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...out the world, companies in the Energy & Power (E&P) industry are challenged to ...r-increasing demands for energy efficiency and reliability with the electricity-generating machinery they produce such as gas & steam turbines, wind & hydro turbines, generators, compressors, combustors & burners, nuclear reactors, as well as power plant auxiliary systems such as heat exchangers, pumps, & fans. Moreover, the need to reduce the level of harmful emissions produced during the power-generation process is continually increasing as well. To help find solutions to these growing challenges, more and more E&P companies are finding it valuable to leverage design exploration and process automation with HEEDS/Optimate+ and CFD with STAR-CCM+ to better understand fluid flows and thermal management issues. CFD and design exploration tools are particularly helpful to engineers striving to discover better designs faster who must often balance competing machinery-performance objectives -- for example, to maximize the change in temperature produced by a heat exchanger while at the same time minimizing the change in pressure. In this presentation, multiple examples will be shared to highlight the successful use of STAR-CCM+ and HEEDS/Optimate+ with E&P machinery such as heat exchangers, gas turbine (GT) blade cooling, GT combustion, centrifugal pumps, and hydro turbines.

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Industries:

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Products:

STAR-CCM+[3]

Conference:

STAR Japanese Conference 2016[4]

