer experience, so consumer/customer focus is a priority, besides how technology and digitalization can enable and transform the processes in all these three aspects across industry sectors," adds Louie.

The IRIM Director advises, "Manufacturing companies should plan their growth in a way that their suppliers, vendors and other stakeholder grow with them. We believe that profitable companies or companies having a big vision for their future should go for IRIM's unique, tailor-made evaluation or value chain mapping to understand the drivers of their growth. They should, also, strive to understand the impediments to their growth and remove them. We consider growth and success as a planned venture, and not isolated events in the company's lifecycle. Also, the industries must accept the reality that costs are going to escalate, and unstable policy decisions will be a major hindrance in their growth. For companies who aspire to be big and successful, we would advise them to start considering that the cost of not doing anything could mean extinction."

Summing up, Louie says, "We take this opportunity to thank every participating company and the people behind them in making this issue possible. We hope it will serve as inspiration and encouragement for the featured organizations."

## BRINGING EFFICIENCY TO CONTINUOUS IMPROVEMENT

Mark Twain said, "Continuous improvement is better than delayed perfection."

We, consultants and researchers, often seek answers to why only a handful of companies evolve with time and grow at a steady pace, while most of the others appear to lose perspective. We are often told that the fault lies in the inherited flaws in the culture of these failed organizations.

While it may be true for a small subset of the failing companies, in my opinion it is the inability of the organizations to make a clear distinction between what is important and what is urgent and the management's ineptitude to effectively act upon them.

### ■ Need for Sustainable Changes

With experience, the manufacturing fraternity has learnt that it is not just leadership initiatives that can bring tangible change. Visionary leadership, coupled with effective and incremental improvements brought along by combined efforts of various stakeholders, makes organizations future ready. As collaborative work cultures start bearing fruit, industry participants are acknowledging that continuous improvement is the driving force behind their all-round development. To put it simply, continuous improvement is not about making a few sporadic mega changes to the business or its operations, but to continuously make many small incremental yet sustainable changes.

### ■ Implementation: A Challenge

Continuous improvement has now become the driving force in the manufacturing sector and across verticals through programs like 'Kaizen', 'Quality Circle', '6-sigma projects', etc.

With the body of knowledge available in today's world, almost all the matured manufacturing organizations have instituted programs to drive ongoing advancement in their factories. Implementing these changes requires extensive efforts at all levels. It not only involves elaborate planning, building systems and training people, but also making sure that the current workforce is comfortable with the ever-evolving factory and its culture. Despite investing the resources, and



**SAIPRASAD RODE**  
Senior Consultant, International Research Institute for Manufacturing

the time, not all factories are able to effectively implement and generate the desired results.

As simple it is to understand the continuous improvement system, it is equally difficult to implement one successfully. It involves designing systems, educating people and addressing gaps in technical, functional and behavioral competencies. Apart from performing their operational tasks, it requires the workforce to identify opportunities for improvement.

Although the intent and drive may be present amongst the workforce, it is their capacity, in terms of time and involvement that may become a limiting factor. Small projects, if viewed in isolation, may have only a minimal impact on the everyday lives of people involved, but they would invariably take a lot of creative and administrative effort along with management time.

Today, all the efforts of managers are concentrated on completing complicated documentation, non-standardized workflows, waiting time between different stage gates and loss of information between different tools and systems. These inefficient systems lead to a slow absorption of continuous improvement as an organizational culture.

### ■ Building a Platform of Greater Efficacy

To sustain and reap long term benefits of continuous improvement ideology, it is critical to convert such high effort - low reward programs

into being more efficient and effective. This generates a need to develop platforms where with minimal administrative efforts and optimized workforce time organizations can drive initiatives and make more time available for developmental work.

With the extensive integration and maturation in a workplace, no function can work in a silo anymore. For a production initiative to bear fruits, it must be supported by Quality Assurance, Engineering, Procurement, Safety and Human Resources and other. This system should be able to effectively collaborate with the various stakeholders throughout the value chain.

Developing platforms for idea management would thus, objectively reduce the chaos in managing the improvement initiatives in the organizations.

### ■ Digitalization: a Catalyst for Continuous Improvement

With the Industry 4.0 initiative, the manufacturing sector has seen success with digitalization across sectors. In stride, digitalization is being touted as the catalyst for the gathering momentum for continuous improvement, by bringing in greater efficiency in data management, workflow optimization, comprehensive project evaluation and stakeholder alignment. As the initiative matures, knowledge sharing and horizontal deployment will accelerate the growth journey.

With the coming of age of the digital world, the manufacturing fraternity has seen some drastic positive changes in the constraints in effective management of improvement initiatives.

**In this fast-paced world, which is growing at an unimaginable speed every day, the one resource that cannot be underestimated is Time. The Management's effort should be to continuously steer the organization towards prioritizing and aligning efforts to important initiatives; and checking off what is not important with relative efficiency so that they don't become urgent. ■**

## ADITYA BIRLA FASHION AND RETAIL LTD

ABFRL is part of a leading Indian conglomerate, the Aditya Birla Group. With revenue of Rs. 8,788 cr., spanning retail space of 8.1 million sq. ft. (as on March 31, 2020), it is India's first billion-dollar pure-play fashion powerhouse with an elegant bouquet of leading fashion brands and retail formats. Mr Vishak Kumar serves as the CEO-Madura Fashion and Lifestyle Business and Whole-time Director at ABFRL

■ A lot is spoken about the skill gap in our country; however, most organizations now find potential opportunities for improvement in employee welfare and development. How does your organization prepare its future workforce?

► It is an important area for the Indian Manufacturing Industry. The productivity for our industry has been relatively lower than international standards. Our attempt at ABFRL has been to create a systematic approach towards training and development for our employees. Our key focus to strengthen employee development has been in these areas:

- Fast-track training methodology: Previously, we used to take about three months to train a fresh operator in our factories; with various improvements, we have been able to reduce this to 15 days. We also have clear career paths, enabling employee growth and development.
- "Systematic trainer development process": By introducing strong "Train the Trainer" programs, we have dedicated and focused trainers to train new employees and multi-skilling our existing employees.
- Campus hiring: Recruiting fresh engineers and training them in all areas of manufacturing management; enables us to create a healthy blend of Experience and Youth. This also enables us to accelerate Technology adoption.
- Employee empowerment: Every employee in our factories is a part of an L1 team with 10-12 employees and a leader. They meet and review their performance daily and try to solve issues related to their team performance and take necessary action for continuous improvement. The teams' monthly performances are monitored and displayed, and the best performing teams



**VISHAK KUMAR**  
CEO – Madura Fashion and  
Lifestyle Business and Whole-time  
Director – ABFRL

are rewarded. Awareness and training programs are conducted for the teams for Kaizen, 5S and problem-solving tools.

■ What are key trends that would

dominate the manufacturing sector in the upcoming decade?

To make India a successful manufacturing destination in the coming years, we need to focus on the below:

- Talent management and cost control: Clear focus in developing talent is a top priority; raising productivity levels to manage costs better will also be a key imperative.
- Technology adoption: Drive digital processes in manufacturing; use of Data Analytics, Automation and Robotics to drive productivity and quality.
- Strategic investments in new product categories: Constant analysis of market demands and consumer trends.
- ESG: This will need to be a key driver for our industry. At ABFRL, this is already a major focus area and we have made significant investments in sustainable initiatives such as solar power, zero discharge and zero waste to landfill along with circularity. As part of the Aditya Birla Group, we are further driving multiple initiatives towards Corporate Social Responsibility. ■



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WEDDING  
— by —  
Allen Solly

## CNH INDUSTRIAL INDIA PVT LTD

New Holland Agriculture began its operations in India in 1998 with the launch of its first 70 HP tractor in the Indian market. Since then, it has tasted unequalled success with more than 600,000 tractors sold in numerous applications across India and abroad. The company currently offers a technologically superior range of 35 HP to 120 HP tractors in India. It is the first company in India to offer the most appropriate and advanced range of mechanization solutions to Indian farmers for enhancing crop productivity and profitability. Mr. Narinder Mittal is Vice President - Industrial Operations Asia Pacific Region.



**NARINDER MITTAL**  
Vice President - Industrial Operations Asia Pacific & ANZ

■ Much is spoken about the skill gap in our country; however, most organizations now find potential opportunities for improvement in employee welfare and development. How does your organization prepare its future workforce?

In CNH Industrial we have just passed through a spin off, and the organization is now realigned in two major segments— On Road and Off Road, considering the diversity of our products in these two categories. CNH Industrial "New Holland Agriculture is a part of CNH Off Road business and recently our leadership team has shared a way forward considering the milestones of 2025 and 2030. Organizational workforce plays an important role in realization of the milestones laid by the organization because ultimately the employees are the ones through whom any organization delivers its commitment.

Industry 4.0 / Digitalization / Robotics / Automation are the some of the well-known methodologies being used in the current scenario and these are really the way forward where we need to nurture our future workforce. To have a long relationship with the employees, employee welfare and development are necessities; but, without grooming the competencies of future workforce it is highly difficult to meet the

competitive challenges. Hence, becoming cost effective would be a major challenge in the upcoming future and without mechanization / digitalization the turnaround results can't be achieved.

■ What have been the key learnings from surviving manufacturing operations through a global pandemic?

Last year 2021 (in Q4 End), CNH Greater Noida plant achieved a great milestone of the 50,000th tractor in 2021. Despite 2021 being one of the toughest years in the history of Indian Manufacturing, CNHi Greater Noida plant managed to achieve this milestone. There was a situation in India due to COVID pandemic when the various companies were closing their plants, reducing their operational workforce and even many top companies were badly hit financially too. Our plant also experienced different challenges in supply chain due to uncertainty caused by COVID and material availability.

Specifically, Q2 2021 (April to June) was a major challenging period when COVID was at its peak in India. We were also facing very tough challenges during this period, but CNHi India management strongly formulated a strategy on how to sustain manufacturing operations and

extensively supported Noida plant manufacturing operations. Extended efforts from each of the department and function helped us in achieving this great milestone.

The shift to remote and hybrid working driven by the pandemic presents companies' opportunity to accelerate building inclusive cultures. With its benefits of increased flexibility, remote working can facilitate the retention of women and other colleagues, as well as those who have been impacted severely during this pandemic. It thus widens access to a pool of diverse talent that may not have been available earlier. Hence, in a nutshell, for a longer perspective of organization growth diversity and a hybrid model of working can play a vital role to turnaround the future of Indian Industry specifically.

■ What impact do third-party evaluations such as the one conducted by IRIM have on the evolution of your organization and business growth?

We consider these as opportunities of improvement. Sometimes we need not to be "best", rather, "Being Better" is also a good option. Having done a thorough evaluation through IRIM, we are already on the set objectives and we look for a future interaction very soon. ■



## GHCL LTD

A well-diversified company with ascertained footprints in chemicals and textile businesses GHCL Limited is rooted in a sustainable growth outlook defined by the core values of the four pillars of the 'GHCL Way'. Mr. Ravi S Jalan has served as Managing Director, GHCL Ltd. since 2006.

### ■ In a growth-driven economy like India what comes first – Building Capacity or Generating Demand?

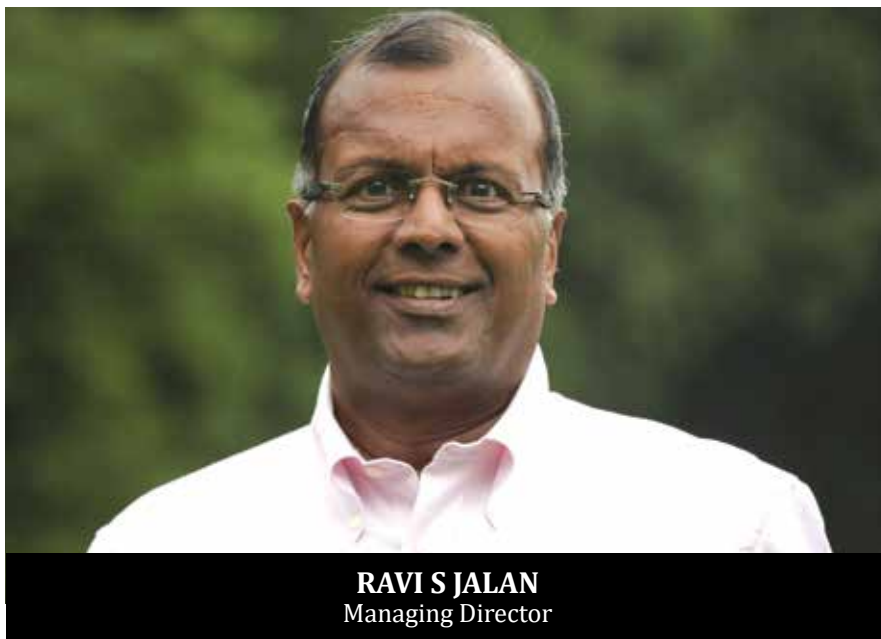
► For India to become a \$5 trillion economy by 2025, building capacity is critical. As a nation, we must focus on infrastructure development and improvement of the business environment. Capacity building for me means focusing on digitisation, adoption of environment friendly policies, infrastructure, and most importantly create a skilled workforce. Building capacity is ultimately the way to deliver transformational results and create a multiplier effect in the economy. It leads to job creation and employment which in turn puts more purchasing power in the hands of people, which will ultimately create demand for goods and services and growth in the economy.

So if you are aware of the demand cycle, then you might as well start building capacity before the lack of availability of your product makes your brand unreliable. Especially because building capacity to fulfil enhanced demand especially in the manufacturing sector takes time and resources.

### ■ What would you say are the key learnings from surviving manufacturing operations through a global pandemic?

► From the merits of agility to the importance of values, upskilling and digitisation, the pandemic has taught the manufacturing industry some very vital lessons on how to navigate the VUCA environment. Some of our learnings are as follows:

- I believe that agile organisations are dynamic, stable, innovative and constantly evolving through their learnings. They are more resilient, more result oriented and are able to ensure long term value creation for their stakeholders.
- The pandemic brought with it many uncertainties and exposed organisations to the inevitability of change. We realised the importance of being adaptable and nimble,



**RAVI S JALAN**  
Managing Director

of understanding our core competencies and ensuring them to generate the desired value for our stakeholders. We transformed quickly, adapted new technologies and ways of doing business. We increased our focus on modular expansion, debottlenecking, creating a diversified product basket and backward integration of raw material supplies. We also benefited from our focus on product market expansion and value added products. Going forward, we are certain that our investments in the renewable energy portfolio and modernisation and expansion of the businesses will give us better leverage.

- The pandemic acted as a catalyst for digitisation and transformation in lifestyle, work patterns, and business strategies. With everyone forced to work from home, technology proved to be one of the most reliable and responsive assets during the pandemic. As lockdowns were eased, we began to realise that in order to be more resilient to future exigencies we needed to increase efficiency in processes. This led to adoption of smarter manufacturing processes

powered by digitisation, automation, Artificial Intelligence (AI) and Internet of Things (IoT). Colleagues were quick to adapt to a fast-changing environment, gaining new knowledge and upskilling supported by digitalization. The pandemic also made us realise the importance of GHCL as a "Learning Organization" for sustainable profitable growth and competitive advantage with focus on developing people and creating a future ready organization. Our idea is to create an organisation which is capable of self-reflection, and of utilising new knowledge to provide a sustainable competitive edge in the present business environment.

- We realised the importance of the human touch and keeping our teams motivated. As an organisation, we recognised that it was our "invisible assets" such as customer centricity, trust, connect, corporate culture, and values that ensured long-term survival and competitive success. Our connection with our people, the ability to inspire trust and a sense of community helped us adapt and navigate the pandemic better. ■

## GRASIM INDUSTRIES LTD

Grasim Industries Limited, is a flagship company of the global conglomerate Aditya Birla Group. Having started out as a textiles manufacturer in India, it has evolved into a leading diversified player with leadership presence across many sectors. Mr. H K Agarwal is Managing Director of Grasim Industries Limited, Business Director - Pulp & Fibre Business and Director of Aditya Birla Management Corp. Pvt Ltd.



**H K AGARWAL**

### ■ In a growth-driven economy like India what comes first – Building Capacity or Generating Demand?

► Generating demand and catalysing consumption and growth is as important as building capacity for a growth-driven economy. India is at an inflexion point, and global trends such as digitization and automation and the whiplash effects of supply chains are creating new opportunities. Our chairman, Kumar Mangalam Birla, recently predicted a decade of Capex Mahotsav. He said that a generation of entrepreneurs are taking advantage of economic reforms as profound as those in 1991. Investors are excited about the growth prospects in core and sunrise sectors. The word sunrise sector applies to both conventional sectors like textiles, cement, steel, power and auto and emerging areas like digital and renewables.

