CNC Plus

Ace Micromatic Group Newsletter

Issue 01 May 2019

Taking Stock of the **Past, Present and Future**

Ace Micromatic® Group

ALL YOU NEED IN MACHINING

ACE DESIGNERS
Turning solutions

AMS In Pursuit of Excellence
Milling solutions

AmiT
Industry 4.0
& IoT solutions

PRAGATI
Automation solutions

Micromatic Grinding TECHNOLOGIES LTD.
Reliable customer friendly grinding solutions
Grinding solutions

Micromatic
Sales & service

TAURUS
Special purpose
machines

3D printing

The principal companies of the Ace Micromatic Group have been scaling up phenomenally, ensuring they are well-paced with their global peers. Having had a remarkable last financial year, the companies are geared up for further growth to achieve new goals this year.

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The Inevitable Highs and Lows

Hello!

The Indian manufacturing sector showed a great deal of optimism when, owing increase in sales, output, and employment, its activities expanded to a 14-month high of 54.3 in February this year according to PMI (the Nikkei India Manufacturing Purchasing Managers' Index). However, the Index dipped to 52.6, a six-month low in March.

Despite the slowdown in growth, there exist enough reasons for us to not to get worked up and keep celebrating the path we, the Indian manufacturing sector, are on. On a brighter note, our business sentiment has strengthened to a seven-month high, and accustomed to dynamic changes, our companies have weathered the storm and secured healthy inflows of new work from abroad.

We are working in markets beyond our shores and establishing global linkages that provide us an opportunity to offer indigenous products in alignment with the 'Make in India' objective.

The situation reminds me of a quote from American actor Sterling K Brown: "I try not to get too high off the highs or too low off the lows". In the same vein, the Indian manufacturing industry, instead of dwelling on its temporary low phases or getting intoxicated at its success, has remained grounded and positively fixated to its goal of becoming a global manufacturing powerhouse. For the Ace Micromatic Group, it is a matter of immense pride to be part of the industry's phenomenal growth story and its vision.

In this edition of CNC Plus, we have compiled our group companies' accomplishments of the past year and the challenges that make any journey all so interesting. We have been growing extraordinarily, keeping pace with the industry. All along, we have borne the fruit of investing in people, technology and product innovation, and been fortunate to own a dominant share in the country.

Having come this far, the next obvious step is to explore the territories that await us with their opportunities. This makes us eager to go global and expand our geographies. We are working in markets beyond our shores and establishing global linkages that provide us an opportunity to offer indigenous products in alignment with the 'Make in India' objective.

In this endeavour, we are confident that our offerings and services will garner global acceptance, and also pave way for several others to follow suit. As ever, we would be needing your relentless support to make it happen.

T K Ramesh
Managing Director and CEO
Micromatic Machine Tools

Source: Magic Wand Media

Mahindra, first Indian brand to roll out 3 M tractors

Mumbai – Mahindra & Mahindra Ltd has announced that it has become the first Indian tractor OEM to roll out 3 million tractors. According to a statement by the company, it is one of the world's largest farm tractor manufacturers by volume.

It is also the first domestic OEM to have produced over 2,00,000 tractors in FY2018-19, the highest ever by an Indian tractor brand in a single financial year.

The company produced its first tractor through a joint venture with International Harvester in 1963. It crossed its 1-million units production mark in 2004. In 2009, it became the world's highest selling farm tractor brand by volume. The Mahindra Farm Division then completed its 2-million units production mark nine years later in 2013, only to achieve the next million units in just six years in 2018-19, including the exports.

Speaking on the milestone, Rajesh Jejurikar, President, Farm Equipment Sector, Mahindra & Mahindra, said, "The tractor industry in India has been synonymous with the Mahindra brand over the last seven decades and the 3-million tractor milestone is a testimony to the same. Going forward, we will continue to drive farm tech prosperity through pioneering, accessible and revolutionary farming technologies, innovation and digitisation to transform the lives of farmers and help them address the growing demand for agri products."

Kia Motors ventures into manufacturing in India

Hyderabad – Kia Motors, a group company of South Korean auto giant Hyundai, is about to enter the Indian car market by investing $1.1 billion to build its first factory in India. It plans to start production at the factory in Anantapur district in Andhra Pradesh by the later half of 2019, with an annual production capacity of 3 lakh.

To begin with, the company will produce a mini sedan and a compact SUV, and will expand its portfolio over time. It targets high levels of localisation and one can expect prices between ₹10-16 lakh.

"We are delighted to announce that Kia's newest manufacturing facility will be in Andhra Pradesh," said Han-Woo Park, President, Kia Motors.

"It will enable us to sell cars in the world's fifth largest market, while providing greater flexibility for our global business. Worldwide demand for Kia cars is growing and this is our latest step towards becoming a leading global car manufacturer," he added.

Lustrum FY15-19 saw sharp increase in fresh investments

The 74th survey of projects investment in India conducted by Projects Today indicates that during the five-year period FY15-19, 47,911 new projects were announced with a total investment of ₹60,51,281 crore as against 43,876 new projects worth ₹29,28,125 crore announced in the preceding five-year period FY10-14, a rise of 106.7 percent.

The buoyancy in the announcement of fresh investment was observed across all major sectors except the Electricity sector. While fresh investment increased by more than 100 percent in the Manufacturing, Mining, Infrastructure and Irrigation sectors, the Manufacturing and Irrigation sectors saw less number of new projects announced during the latest five-year period ending March 31, 2019.

Though the Manufacturing sector attracted 1,325 less projects during the FY15-19 period, thanks to the increase in the number of mega projects (with cost of ₹1,000 crore or more), total fresh investment expanded by 130.5 percent from ₹7,00,725 crore to ₹16,15,456 crore. As a result, the share of Manufacturing in total fresh investment increased from 23.9 percent in FY10-14 to 26.7 percent in FY15-19.

Boeing offers to build 21st century aerospace ecosystem in India

American Defence giant Boeing has offered to build its 21st century aerospace ecosystem in India for co-developing F/A-18 Super Hornet upgrades. The company has long been eyeing India's lucrative fighter jet market, and has now expressed its intention of co-developing F/A-18 Super Hornet upgrades as part of the country's advanced medium combat aircraft (AMCA) programme.

"What we're talking about is a complete ecosystem of capability – it's building up supply chain, engineering capacity, and technical mechanical capacity. It is bringing the build, not the kit, to India," Marc Allen, President, Boeing International and a Member, the Boeing Executive Council, told PTI.

Lockheed Martin, Boeing's business rival, is also in the race for the Indian fighter jet market. It has already offered to shift its entire F-16 manufacturing base from the US to India.

The Super Hornet production line that Boeing intends to shift here will 'make fighters for India in India'. The production line in the US will exist and will cater to Boeing's American and international buyers.

Boeing says that the Super Hornet offering for India co-opts the expertise of public-private partnership with Hindustan Aeronautics Limited (HAL) and Mahindra along with Boeing's industry partners (GE Aviation, GKN Aero, Northrop Grumman and Raytheon) to make the F/A-18 Super Hornet in an advanced factory-of-the-future in India.

