PRESS RELEASE

New Cradle Software makes Complex Multi-Physics Simulation Realistic for Anyone

Cradle CFD V2020 introduces advanced capabilities to make aero-acoustics, electrical heat mapping and fluid-particle analyses more accurate

Osaka, Japan, November 21 2019 – Cradle Software, part of Hexagon’s Manufacturing Intelligence Division, today announced advanced new co-simulation and post-processing capabilities that make it easier for any engineer to analyse multi-physics problems and analyse mixed fluid-particle interactions.

Cradle CFD blends state-of-the-art with practical tools that deliver real, tangible value to customers.

Available from today, the Cradle CFD v2020 suite comprises scSTREAM (structured mesh) and scFLOW (next-generation unstructured mesh) Computational Fluid Dynamics (CFD) technology. Cradle has been helping customers analyse complex real-world multi-physics problems pragmatically by combining innovation and open cosimulation with its powerful scPOST postprocessor and through doing so has acheived one of the highest customer satisfaction rates in the industry today.

New aero-acoustics simulation in Cradle CFD v2020 makes it easy to analyse flow-induced noise in scFLOW by seamlessly connecting to the Actran acoustics simulation software through a dedicated plugin. It enables the user to simulate aeroacoustics such as the noise from a car door mirror in a single software environment without learning to use acoustics software or spend time coupling systems.

Noise from Door Mirror calculated by scFLOW2Actran

Another significant development adds Discrete Element Method (DEM) to CFD and thermal dynamics within the scFLOW environment, reducing the complexity and manual work required to simulate fluids with particles. For example, optimizing the energy and water usage of a washing machine. Using the new DEM feature, it is possible to evaluate heat transfer and filtering in isolation, or combine it with CFD analysis and other physics types.
Conveyor and Washing machine simulations calculated by DEM and CFD coupling

Integration with system modelling software is also enhanced. Building on the open Functional Mockup Interface (FMI) integration already provided, Cradle now connects directly with more 1-D simulation tools. This enables customers to model complete products including electrical and mechanical subsystems in conjunction with the software’s built-in thermodynamics. Customers can easily map the heat transfer between electrical components using Cradle’s HeatPathView tool to visualize these multi-physics interactions. For example, providing optimization of heat routes in consumer electrical goods to enable system-level decision making with Maplesim or other 1-D simulation tools.

Cosimulation with MSC Software simulation solutions including MSC Nastran, Marc and Adams have also been enhanced to rapidly generate high quality static and dynamic visualisations in scPOST. Cradle, and all MSC Software products including Actran can be accessed through the MSC One token-based licensing system so it is easy for anyone to access and use any tool to produce more realistic multi-physics simulations.

Combined visualization of FEM and CFD by scPOST from MSC CoSim Engine Results
scPOST also makes product and engineering design reviews more accessible for designers, customers or business management. Any simulation through video export, virtual reality or interactive 3D models.

“We provide Cradle CFD solutions in the spirit of crafting a Japanese KATANA sword: In another words, we aim to offer the most accurate, expertly crafted solutions for CFD calculations.” said Makoto Shibahara, Software Cradle President and CEO. “Our solution is not limited to CFD but embraces open interfaces and all the CAE solutions in the MSC Software portfolio, which will lead to smarter simulation, for more practical and realistic results.”

Cradle v2020 is available from today. For more details, please visit:
  - scFLOW V2020 Release Overview
  - scSTREAM V2020 Release Overview
  - scPOST V2020 Release Overview

About Hexagon | Cradle Software

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications. Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Cradle Software is an innovative provider of computational fluid dynamics (CFD) simulation software. Established in 1984, the company has pursued to offer unique, innovation focused, and highly reliable CFD solutions that enhance customers’ product quality and creativity. Learn more at www.cradle-cfd.com.

Hexagon’s Manufacturing Intelligence division provides solutions that utilise data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit hexagonmi.com.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at hexagon.com and follow us @HexagonAB.

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