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High Productivity CFD Workflows with STAR-CCM+ & FieldView: Real-World Success with HPC & CFD



Zipp Speed Weaponry used CFD simulation results, wind tunnel testing and their own creativity to rapidly develop a state-of-the-art product that succeeded in an already crowded bicycle racing wheel market. Their Firecrest wheels were a technological breakthrough that delivered 100% category revenue growth and the addition of over 120 new manufacturing jobs in Indiana in just two years, confirming their place as the established leader in this hotly contested market.

With the help of Intelligent Light and CD-adapco, the company is working to rapidly develop a well-engineered, highly automated CFD workflow that exploits the strengths of STAR-CCM+ and FieldView and helps them create a sustainable competitive advantage using HPC and CFD. Using automation and on-demand HPC, the company is getting results costeffectively and quickly enough to be usable by engineers developing products on uncompromising schedules. While it is easy for competitors to copy a design, the engineers at Zipp understand WHY their designs perform well, which is essential to the successful ongoing development of next generation products.

In this presentation, we will discuss results on the development of a new deep rim racing bicycle wheel. The use of JAVA scripting within STAR-CCM+ and FVX scripting within FieldView will be explained in detail to demonstrate how it is possible to develop a very high productivity workflow in this design optimization process. The work is offered as a case study in making effective use of engineered CFD workflows, HPC and in delivering tremendous real-world return on CFD investments.

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Industries:

Products:

Conference:

[STAR Global Conference 2013](#)^[2]

CD-adapco is the world's largest independent CFD focused provider of engineering simulation software, support and services. We have over 30 years of experience in delivering industrial

strength engineering simulation.

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[1] http://www.cd-adapco.com/sites/default/files/Presentation/3_ZippIntelLight_MGMH.pdf

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