The fighter, McDonnell Douglas F/A-18 Hornet, is a twin-engine, supersonic, all-weather, carrier-capable, multirole combat jet, designed as both a fighter and attack aircraft. According to Allen, the Super Hornet is the airplane that fits the requirement of both the Indian Navy and Airforce.

India to save ₹17,000 Cr if EVs hit the road by 2030: NITI Aayog and RMI

Think tank NITI Aayog and the Rocky Mountain Institute (RMI) have released a report on the opportunities for the automobile sector and the government under the Faster Adoption and Manufacturing of Electric Vehicles II (FAME II) scheme.

Titled 'India's Electric Mobility Transformation: Progress to Date and Future Opportunities', the report details the oil and carbon savings vehicles under FAME II could deliver.

The report analysed the effect that FAME II and other measures could have on India's overall Electric Vehicle (EV) market. It said if FAME II and other measures – in public and private space - are successful, India could realise EV sales penetration of 30 percent of private cars, 70 percent of commercial cars, 40 percent of buses and 80 percent of two- and three-wheelers by 2030. Also, oil and carbon savings from these electric vehicles deployed through 2030 could be many-fold larger than the direct savings from FAME II.

In fact, achieving these levels of market share by 2030 could generate cumulative savings of 846 million tonne of carbon dioxide over the total deployed vehicles' lifetime.

The FAME II scheme, notified by the Union Cabinet in February 2019, wants to accelerate the Indian government's commitment to a clean mobility future, with electrification of transportation as a primary focus area. This involves readying the market for faster adoption of EVs for durable economic growth and global competitiveness for India's automotive industry.

"Uncertainty is Temporary"

Expert Opinion

In order to thrive, industry leaders constantly have to keep tabs on the market demands to equip themselves with the requisites to cater to them. This edition of CNC Plus features **Mr VV Verma, Executive Director, Sona BLW** and **Mr Ranganathan Balaji, COO, Sona BLW** to provide a glimpse into their company's plans and their opinion on quickly morphing manufacturing environment, its current trends, last year's performance and their estimate for this year.

Source: Sona BLW

Sona BLW Precision Forgings Ltd is a well-known name in the industry. Let us know the latest happenings.

Mr Balaji: Now the company is Sona Comstar. Blackstone, the world's largest private equity fund, is set to merge Sona BLW Precision Forgings with Comstar Automotive Technologies to create a ₹4,200 crore auto components platform. Comstar is into latest starter motors. With the merger, Sona Comstar will be in Gears & Motors and will target Electric Motor segment. Sona will have a 33 percent share and the rest will be of Blackstone.

Mr Verma: With the merger, both the companies can access each other's customers. Today, their combined turnover is close to ₹1,500 crore, which will be ₹3,000 crore in the next four years as per the forecast.

What did the last financial year pan out for the industry? What were the major challenges faced?

Mr Balaji: The first half of the year turned out to be highly optimistic. However, November onwards the demand from across the sectors like passenger vehicles and commercial vehicles started to decline. Tractors also witnessed a similar trend. The last five months were slow due to multiple reasons. Also, general uncertainty issues kept cropping up.

Mr Verma: The first two quarters of the year were great. The slowdown started since Q3, which still continues. As per our estimates, things will turn around in May. Again the last quarter of the current financial year is predicted to see a lapse for CVs as BS6 will be introduced. In such a scenario, uncertainty creeps in leading to excess capacity.

How has the business been for your company and what has been driving its growth?

Mr Balaji: A few of the factors are helping us grow such as – the demand for our products from multiple sectors, favourable government policies, availability of credit, and our involvement in several projects.

Mr Verma: We have grown by 14 percent, which is primarily due to Tractors and CVs. As 5 Axle is standard in Trucks, business increases as more gears are needed by them.

Automation is the buzzword in the manufacturing sector. What's your take on the current technology trends that can help our industry to amp up its game?

Mr Balaji: Internet of Things (IoT), with all its advantages, still faces some challenges in its incorporation in the manufacturing operations. Consumers are yet to be made aware of the significant benefits it can bring in and, are therefore, wary of the cost benefit issues.

Source: Sona BLW

Mr VV Verma
Managing Director
Sona BLW

Source: Sona BLW

Mr Ranganathan Balaji
COO
Sona BLW

Machine tool builders need to build IoT-compatible machines and there appears to be a perceptible disconnect. This gap needs to be addressed.

Artificial intelligence (AI) uses machine data which helps manufacturing to be driven towards higher productivity and enhanced efficiency. With AI taking care of complex data, and use these solutions for online and end of line inspections etc., companies will have to look into acquiring the right skills and retrain people to be used in alternative areas. The technology also eliminates inconsistencies in data collection and helps create analytical conclusions in a short span of time. Going forward, AI is sure to completely reinvent manufacturing operations.

Mr Verma: IoT/Robotics/Automation will be a major trend this year too. The only problem is that R&D (Design) is not very strong in India. Another estimation is the growing price of commodities.

How, according to you, will be the next five years for the sector?

Mr Balaji: The uncertainty in demand is not just in India, it's there globally. However, we predict it to be temporary. Growth will be back and is expected to double up in the next five years.

Mr Verma: With the earlier vehicles being phased out due to the introduction of BS6, growth for the industry is not ensured. The shift to automation will play a major role in the coming years to meet the demand and bring in some consistency to manufacturing.

The concept of ownership of vehicles is also to change in the coming days. As we already see, taking cabs, renting and leasing out vehicles are soon becoming preferred options. Also, with the rise of environment-friendly vehicles, organised development should be the way forward. Charging stations with the right voltage types of sockets and standardisation is needed in the future.

Source: Sona BLW

What are you looking forward to in the new financial year?

Mr Balaji: Post May things are to improve. We target beating last year's performance.

Mr Verma: We will be growing from ₹700 crore to ₹840 crore. Large order is expected from exports, which currently constitutes 30 percent of our business.

What factors do you think will aid in the growth of the Indian Machine tools industry?

Mr Balaji: Batch production manufacturers in the Indian machine tool industry would like to use Flexible machines since their orders vary more often compared to mass producers. Versatile machine tools with more than 5 axes are economical and save shop floor space and increase the quality of components. Also, since the cost of people is increasing, machines should be IoT plug-in type and include more automation. Credit availability issue should be sorted at the earliest, helping manufacturers invest in better technologies.

Mr Verma: Growth cannot happen without the integration of IoT and Automation. Robotics is one key area that can really help increase efficiency for complex components manufacturing. It's great to see this slowly being integrated in many shop floors in India.

Cover Story

Taking Stock of the Past, Present and Future

Ace Micromatic Group's principal companies have their individual strengths that make the group a formidable force in the metal cutting industry. The leaders have joined in for a round-up of their previous financial year's achievements, the challenges they deftly overcame, and their vision and plans for the time ahead.

CNC Turning Solutions

Exceeding Customer Expectations

India's largest manufacturer of CNC turning centres, Ace Designers has had quite an action-packed year with it producing an unprecedented number of machines to cater to its clients' needs, acquiring Taurus and a lot more.

For Ace Designers Ltd, the year 2018-19 was eventful with the company crossing the milestone of despatching about 5,200 machines. "The capacity was augmented to respond to the market requirements and it was made possible with the continued support of the customers despite the lower market demand during Q3 and Q4," apprises Mr TP Sridhar, CEO, Ace Designers.

