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"Jyoti CNC Automation Limited is proposing, subject to receipt of requisite approvals, market conditions and other considerations, to make an initial public offer of its equity shares and has filed a [draft red herring prospectus with the Securities and Exchange Board of India (the "SEBI")]. The [DRHP] is available on the website of the SEBI at [www.sebi.gov.in](http://www.sebi.gov.in) as well as on the websites of the Book Running Lead Manager at [www.avendus.com](http://www.avendus.com) and [www.sbics.com](http://www.sbics.com). Investors should note that investment in equity shares involves a high degree of risk and for details relating to the same, see the section titled "Risk Factors" of the aforementioned offer document."



**SUCCESS IS HOW HIGH YOU BOUNCE BACK WHEN YOU HIT THE BOTTOM.**

## Bouncing back!

It seems to be the season of revivals! In fact, one of my favourite anecdotes is about bouncing back. King Robert Bruce, who played a pivotal role in Scotland's war of independence against England in the 13th century, had lost a battle and was hiding in a cave. Dejected and depressed by the defeat, he was on the verge of giving up when he saw a spider struggling to climb up the cave's wall. Despite several unsuccessful attempts, the spider kept trying and finally succeeded. Robert Bruce was inspired by the tiny spider and he once again decided to take on the might of England. He not only fought back but also won. Scotland became free and Robert Bruce was crowned its King!

Indeed, the test of success – as General George S. Patton so famously once said – is not what you do when you are on top. 'Success is how high you bounce back when you hit the bottom'. We hope and pray that Indian economy too bounces back and reaches its well deserved glory. Keeping in line with this spirit is our Cover Story in this issue. It is about a company hit badly by recession and about how it has worked really hard during the difficult times. And now, it is ready to reap the benefits!

Tell us how you like it.

*Niranjan M*

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# NEWS

## Huge investor curiosity and interest in India: FM Jaitley

The Union Finance Minister Arun Jaitley said that there is huge curiosity and interest in India especially among domestic and foreign investors. He said that ordinarily everything is going in the country's favour including growth prospects. The Finance Minister further said that other developed and emerging market economies like Brazil, South Africa, Europe, Japan and Russia among others are facing challenging situation while our prospects are showing an upward trend.

The FM was speaking at the Investiture Ceremony to honour the officers of Central Board of Excise and Customs. The FM said that in order to make best

use of this opportunity, we have to address two major concerns i.e. quick decision making and stability in policy matters and reforms in tax structure



and administration. The Finance Minister said that revenue collections which were affected due to low manufacturing in the last 2-3 years are also turning around and we hope to meet our fiscal targets. He said that our reserves are good and Current Account Deficit (CAD) position is much better.

## ADB President lauds India's efforts at accelerating growth



Asian Development Bank (ADB) President Takehiko Nakao recently met India's Prime Minister Narendra Modi and Finance Minister Arun Jaitley to discuss ADB's partnership with India as the government aims to address the country's development challenges. At his meeting with the Prime Minister,

Nakao lauded India's brighter growth prospects in the light of the government's bid to improve the business environment and accelerate infrastructure investment. He commended efforts to introduce a goods and services tax as it would unify internal markets and support economic growth by removing tax distortions. He also highlighted the importance of recent reform measures such as the reduction of fuel subsidies, raising the foreign direct investment (FDI) ceiling in several sectors, and fast-tracking infrastructure projects by expediting clearances. "Prime Minister Modi and his government are aiming for a good balance between fiscal consolidation by rationalising expenditure and growth-oriented policies by expanding public investments. Better targeting of subsidy payments is essential to achieve higher and more inclusive economic growth," President Nakao said.

## NCR inaugurates new manufacturing facility in Chengalppet, Chennai

NCR Corporation has inaugurated its state-of-the-art manufacturing facility in Chengalppet, close to Chennai. The new facility at the Mahindra World City is built over a 117,079 square-foot area, with a single roof design structure that allows NCR to introduce innovative technologies faster to the market and expand to new growth industries like retail and hospitality.



"This facility will further strengthen our leadership position in India as we get closer to our customers and respond faster to the demands of the market," said Navroze Dastur, MD, NCR India.

## Bosch Limited inaugurates its sixth manufacturing plant

Bosch has inaugurated its sixth manufacturing unit in India SIPCOT Gangaikondan, Tamil Nadu recently. Built with an investment of around Rs500 million and spread across 6,500 sq m of built up area, this new facility will facilitate the company's Gasoline Systems business to further localise manufacturing and increase cost-competitiveness. "It is important for our Gasoline Systems business division to have a strong manufacturing foot-print in an important market like India," said Dr. Steffen Berns, MD, Bosch Limited.



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## Want to promote co-operative and competitive federalism in the country: PM Modi

Speaking at the Vibrant Gujarat Summit 2015 in Gandhinagar, Prime Minister Narendra Modi has said that his government wants to promote co-operative federalism in the country. "At the same time, we want a competitive element among the states to create and attract whatever is needed there. I call this new form of federalism: Co-operative and Competitive Federalism," he explained. The PM assured that his government is actively working to revive the economy and that it is committed to create a policy environment that is predictable, transparent



and fair. The PM shared some statistics to support his claim. "On the economic front, during the first two quarters, we registered a growth rate which was one percent higher than the previous year. The IMF has observed that India will be the 2nd fastest growing economy in the coming years."

According to the latest forecast of the OECD, India would be the only country among world's top economies which would increase its pace of growth this year. HSBC's latest report has identified India as the world's largest growing exporter.

## Omron Automation displays total solutions approach



Omron Automation India displayed its total solutions approach in industrial automation at SPS Automation India 2015 in Gandhinagar recently. The exhibition, in its 1st edition, focused on all key innovative technologies across the realm of industry automation solutions.

Commenting on the participation, Sameer Gandhi, MD, Omron Automa-

tion India, said, "Shows like SPS Automation India 2015 allow us to portray our strengths as complete automation partners and help in strengthening our reach and connect with key audiences - both industry and region specific. This participation is also a part of our efforts to accentuate Omron's presence in the Gujarat market." Omron is well positioned in assisting the Indian manufacturing sector with its 'total solutions' approach. Themed 'We Automate!', the Omron booth exhibited the utility of all of its key offerings such as automation solutions for bottling machines, Vision & Safety solutions and the Sysmac integrated automation solutions that help crucial operations.

## CG and Arelis will supply to Indian aerospace & defence

Avantha Group Company CG has entered into a memorandum of understanding with French enterprise Arelis that specialises in design and manufacturing of high-tech electronic solutions. On one side the two companies agree to explore manufacturing and supply of hybrid microelectronics for high mix-mid volume market and for high runner microelectronics hybrids markets for Aerospace and Defence, Energies, Utilities and Telecommunication

sectors. With the technology transfer from Arelis on hybrid microelectronics, CG will be able to indigenously manufacture the components and sub-assemblies for Indian and global markets.

On the other side CG and Arelis agree on the manufacturing and supply of electrical, electronics and microelectronics components to key Indian Aerospace and Defence programmes as well as to global OEMs targeting offset discharge.

## KBL inaugurates its warehouse facility in Kirloskarvadi

Kirloskar Brothers Limited (KBL) has inaugurated its warehouse facility at Kirloskarvadi. The warehouse currently stocks all fast moving spares for KBL's range of small and medium industrial pumps. This will enable KBL to quickly deliver spare parts to its valued customers in industries such as



coal, sugar, chemical process, oil and gas, power, building & construction and municipal water.

Jayant Sapre, Director, KBL said, "The opening of this warehouse and service center will enable us to offer high quality services to our customers. It will also help us to increase our distribution reach. Like all initiatives at KBL, this extends our vision of providing sustainable and competitive solutions."

KBL already has a state-of-art facility warehouse at Kirloskarvadi for small and medium range industrial pumps.





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# Mark your diary

A list of key events happening between January to November 2015, both nationally and internationally

## ACMA automechanika

**February 26-March 1, 2015**, New Delhi  
[www.acma-automechanika.in](http://www.acma-automechanika.in)

## Asian Tyre and Rubber Conference

**June 12 - 13, 2015**, Chennai  
<http://atrc.in/>

## ProMat 2015

**March 23-26, 2015**, Chicago  
[www.promatshow.com](http://www.promatshow.com)

## Automotive Manufacturing 2015

**June 24-27, 2015**, Bangkok, Thailand  
[www.automanexpo.com](http://www.automanexpo.com)

## Hannover Messe 2015

**April 13-17, 2015**, Hannover  
[www.hannovermesse.de/home](http://www.hannovermesse.de/home)

## Aluminium India 2015

**September 7-9, 2015**, Mumbai  
<http://www.aluminium-india.com/>

## India Steel 2015

**April 16-18, 2015**, Mumbai  
<http://www.indiastelexpo.in/>

## Global Additive Manufacturing Summit - 2015

**September 24 - 25, 2015**, Bangalore  
<http://www.amsi.org.in/Conference.htm>

## RAPID – 3D Event

**May 18-21, 2015**, Long Beach, California, USA  
[www.rapid3devent.com](http://www.rapid3devent.com)

## EMO MILANO 2015

**October 5-10, 2015**, Milan  
[www.emo-milano.com/en/home](http://www.emo-milano.com/en/home)

## SUR/FIN Manufacturing and technology conference and tradeshow

**June 8-10, 2015**, Illinois (US)  
[www.nasfsurfin.com](http://www.nasfsurfin.com)

## FABTECH 2015

**November 9-12, 2015**, Chicago, USA  
[www.fabtechexpo.com](http://www.fabtechexpo.com)

## Machine Tool Expo

**August 20-23, 2015**  
Delhi  
[www.mtx.co.in](http://www.mtx.co.in)

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### ARVIND PANAGARIYA TAKES CHARGE AS VICE CHAIRMAN NITI AAYOG

Arvind Panagariya has assumed charge as the Vice Chairman of NITI Aayog- National Institution for Transforming India (NITI). Eminent economist, Arvind Panagariya was professor of Economics at New York's Columbia University till recently. A Rajasthan University alumnus, Panagariya holds a Ph.D. degree in Economics from Princeton University.

A former chief economist at Asian Development Bank, Shri Panagariya has worked with International Monetary Fund, World Trade Organisation and World Bank. He has written around ten books and the latest was "India: The Emerging Giant" published in 2008. w

Born on September 30, 1952, Panagariya is the first vice chairman of the NITI Aayog. The NITI Aayog has been established by the Government to function as both a think tank and a policy forum replacing Planning Commission.



### ROYAL ENFIELD APPOINTS RUDRATEJ SINGH AS PRESIDENT

Royal Enfield, the world's fastest growing motorcycle manufacturer, has announced the appointment of Rudratej 'Rudy' Singh as President, Royal Enfield. He will be reporting to Siddhartha Lal, MD & CEO, Eicher Motors Ltd and will be based out of the company's corporate office in Gurgaon. Welcoming Rudratej, Lal said, "Rudy joins Royal Enfield after spearheading global brands and businesses for almost two decades across emerging and developed markets. His extensive experience in marketing mix development and managing brand equity along with the rich global perspective will help us in our objective of becoming leaders in the mid-sized motorcycling segment."

As President, Royal Enfield, Rudratej will be responsible for building thought leadership for the brand and leading the commercial business for Royal Enfield. Prior to joining Royal Enfield, Rudratej was based in Singapore with Unilever as VP - South Asia, HPC & Foods Marketing Operations. Commenting on his new role, Rudratej said "Royal Enfield has been on an exciting journey with record growth in the recent years. It has constantly challenged business and brand conventions, and I look forward to establishing Royal Enfield as the most iconic motorcycle brand, and a world leader in mid-size motorcycles."

### T. SUVARNA RAJU TAKES OVER AS CHAIRMAN HAL

T. Suvarna Raju who has a distinction of being granted the first patent in HAL in January 2002 has been entrusted Additional Charge as Chairman, HAL. He took over from Dr. RK Tyagi. "Given the high expectation built around the Company, my priorities would be to concentrate on operational excellence, and build the company as technology powerhouse", says he. He is committed to set the HAL as one of the best examples that align with "Make-in-India" endeavour of the Government of India and he believes that doing so may be a challenging job in the aviation filed, however not impossible because he strongly believes that "the Best of Technologies can never be bought, it can only be developed". "I would like HAL to grow as knowledge based organization," he emphasises.

Born in a humble village of P. Vemavaram of Tanuku (West Godavari) district in Andhra Pradesh (A.P.), Raju, an Engineering Graduate, joined HAL on June 26, 1980 as Management Trainee. Unfazed by the extreme work hours and challenging goals, Raju not only continued to deliver and meet his professional goals and targets, but also continued pursuing his academic interests. He obtained his Masters in Business Administration as well as Masters of Philosophy in Defence and strategic Studies.





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### **HARSHAVARDHAN CHITALE IS CEO OF PHILIPS LIGHTING SOUTH ASIA**

Philips has announced the appointment of Harshavardhan Chitale as CEO of Philips Lighting solutions, South Asia, effective from 1st January, 2015. In his new role, Harsh will be based in Gurgaon and will be responsible for driving and building the Lighting Solutions business for Philips in India. He will report to the Market Group Leader, Lighting Solutions, Philips Growth Markets. Harsh brings with him extensive experience of leading successful organisations in the services and solutions space. He joins from HCL Infosystems, where he was the MD & CEO. Commenting on his role at Philips Lighting, Harsh said, "I am indeed looking forward to this new role. Lighting is an exciting industry to be in and it's even more exciting to work with Philips, which has shaped and led the industry over the years."



### **LARS DITHMER IS MD ALFA LAVAL INDIA LIMITED**

Lars Dithmer has been appointed as Managing Director, Alfa Laval India Limited effective January 2015. He was the Chief Operating Officer at Alfa Laval India since May 2014. Lars, with over 27 years experience was based in China and Hong Kong in key senior roles within the Alfa Laval Group for nine years before relocating to India. He was Head of Corporate Development, Asia between 2011 and 2014.

A Graduate in Mechanical Engineering from the Danish Technical University by qualification, Lars has in-depth experience spanning Engineering (Technical), Sales and Marketing and Corporate Development during his career in Europe and Asia Pacific region.

Alfa Laval has been present in India since 1937.

### **RAVISHANKAR S JOINS WALTER TOOLS AS MD FOR INDIA OPERATIONS**

At the IMTEX 2015 held during January 22-28 in Bangalore, Walter India has announced the appointment of Ravishankar S. as the new Managing Director of the Company with immediate effect. He is responsible for the overall growth of Walter businesses in India and drive operational excellence with an emphasis on growth strategies and developing people. He joined Walter India from Yamazaki Mazak India Pvt. Ltd., where he held a similar role. He has more than three decades of experience in Cutting tools and Machine Tools. "I am excited to be a part of Walter Family. With Indian manufacturing industry going through a revival phase, my efforts will be vested in improving our market leadership positioning by focusing on more and more customer acquisitions and executing the growth strategies," said Ravishankar S, MD, Walter Tools India.



### **BAE SYSTEMS NAMES DEEPAK PAREKH AS ITS INDIA CHAIRMAN**

BAE Systems has appointed Deepak Parekh, Chairman of HDFC Ltd, as a non-executive Director and Chairman of its Indian subsidiary, BAE Systems India (Services) Private Limited, with effect from January 1, 2015. Parekh's association with BAE Systems began in 2010 when he was appointed as a member of the Company's Independent Advisory Board for India. In his new, part-time role as Chairman, Parekh will provide leadership to the BAE Systems India Board and help the company realise its aspiration to develop capabilities and infrastructure in support of PM Modi's 'Make In India' initiative.

Parekh said: "As a member of BAE Systems' India Board, I look forward to working with the Company and helping to contribute positively to the future development of world class defence and security capability in India."

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# The Revolution starts in Hannover

The fourth industrial revolution – aka Industrie 4.0 – will bring major change to energy systems and industrial production models.

“Is my organisation ready for the fourth industrial revolution? That’s the big question that CEOs and plant managers are currently asking themselves,” remarked Dr. Jochen Köckler, Member of the Managing Board at Deutsche Messe. The fourth industrial revolution – aka Industrie 4.0 – will bring major change to energy systems and industrial production models.

companies still don’t know what they need to do in order to be ready for Industrie 4.0. What they need to do, of course, is form close networks with all stakeholders involved in their production processes. Hannover Messe 2015, with its lead theme of ‘Integrated Industry - Join the Network!’, will show them how from April 13-17, 2015.

The key challenges of the fourth industrial revolution – such as achieving universal standards for machine-to-machine


communication, maintaining data security and finding new business models – can be mastered only through collective endeavor in networks. This requires effective dialogue and cooperation between the mechanical engineering, electrical engineering and IT sectors. The enormous potential that all sectors of industry can unleash through this sort of integration will be on show at Hannover Messe 2015.

Visitors to the fair will witness digitally networked production plants, smart grid technologies, ingenious new production processes, such as 3D printing, and next-generation industrial robots live in action. They will

see collaborative robots with sensor systems so advanced that they can work right alongside their human counterparts without any safety barriers.

And they will see IT-based automation

solutions that will bring fundamental change to all in-factory processes. Also on display will be smart technologies that manage and coordinate power, gas and heat networks so that capacity can be balanced and optimally deployed across the entire energy system. What’s more, visitors will be able to watch as additive manufacturing systems (3D printers) make individualized products right before their eyes.

Hannover Messe 2015 will play a pivotal role in the fourth industrial revolution. “The revolution starts in Hannover,” Dr. Köckler said. “The fair’s scope ranges from individual Industrie-4.0-ready components right through to complete automation solutions.” 



In factories, there will be a shift away from mass production as customers increasingly demand customised products – albeit at the same low prices they currently enjoy for mass-produced goods. And energy grids will need to become smarter so that they can optimally balance and deploy available power, gas and heat capacity from a wide range of sources. The answer to these challenges is Integrated Industry – the intelligent digital networking and integration of industrial systems and processes.

Integrated Industry is about enabling machines and workpieces to communicate with one another. This, in turn, will allow entire production lines to autonomously and dynamically re-configure themselves, thereby rendering small-batch and one-off production in large-scale plants commercially viable. Dr. Köckler: “Industry is in the early stages of a revolution known as Industrie 4.0.

It’s a phenomenon that has skyrocketed to the top of the agenda in industrial thinking over the past two years. Meanwhile, there is an enormous information vacuum, and most

“In factories, there will be a shift away from mass production as customers increasingly demand customised products – albeit at the same low prices.”

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# Networked future

Industrial production of the future will be more networked and will driven by intelligence.



