

# IPO Note

January 08 2024

## Jyoti CNC Automation Limited





## Issue Snapshot:

Issue Open: January 09 – January 11, 2024

Price Band: Rs. 315 –331 (Discount of Rs 15 for all eligible employee)

\*Issue Size: Up to Rs 1000 cr (including employee reservation of Rs 5 cr)

Reservation for:

QIB	atleast	75% eq sh
Non-Institutional	upto	15% eq sh
((including 1/3 <sup>rd</sup> for applications between Rs.2 lakhs to Rs.10 lakhs))		
Retail	upto	10% eq sh

Face Value: Rs 2

Book value: Rs 14.62 (September 30, 2023)

Bid size: - 45 equity shares and in multiples thereof

100% Book built Issue

## Capital Structure:

Pre Issue Equity:	Rs.	39.44 cr
*Post issue Equity:	Rs.	45.48 cr

Listing: BSE & NSE

Book Running Lead Managers: Equirus Capital Private Limited, ICICI Securities Limited, SBI Capital Markets Limited

Sponsor Bank: Axis Bank Ltd & HDFC Bank Limited

Registrar to issue: Link Intime India Private Limited

## Shareholding Pattern

Shareholding Pattern	Pre issue %	Post issue %
Promoter and Promoter Group	72.13	62.55
Public & Employees	27.87	37.45
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

\*=assuming issue subscribed at higher band  
Source for this Note: RHP

## Background & Operations:

Jyoti CNC Automation Limited (JCAL) is one of the world's leading manufacturers of metal cutting computer numerical control (CNC) machines with the third largest market share in India accounting approximately 10% of the market share in India in Fiscal 2023 and twelfth largest market share globally accounting for 0.4% of the market share globally in calendar year 2022. It is a prominent manufacturer of simultaneous 5-Axis CNC machines in India and supply a diverse portfolio of CNC machines including CNC Turning Centers, CNC Turn Mill Centers, CNC Vertical Machining Centers (VMCs) and CNC Horizontal Machining Centers (HMCs). It relies on its expertise built over 2 decades of presence and strong R&D capabilities to deliver customised solutions to its customers across diverse set of industries including aerospace and defence, auto and auto components, general engineering, EMS, dies and moulds, and others.

The Company offers solutions suited for transitioning towards 'Industry 4.0', including its flagship multifunctional solutions package viz. '7<sup>th</sup> Sense' – which is geared towards automating sophisticated diagnostic and analytical functions. enabling seamless management of productivity, health and tool life of the CNC machine.

In ICL's CDMO business, it has developed relationships across the Indian pharmaceutical industry. Some of its key customers include Cipla Limited, Glenmark Pharmaceuticals Limited, Wockhardt Limited, Corona Remedies Private Limited, Emcure Pharmaceuticals Limited, Lupin Limited, Intas Pharmaceuticals Limited, Leeford Healthcare Limited, Medley Pharmaceuticals Limited, Cachet Pharmaceuticals Limited, Eris Healthcare Private Limited, Indoco Remedies Limited, J. B. Chemicals and Pharmaceuticals Limited, Oaknet Healthcare Private Limited, Zuventus Healthcare Limited, Ajanta Pharma Limited, Mankind Pharma Limited and Smart Laboratories Private Limited. It has vertically integrated operations which it considers essential to its ability to provide technologically relevant and customized solutions that has helped it garner customers.

JCAL offers over 200 variants across 44 series and during the last 6 months period ended September 30, 2023, and during the last 3 Fiscals, the Company has supplied over 8,400 CNC machines to more than 3,500 customers in India and across Asia (excluding India), Europe, North America and rest of the world. During the last 6 months period ended September 30, 2023, and during the last 3 Fiscals it has sold its products in India and 16 other countries across the globe through its principal offices in India, France, Germany, Turkey and Canada. The Company sells its products in Romania, France, Poland, Belgium, Italy, and United Kingdom through Huron's established dealer network and also have 29 sales and service centres (including its sales offices located within the precincts of one of its Manufacturing Facilities in Rajkot, Gujrat) spread across 12 states in India. As of September 30, 2023, JCAL had an order book of Rs.33,153.26 million including an order of Rs.3,049.17 million from an entity in the electronics manufacturing services (EMS) industry (as per the end-user industries as specified to it at the time of supply of machines).

The Company operates out of 3 manufacturing facilities, 2 in Rajkot, Gujarat, (Indian Manufacturing Facilities) and 1 in Strasbourg, France, which are equipped with capabilities to design, develop and manufacture its product portfolio. As on September 30, 2023, it had the capacity to manufacture 4,400 machines p.a. in India and 121 machines p.a. in France. Its Indian manufacturing operations are fully integrated and comprise, in addition, to its production lines, a foundry, sheet metal shop, paint shop, sub-assembly and assembly lines, and it also has a repair facility in Rajkot, Gujarat.



## Objects of Issue:

The Issue comprises a Fresh Issue by the Company.

## Fresh Issue

JCAL proposes to utilise the Net Proceeds from the Fresh Issue towards the following objects:

- Repayment and/ or pre-payment, in full or part, of certain borrowings availed by JCAL;
- Funding long-term working capital requirements of the Company; and
- General corporate purposes.

In addition, JCAL expects to receive the benefits of listing of Equity Shares on the Stock Exchanges including enhancing the Company's visibility and brand image among its existing and potential customers and creating a public market for the Company's Equity Shares in India.

