



## Axelera AI Selects Ansys to Boost Power and Performance Integrity for Edge AI Platform Chip

April 13, 2023

***Ansys' comprehensive power analytics reduce project risk, improve predictive accuracy, and accelerate time to market for Axelera AI's new Metis AI Platform***

### / Key Highlights

- Axelera AI introduced Ansys software into a two-step, top-down flow to validate floorplan quality and IR drop of platform chips – overcoming limited resources and manufacturing timing challenges
- Ansys' products, licensing, and support give Axelera AI the flexibility at scale to address future development initiatives

PITTSBURGH, April 13, 2023 /PRNewswire/ -- [Axelera AI](#), provider of powerful and advanced solutions for artificial intelligence (AI) at the Edge, selected [Ansys](#) (NASDAQ: ANSS) simulation software for digital power integrity signoff of its high-performance Metis AI Processing Unit (AIPU). This effort is part of Axelera AI's work with Ansys to build its recently released Metis AI platform, a hardware and software platform for computer vision AI inference at the edge. The technology delivers advanced acceleration performance and usability at a fraction of the cost and power consumption of solutions available today.



Logical chip interactions across various power and clock domains have the potential to cause chip failures. Axelera AI needed to validate its Metis AIPU, which contained as many as 100 million gates, or simple switching circuits, along with different clock and power domains responsible for executing operations essential to a digital circuit. These interactions were difficult to analyze using traditional tools and methods, which lacked accuracy, and proved too time consuming and resource intensive.

Axelera AI developed a top-down, two-step workflow enabled by Ansys software to understand floorplan quality and IR drop. First, the software was used to prefetch or transfer numerous weaknesses in various integrated circuit schematics that would have delayed the manufacturing process. Next, drop analysis was completed using Ansys simulation to uncover problems impacting chip quality, then to quickly iterate on and execute fixes to minimize unanticipated voltage drops that lead to circuit failure.

"During our analysis, we uncovered serious problems that could affect the quality of our chip design," said Giuseppe Garcea, director of silicon and co-founder at Axelera AI. "Setting up a two-step workflow with Ansys software was straightforward, and initial run times were accomplished on one server. Ultimately, these tools provided the detailed data we needed to quickly identify and iterate on various fixes to floorplan and IR-drop challenges. Ansys gave our team confidence that we could circumvent any design issues that lead to chip failure in the future."

"Demands for edge AI platforms, characterized by massive amounts of data processing and storage, require significant architectural improvements on the chip side," said Shane Emswiler, senior vice president of products at Ansys. "Today's chip designs require complex testing and validation, exerting upward pressure on semiconductor manufacturers to fulfill changing system requirements in a sensitive, cost- and time-performant manner. Ansys simulation software enables comprehensive, competent analysis needed to quickly optimize the power and performance of these chip designs and speed the movement of data critical to AI applications."

### / About Ansys

When visionary companies need to know how their world-changing ideas will perform, they close the gap between design and reality with Ansys

simulation. For more than 50 years, Ansys software has enabled innovators across industries to push boundaries by using the predictive power of simulation. From sustainable transportation to advanced semiconductors, from satellite systems to life-saving medical devices, the next great leaps in human advancement will be powered by Ansys.

Take a leap of certainty ... withAnsys.

Ansys and any and all ANSYS, Inc. brand, product, service and feature names, logos and slogans are registered trademarks or trademarks of ANSYS, Inc. or its subsidiaries in the United States or other countries. All other brand, product, service and feature names or trademarks are the property of their respective owners.

ANSS-C

#### / Contacts

Media	Mary Kate Joyce 724.820.4368 <a href="mailto:marykate.joyce@ansys.com">marykate.joyce@ansys.com</a>
Investors	Kelsey DeBriyn 724.820.3927 <a href="mailto:kelsey.debriyn@ansys.com">kelsey.debriyn@ansys.com</a>



[View original content to download multimedia:https://www.prnewswire.com/news-releases/axelera-ai-selects-ansys-to-boost-power-and-performance-integrity-for-edge-ai-platform-chip-301796684.html](https://www.prnewswire.com/news-releases/axelera-ai-selects-ansys-to-boost-power-and-performance-integrity-for-edge-ai-platform-chip-301796684.html)

SOURCE Ansys