**T**oday, industrialised nations are on the cusp of an intriguing change called Industry 4.0, a new beginning of sorts that is primarily been driven by the German industry, research, industrial associations. Paving the way for social, economical and technological revolution Industry 4.0 is expected to drastically change the landscape of industrial functioning. The term evokes the dramatic improvements the Internet of Things will bring about in engineering, production, and logistics processes in the future.

Developed nations across the world have until now been witness to three industrial revolutions, one that many experts opine has been disruptive in nature thus yielding higher productivity. In the coming decades, rapid improvement of infrastructure was to provide the necessary impetus. Up until now, baby boomers and Gen-Y have most been influenced by the third wave which was largely dominated by automation, microprocessors and IT.

## **Decentralisation of the production system:**

Now the Internet of Things is driving a major reorganisation of industrial production: connecting machines, systems, work pieces, and products to create intelligent production systems which can control each other autonomously without manual intervention. And so, Industry 4.0 is seeking ways of helping industry achieve greater flexibility, robustness, and dynamism, while also dealing with greater complexity.


The traditional centralised model of factory organisation is becoming more and more flexible and decentralised (smart factory). The production is based on active and passive connected objects, naturally communicating. All information about the products, machines, stock is available in real time and allows the

dynamic optimisation of the manufacturing. The increased flexibility, up to single piece production, enables the efficient production of customer tailored products.

**Reorganisation for improved efficiency:** Networked industry is a new chapter in global competition that would write the most efficient production. The advent of Internet of Things has been a catalyst of development as it aims to deepen the knowledge of the entire value chain. Possible is also an individualised production at significantly lower costs - not to mention a far more flexible order of processing.

To survive this competition, currently we have to work in two directions. On the one hand it is essential rather a requisite for the networked production that we detect, and ana-

lyse data in real time. On the other hand, it is imperative that we begin to think in terms of new business models. Constantly striving for improvements, the world of cyber-physics holds tremendous opportunities that allow the current industry to improve processes where the supply chain is enormous.

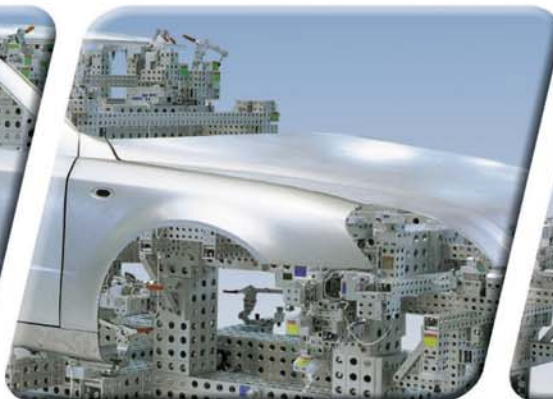
From processes that administer the minutest for the detailing, industrial production of the future would have smart products taking corrective measures that could help divert damages and where spare parts are replaced automatically. A particularly good position for organisations to compete, where companies are positioned equally as providers and users of networked production. What is clearly emerging as first tell-tale signs of this experience is: The networked production of the future depends on the qualifications of the human factor. Increasingly specialisation in software and superior knowledge about manufacturing processes is seen as a must. Companies should not wait for the next industry revolution, it must prepare. 



*By Juergen Moessinger,  
Vice President Bosch  
Engineering and Business  
Solutions*

**"The advent of Internet of Things has been a catalyst of development as it aims to deepen the knowledge of the entire value chain."**

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# Aditya Birla Group's Hi-Tech Carbon – Leading the wa(y)ste!



The Lime Sludge (waste) selling project is a landmark initiative by the Aditya Birla Group's Hi-Tech Carbon plant in Gummidipoondi, Tamil Nadu and it warrants for a fresh perspective on waste disposal.

In its endeavour to ensure the implementation of best manufacturing practices, the Aditya Birla Group is regularly innovating at its various plants. With ash utilisation, energy conservation, water conservation and the 'Green Idea' initiative already garnering widespread accolades, the Group has set very high standards as far as adding value to its products is concerned.

Living up to this benchmark is the Group's Hi-Tech Carbon plant in Gummidipoondi, Tamil Nadu. The Lime Sludge (waste) selling project is a landmark initiative by this plant and although tedious in nature, it has been carried out with acute precision to warrant for a fresh perspective on waste disposal.

The Birla Hi-Tech plant in Gummidipoondi, Tamil Nadu, is a part of the Brownfield expansion that the Aditya Birla Group undertook in 1998. In the following years since its inception the plant has been conferred with the coveted Deming Award for Quality (2002) by the Deming Prize Committee (JUSE), Japan and the NECA award for energy conservation. The recent project undertaken by the plant is worth a mention for its judgment and foresightedness.

The Hi-Tech Carbon plant at Gummidipoondi uses Hydrated Lime and Dolomite Lime for Water Treatment, and through it an estimated 40-50 Metric Tonnes (MTs.) of lime

sludge (waste) is generated every month. The existing practice at the plant was to remove lime sludge from the pit and pack it in used Polypropylene/Jumbo Bags and dispose it off to the Tamil Nadu Waste Management at Gummidipoondi by paying Rs1250/- per MT as land fill. This was done jointly by the Environment and Safety Department and Utility Department.

Previously, attempts were made to dispose of the lime sludge to various cement industries. K Swaminathan, Assistant Manager at the plant says, "We made several efforts to contact our group unit Ultra Tech Cement, Ariyalur and also other units like ACC Cement, Dalmia Cement etc. But the exercise wasn't feasible due to commercial implications like transport cost. Further, environment issues were a concern because the fuel used for transportation added to the carbon emissions."

Sensing an opportunity in this rather complicated situation, the team took the initiative and after some rigorous research, worked out possibilities for best practices for lime sludge (waste) management under the 'Special Project' scheme commissioned by the Group. To start things off, a basic groundwork was done. The team collaborated data that was relevant.

a) Material Safety Data Sheet to understand characteristics of lime sludge

**425.330 MT**  
**Amount of lime sludge sold**  
**from February 25, 2014**  
**to November 7, 2014 with**  
**total tangible benefits of**  
**Rs.9.58 lakh per annum**



- b) Indian Hazardous Waste Rules 2008 to study the applicable rules
- c) Collection of lime sludge usage details through websites for potential industries like paint, fly ash bricks, hollow bricks, acid industries and agriculture.

After the first round of data collection, the next imminent steps were taken. The shortlisted industries were contacted and viabilities of such a transaction were discussed. It was learnt that all industries other than the fly ash bricks industry were situated at a distance. Hence, transportation cost and carbon emission became the moot point. When it was derived that the consumption of these industries was comparatively less, the plant decided to zero in on the fly ash brick industry.

The fly ash brick industry was located as close as 10km-20km from the plant resulting in a reduced cost for transportation and simultaneously a reduced carbon footprint. Their consumption was more than 100 MTs per month and it matched every criterion that had been worked out to begin with.

Further, after ample research on the internet, the team found out that almost 180 billion tonnes of common burnt clay bricks are consumed annually. Approximately 340 billion tonnes of clay and about 5000 acres of top layer soil are dug out for manufacturing these bricks. As a result, soil erosion,

**“The project was in line with the Aditya Birla Group’s vision statement of sustainability and supporting the environment.”**

emission from burning of coal or wood fires which cause deforestation were serious problems faced by the brick industry. The magnitude of all these perils could be curbed to some extent by the use of fly ash bricks in dwelling units. The Pollution Control Board and State Government too approved fly ash brick as an eco-friendly alternative to the traditional burnt clay bricks. Supplying lime sludge to fly ash

“This project enriched every member to look at the possibility of creating awareness by referring Group units / businesses to approach various industries on their waste disposal system and its utilisation.”

**K Swaminathan,**

Assistant Manager, Hi-Tech Carbon plant, Gummidipoondi

manufacturers made more sense than disposing it as a land fill or dump.

Three potential vendors were identified and post the formalities; a selling price was fixed at Rs167/- per MT. The first sale was made on February 25, 2014. As of November 7, 2014, the plant has achieved sale of 425.330 MTs with total tangible benefits of Rs.9.58 lakh per annum. Besides the employees at the plant, the team was in touch with other teams for smooth operation and success of this project.

Although, the achievement is there to see in the numbers, according to Swaminathan, the project was in line with the Aditya Birla Group’s vision statement of sustainability and




**Usage of fly ash bricks in building construction**



**Usage of fly ash bricks in road construction**

supporting the environment. He says, “Since the entire project was totally cross functional, it gave rise to a lot of challenges. Understanding the process, people and in depth knowledge of the product was a huge learning factor. Handling bottle necks gave rise to self-confidence and developed interpersonal skills. Team-building gave confidence in delegation of work. This project enriched every member to look at the possibility of creating awareness by referring Group units / businesses to approach various industries on their waste disposal system and its utilisation.”

Such an incredible case study will only pave the way for other organisations to follow suit and adapt. 



# A Modern Classic!

When its sub-contractor shut business, advanced CNC machining centres opened newer possibilities for a company manufacturing components for classic cars.

By Matt Bailey

Providing high-performance parts for vehicles powered by the Volkswagen flat-four is big business, with no shortage of suppliers in Europe or the US. One company with the right credentials and a thick catalogue of engine, brake and chassis components is Custom and Speed Parts (CSP), based in Bargteheide, near Hamburg, Germany.

Founded in 1987 by Peter Köhmann, CSP is well known to the VW cognoscenti, not least for its racing endeavors where it tests many of its parts made on its Haas CNC machine tools. The company's exquisitely crafted Type 34 Karmann Ghia VW powered dragster sits in the showroom entrance of its production facility, surrounded by plinth-mounted variants of the classic engine.

The company's heavily modified Type 34 holds the class record for the quarter mile at 8:85 seconds (156mph). Its 2165cc engine develops 500bhp, which is ten times what the standard car produces using the same size block and case. Almost all of the tuning, brake and suspension parts are made by CSP.

"This is our weekend obsession," says Peter. "Racing takes up a lot of time and money of course, but it's a great test-bed

for CSP products and it attracts a lot of attention. We wanted the car to be as good as possible so our focus when we built it was on quality and finish just as much as performance. It was properly painted after its record-breaking run. The paint alone took 500 man-hours!"

The company's focus on quality isn't just about aesthetics. All of CSP's products are made to meet exacting German TÜV standards. "We're creating and selling parts to make classic VWs and Porsches go quicker than they were ever designed to go. So, we have to make sure everything we produce and sell is certified and tested to the highest standards. We want our customers to know they can take their vehicles on the autobahn and they will be safe. There are cheaper products available from Chinese factories, but I wouldn't trust them on German roads."

Thomas Kelm, Peter Köhmann's right-hand-man, is in charge of CNC programming and production. "Originally, we were using subcontractors to make parts," he says. "Quality and delivery were patchy, to say the least. Out of the blue the company who made the parts for us went out of business. Peter hired the owner and we bought a Haas VF-3 CNC machining centre."



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## CASE STUDY

“Our supplier had been working for himself for around 25 years,” Peter adds, “so he found the transition very hard. Suddenly, he had a boss! “He began with us by working normal workshop hours, which he didn’t enjoy. Immediately, he was very frustrated, so programming the Haas and setting-up the parts to be machined was laborious for him. He was using manual data input for all parts, irrespective of how complex they were. The quality of the parts he was making was not very good. So, Thomas began helping.”

The new recruit lasted just a few days. One day, not unexpectedly, he didn’t turn up. “In his absence, Thomas got the machine running and making parts. Our employee came back a day or two later to find Thomas was machining the parts. He decided there and then that he couldn’t work for us. He found it too difficult to adapt and be part of someone else’s company.”

Thomas taught himself to use SolidWorks and CAMWorks. “I’m more of an ideas man,” says Peter. “I sketch my ideas and Thomas now makes them into CAD models and generates the code. We found ourselves in a position where we could finally make the parts I was imagining. We were able to develop them, refine them and get them into production quickly. Parts that our subcontractor was making as fabrications, we were able to machine from solid billets, so they looked and worked so much better.”

The mount for a rear disc brake, for example, was originally made on two machines: first a lathe, then a vertical. Now the part is made in one set-up on the Haas.

“The machinist we hired originally specified the Haas VF-3,” says Peter. “It’s a very useful machine but after he left we quickly discovered we needed the VF-2SS with its higher spindle speeds. We take advantage of the long table on the VF-3 and load it up with as many parts as possible. However, our eventual aim is to upgrade it to another VF-2SS.”

In the meantime, both Haas machines have also enabled the company to make better prototypes of new products. “We kind of use the Haas machines as 3D printers,” says Peter. “For example, we rough cut new brake calipers which we then use for fitment tests. Although the final product is cast, machining the first versions in aluminium is so much quicker and easier.”

The finished parts themselves may not be authentic, but CSP tries to maintain an authentic final look wherever possible. For example, one of the company’s brake brackets allows a customer to dispose of original drum brakes and mount much more powerful disc brakes, whilst still keeping the traditional, five-bolt wheel pattern typical of 60’s VWs.


Valve covers are another mainstay CSP product. The originals are tin fabrications. The CSP valve cover is machined from solid and is available anodised in a variety of different colours. The improved product prevents leaks, improves cooling and dampens noise. Of course, it looks great, too! Previously, the throttle linkages were made by the subcontractor and cost CSP €9 each. Now, they’re made in-house and cost €5!

“We make around 500 off, which is unusually high for us. Typically, we make around 10-100 of a part, for stock. So many of our parts were once welded steel fabrications and now

they are machined from solid. We also like to scan parts and re-engineer them from the models. It’s a very fast and effective way to get something new into production. We may invest eventually in a 5-axis Haas, so we can port cylinder heads.”

Adjacent to the Haas CNC machines on what appears to be an enormous flat, steel machine table sits Peter’s latest obsession: a split-screen VW Transporter, which CSP is rebuilding. As yet unpainted, the 1960s vintage ‘Bus’ will eventually sport the same colours as the dragster and will be used as the team support vehicle, as well as serving as an additional test bed for new and prototype parts. Also like the dragster, it will be built to fly.

As we stand and admire this latest project Peter hands me a brake bracket: “One more, simple thing we now do that we didn’t do before,” he says. “We engrave part numbers on our products. It doesn’t sound much, but engraving, rather than stamping numbers manually, is far quicker and the end result looks so much more professional.

He smiles: “The Haas machines have helped us to make all of our products better, find new parts to make and generally improve everything we do.” 

*The author works for Haas Automation Inc.*

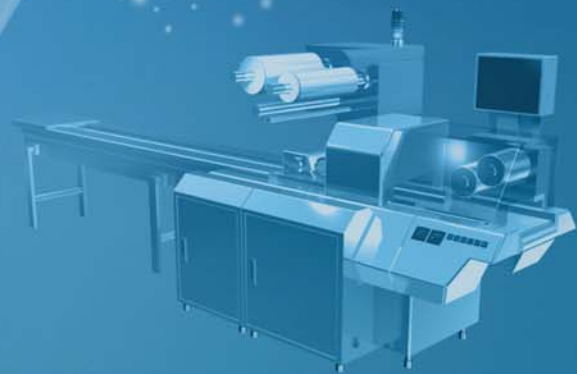
“We’re creating and selling parts to make classic VWs and Porsches go quicker than they were ever designed to go. So, we have to make sure everything we produce and sell is certified and tested to the highest standards.”

**Peter Köhmann,**  
Founder, CSP



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# Connected with India's Progress

With the government opening up a vast range of sectors for FDI, the potential of growth for the cabling solutions industry in India is enormous, says **Marc Jarrault**, Managing Director, Lapp India

By Niranjan Mudholkar

**While the market sentiments have shown improvements, the last two years have been difficult for the overall industry. How has been Lapp India's performance in this time? How are you doing now?**

As per the current market outlook, there is tough competition in the Indian cable industry with a lot of global players eyeing the Indian cables market along with local established players. There is an increased awareness on quality cables in the market. Improved lifestyle affluence, demand for improved quality, better designed products and understanding of safety standards has made the customer expectations very clear.

Last year Lapp India saw the growth in double digit figures and has grown faster than India's GDP. At Lapp India, we manufacture cables catering to all connectivity requirements for an expanse of verticals including – wind, solar, automation, automobile, building connectivity, machine tool, process, solar, and even public sector. Therefore, for Lapp India, the opportunity to grow always existed, as there has always been a continuous demand for cables irrespective of market conditions.

With the new Government emphasising strongly on the need to revive manufacturing industry and infrastructure, we are definitely optimistic about the growth in 2014-2015.

With the significant measures taken in the Union Budget 2014, the Make in India campaign and similar other announcements and initiatives, these factors will provide a positive impetus to the growth of the industry.

**How would you describe your market position in terms of the segments where you have presence in terms of share, product offerings and reach?**

Lapp India is the second largest company and the Bangalore manufacturing unit is the third largest manufacturing facility of the Lapp Group, producing about 100,000 km of ÖLFLEX connecting and control cables and insulated single cores each year. In 2012, Lapp India set-up its second Indian manufacturing facility in Pilukhedi, Bhopal and currently it is operational.

Lapp India witnessed growth in double digit last year. Our products have defined the benchmark for safety, standards, product quality in the local market backed by the excellence of German engineering Lapp India is being perceived as a brand high on value among existing customers as well as potential



Lapp India is currently commissioning a new leading edge multi core line in Bhopal which can produce 36,000 km of Multi Core cables resulting in overall capacity increase of 60 percent in Multi-core cables in addition to the existing 216,000 km capacity in Single Core wires."

customers. The cables that go into various industries such as automotive, automation, pharma, projects etc. require being compliant to strict standards and should stand for quality; Lapp India definitely ranks high on these attributes.

**You recently announced the expansion of your production unit at Jigani, Bangalore, with an investment of about Rs16.5 crore. How will this impact your production capacity?**





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With this new expansion Lapp India aims at tapping into the increased demand for quality control cables in the market.

The Bangalore facility has the capacity to manufacture 60,000 km of Multi Core cables and 78,000 km of Single Core Wires per annum. The rapid growth in urbanisation and the increased focus on infrastructure development has propelled the demand for quality connectivity solutions in India.

**Q The above expansion also reflects confidence in PM Modi's 'Make in India' initiative. What are your views on this campaign?**

PM Narendra Modi's strong emphasis on turning India into a manufacturing hub implementing the 'Make in India' campaign has been a great initiative to attract foreign investment in India. The 'Make in India' initiative aims at strengthening the core competency of the key industries and enhance the competitive advantage to become a world leader.

The positive measures announced will renew confidence of foreign players to invest in India which will encourage cutting edge innovation, latest technology advancement, skill development in the manufacturing industry in India. This has also made doing business in India easier. With opening up of a vast range of sectors for FDI, the growth potential for the cabling solutions industry in India is enormous. The manufacturing sector has lagged in recent years, and to succeed several reforms\* are necessary to unlock the potential of India's manufacturing sector.

