eArtius and Optimus stretch the limits of multi-objective design optimization

Leuven (Belgium), February 17th, 2011 – Noesis Solutions and eArtius announce a leading-edge method plug-in for Optimus that speeds up even the most complex multi-objective design optimization projects. This partnership plug-in fits in Noesis Solutions' strategy to maximize the openness of the Optimus design optimization and process integration software platform. The best industrial-proven optimization methods combined with Optimus' multi-disciplinary workflows allow manufacturers to design benchmark products faster, delivering higher margins, profits and market share.

Engineering departments using multi-physics simulation software face a hard time balancing conflicting design objectives. To trace the best design options that are mathematically feasible, the Optimus platform links up existing software tools and orchestrates a high-performance parametric simulation campaign. The eArtius-Optimus Plug-in, combining the best of gradient-based techniques and genetic algorithms, features the unique capability to optimize high-dimensional simulation models directly.

As the plug-in uses the Pareto frontier as the search space for multi-objective optimization, Optimus only requires 2 to 5 model evaluations to identify each Pareto optimal design. This results in a design optimization process that is 5 to 20 times faster than the best competitive algorithms, irrespective of simulation model dimension and complexity.

Vladimir Sevastyanov, eArtius CEO: "Next to helping engineers solve existing optimization projects faster, the eArtius-Optimus Plug-in extends the use of optimization to much more complex products deemed impossible to optimize. The plug-in algorithms have a proven track record in optimizing industrial-grade projects at much higher speed. Currently, the algorithms are in use at large organizations such as GE Global Research, Honeywell Aerospace and First American Corporation."

Nick Tzannetakis, Noesis Solutions CTO: "Optimus is renowned for capturing and automating the most complex simulation process workflows without any programming skills. Through eArtius and other technology partnerships, we're able to sharpen our capability to hunt for the optimum design, by making fast and innovative optimization methods accessible and executable from within Optimus. Regardless of the method used, Optimus manages a tightly integrated optimization process, including native parallel processing and graphic reporting."

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