Particulars (Rs in million)	Amount which will be financed from Net Proceeds
Repayment and/ or pre-payment, in full or part, of certain borrowings availed by JCAL;	4,750.00
Funding long-term working capital requirements of the Company; and	3,600.00
General corporate purposes	*
<b>Total</b>	<b>*</b>

## Competitive Strengths

**Leading CNC machine manufacturing companies globally as well as in India with presence across the CNC metal cutting machinery value chain:** JCAL is one of the world's leading manufacturers of metal cutting computer numerical control (CNC) machines with the third largest market share in India accounting approximately 10% of the market share in India in Fiscal 2023 and twelfth largest market share globally accounting for 0.4% of the market share globally in calendar year 2022. It is a prominent manufacturer of simultaneous 5-Axis CNC machines in India and supply a diverse portfolio of CNC machines including CNC Turning Centers, CNC Turn Mill Centers, CNC Vertical Machining Centers (VMCs) and CNC Horizontal Machining Centers (HMCs). Its standing in the Indian industry is demonstrated by the fact that it has been recognised as '*Best Brand in the Metal Cutting Industry*' by Economic Times for 5 consecutive years from 2018 to 2022. It also operates through its step-down subsidiary, Huron Graffenstaden SAS, which is a pioneer across the world in the 5-Axis machining technology. The addition of Huron augments its technological capabilities and enables it access to a diverse global customer base, across aerospace, defence and other high end engineering application industries.

The Company design and develop, and aims to provide, comprehensive solutions across the CNC metal cutting machinery value chain catering to the global trends towards multifaceted multifunctional machining centers which are capable *inter alia* of high precision, custom finishing, and improved efficiency. Further, it develops solutions keeping in mind the anticipated needs of 'Industry 4.0' which basically refers to a more complex manufacturing setup that includes Industrial Internet of Things (IIOT) that monitors and measures manufacturing processes and reacts autonomously to errors. Further, it constantly focused on developing its ability to provide technologically relevant and highly customized solutions including its flagship multifunctional solutions package viz., '*7th Sense*', which is geared towards automating sophisticated and repetitive functions diagnostic and analytical functions which enables seamless management of productivity, health and tool life of the CNC machine.

**Well diversified global customer base spread across end-user industries:** Since April 1, 2004, JCAL has supplied over 30,000 CNC machines globally, and during the 6 months period ended September 30, 2023, and the last 3 Fiscals, it has supplied machines over 8,400 machines to more than 3,500 customers in India and across Asia (excluding India), Europe, North America and rest of the world. Some of its customers across the various end industries include Space Applications Centre – ISRO, BrahMos Aerospace Thiruvananthapuram Limited, , Turkish Aerospace, Uniparts India Limited, AVTEC Limited, Tata Advance System Limited, Tata Sikorsky Aerospace Limited, Bharat Forge Limited, C.R.I. Pumps Private Limited, Kalyani Technoforge Limited, Shakti Pumps (India) Limited, Shreeram Aerospace & Defence LLP, Rolex Rings Limited, Orbit Bearings India Private Limited, Omnitech Engineering Private Limited, Harsha Engineers International Limited, Bosch Limited, HAWA Hydraulics Private Limited, Festo India Private Limited, Elgi Rubber Company Limited, National Fittings Limited, and Aequs Private Limited.

The Company has also recently forayed into supplying its products such as CNC Vertical Machining Centers (Model Tachyon 5FT with RT 200 direct drive rotary table) for companies in EMS industry in Fiscal 2023. Its wide product basket helps it service a broad spectrum of customers and helps it maintain long term relationships with certain of its customers. During the 6 months period ended September 30, 2023, and Fiscal 2023, Fiscal 2022 and Fiscal 2021, JCAL supplied its products in India and, to 16 others countries across Asia, (excluding India), Europe and North America, through its principal offices in France, Germany, Turkey and Canada. Further, it markets its products in India through 29 sales and service centres spread across 12 states in India. It sells its products in Romania, France, Poland, Belgium,



Italy, and United Kingdom through Huron's established dealer network. JCAL's international operations, and geographic reach, has been bolstered since the acquisition of Huron.

**Focus on technology and ability to deliver innovative solutions bolstered by dedicated R&D facilities:** JCAL has a diverse portfolio of products and supply a diverse portfolio of CNC machines including CNC Turning Centers, CNC Turn Mill Centers, CNC Vertical Machining Centers (VMCs) and CNC Horizontal Machining Centers (HMCs). Currently, its product portfolio comprises entry level products to sophisticated machines including high speed simultaneous 5-Axis, multi-purpose, multi-tasking machines. The growth in its product range from entry level CNC machines to sophisticated multi-axis machines is a testament to its constant focus on technology and drive to continually provide customised solutions to its customers. Its ability to deliver high precision multi-purpose products is significantly enhanced by its dedicated R&D team situated at its facilities in Rajkot, Gujarat and in Strasbourg, France. As of September 30, 2023, its R&D team aggregated 141 employees in Rajkot, Gujarat and Strasbourg, France. Its R&D capabilities are supported by design and development tools such as Pro/E Foundation, Pro/E advance assembly extensions, Pro/Mechanical solutions, Pro/Manufacturing UNIGRAPHICS and Altair Hyperworks. Its R&D team focuses on continually developing and customising its products and solutions. Its CNC Machines with 'Linear Motor Technology' are geared towards enabling higher productivity due to reduced friction and other advantages.

