



# Robotic Automation & Machining Will Transform Modern Manufacturing



**Sameer Kelkar**  
CEO, Grindmaster

Sameer Kelkar, the CEO of Grind Master Machines Pvt. Ltd, loves to venture into new horizons of Robotic Applications such as Grinding, Deflashing, Fettling, Machining and many others. With his leadership Grind Master, a pioneer and leader in special purpose machines for Metal Finishing, Deburring, NanoFinish and solutions including Robotic automation and Abrasives, has also several registered designs and technology patents (pending) in the field of microfinishing and superfinishing.

An explorer at heart, Sameer Kelkar, is a Silver Medallist and Graduate of IIT Bombay, and MS in Robotics from University of California, Berkeley. In an interview with MART, he opines how robotic automation and machining could be game changer of the modern manufacturing processes...

## Manufacturing has grown exponentially. What are the latest technologies that are dominating Indian manufacturing currently?

Modern manufacturing demands more flexible and faster manufacturing technologies using Robotics & Automation. Majority of industries are upgrading their manufacturing setup from traditional setup consisting manual processes or semiautomatic processes to robotic automation.

Various processes like Fettling, Deflashing & Grinding which were traditionally done manually or using semiautomatic tools are now successfully shifting towards robotic automation. Processes like Robotic Machining are next step of Rapid Prototyping or 3D Printing where user can work with large variety of materials.

Developed countries like Japan, China, USA and many European countries have successfully implemented Robotic Automation among various industries. India is

moving swiftly towards use of such technologies, still long way to go . . .

## What are the upcoming technological trends in manufacturing across the globe? How Indian companies are catching with this?

Industrie 4.0 or the fourth industrial revolution is the current trend of automation and data exchange in manufacturing technologies. It uses cyber-physical systems and cloud computing. Machines are meant to

improve quality productivity and cost efficiency. With Industrie 4.0, machines are becoming smarter and users are able to interact with these smart machines in similar way we interact with smart phones. There machines communicate and cooperate with each other and humans in real time which helps in making decentralized decisions. Industries with scattered manufacturing plants can now coordinate in much better way due to this. Self-diagnostics is another feature which helps in preventive

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maintenance which eventually helps in increasing productivity and quality. Indian MNCs are working on adopting Industrie 4.0. Even it is helpful from smaller companies where plant manager/ owner is able to track the production and maintenance data on single click over his smartphone or PC.

## How is your company adapting the upcoming technologies?

Since its inception in 1984, Grind Master has continuously kept innovating according to need of industry. Grind Master entered in Robotic Automation for Fettling, Grinding, Deburring and Machining applications. We stand apart from rest of the Robotic system integrators due to our machine tools manufacturing experience, process know how and Engineering capabilities. Today Grind Master manufactures over 50 products ranges including manual,

semiautomatic as well as CNC machines along with Robotic Automation.

Grind Master gives specialised solutions for NANOFINISH, Metal Finish, Deburr and Robotic Automation. Over the period, we have indigenously developed our own control system NANOFINISH specifically meant for Metal Finishing Machines. Now we are replacing it with Industrie 4.0 compliant control system – NANOSmart. NANOSmart control system has lot of advanced features for users for remote monitoring and operating the machine.

## How much an engineer graduated from India is skilled to implement the latest trends in manufacturing? How gaps can be filled?

The major concern in our academics is lack of hands on experience on machines. We find most of the Engineering students shy away from

working on machines while they put more emphasis on soft skills. Grind Master has taken up the task to contribute to Skill India initiative by arranging Metal Finishing Training for Engineering Institutes. We have also specifically prepared the Metal Finishing as well as Robotic Machining Centre package for engineering colleges which will help students to understand various aspects of metal finish, robotics. I think it is industry has to come forward and extend the hand to help the educational institutes improve skills of future engineers.

## What are the dominating paradigms in terms of adopting advanced technological trends into manufacturing?

Manufacturing in India needs to leapfrog technologies in order to “MAKE IN INDIA”. Technologies are moving very fast. Paradigms are shifting

very fast. Highly Innovative companies from IT background are entering into Product Design and Manufacturing space. This is very heartening and will bring in a much needed Innovation culture and ideas that will drive advancements.

## Indian SMEs are the most prominent part of manufacturing. Are they ready with the latest technologies to deliver global competent products? The challenges SMEs face in implementing these technologies?

The major issue with most of the SMEs is that they are not able to organise the work and responsibilities in neat manner. Unorganised planning and supply chain management eventually results in delayed deliveries with substandard quality. To deliver world class product, it is essential to follow right process flow. It we stick to the process, it is very well possible for Indian

Manufacturing sector to grow manifold

**How much the Government of India is helping the Indian SMEs to work in a progressive and competitive environment?**

Government of India is proactively promoting manufacturing sector. Many incentives and subsidies schemes like CLSS, CGTMSE are offered for SMEs and Startups are launched. EEPC is actively participating and promoting SMEs to participate in Engineering Shows worldwide.

Offset clause will play vital role in bringing manufacturing of defence and aerospace sectors in India.

**What, according to you, are the dominant changes that should be made immediately in the Indian manufacturing**

**scenario to make it globally acceptable and competitive?**

Over 60% of turnover of Grind Master comes from Exports and we stand as maximum exporter of Machine Tools from India as per IMTMA. With our experience with Global companies, I can say that rather than going for delivering cost competitive products, we should go with 'Quality First' approach. We have cheap resources available; if we improve on front of better workmanship and do detailed inspection we can definitely deliver world class products with competitive pricing.

**Do you think the new age start-ups are well equipped when it comes to technological trends like Big Data, IoT or Predictive Analytics?**

Manufacturing sector is not

yet ready for IoT or Big Data. This is why leapfrogging of technologies is required.

Traditionally organized manufacturing units have a real challenge to transform working cultures and philosophy to adopt this VUCA world. This is where new age startups with a highly innovative culture can challenge established players.

**What are your views / comments with regard to Mr. Modi's campaign of Make in India? Do you have any suggestions to increase its effectiveness?**

Make in India has had a very positive branding impact. This impact needs to be backed up with delivery of Infrastructure and solution to Ease of Doing Business related issues. Considering the speed with which actions have been taken in the above respects I believe

the results of Make in India will be clearly visible on the ground in the next 3-4 years. In order to help Indian manufacturing leapfrog into competitiveness the government needs to take more efforts in spurring Innovation.

**Please give a brief about your industry, services and offerings?**

Grind Master is a pioneer & leader in special purpose machines for Metal Finishing, Deburring, NanoFinish and solutions including Robotic automation and Abrasives. We provide total solutions for surface finishing requirements

With over 4000 machines across 6 continents, serving a wide range of industries, we bring a world of experience of over 30 years in machine technology and process knowledge.



Grind Master gives specialised solutions for NANOFINISH, Metal Finish, Deburr and Robotic Automation.

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