



MANUFACTURING PULSE

Brought to you by: CII Naoroji Godrej Centre of Manufacturing Excellence

Business Prospects

Mohini Kelkar, Managing Director, Grind Master Machines Pvt Ltd shares her views on the various business opportunities in store for the manufacturing industry.

Grind Master is a family owned but professionally run business for manufacturing a very wide range of special purpose machines for the processes of deburring, grinding, polishing and micro-finishing to suit every industry requirement. Mohini Kelkar, Managing Director, Grind Master Machines Pvt Ltd comments, "Grind Master is one of the very few companies worldwide that offer a large variety of specialized solutions in metal finishing and deburring in a very organized way. A team of around 300 with a strong grounding in core values and a 'Can and Will' motto has helped the company grow exponentially." With a

dedicated R&D team developing breakthrough technologies for over 30 years, the company has emerged as an ace exporter to China, UK, US, Middle East and Southeast Asia, selling over 4000 machines, worldwide.

The budget impact

The budget has helped the manufacturing sector, especially SMEs, advance their space in the Indian and global sector. Kelkar says, "The budget hints that retrospective taxation will not be there and this will provide a feeling of security to the foreign investor. They will get the feeling of stability which will help in getting more foreign investments. Various exemptions will be removed

and corporate tax will be brought down to 25 per cent from 30 per cent." Such clarity and simplicity in tax laws will help not only foreign investors but also Indians to focus on improving their operational profitability rather than increasing the profits by working around the vague tax laws.

The road ahead...

Large investments in infrastructure will generate new business opportunities, for example, the demand for cement, premix plants and earth moving and construction machine equipment demand will increase. Kelkar concludes, "This will boost the engineering industry and the demand for earth moving equipment & hydraulic machinery will increase. Owing to the 'Make in India' initiative, manufacturing in India is likely to grow multifold in the next five years and hence, the demand for machinery & machine tools will also increase. At the same time the import of machines has become easier and duty barrier is not there now." Hence, Indian machine tool manufacturers will face stiff competition. They will have to seriously review the input material cost, manpower cost, etc. Apart from this, they have to offer technologically superior products which are also designed for high production volumes. Machine tool companies will have an opportunity to supply machines to MNCs that are setting up shops in India.



Mohini Kelkar, Managing Director, Grind Master Machines Pvt Ltd

DG's Note



Future of Jobs in India

Greetings!

We bring to you yet another stimulating edition of 'Manufacturing Pulse'.

One of the key priorities of the Indian Government is to create more jobs, for which appropriate skilling is necessary to make industry competitive. Further, there is a need for both public and private interventions for job creation, particularly in labour intensive sectors, to facilitate a seamless integration between industry and government.

Insufficient jobs is a major problem all over the world, as put forward by all international agencies—UNDP, ILO, WEF and others—and hence there is a need to consider the bigger picture now and initiate innovative policy solutions for India. As per UNDP's latest Human Development Report, India will be the most 'job stressed' nation in the next few decades. UNDP estimates that at least 280 million more people will enter India's job market by 2050.

CII is spearheading a new Initiative—the 'Future of Jobs'—aimed at creating greater understanding of the transformational forces shaping industries, **Contd... on pg 2**

Future of Jobs in India

and to develop directions for government policies and business strategies that will enable faster growth of employment in India with more competitive enterprises. Anchored by the CII Naoraji Godrej Centre of Manufacturing Excellence, the initiative involves participation of Department of Industrial Policy and Promotion, Government of India and prominent member companies. The Boston Consulting Group India is a partner to this initiative.

With this backdrop, we hope you find this newsletter insightful with articles on the topics of best practices, and safety in a volatile, uncertain, complex, and ambiguous (VUCA) environment.

Chandrajit Banerjee,
Director General, CII



Confederation of Indian Industry

TRAININGS AND WORKSHOPS

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SAFETY

Pillars of Well-being

M&M's Farm Division undertakes various safety practices for the safety and security of its employees. Read on to know more...

The Farm Division (FD) of Mahindra & Mahindra (M&M) was established in 1963, as an independent company called International Tractor Company of India Ltd. The company's safety movement is based on the following safety philosophy which includes 12 pillars.

Senior management leadership commitment

The top management provides frame work through its Safety, Health & Environment (SHE) policy. It supports the Line management in achieving high standards of safety in all its activities and functions. Also, regular communication between the management and employees takes place at all levels.

Legal compliance of applicable act & rules

There are comprehensive set of safety rules and regulations available at Farm Division. Statutory compliance related to various act & rules done and reviewed through a Cross Functional Team (CFT).

Employees awareness

Safety awareness is a continual process and also an important factor in creating and maintaining safety culture.

Employees participation and motivation

To increase awareness and participation, the company cel-

brates various days such as national safety day/ month, fire service day, world environment day, etc.

Training & retraining

To develop competency of employees, training is a regular and ongoing activity at FD. The company provides the following types of training such as safety awareness training, new employees induction training, on job safety training, firefighting training, hazardous waste handling training, etc.

