

# TOTALSIM<sup>US</sup>

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## Vehicle Heat Protection with STAR-CCM+ : The Who, What, Why and How

In the rapidly evolving automotive industry, Siemens' [STAR-CCM+](#) is revolutionizing how engineers tackle vehicle thermal management. This cutting-edge software provides exceptional precision in simulating and analyzing thermal conditions, which is crucial for optimizing heat protection and energy efficiency in modern vehicles.



As regulations tighten and design complexities increase, STAR-CCM+ stands out by seamlessly integrating complex geometric handling, multiphysics modeling, and advanced design exploration tools. It allows for accurate predictions of thermal performance, reduces the need for costly physical tests, and shortens design cycles by identifying potential issues early. With its robust data management and scalability, STAR-CCM+ ensures rapid, reliable assessments and helps engineers meet stringent performance and regulatory targets.

Read our most recent [blog](#) to explore how STAR-CCM+ can transform your approach to vehicle thermal management and drive innovation in your projects.



Watch the full presentation on vehicle heat protection using STAR-CCM+ above.

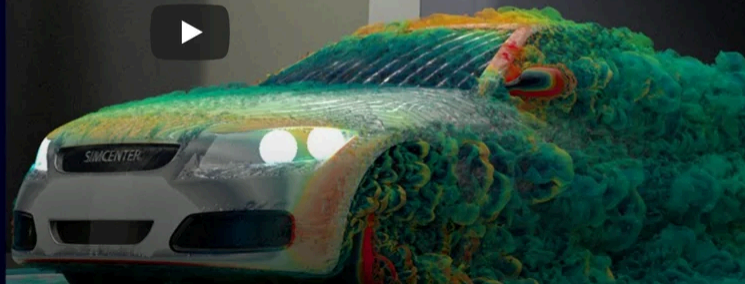
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## Simcenter STAR-CCM+ 2406: Breakthrough GPU-Accelerated CFD Enhancements and Features

[Simcenter STAR-CCM+ 2406](#) is here, bringing exciting new features and enhancements that push the boundaries of GPU-accelerated CFD. This latest release builds on over two years of innovation and performance improvements. From cutting-edge GPU-native solvers to expanded hardware support, STAR-CCM+ 2406 is designed to enhance your simulation capabilities and efficiency. Check out the highlights below to discover how these updates can transform your workflows and keep you at the forefront of computational technology.

# GPU enabled acceleration

Simcenter STAR-CCM+

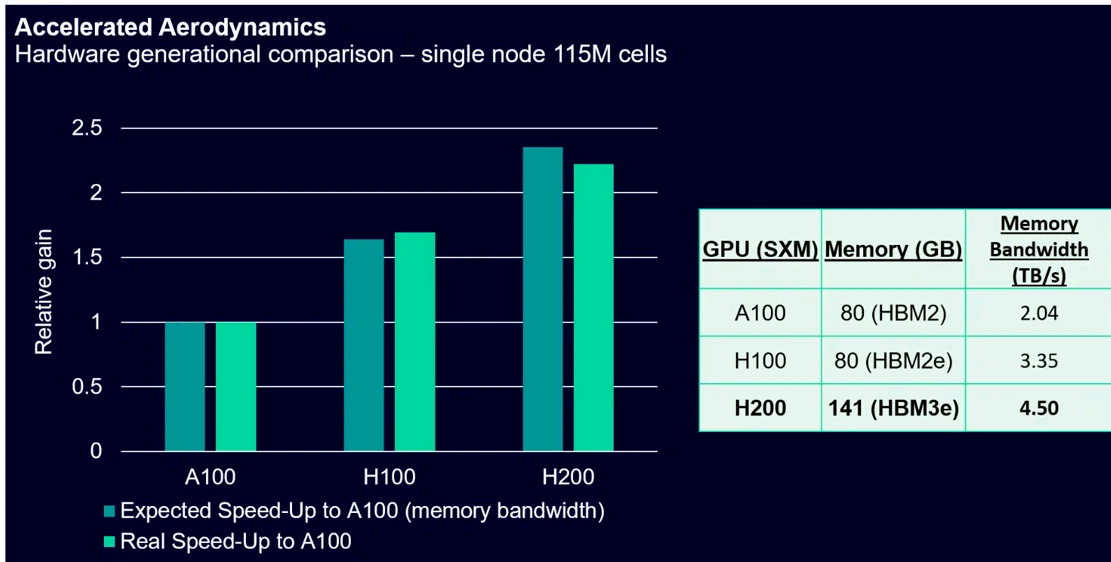


Learn more on the benefits of running Simcenter STAR-CCM+ in the video above.

## Major Highlights:

- **Grid Sequencing Initialization (GSI) on GPU:** Improves initial conditions and convergence for steady-state automotive simulations, cutting simulation time by up to 17% and making GSI 2.5x faster.
- **Surface-to-Surface (S2S) Radiation Model:** Now available for vehicle thermal management, enhancing simulations of conjugate heat transfer and delivering up to 4.5x speed improvements in case studies.
- **Expanded GPU Support:** Includes compatibility with the latest NVIDIA and AMD GPUs, such as NVIDIA Blackwell and AMD Instinct MI350, ensuring cutting-edge performance and efficiency.
- **Increased GPU-Native Functionality:** Broader range of applications now leveraging GPU acceleration, including aeroacoustics, aerospace aerodynamics, combustion, and hypersonic simulations.
- **Performance Enhancements:** Up to 10% faster Coupled Flow solver and overall improvements in GPU performance, achieving up to 4x speed-up since the initial release.
- **Seamless Hardware Integration:** Ongoing optimizations for various GPU and CPU hardware configurations, ensuring robust performance across diverse systems.
- **Cost-Effective Licensing:** Single Power Session Plus license allows for unlimited use of CPUs or GPUs without tiered pricing.

Learn more about the newest GPU enhancements [here](#) or [reach out](#) to our team to discuss how [STAR-CCM+](#) and how the newest enhancements could be useful for you.



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## Upcoming Events

Americas Partner Conference // October 21 - 25 // Anaheim, CA

PR // December 12 - 14 // Indianapolis, IN

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TotalSim, 4960 Blazer Parkway, Dublin, Ohio 43017, United States, +1.614.255.7426

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