The company was also awarded the 'Platinum Level of Recognition' in the CII Exim Bank Business Excellence Assessment process. Additionally, it also showcased many new products during IMTEX 2019 addressing different market segments and paving the way for increased presence in many industry segments.

❝Our customers can look forward to an improved customer experience with our expanded product range and many internal systems getting finetuned to satisfy their changing requirements.❞

Mr TP Sridhar
CEO
Ace Designers Ltd

"The acquisition of Taurus India Pvt Ltd as a wholly owned subsidiary was another milestone to offer customers a wide range of Special Purpose Machines," he adds.

Meeting the highest demand ever

The first and second quarters of the year witnessed a huge order inflow, which was an unprecedented twice the normal numbers. "Short- and long-term augmentation of the capacity was taken up on a war footing. This resulted in an all-time high despatches crossing 600 units per month," shares Mr Sridhar.
In addition to the focus on large-volume standard machines, the flexibility to provide additional options within a shorter lead time has enabled the company to meet the exact customer requirements. "The capability to offer tooled up solutions drives our growth with many customers going in for complete solutions. Also, an exhaustive variety of products and solutions with automation possibility in most of them satisfies the wide ranging needs of our customers," he notes.

Exports on the agenda

With Q3 and Q4 of 2018-19 seeing a downturn which still continues, Ace Designers is hopeful of a very sharp market revival in the next couple of months. "With an agile infrastructure to support the operations, we are hopeful to meet the needs of the customer during the ups and downs of the market. We are also looking forward to export market contributing to higher numbers during this year," informs Mr Sridhar.

Towards customer satisfaction

Mr Sridhar enlists the plans for the near future that can amp up the company's relation with its customers. "With our reliable and cost-effective products, the customers can look forward to a continued long-term association with a high degree of mutual trust. They can also expect an improved customer experience with our expanded product range and many internal systems getting finetuned to satisfy their changing requirements," he says.

Machining Centres
Achieving Goals

For Ace Manufacturing Systems (AMS), one of the largest producers of machining centres in India, last year held special significance with it completing 25 successful years in the industry. Doing justice to the landmark year was the company's phenomenal performance.

Mr LS Umesh, Director and CEO, Ace Manufacturing Systems is keen to thank AMS' customers, employees and suppliers for their consistent support in the company's growth. "With everyone's contributions we performed exceptionally well in our 25th year of inception. In the previous financial year, AMS witnessed a surge in demand for machining centres and solutions from across the country and globe," he points out.
The company successfully achieved its revenue growth target of over ₹650 crore being a little shy of 2,000, the targeted number of machines. "However, we crossed over 1,900 machines in the dynamic market condition, with a lot of positive takeaways for the future," he adds.
Last year, AMS was certified with five Integrated Management Systems (QMS, EMS, OHSMS, ISMS and SA 8000). "It's a proud moment for all of us as we became the first machine tool company in the world to receive all five standards in one

❝All our products are indigenously designed by our engineers and built by our employees. We dedicate 25 years of AMS excellence to Indian Engineering Talent.❞

Mr LS Umesh
Director & CEO
Ace Manufacturing Systems Ltd

go. Quality remains our top priority in our products and processes. This comprehensive initiative has shown the world how much an Indian manufacturing company cares about the Environment, Safety, Health, Data security, and Society," notes Mr Umesh.

Happy customers are forever

At the beginning of the year, AMS had to face some challenges regarding on-time deliveries due to scale-up issues at its suppliers' end. "In fact, we lost a few orders in the first quarter, but not the customers. Some of our customers who went with the services of other providers came back to us citing uprightness and promptness in our deliverables," shares Mr Umesh.

The company's team of experts from the purchase and methods department worked closely with its suppliers, providing them with complete support to ensure they scale-up to meet requirements. It also improved some of its operations processes internally by introducing the Line Assembly for faster and on-time deliveries to its customers. "The strategic decisions taken in the last two quarters were fruitful, fuelling our growth and helping us in achieving business objectives," he adds.

Living by its mantra

AMS' leadership team is consistently working towards exploring possibilities for its future growth and addressing key challenges on the way. "The passion and dedication of our employees, our highly supportive customers, the strength of our group companies and our strong supplier network together drive the growth of our company. 'Aiming high in our endeavours' is the mantra we always follow. We set targets to enhance the quality of our products and services, reduce delivery period, and offer our customers innovative solutions in machining," says Mr Umesh.

Enhancing product line and skills

For the current year, AMS plans to analyse the market situation closely, gauge the competition and the company's performance to set new goals. It is looking forward to acquiring new talent and improving its existing skills. "We are charting out ways to enhance our machine performance, induce thorough research and development, and comply with Industry 4.0 concepts in our product range. By strategic planning and syncing with market needs, we are confident to exceed the expectations of all our stakeholders," he adds.

AMS, as a team, keeps its customers at the epicentre of strategic planning and walks an extra mile to meet their expectations and needs. "We want to offer our customers a much improved product range with key value-added features. A new product line has been introduced after a lot of research and inputs from customers," shares Mr Umesh.

At IMTEX 2019, AMS displayed high-speed and high-performance machining centres which were well-received by the visitors. "The positive response received at the event has given us the confidence regarding our new product range which will win us new customers and further augment our existing customer pool," he adds.

Grinding Machines
Bettering the Best

In its pursuit of 'Becoming the Best', Micromatic Grinding Technologies has surpassed several milestones in the production of precision grinding solutions. Refusing to rest on its laurels, the company invests itself in getting better year after year.

❝This year, we have set another ambitious target of 30 percent growth. The key focus will be on strengthening the 4Ms resources – Man, Machine, Method, Materials – to improve the existing business.❞

Mr Kapil Dhand
Managing Director
Micromatic Grinding Technologies Ltd (MGT)

Mr Kapil Dhand, Managing Director, Micromatic Grinding Technologies Ltd (MGT) discloses that the company has grown by 34 percent last FY18-19, reaching its highest Sales Turn Over ever.

However, as is usual in most achievements, it was possible after having overcome a set of challenges. In this case was the supply chain for critical parts like Ball screws, Guideways, Castings etc.

"Delay in the supply chain led to queuing of orders. This was addressed to some extent through new vendor development, creating task forces for reduction in machine building time through VA/VE, experimenting with alternate suppliers keeping the quality and reliability unaffected," he shares adding the obvious.

He gives the credit to the growth in the domestic automotive industry for the company's success this year. "Additionally, the increase in exports and value-added services also added to the growth significantly," adds Mr Dhand.

30% growth, target this year

"We are starting with a good order booking. This year, we have set another ambitious target of 30 percent growth. However, the key focus will be on strengthening the 4Ms resources – Man, Machine, Method, Materials – to improve the existing business. Also, we are working for diversification into allied areas and building a strong leadership team with requisite competencies for sustainability in the future," apprises Mr Dhand.

Meanwhile, faster delivery and higher productive products are what MGT customers can look forward to.

