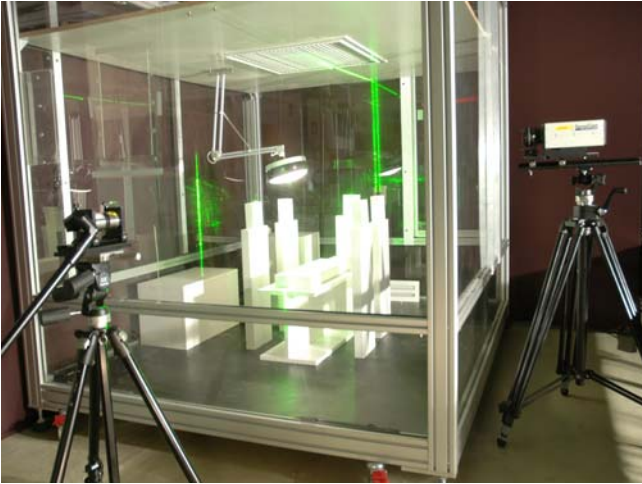


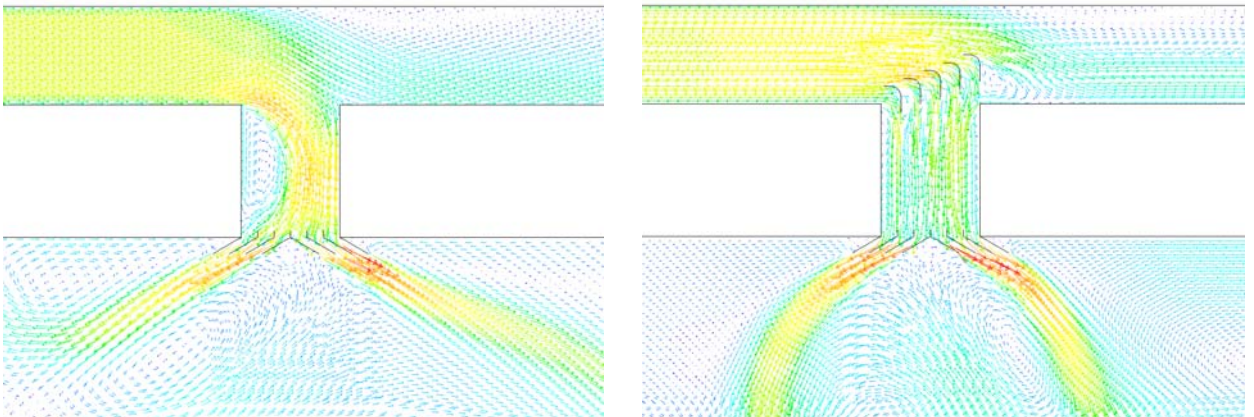
Airlinx started as a manufacturer and supplier of air-conditioning duct hardware and accessory products to the HVAC industry, with particular emphasis on commercial-industrial requirements. We are committed to providing our industry with excellent user-friendly products and we can successfully say that this has been a pivotal part of our growth. Now **Airlinx** is rapidly expanding its services in providing R&D, manufacturing and supplying, and consultancy services to the development and application of many HVAC systems. The company is gradually developing vital research links with a number of companies in the Asia region such as in China and Hong Kong to further expand the company's profile of the provision of services.



The above figure shows a model operating room and the experimental set-up for flow measurement using the PIV and LDA/PDA techniques.

The HVAC companies face significant technical challenges today. In an increasingly competitive global market, HVAC systems need to make use of advanced technologies and improved component performance. **Airlinx** is currently a major player in providing design and expert advice through various R&D activities in collaboration with the University (RMIT University) and research organisation (CSIRO). Advanced experimental techniques such as Particle Imaging Velocimetry (PIV) and Laser Doppler Anemometry/Phase Doppler Anemometry (LDA/PDA) are used to study the indoor airflow patterns and contaminant particle concentration. The wealth of information generated will assist in developing strategic long term decisions as to the development path needed for the longevity and prosperity for building ventilation system design in the domestic and international market places.

Over the last decade, the cutting edge computational fluid dynamics (CFD) techniques have been widely employed and pursued as a tool to achieve innovative designs for HVAC systems. **Airlinx** has used CFD for the analysis and optimisation of air duct, diffuser and other ventilation components. CFD helps reveal flow structures and comprehensive flow field information where the experiment cannot provide adequate resolution.



Two figures compare our computer simulation of air flow pattern within the duct system that consists of a branch duct, outlet collar and diffuser. It is shown that the flow pattern from the diffuser is more symmetric with turning vanes (right hand side) than without turning vanes (left hand side). More simulations can be performed to study various types of turning vanes affecting on flow distribution, and then, optimised design and flow distribution can be realised.