**Vertically integrated operations which enables customisation and production efficiencies:** JCAL operates out of 3 manufacturing facilities 2 in Rajkot, Gujarat, and 1 in Strasbourg, France, which are equipped with capabilities to design, develop and manufacture its product portfolio. It also has a captive foundry, machining, sheet metal unit, paint-shop and assembly unit. Its integrated operations enable it to manufacture some of the critical machine components such as spindles, tool-changers, pallet changers, rotary tables and universal heads in-house. This reduces its dependence on third parties, streamlines its production process and improves operational efficiencies. In addition, it also enables to maintain control over the entire manufacturing process and also provide better delivery timelines to its customers at a more competitive cost. One of the benefits of having vertically integrated manufacturing operations is the ability for different teams across the production process to work harmoniously. JCAL's backward integration has helped in managing the diverse range of series and variants that it currently offers to its customers and that its customers appreciate the relatively higher control it has over the production process. Further, being vertically integrated helps JCAL in reacting to emerging trends and develop prototypes in anticipation of the same.

**Experienced Promoters supported by a strong management and execution team:** Parakramsinh Jadeja, one of JCAL's Promoters, who is also its Chairman and Managing Director, is vastly experienced and has been feted by various industry bodies for his entrepreneurship. He has been awarded the 'Premier Outstanding Entrepreneurship Award' by the IMTMA in 2013, 'Small Scale Entrepreneur Third Award, by the Government of India, and the "CII Best Entrepreneurship of the year award' for 2004-2005. He is also actively involved in the business operations and, in particular, in new product development. Its Board of Directors is ably supported by a strong and long-standing management team. In addition, it has a capable R&D team headed by Vijaysinh Pravinsinh Zala in India and Marc Paul Troia in France. Further, as on September 30, 2023, 66.91% its permanent employees, on a consolidated level, are skilled, and has been with it for an average duration of 6.11 years.

## Business Strategy:

**Focus on improving market share and taking advantage of the growing industry demand:** The Indian CNC machine market is highly fragmented with a wide range of small, medium and large suppliers. Similarly, the global CNC machine market is also highly fragmented with a limited number of leading manufacturers. The CNC machines market is expected to grow globally at a CAGR of 10.3% between CY 2023-2027 driven by the increasing demand for automotive/ auto ancillaries, industrial manufacturing, medical devices, replacement of low precision/ manual machines and components in the aerospace and defence industry. JCAL intends to capitalise its extensive experience and its technical capabilities in manufacturing CNC machines, which has grown from a limited portfolio of CNC machines to sophisticated machines including high speed simultaneous 5-Axis, multi-purpose, multi-tasking machines, to improve its market share in CNC machines, both in India and globally. The Company has constantly focused on developing its ability to provide technologically relevant and highly customized solutions which has helped its machines find acceptance with customers across diverse sectors. It also intends to leverage its strengths in manufacturing CNC machining centres of upto simultaneous 5-Axis to improve its market share in CNC machines, to capitalize on the expected 18.4% growth globally and in India, respectively, in 4-6-Axis machining centres between Fiscal 2023 and Fiscal 2027.

**Expand presence across other end-user industries and diversify customer base and geographical reach:** During the 6 months period ended September 30, 2023, and during the last 3 Fiscals, JCAL has supplied over 8,400 CNC machines to more than 3,500 customers in India and across Asia (excluding India), Europe, North America and rest of the world. It caters to a wide array of end use industries such as Aerospace & Defence, Auto & Auto Components, General Engineering, Dies and Moulds and EMS. The sales of battery electric vehicles and plug-in hybrid electric vehicles has increased from 0.12 million units in CY 2012 to 10.5 million units in CY 2022 due to factors such as growing demand for low emission commuting and governments supporting long range, zero emission vehicles through





subsidies & tax rebates have compelled the manufacturers to provide electric vehicles around the world. With a view towards leveraging the aforesaid significant potential for growth in the electric vehicles industry it has started developing its CNC machines to supply to this end user industry. The Company is proposing to manufacture a range of motors' production machines such as slot insulation machines, winding and inserting machines, intermediate and final forming machines, lacing machines, core screw machines, and welding machines. Moreover, it is proposing to venture into manufacturing high precision stages, which are a crucial ingredient in semi-conductor manufacturing

It also intends to deepen penetration in the Aerospace and Defence industries which are expected to grow, both in India and globally. The growth in the domestic production for Indian defence industry is expected to be propelled by the Government of India's 'Aatma Nirbhar Bharat' programme pursuant to which the Union Defence Ministry, Government of India has decided to earmark over Rs.700,000 million constituting around 64% of its modernisation fund under the capital acquisition budget for Fiscal 2022, for purchases from the domestic sector. It also intends to increase its market share in the end use industries to which it currently offer its CNC machines and also intend to diversify its customer base. In particular, JCAL intends to augment on its focus on the EMS industry which, as on September 30, 2023, constituted around 9.20% (as per the end-user industries as specified to it at the time of supply of machines) of its order book of Rs.33,153.26 million.

**Continuously augmenting capacity in line with expected business growth:** JCAL has an order book of Rs.33,153.26 million as of September 30, 2023. It intends to continuously augment its capacity in line with anticipated business growth, and it expects to utilise such augmented capacity including by executing its order book. Additionally, the Company proposes to utilize an estimated amount of Rs.4,750.00 million from the Net Proceeds towards full or partial repayment or pre-payment of certain borrowings availed by the Company. The reduction in outstanding indebtedness and debt servicing costs would also improve its leverage capacity and ability to and raise further resources in the future to fund potential business development opportunities and plans to grow and expand its business.

