FACE to FACE

Srinivas Panapakam, Mistral

Today, the engineers in India have access to all the tools and technology as in any other part of the world.

Srinivas Panapakam, VP– Sales and Business Development for Mistral. Srinivas manages worldwide sales and business development operations for the Product Engineering Services (PES) vertical at Mistral. Having been with Mistral since its inception in 1997, Srini has greatly contributed to the growth of the company and has helped mold Mistral into a leading global technology company. His experience in technology sales and marketing has helped to significantly optimize Mistral's technology expertise. Srinivas started his career as a Sales Engineer at Cranes Software post which he joined Mistral. He has a Bachelors Degree in Engineering from Bangalore University.

He talks here about Mistral product advantages, strengths, focus, market, growth and opportunities.

Tell us more about Mistral Solutions and give an overview about your product design services?

Mistral is a product design and system engineering company providing end-to-end services for product development and deployment. Mistral offers these services in two business domains:

1. Product Engineering Services
2. Defense Solutions

Mistral provides total solutions for a given requirement in an Outsourced Product Development model starting from feasibility study to complete product design taking it all the way to production and product sustenance. Our customers range from exciting new startups to fortune 100 companies. Our services include feasibility study, Product design & development viz., Hardware Design, FPGA, firmware and middleware, embedded application development, Product testing, system integration, production support and product lifecycle support.

Mistral's services benefit the end-users and product developers by accelerating time-to-market for a broad range of applications in these focus domains.

Mistral engages with its customers in every step of the product engineering and system integration process, providing world–class and cost-effective solutions.

What is the role of Mistral in product development and deployment in embedded design market?

Mistral has been in the embedded product realization business for the last 17 years. We were one of the earliest companies in India to have got into the embedded space. Today we have more than 100 designs that are commercially deployed in products around the world and have more than 20 award winning designs. Our USP: We are involved with our customers from product conceptualization to development to deployment to sustenance. Since we work with customers of varying sizes starting from startups to large corporations, the type of services provided are also different.

Typically a startup has the product idea, funding and access to market, but may not have the required skill set to convert the idea into an actual product. That's where we come in to the picture where-in we propose to build the product for them starting with one of our reference designs. For a

large corporation, it's a different problem. While working on newer products and platforms, the internal teams may not be up to speed on some of the latest technologies and that's where we can help with our expertise and experience of working with new technologies and platforms. We get this edge because we work with technology leaders and large global Semiconductor companies, building reference designs and evaluation modules for their silicon. Typically when a semiconductor company is coming up with a new silicon they need a 'reference design' around the silicon depending on their target market. Mistral works with the semi-conductor company and builds the entire solution around that silicon as a technology demonstrator. When an OEM wants to build a product around the technology demonstrator platform, Mistral is the natural partner as we have the knowhow and expertise to help them build the product at an accelerated time frame. For e.g. one of our newest offering is around Texas Instrument's AM437x SoC for the Industrial and home automation markets. Mistral has built a platform called Product on Module (PoM). The idea behind this is to help any OEM build a product in a very short span of time. If a typical silicon-to-product life cycle is 36-48 weeks, with Mistral's PoM, the customer will be able to bring out a prototype in as less as 8 weeks and go to market with their product in 12 – 16 weeks. These are some of the new innovations we are bringing in the embedded market space which saves on huge time and cost for our customers.

What are the top verticals of your services?

Mistral's PES domain caters to the following verticals

a. Semiconductor support services (mainly working with silicon companies)
b. Infotainment
    i. In car infotainment
    ii. In flight infotainment
    iii. Personal Devices
c. Wearable Electronics
d. Home Automation
e. Industrial Automation
f. Biometric Terminals
g. Non Invasive medical & assistive electronics devices

How do you look at technology penetration in India and opportunities for you?

For our defense and system integration business, the Indian market is the primary focus. We are working with a majority of the defense labs here. In the PES business, there are basically two categories of customers. The Indian arm of the global technology & semiconductor companies like Texas Instruments, Intel, Sony, Qualcomm, Broadcom, Motorola, Honeywell etc., who would be the target customers in India . There are also many tier 2 companies from US and other parts of the world trying to build local teams for their product development and who collaborate with us. The other category would be home grown product companies trying to build products for the local and global market space. Currently this segment is still nascent and each requirement and expectation is very unique and needs to be handled differently. As a company we come up with designs that are closer to the end product (like the PoM) and which can be converted to a complete end product with minimal time and effort. We also provide turnkey solutions and partner with EMS companies to service the needs of our customers. Our intention is to service Indian companies who have product ideas and market reach but don't have a large engineering team.

With regard to technology penetration, over the last few years, India has made a steady progress from being a back-office and testing hub to being seen as a place where you can design and build products from scratch. It's not just engineering or coding skills that's important to build a product but how well you can envision a product, understand the target market, architect it, and work out the right costing, execution and market introduction. This requires good product management and execution. In fact a success story that comes to my mind is of a healthcare startup company started by an ex-colleague who developed a pre-screening ophthalmology device which is the first of its kind in the world. This device can detect major eye ailments and are easy to deploy in rural areas which may not have access to major hospital networks. There are other companies too that are building products with the latest technology for both Indian and overseas market and it's all happening right here. Today, the engineers in India have access to all the tools and technology as in any other part of the world.

Can we know about your customers and what is your support to them?