Smart Manufacturing
Making the Right Moves

❝The prime highlight of the last year is our portfolio of Industry 4.0 and Smart Manufacturing software that has found increasing traction with our customer base, with a 54 percent growth in YoY revenue.❞

Mr Madhusudan N Kestur
Director
AceMicromatic Manufacturing Intelligence Technologies Pvt Ltd (AmiT)

India's first mover and market leader in the manufacturing intelligence space, AmiT's core value – 'Doing The Right Thing' – is taking the company places. A closer look at its attained objectives and the plans ahead...

With many a highlight the last financial year, AceMicromatic Manufacturing Intelligence Technologies Pvt Ltd (AmiT) is all geared up for the next. The prime among which is the company's portfolio of Industry 4.0 and Smart Manufacturing software that has found increasing traction with its customer base, with a 54 percent growth in YoY revenue.

"Several awards and recognitions from customers have validated the journey we are on. Peekay Steel's felicitation for helping them be India's first Steel foundry to be digitised, and the Economic Times award as the 'Best Brand of 2018 for Smart Manufacturing Software' are some of the highlights of 2018-19," shares Mr Madhusudan N Kestur, Director, AmiT.

"At IMTEX 2019, we launched several new products, which have created a buzz, and are likely to drive in revenue for years to come," he adds.

Industry 4.0 needs awareness

With Industry 4.0 now being viewed as a necessity, increased fragmentation of solutions have created a need to better educate and handhold customers.

"Complexity with the desired workflows, and tight integration with ERP processes have led to rearchitecting portions of our software. Customer interest in process parameters and conditioning monitoring will need introduction of Artificial Intelligence and Machine Learning paradigms into existing software components," informs Mr Kestur.

Moves to grow

As is its core value, AmiT is making all the right moves to further consolidate its status as a premier provider of innovative, robust, complex and cost-effective Industry 4.0 solutions. In order to increase deal velocity and sizes, the company is striving towards easy-to-deploy solutions; more complex workflow enabled implementations; innovative, domain-rich solutions to address specific pain points of customers; and service-based solutions.

Special Purpose Machines

Catering to Varied Needs

An integral part of AMG since August 2018, Taurus India, with the support and nurturing of the Group, is evolving into a world-class manufacturer of Special Purpose Machines.

Engaged in the design and manufacture of Special Purpose Machines (SPMs) to meet the needs of various segments of the industry for the last 38 years, Taurus Pvt Ltd became part of AMG in August last year.

The company was set up to meet the growing demands for the development of highly productive machines for high-volume and single part manufacture. Import substitution and Turnkey solutions for components form the core competency for Taurus.

"A team of 35 dedicated and passionate individuals in a 1,600 sq mt of manufacturing area strive to realise designs conceptualised by a CAD integrated Design Office supported by an in-house machine shop. This passion-driven approach to building machine tools has enabled Taurus to supply more than 3,500 machines till date covering more than 1,380 unique designs," states Mr Viswanath Guphta, CEO, Taurus Pvt Ltd.

SPMs and their purpose

SPMs are machines that are custom built to cater to a single application. Large-volume manufacture of similar types of components come in the purview of SPMs. They offer the advantages of efficient manufacture with reduced consumption of manpower, energy and floor space, ultimately resulting in lower cost per component for the customer.

Historically, these were capital intensive and non-reconfigurable, but with the advent of CNC Systems for SPMs and modular designs, SPMs are becoming increasingly flexible and can handle the demands of the industry such as short set-up times and easy part changeovers. This has resulted in customers increasingly looking at SPMs again.

SPM solutions in demand

"The current market scenario is positive. Growth in Indian Manufacturing and 'Make in India' movement are driving the growth for the company. Expansion in the Auto and Auto Component Sectors is another key element which will further increase the demand for our kind of machines across a large number of OEMs," believes Mr Guphta.

"We are also seeing a paradigm shift in the manufacturing industry where non-OEM companies and job shops are also looking at SPM solutions with an open mind to have an edge over their competitors who process the same components via the General Purpose Machine route," he adds.

Towards world-class manufacturing

"We have been given a clear vision to grow and expand our capabilities to be the SPM manufacturer of choice. Hence, we are updating our in-house manufacturing capabilities and also expanding our design team to drive in innovation and growth. We believe that with the above we are on an aggressive growth path to achieve a sales turnover of ₹100 crore by 2023," says Mr Guphta summing up.

Solutions offered

Taurus India offers tailor-made solutions for a wide spectrum of industries including:

Auto Components–
Shafts, Pistons, Shock Absorbers, Brakes and Hydraulic Components

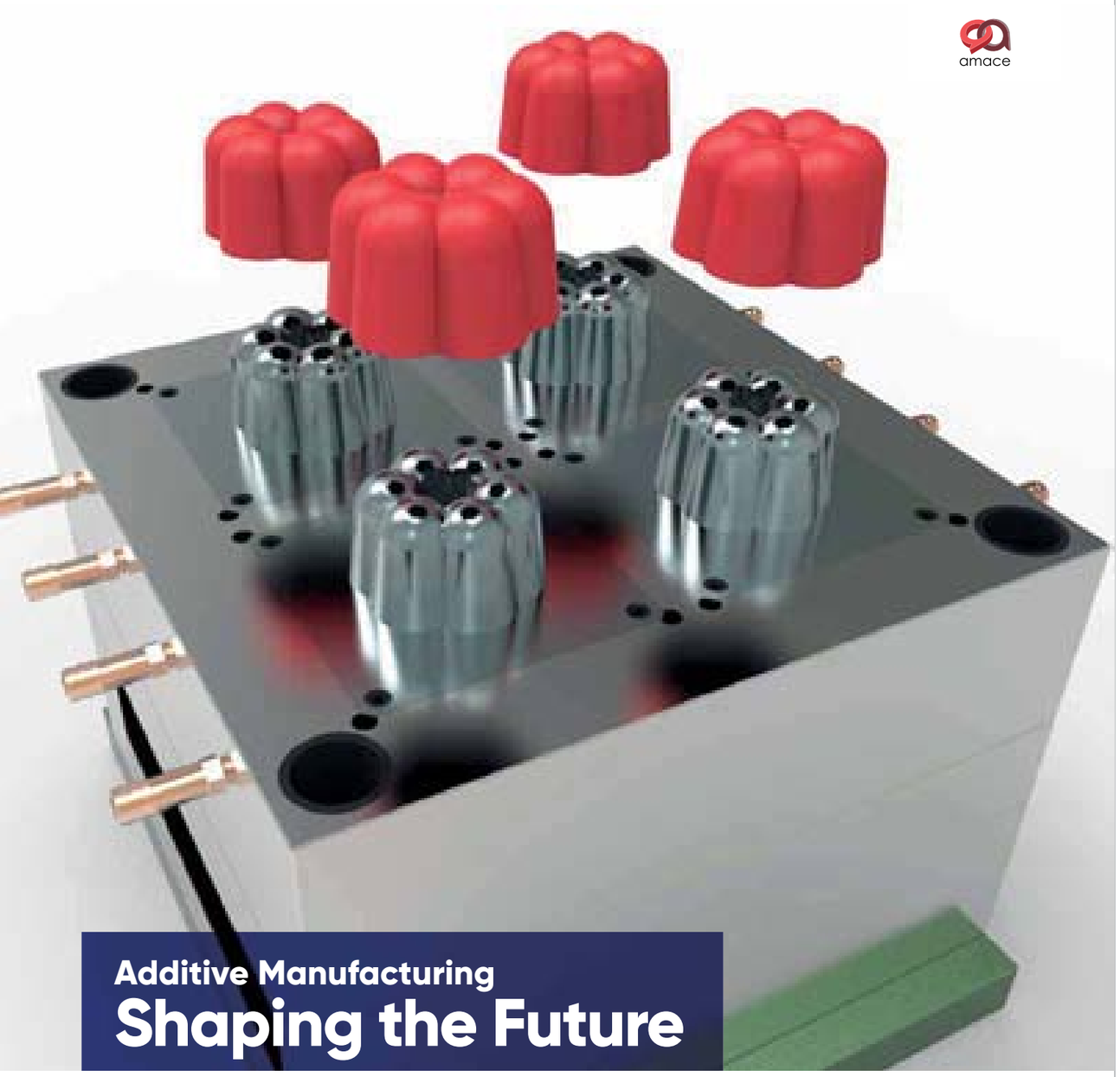
General Engineering–
Cookware, Fasteners, Assembly Machines

