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Mr. Amit Sinha
MD & CEO of
Dexcel Electronics Designs

Dexcel is an embedded systems design house was incubated in the year 2000. Dexcel has evolved into a company with a perfect blend of highly experienced and skilled technical teams in software development and hardware design, which can churn out specifications to a complete product or part of the product life cycle. Dexcel's core capability lies in designing systems on a programmable chip (FPGA) with in chip-expertise (RTL Level design) and out of the chip design (Board level) capabilities.

Mr. Amit Sinha, MD & CEO of Dexcel Electronics Designs discusses here embedded design industry trends, growth, opportunities and also points out Dexcel key role, unique strengths.

Mr. Amit is responsible for the overall management of the company. He has more than 13 years of Embedded Product Engineering and Management experience managing distributed team across the globe. Prior to Dexcel had been instrumental in product design teams at Philips Bangalore, Netherlands and Singapore in various capacities.

How the embedded design industry in India has grown over the years?

Traditionally Indian embedded design industry was largely a forte of MNCs who had set shops in India for their off shoring work and then there were small timers who used to work in Mom & Pop shop kind of arrangement who used to primarily do designs around low end microcontrollers servicing local markets. Now times have changed, technology has been growing at a much faster pace than we can embrace them. The users embracing these technologies have also become much more knowledgeable. With globalization people got exposure to various technologies much sooner and the gap between west and east became quite narrow. With the exposure came the knowledge to localize several products in India by importing it, integrating it and delivering to suit Indian market. This trend is also witnessed in the Electronics System Design and Manufacturing(ESDM) report prepared by Frost & Sullivan/ISA where it is projected that the ESDM market in 2015 is expected to grow to the size of > 94 Billion USD.

It's being recognized in the process that growing dependency on imports is not a long lasting model and that a local ecosystem needs to be grown. To address these requirements locally now we are seeing a trend of several design houses that have come up and addressing the requirements in bits and pieces or in piecemeal in all walks of ESDM portfolio be it chip design, readymade modules, IP creation, System Design or Turnkey solution. The design capability has grown multi-fold and we see several innovative and complex designs being churned out. Off lately we see latest trend in low power high speed, high performance designs being requested.

What is the critical role played by embedded design services player like Dexcel is in today's time?

We are a single window company for complete end-to-end product design solutions providing our expertise in defense, industrial, telecom and semiconductor segments. Dexcel's core capability lies in designing systems on a programmable chip (FPGA) with in chip expertise (RTL level design) and out-of-the-chip design (board level) capabilities.

We have tie ups with premium silicon manufacturing companies. This gives us leverage in terms of getting right solutions to customers. Firstly, we get very good technical support from our premium partner companies. Secondly, we get pre-launch product information which is very vital as we can start designing future products by the time their silicon gets launched. Thirdly it adds to our credentials, as these premium silicon companies give testimony for our work.

We have been designing lots of products for defence segment where quality norms are very stringent. Our non-defence customers also get benefited by this expertise and experiences as these get deployed in their products as well.

Another USP is that we have tied up with premium sub-contract manufacturers (EMS companies). Hence we are in a position to offer services from proto to fully functional tested certified end products.

How do you compete with other embedded design houses?

Our policy is to retain our customers by giving them good design services and support. This helps us in keeping the customers captive. We would like to retain every single customer that we have acquired as acquiring and building a new customer takes a lot of time and energy. We also offer excellent pre sales and post-sales support. In defense even before we get the orders, we start the design work as the paper work may take a long time.

Which of the three core markets of Dexcel— defense, automation, semiconductors - has achieved the fastest business increase for Dexcel? And which one has the brightest developing potential in the future

The fastest business increase is seen in the areas of Defense and Automation. Dexcel has been associated with Automation/Defense industry right from its inception. The prime focus is on building rugged imaging solutions for high speed high dynamics systems. Apart from this Dexcel has been also involved in designing turnkey solutions for Weapon Interlock Safety systems. At Dexcel we have also build products for securing communication over IP networks using our own proprietary technology for Defence deployments.

What are the latest trends in design houses?

The latest trend in design houses is that today customers prefer a one stop solution for designs as well as production which is also the need of the hour. Customers have become more application savvy and knowledgeable as we see them now being more participative in every aspect of the product design. This benefits the product design as a whole as the quality of the product improves and is more close to the customer's needs.

Today with the availability of a plethora of good components having lot of inbuilt features along with good software support we are in a position to design products with futuristic ideas. Of course, we don't see too much disruptiveness as the frequency of launch of new products with killing applications has gone down reasonably. Technological advancements mean the same set of products get more advanced by integrating new ideas.

Examples of the interesting embedded design applications that Dexcel's team has worked on.

Most of the designs done by Dexcel had been quite unique and interesting. Some of the most interesting design work that Dexcel has done are the following:

- LED Video Wall Design- These are large giant size screens to be used in stadium applications for showing video & score card
- Super Computing Module design- For massively parallel computing we had designed card which can talk to each other and achieve parallelism by doing jobs independently
- NFC based add on- This was extremely thin design which was sub 0.7 mm with active electronics in die form and can sit between SIM and Mobile Gateway. This device was created to do secure transactions on mobile
- Traffic Control System- We had designed complete back end for Traffic Control Systems with interfaces for vehicle Actuator control

Challenges, opportunities and the Future of the embedded design services industry

Embedded design market basically faces challenges in terms of fragmented skills available across companies. We see this as a great opportunity for us to make a mark by offering a single window for fulfilling the entire product engineering requirement including manufacturing of the same.