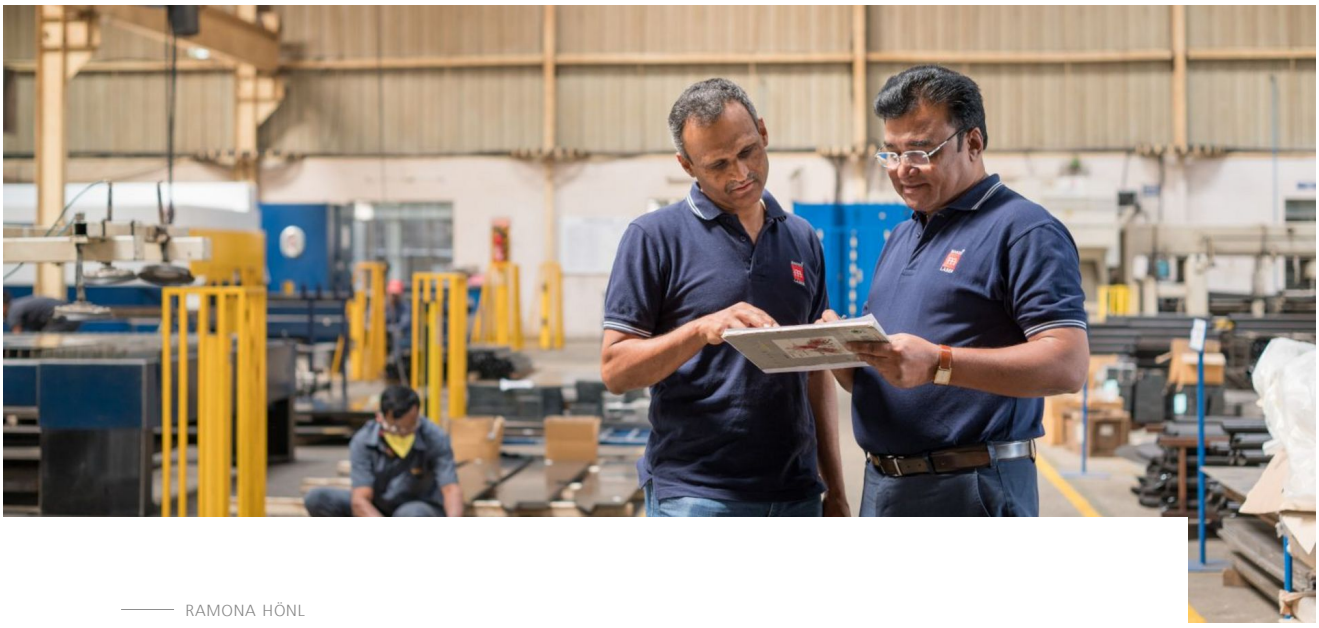

RAMONA HÖNL

Heading for the future with 3D printing

Indian family-run company Magod Laser has joined forces with TRUMPF to promote 3D printing on the subcontinent.

Enthusiasm is the key to pioneering any new technology – and Swamy Magod and his brother Rajendra Magod had plenty to go around. They have spent the past 23 years using their expertise to benefit Indian society by offering cutting-edge technologies to the country's manufacturing industry. They are now one of India's most successful players in this field, in large part due to their own remarkable openness and keenness to try out new technologies. When they founded Magod Laser in Bengaluru in 1997, there was only one company in South India that was using lasers to cut sheet metal. Today, Magod Laser has a grand total of 25 TRUMPF machines – and the company is now leading the way in India's adoption of additive manufacturing.

Swamy Magod (left) and his brother Rajendra founded Magod Laser in 1997 in Bengaluru, South India.
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Inspiration from the U.S.

The story began in 1991 in the U.S., where Swamy Magod was doing his Master's degree in industrial engineering. He stayed on to work for a few years after graduating – and that's where he first came across laser technology and heard the name TRUMPF. Once he had acquired plenty of laser cutting experience, he returned to India with a clear goal in mind. "Sheet metal cutting was completely dominated by conventional methods back then. But I knew that laser cutting was faster and more economical and that customers could be saving money. There was clearly a market opportunity!" says Magod. And the family joined in.

