

PURSUIING EXCELLENCE



Asia's leading fixture builder, Forms & Gears has been providing complete fixture solutions across the globe for the last 45 years. The company divulges its simple formula for success which is to keep honing one's skill as best as is possible while resorting to all the right approaches. An account of its applied wisdom and the height it has taken the company to...

Like most successful organizations, Forms & Gears also has an inspiring tale of growth. The milestones it has been achieving throughout is a result of constant striving for innovation and a refusal to rest on its laurels.

Narrating it, Reji Varghese, Managing Director, Forms & Gears, says, "Our journey of over 45 years has been an incredible one. Back then there were no CNC machines. We started off as one of the first private tool rooms in the country offering Milling Fixtures, Drill Jigs, Receiver Gauges, Inspection Fixtures, Press Tools etc. to industries across the country." However, it was the

advent of Machining Centers into India in the 80s that made the company focus its efforts on machining centre fixtures, and over the years these have become its core area of expertise.

"The initial fixtures for machining centers were mostly with mechanical clamping but nowadays almost all the fixtures we make are hydraulic," he shares.

"Even though the end product has changed drastically over the decades, the heart of the company, its tool room culture and heritage, is still what drives us. Whether its 5 micron on a receiver gauge or 5 micron on a machining centre fixture, it's the tight control of tolerances on all operations from start to finish that differentiates us," he says, emphasizing that this precisely makes for the reason why the company prefers to manufacture all the fixture elements from roughing to finishing in house.

Quality speaks for itself

It's interesting to note that Forms & Gears never felt the need to resort to any promotional strategies in its operations for 44 years. "We have never had a sales person in our organization until a few months back when we hired a projects head to oversee our turnkey projects division. This is a testimony to the quality of the products that we offer," points out Varghese. Another being an awe-inducing long list of clients that includes Hyundai, Ford, Tata Motors, Mahindra Auto, Maruti Suzuki, Renault Nissan, Volvo Eicher, Ashok Leyland, John Deere, Cummins, Kirloskar Oil Engines, LMW, BFW, Makino, Toshiba – Japan, and Mazak – Japan, India, Singapore.

The company specializes in larger sized, complex fixtures that normally have to be imported. It has manufactured fixtures for small components for drill tap centers to machining fixtures for components over 10 m in size, weighing over 5 tonne.

The design of the fixtures are done keeping in mind the harsh conditions of the shop floor and the entire process of manufacture from roughing to finishing is controlled in house to ensure that the quality standards that the company has come to be known for over the last 45 years are met.

Collaboration's the key

Recently, ASM Technologies Ltd, a publicly listed company in India, headquartered in Bangalore with global presence in the USA, Singapore, the UK, Canada and Mexico, has recently acquired a 70 percent stake in Forms & Gears.

It specializes in providing product design and value engineering, system automation and digital transformation solutions to the capital equipment, sub systems and supporting systems for Automotive, Semiconductor/ Hi-Tech, Solar and Medical industry verticals.

With this joint venture partnership, ASM will leverage on Forms & Gears' strong capabilities in fixture development, manufacturing engineering and high precision machining to its clientele. In addition, it will utilize Forms & Gears' state-of-the-art facility to address its customers' demand in prototyping and manufacturing.

The two together will provide turnkey solutions to Automotive and Aerospace OEMs, Machinery manufacturers in Semiconductor, Machine tool and Medical Industries. The turnkey solutions include development, supply of Industry 4.0-enabled machines/equipment, smart fixtures, tooling and system automation.

The global reach of ASM Technologies will help Forms & Gears to expand its market to the US, the UK, Mexico, Canada and South East Asia and other parts of the world, thus enhancing the market shares for both companies.

Forms & Gears continues to operate from its current factory at the Industrial Estate in Guindy, Chennai with the same operations, design and management team, and there will be no change to the day to day operations of the company.

Growing export demands

The company has, over the years, exported its fixtures to companies in Germany, Japan and Singapore. "Many times these exports are to foreign machine makers for their turnkey projects in India and these fixtures come back to India after trials abroad," informs Varghese.

"Over the last three years we have seen an increased demand for our fixtures from companies abroad for their factories there. We now have fixtures running at factories in the UAE, Qatar, Thailand, Indonesia and Turkey," he adds.

Future plans

"One of the reasons we have done the JV with ASM Technologies is to capitalize on its rich experience of Artificial Intelligence and Data Analytics. We've been through 45 years of change and feel the next wave is in making fixtures smarter," Varghese notes.

The Forms & Gears and ASM teams have been jointly working on developing fixtures and automation equipment that could be monitored and controlled remotely using existing network infrastructures. They are designing fixtures to monitor parameters like vibration, pressure, temperature, humidity, oil contamination, intrusion sensors, clamp / declamp cycles etc. The huge amount of data of which is collected is then analyzed to give useful information using ASM's Data analytic tools and Artificial Intelligence.

"Companies could get useful real-time analysis of the data collected by the sensors monitoring the various parameters of the fixtures on their phones," he further adds summing up.

"We expect Industrial Internet of Things (IIoT) in workholding and in other areas of manu-facturing to contribute to a large portion of our business in the near future."

Reji Varghese
Managing Director
Forms & Gears

