



**CHAM Limited**  
*Pioneering CFD Software for Education & Industry*

## CHAM Case Study - Flow Around Buildings Music House Site

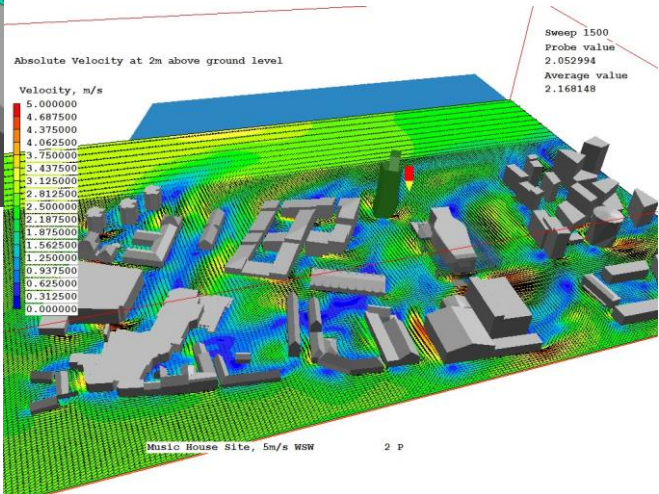
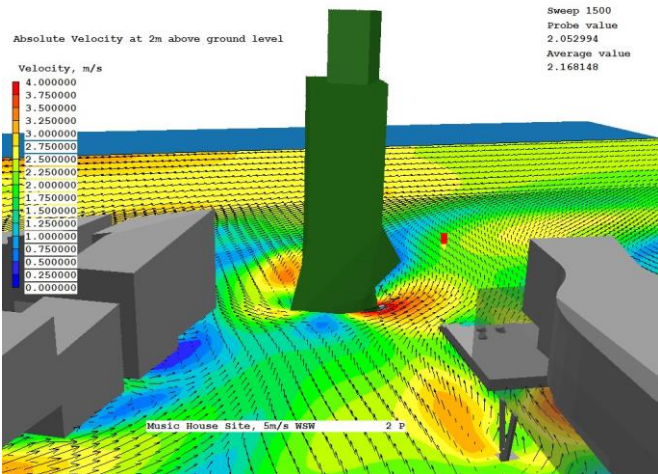
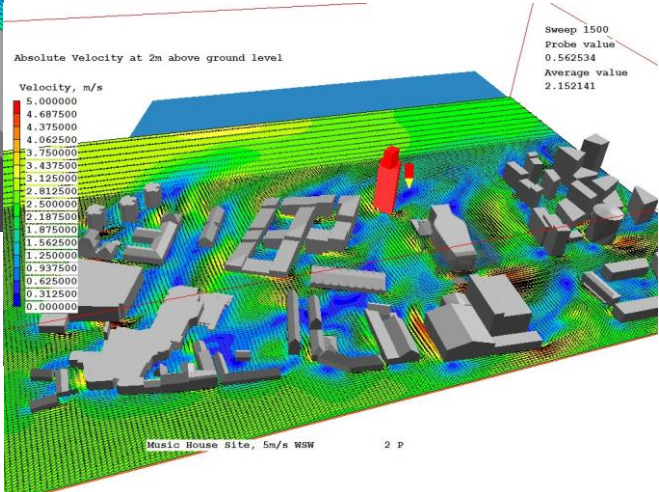
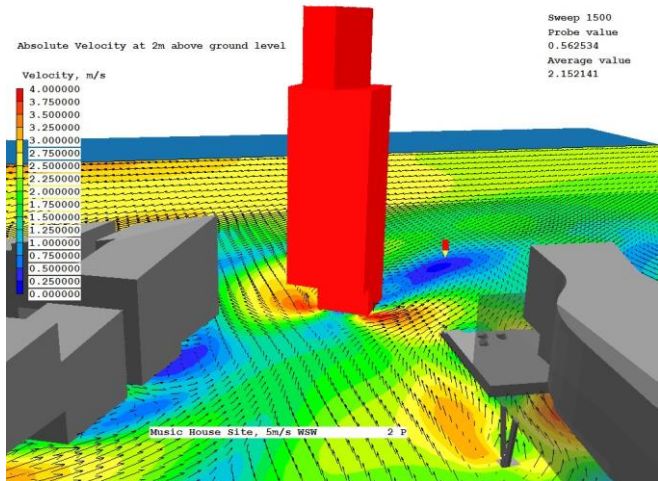
Vienna-based consultants, Coop-Himmelb(l)au, requested a demonstration case from CHAM to gain a better understanding of the capabilities of PHOENICS applied to their building geometries. These were supplied in 3DS (3D Studio) format and readily imported into PHOENICS/FLAIR.

Using the PHOENICS Online Internet service, the client was shown wind flows around a group of buildings, to demonstrate how different building-designs might influence, or be influenced by, the urban fabric surrounding them. They were particularly interested in the evaluation of different high-rise shell geometries and the resulting wind performance of their buildings. As ever with urban wind flow application, a primary concern lies with pedestrian comfort, and so it is important to identify potential regions of high turbulence, and recirculation.



 Prevailing Wind

In the "Music House" case outlined below, the prevailing winds are coming from the WestSouth-West with a speed of 5 m/s at a height of 10m. Two alternate high-rise building designs were considered, shown separately in red and green.



During their online presentation, Coop-Himmelb(l)au personnel were very impressed with the variety of graphical output options of the VR-Viewer. They also liked that the quick setup time for the study and the possibility to test different geometries overnight. The runs, for 1.65 million cells, took 10 hours on a dual-core PC.

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