

TAL Manufacturing Solutions takes giant strides in high-tech fields

TAL Manufacturing Solutions Ltd. was formed by the merger of the resources of the Machine Tool Div. and Growth Div. of Tata Motors, Pune in March 2000. What was started as an arm for providing automation solutions to the industry has, over the years, metamorphosed into a multi-faceted engineering entity with core competencies in making high-end machines, tooling up solutions, assembly, testing & handling systems, painting systems, hydraulic solutions, and materials handling & conveying including robotized ASRS. Working on its core strength of offering comprehensive manufacturing solutions, TAL has recently forayed into the development, manufacture and assembly of precision aerospace components, aero structures and tooling. Mr. P.K. Balasubramanian converses with Mr. Rajesh Khatri, Executive Director and CEO, TAL to get an update on the dynamics and the path-breaking initiatives of this innovator who is exploring exciting business lines to take a slice of the untapped global market. Excerpts:



Mr. Rajesh Khatri,
Executive Director and CEO,
TAL Manufacturing Solutions Ltd.

Q. TAL was formed in 2000 by the merger of two Divisions of Tata Motors. Has the new entity served the purpose it was founded for and the vision set out in the charter?

Yes. TAL was started in 2000 by merging the resources of the Machine Tool and Growth Divisions of Tata Motors (then known as Telco), at Pune. Earlier it was named TelcoAutomation Ltd. Telco / Tata Motors was our major customer at that time. Slowly we added new dimensions to our activities and added quite a few new customers for special purpose machines, tooling up solutions, materials handling and automation.

We also changed our positioning from a provider of 'automation

solutions' to 'manufacturing solutions'. Our new name goes well with the activities we are currently into and the lines of products and services we want to add up to our portfolio in the future. Business from Tata Motors is to the extent of 35% of our sales turnover-the rest comes from external clients.

Q. Could you elucidate the manufacturing solutions you offer?

Today we offer integrated manufacturing solutions for the industry. We continue to offer sophisticated machine tools and special purpose machines with tooling up solutions. Integration of Robotics & Automation is another area where we contribute significantly.

Manufacture of precision aerospace components and aerospace tooling is our new focus area. Our fluid power solutions are also adding value to our offerings. We have even provided facility planning and execution services to several group companies. The thrust is on improving quality and productivity through cost effective automation and innovation.

Mr. Rajesh Khatri, who has been steering TAL Manufacturing Solutions transformation for the past two years, is a veteran production engineer and an alumnus of VJTI, Mumbai. He had long innings at L&T Mumbai in the Heavy Engineering Div. spanning over 24 years followed by a 4 ½ years' stint at JCB, Talegaon. He has a successful track record of business transformation and profitable growth. Talking of the tenets of corporate excellence, Mr. Khatri quotes Goethe thus: "The greatest thing in the world is not so much where you stand as in what direction you are heading". Under his stewardship, TAL is indeed heading in the right direction.



TAL's manufacturing facility in Chinchwad, Pune



Standard HMCs – 5 models



Standard VMCs – 7 models

Q. If you see the machine tool scene, the players are many and the competition is fierce. What's TAL's niche and positioning?

The size of the machine tool industry in India is to the order of Rs.6,800 crores. In an industry that is expected to grow @8-10% annually over the next five years, almost 55% of the country's machine tool requirements are met by imports. With a depreciating rupee, it offers a good opportunity for the local manufacturers to grow their market share.

TAL produces Machining Centers, Vertical Turning Lathes and Special Purpose Machines (SPMs) and 5-axis Machining Centers based on PKM technology. When it comes to SPMs, TAL is always a preferred supplier. We have now come up with a 5-axis machining center with PKM technology from Exechon, Sweden. PKM (parallel kinematic mechanism) enables an articulated robot like movement of the machining head against a linear movement of the axes in the conventional machines. Along with a wider machining envelope, it offers a highly flexible and productive solution. With a thrust on flexibility, our PKM technology is timely and makes us future ready.

These machining centers will be a boon for automotive, aerospace and defence applications. We offer quality plus cost-effective tooled up solutions and value added services for machine tending requirements.

We have also tied up with Maus of Italy with exclusive rights for marketing their products (VTL) in India.

Q. Let's take machining centers for instance. What's your differentiated offer to the end user?

Our machining centers are highly reliable, while being economical. We offer them with tooled up solutions to the MSME segment. Of late, we have supplied tooled up machines to industry majors like Cummins, L&T, Bongfiglioli and others. We have recently supplied a VTL to Bongfiglioli, India, for machining the inside profile of a hardened (54Rc) bearing ring to very close tolerances, thereby eliminating the need for grinding. The VTL (with MAUS design) is very robust and highly reliable and has been well received by the industry. We have supplied SPMs for machining large engine cylinder blocks for Railways and turbine blade machining.

