Automakers increasingly asking us to go for virtualisation: KPIT CTO

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AUTOMOBILE MANUFAC-TURERS ARE increasingly asking for virtualisation, a process which helps in testing the software used for modern car features without waiting for the actual hardware, said Anup Sable, chief technology officer (CTO) at KPIT Technologies.

The Pune-based engineering R&D company started virtualisation as a practice during the pandemic, when the world witnessed supply chain disruptions and the auto industry was hit by a severe shortage of chips and hardware.

Companies such as KPIT Tech need hardware from original equipment manufacturers (OEMs) to test their software. But hardware comes quite late in the process.

"If you look at the development process of a vehicle program, software development has to start right from Day 1. But the problem with software is that they have to run on some hardware to test and iterate," Sable said.

Anup Sable, CTO, KPIT Technologies

He added that the delay was due to contractual constraints. "How do you know what hardware you want till you understand what software you want to write? If you don't know what hardware you want, how will you specify it? And if the specification is not correct, the contract to Tier 1 (the direct vendor to OEMs) goes for a toss."

Clarity on hardware specifications can only come after the software is written. Sable said: "OEMs require about 300 features. Software can be written for all these features. Unless these features are developed, no one knows what are the specifications required for hardware."

"Most of the time, coders think that the software they have written is correct, but unless they put it on hardware, they will not know whether it's actually right," he added.

Virtualisation has solved the industry problem because today, software developers don't have to wait for hardware to test their codes. "All cars, from design to actual production, take around three years. But using virtualisation, I can start testing for integration from Day 1," Sable said.

Cloud technology has helped make virtualisation a success. "Cloud has helped in giving us huge computing power," Sable added.

(The writer was in Pune at the invitation of KPIT Technologies)