SHAPING THE NEXT-GEN SEMICONDUCTOR LANDSCAPE IN SINGAPORE WITH SIMULATION-DRIVEN INNOVATION

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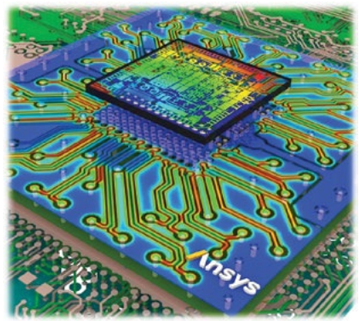
Singapore is at a critical juncture in its journey to becoming a global semiconductor powerhouse. With a strong foundation in manufacturing excellence, a highly skilled workforce, and strategic government support, the nation is now focused on scaling advanced packaging technologies, deep-tech capabilities, and sustainability-led growth.

At the heart of this transformation is CADFEM. With a legacy spanning over 40 years, CADFEM began its journey in Germany in 1985 and has since grown into one of the world's leading providers of engineering simulation solutions. As a founding Ansys Channel Partner, CADFEM has been instrumental in advancing simulation and EDA technologies globally. Our presence across 30+ countries allows us to deliver deep domain expertise, proven methodologies, and global best practices to every engagement.

Today, CADFEM is proud to extend its legacy of simulation-driven innovation to Singapore, empowering the local semiconductor ecosystem with advanced technologies from Ansys, customized solutions, and an unwavering commitment to excellence from chip to system-level integration.

Accelerating Deep-Tech Innovation with Multiphysics Simulation



CADFEM, a trusted Ansys Elite Channel Partner, plays a vital role in helping Singapore's semiconductor ecosystem transition into a digitally engineered future. Our end-to-end simulation solutions empower local MNCs, SMEs, and startups to design, test, and validate advanced IC packaging, 2.5D/3D interposers, chiplets, and system-level architectures. Using Ansys HFSS, SIwave, Q3D Extractor, RedHawk-SC, and Sherlock, we enable first-time-right design with high accuracy and compliance with JEDEC, IEEE, and other global standards.

We support mission-critical semiconductor R&D by providing physics-based design optimization across electrical, thermal, and mechanical domains. From high-speed signal integrity to power integrity and thermal cycling fatigue, our multiphysics workflows shorten development cycles and increase the reliability of next-gen devices.

Scaling Simulation Capabilities Across SMEs and Startups

CADFEM actively helps emerging fabless companies and startups overcome resource constraints by offering access to simulation expertise, cloud-based HPC, and license flexibility. Our early-stage enablement programs include startup bundles with Ansys tools, onboarding sessions, and mentorship, ensuring smaller players can contribute meaningfully to Singapore's chip design ecosystem.

We also assist SMEs in adopting simulation-led design through proof-of-concept initiatives and pilot projects—demonstrating ROI and performance gains that build long-term simulation maturity.

Our Team

Developing Local Talent for a Resilient Workforce

A strong semiconductor ecosystem thrives on skilled talent. CADFEM contributes to Singapore's talent pipeline by delivering industry-relevant simulation training in collaboration with local universities, research institutes, and semiconductor fabs. Our programs are tailored to build capabilities in chiplet-aware co-design, EMI/EMC compliance, and reliability analysis. By equipping the workforce with hands-on experience using Ansys Workbench and domain-specific tools, we help bridge the gap between academic learning and industry application.

Our initiatives also support Singapore's national focus on lifelong learning and skills upgrading, ensuring engineers stay ahead of fast-evolving technologies.

Driving Sustainable Innovation Through Digital Twins and AI/ML

With sustainability at the forefront, CADFEM promotes the adoption of Ansys Twin Builder and AI-integrated simulation workflows to minimize material waste, predict product failure, and optimize power usage. By developing digital twins of packaging systems and fabs, we help semiconductor companies make data-driven decisions to improve reliability and energy efficiency.

We further extend our capabilities with AI/ML-driven surrogate modeling, helping R&D teams accelerate design space exploration and predictive maintenance. These innovations directly align with Singapore's Smart Nation goals and its green electronics manufacturing agenda.

Fostering Collaboration Across Industry, Academia, and Government

CADFEM actively supports Singapore's vision of a collaborative semiconductor ecosystem. Through co-innovation projects, technical mentorship, and technology transfers, we connect academia, industry, and public sector stakeholders to achieve shared outcomes. We facilitate simulation-led innovation hubs, support government-backed prototyping initiatives, and help universities commercialize research through real-world application.

Our collaboration extends to public-private partnerships that address challenges in thermal design, electromagnetic compatibility, and multi-die reliability—key issues in Singapore's high-density packaging and heterogeneous integration roadmaps.

Commitment to a Future-Ready Ecosystem

As a long-term partner to Singapore's semiconductor journey, CADFEM along with Ansys is committed to enabling scalable growth and resilient innovation through simulation, education, and strategic collaboration. Our mission is clear: to help shape a smarter and globally competitive semiconductor ecosystem for Singapore. We believe in empowering the ecosystem from every angle—tools, training, and technology—and supporting its evolution with deep technical expertise and a global vision tailored to local impact.

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