Q. Over the years, you have added quite a few new dimensions to your own capabilities and value additions. Could you elaborate this?

We have set-up a green-field world-class facility at MIHAN-SEZ Nagpur for manufacturing precision parts and assemblies for Aero-structures and Aero-engines in the Aerospace domain. The facility is equipped with latest technology equipment and a one-lac class clean room for manufacturing advanced composite

parts. Leveraging our own capabilities, we have also manufactured and supplied large assembly tooling for Aerospace Industry.

TAL has partnered Tata Motors (TML) for the fabrication activities of defence vehicles like Mine Protected Vehicle and Wheel Armored Platform - and is well poised to support TML in its efforts to exploit the emerging opportunities in Defence. Over the years, TAL has acquired the credibility of being the most preferred supplier to address the emergent needs of our customers.

Q. What are the various solutions you offer for assembly, testing and handling of end products?

We offer integrated solutions in Material Handling, Paint Systems and Tooling for welding/assembly including Robotics & Automation. Our integrated manufacturing systems have a proven track record of facilitating processes in the automobile and heavy engineering sectors. We offer systems for welding wagons, robots for welding or assembly, testing facilities, painting systems and so on. We have designed and manufactured test-rigs / dynamometers.

Q. What are the various products and systems you offer from the Fluid Power Div?

Our Fluid Power Division offers



Flexicut-multi axis simultaneous machining operating on parallel kinematics

Telescopic Cylinders, Control Valves, Axial Piston Pumps and Gear Pumps for Hydraulic Tipper. We cater to OEM's like Tata Motors.

Q. Are you also into materials handling?

In materials handling, we are already offering solutions for floor conveying and overhead conveying. We are also developing & supplying Automated Storage & Retrieval Systems required for modern warehouses.

Q. What are the painting solutions you offer?

We provide cost-effective and environment friendly complete painting solutions to our customers. This includes facility for pre-treatment, primer coating, painting and drying, as also handling, control and automation.

Q. What are your growth plans?

What we are doing currently for the aerospace industry is just a tip of the iceberg. The estimated global requirement of commercial aircrafts is to a tune of ~30,000 numbers per annum. This throws up a business opportunity of more than USD.25 billion annually in Aero-structures and tooling. Several leading Aircraft manufacturers have large Offset obligations to fulfil. India also offers a cost arbitrage in labor intensive parts and assemblies.

With the relaxation in FDI norms in Defence, the opportunity is



TAL's Aerospace Division in Nagpur

only expected to grow. TAL is gearing up to leverage its capabilities (related to mechatronics and hydraulics) to also exploit the potential opportunities in offering Tooling and Ground Support Equipment for the Aerospace industry.

Low levels of automation, especially in the MSME segment, coupled with scarcity of skilled labor offers opportunity in Robotics and Automation. In our legacy businesses, we see good market for High Speed High Torque machines. Automated Storage and Handling Systems (ASRS) offers good potential for growth on the back of explosive growth in logistics across sectors.

Q. What are the capabilities you have developed to enter this domain?

We have honed our capabilities for manufacture of flying parts, structural components, assemblies, tooling, robotics for automation, materials handling, etc. We will leverage our relationship with our technology partners. Talent induction and development continues to be our focus.

Q. Who are your major customers other than Tata Motors?

JCB, John Deere, VECV, Bombardier, CNH, Tata Hitachi, International Tractors, Amul, FIAL, TASL, TLMAL, Jindal, etc. are some of our key customers. We also export our products- 25-30% percent of our turnover comes from exports, primarily to Aerospace OEMs.

Q. Whatever be the value addition, the customer still would like you to be cost competitive. How do you address this?

We address this through lean manu-



Robotic Cell established at TAL Development Center

facturing, enhancing operational efficiency, design optimization, standardization and innovation. We take pride in offering innovative solutions to customer problems. A recent example is the design and implementation of electronically managed counterweight mechanism on a multi-variant cabin assembly station we did for Volvo Eicher Commercial Vehicles.

Q. What are your expectations from the new Government at the Centre?

Policies and actions to revive the capex cycle, labor reforms and good governance are the immediate expectations from the new Government. Business confidence has already improved on the back of several measures including FDI in Defence and Aerospace that the government has initiated. Lower interest rates will be the trigger for the revival of investments.

Q. What are the challenges ahead for you?

Talent management is the greatest challenge in today's context. Maintaining our cost-competitiveness and widening the markets add to the challenges. We have to maintain our technological edge all the time.

Of course, our people are our biggest strength – TAL's highly experienced team is ready for the exponential growth. We are confident that we will convert these challenges into opportunities. ■