At Grasim, we were amongst the first to invest in a greenfield and brownfield projects for viscose/chemical expansion and foray into the decorative paints industry. Today, we have built capacities

in viscose fibre and generated demand by innovating the fibre through circularity, branding and awareness.

### ■ What advice do you have for your industry peers in building a Leadership Team that is receptive to change in operational environments?

► The global pandemic has brought in many challenges to businesses and CEOs. With disruptions to business-as-usual and disintegrated workforce, CEOs had to fine-tune their strategies. Grasim has evolved over a period of 75 years, but what remains unchanged is the resilience of our people. Even in uncertain times, our employees with their strong value system of speed, commitment, integrity, passion and seamlessness, are our pillars of strength. The pandemic has taught us to be more empathetic,

set clear priorities and communicate effectively. I have also empowered our teams to make decisions amid uncertainty and lead from the front.

My mantra to my team is to have a "CAN DO" and "WIN TOGETHER" attitude.

### ■ What impact do third-party evaluations such as the one conducted by IRIM have on the evolution of your organization and business growth?

► Third-party evaluations are an independent assessment of an organisation's strategy along with their capability. They work as a guiding star and help companies make informed decisions. Organisations can re-think and pivot their models depending on the assessment—it could be geographical expansion, reach or flexibility required for businesses. ■



## HINDUSTAN COCA-COLA BEVERAGES PVT LTD

Hindustan Coca-Cola Beverages Pvt. Ltd (HCCB) offers soft drinks, juices, and bottled water products. Today it is one of India's leading FMCG companies. Mr Kamlesh Sharma is the spokesperson and Chief Public Affairs and Communications Officer, HCCB

■ **Is the Indian market receptive to products developed from advanced concepts of Food Science to cater to a health-conscious and excitement-seeking Gen-Z?**

The Indian food processing and beverage manufacturing process is amongst the most advanced in the world. High quality, safe, hygienic, and great tasting beverages always find traction with consumers. HCCB for example was able to bottle its sparkling beverages in the world's lightest PET bottle (which we call ASSP – Affordable Small Sparkling Package). It took us a considerable amount of research and investment to bring this package and its content to life, but its acceptance has been near universal and even dramatic. The ASSP weighs less than 10 grams, and took nearly two years to create. Proprietary Coca-Cola computer simulation methods were used to design the package using one-third less plastic than a standard plastic bottle in India (wt 15.5 gm) and an incredibly thin barrier layer was added to the bottle walls to prevent carbonation from escaping. When combined, these two advances extend product shelf life by a remarkable five months or more. This innovative technology has also reduced the plastic usage. Similarly, Minute Maid Pulp Orange, which is the only juice brand where the consumer gets the experience of real fruit pulp in the beverage is a unique innovation by HCCB and it is now India's largest selling packaged juice drink.

■ **If you must identify key learnings from surviving manufacturing operations through a global pandemic, what would they be?**

- Continued and relentless focus on safety, hygiene and CoVID protocols. There can be no slip-up, not even for a minute.
- The pandemic has highlighted and even fast tracked the adoption of machine learning, automation, and robotics. HCCB has now built two factories, one each in Sananda, Gujarat and Raninagar, near Siliguri, West Bengal which are fully digital.



**KAMLESH SHARMA**  
Chief Public Affairs and Communication Officer

- The need for multi-skilling of line operators and supervisors because in a pandemic situation, no one is guaranteed the attendance of all the required staff, at the same time and at the same place. So, when the operators are multi skilled, they can fill in for the absentee.

■ **How are expectations of stakeholders, such as investors, employees, customers, community, regulators, evolving in India? And what impact do you see in your business?**

Consumers and stakeholders expect no less than what is available elsewhere in the world.

And rightly so! Indian manufacturing and Indian products have found their rightful place on the global map. Today, the machines, the technology and the interventions that are being made in India are setting benchmarks. Imagine that a home grown, quintessentially Indian soft drink brand – Thums Up – is now the first Indian beverage brand to join The Coca-Cola Company's suite of billion dollar brands (in sales value). It is a tribute to India's R&D, its manufacturing prowess, and the choices that the discerning India consumer makes. Similarly, like in the previous example where India leads the way in making the world's lightest PET bottle for sparkling drinks, speaks volumes of our capability. ■

## ADANI WILMAR LTD

Adani Wilmar Limited (AWL) is a joint venture incorporated between Adani Group- the leaders in private infrastructure and Wilmar International Limited - Singapore, Asia's leading Agri business group. The Adani Group is India's fastest-growing diversified portfolio of businesses and food FMCG companies in India.

Mr. Angshu Mallick, CEO & MD, shares at length his views on how important it is to have advanced and competitive manufacturing facilities for business growth. "India" he says, "is growing at a rapid pace and so does the demand of its citizens for quality products. They are not afraid to spend but do not purchase unhygienic and adulterated products. At Adani Wilmar, we understand this and meet the growing demand with our unmatched infrastructure, world class manufacturing units, robust machinery, and uncompromised quality standards. We are proud to have fully automated units spread across the country. These units follow the highest standards of safety and quality and passes through the AIB audit."

With AWL operating as a consumer-driven business he elaborates on what key learnings

the company came away with from the Pandemic that has disrupted Global Supply Chains. That it was a year of challenges as the pandemic had an adverse impact across businesses, he feels that even the FMCG sector had been no exception. "The key challenges faced by us and the industry overall were impact on production due to manpower shortage, disruption in supply chain and distribution logistics, shortage of packaging materials, etc., " he says. He is also of the opinion that the first lesson from this was to not take anything for granted as any event like the Coronavirus pandemic can derail any, or all the plans one may have made. "It has taught us that having a Plan B, or something that we can fall back upon in case of any unseen incident, is important. The year has taught us the importance of human resources.



**ANGSHU MALLICK**  
CEO & Managing Director

We were able to run our facilities only because of our workers and have observed resilience of employees during the trying times," he says. ■

## BALMER LAWRIE & COMPANY LTD

Balmer Lawrie & Company Ltd. operates in multiple business areas as a manufacturer and service provider.



**ADIKA RATNA SEKHAR**  
Chairman & Managing Director

Sharing his thoughts on what would be the key trends that would dominate the manufacturing sector in the coming decade, Mr Adika Ratna Sekhar, CMD, Balmer Lawrie, feels we will observe increasing collaboration between humans and smart systems. "There's no denying the fact that Industry 5.0 is already here. Some might say we are on the threshold. No matter

whichever school of thought we subscribe to, we have to continue to embrace change, focus on strategic investment and leverage technology to stay ahead of competition, he says." He is of the firm belief that sustainability in business encompassing ESG parameters will be critical as businesses cannot operate in silos any more. Also, protecting the interests of all stakeholders will be key. Though workplace safety has always been a priority for manufacturers, it will assume greater significance in the light of the pandemic, Mr Sekhar opines.

Furthermore, as he sees it, innovation and technology would drive business growth. Internet of Things (IoT) will continue to be the 'big thing'. IoT will enable manufacturers to make informed, strategic decisions using real-time data thus, enhancing efficiency, improving safety, product quality and innovation, cost reduction, waste reduction, etc. The next decade will see enhanced design thinking in product

development. "We have to allow customers to customise what they want. Manufacturers will have to explore new processes and procedures that use assistive technology such as Virtual Reality and Augmented Reality. 3D printing will make production faster and cheaper. The manufacturing sector will see creation of high value jobs," he elaborates.

Sharing his views on the impact of third party evaluations such as the one conducted by IRIM, on the evolution of the organization and business growth, Mr Sekhar feels that third party evaluation facilitates critical assessment of the company's manufacturing competitiveness by experts and benchmark with the best in the domain. "It allows us to analyse our capabilities, competitive strategy and evaluate accomplishment of business objectives. We are guided to factor in all ESG parameters in our manufacturing processes, which enable sustainable business growth," he concludes. ■



## ITC LTD

One of India's foremost private sector companies and a diversified conglomerate with businesses spanning Fast Moving Consumer Goods, Hotels, Paperboards and Packaging, Agri Business and Information Technology, ITC is the country's leading FMCG marketer.

Mr B Sumant is Executive Director, ITC Limited

### ■ What are the key trends that would dominate the manufacturing sector in the upcoming decade?

► The manufacturing sector is undergoing a paradigm shift and the industry is ushering in the next era of technology transformation. The upcoming decade will be shaped by rapid technology-led disruptions which would very easily adaptable, more efficient and sustainable.

**Smart Manufacturing:** We will continue to leverage the benefits of Industrial Internet of Things (IIoT), where interconnected devices are used in smart manufacturing sector to collect data, which can then be used to enhance the manufacturing process consistency, product quality and making the supply chain more efficient.

**Artificial Intelligence (AI) & Machine Learning (ML):** Artificial Intelligence in supply chains is helping deliver the powerful optimization capabilities required for more accurate capacity planning, improved productivity, high quality, lower costs, and greater output, all while fostering safer working conditions. If applied correctly through supply chain management (SCM) work tools, ML could revolutionize the agility and optimization of supply chain decision-making.

**Sustainability:** This is going to be a defining trend in the manufacturing sector over the next decade. Actions around enhancing renewable energy, improving energy and water efficiencies, GHG emission reduction and moving towards net-zero, resource optimisation and waste reduction, water-security for all stakeholders, optimisation in packaging and leveraging new technologies in every node will be critical levers in manufacturing going forward.

**Talent Management:** If manufacturers are to retain valuable workplace skills and institutional knowledge, they will have to create a systematic way to ensure a smooth handoff from one generation to another.

**Digital Twins:** Digital Twins technology has the potential to revolutionize the product development



**SUMANT BHARGAVAN**  
Executive Director

process as the entire product life cycle can be simulated right from development of concepts to the delivery across nodes of supply chain. The technology can be also effectively leveraged for process optimisation.

**Automation:** Automation can bring many advantages to manufacturers, including higher productivity, greater accuracy, and lower costs. This can be further aided by multiple technologies like rapid spectroscopy-based testing, Computer Vision based product evaluation systems and Integrated IOT devices with machine to machine communication and interfacing capabilities.

### ■ Is the Indian market receptive to products developed from advanced concepts of Food Science to cater to a health-conscious and excitement-seeking Gen-Z?



► Today, India's discerning consumers recognise the importance of mental and physical health for their holistic wellbeing. They are seeking out health and wellness products that don't compromise on taste.

This has paved the way for many exciting product categories like the Plant Based meat alternates, Millets, Protein rich foods, foods good for Immunity & Gut health, Frozen Foods etc. The emerging trends of "Sustainable Nutrition", "Back To Roots", "Tech To Table" and "Augmented Food Experiences" have significant potential in the coming times.

ITC, with the help of cutting-edge R&D capabilities resident in its Life Sciences and Technology Centre in Bengaluru launched a slew of products to address some of these emerging needs including B Natural Plus Immunity Juices with the benefit of immunity and fibre and Sunfeast Protein Shakes in association with Amway, ITC Nature's Super Foods with millets and ragi varieties, Jelimals Immunoz – Vitamin C and Zinc fortified jelly for kids, Aashirvaad Svasti milk fortified with Vitamin A, among others.

### ■ When it comes to successful manufacturing organizations like yours, what are more effective-quantum leaps of progress or continual improvement?

► ITC's Integrated Consumer Goods Manufacturing & Logistics (ICMLs) facilities are an integral part of the Company's business models and are aimed at providing long term sustainable competitive advantage to the vibrant portfolio of FMCG businesses. ■

## JINDAL STAINLESS LTD.

Founded in 1970, Jindal Stainless Ltd. is the largest stainless steel manufacturing company in India and ranks among the top 10 stainless steel manufacturers in the world.

Mr Abhyuday Jindal is Managing Director Jindal Stainless Ltd.



**ABHYUDAY JINDAL**  
Managing Director

### ■ In a growth-driven economy like India what comes first – Building Capacity or Generating Demand?

► In a growing economy like India, where both obvious and latent demand are steadily increasing, capacities are traditionally built in anticipation of demand. This phenomenon is currently playing out across sectors like renewable energy, electrical vehicles and steel sector, where big capex have been announced by major players in anticipation of growth, leading to demand generation.

Let's look at any area of growth where India has made considerable progress. Whether it's infrastructure, healthcare, manufacturing, financial markets, or even human capital...the growth has come from capacities which were built way before their demand became obvious. The reverse is also true. Areas where we find ourselves lagging behind, such as logistics, are those where capacities are still inadequate.

As a representative of the Indian stainless steel industry, I've been fortunate to be a part of the economy that built proactive capacities

well before time. In the early 90s, stainless steel demand in India was about 2.5 lakh tonnes. From then, to an annual production of over 30 lakh tonnes, of which nearly half is produced by us, we've worked with the vision of creating self-reliance for stainless steel in India.

### ■ What responsibility as a market leader do you think an organization holds in creating product trends that drive growth and evolution of the industry?

► I believe it is incumbent upon market leaders to define trends; the industry simply follows suit. Customers can easily describe a problem they're having – in this case, wanting to get somewhere faster – but not the best solution.

Both product and service trends require a first-mover, a player who can afford to take big risks in order to change the status quo. Founded with mission of Making India Aatmanirbhar in stainless steel, Jindal Stainless has been a flagbearer of innovation in the industry.

In the past, we pioneered development of Cr-Mn grade of stainless steel, which revolutionized growth opportunities for not just stainless steel but also allied sectors. Our state of art Specialty Product Division (SPD) produces Blade Steel & Precision Strips for global customers. We also manufacture Coin Blanks for Indian as well as global Mints. These facilities have enabled us to move Indian industry up the value chain.

Way ahead of its time, nearly two decades

ago, we pioneered India's first lifestyle stainless steel brand, Arttinox. The intent was to marry aesthetics with functionality in stainless steel tableware, home décor, modular kitchens and much more. Since inception, we've been proactive in creating an ecosystem that facilitates adoption of this metal. We train fabricators and welders in material handling, we run an academic course on stainless steel in 11 eminent engineering, architecture and design colleges, and we operate stainless steel showcase vans across the country so people can see the vast potential of this metal.

Indian Railways is witness to innovation in stainless steel. From railway wagons and coaches to infrastructure, we have worked with government and railways for decades to modernize trends in commuter safety and hygiene. In a turf traditionally dominated by steel and aluminium, we launched India's first branded hot rolled stainless steel chequered sheet- Jindal Infinity.

We also launched a first of its kind co-branding program, Jindal Saathi, in 2019 with the aim to combat counterfeiting in stainless steel. This not only assured supply of authentic product to customers, but also set precedence for industry collaboration and MSME recognition.

Examples are galore where we have created new trends in the stainless steel industry. In my view, as the industry leader, it is our responsibility. In today's time, there's no such thing as a status quo. If one is not advancing, one is retreating. ■



## LEVERAGE SUPPLY CHAIN FOR SIGNIFICANT BUSINESS GROWTH

Several studies suggest that businesses lose about 20% of their revenue on account of the unavailability products at the right time in the right place. To best the ever increasing competition and come out on top, getting the right product to the right place at the right time to the customer is the key. A responsive and flexible supply chain is crucial to achieve this objective.

### A changing market scenario

There are several challenges in managing the supply chain to subordinate to the true goal of reaching customers at a reasonable cost. And in the post COVID pandemic world, supply chains have become even more complex. To achieve the single and ultimate objective of making the product available to customers within the limits of their tolerance, and there is also a need to manage suppliers in distant geographies with a wide network of production and distribution.

### Top to Bottom Interface

If we are dealing with products that are sold as Make-To-Stock, the supply chain needs to ensure that products are always available at points of sale nearest to the customers. On the other hand for products that are Make-To-Order, the entire supply chain ecosystem needs to ensure that products are delivered with the minimum lead time possible. All of these additional specifications result in the creation of a vast management layer within the company from



**DEEPANKAR SHREE GYAN**  
Co-Founder & CEO  
Flowsmart Solutions Pvt Ltd

Top to Bottom, with several functions interacting with each other. Hence, managing this structure becomes paramount in order to achieve the ultimate objective.

### Achilles' Heel of the Ecosystem

The outcome of multiple surveys within different layers of management is that managing such a complex structure is becoming an Achilles' Heel. This results in the employees stretching themselves to a degree that adds a constant stress to the ecosystem. There are inter-departmental conflicts and a lot of management time goes in resolving those. Most managers feel a lack of control and this feeling is, often,

exacerbated as we go up the management structure.