**"Lapp India's strategic location allows it to cater to markets outside India in Sri Lanka, Bangladesh, largely SAARC region."**

**Q Lapp India is also currently commissioning a new leading edge multi core line in Bhopal, its second manufacturing facility. Tell us more about this.**

In 2012, Lapp India set-up its second Indian manufacturing facility in Pilukhedi, Bhopal which has strengthened our base in the single core wires segment as well as catered efficiently to growing customer demands in the building sector in India. It has an existing capacity of 1,000 km of single core cables daily, catering mainly to the Building Segment.

Lapp India is currently commissioning a new leading edge multi core line in Bhopal which can produce 36,000 km of Multi Core cables resulting in overall capacity increase of 60 percent in Multi-core cables in addition to the existing 216,000 km capacity in Single Core wires.

**Q A key concern in India is the gap between industry and academia, which can be bridged with meaningful partnerships. What is Lapp India doing in this regard?**

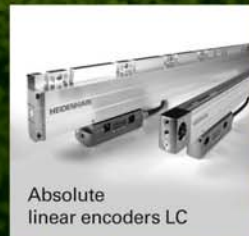
India has a vast pool of talent; however the greater challenge is the availability of industry and job ready talent across industry. According to NASSCOM, each year over three million graduates and post-graduates are added to the Indian workforce. However, of these only 25 percent of technical graduates and 10-15 percent of other graduates are considered employable by the rapidly growing IT and ITES segments. At Lapp India, we always believe that the approach to tackle this challenge is to initiate deeper industry and academic partnership. This



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gives the talent an exposure to the industry and a hand on experience much before they start their career.

As part of our industry-academia initiative, Lapp India has established Lapp Centre of Excellence in the PSG College of Engineering, Coimbatore and RV College of Engineering, Bangalore to enhance practical understanding and technology know-how of the students and lecturers on the cabling industry.

**There is an increasing pressure on manufacturing companies to keep their prices low in a highly competitive market. How are you reducing manufacturing costs?**

At Lapp India we are reducing costs by streamlining processes, optimal utilisation of raw materials through efficient consumption measurement and use. Also, to achieve the competitive edge in the highly competitive market, we have adopted the concept of Lean manufacturing. As we lay a strong emphasis on speed, implementing lean manufacturing has helped us to generate products and services for the customers within the shortest time. The primary tangible benefit that we have achieved after implementing lean manufacturing is transparency in the shop floor operations.

### Reforms\* required to unlock India's potential in the manufacturing sector.



- Provide healthy business environment for ensuring speedy clearances on procedural and regulatory issues including land acquisition, environmental clearances.
- Invest in R&D and encourage technology transfer of intellectual capital, increased focus on setting up incubation centres to foster innovation and research.
- Single window clearance – the time from concept to implementation should be reduced.
- Address poor logistics and lack of adequate infrastructure needs
- Introduce Tax concessions for industries for Greenfield projects.
- Provide incentives for MSME / SSI to innovate.
- FDI should be widened to include investment in terms of machinery, equipment, and technology. Exemption from capital gains tax for investments in manufacturing could also provide a stimulus.

*As suggested by Marc Jarrault, Managing Director, Lapp India*

We have implemented Kanban system to reduce non-value added movement of operators from machine to stores and back. Kanban gives required material at the right place, at the right time and in right quantities.

Another biggest benefit that we have gained out of lean implementation is that we have been able to introduce copper control system and it has helped us reduce extra copper consumption in the factory.


**Where do you want to see your organisation in the next five years? What is your vision?**

Lapp India is the second largest company of the Lapp Group; the milestone set here in terms of business and the success garnered in retaining the position in the market has proved to be an example for other Lapp companies located worldwide.

We expect a promising growth opportunity in the Indian Cable industry, with our range of products we are looking at addressable market potential of Rs55 billion (0.7 Billion Euros) growing at an average of 10 percent year on year until 2020 and beyond. This calls for regular investments in technology, infrastructure and of course people. The expansions of Jigani Plant and Bhopal Plant are a step in this direction.

Our aim is to further strengthen our position in the control cables segment and penetrate deeper into the market establishing a stronger brand image in the industry. We are strengthening our base in the single core wires segment as well to cater efficiently to growing customer demands in India. Our current focus is to establish the single core business for the building segment and control cabinet application.

Expanding our operations in India has been a key focus for us, mainly due to promising growth opportunities presented by the country. We have reoriented our business by focusing on diverse sectors like Cement, Building, F&B and Pharma which have facilitated in sustaining the growth. Internationally, our long term goal is to double our size by 2020.

Our global vision is to dominate the control cable business and lead the Indian market as the number one player in the control cables segment. Efficient customer service is very important for the success of our business. We strongly believe that in this fast changing market, the focus of the product companies should be on the ultimate value that is being provided to the customers. Lapp India is investing extensively on enhancing customer service to achieve our long term business goals. 



The positive measures announced by the Government of India will renew confidence of foreign players to invest in India which will encourage cutting edge innovation, latest technology advancement, skill development in the manufacturing industry in India."



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In the last manus award in 2013, the golden manus went to a manufacturer of cross-country skiing exercisers from Denmark. (Source: igus GmbH)

## Hunt for Bold Applications

The manus awards platform is on the lookout for challenging plain bearing applications International competition for plastic plain bearing applications is in its seventh year – application entry phase is now open

**A** for automatic telescope, B for boring device, C for cross trainer ... right through the whole alphabet, over 400 submissions competed for the 2013 manus award. Motion prevails in all these machines and equipment - and that is precisely where the lubrication-free plain bearings are used. The application entry phase for the 2015 manus continues until 20 February 2015, the competition where special applications with plastic plain bearings are recognised and rewarded. The awards carry prize money worth up to Euro 5,000 and will be presented at the 2015 Hanover Show.

They perform their service millions of times in the truest sense of the word 'silent'. But since they are so inconspicuous, they attract little attention to themselves. To counteract this, the manus award was introduced for the first time in 2003, and in the last competition, 437 participants from 33 countries competed. Over the years the manus awards threw up a lot applications showcasing the benefits of self lubricating

oil free bearing solutions. The dry-tech range of bearings offers a host of benefits and is ROHS compliant. Now, after twelve years, it will be the seventh time that applications using plastic plain lubrication free bearings will be examined, applications are characterised by technical and economic efficiency and the creativity of the developer.

“With this competition we want to support innovation and award bold applications, regardless of the industry. Among the winners of the 2013 manus award were the developers of a pneumatic rotary piston engine or a friction clutch, as well as the designers of a cross-country skiing exercise machine.”

**Gerhard Baus**

Authorised officer for plain bearings at igus GmbH

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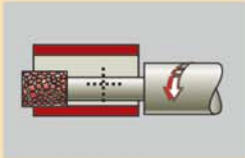


SC-14  
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SC-25  
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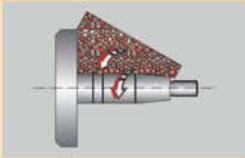


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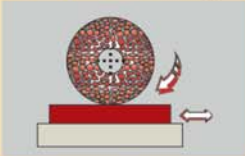


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"Apart from the global manus, there will also be a local manus awards for the best plastic bearing application within the country. Entries for the global awards will be automatic entries for the local (India) manus awards."

"With this competition we want to support innovation and award bold applications, regardless of the industry," says Gerhard Baus, authorised officer for plain bearings at igus GmbH. "Among the winners of the 2013 manus award were the developers of a pneumatic rotary piston engine or a friction clutch, as well as the designers of a cross-country skiing exercise machine." An array of inventions from a sausage toaster to a foldable car was presented at the competition.

Apart from the global manus, there will also be a local manus awards for the best plastic bearing application within the country. Entries for the global awards will be automatic entries for the local (India) manus awards.

Deepak Paul, National Sales Manager dry-tech Bearings igus India says: "The response for the 2013 manus awards was humbling and overwhelming, and we expect many creative and path breaking solutions from India for this edition as well using plastic bearing solutions."


## 2013 Local (India) Manus awards winners



Gold Indian manus winner (Rs100,000/-) Late Mr. Harshwardhan Gupta from Neubauplan Automation for file cutting machine with Drylin and many other parts. Silver Indian manus winner (Rs75,000/-) Mr. Munir Pansare from Tata Motors was awarded for his application of noise reduction in steering column using iglidur JVSM. And finally the Bronze Indian manus winner (Rs50,000/-) Ms. Manjari Govankop from Mahindra & Mahindra had a tractor application where igubal WGRM ball and socket special part with seal and real VALVE was incorporated.

Participants can apply online with a short text, images and videos of their application. This joint initiative of igus GmbH, Institut für Verbundwerkstoffe (Institute for Composite Materials), the Industrieanzeiger (industry indicator) and the Fachhochschule Köln (University of Applied Sciences Cologne) invites all developers and designers from around the world to participate. After the application phase an independent jury will select the winners. Whether for applications for the industry or individual pieces, the only requirement is that at least one built prototype of the proposed application must exist.

### Award ceremony at the Hanover Show

The prize-giving ceremony of the manus award will be held at the Hanover Show on the booth of igus GmbH. The winners of the contest will be rewarded with a prize of up to Euro 5,000. 

Visit [www.manus-award.com](http://www.manus-award.com) for registration and other information



The manus award goes into the seventh round - the application entry phase runs until 20 February 2015. (Source: igus GmbH)

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COVER STORY



# Ready to Bounceback

AMW MOTORS LTD IS ALL SET TO UNLEASH THE VERSION 2.0  
SAYS ANIRUDH BHUWALKA, ITS MD AND CEO

By Niranjan Mudholkar





AMW's manufacturing plant has an advanced assembly line

**H**e is known to be a game changer in the Indian trucking business. At a time when no one thought of challenging the traditional dominance of two home-grown giants in this industry, Anirudh Bhuwanka, MD and CEO, AMW Ltd carved out a niche by introducing a completely new segment – premium tippers. His value proposition with the new dimensions of owner's pride and operator's comfort appealed to Indian customers and soon enough AMW was the third largest truck manufacturer in the business. The 2011-12 numbers are testimony to the fact. Of course, in the next two and half years, the entire Indian commercial vehicles (CV) industry was hit hard, really hard.

AMW also suffered a major setback in terms of numbers. But the spirit was never lost. And now with things starting to turn around, he is all set to bounce back with a new enthusiasm and a new looking AMW. In fact, it is in those two and half difficult years that Anirudh has scripted the new chapter of revival.

Obviously, he remembers the tough times: "There is no secret that our focus has been on construction and mining and we were enjoying almost a 23 percent market share in the premium segment of the tippers. As the construction and min-

ing segment came off grid, the market completely came down over the last thirty months." The overall TIV (total industry volume) halved and even the tipper market in particular took a larger beating given the overall slowdown.

The downcycle has bottomed out and in the last three months or so the truck market has started to improve. "Mining has still not opened up but if one were to consider the steps that the government is taking to debottleneck coal, road projects and iron ore, then give or take six months, this game is going to start again. And there is a much larger emphasis on this issue; trucks are of course a cascading effect of the decision made but coal is the vital fuel for the country. And lastly, with the new government we can clearly see the signs of proactive governance coming in place. Also, look at the data points to validate what has happened and not get carried away by the Euphoria. The stuck

projects which are now getting cleared are running into the excess of US\$ 40 billion. Now the peak of the mountain has moved. Of course, we are waiting for all that to cascade down to the ground level volume improvement. But we know that it will come. So these are the parameters which are making us very bullish on the times to come and volume recovery to happen."

"We were not addressing the bulk of the pyramid at all because we were the only players at the top-end of the segment. But we clearly knew that competition will come into those segments as well. So parallelly, we developed a complete range of products which also serviced the mass market."





### People management

Anirudh says that AMW has a very unique labour model which allows it flexibility in the way the Company manages the business. "And thanks to this model, we were able to manage the downturn the way we did. In the last two years, we have really tried to become a much more lean company than we were. We consolidated positions, we consolidated applications and we consolidated a lot of our businesses. This led to broadening skill sets, broadening roles for people, giving larger opportunities to the younger generation and moving the organisation upwards. We were able to do a lot of these things which allowed people to do something while reducing the cost structures. So that last two and half years for AMW has been an immense learning experience."

Even during the lean times, AMW took a decision that it is not going to ask anybody to leave. "Barring a few non-performers, we lost people to natural attrition but not to forced exits," says Anirudh.

### Consolidation

To mitigate the risks of slowdown, AMW went to banks and got its loans restructured for a longer tenure so that the cash flow in the short term was not affected. Importantly, the company utilised the rough phase to iron out operational issues and for consolidating the product portfolio. In a message to his team through the company's in-house newsletter dated September 2013, Anirudh said "We believe that the best time to develop products and improve product performance is now and besides introducing 15 new vehicles and 22 variants, we can confidently say that we have improved fuel efficiency by an average 10 percent across our range." And yes, it did happen.

If you look at 2011-12 when AMW was at the peak of its volumes in the construction and mining segment, the Company did not have any presence in the haulage segment at all. It had some premium products but it did not have anything to address the 85 percent of the total truck market. "In the last two years, we really focussed on developing the complete haulage range of products including a mass market tipper. We were always positioned in the premium segment of the game but we

were not addressing the bulk of the pyramid at all because we were the only players at the top-end of the segment.

"But we clearly knew that competition will come into that segment as well. So parallelly, we developed a complete range of products which also serviced the mass market. Those two years helped us to develop those products and get them into the place. Now we have more than 2000 trucks in various haulage segments operating in the field. Initial feedbacks have been very encouraging. And with the markets going up we are expecting volumes too. We raring to get back to our 2011-12 numbers," he says with a certain confidence.

Of course, today, the overall industry is turning around quite robustly. Although the construction and mining segment has pited out in terms of decline, in terms of getting back to its original growth rates there is still time to go. "But I think in the last three months we have really seen that the volumes that had come down to almost 1500 a month for 25 tonnes and above have now gone back to about 2300 per month. This is good; on its peak it was 3700 per month. The complete recovery has a long way to go but the good news is that it is on its way," he shares.

AMW's ambition has been to progressively cover the en-



**AMW, which follows the North American model of manufacturing, builds its own truck cabs. It sources the drive trains from market leaders like Cummins, Meritor, ZF and Eaton.**

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The auto component business has been relatively stable for AMW. About 30 percent of this business' revenues come from exports

tire HCV market. "We are almost there now. We are at about 85 percent of the addressable market," he says explaining the logic behind having a bigger portfolio. "If your dealerships need to sustain over a longer period then they need a larger portfolio of products. Every product goes through a lifecycle both owing to the application and the industry. So the larger portfolio of products you have you tend to beat the cyclicity and your dealerships have a better chance of surviving.

"Due to the prolonged slowdown in the market, the dealerships – who are really our front-end – have taken a severe

beating. So our strategy is to continue to build the product pipeline so that in the next cycle – which I believe will be a boom cycle – everything will go great for a few years. And in the next downcycle there will be enough products in the portfolio for the dealers to mitigate that period."

#### Price point

Even if there is a complete turnaround, CV OEMs will still have to keep their prices competitive due to the increasing competition. But Anirudh believes that price competitiveness is just one pivot on which the industry functions. "A much larger

concentration of marketing really depends upon how you have been able to position your product, how you have been able to service your customers and how your product is able to perform vis-à-vis the customer requirement over a period of at least five years. A truck – unlike a lifestyle product – takes time to build its experience. It is indeed an experiential product where the customer utilises it over a period of time. So nothing in the short term really works in this business. Even if someone were to come and reduce prices dramatically it would not ensure sale."



Anirudh does not believe in the discount game and wants to hold on to AMW's premium positioning in terms of pricing as well.

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**"THE ENGINE SYSTEMS WILL BE DIFFERENT, THE SUSPENSIONS WILL BE DIFFERENT. SO IT'S AN ABSOLUTE EVOLUTION FROM THE TRUCKS THAT WE HAVE BEEN BRINGING IN THE MARKETS OVER THE LAST FIVE YEARS."**

On the pricing front, AMW pegs itself as the leader. "From the beginning, we have been a price premium to the leader which is Tata Motors. We continue to command that premium over the competition in that segment. We continue to upgrade our products in line with our positioning as the premium player in the tipper segment. So despite the entry of new competition, we have been able to command the premium on our trucks," Anirudh says.

With the market likely to see a positive turnaround, AMW will also be looking at increasing its capacity utilisation. Although he does point out that he does not look at capacity utilisation as a barometer of success as the asset to turnover ratio is very high in this industry. "We used to do about 1,000

trucks a month and right now we are down to 350 trucks a month. We are hoping that we should get back to our original volumes by Q2 of the next FY."

#### **Looking at other segments**

AMW also had plans to foray into the LCV and the bus segment but those were put on hold for obvious reasons. Does he see any chances of reviving the same in the near future? "While we did showcase an LCV product way back, currently we are still on the drawing board and we have not progressed further. Clearly because the medium and heavy duty truck opportunity itself was large enough and as a result we have spent the last two years building the portfolio in those segments. So we have put the LCV on the back burner. Having said that, in the migration of the company, over a period of next five years, that will be the next horizon for sure but it is clearly not there in the short to mid-term plans."