Most of Magod's employees are well-versed in laser cutting.
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Early ambition

Magod decided to purchase the equipment he needed. "We knew that TRUMPF was the best partner to have on our team," he says. They started out with a TruMatic Laser 2503 and vowed to remain positive and take a long view, because they knew it would be tough to persuade customers to try out such an unfamiliar technology. "We worked really hard to get customers on board and build ourselves a market," he recalls. Their efforts paid off, with more and more companies requesting the company's services as word spread that laser technology was the way forward. Magod's business grew and they decided to expand his portfolio: "We began by introducing laser cutting, then 5-axis cutting, then tube cutting and finally laser welding," he says.

At Magod Laser, 25 TRUMPF machines are in use.
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Taking the plunge into additive manufacturing

When Magod sees an opportunity, he grabs it with both hands – and 3D printing was no exception. "Two of our customers were already using 3D printing and they asked us to laser-weld the parts together," he says. With his usual entrepreneurial boldness, Magod realized the time had come to print metal parts himself. TRUMPF supplied the necessary equipment in the form of a TruPrint 1000, and Magod introduced a combined process that fully exploited the company's expertise: "With 3D printing, there's a limit to how big the parts can be, so we offer a combination of additive manufacturing and laser welding. To make bigger parts, we simply weld several small parts together," he says.

We're always on the lookout for new technologies to add to our portfolio, because learning new things is a key part of our corporate ethos.

Swamy Magod, Magod Lasers

Additive manufacturing is still relatively unknown in India, so Magod once again faces an uphill struggle to get customers on board. But that doesn't discourage him in the least. "We're confident that we'll get the customers," he says, noting that numerous companies have expressed an interest in trying out the technology, spanning sectors from aviation to medical devices.

With offering additive manufacturing, Magod Laser aims at new customers.
© Sameer Raichur

3D printing opens up extraordinary possibilities

There are certainly plenty of good reasons to adopt additive manufacturing. The technology opens up previously impossible geometries, paving the way for users to improve and enhance their parts. The production of implants for medical purposes is just one example: 3D-printed implants are more durable and fuse more successfully with healthy bone tissue. Another benefit of additive manufacturing is that it only deposits material where it is actually needed, so 3D-printed parts are lighter. What's more, any excess powder can simply be reprocessed and reused – a far more economical and sustainable approach than conventional processes such as milling, where up to 80 percent of the material ends up being wasted.

„Numerous companies have expressed an interest in trying out the new technology“, says Swamy Magod about 3D printing.
© Sameer Raichur

Practical experiments are key

Magod Laser’s attitude to 3D printing could be summed up as “you don’t know if you haven’t tried.” Magod and his colleagues experiment with the powder and try out different new materials, both for their own purposes and on behalf of various research institutes. Magod engineers also make prototypes for companies that are considering 3D printing their own spare parts. The enthusiasm for experimenting with different geometries and materials and developing new parts is shared by Magod’s customers.

The headquaters of Magod Laser at Bengaluru.
© Sameer Raichur

Seize the initiative!

Educating potential customers and promoting 3D printing in India is an important step – and Magod Laser has seized the initiative. "Some companies look at the parts they produce and know that some of them are suitable for additive manufacturing, but they're not sure which ones. That's where we can help," he says. From prospective customers to long-standing partners, Magod is always happy for people to visit their production plant to see 3D printing technology in action. In all his entrepreneurial endeavors, Magod benefits from having a workforce that is open-minded and willing to learn.

"We're always on the lookout for new technologies to add to our portfolio, because learning new things is a key part of our corporate ethos," says Magod. "We take our employees' professional development seriously. By giving them the opportunity to acquire skills in new processes such as 3D printing, we pave the way for them to move into more responsible positions," he says, emphasizing how this pays off for both sides. "There's a learning curve in any new technology. At the end of the day, it's better for us to develop our own team instead of bringing in experts from outside, and our employees feel more valued if we invest in their development and gradually give them more responsibility." Undoubtedly, Magod Laser will continue to play an important role in Indian industry in the future.

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