**Improving financial risk profile:** JCAL has entered into various financing arrangements from time to time, with various lenders. The financing arrangements availed by the Company include inter alia term loans and working capital facilities. The Company proposes to utilize an estimated amount of Rs.4,750.00 million from the Net Proceeds towards full or partial repayment or pre-payment of certain borrowings availed by the Company. It is expected that such repayment/ pre-payment will help reduce its outstanding indebtedness and debt servicing costs and enable utilisation of internal accruals for further investment in the business growth and expansion. Additionally, JCAL anticipates that its improved financial leverage will enhance its ability to raise further resources in the future to fund its potential business development opportunities and plans to grow and expand the business. Further, the Company propose to adopt various measures to improve its working capital management. Further, it also expects to address other aspects such as its inventory levels which were, in the past, adversely affected by supply chain issues including those caused by COVID. While JCAL's inventory levels have reduced from 462 days in Fiscal 2021 to 315 days in Fiscal 2023, it expects to further improve its inventory management. The Company proposes to utilise an estimated amount of Rs.3,600.00 million to fund its long term working capital requirements.

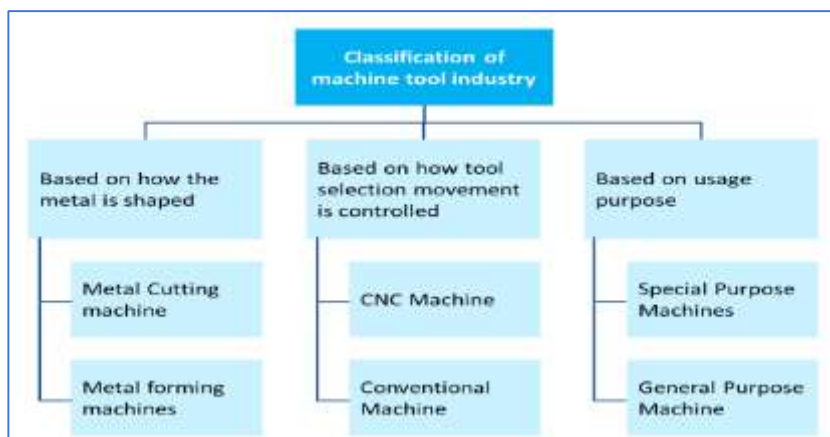
## Industry:

### Global Market for Machining Centers for Engineered Goods

#### Machine Tool Industry Overview

Machine tools are used to cut and shape metals and other materials based on the specifications of a product. They provide an effective and efficient method of manufacturing critical components with ease and accuracy.

Machine tools can be broadly classified by three ways on basis of how the workpiece is being shaped, how the tool is operated and based on the usage as follows.





## Market Dynamics: Key Market Drivers:

The growing manufacturing industry is expected to propel the growth of the machine tools market going forward. The technological advancements in machine tools, such as multi axis and robotic arm, are some of the major factors driving the growth of the machine tool industry globally.

Primary industry users like automotive, aerospace and defense, railways, capital goods, and consumer durable sectors have a high demand for machine tools. The automotive industry is adopting the integration of technologies such as AI, IOT, robotics, etc., which will serve the demands of the end users. Major efforts are made to upgrade engine technologies to meet the fuel efficiency mandates and NCAP rating globally. This will further add to the re-tooling of the existing machining solutions.

## CNC Machining Centers - Overview

The CNC machine center is an advanced manufacturing machine tool that can perform a variety of machining operations with high precision, high quality, and high surface finish. A CNC machine center can perform drilling, milling, and lathe operations.

CNC machine tool center was developed which allowed Milling, lathing, and drilling operations on a single machine tool which allows one machine to perform a greater variety of machining needs. These machine tool centers are operated by a computer through a sequential program of machine control instructions using G-code and M-code. The program can be written by a person or, far more often, generated by graphical computer-aided design (CAD) or computer-aided manufacturing (CAM) software.

## Conventional Machine Vs CNC Machine

The precision manufacturing industry relies heavily on computer-numerical control (CNC) machining, including operations that once used engineer-operated equipment like routers, shaping machines, vertical millers and center lathes. Manufacturers of many types of industries choose CNC machining because it provides efficient, expedient, and precise production capacity ideal for creating large quantities of items normally produced with a grinder, router, center lathe, or shaping machine.

In manual lathing, there must be a skilled technician for every machine, while with CNC machining, one skilled person can operate several machines. CNC machining can produce a broad range of metal components used across many industries use due to their accurate, consistent and complex cuts. Some examples of these industries are aerospace, automotive, electronics, firearms, hospitality, manufacturing, metal work, military, production and transportation. CNC machining grew popular due to its ability to produce detailed and precise results in enormous quantities by using computers.

## CNC Machining Centers - Global Technology Trends

### Increasing trend of manufacturing as a service

Manufacturing as a service (MaaS) has made inroads into the CNC sector in recent years, and this trend will continue in 2024. It is accomplished using networked resources. The expense of maintaining and operating the CNC equipment is shared among the service's subscribers. MaaS allows businesses to be more flexible, productive, and cost-effective. Companies will seek out additional supply chain networks via MaaS as a result of COVID-19's impact.

### Longer machine life with IOT

Across global market, IoT adoption has risen this year as a result of increased need caused by social alienation and mask-wearing. During the pandemic, the ability to monitor remotely and use sensors to determine where a machine is in its lifespan became even more important. The application of sensors has expanded as more sensors have been installed on equipment around the machine shop floor. Sensors can now be used in drill presses, milling and turning machines, lathes, and other machinery.

### Digital twinning technology

In 2023, digital twins have become more widespread. Many companies have launched Manufacturing Intelligence Software which creates a virtual twin of the real-world machine, allowing it to prevent errors and reduce setup times. This new feature allows machinists to discover and avoid the 5-axis singularity point, allowing NC programming to be optimized.

### Increasing penetration of Multiaxis machines

Factory use of 5-axis machines has become increasingly cost-effective. It is well-known for its ability to rotate smoothly around the X and Y axes. However, in 2019, the 6-axis machine was introduced, which improved efficiency and speed by adding an additional spin around the Z-axis. As a result of the increase, cut times are faster and more items are produced in a shorter amount of time. Cutting time can be reduced by up to 75% with a 6-axis CNC milling machine.