### Flowsmart Solutions

Through its unique product and services, FlowSmart, helps the organization analyse and understand the root cause of supply chain problems using the fundamental principles of TOC & LEAN. It then helps design an efficient system which gives the top management a visibility of key indicators and to others a system to align their tasks towards creating availability at a controlled working capital. Flowsmart also designs the levers for the top management through which it can effectively control the system e.g. – System-based indicators which directly reveal the level of availability/potential loss, indicators leading to On-time performance, indicators for when and where to add capacity.

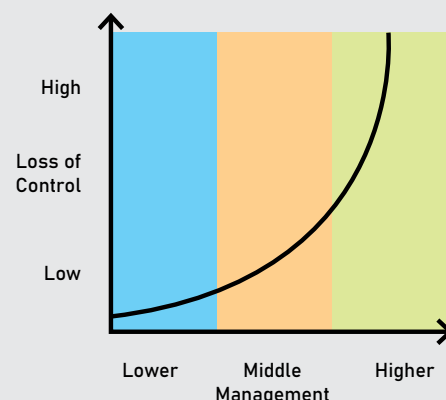
### Synchronised Action Agenda

Ultimately, the organizations that are able to subordinate to the business objective of availability at a controlled working capital by aligning the everyday activities of the entire chain will be able to control a better market share in the foreseeable future. This requires a system designed to synchronize the actions of the entire chain, from Suppliers to Operations to Distribution, and a concerted effort from the stakeholders to change their way of working accordingly. ■

### This is best explained by the diagram below–

The time and resources spent in managing the system and conflict resolution is constantly rising and high-level executives are often short of time and capacity to dedicate to future strategic initiatives. This chaos is reflected in the Supply chain, which then manifests itself in the following ways:

- Sales loss reported despite the system inventory being high.
- Complaints from Sales & Marketing of lead time to supply, despite the system having adequate capacity.
- Production loss due to RM unavailability, despite inventory and supplier delivery ratings being high.
- Delays in implementation of projects of strategic importance despite periodic reviews.
- And, when top management tries to understand the reasons for delays, they often get inundated with inter-departmental conflicts and infighting, resulting in further chaos.



## SARTORIUS STEDIM INDIA PVT LTD

Sartorius Stedim Biotech is a leading international partner of the biopharmaceutical industry. Mr. Anthony Prakash, Managing Director – Sartorius Stedim India Pvt Ltd reveals how the company has established itself as a preferred choice for catering to the global clients over past 5 years. Sartorius Stedim India, he says, adopted the concept of “Made by Sartorius” in order to cater to its global clientele. The strategy focused on striving for continuous improvement in areas including Quality and Bio Process competence. This resulted in creation of Centres of Excellence across the different manufacturing sites of Sartorius worldwide. The company ensured that the entire supply chain became world class in manufacturing. A high level of quality was established by creating common state of the art quality standards, internal audits and regular exchange of Engineers across the different manufacturing sites.

He shares how Sartorius played a major role in supporting the fight against the Coronavirus

pandemic and help patients in need of critical medication. Sartorius, he says, has worked with over 80% of the vaccine producers to enable faster delivery. During the pandemic, the firm quickly managed the increased demand by working together with IRIM in enhancing its processes and making them leaner and unlock higher capacity by reducing waste in the manufacturing processes.

As seen by him a key challenge has been in training the existing work force on the quality and delivery commitments. With the organisation growing it was also challenging to onboard new talent and inculcate the quality and delivery focus of the organisation

According to him the future holds growth opportunities for Sartorius in India. The company will be gearing up to meet the demand in the Indian and Asian market out of its manufacturing facility in Bangalore as well. The focus will be to constantly build capacities to meet the demand. Significant investments are



**ANTHONY PRAKASH**  
Managing Director

being seen it will focus on shortening lead times using lean and TPM techniques. The focus also will be on using Critical Chain using CCPM (Critical Chain Project Management) techniques to increase output and ensure faster deliveries to the customer. ■

## VST TILLERS TRACTORS LTD

VST Tillers Tractors Ltd. is the largest manufacturer of Power Tillers 4WD Compact Tractors in India and is one of the fastest growing player in the Farm Mechanization segment. Mr. Antony Cherukara, CEO, shares how the company, as a market leader in this segment, sees its transformational journey ahead for the organization. “We have been able to achieve the success because of the strong product line that cater to the customer requirements in a holistic manner. Going ahead we intend to accelerate growth by being agile and fast in developing more products for the domestic and global markets as well as establishing Partnerships & JVs to expand our Horizon. We have also built strong capabilities inhouse to cater to the requirements of global players,” he says.

Speaking about the key areas in which the role of building processes will help drive this transformational journey, he points out to the strong processes built by them towards three

fundamental areas – Supply Chain Efficiency, Developing Fast Product Capabilities & Providing Customer Value. With the help of a thought process like TOC and tools like Flowsmart, he shares how the firm has been able to align its supply chain in a way that it allows it to operate at a Lower Inventory and still ensure superior availability of Raw Materials and Finished Products. This has been underpinned by the usage of new age digitization tools to ensure seamless integration of Product Development and Customer service with current operations.

In his view the key future areas of focus for the organization are embedded in the company's Pathway to Vision document which allows it to successfully implement the future strategy and establish tangible actions. This is enabled by Leadership & Culture transformation for Clarity of Direction & Transparency in the organization. This, he says, will allow the company to focus on its three critical areas, which are - becoming a Powerful Distribution House for Rural segment,



**ANTONY CHERUKARA**  
CEO

Use of futuristic Technology in Products and Digitization of the processes for sustenance. ■



## JSW STEEL COATED PRODUCTS LTD

JSWSCPL is India's largest manufacturer and exporter of colour-coated steel products, and a wholly owned subsidiary of JSW Steel. Mr Sharad Mahendra, is CEO - JSWSCPL

### ■ In a growth-driven economy like India what comes first – Building Capacity or Generating Demand?

► The Indian growth story has largely been consumption-driven over the last three decades since economic liberalization, marking the emergence of a new Indian economy that transitioned from a supply-constrained to a demand-constrained one. India is the world's sixth largest economy and is slated to grow at fast clip in the coming decade with an ambitious target of becoming a \$5 trillion economy by 2025.

The consumption story in India has multiple drivers. Firstly, there is emerging evidence of a revival in income growth. Rising income and expansion of the middle-income segment is likely to fuel future consumption growth. Secondly, India has a highly diverse population which has multiple requirements and needs. Further, with the rural-urban gap diminishing, consumption could get a further boost. Endorsing this is the fact that urbanization is increasing at a strong pace and India's urbanization rate is expected to improve to 40% by 2030. And finally, technology advancements are connecting people and businesses in multiple ways and enabling better information discovery and seamless transactions.

### ■ When it comes to successful manufacturing organizations like yours, what are more effective-quantum leaps of progress or continual improvement?

► After liberalization steel production in India grew from a level of 14 MnT to 120 MnT presently; the demand also expanded from a level of 15



**SHARAD MAHENDRA**  
Chief Executive Officer

MnT to 105 MnT. Though the demand contracted at the time of pandemic it is likely to expand to achieve the target of 300 MnT capacity by 2030 & 500 MnT by 2047.

JSW Steel Ltd remains the core contributory to the Indian steel capacity. Our started from a 1.6 MnT capacity in the post liberalized era to the current 27 MnT, making the company the largest steel maker in India. During the journey JSW steel supplemented the vast variety of its steel products in the country's infrastructure development and manufacturing growth, and even now continues to be a major contributor as the Government has planned a massive investment of Rs 111 Lakh crore in infrastructure which is in the pipeline, as well as government focused schemes such as PM Gat Shakti, PMAY, Bharatmala Projects, Sagaramala Projects DFC & UDAN where there is requirement of around 150-200 million tons of

steel. JSW steel is likely to add up capacity up to 42 MnT by 2030 and will contribute in excess of 20 percent of this ongoing infrastructure development program.

In line with the government's agenda for a massive investment in infrastructure development JSW has strategically acquired plants on the eastern part of the country to have presence in the eastern India with the aim of addressing the envisaged demand from the eastern region.

JSW has developed its product range according to the customer needs, particularly for the automotive and appliances sector; a large number of products have been approved by the major auto manufacturers and appliance manufacturer as well in the country.

JSW Steel has also helped in formulating the various policy issues along with Government of India and Ministry of Steel on matters such as quality control order, implementing AD/CVD duty, PLI Schemes; it has also been instrumental in FTA's signed with various countries like Japan, Korea, ASEAN, UAE & Australia.

JSW Steel is a front runner in developing sustainable steel in the country by reducing Co2 emission, reducing water usage and ensuring energy efficiency by adopting various technologies in house or with technological collaboration. JSW Steel was the first in the country to adopt corex technology that reduces the dependence on coking coal for which there is a lack in India and for which many companies are totally dependent on imports. JSW Steel continues to progress steadily and also invest in capacity building to supplement the rising demand in the country. ■



## KALYANI STEELS LTD (KSL)

Kalyani Steels Limited (KSL) is one of the most modern integrated steel manufacturing units producing the best quality speciality steel long products, while ensuring employee safety and reducing impact on environment.

KSL caters to all the major alloy steel market segments like Automotive, Bearing, Defence, Aerospace, Railways, Energy, Seamless tube, Primary Aluminum smelting, Oil & Gas and mining etc. Dedicated towards supplying globally accepted quality products while maintaining highest service level, KSL is a preferred supplier to major OEMs across globe.

Under the leadership of Mr. R K Goyal as the Managing Director (MD) of the company, KSL has emerged as the most profitable engineering steel, debt free company having surplus free cash. KSL has received Secondary Steel Sector Award 2018, Emerging Steel Company of the Year 2017 award and Silver Certificate of Merit 2017.

### ■ If you must identify key learnings from surviving manufacturing operations through a global pandemic, what would they be?

► Indeed, global pandemic has affected our lives in many ways. And as it is said, never let any pandemic go in vain. There are quite a few important learnings through sailing the pandemic. Let me explain to you some of the learnings which we could identify.

Employee health and well being has always been at the centre of our organization and the pandemic just enhanced our focus on the same. I would say it is the most important learning on how to safeguard our employees from such black swan events and survive and continue our operations. So maintaining public and private hygiene, health and safety is core of our entire operations.

Second learning is virtual connectivity. The pandemic has taught us virtual communication is the need of the hour and future of the business operations. It has imbibed into us that non-contact method is also a path in surviving the operations.

Third, we could say, train our workforce to be able to take cross-functional areas. For e.g., only certain people are available at a particular point of time so they have to attend to almost everything so that we get output from our factory. So, even the production people did the maintenance job, some of the maintenance people did the purchasing job and vice versa.

Fourth is team building. I cannot emphasise more on this. At the end of a day, what matters is how we as a team are performing on ground.

Hence, team building and team bonding exercises are critical for our survival.

### ■ Do you think India has adequate Research and Development infrastructure, technology, and engineering service providers to build world class downstream steel products? What more can be done?

► I would say India has enough potential for R&D, developing cutting-edge technologies, building futuristic infrastructure and all of these is supported by talented work age population. We are one of the favourite destinations of the world for start-up investments. India has created 88 unicorns so far and many more are in the process to be one. That is why I say there is great amount of potential in the country both in terms of talent and will power.

However, what we currently need is the amalgamations of all these potentials to have focused approach on developing some of the very niche and globally accepted products.

Secondly, let's talk from the steel industry perspective. For e.g., there are many steel grades which are imported by India and we can definitely develop these grades to manufacture them in India. However, currently we are lagging behind in cost competitiveness with respect to our global competitors. Currently, as per Niti Aayog report, steel manufacturers face cost disabilities to the extent of USD80-100 per metric ton due to power, logistics and financing costs etc.

So we need coordinated approach between government, private players, suppliers,



**R K GOYAL**  
Managing Director

customers and all other stakeholders so as to remove these disabilities. Improve our processes through adoption of modern technology, improve our product quality so that it is acceptable at global level, train our workforce to make them employable at all levels. ■



## KRBL LTD

As India's first integrated rice company, KRBL Limited today operates primarily in the realm of manufacturing and marketing of rice products. Mr. Anil Kumar Mittal is the founder Chairman & Managing Director on the board of KRBL Limited

### ■ For an Agro-Product industry like yours, what do you foresee to be the top trends that that will impact your sector?

► What will immensely impact the Agro-Product industry will be – Technology, Sustainability, and Consumer Behaviour. The role of digitization and technology in the field of data, particularly in manufacturing, distribution, and consumer trends, and the structural trends of health, convenience, and value for money are changing the scenario for us every now and then. If I talk about invention and sustainability specifically in the field of Basmati, then definitely we would need to talk about creating smarter Basmati varieties that will change the ball game altogether. KRBL is working with agricultural scientists to create smarter Basmati varieties that'd require less water and can withstand pests and diseases. Such disease-resistant crops are healthier since they require little or nothing at all.

KRBL is also investing in developing machines that are more efficient and working on developing better milling techniques. Customers and the way they think with time have also evolved with us. Globally the customer wants to know where the product is coming from. Traceability is another thing agro-industry is becoming more cautious of. KRBL uses an app called SmartFarm, which is used to record which fields, each batch of rice is coming from. They have tied up with companies that have satellite coverage to monitor Basmati crops. At crucial stages of crop development, the company suggests interventions for farmers that results in a better crop.

These efforts mean that Basmati is equipped to meet the challenges of the 21st Century. Newer variants are robust enough for the changing global environment. Deployment of smart technology helps in meeting the demand of the more conscious, discerning consumer.

### ■ How are stakeholder expectations evolving in India and what impact do you see in your business?

► To build the spirit of partnership with our



**ANIL KUMAR MITTAL**  
Chairman & Managing Director

different stakeholders we've always gone an extra mile. Through co-operation and the living promise of a shared future, we co-create and optimize the abilities of our stakeholders – farmers, suppliers, dealers, distributors, and our employees. At each point of the value chain, with each stakeholder, we consistently build KRBL.

Our employees expect ethical work practices, safety, and motivating work opportunities and our farmers seek support from us in terms of technology and resources. By looking after the land and our growing farmer community and using resources wisely and by effectively blending our farmer's traditional knowledge with the technologies of today, we are trying to find a path to regenerate the environment and help our farmer community grow.

Customers expect us not to compromise on quality hence, their health. It's why we are working to accelerate the transition toward these healthy diets by encouraging better eating habits, adapting our product portfolio, and expanding our presence in the healthy food segment.

Investors expect operational transparency. We take a long-term approach to investment and are committed to increasing shareholders' value through sound commercial and responsible business decisions that deliver steady growth in earnings and dividends.

### ■ In your opinion how important is having advanced and competitive manufacturing facilities for business growth? What prerequisites would one ensure while developing one?

► The global manufacturing sector has undergone a tumultuous decade. Still, manufacturing remains critically important to both the developing and the advanced world. It continues to provide a pathway from subsistence agriculture to rising incomes and living standards hence is extremely important. In today's advanced economies, manufacturing promotes innovation, productivity, and trade more than growth and employment. Our extensive and high-quality state-of-the-art manufacturing capabilities are at the heart of what we do. We have one of the largest rice processing plants in the world, it helps us supply across our global markets. ■



## CENTURY TEXTILES AND INDUSTRIES LTD (CTIL)

Birla Century is a Division of Century Textiles and Industries Limited (CTIL). CTIL was established in Mumbai in 1897. Birla Century is a leading textile manufacturing plant of India having the best machinery and cutting-edge technology to manufacture a wide range of premium textiles – from Bottom Weights & Suiting to Finer fabrics and Bed-Linen. This is the first fabric manufacturing company of India which received STeP certification from OEKO-TEX – Hohenstein Institute of Germany for sustainable manufacturing in 2016 while it received LEED – Gold v4 in 2017 as the first textile company of country.

Mr. R.K. Dalmia, President & Whole-time Director, while sharing his views on whether India has adequate technology and engineering service providers for developing and managing advanced manufacturing facilities, says:

"The textile industry in India is one of the oldest industries and considered as handicraft industry, has become now a highly sophisticated, scientific, and engineering activity of new types of fibres and technologies. Presently, textile industry is witnessing the uses of different latest technologies in its various stages of manufacturing from fibre production to fashion industry, e.g., technical textiles, Increased use of continuous processing, electronically equipped machines, web-based supply chain assurance, 3-D printing, artificial intelligence & digitalisation, adoption of business sustainability drive... etc confirm that sufficient support of technologies are there in every field of



**R. K. DALMIA**

raw material availability. "We need to adopt new ways to sustain and thrive to present ourselves as global manufacturing hub. This is being executed through Make In India, Aatmanirbhar Bharat, Vocal for Local, indigenous innovations & technological endeavours," he says.