Hazard identification & risk mitigation

HIRA (Hazard Identification & Risk Assessment) is used proactively to identify hazards in the process along with workman /cell members. The identified risks are rated as high, moderate and acceptable on the scale of 1 to 25. It is based on the severity and probability matrix.

Incident / Near miss investigation

The company believes that an accident occurs after several harmless near misses and learning from them will lead to prevention of accidents. All accidents and near misses are investigated and recommendations are implemented to prevent a recurrence. Various themes derived from the near miss/incident and actions are taken across FD and the same has been reviewed by the senior

management on a weekly basis. The company has developed an accident investigation form with a 5W & 1H principal. The safety performance is reviewed on a weekly basis by the top management and once in a quarter by the Group Executive Board.

Occupational health

To maintain good health of employees is an important asset. The company has developed various check-up programs such as pre-employment checkup, complete medical checkup of cell members, complete medical checkup of employees working in hazardous area, specialized medical checkup, etc.

Safety Kaizen

Carrying of HIRA / FMEA and elimination of risk through Safety Kaizen is part of the safety culture at FD.

New trends

To update and upgrade the company with the latest industry trends is equally important for continual improvement of safety performance. FD has adopted various initiatives such as Behaviour Based safety (BBS). It is the latest tool to judge an employee's behaviour related to safety.

Contractor management

The company has introduced various safety systems to protect them from any hazard while at work.

Innovation in safety

To achieve FD's target of zero accident, safety innovation in safety is the only solution. Considering this, the company has implemented about 32 innovation projects. Some of them are so unique that FD has applied for patenting them.



Source: Mahindra & Mahindra

The safety philosophy pillars of M&M's Farm Division.

Best Practices on the Shopfloor

Ace Manufacturing Systems Ltd has over two decades of expertise in providing machining solutions to the machine tool industry. Here are a few of the practices that the company follows that set them apart from the rest.

Source: Ace Manufacturing Systems Ltd

Ace Manufacturing Systems Ltd (AMS) follows a one of its kind culture where the top management practices what they preach. There is uniformity in treatment of all employees. The timing, the attire and food is common for all employees irrespective of their position or experience in the company. All employees are referred to as family members.

One of the unique practices at its facility is the Morning Session, which is conducted by MD or CEO every day before the commencement of work. All employees irrespective of grade or age assemble in the shop floor. "Important aspects related to health and safety are also discussed and announced," averred Managing Director, Ace Manufacturing Systems Ltd, P Ramadas.

Open door policy

AMS follows an open office culture where there are no cabins for anybody including the CEO & MD. All employees are welcome to approach the two of them or any other senior with their queries or concerns if and when required. The organization is a temple for learning where

employees are encouraged to learn from other departments and from anyone in the company.

The open-minded and flexible nature of the senior management has created a congenial environment for working by sharing of thoughts. Suggestions from all employees are welcome in identification of the best practices.

Various initiatives in the shop floor such as 5S and Kaizens are followed. "Employees in the shop meet regularly as a part of the 'Small Group Activities' to undertake improvement actions in areas of quality, productivity, cost reduction, safety, cleanliness, space reduction and morale," asserts Ramadas.

He states, "The best practices are identified by the senior-most members of organization. And are incorporated based on the impact the initiatives have on either the life of employees or on the product quality."

The organization is also always open to and has incorporated feedback from external members such as customers, suppliers, auditors, and other general visitors.

Research & development

AMS is a company driven

by technocrats. According to Ramadas, continuous focus on customer requirement has led to innovation in product development. And continual product improvement and development of innovative products and sub-systems are the key focus of the company's R&D team.

Green approach

The company is a green factory that is surrounded by a garden. The construction of the office building and the shop floor is such that it allows maximum natural ventilation and illumination inside. Use of turbo ventilators and avoidance of air conditioners have significant impact of the energy consumed and emissions. An effluent and water treatment plant and rainwater harvesting further add to the conservation of natural resources. A new inclusion in the infrastructure of the company is the solar panels on the roof for generating electricity, which will meet nearly 70% of its total requirement.

It can be seen that the success garnered at the company is primarily owed to respect—respect for everyone, respect toward learning, and last but not the least, respect for the environment.

National Capital Goods policy unveiled

The Government has unveiled the National Capital Goods Policy that seeks to reduce reliance on imported equipment by incentivizing domestic production and in the process creating crores of jobs. The policy seeks to increase production of capital goods from ₹230,000 crore in 2014-15 to ₹750,000 crore in 2025 and also raise direct and indirect employment from the current 8.4 million to 30 million. The policy also aims to facilitate improvement in technology depth across sub-sectors, increase skill availability, ensure mandatory standards and promote growth and capacity building of MSMEs.