### Simulation and optimization software

Through simulation, verification, and optimization software, advancements in CNC machinery technology save firms time and money by minimizing scrap and lowering damage to machining Centers.

## Global CNC Machining Centers Market

The global CNC machining Centers market was ~\$31.6 billion in 2022. The global CNC machining centers market is estimated to be ~\$51.5 billion by 2027. This market is majorly driven by global automotive and heavy industries manufacturers, who are embracing automation and advanced software solutions to meet their customers' needs. In addition, shortage of skilled labor, working hour limits, and labor costs are on the rise. Thus, there is a rapid growth in the demand for automated precision machines.

Figure 13: Machining Centers Market, Global, 2017-2027F



Source: Primary Research, Frost & Sullivan Analysts

## Global CNC Machining Centers Market is expected to grow at CAGR of 10.3% from 2023-2027.

The increasing demand for automotive/ auto ancillaries, industrial manufacturing, medical devices, replacement of low precision/ manual machines, components in the aerospace and defense industry is expected to drive the market growth over the forecast period. Also, the growing demand for five-axis mill machines and ultra-precision machines required to address the needs for EV productions are anticipated to drive the growth.

## CNC Vertical Machining Centers drives the future market growth

The CNC vertical machining centers market is driven by the rising demand for fabricated products. In addition, the growing focus toward additive manufacturing is anticipated to boost the growth of the CNC vertical machining centers market during the forecast period. Over the past decade, there has been significant growth in the demand for buildings, cars, and heavy machinery across the world. This resulted in an increase in the demand for fabricated products such as stamped metal parts, building products, fasteners, and heavy equipment. To meet the growing demand for fabricated products from end-users, fabricated products manufacturers are integrating CNC vertical machining centers as they facilitate easy tool changing and produce superior quality products. Therefore, the rising demand for fabricated products is expected to fuel the growth of the global CNC vertical machining centers market during the forecast period.

## CNC Horizontal Machining Centers

The Global CNC Horizontal Machining Center market growth is attributed to the growing demand for CNC horizontal machining centers from various end-use industries such as automotive and aerospace. In addition, the increasing demand for high-precision machining is also contributing to the market growth.

## Application areas:

**Automotive:** The use of CNC horizontal machining center in automotive is mainly for engine blocks and cylinder heads. It is also used in other auto parts such as transmissions and driveshafts. The benefits of using this machine in automotive are that it helps to reduce the cycle time and lead time. In addition, it also offers superior quality and dimensional accuracy.

**Aerospace:** The aerospace industry is one of the major users of CNC horizontal machining centers. The complex shapes and sizes of aircraft parts require high-precision machining that can be achieved with these machines. In addition, the need for lightweight and durable aircraft parts has led to an increase in the use of advanced materials such as composites, which can also be machined using CNC horizontal machining centers.

## Key Growth Drivers

### Rising Focus on the Development of Multifaceted Machining Centers to Propel Market

The latest 5-axis technology is also resulting in an ever-increasing demand for hassle-free procedures during the production of complex parts. Multifaceted machining centers are multifunctional. They include high precision, custom finishing, and improved efficiency. The designers, at present, are focusing on developing the multifaceted machining centers. All these factors are likely to increase the Machining Centers Market revenue across the globe during the forecast period.



## **New developments within Automotive Segment (Electric Vehicles) drives the machining Centers market growth**

Automotive industry is one of the major end-use markets for machine tools for manufacture of a wide range of individual vehicle parts. Automobile sales and consequent production trends thus determine demand for a range of automotive parts and components, which in turn spurs opportunities in the machining centers market. The increasing demand for commercial vehicles from the developing economies, such as India is expected to result in the growth of automotive segment in the near future.

## **Rising Demand for High Precision Machinery to Boost Growth of Market**

The surge in demand for high precision machinery from various industries including aerospace, defense and medical sector is expected to result in the increased demand for the machining Centers market. Furthermore, the rising demand for critical components from the robotic sector is resulting in the high demand for the machining center market. The increasing industrial automation is expected to result in the growth of industrial robot's revenue which in turn is expected to drive the machining center market growth. The ever-increasing demand for complex parts from the aerospace industry is further resulting in the growth of machining Centers. The increasing demand for general machinery from various other industries, such as Food & Beverages, Construction and Pharmaceutical is expected to increase the machining centers market size in the near future.

## **Precision Machining in Industry 4.0**

The fourth industrial revolution is integrating innovative technologies with production and manufacturing processes. CNC machines in Industry 4.0 will be equipped with sensors to monitor and respond autonomously as needed. Machines will be able to self-diagnose issues through analysis of system performance and analytics. In this way, Industry 4.0 presents many opportunities and challenges. Many small parts used in various industries favor precision CNC machining. The most important reason for using precision machining is to produce complex parts with higher precision and accuracy. These parts can be used in the production of a wide range of industries, including electronics, automotive, aerospace and medical. CNC machining can be used to create more desirable surface finishes and tolerances than with additive manufacturing. Two process technologies that have been cornerstones for medical component manufacturers are five-axis machining and Swiss turning.

Traditional manufacturing techniques and machine tools are not always reliable. Downtime increases costs, including production, labor, and maintenance costs. Industry 4.0 facilitate preventive maintenance in the machining Centers. Tracking performance and real-time data allows manufacturers to better prepare for equipment malfunctions or errors. Data collected from IoT sensors and platforms can also help more effectively inform operations. Smart meters can be installed to efficiently manage the flow of energy, or equipment could be automated or powered appropriately to reduce environmental and resource impact.

