

## EMPLOYING CFD INSIGHT THE BUILDING DESIGN PROCESS

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### ABSTRACT

Computational Fluid Dynamics technology is routinely applied at every stage of the building design process, from the earliest feasibility studies, throughout design, construction and even post-occupancy modification. Understanding the behavior of flow in and around your building is critical to success in the intensely competitive construction industry. Increasingly, industry leaders are embracing CFD technology in order to gain deeper insight into the impact of fluid dynamics on the building environment. No-longer the exclusive domain of specialists, CD-adapco's industry leading CFD technology is delivered in a number of innovative ways that make it accessible to Engineers regardless of background.

STAR-Suite from CD-adapco helps those involved in this design process: for example civil engineers; architects and project managers to achieve better and more detailed understanding of issues of flow in in the built environment. This might range from evaluation of thermal climate to the maintaining of an optimum temperature to preserve historical monuments.

By employing CFD in the design process, a developer can set the final energy costs for a building at an acceptable level, or control optimal thermal climate within occupied spaces. It can be used simply to run "what-if" evaluations to determine how a design responds to a certain flow scenario, well before the building is actually built or money is committed. In this presentation, CD-adapco will detail a range of applications for which CFD has provided significant insight, and will focus on some real case studies from our clients.