Some of our customers include global semiconductor companies like Texas Instruments, large OEMs and other product development

companies. Our customer base is in India, Europe & USA. Currently, our focus area is in high end consumer electronics, wearable electronics, Home Automation, Industrial automation, Noninvasive medical, IoT, and Semi-Conductor companies. A domain which is extensively talked about nowadays is wearable electronics, especially since the announcement of Google glasses and with the increasing number of companies working in the wearable devices for fitness and wellness market. Mistral works with many customers who are bringing out innovative products in the wearable electronics domain. We have operations and offices in US & India.

How do you look at the competition in embedded design services? What is most challenging to you?

The number of companies in the embedded design services has been steadily growing. However, as an early entrant and a niche player in this sector we have built a good brand value. Some of our customers have been us for more than a decade. We get extensive references from our existing and old customers. Regarding competition, it really depends on the type of product or services, the geography and the domain. One of the biggest challenges that we face today is quality man power. Being a niche area and working with bleeding edge technologies doing R&D services, it is very difficult to get lateral hires and skilled engineering resources.

Do you provide any opportunities for fresh engineering talent? What are your considerations?

We regularly hire fresh engineers through recruitment drives. We conduct in-house tests to test aptitude, problem solving ability and programming skill. The candidates who get into the next stage typically have few rounds of technical interviews and group discussions before being hired. For us it is very important to gauge how an engineer approaches a problem and the approach he/she adopts to find the solution. Before bringing the new recruits into the fold, we also provide intensive training in the embedded domain.

Can you share your overall market growth and what are your future expectations?

With connected devices, Sensors and IoT becoming a key part of our everyday life, embedded technology and semiconductors is the key to driving every device. This changes the way products are designed and business is done. Earlier product development involved a semi-conductor vendor providing a reference design around a SoC to target OEM customers. The entire process would be anywhere between 12-20 months In the current scenario, we are seeing radical changes in the way products are designed and brought to market. Except for a couple of large brands, most OEMs are involved in only defining the product specs which are executed by ODMs working closely with semiconductor companies thereby bringing out the product-to-market in less than 6 months As an ODM, Mistral is looking at being part of this transformation. From being a service provider we are transforming to creator of IPs with the ability to provide complete turnkey product solution to our customers in the shortest possible time frame and thereby enabling them to introduce new products and services at an accelerated rate. This is not just about increasing design engineering capability but to be able to successfully collaborate with semiconductor partners, OEMs and EMS companies with the ability to envisage new products for the future.

Share something about your excellence and achievements?

As a company we have been working on 'bleeding edge' technologies and the next great thing in the market. We had a working prototype of the 'hands free calling' and 'in car infotainment' in 2002 and were working with Tier 1 OEMs to bring out the first of those products to market several years back. Similarly we have been working on several 'wearable electronics' projects since 2008 whereas the world has begun talking about it only from the last year or two. As a company we have always looked for the next big thing in the horizon and how we can be part of it. Over the last few years we have received national & international awards and accolades like 'Red Herring Asia 100', 'EDN Hot 100' , 'Nasscom Innovation award', 'STPI – IT Exports award', GS 100 Provider and our designs have gone into various customer products & won several awards in 'Scientific American', 'Design and Engineer showcase' by CEA, Popular Science & TSIA awards.

According to you what is driving Indian semiconductor design and what do you think about India-made semicon products?

It is an established fact that India is very strong in

semiconductor design. According to the Department of Electronics and Information Technology (DeitY), nearly 2,000 chips are being designed every year in India and there are more than 120 companies in India that focuses on semiconductor design for global products. It is expected that the Indian semiconductor design market is expected to touch more than US$ 14.5 billion in 2015. One of the major reasons for this growth is almost all the major semiconductor vendors have their R&D operations out of India. Now the important aspect is how do we take this ahead and start doing complete product designs. At the current estimate, the Indian electronics market is set to explode to $400 billion by 2020 and if we are not going to become 'electronically self-sufficient' we are going to have an import bill on electronics that will be far higher than any other commodity including oil. So the need of the hour is to ensure that we design and manufacture electronic products and ensure that 'Make In India' truly applies to this sector. The biggest challenge is to have more local ODMs. Like we have progressed on VLSI & ASIC, we should now put all our efforts and investment to increase the number of ODMs and improve the eco-system in terms of EMS companies and semicon component companies to manufacture locally. However some recent developments like Foxconn moving out of India are not really good for this development. We need to ensure that we have more industry friendly policies so that we have more ODMs and EMS companies operating out of India.

Would you like to give any other comments?

Today, embedded systems play a major role in every aspect of our life. There are some great innovations happening in wearable electronics, wellness, Automation & Medical fields. We are at the cusp of larger transformation in this segment with IoT becoming a game changer. Embedded devices are going to be at the forefront of this IoT revolution where practically every connected device will be talking to other devices completely changing the way things are perceived & communicate with each other. We are looking at some 20 to 30 billion devices connected to the internet by 2020 and majority of these are going to be embedded devices with innumerable sensors in them sending information which will have a larger say in our wellness, home & industrial automation, Energy & utility, health care etc. This will in turn change the way business is conducted and will bring in major changes even to the marginalized sections of the society and remote areas in terms of access to health care, Government programs and access to information. So we are not just talking about technological advances but how overall lives will be impacted and transformed for better.