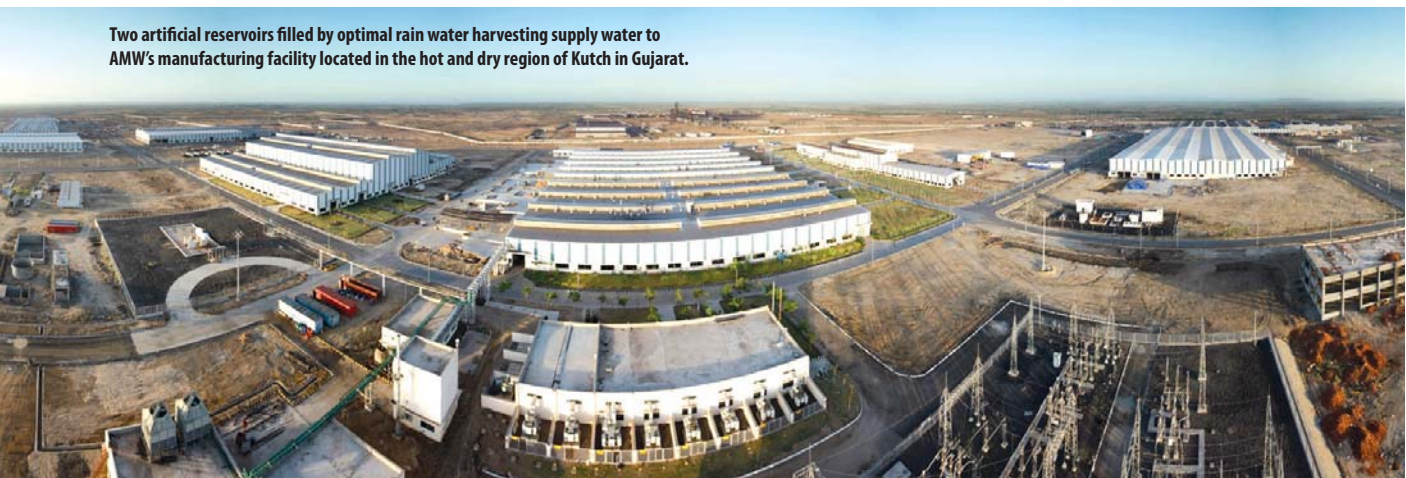
AMW had also developed a luxury bus but looking at the market environment for the last three years it was not making sense to launch it. "But when the opportune time comes, we will get into that market as well," Anirudh says. He also sees defence as another interesting opportunity. "We have already been supplying to the Border Roads Organisation for the last three years. Now with the Ministry of Defence really articulating its plans both from the Make in India perspective and beefing up the defence portfolio, we are very excited about that segment."

AMW also has an auto components business and that is a little bit of a stable story because it has been catering to a wide range of customers in trucks, passenger cars and agricultural tractors. "Of course, the overall automotive market went through a tough period and we had built adequate capacities to serve that market. As a result, while that business has grown year on year, it did not get into the volumes that we were expecting. Now with the volumes coming in, that business has started to scale up."

#### **The vision: Version 2.0**

Currently there are seven players in the heavy duty trucks market in India. And Anirudh is proud that AMW created the premium tipper segment as it is now known to be. "We are the player with the largest amount of truck population in the market owing to the first mover advantage. So we have got

**Two artificial reservoirs filled by optimal rain water harvesting supply water to AMW's manufacturing facility located in the hot and dry region of Kutch in Gujarat.**






## Make in India & Expectations

Anirudh believes that AMW is part of the 'Make in India' initiative. "Mr Modi, our honourable Prime Minister, had inaugurated our plant way back. If you see the manufacturing capabilities at our plant, it is 'Make in India' at its best. Our trucks are getting exported to 12 countries and our wheel rims are getting exported to countries worldwide, we basically embody the 'Make in India' campaign. We are demonstrating the vision of Mr Modi. We need many more manufacturing facilities like ours in India which are doing complete value creation and are not only serving the domestic market but are also exporting from India. That is where the jobs will come from, that is where the growth will be driven from and that is where India's opportunity lies. As far as the expectations from the government, if one were to take a stalk of the last seven months, they have really started to make the right noises across the board. Couple of areas do need focus. While the infrastructure debottlenecking is happening, government spend on infrastructure and clearing up the mines are two vital initiatives that the government can take up in the short term to really kick-start demand. In the medium term, I think the GST implementation will have a far reaching effect," he says.

the customers, we have got the products, we got the product lifecycle done at the customer end and we got the distribution infrastructure and service support in place. Hereon forward, our target is to exploit this completely and get back to the volumes. Our vision is to be the leader in the construction and mining segment in the country."

AMW's R&D centre in New Mumbai is core in terms of developing new products and new capabilities in the company. "Now the new emission norms are around the corner, so we are developing a completely new range of trucks with new cabins, new engines, new suspensions, and many more new changes. In short, it is going to be the Version 2.0 of AMW trucks, which we are going to launch very soon." So what will be significantly different in the Version 2.0? "Everything," he says. "The look and feel; we are coming out with a brand new cabin. We are in fact coming out with a brand new platform; the chassis will be different. The engine systems will be different, the suspensions will be different. So it's an absolute evolution from the trucks that we have been bringing in the markets over the last five years."

AMW was the first to bring in the premium products and they are now beginning to shift gears. "Version 2.0 is a complete makeover of those products and owing to the change in the markets as well as with the dawn of a new economy, we believe that Version 2.0 is going to be the homecoming of AMW," Anirudh says. 

## TGT GENIUS 5 AXES V2 CNC Tool & Cutter Grinder



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### TGT GENIUS 5 AXES V2

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Maximum traverse stroke Y-axis (vertical slide)	275 mm
Maximum traverse stroke Z-axis (cross slide)	800 mm
Maximum traverse	0.0001 mm
ROTARY AXES	
Maximum Work Head Rotation A-axis	0-360°
Maximum Tool Swivel C-axis	-45° to +180°
Control resolution	0.0001°
Maximum traverse speed C-axis	10 rpm
WORK HEAD (A-axis)	
Work spindle taper	ISO 50
Centre height	150mm
Maximum rotation speed	40 rpm
MAXIMUM TOOL DIMENSIONS	
Maximum tool diameter (Solid carbide)	32 mm
Maximum Cutter Diameter	200 mm
Maximum peripheral grinding *	270 mm
Maximum tool length for end grinding*	250 mm
Minimum diameter of the tool	2 mm #

\* Distance from the ISO gauge plane

# Schaublin collet system is recommended for manufacturing tools below 6 mm diameter.

For More Information about this machine, Please feel free to contact us.

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# Small is the Way to *go!*



The KPMG Global Automotive Executive Survey 2015 sees consumers still fixated on traditional product issues that will drive their purchasing decisions.

**S**ales potential of the basic and small car segment is set to accelerate over the next five years, according to the latest annual KPMG Global Automotive Executive Survey.

The survey, now in its sixteenth consecutive year, also found out that for the next five years, respondents see consumers still fixated on traditional product issues that will drive their purchasing decisions. In 2014 and 2013, the industry saw fuel efficiency as the most important consideration by consumers when buying a car, followed by enhanced vehicle lifespan, safety innovation and ergonomics/comfort.

One factor that has gained importance is enhanced vehicle lifespan, which ranked eighth in 2013, but is now the second most important factor influencing the buying decision, globally. The use of alternative fuel technologies remains a low priority, suggesting strongly that, like last year's survey, the con-

sumer purchase decision is driven more by the wallet than the conscience. Concerns over vehicle quality have risen, following several high-profile product recalls, with more and more customers now seeking vehicles with longer lifespans. Original Equipment Manufacturers (OEMs) have to maintain a careful balance between product quality and cost optimisation.

Despite the many new technology-based corporations looking to win a slice of the competitive automotive sector because of the newly emerging mobility culture, the established premium and mass market Original Equipment Manufacturers (OEMs) may continue to dominate the landscape over the next decade.

Thirty-four per cent of the total survey respondents feel the established premium market OEMs are extremely likely to dominate up to 2025, with a further 48 per cent believing this scenario is somewhat likely. Only slightly fewer than 32 per cent report that mass market OEMs are extremely likely

to prevail, with 52 per cent confident that this group is somewhat likely to remain on top. "The automotive sector is feeling pressure from two sides: on the one side increasingly strict regulatory standards all over the world demand a strong focus on the optimisation of traditional powertrain technologies and heavy investments into alternative drive trains. On the other side consumers are becoming increasingly tech-savvy creating a completely new mobility culture where consumers not only expect, but demand, new and innovative services," says Dieter Becker, KPMG's Global Head of Automotive.

"The traditional players are feeling the warm breath of new competitors, with brands from the technology and communication industry now considered to be

## Mobility culture

### What are the top five factors for consumers when buying a car?



**Calling all manufacturing plants in India to send entries**

THE ULTIMATE GUIDE TO PROFITABLE MANUFACTURING  
**MACHINIST**

# Super **SHOPFLOOR** 2015

**The Machinist** magazine is proud to announce its '**Super Shopfloor**' programme.

It is open to all manufacturing plants in India under two categories

**Large enterprises** (Rs1,500 crore turnover and above)

**SMEs** (Less than Rs1,500 crore turnover).

There will be **three winners\*** from each category and winning entries will be felicitated in April 2015.

Participation is simple and there is no entry fee.

Tell us in 1,000 to 1,300 words why you think your shopfloor should be '**The Machinist Super Shopfloor 2015**'.

Your entry should explain the achievements of your shopfloor across the following five key aspects in last one year:

**1. Safety, 2. Quality, 3. Productivity, 4. Sustainability, and 5. Innovation.**

You may also attach supporting documents.

*You must also provide the following details*

Category (Large Enterprises or SMEs): .....

*The overall company turnover is to be taken into consideration for determining the category*

Name of the company: .....

Location of the plant: .....

Name of the plant head: .....

Plant size: .....

Staff strength: .....

Key products manufactured: .....

Annual capacity: .....

Key clients: .....

Key market (domestic / exports): .....

Manufacturing principle followed: .....

Recent milestones: .....

Technological highlights: .....

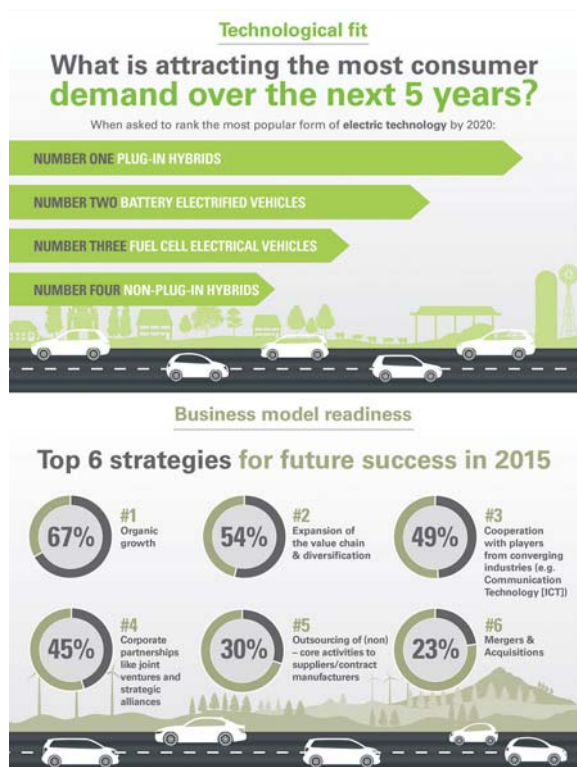
**Please also provide two high-res images of shopfloor in JPEG format (300 dpi)**

*Note: Entries should be sent on a simple word document or a PDF file only. Entries in other formats will not be accepted. Images should be sent in high-resolution JPEG format (300 dpi). Please send your entries to [niranjan.mudholkar@gmail.com](mailto:niranjan.mudholkar@gmail.com) and [niranjan.mudholkar@www.co.in](mailto:niranjan.mudholkar@www.co.in). Please mention 'The Machinist Super Shopfloor 2015' in the subject line of the email. For any queries regarding participation, write to the above email ids or call on +91 9819531819.*

*Last date for sending your entry is March 25, 2015*

*\*The decision on the winners will be final and no query will be entertained after the winners are announced.*





equally likely to matter in the mobility space. This really is the next big thing where all traditional automotive industry players will need to make sure they have a business model ready that views the customers' whole lives beyond their role as drivers, building up a personal relationship to increase loyalty in order to stay on top of the customer interface."

Indians too consider fuel efficiency and safety innovations as the most important consumer considerations while purchasing a car. The survey re-emphasises the point that quality service experience during the purchase transaction is extremely important to Indian consumers. According to the survey report, Indian companies will be investing in two powertrain technologies over the next five years: 33 per cent in downsizing and optimisation of internal combustion engines and 27 per cent in fuel cell electrical vehicles. Brazil, Russia and India each are expected to export more than one million vehicles to other markets in the next three to five years.

Rajeev Singh, Head of Automotive sector, KPMG in India says, "The Indian Automotive industry is likely to face further pressure on two fronts: while on one front the regulatory norms are likely to get tougher on safety, emission norms, fuel efficiency, manufacturing defects and product recalls, on the other hand the product life cycles are getting shortened, there are frequent changes in product ownership and likely emergence of new product segments."

"There is also going to be a phenomenal growth in the second hand car market in the country and it will be one of

the key success factors for players who enable easy exchange to increase their market share. The industry is also likely to see huge investments in the next couple of years. It is one of those distinctive markets where there is a huge potential at both ends of the pyramid; the small cars and high end luxury cars. There is also a likelihood of increased prominence of women customers," he further added.

59 per cent of the total participants believe that the market entry barriers or restrictions conditions in India will decrease. Governmental interventions in India will also decrease according to the executives surveyed. Indian auto companies are expected to invest in new plants and module/platform strategies while there are no plans for investing in battery (pack/cell) technologies.


The KPMG Global Automotive Executive Survey 2015 also points to the executives' agendas up to 2025 where many innovative key trends are low in priority and majority of the executives still feel that growth of emerging markets is the number one key trend. Only a minority of total respondents consider alternative powertrain technologies, mobility services and vehicle connectivity as extremely important key trends until 2025.

**The automotive sector is feeling pressure from two sides: on the one side increasingly strict regulatory standards all over the world demand a strong focus on the optimisation of traditional powertrain technologies and heavy investments into alternative drive trains."**

**Dieter Becker,**  
KPMG's Global Head of  
Automotive.

Markets at all levels of maturity are seeing a growing demand for state-of-the-art technology in vehicles. The relatively low priority assigned to connectivity does not seem to resonate with the growing consumer expectation of ubiquitous access to mobile online services. The high emphasis on fuel efficiency and enhanced vehicle lifespan shows the rising prevalence of the idea of total cost of ownership (TCO) for private consumers.

Within the next two years, global vehicle sales will pass the magical 100 million mark and continue to rise until the end of this decade, on the back of increasing demand in emerging markets like, China.

Despite the promise of new, cleaner technologies, automotive executives still believe downsizing the traditional internal combustion engine is likely to yield the best results in the short-to-medium-term. Fuel cells have moved ahead of battery electric systems to become the number two priority for investments until 2020. Not a single emerging market OEM is predicted to make the top 10 by the end of this decade in the mass market segment. German automakers are set to continue their domination on the premium car segment. 



## Maharashtra CM inaugurates VW India's engine assembly plant



**M**aharashtra Chief Minister Devendra Fadnavis has recently inaugurated Volkswagen India's Engine Assembly Plant. The plant also includes a full-fledged Engine Testing Facility at Volkswagen Pune Plant in Chakan. Volkswagen India has invested 30 Million Euro (Rs240 crore) in setting up this plant. The new Engine Assembly Plant will function over a total floor space of 3,450 sq m within the premises of the existing plant. The Engine Testing Facility includes a Cold Test station, a Hot Test bench and an Engine Dynamometer besides an extensive engine test laboratory. Upon full ramp-up, the engine assembly plant will have a capacity to assemble over 98,000 engines annually in a 3-shift system. "Volkswagen is one of the top car manufacturers in the world and they have brought their German Engineering to India. I am glad to see that the company is committed to their production operations in Chakan and is investing further for increasing manufacturing here even in difficult market situations," said the Maharashtra CM.

## Mahindra rolls out its five millionth vehicle from the Kandivali plant

**M**ahindra & Mahindra Ltd has rolled out its five millionth (50 lakh) vehicle from the company's automotive plant in Kandivali, Mumbai. The company's legendary 4x4 offroader, the Mahindra Thar, was rolled out as the five millionth vehicle.



Dr. Pawan Goenka, Executive Director, Mahindra & Mahindra Ltd. did the honours at a ceremony attended by workers, union representatives and other officials. Mahindra's Auto Sector achieved the four million (40 lakh) vehicle production milestone in 2012 and has surpassed this figure to reach the five million mark in just two years. This milestone is the result of combined vehicle production from the company's six automotive plants, namely Chakan, Nasik, Haridwar, Zaheerabad, Kandivali and its engine plant in Igatpuri.

Acknowledging the milestone, Anand Mahindra, Chairman, Mahindra Group, said, "This rollout of our 5 millionth vehicle marks an important milestone in our automotive journey over the past seven decades. It is also a reflection of the commitment and can-do spirit of our people who continually strive to raise their game while producing world class vehicles."

## Continental expands R&D footprint in Bangalore; invests EUR12.4 million

**C**ontinental, a leading international automotive supplier inaugurated a new 13,000 sq m facility to expand its R&D capabilities in Bangalore. With total investment of 12.4 million Euro and current headcount of around 1,000 engineers, the new Technical Center India (TCI) facility

will meet the increasing demand for engineering and software development skills to support global R&D projects as well as local customers. Eight R&D labs will be housed in the new facility. Speaking at the occasion, Helmut Matschi, President of the Interior Division and Member of the Executive Board of Continental AG said, "India's talent pool is strategic to our growth, globally and in Asia. Continental has invested significantly in the Tech Center since its inception, a confirmation of our commitment to India. While our engineers in India are making valuable contributions to the development of advanced technology for developed markets, Continental is equally excited by the prospect of growing with the automotive market in the country."





## Varroc partners with UK based Scorpion Automotive for security products

**V**arroc Engineering Pvt. Ltd., the flagship company of Varroc Group, India's leading auto component manufacturer, announced a technical collaboration with Scorpion Automotive Pvt. Ltd, UK's trusted brand in vehicle securities, to provide security based products and marketing solutions to the automotive industry, especially the two wheeler segment in India.

Dr. Ravi Damodaran, President, Technology & Strategy, Varroc Group, signed an MOU on the technical collaboration with Mark Downing, MD Scorpion Automotive Pvt. Ltd. in the presence of Kumar Iyer, British Deputy High Commissioner, Western India & Director General, India, for



UK Trade & Investment (UKTI). Ravinder Sharma, Vice President, Varroc Engineering Pvt. Ltd. was also present on the occasion.

Varroc Engineering Pvt. Ltd, India and Scorpion Auto, UK have signed a technology license agreement to exclusively design, manufacture and sell to 2W and 4W OEMs in India.

The collaboration also provides the exclusive rights to Varroc Engineering to manufacture the licensed security products for their global markets. The collaboration will not only help Scorpion Automotive Pvt Ltd to expand its portfolio but will also introduce innovative products for the Two Wheeler sector in the Indian automotive Industry.

## Toyota opens its Fuel Cell Vehicle Patents for free use



**A**s part of efforts to popularise fuel cell vehicles (FCVs), Toyota Motor Corporation will allow royalty-free use of approximately 5,680 of the FCV-related patent licenses, including pending applications, it holds globally on an unconsolidated basis.

