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Applied Materials Sets Its Sights on EUV and 3D GAA

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TALK TO US

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The key is that Nvidia is continuing to introduce and improve multiple software platforms that are built on top of high–powered chip families, hardware systems and cloud–based infrastructure.

All the software platforms have software development kits (SDKs) and a growing hardware and software ecosystem that are advantageous for developing automotive applications.

Nvidia's success in the auto industry and other industries is due to its strategy of making software–defined chips. This includes compatibility across product generations, new hardware features to support the growing levels and needs of software platforms.

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There are basically three major types of satellites: GEO, MEO and LEO. Geostationary earth orbit (GEO) satellites require fully radiation-hardened components, and therefore are very expensive. Each satellite can cost up to $500 million, and has to last 15–20 years to make it worthwhile. The main advantage of GEO orbits is that at a height of 35,000 kilometers it is possible to cover a very wide geographical area with as few as three satellites.

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In an EE Times Special Project, More than Moore, Nirmalya Maity, corporate vice president of Advanced Packaging at Applied Materials, explained that the need for innovations in the semiconductor industry continues to grow, especially as time to market for newer chip generations slows and costs increase.

Maity said in a blog post, "The internet of things, big data, and artificial intelligence are fueling a new wave of growth for the semiconductor industry. But while the need for chip innovation has never been greater, classic Moore's law 2D scaling is slowing. Chip shrinks are taking longer and costing more with each successive generation. This is prompting the need for new design and manufacturing paradigms as chipmakers and system companies seek to continue driving improvements."

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As chipmakers continue to accelerate their 3D roadmaps, tooling vendors aren't just tasked with keeping pace with today's needs but also readying their offerings to anticipate future requirements. Building up is an exceptionally complex process that requires ultra–high selectivity, Bondur said.

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Almost every marketer you talk to in the chip industry talks about massive IoT market opportunities, but the fact remains that integration of processor intellectual property (IP) and building a system-on-chip (SoC) can be challenging. This is even more so where you have increasingly higher performance and security requirements, but don't necessarily have the development resources to get to market quickly enough.