India, Iran, Afghan sign Trade Corridor pact

The joint investment accord will significantly boost the role of the under-tapped port of Chabahar connecting Iran through India and Afghanistan to central Asia. The deal is described as a 'game-changer' for the three countries. PM Modi stated that India will open a \$500 million line of credit to develop the Chabahar into a regional trading hub. This is the first foreign port in which India is involved to this extent. The port will help India bypass Pakistan to transport goods to Afghanistan and central Asia using a sea-land route. Besides developing the port, India will also help build a 500 km railway line between Chabahar and Zahedan.

Source: Ace Manufacturing Systems Ltd



Shopfloor at the AMS facility.

Need of technology

In order to enhance the global competitiveness of the Indian Micro, Small and Medium Enterprises (MSMEs) sector, the Ministry of Micro, Small and Medium Enterprises (MSME) is implementing the Credit Linked Capital Subsidy Scheme (CLCSS) under which MSE units are given 15 per cent capital subsidy on institutional credit up to Rs 1 crore to acquire approved machinery/technology. Assistance under the National Manufacturing Competitiveness Programme (NMCP) is also being provided to encourage MSEs through different components such as Technology and Quality Up-gradation Program (TEQUP), Design Clinic Scheme, Lean Manufacturing Competitiveness Scheme, Quality Management System & Quality Technology Tools (QMS/QTT) Schemes and

Volvo Penta to produce engines

Volvo Penta, a marine and industrial power system manufacturer, stated that it would begin production of five and eight litre industrial engines in the country from next year. The engines would be made for local customers at the VE Powertrain plant in Pithampur near Indore and a new line would be added at the plant exclusively for Volvo Penta engines. "The global strategy that we have is to supply at the short time with a good cost or price level depending upon from where you see it, which we do now in more or less all parts of the world," Senior Vice President Global Operations and Quality, Peter Hertinge, Volvo Penta concluded.

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Manufacturing the India Way

The global manufacturing industry is showcasing radical change. Fresh challenges necessitate fresh priorities, especially in a world where financial instability, supply chain interruptions, regulatory hurdles and ever changing customer demands dent the production capabilities of even well established firms.

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Manufacturing has taken centre stage now that we have a government that understands manufacturing. 'Make in India' is not just a phrase but a clear change of direction for an economy long considered purely agricultural. At the turn of the century, when the wheels of fortune changed, a whole new knowledge economy emerged led by information technology, life sciences and the new phenomenon of 'Outsourcing'. Inexorably, China emerged as the global factory. Manufacturing in India became domesticated, low cost, low quality and a serious hazard on the 'Make in India' label.

Taking stock

Before the wheels of fortune turn again, it is important to assimilate what caused supremacy in the manufacturing arena. America's emphasis on factory automation, enabling their manufacturing juggernaut to supply to two armies—Allied and Red Armies—at the same time during WWII. This was followed by Japans' transition from low quality products to the pinnacle of glory raising the bar on product quality using the famous 'Toyota Production System'. Next, it was the

Germans who built their manufacturing edifice on strict adherence to standard operating procedures. With improvement in living standards, all these economies started to suffer from high wages and low working hours. The needle on the compass now shifted to China with its unbelievable magnum opus of scale hitherto unheard of. The overheated Chinese economy, trying to do too much in too short a time, has its own problems too.

Future forward

Manufacturing dominance is about to shift. Will it shift to India? Will Industry 4.0 be the answer for competitiveness of European manufacturing? Only time will tell. Be that as it may, there is another scene that is unfolding, influenced by the geo political system, whose macro level effects are bound to shake the world of manufacturing—The emerging volatile, uncertain, complex, and ambiguous (VUCA) world. When several of these VUCA elements occur together, almost all the conditions will become chaotic. What kind of planning can one do if market conditions are constantly changing? It is on the cards that serious manufacturing investments may be rendered redundant with shifting paradigms. This is merely

a preamble for the scene in which Indian manufacturing will be called upon to play its role. And it is a daunting task indeed.

Getting introspective

'Jugaad' is still very much practiced in large number of MSMEs. Even though India has the largest number (26) of Deming Prize awardees, it still has issues such as a declining share in global trade. The whole manufacturing value chain needs to transform, converting islands of excellence into a nation of excellence in manufacturing. Leveraging on Industry 4.0, technology, innovation and high skills of the developed world to overcome the shortage of skilled labour with extreme automation seems to be the ideal solution that some are looking at in India. But does a theory, born out of a high-wage, high-cost environment apply equally in the Indian context? Is automation the right answer for a country that needs to create 100 million new jobs by 2022? Where would India's competitive advantage come from if we were to invest in the same capital inputs that the developed world would use? Is there a way by which the concept of Industry 4.0 and the elements of frugal engineering be integrated into scripting a new way of manufacturing for India?

This article is setting the context towards encouraging a debate among manufacturing specialists about the future of India's manufacturing sector. In subsequent serialised articles, we will attempt to address some more related issues. In the meanwhile, we encourage manufacturing thinkers to contribute their views and mail them to us at cii@cii.in. We will try to acknowledge your contributions in the articles.

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