

PRESS RELEASE

New Optimus interface for Ricardo WAVE further accelerates engine performance analysis

Leuven (Belgium), March 29 - 2012 – Noesis Solutions, renowned for the Optimus process integration and design optimization software, and Ricardo Software, a leading developer of powertrain-related design and analysis software, today announce the availability of a new Optimus interface for Ricardo WAVE. Optimus' powerful Open Access technology enables interaction with third-party software programs such as WAVE, the 1D engine and gas dynamics simulation software package from Ricardo Software.

Ricardo WAVE is used throughout the engine design process – from early concept studies right through to detailed investigations of production engines. Whether it is improving volumetric efficiency, designing complex boosting systems, enhancing transient response or extracting the maximum performance from a race engine, WAVE is the ideal tool.

Optimus inherently makes it easy for WAVE users to define and execute a parametric simulation campaign by directly incorporating the WAVE software. The Optimus integration component automatically extracts the parameters from any WAVE model and can automatically parse WAVE's results to extract responses from both the ASCII and binary files.

Users will typically perform Design of Experiments (DOE) to define a virtual experiment plan that acquires the most relevant design information possible with minimum performance simulation effort. This information allows them to explore the design improvement potential using Response Surface Modeling (RSM) methods, or to identify an optimized engine design considering multiple objectives and constraints.

David Higbie, Global Director of Ricardo Software: "We are excited to partner with Noesis Solutions to offer this new capability, which gives our customers a powerful method to quickly and robustly evaluate complex design spaces. Today's powertrain engineers and product planners have an unprecedented number of choices to make when assessing appropriate technology; by leveraging the power of WAVE with Optimus, these complex DOE and Optimization studies can be defined and managed with ease."

Hans Wynendaele, Noesis Solutions CEO: "Optimus is known for capturing and automating simulation workflows without any programming skills. With the new interface for Ricardo WAVE, Optimus users can easily parameterize any engine model and automate the execution of advanced performance simulations. It frees engineers from repetitive tasks, so that they can find better designs in a fraction of the time required with conventional methods. This approach strengthens manufacturers' competitive edge by delivering the best engine design in the shortest time possible, while saving tremendously on engineering, manufacturing and material cost."

About Noesis Solutions

Noesis Solutions is an engineering innovation partner to manufacturers in automotive, aerospace, and other advanced engineering industries. Specialized in simulation process integration and numerical optimization, the company's flagship product Optimus focuses on resolving customers' toughest multi-disciplinary engineering challenges. Optimus identifies the best candidates by managing a parametric simulation campaign that orchestrates the software tools customers already use. After evaluating the proposed design alternatives, customers pick the most optimal and robust design option to verify in detail and take into production. Noesis Solutions operates through a network of subsidiaries and representatives in key locations around the world. For more information, please visit www.noesisolutions.com.

About Ricardo Software

Ricardo Software creates and delivers a wide range of CAE analysis software products targeted for application during the powertrain development and vehicle integration processes. We are a division of Ricardo plc, a global, world-class, multi-industry consultancy for engineering, technology, project innovation and strategy. With almost a century of delivering value, Ricardo plc employs over 1600 professional engineers, consultants and staff. Guided by our corporate values of respect, integrity, creativity & innovation and passion, we enable our customers to achieve sustainable growth and commercial success. For more information, please visit www.ricardo.com/software.

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