Toyota believes it is important to give priority to spurring more widespread use of FCVs at the initial introduction stage, and therefore believes concerted initiatives with energy companies that are looking to expand hydrogen station infrastructure, and automobile manufacturers that are looking to move forward with FCV development and market introduction, will be vital. Toyota will allow royalty-free use of its FCV patent licenses by those manufacturing and selling FCVs through the initial market introduction period, which is anticipated to continue until about 2020. This initiative will include patents that are critical to the development and production of FCVs, such as those relating to fuel cell stacks (approx. 1,970 patent licenses), high-pressure hydrogen tanks (approx. 290 patent licenses), and fuel cell system control technology (approx. 3,350 patent licenses).

## Ashok Leyland unveils its first zero emission, electric bus in India

**A**shok Leyland, flagship of the Hinduja Group, has recently unveiled the Versa EV from its UK arm Optare plc, at the Bus & Special Vehicles Show organised by SIAM (Society of Automobile Manufacturers) in Greater Noida, Delhi NCR.

"We are one of the largest provider of electric and hybrid buses in the world and today we are proud to bring this to India to help India move up the path of efficient, comfortable, responsible and sustainable urban transport," said T Venkataraman, Sr. Vice President, Global Buses, Ashok Leyland.

## Indian automotive bearings to grow at 16% CAGR till 2020

**A**ccording to a recently released TechSci Research report 'India Automotive Bearings Market Forecast & Opportunities, 2020', the automotive bearings market in India is forecast to grow at a CAGR of around 16% during 2015-20. Prominent reasons driving the market include significantly increasing automobile sales coupled with the country's expanding automobile fleet. Garnering support from various government initiatives such as Automotive Mission Plan (AMP) 2006-16, the automotive bearings market is anticipated to grow at a rapid pace through 2020.

The auto sector in India has witnessed a significant rise on the production front over the last five years. Cumulative sales of passenger cars, three wheelers and two wheelers grew at a CAGR of over 10% during 2009-13. This has significantly boosted demand for auto bearings over the last five years.



## Alcoa opens expanded wheels manufacturing plant in Hungary



Alcoa has officially opened its expanded wheels manufacturing plant in Hungary. The larger facility doubles Alcoa's capacity to produce its Dura-Bright EVO surface-treated wheels compared to 2014 production levels. The expansion will enable Alcoa to meet growing European demand for its lightweight, durable, low-maintenance aluminium truck wheels. "This expansion positions Alcoa to capture increasing demand for our innovative aluminium truck wheels in Europe, including our easiest-to-clean wheels that look new longer, reduce maintenance costs, and increase payload and fuel efficiency," said Tim Myers, President, Alcoa Wheel and Transportation Products. "Our investments in forged aluminium truck wheels support Alcoa's broader strategy to build out our value-add businesses and gain profitable share in growing downstream markets. Sales of aluminium truck wheels are expected to increase from 30 percent of global sales in 2010 to 50 percent in 2018."

## Ford invests US\$2.6 billion in Valencia Plant in Spain; increases capacity

Ford Motor Company has completed the final part of a US\$2.6 billion investment in its Valencia, Spain, manufacturing operations, transforming it into one of the world's most advanced, flexible and productive auto plants.

The investment by Ford is the largest in the history of Spanish auto industry and will allow the Valencia plant to increase vehicle production by 40 per cent this year to about 400,000 vehicles, and will have the capacity to potentially build up to 450,000 vehicles a year.

Valencia also is today one of Spain's top automotive exporters, with 80 per cent of its production being exported worldwide.



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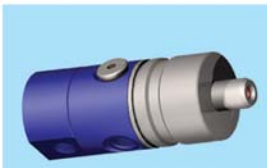
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The 7<sup>th</sup> BBC *TopGear* India Magazine Awards were announced at a glittering event held at Sofitel, BKC, Mumbai on January 28. The *TopGear* Awards are the definitive acknowledgement of automotive excellence, and is one of the most awaited events in the Indian automotive industry.



Anil Reddi, Brand Director, Porsche India, and Thierry Lespiaucq, MD, Volkswagen Group Sales, accept the Car of the Year award for Porsche Macan from Worldwide Media CEO, Tarun Rai and TopGear India Chief Community Officer and Editor, Girish Karkera



Tarun Sachdev, Director-Finance, and Vimal Sumbly, MD, Triumph Motorcycles India, accept the Bike of the Year Award for the Triumph Daytona 675R from Tarun Rai and Girish Karkera.



Eberhard Kern, MD and CEO, Mercedes-Benz India, accepts the Man of the Year Award from Michael Schenberg, Deputy Counsel General of the German Embassy, Tarun Rai and Girish Karkera.



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Team Mahindra & Mahindra - Vijay Nakra, Senior VP, Sales & Customer Care, Automotive Division, Vivek Nayar, Sr. Vice President, Marketing, Automotive Sector, Pawan Goenka, Executive Director, Pravin Shah, Chief Executive Automotive Division, accept the People's SUV of the Year Award for Mahindra Scorpio. The award was presented by Tarun Rai and Girish Karkera.



CS Santosh proudly accepts the Man of the Year (Motorsport) Award from former Indian cricketer Sanjay Manjrekar.



Shigeto Nishikawa, Deputy MD, India Kawasaki Motors accepts the Bike Design of the Year Award for Kawasaki Z1000, presented by Celebrity Photographer, Vikram Bawa.



Pankaj Dubey, MD, Polaris India proudly accepts the Cruiser of the Year Award for Indian Chief Vintage from Sanjay Manjrekar.



Team Mercedes-Benz India accept the Luxury Car of the Year Award for the S-Class from Ruediger Schroeder and Girish Karkera.



Anu Anamika, Head- Marketing (left), and Atul Gupta, MD, Suzuki Motorcycle India (right), accept the Street Sport Bike of the Year Award for Suzuki Gixxer from Ruediger Schroeder, MD, Karcher, India.



Joe King, brand director, Audi India, with the Saloon Car of the Year trophy for the Audi A3, presented by former Indian cricketer Sanjay Manjrekar.



Rajesh Sharma, General Manager, and Anant Gurav, Deputy GM, Force Motors, accept the Monster of the Year trophy for Gurkha RFC from Jatin Ahuja, President, Big Boyz Toyz, and Girish Karkera.



Team Hyundai India - Vishal Kher, Manager - West Zone, Rakesh Shrivastava, and BS Yoo, West Zone Coordinator, with the Value Car of the Year award for the Hyundai Xcent. The award was presented by Tarun Rai and Shobhita Dhuliya.

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# Setting new standards

From an apprenticeship in machine building in England to setting up several manufacturing businesses in India as well as in US and China, the entrepreneurial journey of **Mahendra N. Patel**, Chairman of the Mamata Group and Vice Chairman of Ferromatik Milacron India Pvt Ltd, is as colourful as it is inspiring

By Niranjan Mudholkar

**T**he term serial entrepreneur has acquired more prominence in the recent times. Moreover, today's serial entrepreneurs tend to set up businesses, sell them and then turn either consultants or investors. But Mahendra Patel's story is different. He set up his first company (a fabrication and machining unit) way back in 1977 and has continued with the entrepreneurial streak till the year 2010 when he established his 18th company (yes, you read that right!). The latest one is in fact in the United States.

It is indeed an accomplishment and a record of sorts to sustain this enterprising nature over a period of more than three

decades. And even today, MNP, as he is popularly known, continues to explore newer opportunities. Now he is seriously exploring the renewable energy sector. By the way, none of his businesses have failed. In fact, they have all been running successfully. Take for example the Mamata Group which he started in 1995. All Mamata Group operating companies are profit making and dividend paying. Current Group sales are more than Rs8000 million a year.

## The foundation

When this writer caught up with him in Ahmedabad for a free-wheeling chat, MNP opened up his innermost treasure for the readers of The Machinist. This treasure is the story of his journey. We bring you that interesting aspect wherein the foundation of MNP's entrepreneurial success was laid. Always a topper in academics, MNP wanted to study in England just like his father did. He completed his matriculation in 1965 and got the opportunity to travel to England in the August of the same year. Although a student visa was not available, his father's friend – Mr Windsor in England – became his legal guardian and this made it possible for MNP to pursue his dreams. Since his father could not afford the air ticket,

## Remembering his father

"I acquired this entrepreneurial spirit from my father – the late NK Patel," says MNP. A follower of Mahatma Gandhi, MNP's father was actively involved in the freedom struggle. But he was equally focused on education and always excelled in academics. He acquired his degree in mechanical engineering from Fergusson College in Pune with a first class first and also went on to study in England after being selected for the Tata Scholarship. "After an illustrious professional journey with Greaves Cotton for about eight years, NK Patel was driven by the passion to start something on his own and soon became instrumental in establishing RH Windsor India in 1962. He was responsible for introducing advance technology in the Indian plastics industry and also guided and moulded many leaders of this industry. He retired from Windsor in 1994 and subsequently served as the President of the Plastindia Foundation till 1997," MNP recalls, fondly and proudly.



One of the key reasons behind my success has been the right selection of people for various assignments. But I have been singularly lucky to have found excellent people. I have always worked through empowerment of my people and never through control."



he had to undertake a long ship journey.

"Four months prior to my journey to England, between April and August, I used to be a regular on the shopfloor of my Dad's factory as I was very keen to understand the technical aspects," MNP remembers. This short but useful experience helped him when he took up the apprenticeship under the Engineering Industry Training Board (ETIB) in England for seven years. This involved working at the factory of GKN Windsor Ltd in the morning and attending school in the evening between 6.30 pm to 10.30 pm. His subject – machine building!

Although he had studied in Gujarati medium in India, his passion for machines and his determination to excel helped him tide over the initial difficulties with the English language. "Moreover, I had very good teachers who helped me overcome my problems with the language." MKN also gives full credit the English education system that helped him learn his trade quite well. "They have very structured programmes for different trades." His course taught him machine design, machining, polishing, welding and even wiring. "Thanks to the strong foundation laid in those seven years, I can operate any machine easily even today. After all, I have learnt the fundamentals of absolutely all machining operations – even the difficult ones like gear hobbing, gear shaping, internal grinding and so on. In fact, I enjoyed working on the assembly line and have assembled all types of injection moulding machines."

#### Always on top

During the entire seven year apprenticeship course in England, MNP always topped – both at the school in theory and at the factory in practicals. He even made it to the merit list at the national level. He applied for the local scholarship and went on to win it. His position in the merit list and this special scholarship, which entitled him to tuition fees, hostel fees, food cost plus pocket money together, gave him entry to the Master's degree.

#### The after years

MNP finished his apprenticeship in 1971 and undertook various assignments after diploma and degree with other GKN Group companies. This even included learning computerisation of inventory during school vacations. He also spent one year in Germany with GKN Windsor taking up design assignments during and after post-graduation. He returned to India in July 1974 and a month later joined RH Windsor India Ltd, which manufactured injection moulding, blow moulding and extrusion machines for the plastics industry. He also



#### Betting on his (future) reward!

In England, MNP managed his expenses with the stipend that he was earning through EITB. Initially this was three pounds and eighty pence and rose to about eight and half pounds in the final year. Managing the bus fare for travel, while also paying for stay and food, was becoming quite challenging for him. So decided to buy a bicycle. Obviously, he did not have the 30 pounds required to buy the high-end touring cycle that he wanted. "I also wanted to see England and hence I wanted a touring bike," he says with a smile.

He decided to borrow the money from his uncle – the good Mr Windsor. "I will surely give you the 30 pounds you require but how will you repay me," Uncle Windsor asked. "The topper of my class will get a reward of 50 pounds at the end of the year. I will pay you back when I win that money," MNP replied confidently. "And what makes you sure that you will win that 50 pounds," asked his guardian. "I have always topped in my academics and I will continue to do that even in England," the ward replied. If you haven't guessed it by now then here it is. MNP went on to win the 50 pound award and proudly repaid the loan he had taken to buy the bicycle. And yes, he always topped in his class – for all the seven years! "It had become a habit that I never could get rid of," he says with a mix of pride and modesty.

made good use of the knowledge he had acquired during his vacations and introduced a computerised system for inventory management at a time when computers were still to become a household name. He worked there as an industrial engineer till January 1976. Between February 1976 and December 1976, he worked as a General Manager for Kalyan Engineering Corporation, a company manufacturing wiredrawing machines, slurry pumps and vacuum filters.

#### The entrepreneurial spree

Listening to call of his inner spirit, MNP moved to Ahmedabad in January 1977 to set up his first Greenfield project – Patel Filters Limited. "This was a joint venture with Dorr-Oliver Limited of US." MNP successfully helmed this company for





nine long years as the Managing Director. Of course, this was just the beginning. He also successfully established Patel Alloy Steel, a modern steel castings foundry in 1982 – one of the first of its kind in the region.

The same year, he also founded Patel Machinery (Now Mamata Machinery), a company manufacturing bag making and packaging machines. In 1985, he ventured into the manufacturing of control valves and fluid control accessories by starting a joint venture with Muesco called Muesco Patel Valves & Controls. In 1989, he also diversified in another completely different sector when he acquired a full-fledged travel agency to grow it into what is today known as Mamata Airwings. And he is also known for his love for computers and the IT industry amongst his peers, so it was not surprising that he set up a company called Sourcepro Infotech Private Limited for developing


### \*MNP's journey since 1994

Year	Name of the entity / company
1994	Mamata Group
1995	Kloeckner Desma Machinery Pvt Ltd
1995	Ferromatik Milacron (In India)
1997	KHS Machinery
2001	Mamata Energy Pvt Ltd
2004	Mamata USA Inc
2005	Sun Pack Barrier Films Pvt Ltd
2005	Mamata-Span Flexopack Pvt Ltd
2007	Mamata Hydco Pvt Ltd
2008	Kloeckner Desma Machinery Wuxi Co, China
2010	Mamata Net Services LLP
2010	Mamata Enterprises Inc, USA

in-house EDP services as well as for software development business with expertise in networking and software exports.

And while doing all this, he took up another exciting assignment in 1986 with Klockner Windsor as the Vice President for Vatva Works. Of course, there was enough scope for the entrepreneur in MNP to grow. Between January 1988 and August 1988, he set up a Greenfield Project in Chhatral for Klockner Windsor. "We (MNP and his team) transformed a barren land parcel into an advanced facility in a record time." He went on to become the Joint Managing Director at that Company but quit over

difference of opinion with a new NRI investor in 1994. And by the way, he announced his move to the industry by sending about 2,000 emails – this was way back in 1994. "I was the first person to establish email service in Gujarat under a government project called I-Net," MNP says matter-of-factly.

"All our offices were connected by email since 1986. The same year I had also established the first computer for ERP system with the help of Wipro." After leaving Windsor, MNP went to on establish the Mamata Group in 1994. It was just the beginning of many illustrious entrepreneurial innings\*. Of course, MNP looks back at his success with utmost humility and gratitude. "One of the key reasons behind my success has been the right selection of people for various assignments. Of course, getting the right people has not been easy. In fact, it has been one of the most challenging parts of my career. But I have been singularly lucky to have found excellent people. I have always worked through empowerment of my people and never through control. 

### Association with Milacron

Today, Ferromatik Milacron – a global player in plastics processing technologies – has a state-of-the-art manufacturing spread over 52,000 sq m in Ahmedabad adhering to the highest standards. But it is hard to believe that the journey actually started in 5,000 sq ft rented space in 1995. And the man who played a key role in starting the brilliant journey of this technology giant is none other than MNP. "The company was growing and we acutely felt the need of having a bigger facility. We acquired a new land parcel through an auction and built the factory in a record time."



## Exhibition Highlights

**1000 'live' machines from 24 countries.**

**Spread over five halls in an area of 48,000 sq mts.**

**Visited by 89,000 industry professionals.**

**On an average 15,000 visitors attended the event.**

**20 trade delegations from public sector undertakings.**

**40 industry delegations from a wide spectrum of manufacturing industries.**

**Decision makers and senior executives from manufacturing industries like aerospace, railways, defence, capital goods, automobiles, and auto components attended the event.**

**A total of 25 engineering and technical institutions showcased their innovative research projects related to metal working at the Academia Pavilion.**

**One of the new initiatives at Imtex 2015, was the 'Job Connect' for budding engineers which was well attended by fresh engineers from many engineering and technical institutions.**

## Thrust on productivity and high quality

Reflecting the market potential Imtex 2015 was abuzz with the humming of machines, clanking of robots & gantry and long queues of visitors waiting to enter the venue and visit the booths.

By Shivani Mody

**G**lobally manufacturing capacity is stagnating and growth rate for the machine tools industry is falling in developed economies. Thus shifting machine tool capacity to low-cost high skill geographies such as India has become imperative.

With this background, India is set to become a key player in the global machine tools industry and is likely to see substantial high-end machine tool manufacturing. Reflecting the market potential Imtex 2015 was abuzz with the humming of machines, clanking of robots & gantry and long queues of visitors waiting to enter





**Jamshyd N Godrej,**  
Chairman, Exhibitions,  
IMTMA

This year as well, visitors witnessed some of the emerging trends in 5 axis machines, multi task machines, new gear cutting tools, (new measuring methodologies), force controlled robots and much more.

the venue and visit the booths. To set the exhibition into motion, the inauguration ceremony was complete with dignitaries, ministers, exhibitors, media personnel and VIPs. Along with the customary lighting of the lamp, the inauguration hall was resounding talks of positive momentum and good days moving ahead.

The seven day metal cutting exhibition – Imtex 2015 and Tooltech 2015 was inaugurated in the presence of GM Siddeshwara, Minister of state for heavy industries & public enterprises, Government of India; RV Deshpande, Minister for higher education and tourism, Government of Karnataka; K. Ratnaprabha IAS, Additional Chief Secretary, Government of Karnataka; Ajay Shankar, former member secretary, National Manufacturing Competitiveness Council (NMCC); Tarun Das, founding trustee, Ananta Aspen Centre & former Chief Mentor, Confederation of Indian Industry; Debasish Mallick, Deputy Managing Director, Export-Import Bank of India; Jamshyd N Godrej, Chairman, Exhibitions, Indian Machine Tool Manufacturer's Association (IMTMA); L Krishnan, President, IMTMA and IMTMA Vice-President PG Jadeja.

The 17th edition of South East Asia's largest industrial show Imtex 2015 and Tooltech 2015, held at Bangalore International Exhibition Centre, was attended by several illustrious industry professionals. Imtex 2015 showcased an exhaustive range of innovations and technological refinements in the complete product segment of metal-cutting machine tool; while Tooltech 2015 featured newest trends in cutting tools and tooling systems from all across globe. The displays at the event focused on optimising productivity, enhancing quality, increasing reliability and reining



**L Krishnan,** President,  
IMTMA

Even at the time of recession, Imtex helped industry leaders to connect with the customers. With current improved sentiments, Imtex would further be a catalyst to spur investment and modernisation of the manufacturing industry."