Speaking of what key trends would dominate the manufacturing sector in the upcoming decade, he points out that over the last couple of years

textile manufacturing"

Mr. Dalmia is, however, of the opinion that India needs to reduce dependence on other countries for certain machinery set up, Specific technologies and

stakeholders have been keen to understand the company portfolio through ESG lens. Customers, for example, are now leaning towards buying sustainable products and investors are also more focused on ESG programs while investing in any company.

Industry 4.0 is serving as key driving force for textile industry towards improved usage of technology which will enhance product quality apart from improved productivity, lesser production time loss and boost safe working conditions. Technology adoption will be one of the key factors after ESG in upcoming decade.

Brands, he says, are focusing on sustainable supply chain. Entrepreneurship in India is unveiling its strength after recent government initiatives and Indian industries are presenting globally their uniqueness with more and more responsible and transparent supply chain. ■

## BOROSIL INDIA

Borosil is India's leading glassware brand since 1962. Synonymous with heatproof glassware, it is the market leader for consumer glassware in India. Borosil is now evolving from a single product and single brand organization to a multi-product, multi brand, multi-channel and international consumer centric organization.

Managing Director, Mr Shreevar Kheruka, while sharing his views on perceived skill gap in India, he points out to the diverse sets of operations of Borosil group. These range from manufacturing to sales/marketing to R&D or B2B and B2C or from modern trade to e-commerce or from traditional finance and accounts to M&A etc. Hence, the competencies needed for Borosil are very diverse he says. To handle a high growth that is planned across the Borosil group, the firm is alive to the cause of reinforcing its workforce so that it is future-ready and can grow sustainably.

"We have developed an organogram considering the growth in the near future that helps us understand the requirements in terms of manning as well as skill sets," says Mr Kheruka.

Furthermore, Borosil's belief in the concept of Home-Grown Management is directing its focus on the existing talent to give them the best possible opportunities for learning and

development.. Employees are also encouraged to identify their own training needs and pursue the relevant courses.

According to Mr Kheruka, some of the key learnings Borosil has acquired after having survived manufacturing operations through the pandemic, include:

- Ensuring well-being of employees- Physical and mental health
- Building a level of trust across the stakeholders
- Adoption of technology to improve the efficiencies and faster response
- Creating a hybrid work model
- Upskilling, cross-skilling, and professional development

"While these are some of the aspects that we learnt for the survival of our manufacturing operations, fundamentally what we have learnt is to be more humane and more resilient," Mr Kheruka says.



**SHREEVAR KHERUKA**  
Managing Director

"A performance oriented culture with empowerment across the team eventually leads to a synchronisation with the company's vision and deliverables," he says in conclusion. ■



## LARSEN & TOUBRO LTD

Larsen & Toubro is an Indian multinational engaged in engineering, procurement and construction projects, manufacturing, defence and services. L&T Defence is the largest private sector Defence firm in the country. Mr. J D Patil is a Whole-time Director and Senior Executive Vice President for L&T's Defence Business & New Age Smart Technology businesses and Member of the Board-L&T.

■ **Does India have adequate R&D infrastructure, technology, and engineering service providers to build world class downstream steel products?**

► Today, India has the strongest technical, scientific and engineering manpower and the infrastructure for R&D among developing nations. Economic liberalization and adoption of globalization, fostered innovation in the economy with technological dynamism in Indian Industry that compelled the Private Sector to develop indigenous competence by investing much more in R&D than they did earlier.

Today we have success stories galore; to name a few, Software / IT enabled Services Industry, Automotive, Pharmaceutical & Construction Industry, in which India is emerging as one of the global leaders. However, the manufacturing sector lagged in comparison to global average mainly by not capitalising on electronics manufacturing and chip manufacturing, although much of these are designed in India in R&D centres owned by global majors in the domain.

In the past few years India has been galloping in these domains having adopted Make-in-India followed by the vision of Atmanirbhar Bharat. Firmly rooted in these, India is now fast emerging as a global leader in Product & Technology Development and Engineering Services, driven by policies promoting increased spending on tech innovation and advanced industrial production. Today, India is one of the largest exporters of Product Engineering R&D Services in the world at a CAGR of 12% and becoming a product engineering hub; the Industry 4.0 manufacturing ecosystem is also poised to grow at an unprecedented rate.

Achieving Leadership in a world-class manufacturing ecosystem requires systemic emphasis to enable manufacturing competitiveness, promote higher resource allocation, structural changes in education aligned to enhancing practical and industrial exposure, promotion of technological



**J D PATIL**  
Whole-time Director and  
Sr. EVP, L&T's Defence & New Age  
Smart Technology Businesses

entrepreneurship and shaping societal attitudes and values towards knowledge. Many industries including Larsen & Toubro have, over the years, continuously improved the manufacturing processes, quality and reliability of their products and are already exporting a multitude of steel equipment to all parts of the globe.

■ **Much is spoken about the skill gap in our country; however, most organizations now find potential opportunities for**

**improvement in employee welfare and development. How does your organization prepare its future workforce?**

► Organisations remain focussed on talent development to on-board and retain required skills, to attain best productivity. Government is also laying great emphasis to revolutionize our education system and also address future skill gaps, however, this would only deliver results in the longer run. The Government has institutionalised 'Skill India' through sectoral skill building councils including promoting corporate CSR initiatives for Skill training.

The Fourth Industrial Revolution (Ind 4.0), has brought in rapid integration of technological disruptions and digital transformation. These disruptions have compelled many businesses to ensure that their workforce is future ready.

Organisations are actively investing in employee welfare, training and development essential for the enterprise sustenance and growth. Filling the company's skill gaps through the upskilling and reskilling of employees has become a differentiator between thriving or barely surviving through any change. Today, organizations are continually supporting a culture of constant development to overcome challenges that may arise from rapidly changing environment. At Larsen & Toubro, we follow a very unique strategy in order to meet future skill requirements and make our workforce future ready. We hire fresh recruits straight from educational institutions where they undergo basic education and invest in their growth and learning as also build a unique culture of continuous learning. The organisation's ethos to stay ahead of technology curve and lead market innovations to maintain market leadership across businesses thrive on culture of continuous learning and ability to try newer ways. Recognising talent, celebrating performance achievements, and promoting employees to top management positions from within has always remained a priority at L&T. ■

## GLENMARK PHARMACEUTICALS LTD

Glenmark Pharmaceuticals Ltd. is an innovation-driven global pharmaceutical company with a presence across Specialty, Generics and OTC businesses. Globally, Glenmark focuses on the following key therapy areas: respiratory, dermatology and oncology. The company has 10 world class manufacturing facilities spread across 4 continents and operations in over 80 countries.

Speaking about whether India has adequate technology and engineering service providers for developing and managing advanced manufacturing facilities Mr Glenn Saldanha, CMD, Glenmark Pharmaceuticals Ltd, feels that the country has adequate technology and engineering service providers for developing and managing advanced manufacturing facilities. Many of these service providers are indigenous, whereas, some are from overseas and have their presence in India in order to provide support to the Indian Industries. "This, together with the help of an enabling ecosystem, progressive government policies, and engagement of multiple industry stakeholders, is in the process of making India an innovation hub with world-class production facilities," he says.

Sharing his views on the impact of third-party

evaluations such as the one conducted by IRIM on the evolution of the organization and business growth, he believes that "Third-party evaluations are a shot in the arm as they play a dual role in not only understanding the areas of improvement in our manufacturing technologies but also the current trends in the manufacturing sector." That said, he also believes that the Industry's third-party collaboration for infrastructure enhancement, incubation centres and industry-driven centres of excellence have enhanced the talent pool and identified projects which can be efficiently translated from the lab to the market. "Based on these assessments, we have been working towards making our manufacturing operations highly efficient and the best-in-class driven by automation, digitalization, and productivity improvement across the entire value



**GLENN SALDANHA**  
Chairman & Managing Director

chain. This also helps us in driving growth and remaining cost-competitive while providing world class products," he sums up. ■

## L&T VALVES

A wholly owned subsidiary of Larsen & Toubro, L&T Valves is a leader in flow-control solutions for the global energy sector.

Sharing his views on whether Building Capacity or Generating Demand comes first in a growth-driven economy like India, Mr S Kalyanaraman, Chief Executive and Director of L&T Valves, points out how manufacturing capacity utilisation has been hovering around 70% since the pandemic. He believes there is an urgent need to revitalise the manufacturing sector which contributes around 15% to India's GDP. "Creating a sustainable demand using innovative strategies should be the top priority at the moment," he opines.

L&T Valves adopts a multi-prong strategy of market expansion and product extension, supported by new product development and manufacturing excellence he points out. "We made inroads into the Americas, enhanced our cryogenic portfolio for LNG valves and our on-time delivery performance is at an industry-leading 85%. Our Aftermarket initiative taps into the deferred demand for maintenance, repairs and



**S KALYANARAMAN**  
Chief Executive and Director

overhauls and is a major success," he elaborates.

L&T Valves, he shares, is celebrating its diamond jubilee and its heritage as well as its future are in focus. "We believe a sustainable future is an inclusive future. We not only invest in technologies of the future we also inspire

development in the communities around us through CSR programmes," he says. Also, to ensure that the demand is sustainable, there is an urgent need to address the working capital requirements of the MSME sector, he adds.

Speaking about the key trends that would dominate the manufacturing sector in the next decade Mr Kalyanaraman says that exports will not be just an option, but an imperative for survival and growth. "I think it is high time the Indian manufacturing sector followed the footsteps of the IT and ITES sectors and tapped the huge market for engineered solutions. The segment offers good margins and business-friendly commercial terms – and the current geo-political situation augurs well for India," he says. He points out that 50% of L&T Valves revenue comes from overseas markets, and product differentiation, customer service and ESG compliance are factors that have helped them in the international arena. ■

## LUPIN LTD

Lupin is an innovation-led transnational pharmaceutical company headquartered in Mumbai, India. The Company develops and commercializes a wide range of branded and generic formulations, biotechnology products, and APIs in over 100 markets in the U.S., India, South Africa, and across the Asia Pacific (APAC), Latin America (LATAM), Europe, and Middle-East regions. The Company enjoys a leadership position in the cardiovascular, anti-diabetic, and respiratory segments and has a significant presence in the anti-infective, gastro-intestinal (GI), central nervous system (CNS), and women's health areas.

### ■ In your opinion how important is having Advanced and competitive manufacturing facilities for business growth?

► Our position as a fully integrated pharmaceutical company is built on the backbone of world-class manufacturing facilities, leading-edge research and technology, Integrated Intermediate/API and Formulation operations, high cost efficiency, global scale operations and a globally nimble supply chain. These building blocks help us meet the most pressing demands in healthcare.

**Manufacturing high-quality medicines for the world:** Our manufacturing facilities continue to be our greatest assets. Our manufacturing philosophy is strategic yet simple: we drive continuous improvement and innovation to manufacture affordable and high-quality drugs, enhancing healthcare in over 100 countries, while ensuring the safety and health of our employees. With a global footprint of 15 manufacturing sites spread across India, the United States, Brazil, and Mexico, our manufacturing operations are at the core of our business, helping us realize our purpose to be an innovation-led, pharmaceutical major.

**Keen eye on cost optimization and competency index of manufacturing:** Cost reduction in the generic industry is imperative given the constant price erosion. In today's constantly evolving pharma industry landscape, our focus continues towards strengthening our manufacturing competencies to improve efficiency and productivity while adhering to the highest standards of quality. This enables us to continue delivering affordable and superior quality products worldwide. In addition, strategic investments to increase automation has reduced incidences of defects and helped us maintain a competitive edge in manufacturing.

**Digital embedded in manufacturing:** Organizations can leverage digital tools to increase productivity and lower costs across the entire value chain. It is imperative to ideate and implement an elaborate digital road map straddling manufacturing, quality, supply chain, and R&D as



**RAJENDRA CHUNODKAR**  
President - Manufacturing Operations

this will help in developing new value propositions to boost effectiveness and efficiency across the organization. Digital innovation and technologies need to be embraced for the development of deeper channel partners and customer insights. This can usher in an era of continuous monitoring of returns from both capital and revenue expenditure. Organizations must also strive for excellence in the areas of Risk Management, Safety, and Sustainability at their manufacturing sites.

### ■ What advice do you have for your industry peers in building a Leadership Team that is receptive to change in operational environments?

► **People are at the heart of our purpose:** People are central to an organization's growth and success. People policies, processes, systems, and technology should be benchmarked with the best across industries to provide employees with an inclusive and diverse working environment. All of this contributes toward delivering a superior employee experience. Through such efforts, organizations can strive to attract, nurture, and retain talent, which in turn contributes toward creating value for their stakeholders.

Programs such as ADAPT, Inspire, Quality First, Six Sigma, Elite and Ignite conducted at our manufacturing and research sites ensure that we are aligned with and implementing the current best practices in manufacturing

operations. In addition, programs like the Lupin Senior Leadership Development Program aim to enhance the managerial capabilities for mid-level managers through psychometric assessments and profiling tools and Action Learning Projects, among others.

COVID-19 has dramatically changed the way we work and reset priorities for almost all employees. Organizations and managers must both be willing to adapt to changing times to ensure employee satisfaction and in turn employee productivity. Across markets, the workforce has also become multigenerational. Effective multigenerational management must be engraved into the firm's culture and policies.

### ■ What impact do third-party evaluations such as the one conducted by IRIM have on the evolution of your organization and business growth?

There are multiple dimensions to define a company's stature in a competitive manufacturing environment. Operational effectiveness is at the top of the priority list. The Manufacturing Competitiveness Index (MCI) is a scale to define a company's ability to leverage manufacturing toward better market performance. This rating is achieved through a structured assessment of the manufacturing facility.

We strive for excellence in our manufacturing operations and we deploy the highest standards of Risk Management, Safety, and Sustainability at our sites. Certifications received after an independent and rigorous audit by an external third party are a validation of our efforts. We are very humbled to be receiving this award. ■



## MAHINDRA & MAHINDRA LTD

### ■ A lot is spoken about the skill gap in our country; however, most organizations now find potential opportunities for improvement in employee welfare and development. How does your organization prepare its future workforce?

► Skill Development is an industrial responsibility that prepares workforce, moulding them for industrial requirements, while supporting their employability.

Powered by our brand purpose of Transform Farming & Enrich Lives, we at Mahindra FES (Farm Equipment Sector) ensure that our employees are fully equipped through a holistic development plan, allowing them to understand their priorities, while rediscovering and better understanding their potential, to align their behaviours and be better prepared at the highest level consistently, under the most challenging conditions in pursuit of valued goals.

Through this we at Mahindra FES provide our workforce with two types of trainings

**1) Skilled based functional training,** which makes our workforce capable of delivering on their responsibilities & perform their duties on the shop floor

**2) Behavioural training,** which orients our workforce to adapt to an industrial environment, also build a positive framework for an employees' future and career growth.

On the functional side, we start with basic dexterity training, which teaches employees to work in the right way, through ergonomic & fatigue free training. An on-the-job training method, which is specific to core functional areas, to develop a 7QC (Quality Control) mindset.

On the behavioural side, we focus on creating a positive mindset towards industry and society at large focusing mainly on personal development, through a 'Mindset Transformation' program called '**Nayi Soch - Naya Drishtikon**'. The program entails a constructive approach towards resolving issues, to create a highly productive workplace. The programs construct involves modules related to market situations, customer expectations, competition scenario and how workmen can positively contribute towards constant improvement, cost reduction and skill development.



**HEMANT SIKKA**  
President - Farm Equipment Sector

We have also initiated a higher education program in partnership with engineering institutes at Rudrapur, Nagpur, and Zaheerabad with a course duration of 2 years for permanent workmen. This is with an objective of creating a future ready workforce. This year we have covered 60 workmen under this program, who upon completion will receive a Diploma Certificate in Operations.

As we aspire to greater levels of diversity and inclusion, we at **Mahindra FES have also undertaken the Mahindra Groups Diversity Council & Structured Hiring Programs.** We are committed to attracting and recruiting gender diverse talent through positive communication and deeper engagement channels. We have also instituted a Structured Returnees Program to enable women who have taken career breaks to re-join the workforce. The hydraulic cell at our Nagpur facility is completely operated by a team of women.

### ■ When it comes to successful manufacturing organizations like yours, what are more effective – quantum leaps of progress or continual improvement.

► We at Mahindra FES believe in **continuous improvement of manufacturing processes, with Kaizen** as part of our culture.

We are the first tractor company in the world

to win the 'TPM Advanced Special Award' at a business level, with our TPM journey enabling us to develop robust systems over the years.

**Our focus on Digitization is providing tangible benefits,** which directly helps our customers, with our supply chain connected right from ordering of raw material, to delivering tractors to our customers. Our **in-house developed Manufacturing Execution Systems (MES)** acts as an enabler to schedule and manage a variety of models and parts on common lines.

