



Dynamis

Sports , Consumer Products and Turbomachinery

Brazil

www.dynamis.ind.br



Overview

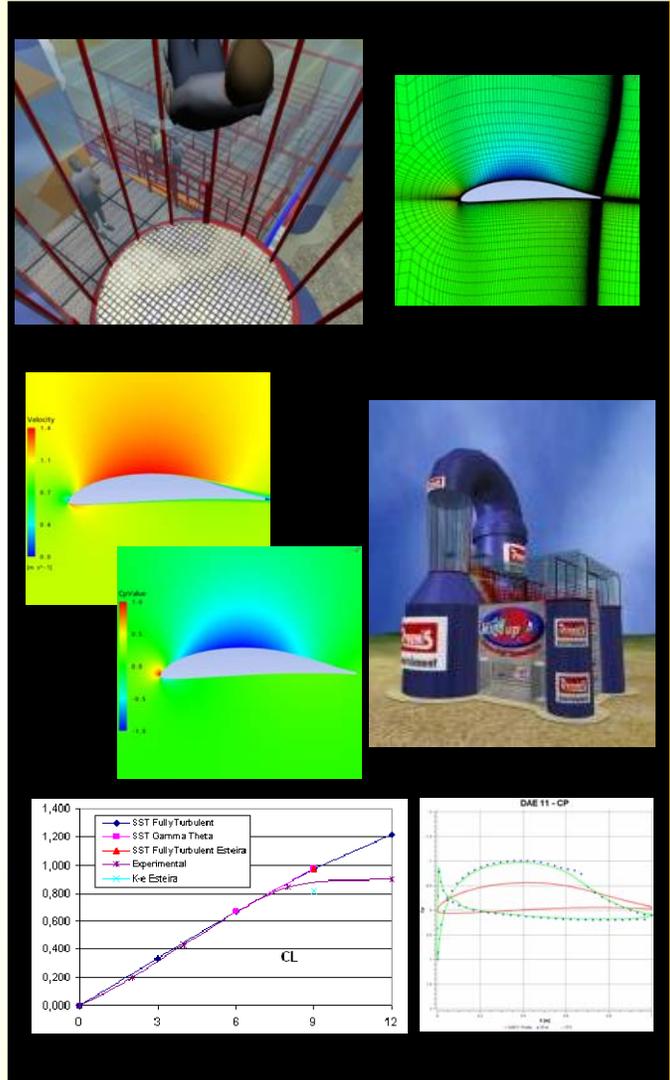
One of the products from Dynamis is the Wind up Free-fall Simulator®, a large vertical wind tunnel that generates high-speed ascending air flow capable of balancing people in the wind stream. This simulates free-fall and creates the sensation of flight.

This kind of simulator is used by parachute jumpers for practicing free-fall techniques, and the experience is very similar to a real free-fall — except that the participant does not really fall but, rather, floats on the air stream like an eagle. The participant is equipped with a safety suit, a helmet, eye protectors and ear plugs. The jumper leaps forward into the jet stream and attempts to balance atop it.

Testimonial

“The capabilities of ANSYS CFX computational fluid dynamics software make it the perfect choice for the work we are doing to develop innovative design systems for turbomachines. ANSYS CFX has emerged as a key tool in helping Dynamis continue to meet our customers’ needs for rotating equipment and for the Wind up Free-fall Simulator. The software assists us in creating virtual prototypes so that we are able to analyze dozens of alternatives prior to manufacturing.”

Mr. Luciano Tanz
Director



Challenge

- Find powerful fluid flow software to assist in the design of the Wind up Free-fall Simulator, including the fan, vanes and fall area as well as other turbomachinery
- Allow for a large quantity of virtual tests, improve the design process and minimize time spent by the engineering team in redoing similar work and carrying out experimental tests.

Solution

Using ANSYS CFX software allowed Dynamis to reduce the quantity of prototypes and physical tests and to enable the study of a large number of design alternatives. This resulted in a substantial reduction in time spent in product development.

Benefits

- ANSYS CFX complements physical testing.
- Scaling issues are eliminated as real dimensions and operating conditions are used.
- ANSYS CFX simulation provides much more detail of the flow field and temperature distribution within the Wind up Free-fall Simulator than can be obtained from physical models or even from the entire product itself.
- It is very difficult to measure and visualize the flow in complex systems like turbomachines.