Dignitaries at the inaugural conference

“

Imtex is a platform for us to interact with existing customers & partners and strengthen our relationship with industry players. This is a good way to network and strike a chord with new buyers. Visitors at the show were highly knowledgeable, were asking the right questions and displayed considerable understanding of the machining technologies.”

**Terrence Miranda**, MD, Haas Factory Outlet - Mumbai, India

“

This year we have seen a positive environment. We have launched many new products here including a new solid carbide drill and a new indexable insert drill. We have also launched many new turning grades for exotic materials because this year aerospace and medical equipment are going to be major focus areas for us.

**Prashant Sardeshmukh**,  
Director, MMC Hardmetal India Pvt Ltd

“

The mood is upbeat and the sensex has touched a new high. The same mood is seen at Imtex where it exceeded our expectations in terms of the number of visitors and some serious, quality enquiries. The positive market sentiments also suggest a good year ahead, which spells good news for the industry.”

**Mukund P Bharadwaj**,  
Managing Director/CEO, Wikus India Pvt Ltd

“

The confidence level and enthusiasm is at an all time high in the Indian market. The same levels were reflected at Imtex as we saw more visitors and higher number of footfalls at each stall. This does suggest growth for the industry as we move ahead.”

**S Ravishankar**, MD,  
Walter Tools India Pvt Ltd



The official opening ceremony

competitiveness of world-class standards. These included automatic lathes, gear cutting & finishing machines, machining centres, assembling systems, industrial robots, drilling machines, boring machines, milling machines etc.

With the 'Make in India' mantra, international companies are making a beeline for working in the country and tapping the potential. The same thought is reflected in Imtex 2015, which is now a well-recognised brand globally. International exhibitors from 24 countries were present at the event displaying their products and sharing their expertise and technical know-how.

There were group participations from 8 countries such as China, Czech Republic, Germany,

“

There were a good number of visitors at our stall. We have seen at least 50 prospective enquiries a day. People were mostly searching for solutions for specific components. From the exhibition one can notice that sectors such as aerospace, defense, medical, general engineering et al are gaining prominence.”

**Rajesh Khanna**, CEO, Wendt (India) Ltd

“

The main advantage of our machines is the milling heads, which provide people with flexibility and even prove to be a multi tasking machine. Here at the exhibition it seems there is more demand for machining complicated shaped heads that might need a 5-axis machine to address the requirement.”

**Victor Uribe**, Export Area Manager, Zayer SA

“

We are talking to more customers both in the public and private sector units and seeing more enquiries than last year. Here an exhibition like Imtex plays an important role in giving a flip to the market and creating interest among the industry. Buyers also get to see new technology offerings.”

**Pradeep Pradhan**, CEO, Machine Tool Group, Batliboi Ltd





The exhibition has reached way beyond our expectation this year. It has grown to a much bigger scale, nearly three times in size, reach, exhibitors, machines on display and the number of potential customers. Visitors were asking specific questions and seemed to be in a decision-making mode."

**Atsushi Yamada, MD,**  
Okuma India Pvt Ltd



In all, the event has been a positive experience. It was refreshing to meet well-informed manufacturers and discuss issues with new customers. Most of my time was spent talking with visitors and explaining the benefits of our workholding systems."

**Jochen Schneider, Area**  
Manager, Hainbuch GmbH



The exhibition has grown tremendously over the years and this time it is heartening to see visitors discussing technology. Earlier we used to see only CNC machines at Imtex but now we see machines integrated with automation. Even loading and unloading solutions using robots are displayed which is a great technology advancement for the industry."

**R Joshi, MD,**  
Festo Controls Pvt Ltd



The unique aspect of this Imtex is that during the first day itself, in the first hour we saw quality visitors. The mood of the manufacturing industry and machine builders is positive and this is a clear indication that the manufacturing industry is set to grow in coming times. Indian players have displayed significantly high-end technology in terms of multi-axis capability and precision know-how."

**L Krishnan, MD,**  
TaeguTec India Pvt Ltd


Italy, Japan, Spain, Taiwan and US. Manufacturers, trade bodies and industry associations from these countries were seen discussing their technological knowledge and networking with local companies. Some of the other participating countries were Australia, Austria, Belgium, China, Czech Republic, France, Germany, Hong Kong, India, Israel, Italy, Japan, Korea, Serbia, Singapore, Spain, Switzerland, Taiwan, Thailand, The Netherlands, UK and USA.

Held amidst the winds of change in India, Imtex 2015 and Tooltech 2015 lived up to its name. With a pro-business government and a forward looking budget with special focus on manufacturing sector the industry is in a euphoric mood. The same sentiment was reflected at the event as exhibitors came up with specific solutions and special offers to attract new customers in the aerospace, energy and medical industries. The manufacturers also displayed high end solutions to improve

**"With the 'Make in India' mantra, international companies are making a beeline for working in the country and tapping the potential. The same thought is reflected in Imtex 2015, which is now a well-recognised brand globally."**

productivity and quality to tap the potential in these growing sectors.

In addition, the event welcomed nearly 1,00,000 visitors including people from the machine tool industry and across all the ecosystems from the manufacturing industry. Some of the visitors came with components/parts and material samples, asking for specific machining solutions. Many exhibitors were able to initiate discussions for long term partnerships. On the other hand, few exhibitors were engaged in deep discussions with customers finalising ongoing deals.

On the whole the enthusiastic mood of the manufacturers and visitors reflected the positive attitude and revival of the industry. Considered as one of the largest industrial shows across South & South East Asia, the 17th edition of Imtex 2015 and Tooltech 2015 delivered its promise of technological growth and business development. 

The event saw a very good turnout of business visitors





# Top technology trends

Some of the trends witnessed at Imtex 2015 suggest that Indian companies are catching up with the speed of technological development, which is an encouraging sign for the Indian market.

By Shivani Mody

**G**lobally the machine tool industry has stabilised and in the past few years there has not been major technology advancement. Since technology development is incremental at a slow pace, the Indian machine tool industry has had a chance to catch up with their international counterparts. Indian manufacturers are now at par with multinational players, offering the same high-end technology to customers. These were some of the dominant and prominent trends at Imtex 2015.

Some of the trends suggest that Indian companies are catching up with the speed to technological development, which is an encouraging sign for the Indian market.

## Trend 1

### Application of robotics in automation spreads far and wide

The use of robotics in automation is a trend that is becoming more prominent in the machine tool industry. In order to make most of the rapid growth, Indian manufacturers are looking to provide robots with their machines for high quality and better productivity. Not only in machining components, robotic applications are also finding their way into assembling systems. Use of robotics in assembly for hole tightening, assembly of mobile components is a well known activity in recent times. Also in situations where there is need for mass production, that is a repetitive activity, for instance



in electric motors, the operation is automated using robotic applications.

## Trend 2

### Machines become smart and intelligent

With the current generation machines there is more emphasis on self-diagnostics ability. Many of the machines especially the high quality and high value ones have in-built intelligence. These machines are smart enough to point out the problem to the operator or the maintenance crew. In many cases it will guide the maintenance team to the problem and indicate the location as well. This is different from a conventional practice of going through a detailed practice to detect the problem area. With the conventional method detecting the problem could be a time consuming task. The in-built intelligence in the machine helps to reduce the maintenance time.

## Trend 3

### Application of machine-based systems

The machine-based systems are gaining importance not only for material handling, orientation, pick and place but also for measurement and quality control. Earlier people relied on contact based measurements but nowadays vision based measurements are also sort after for quality control. Over the past years, measurement, quality control and testing have become well established for the industry. Precision has also substantially improved from yester years.

## Trend 4

### Additive manufacturing – wait and watch out for it

Imtex 2015 showcased a glimpse of additive manufacturing usage for the machine tool industry. The technology is developing at a quick pace for the resin, plastics and ceramics industry. Additive manufacturing will see success in the machine tool industry if it can improve the speed, making it a viable option for the manufacturing industry. In India, there are companies that provide knee replacement or any other prosthetic based on a CT scan, using additive manufacturing.

Some of the benefits for additive manufacturing will be the ability to fabricate parts that can directly be used in hi-tech applications. For instance, parts made of materials such as titanium and steel can directly be used in aerospace industry. This is a big shift from when you could make plastic parts for curios-

ity to making functional parts for real-time applications.

Accuracy and speed are the two aspects hindering the growth of additive manufacturing for the machine tool industry. Major research and development is on-going in this area and any breakthrough will propel the technology forward.

When accuracies are important in surface finish, companies use the conventional process to complete the finishing of the component. Even for a component made using rapid prototype technology, it is subjected to finishing operations for the desired result. Many people are doing R&D to create a combination technology that gives the end product with a single process.

In the future, there is a possibility that the part is made by additive technology, and then the brush could complete the finishing, and in the end push out the finished part. All in all, this is one potential technology to watch out for in the future.

## Trend 5

### Workholding becomes a complex function

Presently, workholding has become a complex operation as companies are looking to complete the machining of a part in one go. This has given rise to novel methods of clamping components in a way that it reduces the wait time during operations. People aim to avoid transferring the component from one machine to the other and thus eliminate the waiting period (time savings). The other aspect is that the component, which travels from one machine to another, needs to be carried out automatically and this further complicates the clamping process.

Considering various options, companies are looking at magnetic clamping which eliminates the need for any kind of mechanical clamping. This allows full access to the tool, working on any part or face of the component without any hindrance and it also incidentally removes deformations making the tool more accurate. In addition, there is a process of vacuum clamping where the part is not stressed much and one can hold it delicately. Technology development in the workholding segment is critical, as this is one area, which determines the productivity in the process. Companies prefer using a good, high-end, quality workholding solution, as it completes the work on a component at one time, rather than clamp and de-clamp it many times.

## Trend 6

### Need for high-level skills and training for employees

With evolution of technology, the need for



*Parakramsinh Jadeja,  
Vice President, IMTMA  
& MD, Jyoti CNC  
Automation Pvt Ltd*

At Imtex 2015, it was evident that Indian manufacturers were capable of producing high technology machines, which were imported in earlier times.

Further, the manufacturing industry is entering into a maturity zone. This has led to growth in demand for automation and multi-tasking machines. And this kind of development will help Indian manufacturers to be more competitive on the global platform."



Looking around the exhibition one can see the rising importance of automation, precision, gauging and focus on productivity. The industry is now concerned about repeatability and reliability. The changing mindset regarding technology development definitely augurs good news for the industry."

**MM Murugappan**, Vice Chairman, Murugappa Group (Parent company of Wendt India)



One of the dominant trends is the move towards high-end machines. We are specially seeing growth in the oil & gas industry as they require high-end machines. Also sectors such as medical and aerospace will see growth in coming times."

**Vivek Sharma**, MD, Yamazaki Mazak India Pvt Ltd



For the 'Make in India' initiative to be successful we will need to develop skilled manpower for the industry. Therefore the focus on skill and training has to be more aggressive. Also to give a practical exposure and to help them learn, we have designed a lathe machine for students."

**BM Shivashankar**, Managing Director, HMT Machine Tools Ltd



Customers are looking for machines that help to reduce costs, optimize the process, are reliable and efficient. Our products added benefits of maximum flexibility and simple handling, which is an industry demand. Also our Tendo Aviation is resistant to dirt and is low-maintenance."

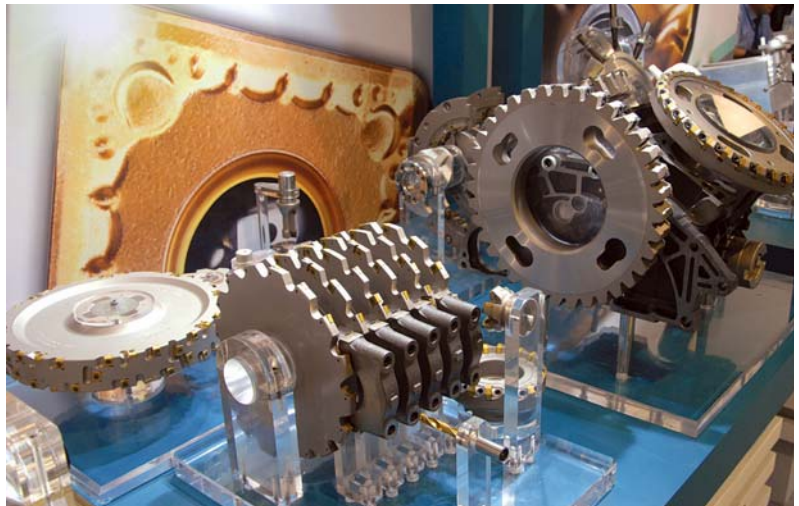
**Satish Sadasivan**, Managing Director, Schunk Intec India Pvt Ltd

higher skills and training has become a must for the industry. These are no longer the training of the past. The machine is in-built with most of the operational intelligence to carry out the machining of a component. Hence operators need to understand the programming aspect of the operation rather than the process itself.

The skills have shifted more towards programming, selection of the right tool, optimizing the whole process by managing and improving cutting feeds, speeds and bringing down the cycle time. The final objective is to minimize the cost per piece and that is where the actual learning or skill is reflected.

Moreover, depending on the specific industry the skills and training are different. As an example, the skills required in assembling are more about the feel, as the entire operation is not robotized. For instance, in the Toyota plant, assembly training is entirely different as they are tuned for automobile assembly. In this area of work importance is given to tactical skills, such as feeling the force, resistance and tightness during operations. In case of a machine tool industry, the requirements are not too sensitive and hence a general skill set and training is imparted to employees.

On the other hand, skills and knowledge is also becoming important for machine maintenance, as nowadays machines tend to be more complex. The industry norms for good practices of preventive & routine maintenance have become stringent making the emphasis on skill and training all the more imperative.



Apart from the skills requirement, servicing is also gaining importance. Many of the companies are recognizing servicing skills as a key differentiator. The skills are now shifting from core manufacturing to all the peripheral areas. These are skills needed for starting with the preparation for manufacture and after manufacturing, work for assembly, servicing and customer support. These areas are becoming critical over the years.

## Trend 7

### Safety becomes a norm

Nowadays machines operate at high speeds. In such a case, failure of a tool holder or a component that comes loose can cause severe damage to the machine and the operator. Therefore, Indian manufacturers too are rigorously following internationally accepted safety standards for the machine tools.





If it takes off then production of defense parts is set to become the biggest market similar to the auto sector. Some of the industrial groups can jointly produce these defense parts. The machine tool industry will get a boost when high volume, large-scale production of defense parts is established. These parts can be small arms or bit of ammunition."

**PJ Mohanram**, Senior Advisor,  
IMTMA



We saw good response for our products as we provide more intelligence to our machines. Other than the usual programming we add artificial intelligence to the robots, which helps in improving the end result. Moreover, we also provide technology for measurement and auto correction, making it a closed loop manufacturing solution."

**Prashant Sarup**, Director,  
Marshall Machines P Ltd



One technology that we have is the 5 axis twin spindle machine which helps double the productivity. Also the machine needs to have a compact footprint. Considering sector specific growth we have seen quite a few enquiries from the medical industry for implants and prostrates."

**Rajesh Ghashi**, MD,  
Chiron India



Along with automation, there is need for plug and play kind of machines with predictable output and consistent quality. Also customers are asking for higher accuracy and repeatability. One important trend is the use of laser calibration method."

**Nisha Lobo**, Director,  
Alex Machine Tools Pvt Ltd

Also as a moral responsibility, companies have to ensure a safe workplace environment for their employees. To provide utmost safety we will see increased use of safety standards, safety locks and internal safety mechanisms.

Some of the mechanisms such as the machine becoming slow or shutting down depending on the severity of the problem will be a regular trend. Presently, many machines work on high value parts such as aerospace components. Any machine failure can cause heavy damage to the component, which is a big loss for a company. Also companies are using anti-collision systems in the machines. Some companies are also exploring the possibility of using an equivalent of an airbag similar to an automobile for machines. The underlying aim is to protect the man, machine and component.


## Trend 8

### Growth of different sectors in coming years

The mainstay of the machine tool industry in India is the au-

tomobile industry making up for nearly 50 to 60 per cent of the demand. Presently, the auto industry is not growing as much as desired and hence the industry is looking to grow in other sectors. Some of these sectors are the aerospace, medical, die & mould, energy, oil & gas, infrastructure to name a few.

Most companies are providing defense parts to the government sector but the process is long and tedious. Recently, the government has expressed that private companies could enter the production of defense parts, which is set to become the next big market. It can reach a limit similar to the auto component manufacturing in the country. In the next 5 years this will become a major growth area and will give a major thrust to the machine tool industry.

In general, the machine tool industry has now become a hi-tech industry and is all set to grow in coming years. Also the industry with its new found development is looking to attract engineers and retain talent, which will go a long way in ensuring success in the future. 





# Foreign players look to grow in India

International exhibitors from 24 countries were present at the event displaying company products and sharing their expertise and technical know-how.

By Shivani Mody

**W**ith the 'Make in India' mantra, international companies are making a beeline for working in the country and tapping the potential. The same thought is reflected in Imtex 2015, which is now a well-recognised brand globally. International exhibitors from 24 countries were present at the event displaying their products and sharing their expertise and technical know-how. Also as an enabler for 'Make in India,' Imtex 2015 will help foster relations among Indian and foreign

players in machine tool industry. There were group participations from eight countries such as China, Czech Republic, Germany, Italy, Japan, Spain, Taiwan and US. Manufacturers, trade bodies and industry associations from these countries were seen discussing their technological knowledge and networking with local companies.

Some of the other participating countries were Australia, Austria, Belgium, China, Czech Republic, France, Germany, Hong Kong, India, Israel, Italy, Japan, Korea, Serbia, Singapore, Spain, Switzerland, Taiwan, Thailand, The Netherlands, UK and USA.

“Our products will help Indian manufacturers improve their productivity. The main challenge is to educate people regarding the importance of using our high pressure vices. Overall, the quality of visitors is good and we have got new leads & enquiries. The other noteworthy aspect is that decision-makers and key buyers were present in the event, which is not the case elsewhere.”

**Ramon Cenarruzabeitia**, Managing Director, Fresmak Arnold

The event is an important platform for us to strengthen our relationship with customers. The order and deals discussion is for a later date. We were able to show our solutions to new customers and that is good opportunity. The friendly chat with visitors at the event helps us understand the dynamics and specific solutions required for Indian manufacturers.”

**Pablo Juaristi**, Quality & Product Manager, Juaristi Oriental Engineering Services

The event has helped us understand how the industry is evolving in the last few years. Earlier companies used to ask for mid-range technology products but now they are demanding the highest technology grade available. They are willing to buy products, which have the highest levels of accuracy. We realised that Indian manufacturers are looking to compete with international players and improve their global presence.”