Abrasives & Refractory Manufacture–
Refractory Blocks, Grinding Wheels, Rotary Mixers

Gas Cylinder Manufacture–
Spinning, Threading and Stamping Machines.

"We are updating our in-house manufacturing capabilities and expanding our design team to drive in innovation and growth. We believe that we are on a steady growth path to achieve a sales turnover of ₹100 crore by 2023."

Mr Viswanath Guphta
CEO
Taurus Pvt Ltd

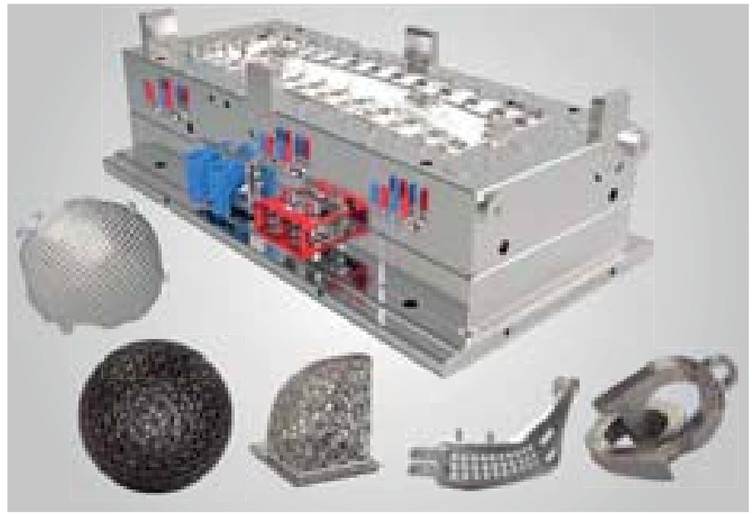


Additive Manufacturing
Shaping the Future

A brainchild of Ace Designers and Ace Manufacturing Systems (AMS), amace solutions has been wowing the manufacturing industry with its breakthrough Additive Manufacturing solutions. Established in September last year, the company has already started garnering great response from the industry.

"Our ability to reach the market through the existing relationship with our customers is paving way for our growth. The market for AM is also slowly but steadily growing globally."

Dr Vishwas R Puttige
Business Head
amace solutions pvt ltd



For Dr Vishwas R Puttige, Business Head, amace solutions pvt ltd, 2018-19, the year of inception of the company, has been a great beginning of the journey with a lot of learning. In such a short span of time it has received significant enquiries from different market sectors and applications. Some of them got converted into orders and were even executed successfully. "Since this is process intensive manufacturing, it needs close attention to multi-disciplinary aspects. Continuous R&D in validating different materials, analysing printability, and understanding their capability to meet specific applications has been one of the key highlights for amace," he shares.

Teething troubles

Additive Manufacturing (AM) is a technology which is new to India compared to the traditional manufacturing processes. There is limited awareness about the technology here, especially in the production environment. "One of the key challenges has been to bring about awareness to manufacturers. Participation at IMTEX 2019 provided a platform to demonstrate the capabilities of AM and also the strengths of amace solutions to customers from different fields," he informs. Identification and selection of parts suitable for AM is also a challenge. Not all parts can be readily 3D printed unless they demonstrate value. Hence, amace has been conducting experiments in simulation and in print to identify different components suitable for printing.

Vision to grow

One of the key drivers for growth is the vision of the company and the Ace Micromatic Group (AMG). "Our ability to reach the market through the existing relationship with our customers is also paving our way for growth. Lastly, the market for AM is slowly but steadily growing globally," notes Dr Puttige. The additive industry globally grew by 35 percent in 2018. This not only includes the growth of the machine manufacturers, but also service bureaus like amace.

Widening the customer base

Dr Puttige is optimistic for the new financial year and hopes to connect with a wider customer base. "Leveraging on our past experience, we intend to penetrate deeper into specific markets where the suitability of AM as a process is more. We are also working on identifying several parts and assemblies of machines from our parent companies Ace Designers and AMS," he informs. amace is also in the process of getting some of the key process and quality certifications this year which will lay foundations for its stronger future.

Plans ahead

Today amace has the experience to provide end to end solutions in the metal additive manufacturing space. This includes design optimisation, simulation, analysis, printing of a wide variety of materials, machining and finishing parts to suit specific applications. "Customers in Automotive, Aerospace, Defence, Engineering and Tooling can not only use our services for prototyping and batch production, but also to collectively experiment different AM processes and with different materials. We are a learning company eager to partner with customers in their growth journey," sums up Dr Puttige. CNC Plus

Spotlight

Innovation Pays Off

As is our promise to our stakeholders, we tirelessly strive for innovation and perfection. The following products from our stable attest to it.

540V GRAPHITE

The 540V is a compact and cost-effective Vertical Machining Center from Ace Manufacturing Systems (AMS). It has a higher spindle speed of 12,000 rpm and a special guarding suitable for graphite machining. It comes with an effective sealing for the Machining area, Electrical control panel, Operator panel, Magazine area and Head stock area, and has an equally effective means for dust collection.

Source: AMS

Specifications:

Description	Unit	Value
Table Size	mm x mm	750 x 400
Max. Load on Table	kgf	400
Travel X/Y/Z	mm	500/400/450
Tool Shank Type		BT-40
Spindle Speed	rpm	12,000
Rapid Traverse	m/min	40/40/40
Number of Tools		20
Chip-to-chip Time	sec	4
Tool Change System		Twin Arm
Spindle Power	kW	7.5/5.5
CNC Control		Mitsubishi

CLG-5020 (HYD)

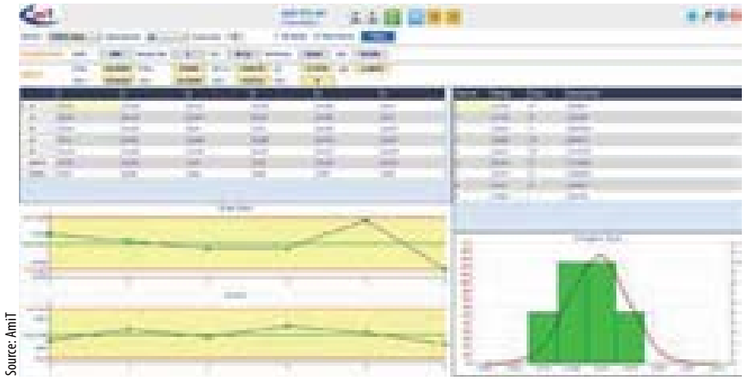
The CLG-5020, a Centerless Grinder from Micromatic Grinding Technologies Ltd (MGT), comes in a design which is suitable for Plunge and Thru-feed Grinding process. The economical machine offers the precision required for grinding. The machine base is specially designed with Honeycomb pattern for better static and dynamic rigidity, and better vibration damping. The Fixed type Grinding wheel head on the machine bed offers rigidity. A rigid outboard support for the regulating wheel spindle is provided for maximum rigidity. Manually operated In-feed slide movement is through lead screw mechanism. There is an automatic centralized lubrication system for Guide ways lubrication and Dresser Axis movement.