Further to this philosophy is to improve manufacturing capacities. We believe capacity in hand helps us deliver customer requirements at the right time, while also giving our supply chain function the agility and flexibility to fulfill ever changing demand trends, managing variety, inventory and throughput time, for special products as the Indian tractor market evolves, and as we cater to newer global markets and requirements. This has also proved to be a big step in managing customer expectations around customization.

As an organization we have always believed in collective wisdom of all our employees, to create significant change. Schemes like Akraman, Mahindra Innovation Awards etc. ensures participation from all our employees for continual improvement at Mahindra Farm Equipment Sector. ■



## MANKIND PHARMA LTD

Delhi-based Mankind Pharma Limited is India's 4th largest pharmaceutical company, whose operations cover industrial sectors in the domain of pharmaceuticals, medical research and laboratories. COO Arjun Juneja has helped to transform the firm from being a family-led set up to a professionally run company.

■ **If you must identify key learnings from surviving manufacturing operations through a global pandemic, what would they be?**

► The Indian Pharmaceutical industry may have historically been seen as being slow to respond to changing times and enjoying margins in business. However, during the pandemic, pharmaceutical operations leaders have rallied to enable the supply of key medicines across borders, manage workforce safety, and handle developing government restrictions all while preparing for new vaccines and key therapies. Most big pharma companies, including Mankind, have put crisis-response command centres (Digital Supply chain Control Towers) in place to appropriately manage and bring stability to an otherwise unstable time. In Mankind, we have an intense focus on Risk Management across supply chain and networks. We are further accelerating initiatives that will bring more agility, as workforces become more remote and distributed—and transparency through greater deployment of digital and analytics tools and automation. We have developed an in-house technical talent pool to troubleshoot equipment failures, as external expertise was limited during the pandemic. Most importantly, we have re-engineered our business processes during the peak Covid period and built risk mitigation and contingency strategies around it. We are also migrating quickly on descriptive business statics to prescriptive solutions across demand and



**ARJUN JUNEJA**  
Chief Operating Officer

supply planning with real-time visibility to act faster. Above all Mankind was thriving on growth trajectory even during pandemic because of our all efforts to transform from a linear to a circular transparent supply chain.

■ **Much has been spoken about the skill gap in our country; however, most organizations now find potential opportunities for improvement in employee welfare and development. How does your organization prepare its future workforce?**

► There was always an imbalance between talent supply and demand in Indian pharmaceutical businesses. COVID-19 has changed not only

how people work but also how they shop and eat, as well as basic patterns of movement and travel. The pandemic is setting up what could be lasting employment-landscape shifts that could require the large-scale reskilling of new workers. Businesses are required to re-engineer and redesign their Learning & Development policies and efforts by bringing more flexibility on various modes of learning. Mankind Pharma has piloted on augmented reality based training solutions on manufacturing operations and field force.

We have redesigned our talent strategy that develops employees' critical digital and cognitive capabilities, their social and emotional skills, and their adaptability and resilience. Mankind has a continuous approach towards employee Learning and Welfare. Fostering such an environment and mind-set not only builds skills but also strengthens creativity and innovation among the employees.

■ **What role does product innovation play in the growth strategy of your organization?**

► Pharma is one sector where product innovation has a dramatic impact on the health and wellness of both millions of people and the bottom lines of companies that provide it. Mankind Pharma believes in progressive innovation for the benefit of patients and healthcare system. Since last year, we have launched Drug Master File (DMF) grade Active Pharmaceutical Ingredients (API) for various marketed products, which is an innovative, futuristic approach to provide the best in class quality to the patients. Several drugs are in various stages of drug development at our R & D centre for diverse disorders. Mankind also realized the feat of becoming the first Indian company to launch Dydrogesterone for various progesterone deficiency disorders in females.

Our growth strategy is intended to match the pace of product innovation that patients want and investors expect an approach which many other industry partners struggle to both define and execute. ■



## CENTURY RAYON

(Under the Management & Operation of Grasim Industries Ltd)

Mr Om Prakash Chitlange, CEO, Century Rayon, while sharing his views on the success of manufacturing organizations believes that the continual improvement and quantum leaps of progress – both complement each other for a successful manufacturing organization. The continuous improvement, he says, keeps up the operational efficiencies and helps in remaining cost effective and is also very important in terms of keeping the team agile, always in sync with customer needs and global benchmarks. Citing some examples he shares how they had upgraded coning machines, IT-enabled operations, processes like Kaizen, suggestion schemes, etc. enhancing safety and sustainability measures as continuous improvement initiatives. "Catering to customer expectation is another area where continual improvement is the norm. Areas like new product development in line with global benchmarks and application development in tandem with ever-changing fashion demand are a regular feature. This creates the foundation stone for Quantum Leaps of progress, where the



**OM PRAKASH CHITLANGE**  
CEO

focus is futuristic and to remain ahead of time by absorbing newer technologies and giving a breakthrough direction to the business," he says.

Elaborating further he says this is achieved through the culture of innovation that allows a business to reap the first mover advantages in new market penetration, patented technologies etc. "Such quantum leaps in our business

came through diversifying to CSY and SSY technologies, phase wise expansions, Working on Lyocell technology for future as a sustainable technology," he points out.

Speaking about the impact on stakeholders about India's ever-evolving growth, directs attention to how what took a decade to change 50 years back, now gets altered in maybe 10 months. Be it geo-political perspectives, ideologies, business scenario, customer behaviour and preferences, technology, all aspects are ever evolving. "All products, service and solution providers are in a constant attempt to cater to this shifting population and demand and be ahead in the race. This manifests itself as multiple options for the stakeholders. India is no exception – the expectation of investors, employees, customers, community and regulators all growing. Innovation with speed and Agility are thus becoming increasingly important. In particular, for the fashion yarn business, this is most observed, by virtue of being in an industry known for fast paced changes," he says. ■

## INDOFIL INDUSTRIES LTD

Established as a manufacturing and marketing company for Agrochemicals and Specialty Chemicals, Indofil Industries Ltd is one of the world's leading Mancozeb producers and provides millions of farmers worldwide with crop solutions to enhance yield productivity and crop health.

The Chief Operating Officer Mr. Narendra Rane, one of the key architects in building Indofil's footprint not only in India but globally as well, speaks about his key learnings regarding survival of manufacturing operations through a global pandemic. In his view: "Irrespective of how the pandemic unfolded, it was crucial for us to understand that the value chain should be sustainable both ways—upstream and downstream—to deliver to the need of the hour. This essentially boils down to getting the basics right—keeping people safe and healthy, operating the plants efficiently (which includes a detailed plan to ensure availability of raw materials and packaging materials), and managing multi-vendor logistics, along with a strong cash-focus."

Furthermore, he feels that belonging to the essential commodity segment meant having the highest level of adaptability engrained within the company. "And adaptability is surely a no-winner



**NARENDRA RANE**  
Chief Operating Officer

without agility," he aptly says.

Another learning, he elaborates, was to engage deeply and regularly with the company's internal as well as external customers. "We followed our People-First philosophy. Concocting creative methods such as digital engagements with the suppliers, work force and debunking customer apprehensions with never-seen-before solutions

that made us emerge out of this situation with remarkable outcomes," he says.

Elucidating further on these issues he says, "While we are at an interesting phase of progression in chemical manufacturing with overall production as well as exports trending upward despite the challenges that the pandemic brought, we have worked hard to de-risk supplies considering the massive disruptions that happened in China."

His advice for the industry peers, regarding building a Leadership team which is receptive to change in operational environments, is that the next decade thrives clearly on sustainability for the chemical companies. From a more long-term perspective, the Leadership teams need to stay agile yet aspirational in plans; this he feels may be a game-changer mantra for the industry. "We foresee a huge first-mover advantage in this aspect," he concludes. ■

## PAGE INDUSTRIES LTD

Page Industries is the exclusive licensee of JOCKEY International Inc. (USA) for manufacture, distribution and marketing of the JOCKEY® brand in India, Sri Lanka, Bangladesh, Nepal, Oman, Qatar, Maldives, Bhutan and UAE. Page Industries is also the exclusive licensee of Speedo International Ltd. for the manufacture, marketing and distribution of the Speedo brand in India. VS Ganesh is the CEO and Executive Director at Page Industries, with which he has been associated for around seven years.

■ **As a market leader, what responsibility do you think an organization holds in creating product trends that drive the growth and evolution of the industry?**

► All market leaders have the responsibility to further the industry in all aspects—product, policies, infrastructure, culture, sustainability, etc. Unless you do that, you may not remain a market leader for long. Every market leader finds themselves in a position of looking forward in order to stay ahead rather than behind or by the side at competition.

Being a brand that operates in the essential apparel space, we see and lead product trends a little differently. For us, product trends stem from the consumer and his or her needs. Understanding the consumer and addressing his or her needs helps us lead trends in our products. As an organization, we constantly strive towards this through consumer immersion, design, research, development and technology. Across the globe, we enjoy long-term relationships with partners that work closely with us in this area.

■ **Much is spoken about the skill gap in our country; however, most organizations now find potential opportunities for improvement in employee welfare and development. How does your organization prepare its future workforce?**

► As an organisation, employee welfare has been at the heart of what we do right since our inception. From basic amenities like food, safety, hygiene and sanitation, we've come a long way to include life skills, crèche facilities, and mental and physical health as part of the overall employee development initiatives. Today, while employee welfare and development is a given at Page we strive to better ourselves to ensure the best quality of life for employees at all levels.

When it comes to skill building, training,



**V S GANESH**  
CEO and Executive Director

learning and development, we take a systemic approach to address capabilities at all levels—organisational, functional (departmental) and individual. This includes formal training in association with the best technical institutes in the country, on-the-job training and multi-skilling, through job rotations and transfers, and leadership mentoring and coaching through internal and external experts. We recruit and induct trainees every year across management, engineering, sales and retail, finance and HR to provide for a healthy talent pool within the organisation. Our focused approach towards succession planning across all levels of the organization keeps us future ready.

■ **What are the key trends that would dominate the manufacturing sector in the coming decade?**

► The manufacturing sector has seen a significant evolution in the past decade with specific challenges post-pandemic preparing us to be a lot more proactive and agile. For a labour intensive manufacturing sector such as ours, we believe the next decade will be defined by our ability to be self-sustainable. This will include strategic partnerships with key associates across the supply chain, process automation through technology in critical functions, embracing and furthering ESG, and training and skill building across the manufacturing ecosystem. ■

## PARLE PRODUCTS PVT LTD

Parle has been a household name in India for over 90 years, and one of India's leading companies manufacturing biscuits, confectioneries, savory snacks and popular brands like Parle G. The company has a 50% market share and has global footprint in 150 countries. As fourth generation businessman, Arup Chauhan, Managing Director (MD) of Parle Products Pvt Ltd, continues to passionately steward the family-owned business as an MNC and a global leader.

■ **Is the Indian market receptive to products developed from advanced concepts of food science to cater to a health-conscious and excitement-seeking Gen-Z?**

Today, Indians, a majority of them, are growing health conscious. If I talk about the current trend, given the lifestyle, and the lifestyle diseases, more Indians are choosing to seek healthier options. Of course there are tradeoffs involved in terms of taste and health. But to our mind if you can balance that, if you can give a good tasty product which is also healthy, consumers would not mind lapping it up.

We have started seeing an early trend of consumers moving towards low sugar, sugar free, or lower fat, less fat or sodium kind of products almost about 3-4 years back. Of late we also started seeing a trend of products which are either vegan or gluten free. Health, more than ever before, is becoming a key priority as far as food is concerned.

■ **In your opinion, for business growth, how important is having an advanced**

**and competitive manufacturing facility?**

Very important. If we are talking about a higher level of incremental innovation or disruptive innovation the only thing that can do that is technology. Because of the low level of technology that is being used for most food categories, we see a lot of players coming in with growth of a particular category and commoditization of multiple brands and products happening. So unless you don't come up with varieties which have technology involved in it, which can create some kind of an entry barrier for smaller players, regional players it would be difficult for any big company to compete.

■ **For an agro-product industry like yours, what do you foresee to be the top trends that might highly impact your sector?**

One of them is using active ingredients in products to take care of your health issues. So if you are a diabetic, you will have a product which will help you in overcoming it or controlling it. While you might be consuming it as a snack or



a food but it actually is kind of a medicine you are taking and taking care of your ailment. Clean labels - consumers want to know what's going in to their product or their brand which they are consuming. They would not like to see complex ingredients, they would like to see very basic, not highly processed, close to nature kind of things going in to it. The third trend is consuming local produce in terms of local variety. We saw a big trend in the West of super foods. In India also we are seeing that trend. In India it has been modified. The consumers are moving towards our very one jowar, bajra, ragi which we had almost forgotten.

■ **How are stakeholders (such as investors, employees, customers, community, regulators) expectations evolving in India? And what impact do you see in your business?**

Stakeholders' expectations have not changed. While consumers as stakeholders, expect you to be transparent, honest in terms of what you are offering them, offering them at the right price, right quality, with the right ingredients, they also expect you to do something beyond that in terms of what's your purpose or is it just a commercial thing you are into. Especially the Gen Z is very keen on knowing if they buy a particular brand, what does it stand for. When I talk about the purpose-led marketing or purpose-driven brands, the buck doesn't stop there. When you stand for a particular purpose or a philosophy, you have to walk the talk, you have to be seen acting accordingly. ■





## PRINCE PIPES AND FITTINGS LTD

Prince Pipes and Fittings Ltd is one of India's largest integrated piping solutions and multi-polymer manufacturers. Mr Parag Chheda is the Joint Managing Director



**PARAG CHHEDA**  
Joint Managing Director

■ **As a market leader what responsibility do you think an organization holds in creating product trends that drive the growth and evolution of the industry?**

► The journey of Prince Pipes over the last 35 years has been the most exciting having started from being a modest manufacturing unit to becoming one of India's largest integrated piping solutions and multi-polymer manufacturers with seven strategically located facilities across India. Along with the growth of Prince Pipes, the evolution of the industry too continues to be significant, even as there's substantial potential to be tapped, and a lot that needs to be done keeping customer value and the larger ecosystem in mind. Some key product trends we believe that will dominate industry growth are: Focus on sustainability and wellness; Quality of pipes and fittings with the growing desire to own a house; Ease of installation and maintenance in built environments; Innovation, keeping customer value at the core; Battle to own relationships, and Digitalization, particularly across the manufacturing and marketing value chain.

■ **What advice do you have for your industry peers in building a Leadership team that is receptive to change in operational environments?**

► That change is the only constant – remains undisputed. Over the past two years, Prince

Pipes has been able to navigate the environment well and we reported robust organisational and financial performance amidst the pandemic situation. I personally believe that our good old beliefs and guiding principles in building Trust, Resilience, Agility and a Passion to Excel – all oriented towards higher value creation and applied in the new current context – will continue to steer leadership teams and bring greater adaptability to any change.

■ **In the coming years, what transformation do you foresee to be in the manufacturing of Building Materials in India? Also, what roles would organizations such as yours will play in this?**

► CRISIL Research forecasts that the Indian pipes and fittings industry is expected to reach

Rs.500-550 billion by FY 24, growing at a CAGR of 12-14%. This speaks for the industry potential and the transformation it is set to undergo with higher growth. More facts speak about the work that needs to be done: 600 million Indians face high to extreme stress over water, 75% of households do not have drinking water on premises and other issues of access to piped water and water contamination – all this needs to be addressed.

The government has already set the ball rolling through various schemes like the Har Ghar Nal Se Jal initiative. Several areas in the realm of manufacturing are witnessing great transformation in the building materials industry, which is also being implemented by Prince Pipes. From procurement of raw materials, to ensuring sustainable manufacturing facilities, rainwater harvesting, and until distribution, all resources are used with the aim of building greater efficiencies, better quality as well as valuing our larger communities and the environment. As a responsible manufacturer we are also in the process of taking steps towards better life cycle environmental impacts of plastic pipes.

Over three decades, Prince Pipes has built deep knowledge and competitive advantage of handling multiple polymers, transitioning beyond PVC pipes. Today, our journey has evolved into a larger mission of creating innovations in Plumbing, Irrigation, Storage, and Sewerage Technologies to meet India's growing Water Management needs. ■



## LUMINOUS POWER TECHNOLOGIES PVT LTD

Luminous Power Technologies is a powerful brand offering a wide range of innovative products in the power backup, home electrical and residential solar space that covers Inverters Batteries, Solar solutions to home electrical's offerings such as Fans, Modular Switches and LED lighting.

