

Soliton's smart camera: An eye for detail

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In industries that depend on clockwork precision in processes, even the smallest error can prove fatal. An errant human eye could make parallax errors on the shop floor, in an auto shed or even worse, in a lab where medical drugs are being assembled. A physics enthusiast down South believes he has the perfect instruments to eliminate such errors.

Meet 41-year-old Ganesh Devaraj, whose company Soliton Technologies makes smart cameras and machine vision [cameras](#), which are becoming popular with industries such as auto, pharma and general manufacturing.

Similar to human eyes, which have the ability to take in a picture and interpret it also, smart cameras work 24 hours and never get tired. The camera performs the programmed function with no errors, unlike humans who might get tired, distracted and make errors.

After specialising in engineering and doing a PhD in physics in the US, Coimbatore-bred Devaraj returned to India in 1998 to start a new enterprise with financial support from his industrialist father. The first innovation was a tabletop wet grinder, which was a valuable engineering innovation from the textile city. Then came the machine vision cameras and smart cameras.

In the age of 'six sigma', foreign customers have started insisting that their Indian suppliers use automated rather than manual inspection for quality control and many quality conscious manufacturers in India have started using these devices.

"The manufacturers in India are turning technology-savvy and most of them are our customers. We expect the bulk of others to catch up in the coming years," said Devaraj, who is the MD and CEO of Soliton.

The company is currently based in Bangalore, due to the famous [electronic](#) vendor base in the city. The company has 60 people on its rolls and makes an annual turnover of Rs 5.5 crore.

Devaraj explains that if one wants a quality check done to detect missing parts, missed operations, parts mix-up, or a wrong assembly, a smart camera is the right way to inspect in a fool-proof manner.

But what prevents the Indian companies from utilising this latest technology is its high cost. Foreign products cost in the range of Rs 1-2 lakh in the market today while Devaraj claims their products are at least 40% cheaper.

This is the reason why Soliton Technologies is the market leader in the country. It manufactures custom-made cameras at a much lower cost. Devaraj's company sell these cameras for around Rs 1-1.2 lakh. The company plans to further reduce the price of a smart camera solution by improving its R&D.

Soliton presently caters only to the Indian market but Devaraj intends to start exporting smart cameras by this year-end. He has already shipped samples to the US for evaluation.

In India, their client list includes Tata Motors, Bajaj, Pricol, Brakes India, Lucas [TVS](#) and MICO. Soliton's main competitors are American and Japanese companies like Cognex and Omron, but the cost-effectiveness helps Soliton to remain market leader.

The company is also active in Test & Measurement Automation, where it develops cutting edge

LabVIEW based software to test various products from chips, which are used in cell phones, to hydraulic components used in automotive brakes. In this business, Soliton's client base is mainly in the US and Germany.

The talented engineers at Soliton have so far brought a lot of success to the company including 23 international awards for the innovative machine vision and automation systems that they developed. The company was named one of the top 20 emerging technology companies by Silicon India in July 2006.

The company is planning to spread its wings and would soon set up operations in Coimbatore. It has already bought land on L&T bypass road in Coimbatore and is expected to construct a full-fledged smart camera assembly and testing facility. The Bangalore unit would then manufacture electronic boards and mechanical housings for the camera.

Devaraj has also started a new business division within Soliton to focus on [security](#) and surveillance and has tied up with Axis Communications, a Swedish company and the global market leader in digital video surveillance.

Soliton is planning to use its image processing knowledge to compliment Axis's [network](#) based cameras to address novel applications in security, surveillance, traffic, and remote monitoring.