Source: MGT

Specifications:

Description	Unit	Value
Center Height	mm	234
Component Size	mm	Ø2-Ø90
Grinding Wheel Head	**Type**	**Fixed (Cantilever) & Hydrodynamic**
Grinding Wheel Motor Power	kW	11
Max. Wheel Surface Speed	m/sec	45
Regulating Wheel Head		
Reg. Wheel Head Speed Range	rpm	10-210
Reg. Wheel Head Motor Power	kW/rpm	1.5/1,500
Infeed Slide		
Infeed Slide Guideways	Type	Antifriction
Infeed Slide Stroke	mm	120
Grinding Wheel and Regulating Wheel Dresser	**Type**	**Copying Template Design**
Traverse Movement Speed	mm/min	50-500
Traverse and Infeed Movement	mm	330 & 50
Floor Space		
Length and Breadth	mm x mm	2,700 x 1,900
Height	mm	1,750
Weight	Kg	5,000

SPC AND AUTOCORRECTION SOFTWARE



Source: AmiT

Statistical Process Control (SPC) and Auto offset solution corrects Tool offset values automatically (Auto Offset) at CNC control for critical dimensions when the actual measurements from Digital gauge are out of predefined LSL and USL. It records data given out by the measuring gauges; generates X bar, R Chart; and computes Process Capability values. The software shows the distribution of the data collected from the digital gauge over a time period in the form of histogram graphs. Its benefits include significant time savings with reduced machine downtime, elimination of manual setting errors, reduced scrap, and monitoring of KPIs and SPC reports.

SUPER JOBBER 500 LM M

The newly launched in the Turnmill Series is Super Jobber 500 LM M from Ace Designers. The machine has superior features like high rapid rates for both axes, rigid cartridge type spindle and chip evacuation either from the rear or side to suit the plant layout. The C-axis of spindle provides spindle indexing in precise increments for part positioning and during live tool operations. It also provides bi-directional spindle motion that can be interpolated with X and/or Z motion. The main spindle is locked by a powerful brake, which disengages while turning and indexing.

Specifications:

Description	Unit	Value
Swing Over Bed	mm	500
Swing Over Carriage	mm	225
Max. Turning Dia.	mm	272
Max. Turning Length	mm	500
Spindle Size / Nose		A2-6
Bore Through Spindle Dia.	mm	63
Max. Spindle Speed	rpm	4,000
Spindle Power		7.5/11* 11/15*
X-axis Stroke	mm	200
Z-axis Stroke	mm	500
X & Z Axes Rapid Rate	m/min	30
Turret Type Axial Rotary Tool		
No. of Stations		12

*Available as Optional

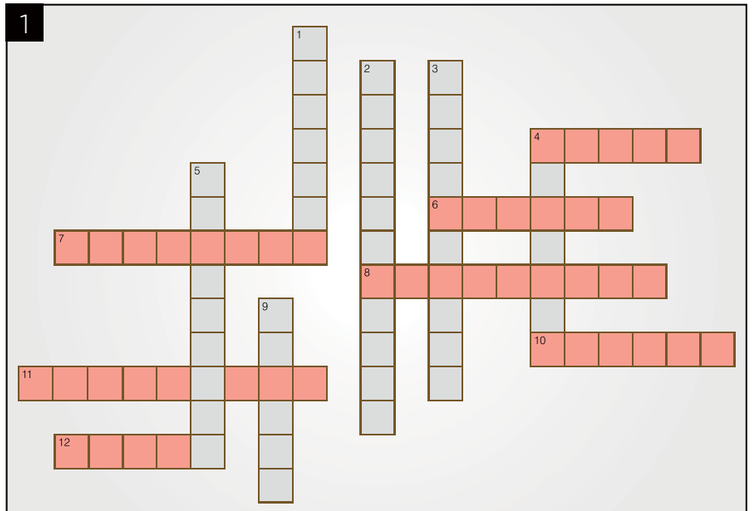
Features:

- A2-6 Spindle
- C-axis facility
- Pragati-make DST-80 live tool Turret
- 2 Nos Sphoorti Live Tool Holders (1 radial and 1 axial)
- Standard Static Tool Holders package
- A 6 in. or 165 Chuck with a suitable cylinder
- Optional features include Chip Conveyor, High pressure coolant system 5 bar, LHL Lubrication and Oil skimmer.

Source: Ace Designers

Brain Teaser

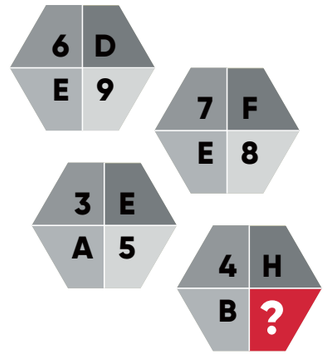
1



Across: **4.** The debris or waste resulting from machining. **6.** The process of removing metal from the end of a work piece to produce a flat surface. **7.** A manufacturing process, typically conducted on a lathe, whereby a pattern of straight, angled or crossed lines is rolled into the material. **8.** The type of machining that involves creating continuous helical groves on a component that allows it to be fitted into another object. **10.** A machine for converting thermal energy into mechanical energy or power to produce force and motion. **11.** A controlled process that takes raw material & transforms it into a desired final shape & size. **12.** A device that regulates, directs or controls the flow of a fluid by opening, closing, or partially obstructing various passageways.

Down: **1.** A form of machining, a material removal process, which is used to create rotational parts by cutting away unwanted material. **2.** Relating to or denoting the equilibrium of liquids and the pressure exerted by liquid at rest. **3.** To make a bevel, groove or furrow. **4.** A rotating axis of the machine, which often has a shaft at its heart. **5.** The permissible variation of an object's dimensions. **9.** Pick and place automation solutions using rails.

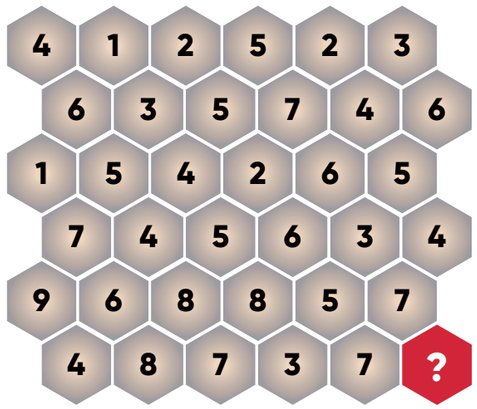
Which number replaces the question mark?