Mr Vipul Sabharwal, Managing Director, Luminous Power Technologies sharing his viewpoint on what impact third-party evaluations such as the one conducted by IRIM have on the evolution of the organization and business growth says: "The Luminous growth trajectory is a manifestation of its manufacturing excellence drive...embracing industry best practices for continual business growth. Third-party evaluation by competent organizations like IRIM entails faith on the organization's excellence drive and corroborates sustainable competitiveness in the domestic, as well as the international arena. We are thankful to IRIM for providing competitive benchmarking on business excellence across different industries, leaders in their respective fields, and providing

insight for strengthening our manufacturing excellence drive to next level."

Commenting on the importance of having advanced and competitive manufacturing facilities for business growth he opines that: "In today's 'vuca' world manufacturing competitiveness is a must for any company's sustainable business growth. Successful supply chains are more agile, digitized, well versed with artificial intelligence and machine learning for capturing exact customer's need. Products are continuously upgraded to install more customer confidence as well as relevance in application. Smart manufacturing facilities must deploy low cost automation for better productivity and defect free products, keeping ahead of competition. Luminous is deploying industry 4.0



**VIPUL SABHARWAL**  
Managing Director

in its manufacturing facilities to make it smart and more responsive to meet ever-changing customer demand." ■

## NUVOCO VISTAS CORP LTD

Nuvoco Vistas Corp. Ltd., is the fifth-largest cement group in India and the leading cement player in East India, in terms of capacity, with a consolidated capacity of 23.8 MMTPA.

Managing Director of Nuvoco, Mr. Jayakumar Krishnaswamy who is responsible for Nuvoco Vistas Corp. Ltd and its wholly-owned subsidiary NU Vista Ltd, while speaking about what comes first—Building Capacity or Generating Demand, in relation to a growth-driven economy like India, observes that the resurgence of COVID-19 pandemic has put India at a crossroads.

"The repercussions are visible across the economy and have laid a widening gap affecting the growth," he says. Expanding further on this he believes that in the pyramid of growth, the end consumer holds impetus. "The most important thing is the understanding that you need both parameters—building capacity and generating demand that eventually leads to growth. Remedial measures for reviving the Indian economy should be focused on policies aimed at demand factors," he elucidates.

While the government focuses on boosting the private sector ecosystem, Mr Krishnaswamy feels it is also important to understand that lower



**JAYAKUMAR KRISHNASWAMY**  
Managing Director

and middle-income groups drive consumption. "Hence, to operate in a growth drive economy, ensuring that the income reaches the hands of the lower and middle incomes groups will lead to consumption-driven growth. This in turn will boost capacity building and demand generation," he says.

While commenting on how important it is on having advanced and competitive manufacturing facilities for business growth, he shares: "We define advanced manufacturing technologies as a set of highly flexible, data-enabled, cost-efficient and sustainable manufacturing processes. These tools offer a wide range of benefits that, collectively, could redefine the economics of manufacturing competitiveness in several industries."

He is also of the opinion that advanced manufacturing technologies too can boost innovation, by allowing manufacturers to create new product portfolios using advanced systems and new-age production techniques. They also enable manufacturers to produce customized high-quality goods to meet customers' specifications and standards. These processes could be a foundation for a sustainable ecosystem as they often consume lesser resources thus enabling overall business growth. ■

## STL

Helming the affairs at STL, Ankit Agarwal, Managing Director is set to make the company the most customer-driven tech leader in the world and position it at the heart of 5G innovation. An industry-leading integrator of digital networks, providing All-in 5G solutions, STL has capabilities across, optical networking, wireless connectivity, software, and services, placing it among the top 5G RAN vendors by Gartner. STL partners with service providers globally in achieving a green and sustainable digital future in alignment with UN SDG goals. The company has strong presence in India, Italy, UK, US, and Brazil.

### ■ Does India have adequate technology and engineering service providers for developing and managing advanced manufacturing facilities?

► Manufacturing has emerged as one of India's fastest-growing industries and has the potential to contribute to the global economy of more than US\$ 500 billion by 2030. The country is gearing itself for the arrival of Industry 4.0, which will be fuelled by cutting-edge technology like the Internet of Things, AI, and robotics. It is heartening to see that over 40% of the world's Global In-house Centers (GICs) are in India and the country is the 7th largest patent filing office in the world as per WIPO.

However, talent is going to play a crucial role here. When we consider our resource pool, it is critical to remember that, while we produce several million high-quality engineers each year, they are not all engaged in high-tech production. If they are placed in the right places, it will result in higher quality products and increased efficiencies. That's the whole thought process and it's tied to how we can get a head start on things like Industry 4.0.

### ■ What are key trends that would dominate the manufacturing sector in the upcoming decade?

► I'd begin with the very first level. It stems from a mindset and attitude that India and Indian corporates can compete on a global scale and sell high-quality goods. The fact that you believe in yourself is significant. That is the conviction that we have instilled throughout STL and the Vedanta Group.

The second thing is, if you look at global benchmarks, we find 5-10 percent of revenue spent on R&D in our industry, whereas in India, it is often less than 1-2 percent. That is also something that revolves a little bit around the idea of whether you truly want to develop world-class products, compete on technology, or compete on price. Yes, being cost-competitive is crucial, but



**ANKIT AGARWAL**  
Managing Director

solving our clients' pain points with innovation and technology is far more vital. That, I believe, is a critical shift, and IP is intertwined with it.

To date, most manufacturing in India has focused on overcoming scale-up problems by simply adding more people to the equation. There are numerous advantages to adopting automation and big data analytics to solve for large-scale manufacturing implementation and scaling up. Training and skill development are also becoming increasingly important. It's a fantastic chance for us to reposition Indian manufacturing quality while also showcasing our own unique flair.

Thirdly, in terms of skill development and training, I believe that much more collaboration is required between industries and schools, because those skillsets, particularly in these new-age fields of big data analytics using python or LOOP or other data linked platforms, have become extremely important to create efficiencies and operations. Diversifying the workforce to make businesses more resilient to labor shortages and tackle future challenges is also key. Through several initiatives such as Digital India, Make in India, and Skill India, the Government is also promoting radical

digitalization to foster economic inclusion and social transformation.

### ■ In a growth-driven economy like India what comes first – Building Capacity or Generating Demand?

► I believe it is critical to approach the business from the perspective of what are the long-term customer problems that we are trying to solve and how can we do it better than everyone else. However, you must link it very closely to the skillsets you bring to the table, and from the manufacturing side it cannot simply be based on having some cost arbitrage.

You must keep innovating and be very closely linked to your customers. Customer experience is starting to become the most important element of growth, and on the back of that, you can scale up your capacities, because if you work on building that reputation, instead of chasing customers, customers will chase you.

At STL we are actively building our own IP and have over 700 patents that protect innovative technologies and drive the company's offerings across the globe including to Europe, US, and India.

We have established four state-of-the-art innovation centres that have enhanced the company's capabilities in providing solutions across the network stack to support 5G rollouts. These include the Optical Fibre Center of Excellence in Aurangabad, Cable Design Lab in Silvassa, Center of Smarter Networks in Gurgaon and STL Lab Cloud in Ahmedabad. These innovation centres are manned by hundreds of engineers from disciplines such as photonics, material science, radio network and software among others.

In India all our manufacturing sites are zero waste to landfill. We are the first globally to achieve this by certification from Intertek. We have taken some very aggressive targets on being net zero by 2030. ■

## BHARAT ALUMINIUM COMPANY LTD (BALCO)

BALCO was the first Public Sector Undertaking (PSU) in India. The strategic acquisition of BALCO in 2001 by Sterlite Industry, a Vedanta Group company, led to a turnaround of an unprecedented scale and BALCO became one of India's greatest privatisation success stories.



**ABHIJIT PATI**  
CEO & Whole-Time Director

Sharing his thoughts on whether Building Capacity or Generating Demand comes first in a growth-driven economy like India, Mr Abhijit Pati Chief Executive Officer & Whole Time Director,

Balco, says that while India has emerged as the fastest-growing major economy in the world, it is expected to be one of the top three economic powers in the world over the next 10-15 years, backed by its robust democracy and strong partnerships. "Therefore, we need to re-examine, reinvent, re-imagine and re-double our efforts to build capacity. Having said that, requisite measures are the need of the hour for generating demand, as aluminium is the metal of the future and the country's per capita aluminium consumption is a meagre 2.2 kg against the world average of up to 25 kg," he says. BALCO, Mr Pati points out is dedicated to exploring this enormous scope of the 'Metal of Future' to enhance the aluminium usage in India.

While commenting on what a successful manufacturing organization like BALCO finds more effective- quantum leaps of progress or

continual improvement, he shares that: "One of the strong foundational values of BALCO is that of excellence and we are committed to pursuing the path of excellence in all our operational manoeuvres. With the strong purpose of giving back to society and creating value for all our stakeholders, we endeavour to build a world-class organization, driven by our emphasis on best-in-class HSE and sustainability paradigm, People practices, top-quartile performance, digitalization, robust governance, and compliance."

Furthermore, he adds, to realize this vision, continual improvement is essential to institutionalize and define global best practices in the present age of fast-changing technologies and techniques. It is the process of continual improvement that brings forth the lacunas and fosters quantum leaps of the progress of any organization. ■

## TITAN COMPANY LTD - EYECARE DIVISION

TITAN EYE+ is the third major venture of consumer business by Titan Company Limited.

Sharing his views on the importance of having advanced and competitive manufacturing facilities for business growth Subrata Kumar Bhadra, Chief Manufacturing Officer, Eyecare Division of Titan, opines that to achieve this one has to understand the company's purposes and values. Companies, he says, have to be sure of what products or services they are offering to their customer community. The next step, according to him, is how the company values get reflected by their way of offering the product or services. Companies need to constantly work for innovation. They also need to provide differentiation from the offerings of competitors in terms of value for money, as also in the uniqueness of the products or services. Manufacturing facilities, he says, also have to be aligned with that front-end requirement for a sustainable business.

Putting the spotlight on what responsibility an organization has as a market leader in creating

product trends that drive growth and evolution of the industry, Mr. Bhadra says: "As a market leader one has to connect with their customers on a long term basis and understand their latent needs. It is nothing but co-creation with their customers and brings ultimate evolution to their products or services within a stipulated time frame."

Speaking about some of the key learnings from surviving manufacturing operations through a global pandemic, he points out to how fast the pandemic swept from one end to another end of the globe, not once but multiple times, and how it was a time for everyone to retrospect and realign priorities as a way forward. "Maintaining healthy community living is the priority now. We should engage ourselves in reducing, reusing, and recycles of our daily wastes. We all have to work for sustainable business and environment so that our future generation can have a comfortable living," says Mr Bhadra. ■



**SUBRATA KUMAR BHADRA**  
Chief Manufacturing Officer



## SUBROS LTD

Established in 1985 Subros Limited is a joint venture between the Suri Group, Denso Corporation Japan, and Suzuki Motor Corporation Japan. The company is engaged in the design and manufacturing of thermal products across a wide range of segments. Ms. Shradha Suri Marwah serves as the Chairperson & Managing Director of Subros Ltd.

■ **When it comes to successful manufacturing organizations like yours, what is more effective- quantum leaps of progress or continual improvement?**

► It was twenty years ago that Subros began its own lean journey, a path that not only improved manufacturing processes but also shifted the entire culture of the company. Subros is committed to continuous improvement. We believe, "perfection is a never ending journey." In this pursuit, Subros consistently strives to improve products, services, systems, and processes. We do this by utilising technological advancement in the most efficient way to make products of the highest standard.

Change is an evident internal phenomenon at Subros. The pursuit for change powered by a self-driven spirit to improve overall business processes is our goal. The result of these improvements has enabled Subros to unearth its full potential on the path to becoming a reputed, world-class manufacturer.

There are many best-in-class manufacturing practises e.g. Monuzukri, TL Round, MSSe, and QA network. These are proven business models which help an organisation improve employee motivation while participating in company transformation. Our continuous connect with our workforce through top down as well as, bottom

up, communication has created an open culture in the company for transparency.

As part of our corporate philosophy, customer-centricity is the key focus of the organisation. This enables us to appreciate customer requirements and act on that understanding by creating an ecosystem to make, in parallel, the best decisions for the customer and the company. Customer-centricity done right results in our customers trusting they will not only get what they want, but also what they need from our company. These experiences build a trust that helps retain customers for the long haul.

■ **If you were to identify key learnings from surviving manufacturing operations through a global pandemic, what would they be?**

► As the COVID-19 pandemic unravelled across the globe, manufacturing organisations faced significant operational challenges. The most critical focus for us was to keep employees safe in an environment where repeated outbreaks were a persistent threat. To achieve this, Subros has deployed a comprehensive set of policies and guidelines, standard operating procedures, and tools that help keep employees safe. Building workforce confidence through an effective, two-way communication that responds to employees'



**SHRADHA SURI MARWAH**  
Chairperson & Managing Director

concerns through flexible adaptation is primary for our work environment.

Manage risks to ensure business continuity is another core focus area. The ability to anticipate potential changes and model the way the plant should react well ahead of the fluctuations helps enable rapid, fact-based actions.

The coronavirus crisis has dramatically increased risk for every business, with many experiencing shocks in both supply and demand. This was further permeated by volatility in input costs and logistics. Manufacturing plants like ours are the epicentre of that uncertainty. Their continued operation through the crisis and beyond depends largely on the organisation's ability to navigate the wider risks.

We learnt that for the longer term, the organisation's response to COVID-19 should accelerate the digital transformation that is already under way in many manufacturing environments. For teams working remotely or under physical-distancing guidelines, real-time data collection and advanced-analytics technologies can provide a more detailed, accurate, and up-to-date picture of plant operations.

Cash management was most important lesson learned during this crisis. We need to be agile and flexible as per the situation and align to ensure business continuity. Austerity measures and prudent financial management are some of the learnings we have also imbibed. ■



## TATA STEEL LTD – GLOBAL WIRES INDIA

A division of Tata Steel Ltd, Global Wires India (GWI) is one of the largest steel wire manufacturers in the world

■ **In your organizational strategy of having a competitive basket of products, how pivotal are international markets and its expectations?**

► The long term strategy of Global Wires India is to have a strong presence in the Automotive and Infrastructure segments, with a wide variety of product offerings in both domestic as well as international markets.

- In the Automotive segment, we have two key sub-segments
  - o Tyres: Currently we offer Tyre Bead Wire for Structural integrity in Radial Tyres; this offering is in line with international standards and customer expectations, which have a global presence.
  - o Automotive Suspension Spring: We offer various Spring Wires which are used by 2-wheelers, passenger cars and commercial vehicles. All these are used in the domestic market and are exported as well. Hence, Spring Wire requirements are also in line with international specs and requirements
- In the Infrastructure segment we offer LRPC Wires – Low Relaxation Pre-Stressed Concrete Wires, which are extensively used for high span architecture. 15% of the volume is



**ANURAG PANDEY**  
Executive In-charge

exported to various countries in the Middle East. The quality, specification and the service expectation are of extreme importance to serve the international market.

■ **Do you think India has adequate R&D infrastructure, technology, and engineering service providers to build world class downstream steel products? What more can be done?**

► For many years, R&D for steel industry

in India has been focused upon upstream processes like steelmaking, casting and rolling. With the expected increase in India's finished steel consumption, from the current level of 100 million tons to 230 million tons by 2030-2031, the drive towards offering more value-added products is on the rise. This shift in momentum would demand focusing on downstream process pertaining to specific large-scale consumption sectors (e.g. automobiles) and other sectors of value chain where steel goods get distributed through the retail network for developing more efficient applications.

The steel industry as a whole is affected by the cyclicity in the business and it is important to develop more application of steel in a variety of user industries to reduce this impact. Exploring various applications, where steel could be an alternative, and at the same time ensuring the end customer needs are being met, would be imperative in future. Some high potential ideas could be:

- Developing steels of high strength to weight ratio for infrastructure and consumer durables
- Material and design focus for urban utility
- Steel composites which can replace plastics etc. ■





## TATA CONSUMER PRODUCTS LTD

A fast-moving consumer goods company operating in the food and beverages industry, Tata Consumer Products is a part of the Tata Group. Mr. Sukhjeet Singh Malhotra is the Sr. Vice President- Head, Product Supply Organisation



**SUKHJEET SINGH MALHOTRA**  
Sr. Vice President - Head, Product Supply Organisation

### ■ What have been the key learnings from surviving manufacturing operations through a global pandemic?

► Tata Consumer Products was formed with the vision to become a formidable player in the FMCG industry. This transformation journey began during the pandemic. Despite the challenges posed, we were able to make good progress and build a strong foundation for future growth.

