

RAVI PANDIT

KPIT Cummins Infosystems' chairman and group CEO tells **Eliot Lobo** about his company's deep engagement in technology development for the next generation of automobiles.

Can you give us an overview of what KPIT Cummins does?

We are a focused, niche player in IT services. I say niche, because almost 95 percent of our revenues come from the manufacturing industry. Within manufacturing we really work within two verticals, with a third support vertical. The first vertical is automotive, the second is industrial and farm equipment (IFE), and the third is hi-tech, which is really chip manufacturing, but which is largely focused on the usage in the first two. We work with chip manufacturers, but we don't do much work in chips that go into a PC. But we do a lot of work on chips that go into automobiles.

In IFE essentially we work on farm, mining and construction, and large industrial equipment. In a sense you can say that we work in discrete manufacturing industry, which generally tends to be capital equipment for the personal or the commercial world. A car is capital equipment for you and me. Similarly a construction machine is capital equipment for a business house. So we are in large discrete manufacturing companies. Five years ago they probably accounted for 30 percent of our revenue; today they account for almost 95 percent. So over the last few years we have actually sharpened our focus quite a bit.

What is the extent of your company's engagement in the automotive segment?

We work with OEMs, Tier-1s, Tier-2s, and industry associations, so we are a fairly integrated part of the environment. We work with 13 global OEMs, about 30 Tier-1s — you name a major name and we will probably be working with them. Now the industries have their own associations. We work primarily on the software side, and are premier members of the AUTOSAR and JASPAR consortia. India has its own standard-setting body called CAR (Collaborative Automotive Research), which is a part of the Technology Information, Forecasting and Assessment Council (TIFAC) of the Government of India. I am a member of TIFAC.

In our hi-tech vertical we work with seven of the top 20 chip manufacturers in the world. To illustrate, we typically work with a car manufacturer and a chip manufacturer to come out with hardware and software solutions that will be used inside a car. That is the kind of 'ecosystem' that we are typically a part of. And as there is more and more electronics in a car, we find that being an integral part of such

an ecosystem is extremely important because then you can give a more in-depth solution to a client — because you understand the chip issue, you understand the embedded issue, you understand the car usage issue, and therefore you can come out with a good solution.

Could you describe the work you do for these companies?

We look at our offerings as a stack. We have offerings for the Chief Technical Officer, Chief Information Officer, and Chief Financial Officer, in addition to all the business unit leaders. About a third of our work is in the CTO offering, roughly 50 percent for the CIO, and about 15 percent for the CFO.

The CTO offerings are actually the services we render that go into the product our customer sells. That is typically the CTO's job. So for example, for the hi-tech manufacturers, we develop chips. We actually write the electronic



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design of the chips. The chip manufacturer might ask us to develop a chip that will go into the powertrain of an automobile. There we would know typically what the temperature variations are, the vibrations, the capacity requirements, and the power consumption, and therefore what kind of chip needs to be developed.

Then a very large part of our work is related to embedded software that sits on the chip. Here, we typically work in five areas of a car — powertrain, safety, infotainment, body, and networking. The embedded software team is our biggest, I would think that no other Indian company has a team even half our size.

Nowadays networking is becoming a very important issue because there are more and more chips inside a car. The chips need to communicate with each other, pass on the messages properly, it has to be done in a seamless way without too much of an overload. And in this area there are lots of standards coming up. AUTOSAR is really a software architecture standard for networking inside an automobile. We are a member, as I said, of the AUTOSAR consortium, and developed the basic specs for AUTOSAR. We are working with JASPAR. We are also currently working with the government of India to come out with a networking protocol for the small car.

How would this be different from AUTOSAR?

AUTOSAR is meant for high-end cars in which there can be up to 90 chips. So the volume of traffic required, etc, is very different. And therefore AUTOSAR standard is for the high end, while you can possibly come out with a standard for a low-end car like a Nano or any of the cars in India. It would need a separate standard because then you would be able to use a smaller chip, and you might be able to use fewer chips. So we can actually bring down the cost of the car. And there is a possibility of reducing the cost of these chips everywhere. We recently worked with a Japanese chip manufacturing company to come out with a dashboard that can run with an eight-bit chip instead of a 32-bit chip. You can imagine the reduction in the cost involved.

Are there other outsourcers in India that do the work you do?

Some people do, but none of them with the same focus. There are many companies that do embedded software for mobile phones, or for washing machines or domestic appliances. But



And your CIO offerings? What can you tell us about those?

As you know, in a company the CIO is really connected with the internal information flow inside the company. So our offerings here are for them. And again they have a stack. Typically it begins with plant operations, then office operations, and top management operations. So when I say plant operations, a product like product data management. Or manufacturing operations management. These are typically at the plant level. We have collaborations with various software vendors and work as implementers or integrators of those software products.

One level above that is business applications, which is typically SAP or Oracle. We are SAP's partner of choice for automotive and industrials. We have special templated solutions for these verticals and have actually completed more than 60 SAP implementations only in this space in India in the last two years. We are also Oracle partners in those areas.

Then we also work in the area of business intelligence. Which is typically what a manager would need out of the software. We have a decent team on BI.

Do you work with SAP and Oracle abroad as well, or is your scope limited to India?

Actually 98 percent of our revenues come from outside India. For the CFO application, what we really work on is the operation of software. So we will work typically on an F&A application. Helping companies improve their bookkeeping, getting better analytics of that. We also work with SAP and Oracle on their customer support. This is high-end technology work, because only software engineers work there. Now what we have found is that the connection between the CIO and the CFO is getting very strong. Companies come to us and say, I don't care whether you use software A or software B, I want my information processed. Why don't you do the back office? Just give me the data I want. So there is this whole thing that is happening here.

Similarly on the CIO and the CTO side there is a lot of agglomeration. For example, through embedded software you capture the data of goods moving inside the company and the company tells us, why don't you then combine that with the PLM and ERP and give me consolidated information? So there is a lot of interconnectivity in this area. And what we are finding is a lot of interconnections in this whole stack. And what we bring to the table is a focus on a vertical but within that vertical we want to look at information flows seamlessly. That is basically the thought and the way in which we want to grow.

Is that the vision that you would say is unique to KPIT?

Yes. ■

in embedded software for the automobile we are the largest. Other companies do have teams, but nobody is as large as us. Some of the other big outsourcers have people working on this. But they don't have the focus, this is just one of the many things that they do.

Do your CTO offerings include anything else?

Yes, we also do the mechanical design. We are specialised in the design of seats. And the design of various body parts — what kind of metal you use and what kind of shape you give in order to ensure that for the least weight you can get the strength that you want. We have a team which does that. This whole CTO area of operation has been a very rapidly growing area.

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