## **Emergence of Electric Vehicles – Impact to Machining Centers Market**

Global EV sales have remained high. In 2022, a total of 10.5 million new BEVs and PHEVs were delivered, representing a +55% increase over 2021. However, the regional growth pattern is changing. EV sales in the United States and Canada climbed by 48% year on year, despite a sluggish overall light vehicle market that fell by 8% in 2022 y/y. Indonesia (from 1k to 10k), India (+223% to 50k, practically all BEVs), and New Zealand (+151% to 23k, for a 20% market share) were the fastest growing markets. EV supply and use are currently rapidly moving throughout the global south. Growing demand for low emission commuting and governments supporting long range, zero emission vehicles through subsidies & tax rebates have compelled the manufacturers to provide electric vehicles around the world. This has led to a growing demand for electric vehicles in the market. Countries around the world have set up targets for emission reductions according to their own capacity.

Global EV market growing at a compound annual growth rate (CAGR) of 23.1% during the forecast period 2023 to 2032.

Increasing investments by governments across the globe to develop EV charging stations and Hydrogen fueling stations along with incentives offered to buyers will create opportunities for OEMs to expand their revenue stream and geographical presence. The EV market in Asia Pacific is projected to experience steady growth owing to the high demand for lower cost efficient and low-emission vehicles, while the North American and European market are fast growing markets due to the government initiatives and growing high-performance Passenger vehicle segment.

## **Global Electronics Market**

The global electronics industry has evolved tremendously over the last 60 years. Global demand for the electronics industry is created by emerging and multiple disruptive technologies. The overall electronics market is inclusive of electronics products, electronics design, electronics components, and electronics manufacturing services.

As per Frost & Sullivan's analysis, the industry is expected to grow at a CAGR of 4.9% to reach USD 3,168 billion by CY2026. Some of the critical factors driving this growth are increasing disposable income, improved acceptability of audio and video broadcasting, higher





broadband penetration, the inclination of the youth towards next-gen technologies, emergence of e-commerce, rising demand from rural markets, etc.

## India's Machine Tools Industry - Overview

The machine tool industry is a fundamental pillar of Indian engineering's industrial sector. Machine tools are widely utilized by businesses in a variety of applications, including die molding, component production, aircraft, shipbuilding, electricals and electronics, healthcare, and consumer durables. According to Gardner's World Machine Tools Output Survey, the Indian machine tool industry ranks 10th in terms of output and 8th in terms of consumption. Also, it is a component of the capital goods industry, which accounts for 12% of the manufacturing sector, and it represents a huge multi-disciplinary field with multiple end-use application sectors.

In India, machine tools, accessories/attachments, subsystems, and components are manufactured by around 1,000 units in the machine tools sector of which, around 25 are large-scale units, which contribute to over 70% of the turnover, and the rest is contributed by the MSME sector.

CNC machines segment holds the major market share for the forecast period. Increasing demand from the manufacturing industries for innovations to increase the productivity of products is fostering the machine tools market. The growth of manufacturing sector is increasing the demand for CNC machines. Advancement in CNC technology is making the machines compact and equipped with automatic tool changers. Automation of CNC machines have increased the productivity drastically and eliminates the chances of human error. CNC machines use a single machine to carry out multiple operations. Based on end user industry, market is categorized into automotive, electrical & electronics, railways, consumer durables, government & defense, among others. Automotive industry is expected to dominate the market share for the next five years. Continuous advancements in automotive industry to upgrade the engines and satisfy the fuel efficiency standards. Increasing demand for different kind of vehicles is fostering the demand for machine tools market.

## Impact of Automation/ Industry 4.0

In India, automation or Industry 4.0 solutions in large-scale industries, automation is surging. For instance, currently, in India 5,000 to 6,000 robots are built every year compared to less than 100 robots per year 15 years ago. The automotive, electronics and electrical, chemicals, and pharmaceutical industries contributed significantly to this investment. The survey also stated that owing to "financial and leadership restrictions," micro, small, and medium-sized firms (MSMEs), who account for one-third of all Indian manufacturing and half of all exports, are failing to scale up Industry 4.0 solutions.

## Industry 4.0 is changing the CNC machining

Industry 4.0 is the latest in industrial revolution and it is changing how CNC machine shops run on a day-to-day basis. With all the smart technology and integrated software available, quicker turnaround times and decreased downtime all result in increased productivity. Data collection and analysis from sensors and other instruments help CNC shops test out new products or study product use. With the application of Industry 4.0, Data helps inform CNC machine shops and manufacturers to make better products and allows business owners to examine their supply chain management process and delegate tedious tasks to the machines.

Industry 4.0 basically refers to a more complex manufacturing setup that includes IIoT (Industrial Internet of Things) that monitors and measures manufacturing processes and reacts autonomously to errors. This ability helps CNC machines self-diagnose problems and correct errors in the manufacturing process faster than employees can detect and respond to errors or diagnose the reason for machine malfunction.

For the industry specific example, the medical products industry demands perfection in manufacturing processes because life depends on fail-safe components. CNC machines and Industry 4.0 technology together ensure the production of high-quality components for medical devices. CNC and CAM (Computer Aided Manufacturing) machines are a combination that produces top quality, flawless products, regardless of the industry a manufacturer serves.