Explanation: In each square, multiply the top and bottom numbers together to give a 2 digit result, and put the letters with the numerical values of each digit in the left and right hand spaces.

2

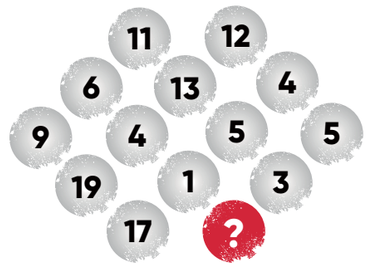
Which number replaces the question mark?



Explanation: Divide the diagram into 4 equal quarters, each comprising 9 hexagons. The sequence of numbers in the top left quarter is repeated in each of the other quarters, but increasing by 1 each time as you move clockwise.

3

Which number replaces the question mark?



Explanation: Work through the diagram in horizontal rows. The sum of the numbers in each row is always 23.

4

Answers

1 **Across:** 4. Swarf 6. Facing 7. Knurling 8. Threading 10. Engine 11. Machining 12. Valve
Down: 1. Turning 2. Hydrostatic 3. Chamfering 4. Spindle 5. Tolerance 9. Gantry

2 7 3 6 4 6

Staying a Step Ahead of Failures

Unlike conventional maintenance programs, Autonomous Maintenance does not encourage a machine to run until it breaks down only to be tended by dedicated technicians later. A key pillar of Total Productive Maintenance (TPM), it equips machine operators with the liberty to directly perform simple maintenance works to prevent breakdowns and react faster in the face of a failure. Here's a list of such minor maintenance that can avoid major disasters...

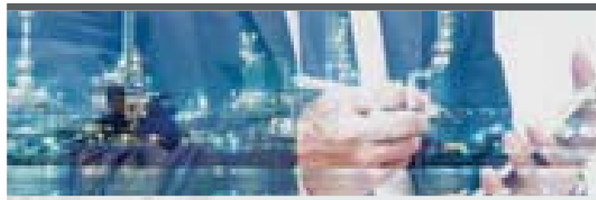
Checklist for ACE Designers' CNC Lathes

	Points to be checked	Criteria	Method	Tools	Approx. Time	Frequency	Advantages
1.	**Cleaning**						
a.	Swarf collected on machine bed	Ensure no swarf	Remove swarf	Brush	15 min	Monthly	During the process of cleaning most of the abnormalities are identified
b.	Swarf collected between X axis stainless steel guard & turret body	Ensure no swarf	Remove swarf	Brush	05 min	Weekly	Improves the life of the SS guard and wiper
c.	Swarf collected between Z axis stainless steel guard & tailstock	Ensure no swarf	Remove swarf	Brush	05 min	Weekly	Improves the life of the SS guard and wiper
d.	Swarf collected on coolant tray	Do not allow swarf to pile up	Check often & remove swarf	Steel Scraper	15 min	Daily	Improves coolant pump life and avoids breakdown
c.	Work area	Ensure no swarf & dirt	Remove swarf & dirt	Broom & mop the floor	10 min	Daily	Improves machine life and helps in human safety
	Points to be checked	**Action to be taken**	**Method of inspection**	**Specifications**	**Approx. time**	**Frequency**	**Advantages**
2.	**Hydraulic System**						
a.	Check oil level in the reservoir – It should be above the low level mark indicated on the oil level indicator	Fill oil above the low level mark	Visual	Enclo 32	05 min	Daily	Improves life of hydraulic elements and machine, and is ideal for human safety
b.	Check for any oil leakages from level indicator, hoses & tubes	Identify area of leakage	Visual	NA	03 min	Weekly	Avoids major breakdown, improves machine life and ensures human safety
c.	System Pressure	Adjust system pressure	Press - Push to read gauge isolator	30 kg/cm	02 min	Weekly	
d.	Chuck Clamp Pressure	Adjust chuck clamping pressure	Press - Push to read gauge isolator	Standard above 10 kg/cm	02 min	Weekly	
e.	Tailstock Pressure	Adjust tailstock quill pressure	Press - Push to read gauge isolator	Maintain below 20 kg/cm	02 min	Weekly	
	Points to be checked	**Criteria**	**Method**	**Specifications**	**Approx. Time**	**Frequency**	**Advantages**
3.	**Lubrication System**						
a.	Check oil level in the reservoir – It should be above the low level mark indicated on the oil level indicator	Fill oil above the low level mark	Visual	Enclo 32	05 min	Daily	Improves machine life and avoids breakdown
b.	Check for any oil leakages from level indicator, lub unit	Identify area of leakage	Visual	NA	02 min	Weekly	

	Points to be checked	Criteria	Method	Specifi-cations	Approx. Time	Frequency	Advantages
4.	**Work Holding**						
a.	Grease the 3 jaw chuck	Apply grease through the grease nipple provided on the chuck	Visual	Molykote BR 2S or kluber make - Al temp QNB 50	03 min	Daily	Improves chuck life and avoids breakdown
b.	Overhaul 3 jaw chuck	Clean the parts with petrol / kerosene grease and assemble	Visual	Molykote BR 2S or kluber make - Al temp QNB 50	03 min	Monthly	
5.	**Chip Conveyor**						
a.	Check oil level in the gear box - It should be above half of the level on the oil level indicator	Fill oil above half of the level on the oil level indicator	Visual	Servo 32 Gear Oil	02 min	Daily	Improves gear box life and avoids breakdown
b.	Grease drive end shaft bearings and chain links	Apply grease through the grease nipple provided on drive end shaft bearings	Visual	IOL make BRB no. 1	10 min	Monthly	

	Points to be checked	Action to be taken	Method of inspection	Specifi-cations	Approx. time	Frequency	Advantages
6.	**Air Conditioning Unit**						
a.	Check for normal working of A/C Unit	In case of any abnormality call M/s Micromatic	Check for the electrical cabinet temp on the display unit provided on A/C Unit	Temp should not exceed 39°C	02 min	Weekly	Improves unit's life and avoids breakdown
b.	Clean filter	Clean the filter mesh with kerosene / pressurised air. Soak sponge in kerosene, squeeze & dry	Visual	NA	05 min	Weekly	

	Points to be checked	Action to be taken	Method of inspection	Specifi-cations	Approx. time	Frequency	Advantages
7.	**General**						
a.	Check for any abnormal noise from the machine (ie. X axis, Z axis, Head stock, Hydraulic System, Motors, Gear Box, etc.)	Touch and feel all parts	Touch and feel	NA	10 min	Monthly	Avoids any unplanned breakdown
b.	Run warm up cycle at the beginning of the day (termed as good morning cycle)	Program must contain all m/c functions, (spindle rotation, turret index, X & Y axes movements, chuck & tailstock functions			03 min	Weekly	Improves machine life



CNC Plus
Ace Micromatic Group Newsletter

About CNC Plus

CNC Plus is an ambitious attempt from Ace Micromatic Group, the largest machine tools group in India and a global player, to take connecting to customers and members of the manufacturing and machine tools community to the next level.

