

IT — up

Technology has a big role to play in aerospace, QuEST tells eWorld.



Aravind Melligeri

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QUEST Machining and Manufacturing, a provider of product development and engineering solutions, some time ago announced the formation of a 50:50 joint ownership company with Magellan Aerospace, headquartered at Toronto, to launch "India's first independent processing facility to cater to the needs of the Aerospace Manufacturing Industry." And IT deployments have an important role to play here.

Aravind Melligeri, President, QuEST, Bejoy George, Vice-President-Global Sales and Natarajan Iyer-Vice-President, HR, share their views on the IT in aerospace scene in a chat with eWorld. Excerpts:

What kind of growth and opportunities do you see in the aerospace segment — both domestic and defence in the coming years?

According to the latest industry figures released by Nasscom, the global spending on engineering services was \$750 billion in 2004, with aerospace accounting for 8 per cent, and it could rise to \$1.1 trillion by 2020. The total offshore engineering spend is expected to grow to \$150-\$225 billion by 2020 and India, with its talent pool and experience in engineering services, could pick up 25 per cent of that.

We believe there is an opportunity of close to \$1 billion/year of exports to be achieved by 2012. The aerospace industry is growing at 30-40 per cent per year. The current revival of the industry also coincides with firms going in for newer designs and aiming at producing a better and fuel-efficient aircraft.

In India itself, there is going to be an unprecedented growth in air traffic (50 per cent passenger and 300 per cent cargo). With the current offset clause pegged at 30 per cent of the purchase value and looking at the buying estimation itself, at least \$3 billion worth of business is expected in the next 10 years.

Infrastructure plays a critical role in determining how companies operate — unre-

liable power, transport, poor quality of life will lead these companies to consider other nations who are doing a better job in putting in infrastructure matching the West. Government can also influence through Offset requirements. Some nations have 100 per cent offset and India is considering 20-30 per cent.

Please explain the concept of the offset model.

Offset models are used as a method of using a country's buying power to both purchase high-value projects and to achieve its social and economic development objectives.

Offsets are used to leverage development in areas unrelated to the core project that resulted in the Offset obligation, and bring broader economic and social benefits to the purchasing country.

India's 2005-offset policy requires foreign aerospace firms to spend a percentage of the value of any aircraft orders from India, such as in establishing a training centre or buying services and supplies from local companies. India has a large industrial base and offsets will further enhance its technical and manufacturing potential.

They will also help to increase investments in domestic research and development.

What is the scope for IT deployments within this field?

In the engineering outsourcing space, IT is considered an enabling technology to automate business processes and functions, including Project Management, Project Costing and Billing or even a full-blown Financial ERP, MIS and other Reporting tools, HR Information Systems, Customer Relationship Management, E-Learning, Knowledge Management, Office Administration and company Intranet.

The total money involved in IT-related work is therefore comparable to any core IT services industry.

Most engineering services outsourcing companies would not prefer developing and

▶ "QuEST has been supporting global leaders in their processes."

and flying



The **sky is the limit.** V.V. KRISHNAN

maintaining home-grown systems. The cost of niche-technical software licences works can account for 5-30 per cent of the direct operating costs.

Some of them need to run on high cost and high performance computing infrastructure or servers, which could be up to 10 per cent of the capital investment.

The cost of the average hardware engineer's use is high, more than a typical IT or a BPO company because the engineers use high-resolution graphics cards, high memory, multi processors and high resolution monitors.

What are the niches where IT graduates can contribute?

There are various areas in which IT engineers can participate. They include PLM

(product lifecycle management), application development and customisation, Engineering Design Processes Automation, applications used for monitoring processes and process data, CAD (computer aided design), embedded systems for automotive, aerospace, industrial appliances and consumer electronics and performance testing.

What are the special skills IT engineers need to be armed with?

It is not essential that all automation projects need to be carried out by engineers/people with specialised skills.

Projects can be a combined effort of engineering and software programming teams whose skills complement each other.

For PDM, generally not much of engineering background is required if you join at

beginner's level, but knowledge of product data management will be an added benefit. For Embedded systems, we need domain knowledge to a certain extent — basic understanding of the underlying engineering principles, terminologies and processes.

For process automation, again, not much domain knowledge is required, most of these jobs are done by pure software engineers. For specific design applications domain expertise will be required, for example knowledge of manufacturing processes, awareness of technical standards.

What is the scope for global product development in the Indian aerospace sector today?

Global Product Development is a systematic and strategic process by which product companies critically examine how they need to use global resources to build and deliver products to their customers, that will enable them to take their products to markets — faster, better and cheaper. In the process, they will build competitive advantage for themselves.

Activities in product development that can be offshored or outsourced or globalised range from concept to definition to high-level design to detailed design to testing to production and support stages.

Activities in these stages include Industrial design, reverse engineering, system engineering, conceptual CAD work, mechanical design (layout and component), electrical design, embedded software, drafting and documentation, derivative products, component testing, test equipment design, prototyping, etc.

QuEST has been supporting global leaders such as Rolls Royce, General Electric, Pratt and Whitney, Smiths Aerospace, Magellan and Toshiba, among others, in their processes — across several product domains, including aerospace, energy, industrial and transportation.

Aerospace original equipment manufacturers (OEMs) and their suppliers (tier 1 and 2) would be looking to implement the GPD model to drive down costs.

The market potential that India offers — combined with the offset clause — will have them looking towards leveraging India's capabilities.