## Impact of EV on Machining Centers Market

In FY 2022-23, India recorded EV sales of 12,43,258 units, representing a 154% year-on-year increase over FY 2021-22 EV sales of 4,90,210 units across all vehicle classes. EV sales in fiscal years 2022-23 are more than 2.5 times higher than in fiscal years 2021-22. Adding to it, NITI Aayog's study states that the country is targeting for a 30% market share in the EV market by 2030. All these statistics are indicative of the fact that India is gradually inching towards the EV revolution. According to a recent estimate, India's electric vehicle (EV) market, which includes EV two-wheelers and three-wheelers, is predicted to develop at a CAGR of 90% to reach \$150 billion by 2030. The Indian electric car sector is expected to grow at a 90% CAGR. Between 2020 and 2025, the Indian electric car market will develop at a CAGR of 44.5%. Government legislation, falling battery prices, and increased consumer awareness will propel the market.



## **Make in India initiative in the defence sector – Impact on Machining Centers Market**

In a major push towards Aatma Nirbhar Bharat in the defence sector, the central government came out with the new defence production and export promotion policy which will lay down the way ahead for strengthening defence production within the country and help in their export to friendly foreign countries. The Union Defence Ministry has decided to earmark around 64 % of its modernisation funds under the capital acquisition budget for 2021-22 — a sum of over Rs 70,000 crore — for purchases from the domestic sector. With this initiative key precise defence equipment's are expected to manufacture in India which will boost the machining Centers market growth in India. In addition to this the country's defence exports have grown by 325% in the last five years and exuded confidence that India will not only achieve its export target of Rs.35,000 crore by 2024-25 but will also become a net exporter of defence equipment. The focus on increasing defence exports is expected to invest in high end CNC machineries and this will propel the machining Centers market growth.

## **Electronics market in India**

Electronics is one of the fastest-growing industries in the country. The total electronics market (domestic electronics production and imports of finished goods) in India was valued at INR 9,263 billion (USD 124 billion) in FY22, expected to grow at a CAGR of 18.4% to reach INR 21,540 billion (USD 289 billion) in FY27. The landscape of the industry is changing significantly, and revised cost structures have shifted the focus of multinational companies in India.

The Indian mobile phone market consists of both feature phones and smartphones. India is one of the fastest growing smartphone markets in the world with a CAGR of 7.3% between FY17 and FY22 in volume terms (113 million smart phones in FY'17 to 160 million smart phones in FY'22). The smartphone market was growing at a healthy rate till FY'20 but stagnated in the last two financial years, first due to Covid and then because of supply side issues such as shortage of chipsets. Indian smartphone market will get its mojo back and grow at a CAGR of 13-15% till FY'26. The introduction of 5G will aid in this growth. However, inflationary pressure on consumer's purse will remain a concern for the later part of this year. Feature phone market, on the other hand, will remain flat or grow at less than 1% CAGR over next 3 – 4 years. Increasing utility of smart phones due to digital payment regime and IOT related applications, availability of new features at affordable prices and increasing disposable income of the Indian consumers will be the key driving factors for smart phone adoption in the coming years.

## **Key Concerns**

- JCAL has incurred losses and consequently, had a negative return on equity in the past. Losses in future could have an adverse impact on the growth prospectus and would also preclude it from undertaking actions such as declaring dividends.
- Success is dependent on relationship with customers, and JCAL does not, generally enter into long term purchase contracts. This exposes it to risk emanating from the inability to retain its established customers as its clients.
- The Company has incurred significant indebtedness and carry substantial debt servicing obligations.
- The Company does not have long-term agreements with suppliers for input materials and a significant increase in the cost of, or a shortfall in the availability, or deterioration in the quality, of such input materials could have an adverse effect on the business and results of operations.
- JCAL is completely reliant on third-party logistics service providers for transport of input materials and finished products.
- Business is dependent on the performance of the Application Industries with a large portion of revenue being derived from a select few of Application Industries. Any downturn in the Application Industries can adversely impact the business, results of operations, cash flow and financial condition of the Company.
- Incurred significant indebtedness which exposes it to various risks which may have an adverse effect on the business, results of operations and financial conditions. Conditions and restrictions imposed on JCAL by the agreements governing its indebtedness could adversely affect the ability to operate its business.
- Company, in the past, has rescheduled payments of its credit facilities from its lenders. It has, in the past, also delayed in re-payment of principal amount and interest on loan availed by the Company.
- Any failure on JCAL's part to effectively manage inventory may result in an adverse effect on the business, revenue from manufacturing operations and financial condition.

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- Contingent liabilities and capital commitments could materially and adversely affect the business, results of operations and financial condition.
- COVID-19 had a material adverse effect on the machine tools industry and consequently had a potential impact on the business, financial condition and results of operations.
- Operations are dependent on research and development. If JCAL is unable to continuously develop new products or optimise its processes then its ability to grow, including by expanding its presence across different end-user industries, and, or, compete effectively, might be compromised, which would have an adverse impact on the business and financial condition.
- Regulatory, legislative or self-regulatory developments regarding privacy and data security matters could adversely affect the ability to conduct business and impact financial condition.
- A slowdown in economic growth in India could adversely affect Company's business.
- Increasing employee compensation in India may erode some of JCAL's competitive advantage and may reduce its profit margins, which may have a material adverse effect on the Company's business, financial condition, cash flows and results of operations.
- Adverse geopolitical conditions such as an increased tension between India and its neighbouring countries, conflict amongst some of the countries in Europe, could adversely affect the business, results of operations and financial condition.
- Governmental actions and changes in policy could adversely affect the Company's business.
- The occurrence of natural or man-made disasters could adversely affect the results of operations, cash flows and financial condition. Hostilities, terrorist attacks, civil unrest and other acts of violence could adversely affect the financial markets and the business.
- The Company's ability to raise foreign capital may be constrained by Indian law.