Running Manufacturing Operations efficiently is key to ensuring we deliver our business goals effectively and deliver quality products to our consumers. While the pandemic was certainly a tough phase and posed several new challenges, it was also an opportunity to think innovatively and work together as a team to emerge stronger.

Agility came to the forefront leading us to adopt decentralization of authority, enabling decision making based on the locally prevailing environment. As part of our ethos of doing good we continued to contribute to the local community. Self-driven initiatives came to the forefront and most of our production sites were back in production within 48hrs of the

declaration of the Lock-down. The Collaborative approach of the local Government authorities, Vendors, Partners, Employees and Associates was a game changer for us during the entire period. At a time, when we were driving operations remotely, due to travel restrictions, a majority of our Units achieved record levels of production demonstrating commitment of our on ground teams.

Partnering with existing and new vendors, utilizing their capacity and capability for alternatives in packaging materials was executed effectively. Our management teams on ground leveraged their support to ensure that they also commenced operations in their respective plants, thereby maintaining the continuity of our inward Supply chain.

We were empathetic in our approach and were able to reassure and help the workforce through welfare activities, vaccination drives and facilitating a safe working environment for all employees and associates across locations. All this was possible due to the fact our Unit Managers were leading from the front and were working alongside the deployed workforce.

For upskilling and keeping up with the changed circumstances and business scenarios, a specially curated e-learning platform was deployed which was very well received and used by employees across the organization.

The pandemic brought to the forefront the importance of Digitalization and Automation. Numerous projects were fast tracked for implementation to make sure we were future ready in all aspects.

A robust Risk Mapping and Business Continuity Plan also helped us steer through temporary disruptions by activating predefined backup plans wherever necessary.

The most important aspect of driving business continuity and growth through the pandemic was employees, partners and stakeholders' engagement, an outcome of long-term strategic initiatives of doing business in an ethical and sustainable manner, caring for our workforce and the communities we work for.

### ■ To efficiently serve the customers over a larger landscape like India, what are key differentiating factors towards building resilient supply chains?

► High customer focus, agility towards the changing market requirement, business network, building and sustaining relationships across the network, driving efficiency in cost and process, focus on quality, reducing lead times, vendor partnering, caring for our employees and workforce, protecting the environment we work and live in, elimination of waste and cost optimization, focus on digitization/ automation and having a robust risk mapping and business continuity plan are the fundamentals that help in building a resilient supply chain.

We also believe that the following are the key factors towards building a resilient supply chain:

- **Customer Focus.**
- **Developing Capability.**
- **Optimizing Cash, Cost & Quality.**
- **OH&S along with Sustainability.**
- **Digital Integration**

## MICRO LABS LTD

Micro Labs Limited is a multi-faceted healthcare organization with a proficient marketing team, state-of-the-art manufacturing facilities, and R&D centres on par with international standards.



**PRAKASH MUDDA**  
President

Mr Prakash Mudda, President, Corporate Projects & Operations, Micro Lab Ltd, reflecting on the key learnings from surviving manufacturing operations through a global pandemic shares how "Lockdowns, social distancing, movement restrictions were tackled with utmost diligence

especially for team workers in the essential category at all the manufacturing sites," he says. Furthermore, what was a great blessing for its operation is that online digital tools of communication allowed connecting with other departments working remotely like RA, QA facilitating flow of information and ongoing activities without any hurdles.

Elaborating further, he shares how the role of digitization was maximised during this phase and utilised to its best and full capacity, not only in the manufacturing arena but also the inter and intra departments within the organisation. The aim was to provide the much needed quality medicines during pandemic to the patients within the stipulated timelines at a fast pace and also to support the ongoing medicines for lifestyle diseases to patient with co-morbidities. This was achieved through the hybrid mode of engaging various teams as needed and on time.

"The faith and belief in our teams is the best tool and fuel that allows us to attain the uncommon results which were the backbone of our success during the pandemic. The key learning from the pandemic situation was social consciences taught to us by our founder Shri G.C. Surana, that 'the health of society is as important as individual health and we should work with empathy to serve the society', which again proved to be the key to success in pharmaceutical business and the quick adoption of digital technology to improve operational efficiency in terms of cost, timelines and compliance," he says.

Sharing his viewpoint on how third party evaluations such as the one conducted by IRIM on the evolution of Micro Lab and its business growth, Mr Mudda says: " It brings recognition to the strength and motivates further the stakeholders and team to excel beyond the expectations." ■

## MUNITIONS INDIA LTD (MIL)

A Defence Public Sector Enterprise under Ministry of Defence, Government of India, MIL has 12 manufacturing units spread across five states and is the biggest manufacturer and market leader in Production, Testing, and Marketing of comprehensive range of ammunition and explosives for the Army, Navy, Air Force and Para Military Forces in India

Mr Ravi Kant Chairman & Managing Director of Munitions India Ltd speaking about the key trends that would dominate the manufacturing sector in the upcoming decades shares that: "In the field of manufacturing industries like Arms and Ammunition the market is governed by the Geo Political Scenario and the customer needs drive the Technological Trends. This creates both limitations as well as opportunities for manufacturing sector. A better understanding of one's own strength and strategic partnerships between the manufacturers at global level would result in optimization of resources and cost effective solutions to the customer."

Elaborating further he feels that managing talent needs to be viewed in the perspective planning of the organization. He says, employees should be equipped with the right tools, which should enable them to maximize their potential. The continual improvement in the organization

can only be achieved by enhancement of scope and opportunities for the development of human resources.

Manufacturing Industries will have to focus primarily on continuously improving the quality which will help in establishing a responsive brand in the global market, he says,

Furthermore, he says, Industry 4.0 is forcing manufacturing industries to rethink their digital journey. Failures in critical machinery are always a challenge for manufacturing industries as it leads to downtime and loss of productivity. With IoT, there is an entire new area of predictive maintenance that manufacturing industries can tap and reduce the failure, during manufacturing process.

Amongst the key learnings from surviving manufacturing operations through a global pandemic, he shares how the manufacturing industry faced lot of challenges and how it



**RAVI KANT**  
Chairman & Managing Director

prompted many manufacturers to change / modify the supply chain and logistics by diversifying / sourcing by adapting and establishing new networks of local supplier base. Automation, IoT & Industry 4.0, he believes, can help businesses of all sizes anticipate and respond more effectively to adapt to new realities. ■



## TATA MOTORS LTD

Part of the USD 109 billion Tata Group, Tata Motors Limited, a USD 34 billion organization, is a leading global automobile manufacturer of cars, utility vehicles, pick-ups, trucks and buses, offering extensive range of integrated, smart and e-mobility solutions. Tata Motors is India's market leader in commercial vehicles and amongst the top three in the passenger vehicles market. Girish Wagh is the Executive Director, Tata Motors Ltd. and a member of the Executive Committee.

■ A lot is spoken about the skill gap in our country; however, most organisations now find potential opportunities for improvement in employee welfare and development. How does your organisation prepare its future workforce?

► The automotive industry is undergoing a rapid change, be it in terms of emission norms, CESS (Connected, Electric, Safe, Shared) capabilities or customer preferences. It is imperative to adapt the capabilities and capacities of the organisation's workforce in order to keep pace with the changing market landscape. This includes continuous evolving of HR strategy, both in the way we recruit and in the way we develop the workforce, at large. At Tata Motors Commercial Vehicles Business Unit, we have identified core competencies of today and required skillsets of tomorrow, in line with changing landscape. We have thus embarked on development journeys for our workforce and created curriculums with certification programs. Tata Motors has robust processes for learning and development needs, throughout the employees' lifecycle, which are aimed to create a high-performance culture and improve employee experience and engagement. Tata Motors has also entered into long-term partnerships with various educational institutions, which help us in upskilling our workforce in a periodic manner. Our focus has been in two broad categories in terms of employee development:

1. Building awareness of the future and ongoing disruptions
2. Building capabilities around the new-age skills to enable our employees to drive organizational change

We will continue to put in significant efforts on employee development and welfare.

■ What advice do you have for your industry peers in building a Leadership Team that is receptive to change in operational environments?

► In the post-pandemic world, with multiple disruptions, the traditional priorities are changing; agility and flexibility in operations have emerged as top strategic priorities. Therefore, being receptive to the dynamic environment is a question of existence, rather than a choice. Every organization needs to build capabilities to form leadership teams that can help it thrive in a rapidly changing landscape.

*Tata Motors has robust processes for learning and development needs, throughout the employees' lifecycle, which are aimed to create a high-performance culture and improve employee experience and engagement. Tata Motors has also entered into long-term partnerships with various educational institutions, which help us in upskilling our workforce in a periodic manner.*

To build this capability, one of the ways could be to embrace the below three approaches:

1. Communicate the context consistently; it enables appreciation and sensitivity
2. Co-create the solutions and make leaders part of the solution; it enables commitment
3. Eliminate the fear of failure, which will enable leaders to take risks; it enables risk-taking ability.



**GIRISH WAGH**  
Executive Director

■ When it comes to successful manufacturing organizations like yours, what are more effective- quantum leaps of progress or continual improvement?

► Organisations, today, need to continue to focus on the here and now and future. The competitive scenario demands focus on both incremental as well as breakthrough improvements, to stay ahead in the marketplace. Hence our focus has been on both continuous improvement and quantum leaps. In our pursuit of manufacturing excellence, we at Tata Motors, have adopted Total Quality Management principles, wherein we use Plan-Do-Check-Act cycles for quantum leaps of progress and Standardize-Do-Check-Act with Daily Work Management for continual progress. The amalgamation of both approaches ensures that the improvements are in sync with the pace of the aspirations of the organisation, and they are sustained and holistically deployed. ■

## UFLEX LTD

The UFlex Group has interests in end-to-end flexible packaging solutions including Pouches, Tube & Bag for packaging, Bi-axially Oriented Packaging Films, Chemicals, Packaging and Converting Machines, Rotogravure Printing Cylinders, Aseptic Liquid Packaging and Holography. UFlex is India's largest flexible packaging company and a global leader in polymer sciences. Mr. Ashok Chaturvedi is a visionary first generation entrepreneur and founder CMD of the UFlex Group.

■ What advice do you have for your industry peers in building Leadership Teams that are receptive to change in operational environments?

► The world over, enterprises display a wide degree of deviation in their operational environment, evidenced by conventional ways of command-and-control. Today, we live in a world in which any organization's offerings and performance is a reflection of its leadership style.

In my opinion, leadership is the key that helps organizations navigate through operational challenges to attain excellence, which in turn streamlines its activities to paint the bigger picture in the long run.

As a high-performing enterprise, UFlex imbibes a culture of inclusive engagement in a collaborative leadership style. We work towards building a culture by first identifying the spill-offs that may seem negligible but have a direct impact on the overall performance. Once we list the loose ends, we collaborate to form high targets which we divide into smaller goals and engage cross-functional teams that can best meet the defined objectives and plan its seamless execution in a monitored set-up.

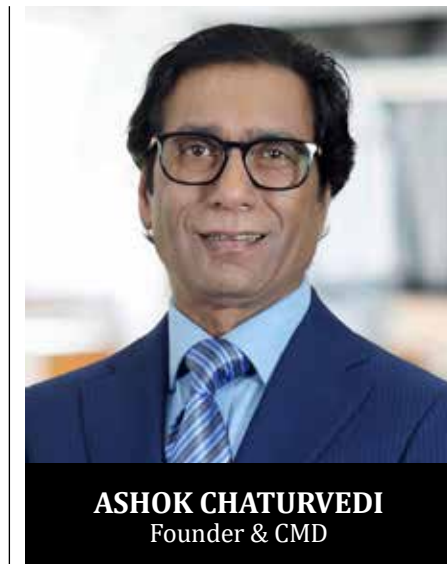
Operational excellence must not be confused

with trimming of resources; rather, management teams should consider amplifying them to improve and achieve more. And to achieve that, clarity of thought, coupled with a thorough SWOT analysis, lends a big hand for not only clear understanding, but also assigning a sense of ownership of the tasks to which the workforce is assigned.

■ When it comes to successful manufacturing organizations like yours, what are more effective-quantum leaps of progress or continual improvement?

► At UFlex, continual improvement is guided by our two-way approach that guides us to learn from outside and adapt that learning into our systems. In our quest to strive for excellence, we ensure understanding of the pain points of our customers, which we consider as the first step in our view of value-addition.

Our effective strategy is a result of our focus to divide larger goals into bite-sized multiple goals, deploy small cross-functional teams that help augment productivity via identified technical upgradation, and also by enhancing plant speed and capability to achieve higher productivity. It is due to this approach that UFlex has emerged as the Gold Medalist in the National Awards for



**ASHOK CHATURVEDI**  
Founder & CMD

Manufacturing Competitiveness (NAMC) 2021, which is organized by the International Research Institute for Manufacturing (IRIM). IRIM's survey evaluated UFlex' facility and strategic approach on 10 parameters that zeroed in on customer focus, production strategy, data analysis, learning and involvement of personnel. UFlex has also qualified meritoriously with an average score of 87.2. ■





## DIAGEO INDIA

Diageo India is the country's leading beverage alcohol company and a subsidiary of global leader Diageo PLC. The company manufactures, sells and distributes an outstanding portfolio of premium brands such as Johnnie Walker, Black Dog, Black & White, VAT 69, Antiquity, Signature, Royal Challenge, McDowell's No1, Smirnoff and Captain Morgan. Headquartered in Bengaluru, our wide footprint is supported by a committed team of over 3300 employees, 49 manufacturing facilities across states and union territories in India, a strong distribution network and a state-of-the-art Technical Centre. Ms. Hina Nagarajan is the Managing Director and Chief Executive Officer of Diageo India, and a member of Diageo's global Executive Committee.

### ■ For a consumer-driven business like yours, what are the key learnings from a Pandemic that has disrupted Global Supply Chains?

► CPG companies have witnessed huge disruptions in their supply chain including massive demand shifts, volatile supply, logistics delays, and limited visibility on E2E supply chain as an outcome of COVID-19.

During the pandemic, demand has shifted from one channel to another based on COVID regulations and consumer purchasing behaviour. In our industry, we saw a big consumption shift to in-home, and a purchase shift from on-trade to off-trade. To deal with this shift, we moved to an agile supply chain – shutting and opening manufacturing locations in a matter of few days, ensuring exceptional levels of health and safety for our workers and repurposing human resources where they were most needed. Throughout the pandemic Diageo India's priority was to support our customers and their businesses. Our teams collectively focused on how to maximize each day and ensure the supply chain is aligned to this objective.

The pandemic has dialled up the need for more digitization to sense demand more accurately, plan resources in a more agile manner and manage inventory in a robust manner. This is why we have embarked on our Supply Transformation 2.0 journey so that we can not only retain all the agility we have built but can progress it further. Also, while productivity and everyday efficiency is embedded in our DNA, the disruptions in Supply Chain and consequent inflation have reinforced the need to drive even more efficiency through our Value Chain and effectiveness of our spends. We have invested in a number of tools like Catalyst for our Marketing Spend to help us do this.



**HINA NAGARAJAN**  
Managing Director & CEO

### ■ When it comes to successful manufacturing organizations like yours, what are more effective - quantum leaps of progress or continual improvement?

► For a consumer-driven organisation to be successful, it is very important to be flexible in adapting changes in market dynamics and consumer behaviour. We have seen unprecedented changes in consumer behaviour and purchasing habits during the COVID-19 outbreak. The pandemic has reshaped the

industry real-time, rapidly accelerating long-term underlying trends in the space. To thrive in this changing landscape, organisations must continuously evolve their business models in an agile manner to support competitive differentiators and define technologies needed to support consumer-centric processes and become more insight-led and responsive. This can be done by being an early adopter to new strategies and technologies to fulfil the changing consumer dynamics and adjusting to the 'new normal'.

We must have an appetite for risk to take quantum leaps of progress by rethinking network strategies, footprint and partnership models, etc. to create a more resilient and flexible E2E value chain and reinvigorating factory-of-the-future efforts in our manufacturing facilities. However, only bringing in big changes will not help the organisation succeed in the long run, as change also has to be embedded, sustained and ready for the next evolution. Thus, continuous improvement is critical in bringing that cultural shift, sustaining the success and retaining agility for the next change. ■



## SUZLON ENERGY LTD

The Suzlon Group is one of the leading renewable energy solutions providers in the world with a presence in 17 countries. Mr. Vinod Tanti, Chief Operating Officer, has been associated with Suzlon from its inception and has handled diverse portfolios, largely on a Conceive - Design - Build - Operate and Transfer model.



**VINOD TANTI**  
Chief Operating Officer

Speaking about the key trends that will mark the manufacturing sector in the coming decade Mr Vinod Tanti observes that trends will be largely driven by technology advancement, digitization and innovation, where one would witness advanced technology such as augmented reality and virtual reality being used in every sphere of

life. Bringing new innovative products / solutions into the market on a regular basis will be the key to survival. "Companies need to invest heavily in technology to offer better quality product at a lower cost to consumers to stay competitive and have an edge in the market place," he says.