**Ricardo Gallego**, Managing Director, Korta Engineering India Pvt Ltd

Since we are looking to grow in India, the exhibition is an important window of opportunity. It has been a strong reflection of the economic potential. Visitors came to the event with proper projects and specific applications. The major advantage is that since all visitors speak English, it becomes easy for discussions.”

**Beatrice Avanzini**, Area Manager, OMG Srl

At the exhibition people were mainly interested in our robotic systems. People have been coming to the booth and asking about our entire solution range. There are specific applications they are looking for and it gives us an indication of the potential in the country. The event is a sure indication of the economic opportunity in India.”

**Kazuhiro Yoshino**, Director/Chief Technical Officer, Nachi

This year Imtex has surpassed way beyond our expectation. In general, the exhibition has reached a much bigger scale as compared to earlier times. It has grown nearly three times in terms of size, reach, exhibitors, machines on display and the number of potential customers. In the past visitors were looking for information, collected details and carried out friendly discussions rather than engage in a business deal. This time we notice visitors were asking questions and seem to be in a decision-making mode.”

**Atsushi Yamada**, Managing Director, Okuma India Pvt Ltd



# 'Reliability becomes the key focus'

Reflecting a positive market sentiment and speaking about the experience of Imtex 2015, **Terrence Miranda**, MD, Haas Factory Outlet - Mumbai, India shares his thoughts during the event.

By Shivani Mody

## **■ Mention some of the technology trends reflected at Imtex 2015**

In the last few years customer requirements have evolved. And this change is clearly visible at Imtex. People are discussing complete solutions and not just focusing on individual machines. There is a distinct need for combined operations, a need for multi-tasking machines. Further, the shift is towards automation as people are looking to reduce dependence on labour.

Also in cases where volumes are high and operators have to handle difficult or complex parts, customers are relying on robotic applications. One change in the mindset is pertaining to the 5 axis machines. Previously they were a thought, but it has now become a requirement. Our 5 axis machines address the customer pain points and we provide the desired price-performance advantage. After sales support and servicing is also becoming critical for manufacturers.

The industry has given a clear message for products that is 'Zero Tolerance to Failure' and the specific focus on reliability. The technology showcased and the brands present at Imtex are strongly reflecting this sentiment.

To cater to the changing market dynamics we are focusing on research and development, which is a continuous process. The team works on designing new machines, new components, more efficient production process, higher reliability of machines, automation, lesser need for servicing et al to name a few. We will be expanding our product base. Our plan is to launch new products every year that support customers in the best possible way and currently our production is 15 machines each month.

**■ Kindly give an outlook as to which sectors suggest promising growth in coming years.**



“The industry has given a clear message for products that is 'Zero Tolerance to Failure' and the specific focus on reliability. The technology showcased and the brands present at Imtex are strongly reflecting this sentiment.”

While the last two years have been quite challenging for the manufacturing industry, the positive outlook is back and enthusiasm is in the air.


In this situation too, the automotive industry is subdued to an extent. To mitigate these effects the machine tool industry is looking at improving product offerings catering to various other sectors.

Some of the sectors we have supplied machines in are aerospace, die & mould making, auto components, oil and gas, medical, general engineering etc. Moreover some of the promising areas are power generation and pharma equipment. The other noteworthy development is the fixtures and furnishings industry. With focus on design, varying models & sizes and presence of many brands the sanitary ware industry is also making use of machining centres. The results are better and faster in the long run.

**■ India is set to become a major player in the global machine tool industry. What will be some of the challenges that the country will face in tapping the potential?**

We have started the year on a good note. There is a stable, pro business government at the centre and the policy decisions are pointed in the right direction. One of the

major issues is the access to coal. Power generation is a need for the machine tool industry and this will be a major challenge that we need to overcome.

The infrastructure bottlenecks that create problems in the supply chain continue to plague the country. Presently the instability of the oil prices is also posing a unique problem and this will affect the country. On an international level, the European region is still on a shaky ground, which can make difference to our industry. The silver lining here is that Germany looks strong and is sure to bounce back, while the US economy is already taking better shape. 

# 'Focus on using high-end machines'

**Vivek Sharma**, Managing Director, Yamazaki Mazak India Pvt Ltd voices his opinion about the need to change the industry mindset and the growing adoption of high-end machines/technology.

By Shivani Mody

## **Kindly shed some light on the recent technology trends.**

Since the start we have focused on advanced technology solutions including the multi-tasking, 5-axis, milling, turning, CNC controls and automation. Most prominently we see that Indian manufacturers are now rising up to the occasion. The focus on adopting latest technology is seen in a big way. The use of multi-tasking machines, 5 axis+ machines is on the rise. Topmost thought for companies is productivity, multiple operations and cost of machining per piece. People are working towards high quality in the least possible price point. There is need for a proper balance of relevant technology with the least possible operating costs. This kind of market dynamics is also reflected in Imtex 2015.

The other dominating trend for the industry is the need for automation. As processes become complex and sourcing skilled manpower becomes a tedious task, the use of automated solutions is set to grow in the next few years. Moreover, it helps to manage the business in an easier, efficient way.

Further, there is talk of additive manufacturing, a technology still in its early stages. Currently it has limited applications and is under research and development.

## **Which are some of the sectors that are set to grow in the future?**

With the industry adopting high-end machines, we have seen growth in some specific sectors. For instance, we are seeing growth in the oil & gas industry as they require hi-tech machines. Thinking about the future, sectors such as medical industry, general engineering and aero components manufacturing, will see growth.

## **Currently, it is said that India has a major role to play in the global machine tool industry. What are some of the road blocks that prevent the industry from making**



“There is need for a proper balance of relevant technology with the least possible operating costs. This kind of market dynamics is also reflected in Imtex 2015.”

## **most of the opportunity?**

One of the major challenges faced by the industry is the focus on innovation and research and development. Also with evolving technology for high-end machines, there will be complexities in design of the machines and the interface.

The other aspect is that majority of the Indian manufacturers are focused on the domestic market. For the economy to grow and the industry to reach higher levels, we need to grow our exports market as well. Many of the industry players are complacent and avoid paying attention to the global potential. All-in-all we need to change our mindset to a more long-term thought process and develop strategies around it. Added to that, financing and investments in projects is not as per the desired levels and pace. The decision-making and implementation too is a lengthy, time consuming process.

## **Kindly share your experience at Imtex 2015.**

This year the exhibition was bustling with activities and was promising on the business front. It gave a sense of sectors which were to grow in the coming times. Manufacturers were able to gauge the general industry trends and to produce machines catering to the requirement.

At the exhibition we showcased three new machines - the Megaturn smart 600, Quick Turn Primos and the Horizontal Center Nexus 5000 III. These machines are known for their high precision benefit ensuring higher productivity, accuracy and speedy machining. Moreover, they are designed to suit compact floor space requirements of companies.

The one strong attraction at our stall was the newly introduced controller - the MAZATROL SmoothX. Launched for the Indian market, this new system features extremely fast operation as well as exceptional surface finishes. The new operator interface display has a touch panel with operation similar to a smartphone or tablet. Visitors were impressed by this new direction for CNC operation. 



By Niranjan Mudholkar

## Absolutely on track!

**SV Joshi**, Director, Danobat Grupo Machine Tools India Pvt Ltd, explains how this Group is delivering a key project for the Indian Railways

**Q** **DANOBAT GROUP** prominently displayed its SORALUCE FP 6000 (Milling-Boring Machine) at Imtex 2015. We understand this machine is currently being used by many industries in India mainly in power sector and yellow goods. There is a landmark development in Indian Railway for production. Tell us about it.



Yes, DANOBAT GROUP is supplying the world's latest technological excellence in railway application to Rae Bareilly at the Railway Coach Factory. The technology excellence comes from having machines which are automated and integrated through a gantry loading system. It starts with a raw, semi-finished axle and a raw, semi-finished wheel and then assembles them together in a concept of line. This results into one wheel set with bearings, brake discs, wheels and axle as a total assembly. And all this in an entirely new workshop with the latest machining technology in just 18 minutes per assembled wheel. The machines have been delivered and product commissioning is scheduled to be finished by June 2015.

## Machining Typhoon

Colibri Spindles Ltd showcased an innovative product that Baruch Books, Deputy CEO and VP Sales & Marketing, believes could create a storm.

**Q** **What is so special about this product called Typhoon?**

First of all, let me share with you that the IMC Group has tested and validated this product. It will sell and market it all around the world. We believe that this is a truly revolutionary and innovative product which no one currently has in the market. It is a patented product. Many customers find it hard to accept the benefits of this product until they actually try it.



**Q** **How does it work?**

The idea has been to take a standard machine with coolant through the spindle and with 8,000 RPM or 10,000 RPM and make it work like a high-end machine with minimum investments. One of our UK based high-end customer used Typhoon to reduce the machining time for parts from 20 hours to approximately four hours! Earlier he was making 16,000 holes with a normal machine. Now he makes 320,000 holes with Typhoon – that's 20 times longer tool life.

## Noah Embarks!

UCAM Pvt Ltd launched the Noah series under the Nimble brand at Imtex 2015. **Indradev Babu**, MD, speaks about it.

**Q** **Tell us about this new launch**

It is a 6-axis CNC Gear Hobbing Machine that competes with the best in class German and Japanese machines. The customer wants high productivity and high precision at affordable cost. Indian machines in this segment so far have been in the lower end category. This machine offers high productivity and precision because it employs high-level technologies like electronic gearing, advanced software and the direct drive systems. It will be very attractive for exports considering its value proposition. We have to ramp up and then we are ready for the international market.

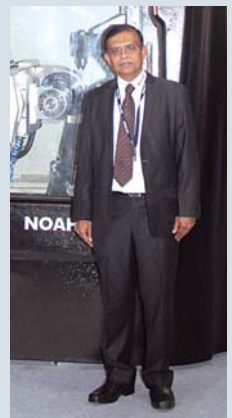
**Q** **What sectors are you looking at?**

First of all, the auto industry. Then, we will also be looking at

non-auto sectors like the gear making industry. Of course, we will go step by step.

**Q** **Tell us about its design?**

Yes, there is an interesting feature to this machine – its design. In fact, it is bone line shaped. We have gone to an Italian design house for its design. So, we have spent a lot of time and effort on the design. The front of the machine is a composite mould. People like to be proud owners of their machines and with its exquisite design; we are touching the finer sides of the customers' feelings. When it is kept on the shopfloor, it will really stand out. Indian customers are moving in that direction now. If you look at German machines or Swiss machines or Japanese machines, they look fabulous. So, why shouldn't an Indian machine look good? We want to capture that with this machine.



By Niranjan Mudholkar

## Double impact!

**AK Sareen, MD,**  
Ceratzit India Pvt Ltd,  
believes his company  
is all set for a high-  
growth period!



### What's new for Imtex?

I think the most important development for us is our takeover of GW India and that will actually helps us to bring into our portfolio the solid carbide round tools as well. This gives us a bigger and a more complete range of solutions. Now we can target complete projects with complete solutions. Other than that, we have new coating grades and substrates with much superior performance.

### Will you continue with the GW brand?

GW will remain as a production brand and the front-end brand for the customers will be Ceratzit. This is also shows our conviction that the Indian market is a very promising market and that's why we have invested in this market.

### Are you also looking at the exports market?

We are focussed on the domestic market but will also explore opportunities of supplying to our sister company in China.

### Your outlook for the market?

We are very positive about our growth. The market for our industry is expected to grow around five percent to seven percent but we should grow around 15 percent!

## The differentiator!

**Ranjit Bhide, MD,**  
DMG Mori Seiki India,  
believes that his  
company's solutions  
offer the decisive  
differentiator to  
customers



### You have been at DMG for over a year now.

Yes, the stay has been very good and exciting. One great thing about this company is its big focus on customers.

### How has been the response to the Ecoline series?

Customers who are using it are appreciating it. But there still remains a misconception that it is a cheap machine. The fact is - it is the same DMG quality. We have been able to lower the price with reduced options and the economies of scale.

### Of course, there's much more to DMG!

Of course! We have more than 250 products (and Ecoline series has just eight). The chunk of our business comes from the big machines, some of the projects that we do and from our repeat customers. We are pretty much on track overall compared to 2013-14. In fact, 2015 offers much more exciting opportunities.

### You have launched Celos at Imtex 2015.

Celos is a differentiating factor because nobody has it. This technological innovation makes life easier for the operator, the maintenance guy and the decision maker.

## Connecting with the right jobs

By Shivani Mody

IMTMA's 'Job Connect' initiative invites engineering students for inspiring talks by the 'Gurus' of the machine tool industry that will help them build a career in this sector.

IMTMA has started a new initiative called 'Job Connect' aimed at attracting engineering graduates to the machine tool industry. Organised along with Imtex 2015, 'Job Connect' looked to create awareness about jobs related to the machine tool industry, shed light on upcoming avenues, discuss various career roles and break myths related to the sector.

Industry leaders from TaeguTec India Pvt Ltd, LMV, Jyoti CNC Automation Ltd, Grind Master Machines Pvt Ltd, Fanuc India Pvt Ltd, ACE Designers, BFW Ltd, CADEM Softwares & Services, Kennametal India Ltd and Makino India Pvt Ltd shared valuable advice with. Some companies such



as Fanuc, BFW invited students to explore job openings on their websites.



## Hyundai Wia's Robust Machining Center with Revolutionary Productivity

Horizontal machining center KH50G/63G by Hyundai Wia, the world famous machine tool maker with years of expertise and the latest technology features two step gear main spindle structure for highly rigid, highly accurate mechanism to maximize productivity.

By adopting all-in-one type structure on x-z axis, KH50G/63G have more rigidity, as they are designed and manufactured as an all-in-one type casting. Also by adopting the "air semi-rising sliding ways" the load on the Z axis slide way is decreased.

By dramatically decreasing the slide way load the Z axis is able to hold tolerance and repeatability over longer cycle times. The most significant benefit of a moving column is the increased rigidity and reduction in heat. Hence, it retains accuracy and repeatability at the highest levels of machining.

For more information -  
Email: [sales@hyundai-wia.com](mailto:sales@hyundai-wia.com)



ITEM	KH50G	KH63G
Pallet Size	2-500×500 (2-19.7"×19.7")	2-630×630 (2-24.8"×24.8")
Max. Load Capacity	2-800 (2-1,764)	2-1,000 (2-2,205)
Sp. Taper	BT50 [BBT50]	BT50 [BBT50]
Sp. Speed	4,500 [8,000] [8,000]	4,500 [8,000] [4,500]
Sp. Power	18.5/15 (25/20) [22/18.5 (30/25)] [18.5/15 (25/20)]	22/18.5 (30/25) [26/22 (35/30)] [22/18.5 (30/25)]
No. of Tools	40 [60, 90, 120]	40 [60, 90, 120]
Travel (X/Y/Z)	760/705/650 (29.9"/27.8"/25.6")	950/825/760 (37.4"/32.5"/29.9")
Rapid Travel	20/20/20	20/20/20
Controller	Fanuc-31i [Siemens 840D sl]	Fanuc-31i [Siemens 840D sl]

[ ]: Option • : SIEMENS

## Wendt's Vertical Honing Machine -Model E3500TS Launch



On January 25, 2015, Wendt India launched a CNC Vertical, Twin Spindle Honing Machine E3500TS - the latest addition to the family of honing machines in Imtex at their Stall. The machine was unveiled by MM Murugappan, Chairman CUMI Group. A host of customers from many user industries also graced the gala launch function witnessing live demos and showing keen interest for buying.

This new addition to the Honing machine family is clearly a big step forward when it comes to precision honing needs of various components manufactured in both mass and batch productions.

E3500TS is a highly versatile machine with Twin Spindle honing tool expansion and stroking speeds through servo drive

with Siemens control Systems. This machine has a stroke of 500mm with diameter ranging from 25-70mm with rotary indexing table and in process gauging as optional.

### Salient features:

- CNC Siemens Control System
- Adjustable tool expansion & stroking speeds through servo drive
- Variable spindle speed
- Reduced cycle time.

Tapping into their vast experience and technological strengths, Wendt also offers customised tooling and tailor made diamond / CBN abrasive honing stones for specific applications

This machine is ideal for applications like:

- Gears
- Valve body
- Cylinder block/ liners
- Connecting rods
- Sleeves and bushes
- Aerospace components
- Fuel injection parts
- Sleeves, and many more.

According to the company, this state-of-the-art and economically priced machine will surely be a valuable asset to the honing facility of customers across the globe.

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

## Mitsui Seiki's 5 Axis High Precision Vertical Machining Centre

SAP Technical & Marketing Consultants showcased the Mitsui Seiki model Vertex 55X II (5 Axis High Precision Vertical Machining Centre) at the recently concluded IMTEX 2015. Mitsui Seiki is one of the most coveted and favourite brand with the Aerospace Industry for their high precision & rigid machines. Mitsui Seiki is synonymous with components made from toughest of materials requiring a very high degree of accuracy. Some of the superior features of this machine include large envelope within a compact body, standardised dual-faced contact spindle interface, automated parameter optimisation and smart shutdown technologies which contribute to increased productivity. Complex part geometrics and long cycle times are best processed with efficient Mitsui Seiki 5-Axis Machining Centres.

For more information: [saptechnical.co.in](http://saptechnical.co.in)



## Plenty of interest in hyperMILL

After a week at IMTEX 2015, Open Mind is very pleased with the response to its hyperMILL CAM/CAD suite. Current users as well as numerous interested parties obtained information on the functions available in the 2014.2 version of hyperMILL.

Visitors to the booth were particularly impressed by the fact that the hyperCAD-S suite contains a CAD component tailored to the special requirements of CAD users. The new solids module enables exceptionally efficient volume modelling. Users can now make changes to CAD models with direct modelling.

Those who need to remove large amounts of material are always looking for ways to speed up machining. As a result, it

is no surprise that the new functions in hyperMAXX, the high-performance cutting (HPC) module for hyperMILL, received a great deal of attention. New functions include plunging the milling tool into the material at pre-drilled holes, meaning it is no longer necessary to ramp in the milling tool at the start of machining. The greatest advantage of this method is that it protects tools, particularly when it comes to materials that are difficult to cut. The machining process is also checked for collisions. Furthermore, it is now possible to select a zigzag mode in hyperMAXX suited to machining large workpieces.