The quarterly newsletter has been in print since 2013 and is circulated widely amongst the members of the industry.

Along with valuing customer relationships, the group wishes to highlight sectors and industries and shine light onto the stories behind impactful industries shaping the economy, currently.

Subscription Form

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Dear reader, if you wish to receive upcoming issues of CNC Plus newsletters, Kindly fill in the above form and mail to: **Micromatic Machine Tools Pvt. Ltd.** No. 240/241, 11th main, 3rd phase, Peenya Industrial area, Bangalore 560058. P: +91 80 4020 0555 or drop an email to connect@acemicromatic.com

Assessing Efficiency

Case Study

An AmiT deployed IoT project with TPM-Trak OEE Monitoring System has helped spike a customer's OEE score significantly, reflecting improvement in quality and industrial productivity.

Overall Equipment Effectiveness (OEE) is a gold standard for measuring manufacturing productivity. Sustaining good OEE is a high priority on shop floors. Availability, performance and quality are the principal factors for OEE. Another major factor contributing to OEE is downtime of machines. Real-time and in-depth monitoring aid in identifying the key reasons causing these downtimes.

Challenge

IoT project (TPM-Trak) for OEE analysis has been deployed in AMG's machines at a customer's plant by Ace Micromatic Intelligence Technologies Ltd (AmiT). Ten machines, currently machining Liner component for Royal Enfield which has four operations and raw materials sequenced by two parting machines, were monitored over a period of 15 days.

Week 1:
Average – 58%; Minimum – 44%; Maximum – 68%

Week 2:
Average – 60%; Minimum – 47%; Maximum – 70%

Week 3:
Average – 71%; Minimum – 56%; Maximum – 83%

OEE impacting factors

Several factors were identified to be impacting OEE on the pilot line. Following are some key observations:

- Insert change is the predominant reason affecting the production process. The frequency of insert change occurrence and the time lapsed by the operator to fix a new insert is high;
- Losses created by manpower such as unpunctuality in starting and ending machining during a shift change;
- Prolonged lunch breaks also contribute to decreased availability of the machine;
- No load is one of the management losses resulting in production lags;
- Running load causes high unload time and wait time as operators wait for the component to cool down, thus decreasing performance of the machine.

Addressing issues

Following are some suggested initiatives to address the above and stabilize the process flow.

- Tool life monitoring should be implemented to capture tool change frequency data;
- Supervisor-operator communication should be increased;
- Inserts must be made available to operators from stores quickly and in an organized way;
- Time discipline needs to be maintained by operators during tea time, lunch, and the initial and last hours of the shift;
- Load and running issues can be minimised by the management by managing the work flow;
- Certain other minor reasons include machine breakdown, tooling problem, and the absence of operators. These things have to be escalated quickly, keeping machine hr/rate in consideration.

OEE ANALYSIS

Results of automated OEE monitoring for a duration of three weeks

Machines	OEE		
	Feb 3rd week	Feb 4th week	Mar 1st week
Ace 01	44	48	60
Ace 02	55	53	64
Ace 03	68	70	83
Ace 04	63	64	78
Ace 05	62	63	74
Ace 06	45	47	56
Ace 07	55	57	67
Ace 08	64	68	76
Ace 09	63	66	76
Ace 10	61	67	76
Downtime in Hrs	392	336	303
Revenue loss INR	70,560	60,480	54,684
Utilised time in Hrs	961	1,046	1,088
Increased Asset utilisation INR	1,72,980	1,88,280	1,95,913

February 3rd Week:

February 4th Week:

March 1st Week:

Figure 1:

Fig 1 represents the capability of the customer's plant.

Favourable results

There has been a notable increase in OEE since the day of TPM-Trak software deployment, from an average of 58 to 71 percent, arising from an increased awareness at all levels.

Further, if corrective measures are implemented for reducing the recorded downtime, a drastic improvement in uptime and performance of machines can be observed leading to higher OEE and returns, thus smoothening the work flow.

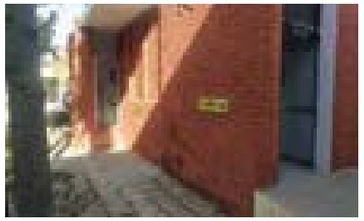
CNC Plus

Contributing to a Better Future

CSR Activity

With education being the backbone of every society, corporates in India are increasingly deeming it a worthwhile cause to extend their support. A look at Micromatic Machine Tools' (Ludhiana) initiative in this regard...


Renovated hand wash area


Cleaned and repainted washrooms


Reconstructed boys' toilet


Micromatic CSR Team from Ludhiana with the Government School staff


Ludhiana CSR Team appreciated by the Government School staff for its efforts

Quality education is a prime requisite for a society to progress. However, despite several government's initiatives towards improving the quality of the country's education system and the infrastructure needed for it, the outcome today is still far from ideal.

This makes it highly essential for the private sector to join hands with the government to realise the goal. To this end, Micromatic Machine Tools (MMT), Ludhiana, has done its bit and recently completed its first CSR Project in the Government Senior Secondary School for repair and maintenance of the drinking water area, mid-day meal area, and sanitation area for the boys and girls. The inauguration was held on April 03, 2019.

The newly reconstructed building was inaugurated by A Pinto, Chief Financial Officer, MMT and Amit Goel, Regional Head, MMT, Gurgaon. They were also presented with an Award of honour by the principal and staff of the school. Other Ludhiana CSR Team members, under whose aegis the project saw light of the day, include Arshia Joshi, Jaspal Singh and Satish Kumar.

Events

Exhibition

IMTEX 2019

Organiser: Indian Machine Tool Manufacturers' Association (IMTMA)

Venue: Bangalore, Karnataka

Date: Jan 24–30, 2019

The golden anniversary of IMTEX was the perfect opportunity for AMG to showcase its best. Under the theme 'Smart Manufacturing is Smart Leadership', the Group took the lead in displaying its innovations in Machining Solutions and IoT & Additive Solutions.


Source: AMG

Award & Recognition

Eco Design "Top Performer" Award

Organiser: Indian Machine Tool Manufacturers' Association (IMTMA)

Venue: Bangalore, Karnataka

Date: Jan 24–30, 2019

At IMTEX 2019, AMG bagged the Best Eco Design Award that took into account products and services with environmental life cycle perspective; minimal resource consumption, pollution and waste during stall set up and post-use; and recyclability.


Source: AMG

Interactive Seminar

Customer Meet

Venue: The Lalit, Chandigarh

Date: March 02, 2019

AMG held a highly insightful interactive session with its customers at Chandigarh. Topics discussed include CNC Turning Technology, CNC Milling Technology, CNC Grinding Technology, Implementation of Industry 4.0 & IoT, Special Purpose Machines and Lubrication Solutions.


Source: AMG

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INVITATION

Ace Micromatic® Group

WELCOMES YOU TO THE UPCOMING EVENT

INTEC 2019 EXHIBITION

HALL NO: B STALL NO: 15

FROM

6th Jun to 10th Jun, 2019
10:00 am - 6:00 pm

AT

CODISSIA Trade Fair Complex,
Coimbatore - 641004

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