An area of growing concern in the light of upcoming geo-political tension will be supply chain disruption. Every manufacturing organization, he believes, needs to address advanced management tools, adequate data and information management, operations monitoring on real time basis, innovative ways for transportation / delivery, continuous search for alternate material and sources. Enhanced performance to save time and energy, and subsequently meet the demand with continuous output, will result in growth for all.

ESG aspects too are now crucial to companies, their investors and other stakeholders. Social well-being of people and a healthier eco-system

have become some of the major responsibilities that companies should address. An ESG strategy will be an imperative to prevent regulatory or reputational risks and also enhance market position. Norms under ESG will become non-negotiable and essential enablers for manufacturing, he says.

Talent Management is going to be another key focus area. Mr Vinod Tanti opines that retention of employees will be a key challenge to manufacturing sectors as an outcome of global players entering the Indian market and offering great opportunities to talented employees.

Commenting on the key learnings from surviving manufacturing operations through a global pandemic Mr Tanti shares: " We should build an agile and responsive organization with good HR practices to address the needs of employees in speedily and effectively, which in turn will enhance trust among employees to support each other in challenging times." ■

## RELIANCE POWER LTD

Reliance Power Limited is a part of the Reliance Group, one of India's largest business houses. Its energy sector companies include Reliance Infrastructure and Reliance Power. Mr. K Raja Gopal is Director of Reliance Power Ltd

### ■ How are stakeholder expectations evolving in India? And what impact do you see in your business?

The primary requirement of any stakeholder is affordable and reliable access to electricity, which is the key element for the growth of any sector. Having achieved sufficient capacity building, stakeholders are now looking towards the transition to green energy, which is being encouraged by Govt through various PLI schemes.

The power sector is now in a decade of transition and transformation. Pursuing net-zero emissions and deep decarbonization are key targets for the mid-21st century which will require necessary support from all stakeholders via., enabling policy framework, global capital, private-sector transformation, regulatory certainty, necessary infrastructure, skilled manpower, etc.,



**K RAJAGOPAL**  
Director

We are working towards bringing efficiencies in our thermal and renewable portfolio apart from working towards debt reduction and compliance with revised emission norms. Nevertheless, thermal generation will continue to play a pivotal role in the power sector supporting renewable generation while meeting the required demand of consumers.

### ■ Does India have adequate technology

### and engineering service providers for developing and managing advanced manufacturing facilities?

We have adequate technology and engineering service providers across major sectors. However, MSMEs, the key players in the manufacturing domain with a contribution of over 45% towards manufacturing output and exports are not well equipped with emerging technologies. Pandemic has mandated, rather forced many users to adopt new/emerging technologies, and very soon our country will enhance/upgrade its capabilities.

### In a growth-driven economy like India what comes first – Building Capacity or Generating Demand.

Building capacity would be required for achieving the target GDP. However, both building capacity and generating demand are interdependent, as building capacity would increase the number of new opportunities (including MSMEs, employment, etc) which in turn shall develop purchasing power leading to the creation of new demand and capacity addition to meet the enhanced requirement. ■



## WELSPUN CORP LTD

The flagship company of the Welspun Group, Welspun Corp Ltd., is among the largest welded line pipe manufacturing companies in the world. Mr. Vipul Mathur is the MD & CEO of Welspun Corp Ltd.

■ **Does export to global markets continue to be a focus area in your growth plans? What effect do the disruptions caused by the pandemic have on the same?**

► WCL's manufacturing network, spread across multiple international geographies, has helped us in taking massive strides and positioning ourselves optimally for an imminent market recovery. Short-term growth prospects in India, the Middle East, and Southeast Asian markets are lucrative, while other markets like the US are expected to make an adequate recovery in the medium term. WCL remains perfectly poised for a thriving future while setting new benchmarks of excellence.

The pandemic waves have brought on a sense of responsibility among organizations and employees alike to urgently action sustainable practices and build a future-proof world. Welspun Group's collective aim is to increase the use of renewable energy, promote zero waste in landfills, and water neutrality.

■ **In a growth-driven economy like India what comes first – Building Capacity or Generating Demand?**

► Capacity building is integral to capitalizing on the growth that will be fuelled by repressed consumer demand and ensuring that it remains on an upward trajectory in the long run, while demand generation is essential to the much-needed economic revitalization after a tough couple of years. This is an opportunity we have been targeting at WCL over the last two decades to build a future-ready organization, giving an impetus to expand our presence across India through our facilities located in Anjar, Dahej, Bhopal, and Mandya.

We have a goal to build on our market leadership and product distinction by developing capabilities that reflect manufacturing and operational excellence, customer-centrism, financial prudence, and innovation. Our recent entry into the DI Pipes segment is basis the anticipation of a huge demand increase in support of the government's belief in drinking



**VIPUL MATHUR**, Managing Director & CEO

water initiatives, namely, Nal Se Jal.

Our foray into the TMT bars segment saw fruition owing to the GOI's infrastructure development plan, through which we are now gearing up to expand our company portfolio in both B2B and B2C domains. WSSL's products like Stainless Steel tubes and pipes are used in critical applications across sectors including Energy, Defence, Nuclear Power, Aerospace, Oil & Gas, Petrochemicals, Food, Fertilizers, Pharma, and Desalination, among others. These products have a high demand potential on account of the thrust on localization in India to support local businesses and meet the government's Atmanirbhar Bharat dream.

■ **How important is having advanced and competitive manufacturing facilities for business growth? What are prerequisites one should ensure while developing one?**

► WCL is among the largest welded line pipe manufacturing companies globally. Keeping up

with our promise to deliver impeccable quality, our state-of-the-art facilities for DI Pipes, TMT, and other businesses will continue to follow our philosophy of building top-notch products.

Advanced manufacturing facilities are imperative to growth because they form the basis of everything from quality assurance, economies of scale, and inventory management, working along with production efficiency, throughput, and waste minimization. These factors don't merely impact your business processes and supply lines, but also your cost, pricing, and bottom line. Change can only be made if it becomes a part of the organizational DNA through adequate management support, which includes automation and increased efficiency in the age of Industry 4.0. Developing a competitive and advanced manufacturing facility is a complicated activity, hence requires a nuanced approach depending on wide-ranging variables, including constant upskilling of our workforce to better utilize their competencies. ■

## HINDUSTAN ZINC LTD

A Vedanta Group Company, Hindustan Zinc Ltd. is one of the world's largest and India's only integrated producer of Zinc-Lead and Silver. Mr. Arun Misra is the CEO and Whole Time Director Hindustan Zinc Ltd.



**ARUN MISRA**  
CEO and Whole Time Director

■ **In a growth-driven economy like India what comes first – Building Capacity or Generating Demand?**

► You build capacities to generate demand. If we focus only on generating demand then, as per

the law of demand and supply, it would eventually lead to inflation. The strategy works more wisely if we can anticipate the future trends that will lead to demand and then build up the inventory. It is a beneficial offering optimized cost, better quality and efficient production.

■ **What are the key trends that would dominate the manufacturing sector in the coming decade?**

► The manufacturing industry is the backbone of any nation's GDP, and for India, it always had the potential of becoming an engine for economic growth and job creation. However, for us, it took COVID-19 to realize that the manufacturing industry can revive the economy making India self-sufficient by utilizing its strong industrial network, plenty of natural resources and dynamic workforce.

While creating endless opportunities that this industry offers leading to socio-economic

development, it is imperative to also strive for running operations sustainably. It is generally seen that companies which are more committed to environmental, social and governance (ESG) continue to outperform and deliver better results. In India, the sector is gradually adopting lean and green practices to make a positive impact.

Furthermore, the sector is undergoing a paradigm shift with strong focus on sustainable practices with technological transformation and innovation. With automation, several companies are reducing costs, limiting waste generation and minimizing climate impact. Also, through artificial intelligence, machine learning and augmented reality, the industries are enhancing their accuracy, precision and safety of the processes. Leveraging renewable energy is also one of the best ways to run more sustainable operations. It requires one time investment, is environment friendly and contributes to a 'Green' economy. ■

## SHREE CEMENTS LTD

The world of Shree Cement is one without boundaries – changing and challenging every day. They make cement and through it, they touch the lives of millions of people every day. From the house you live in, the roads you drive on, to the bridges you cross, they strive to deliver unparalleled quality through their customized products and value-added solutions.

Mr. P.N. Chhangani, Whole Time Director of Shree Cements Ltd, is of the opinion that technology & digitization will shape the manufacturing of building materials in India in the coming years. This, he says, will be evident in all spheres—be it in resource & energy consumption, predictive maintenance, product optimization, supply-chain, customer connectivity, etc.

As Mr. Chhangani sees it, technologies such as big data and predictive analysis, sensors and IoT, robotic process atomization, artificial intelligence/machine learning, etc. have great potential and can go a long way in improving quality, cutting costs, enhancing safety, reducing risks and boosting profits.

Elaborating further, he speaks of how Shree Cement has taken a giant step by opting for the Plant Data Management System from Denmark's FL Smidth, for getting critical real-time and historical



**P. N. CHHANGANI**

information at hand to make smarter decisions.

Sustained usages, in cement production of natural resources such as limestone, coal, gypsum, etc, he

says, have necessitated their conservation to prolong the availability of these resources for future generations. Given that this is an energy-intensive industry, he feels, there is vast scope for adopting renewable sources for meeting electric energy requirements. Many initiatives, such as mixing of low-grade limestone, additives such as marble slurry, installation of waste-heat recovery power plants and renewable energy plants based on wind

and solar, etc., have already been taken by the industry, he says.

As shared by Mr. Chhangani, in the world's cement industry, excepting China, Shree Cement has the largest capacity of a waste-heat recovery-based power plant. The company is also aggressively increasing its renewable energy portfolio from the existing 263 MW to 371 MW by setting up wind and solar power plants with an aggregate capacity of 108 MW.

As foreseen by Mr. Chhangani, the key trends in the manufacturing sector in the coming decade will include:

- **Focus on Carbon Neutrality and ESG factors** driven by climate change
- **Skilled labour availability** driven by growing digitization and automation
- **Supply Chain Issues** driven by the global shortage of materials and high energy costs. ■

## ZYDUS WELLNESS LTD

As the Chief Executive Officer and Whole Time Director at Zydus Wellness Limited, Tarun Arora has been instrumental in turnaround and scale up of the company performance by accelerating the topline and bottom-line growth on back of innovations, route to market transformation, laying the foundation for international business and building high performing leadership team. An industry veteran with over 26 years of experience, he has also successfully completed integration of Kraft Heinz India business with Zydus Wellness post one of the largest cash deals in the Indian FMCG industry during his seven years in the company, a key player in consumer health and personal care with iconic brands like Sugar Free, Glucon D, Complian, Nycil, Nutralite and Everyuth.

■ **Is the Indian Market receptive to products developed from advanced concepts of Food Science to cater a health conscious and excitement seeking Gen-Z.**

► Consumers today are ready to experiment things which are cutting edge, which are superior both in terms of formulations, recipes and therefore the future of science and skill, the art of food is really percolating across the day-to-day food consumption that we see. The new age consumers are absolutely receptive to changes which we see. Some of the older people also, they are really seeking out things which will help them keep up with the changing standards of living.

■ **If you must identify key learnings from surviving manufacturing operations through a global pandemic, what would they be?**

► The focus on people's team, health, well being became very important. It is not just about your team, your customers, it's the entire ecosystem, the communities that associate with you. It is not about a thousand people which are employed with my organisation but another 4000-8000 who depend upon us for their livelihood. The number is actually even larger if I look at the 25,000 farmers who provide milk to our Aligarh plant everyday. As an organisation as Indian industry I am sure as Zydus Wellness our focus on ensuring you think through the whole value chain, look at your ecosystem and the well being of the entire system is very important and ensuring that we are doing the right things for them. Important that you have your business continuity thinking in place. There are times your plants can be shut down. We had four weeks of shut down of one of our plants and how quickly



**TARUN ARORA**  
Chief Executive Officer and  
Whole Time Director

we responded. It tested us on agility but also important that you prepare for the future in a distributor manufacturing when your business continuity is extremely crucial and you prepare for the worst. Of course you prepare for the worst but you are ready to absorb the upsides too in the midst we also saw in some point of time



when the essentials we had to provide, agility gets tested and therefore an agile organisation, speed are going to be the biggest differentiators in the future world because there is going to be a certain kind of volatility, a certain amount of uncertainty which will always remain. Some of those learnings we have really absorbed in our way of working.

What impact does third party evaluations such as the one conducted by IRIM have on the evolution of your organization and business growth.

For Zydus Wellness, we have been associated with IRIM for fair amount of time. The way we see them is they come in to do the assessments, they share the gaps with the teams. They become beyond the assessors and become partners in guiding us on what are the improvements and processes and ways of working. They are testing for agility. Their valuation is 360 and they look at all the aspects of manufacturing and the business relevance of that and also help us strengthen our processes around it. They played a very important role in the development journey of my manufacturing operations. ■

## REALIZE THE FULL POTENTIAL OF INDUSTRY 4.0 WITH PRIVATE 5G

Alepo President Derrick guides Alepo's product strategy, client relations, marketing, and global partnerships. He's passionately invested in customer success and continues to lead the company's digital transformation projects.



**DERRICK GROSS**  
President

Industry 4.0 (4IR) and its rapidly maturing technologies have created a wealth of opportunities across all sectors. One of the keys to unlocking the full potential of 4IR is private 5G technology. With a private 5G network, industries can implement ultrafast connectivity, ultra-reliable networks, and end-to-end automation. Once implemented, we will witness drastic transformations in the way businesses operate.

Deploying 4IR use cases over private 5G provides an entirely dedicated, high-speed, and standalone network. It helps enterprises support innovative enterprise use cases like human-robot collaboration, digital performance management of connected devices, smart factory floors, drone monitoring, and more.

Private 5G's enhanced security measures help counter the threats faced by modern networks. By allocating specific network slices for different operations, businesses can optimize resource utilization for more efficient operations. They will be also able to leverage data and alter their business strategy in real-time.

■ **What industries will be the first movers?**

► Manufacturing is already taking the lead. Most companies already operate on private networks like WiFi and LTE and manufacturing has some of the highest value use cases, making them first to adopt 5G. Transitioning legacy networks to 5G enables them to support

the latency, reliability, and connectivity demands of business-critical activities. With private 5G, manufacturers can support advanced technologies like IIoT, AI, robotics, autonomous vehicles, and more. The results will include improved flexibility, lower production costs, fewer production line delays, streamlined supply chain management, safer factory floors, and infrastructure that's easy to build, configure, and maintain.

The automotive industry is next in line. 5G capabilities enable an ecosystem of highly reliable connectivity that is crucial for autonomous vehicles. With fully autonomous vehicles, we'll be able to connect cars to each other, pedestrians and cyclists, and traffic infrastructure – all of which will communicate in real-time. We can almost entirely eliminate road accidents, reduce traffic jams by enabling vehicles to safely drive in high-density platoons, enable route mapping, boost vehicular performance by ensuring energy optimization, and much more. That means safer roads, significantly lower costs for vehicle owners, and an overall improvement in quality of life.

Edge core architecture will enable mobile network operators to support 5G connected vehicles. It ensures low latency, helping maintain vehicular and pedestrian safety even at high speeds. At Alepo, as we continue to run 5G trials, I'm excited for what this will mean for cellular

vehicle-to-everything (C-V2X) technology. No doubt, it will transform the way we travel. Energy and utilities will be able to overcome existing challenges.

Private 5G-IR4 deployments will be a game-changer for the sector. By combining ML, AI, and data analytics, they will be able to counter issues rooted in outdated infrastructure. Utilities will be able to leverage data to gain more control over energy storage, distribution, and more. They will be able to implement smart energy management, smart metering, smart grid, and predictive maintenance. Overall, this will help them lower OPEX, become more agile, and drive ROI. They'll also boost customer experience by introducing a host of advanced use cases like smart street lighting.

In time, we'll also see sectors like healthcare, entertainment, retail, and several others adopt the technology.

Alepo has been an early mover in enabling 5G technology around the world. Our forecast is that over the next few years, a lot of small and medium enterprises will likely acquire private 5G networks through mobile network operators, whose domain expertise will ensure reliable and competitively priced infrastructure.

Want to learn how Alepo's private 5G solutions can help unlock the full potential of your industry offering? Email [market-development@alepo.com](mailto:market-development@alepo.com) to begin charting your roadmap. ■





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