## Profit & Loss

Particulars (Rs in million)	H1FY24	FY23	FY22	FY21
Revenue from operations	5098.2	9292.6	7464.9	5800.6
Other Income	7.1	233.4	35.7	100.3
<b>Total Income</b>	<b>5105.3</b>	<b>9526.0</b>	<b>7500.6</b>	<b>5900.9</b>
<b>Total Expenditure</b>	<b>4354.2</b>	<b>8318.8</b>	<b>6738.3</b>	<b>5483.7</b>
Cost of Materials Consumed	952.9	6795.3	4187.8	4638.6
Changes in inventories of finished goods and stock-intrade	1757.0	-1469.2	9.1	-1449.0
Employee Benefits Expenses	903.3	1662.4	1418.4	1313.9
Other Expenses	741.1	1330.3	1123.0	980.3
<b>PBIDT</b>	<b>751.1</b>	<b>1207.2</b>	<b>762.4</b>	<b>417.2</b>
Interest	491.9	897.0	822.0	755.1
<b>PBDT</b>	<b>259.2</b>	<b>310.2</b>	<b>-59.6</b>	<b>-337.9</b>
Depreciation and amortization	156.0	336.2	357.9	377.8
<b>PBT</b>	<b>103.2</b>	<b>-26.0</b>	<b>-417.5</b>	<b>-715.7</b>
Profit on Waiver of Loan	0.0	304.5	0.0	0.0
<b>Tax (incl. DT &amp; FBT)</b>	<b>70.0</b>	<b>136.3</b>	<b>65.0</b>	<b>-15.4</b>
Current tax	70.0	135.8	65.0	0.0
Prior year	0.0	0.5	0.0	0.0
Deferred tax	-0.3	-8.4	0.5	-15.4
<b>PAT</b>	<b>33.5</b>	<b>150.6</b>	<b>-483.0</b>	<b>-700.3</b>
EPS (Rs.)	0.2	1.0	-3.3	-4.8
Face Value	2	2	2	2
OPM (%)	14.6	10.5	9.7	5.5
PATM (%)	0.7	1.6	-6.5	-12.1

Source: RHP





## Balance Sheet

Particulars (Rs in million) As at	H1FY24	FY23	FY22	FY21
<b>Non-current assets</b>				
Property, plant and equipment	2,829.4	2,689.0	2,745.6	2,991.6
Capital work-in-progress	150.3	82.8	9.0	510.9
Right of use assets	0.1	0.1	0.4	0.9
Intangible assets	130.3	141.6	179.1	219.8
Intangibles under development	83.6	71.0	45.8	26.4
Financial assets				
<i>Investments</i>	34.8	33.9	19.6	18.6
<i>Other financial assets</i>	17.89	100.47	49.8	118.9
Other non-current assets	263.3	240.8	243.9	107.8
<b>Total non-current assets</b>	<b>3,509.6</b>	<b>3,359.6</b>	<b>3,293.0</b>	<b>3,994.7</b>
<b>Current assets</b>				
Inventories	8,683.5	8,199.2	6,340.4	6,447.1
Financial assets				
<i>Trade receivables</i>	1,331.2	1,458.8	2,001.9	2,166.4
<i>Cash and cash equivalents</i>	86.1	160.9	24.4	101.2
<i>Other balances with bank</i>	209.2	122.0	201.2	123.5
<i>Loans</i>	31.2	59.3	48.5	47.2
Other financial assets	2,539.2	1,410.7	331.4	513.3
Other current assets	628.5	336.4	587.3	488.7
Current tax assets (net)	42.3	46.9	34.2	0.0
<b>Total current assets</b>	<b>13,551.1</b>	<b>11,794.2</b>	<b>9,569.3</b>	<b>9,887.3</b>
<b>Total assets</b>	<b>17,060.7</b>	<b>15,153.8</b>	<b>12,862.4</b>	<b>13,881.9</b>
<b>EQUITY &amp; LIABILITIES</b>				
<b>Equity</b>				
Equity share capital	391.5	329.3	294.8	294.8
Compulsory convertible preference shares entirely in Equity Nature	3.9	0.0	0.0	0.0
Other equity	2,133.3	491.4	116.7	831.1
<b>Total equity</b>	<b>2,528.7</b>	<b>820.6</b>	<b>411.5</b>	<b>1,125.9</b>
<b>Liabilities</b>				
<b>Non-current Liabilities</b>				
Financial Liabilities				
<i>Borrowings</i>	1,042.9	1,274.7	1,402.6	1,194.3
Provisions	130.3	127.8	121.7	233.0
Deferred tax liabilities (net)	202.4	202.1	207.8	207.2
<b>Total non-current liabilities</b>	<b>1,375.6</b>	<b>1,604.5</b>	<b>1,732.1</b>	<b>1,634.5</b>
<b>Current liabilities</b>				
Financial liabilities				
<i>Borrowings</i>	7,171.1	7,075.1	6,518.9	6,056.9
<i>Trade payables</i>				
<i>Micro &amp; Small enterprises</i>	21.5	17.9	7.3	12.1
<i>Other than Micro &amp; Small enterprises</i>	3,570.4	4,112.0	2,946.3	3,107.1
Other financial liabilities	480.3	397.6	308.8	629.0
Other Current Liabilities	1,695.7	978.3	857.4	1,299.7
Provisions	17.8	17.4	18.1	16.8
Current Tax Liabilities (Net)	199.5	130.3	61.9	0.0
<b>Total current liabilities</b>	<b>13,156.3</b>	<b>12,728.6</b>	<b>10,718.7</b>	<b>11,121.6</b>
<b>Total liabilities</b>	<b>14,531.9</b>	<b>14,333.2</b>	<b>12,450.8</b>	<b>12,756.1</b>
<b>Total equity and liabilities</b>	<b>17,060.7</b>	<b>15,153.8</b>	<b>12,862.4</b>	<b>13,881.9</b>



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