For more information: [www.openmind-tech.com](http://www.openmind-tech.com)

## Studer CT960 – The Allrounder for complex grinding tasks

The CT960 with four spindles and a fully interpolating B-axis is a complete universal internal cylindrical and die plate grinding machine with external grinding options. Fritz Studer AG has further developed the CT960 at its center of excellence for internal cylindrical grinding in Biel. The completely overhauled grinding spindle turret now has a highly dynamic direct drive. Infinitely variable angular position in four ranges

The turret with direct drive is a very important component for complete machining. It enables the use of up to four grinding spindles and a measuring probe. This allows complete machining of workpieces in the same clamping as well as process-based measurement – with minimal auxiliary times combined with greater precision. The swiveling time for 90° is < 2 seconds, for 270° < 3 seconds.



The angular position of the grinding spindles is infinitely variable from -5° to +30° in all four positions. The functions previously executed by means of mechanical indexing are now undertaken by the Studer-SimCT software.

Fast and wear-free B-axis: The decisive innovation of the CT960 lies in the automatic B-axis of the workhead with a swiveling range of +61° to -91° and a direct drive, which enables very fast and precise positioning as well as very precise grinding with

interpolation of the B-axis for grinding radii. Thanks to the new design the B-axis has no contact surface, is completely closed and consequently wear-free and moves even faster.

For more information: Website: [www.studer.com](http://www.studer.com);

Email: [philippe.selot@grinding.ch](mailto:philippe.selot@grinding.ch)



## Renishaw highlights new metrology products

At the IMTEX 2015, Renishaw highlighted a range of process control solutions that help tackle the increasing drive to lean manufacturing, from new technologies for pre-process machine calibration, to on-line and off-line post-process measurement. There was also a significant focus on the company's additive manufacturing (3D printing) systems with the new PlusPac upgrade for its AM250 additive manufacturing machine.

Major new introductions included a high-speed contact scanning system for CNC machine tools, a family of products for the measurement of aerospace blades, a new range of modular fixtures for metrology applications, and a miniature encoder system. The company also had active demonstrations of its 5-axis scanning technology for CMMs, plus a demonstration of its Equator gauging system in an automated production cell, together with new process monitoring software.

Renishaw is the UK's only manufacturer of a machine that 'prints' metal parts and visitors to the Renishaw stand will be able to see applications that demonstrate the capabilities of the company's additive manufacturing technology, including the world's first 3D printed metal bike frame.

### Primo system creates opportunities for customers new to probing.

A highlight of Renishaw's participation at Imtex was the launch two new products for machine tool users - the Primo™ system and GoProbe software.

The Primo system is the first all-in-one package for part setting and tool setting specifically aimed at machine tool users who are new to probing. It offers a simple path to the many benefits of using probes in machining processes.

Easy to install and use, the new system represents a low initial outlay, yet retains Renishaw's proven quality. Primo hardware has been designed and manufactured to the same market-leading standards as all Renishaw products; achieving a repeatability of  $1\mu\text{m } 2\sigma$  to deliver consistent and accurate performance.

The innovative Primo credit token system offers users the flexibility to 'pay-as-you-probe'. Its 6-month renewable tokens allow unlimited use of the Primo Radio Part Setter and the Primo Radio 3D Tool Setter within this period of time. The credit tokens are also available as an upgrade to enable unrestricted continuous use.

The Primo hardware, which uses radio transmission, is a twin probe system comprising the Primo Radio Part Setter, Primo Radio 3D Tool Setter and Primo Interface.

- The Primo Radio Part Setter accurately locates a workpiece before machining and automatically updates the machine

tool's work co-ordinate system. It eliminates manual setting errors, saves time and reduces scrap caused by alignment errors. It can also be used to measure and verify conformance prior to the removal of parts from a machine.

- The Primo Radio 3D Tool Setter enables on-machine automated tool setting, further eliminating manual setting and input errors. This method is typically up to ten times faster than manual or offline tool setting.
- The Primo Interface enables communication between the system's probes and the machine's controller. The radio transmission makes longer communication distances possible, so the Primo system is suitable for most machine sizes. The interface also displays the user's remaining credit allowance.



The Primo system offers the same part setting and tool setting benefits as other probing systems, but with greatly simplified operation. Non-productive time, costs and scrap are reduced, whilst productivity and profits are increased.

The system is supplied with GoProbe, an innovative 'all-in-one' software package that simplifies part setting, tool setting and calibration. Supported by a training kit (comprising an e-learning course, a training part and a quick-reference tool) the software requires only single-line commands, which makes each cycle easy to learn and use.

Also included with the Primo system is Primo Premium Support Cover (PSC)\*, an enhanced warranty that protects Primo hardware against accidental damage during use. Primo PSC offers peace of mind, enabling users to concentrate on controlling processes, reducing costs and increasing profits.

(\*) Terms and conditions apply.

For more information visit [www.renishaw.com/primotandc](http://www.renishaw.com/primotandc) and [www.renishaw.com/goprobe](http://www.renishaw.com/goprobe)

## PMT's range of products

### CNC Internal Grinding Machine

PMT is one of the most respected business enterprises providing solutions in Grinding for critical work piece, manufactured to tight tolerances as per the Swiss standards. It offers an integrated solution including tooling and fixtures. PMT is known for its state-of-the-art manufacturing infrastructure along with an extensive manufacturing expertise in machining processes and machine design PMT has its presence all over India with its products and services.

With over 1,000 Grinding Machines in the market, it speaks of the high quality standards the Company follows complying with major international quality certifications. The Internal grinding machines are integrated with a high level of grinding software developed by extensive experimentation and research to provide user friendly Menu Driven System language for the machine setter and comprehensive diagnostics,

### CNC Cylindrical Grinding Machine

The high-precision Cylindrical Grinding machines are useful for grinding small, medium and large-sized work-pieces for



### CNC Turning Machine

The range of new generation CNC Turning Machines are designed for advanced machining capability and flexibility which allows improved part accuracy and are very efficient. The machines are modular in design and can be configured to suit the machining requirement of the customer. The machines occupy very less floor space and are very compact. The guide ways are integral with the bed and are hardened and ground. They are then coated with antifriction moglice material which dampens vibration while cutting and hence ensures longer tool life. The unique spindle design can withstand larger cutting force. Turn mill and 'C' axis options are available. The machine is with rear side chip trolley for easy chip removal. PMT makes an entire spectrum of CNC Turning



minimizing setting time/down time. The machines are tooled up and tried out to establish process capability Cp/Cpk 1.66.

the machine tool industry, automotive engineering, the aerospace industry, job shops etc. PMT has more than 35 years of experience to manufacture standard and complex grinding machines. It offers customised solutions according to the work piece to be ground. It has user friendly software which eliminates complex programming. The machines come with various features like fixed or universal wheel head, auto loading with robot or gantry, fixed or rotary dressing units, wheel balancers, in process gauges, noise monitoring systems, steady rests depending on the work-piece. To optimise the grinding process, PMT uses air gap elimination which reduces cycle time. To achieve better surface finish, it uses customised grinding cycles in-built in the controller. To give wheel compensation, the Company uses touch values to register the grinding wheel. Cone and taper grinding is possible by swivelling the work head. The machines are capable of giving process capability on a given batch of work-pieces.



machines ranging from turning diameter 135 mm to 2000 mm and turning length from 200 mm abc to 6000 mm abc.

For more information: <http://pmtmachines.com/>



## Aiming to reduce component costs in CV production

Large vehicles = large constituent components. This is the simplest way to describe commercial vehicle production. However, the manufacture of especially large and heavy components (for instance for the powertrain of HGVs, earthmovers or buses) poses a particular set of questions. How can a large clamped component be machined economically and, at the same time, at the highest precision? Does the demanding workhandling of such components not result in endlessly long production processes? The vertical pick-up turning machine VL 8 from EMAG's machine builders provides the answer. VL 8 – showcased at Imtex 2015 – includes all the advantages of the VL series directly to a machine specially designed for the handling of large components, where a number of different turning and milling operations are carried out within the framework of a single close-loop production process, with integrated automation providing the speed required and a vertical layout ensuring a high degree of process integrity where chip flow causes no problem. The results achieved with this design often become apparent within a very short time. Subcontractors and component suppliers benefit from short idle times, high component quality and sinking unit costs. The VL 8 is rapidly becoming a true 'cost-killer' in the production of commercial vehicles.

### Tried and tested basic construction

The basic design of the VL 8 closely follows that of the successful VL series. Sturdy machine construction, dynamic axes and simple operation are the main characteristics of these machines. They are also based on a completely new machine concept that allows for a variety of production technologies for soft and hard machining to be combined to achieve a very attractive price-performance ratio. The following major components ensure the production process on the VL is also highly efficient:

- The corner stone is a machine base in the polymer concrete MINERALIT that guarantees vibration resistant processes, providing for an excellent tool life and an outstanding machining quality.
- The front of the machine base features a compound slide carrying the vertical main spindle that traverses the Z- and X- axes with great dynamic.
- With a chuck diameter of 500 mm the pick-up spindle accepts workpieces of up to 400 mm diameter.
- The machining process uses a main spindle with 60 kW rating, a torque of up to 1,220 Nm and speeds of up to 2,850 rpm.
- The turret accommodates 12 turning or, optionally, 12 driven drilling and milling tools.
- The workpieces are loaded into the carrier prisms of a conveyor belt and positioned via NC axis.



**Highly efficient: the VL 8 vertical turning centre provides a step-up in performance when it comes to the machining of large workpieces, such as components for HGV powertrains.**

The pick-up spindle collects the workpieces from the lateral conveyor belt and takes them to the machining area. It is here that short travels ensure short chip-to-chip times. The machining process is a highly flexible one that allows for the use of a large variety of tools. It is also possible to link up two machines and a component turnover station to create a flexible production cell – for instance to machine the first and second sides of a workpiece complete in one cycle. Furthermore, the integration of a Y-axis in the turret allows for the "off-centre" machining of more complex geometries.

Other features ensure the precision of the machining process. There is – for instance – the, where short distances between the bearings, the use of high-precision separable bearings in a tandem-O-tandem arrangement and support bearings with length compensation, at the spindle end, provide for a particularly sturdy construction – an important basic condition for micrometre-precision turning processes.

*For more information: [www.emag.com](http://www.emag.com)*

## ISCAR Chip Splitting Inserts

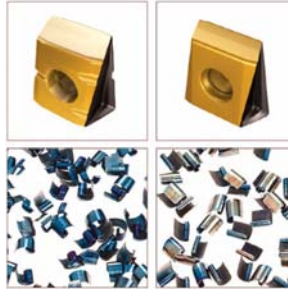
Following the success of the tangentially clamped HELITANG T490 LNMT 13 chip splitting insert, ISCAR has expanded the chip splitting option to the T490 LNMT 8 and 16 mm insert sizes.

The T490 LNMT 08 CS insert has 2 splitting grooves on one cutting edge and one groove on the opposite side. The larger, T490 LNMT 16 CS insert, has 4 corresponding grooves on one side and 3 on the opposite side. All T490 LNMT...-CS inserts are produced from the advanced SUMO TEC carbide grades.

The chip splitting edge causes a wide chip to be divided



-CS (Chip Splitting) Regular Edge



into small segments that significantly improve chip evacuation and handling. Chip splitting reduces cutting forces, thermal loading and thus power consumption, and considerably improves vibration dampening.

The main application of these new inserts is productive rough milling of deep shoulders, cavities and edges. Reduced heat generation during cutting is very important, especially for hard-to-cut aerospace materials. Improved vibration dampening ensures better performance and longer tool life in high tool overhang applications.

## Extended Flute Cutters for Maximum Flexibility

ISCAR has also further expanded the family of extended flute cutters with tangentially clamped inserts of the high-efficient HELITANG T490 line. All of the extended flute cutters feature coolant holes directed to every insert. The main applications of the new cutters are rough milling of deep shoulders and high edges (edging).

Modular extended flute assemblies of 50 and 63 mm diameters have been introduced. The assemblies carry T490 LN...T 13 inserts, comprising a shell base unit and one or two extensions. The base units and the extensions feature a corresponding curved triangular shaped male-female connection that allows assembly and torque transmission. The extremely rigid connection enables practically the same cutting conditions as for integral tools.



This system enables assembling many combinations of the base units and extensions, providing a variety of extended flute shell mill cutters with various cutting lengths, effectively reducing the customer's need for special tools.

The modular extended flute assembly provides another advantage: in extended flute cutters the first-row inserts, located near the cutter face, are involved not only in side milling but also in face milling. Therefore, they experience heavier loading and are prone to more excessive wear than the other inserts of the cutter. In integral-type cutters, a sudden breakage of a front-row face insert can cause serious damage of the cutter and even ruin it. But in case of a modular tool, only the frontal unit needs to be replaced, resulting in an economical advantage.

## Ramping Down

ISCAR has also introduced the T490 LNHT PNR-RD and T490 LNHT PNTR-RD inserts for ramping down applications. The features include a positive rake face and 4 Right hand sharp ground cutting edges.



A special chamfer for ramping down applications



For more info, visit: [www.iscar.com](http://www.iscar.com)

Tool advisor: <http://www.iscar.com/ital/MainPage.aspx> Mail: [iscar@larsentoubro.com](mailto:iscar@larsentoubro.com)



### Two new offerings from TaeguTec's RhinoRush for easing machining operations



TaeguTec has released two new features for its highly successful RhinoRush line of small and strong family of inserts and holders. One is a screw clamping type boring bar which increases the range of RhinoRush holders. The new range of boring bars with the screw clamping function is available to suit C, T, V and W shape RhinoRush inserts.

With the addition of the screw clamping type boring bar along with the new current hook lever, T-Holder and wedge clamp types, the RhinoRush line of boring bars meets the needs of more demanding machining applications.

The new screw clamping type boring bar has a simple clamping structure, minimises chip evacuation interference during internal machining and is stable and durable during demanding operations.

The other addition to the RhinoRush family is a new ground type ML chip breaker which generates less cutting force because of its very sharp cutting edge.

Other big advantages of the ML chip breaker to the RhinoRush line is that it extends tool life and improves surface

quality due to the minimal built-up-edge during machining.

By combining the chip breaker's sharp geometry and polished uncoated grade, this new addition makes the RhinoRush line the perfect choice for aluminum and super alloy machining. The ML chip breaker is a double-sided negative ground insert with sharp cutting edges that generates low cutting forces.

RhinoRush's mini turning inserts has gained a huge following across many sectors within the manufacturing arena due to its reduced machining cost, increased output and competitiveness while sparing considerable thought for the environment.

RhinoRush is characterised by a tough and smaller double-sided insert that enables improved machining time and better surface finish. Its unique two directional clamping force outperforms other ISO directional clamping force tools on the market.

Contact: TaeguTec India P Ltd.

Tel: +91-(0)80-27839111 Fax: +91-(0)80-27839123

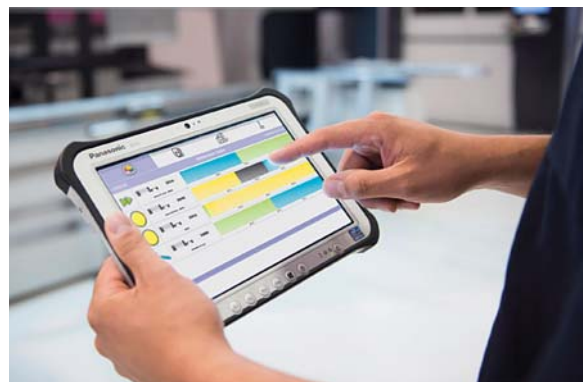
E-mail: [sales@taegutec-india.com](mailto:sales@taegutec-india.com)

### LVD launches industry strength tablet - TOUCH-i4

As Industry 4.0 becomes increasingly relevant to the sheet metalworking industry, LVD has responded with a technology that gives shop managers critical production information in real time.

TOUCH-i4 is an industrial strength Windows-based tablet that provides an overview of the entire fabrication workshop. TOUCH-i4 generates and presents live information needed to manage networked LVD laser, punching and bending machines.

The real-time TOUCH-i4 system collects information from your LVD machines and centralised CADMAN database to offer insight and flexibility to your daily operations. This information can be viewed and managed wirelessly on the shop floor with TOUCH-i4, allowing the user to make informed decisions based on lead-time, cost, technology and individual machine workload. Detailed information includes KPI history with full visibility and diagnosis of workshop performance including OEE analysis, future workload with overview and plan future workload by overall capacity, by technology and by individual machine and sort and validate,



TOUCH-i4 can be used to help sort and validate parts allowing users to streamline production orders ready for the next operation.

For more information:

E-mail: [marketing@lvd.be](mailto:marketing@lvd.be) or visit [www.lvdgroup.com](http://www.lvdgroup.com)

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Dignitaries at the inaugural conference



Business in progress



Academia pavilion



One of the busy stalls



Long queue of visitors at registration



Inauguration



Awards



L Krishnan, IMTMA President & MD, TaeguTec, in an interview with The Machinist TV



IMTMA - FIE AWARDS



Jagriti Delegation



Delegations in discussion



The show must go on...



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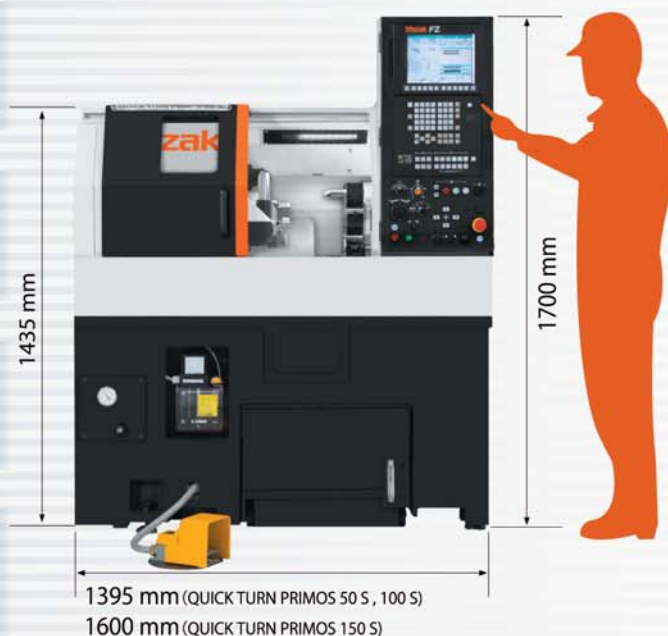
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### Example workpieces



**Automotive component**  
material/S10C  
Size/ $\Phi 20\text{mm} \times 40\text{mm}$



**Automotive component**  
material/Stainless  
Size/ $\Phi 100\text{mm} \times 20\text{mm}$



**Automotive component**  
material/S45C  
Size/ $\Phi 60\text{mm} \times 30\text{mm}$

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