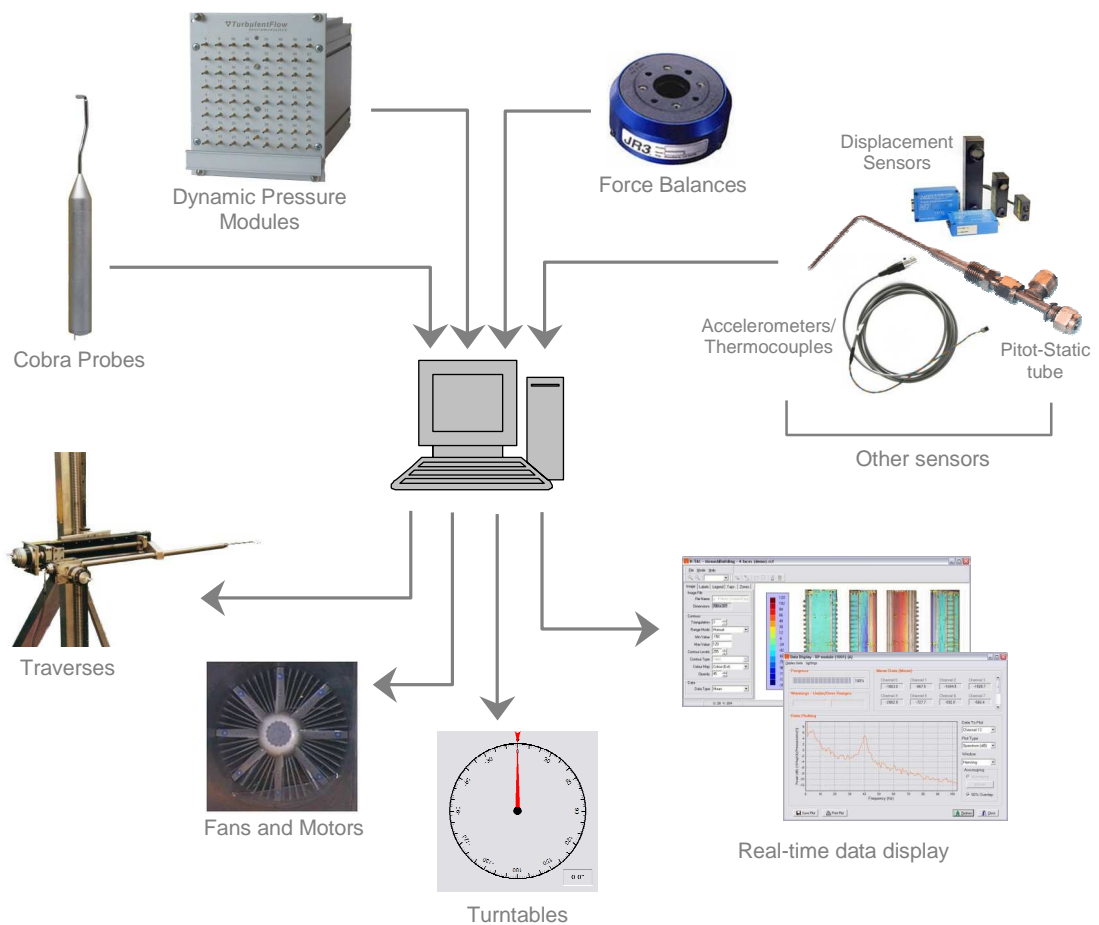# SYSTEM INTEGRATION

TFI specialises in customised hardware and software for flow-field measurement systems. We can integrate your choice of TFI and 3rd party instruments into a complete data acquisition, processing and control system, operated via a single user interface. This streamlines your running procedures, allows for synchronised measurements, gives consistent data storage formats and simplifies post-processing. The complete integration of hardware and software allows fully automated operation.

INPUTS

The TFI Device Control software currently supports inputs from a wide range of TFI and 3rd party instrumentation, including:

- Pressure measurement systems (e.g. TFI DPMS)
- Cobra probes (e.g. TFI Cobra Probe)
- Force balances (e.g. JR3 6-component balance)
- Reference sensors (e.g. temperature and barometric pressure sensors)
- Other sensors, such as thermocouples, micro-accelerometers and laser displacement sensors

Integration of multiple measurement devices and equipment using the TFI Device Control software

OUTPUTS

Controlled devices

Equipment controlled by the TFI Device Control software includes:

- Fans
- Turntables
- Traverses
- Calibration equipment

Both TFI and 3rd party equipment are supported.

Data outputs

Data collected can be saved in summary files, as detailed time-history files, displayed in real time via the monitor window or Real-Time Animated Contouring (R-TAC) software, or replayed at a later date. The data can be also loaded into other applications for further processing or display, e.g. Matlab™, Tecplot™ and LabView™.

INTEGRATED CONTROL

By combining control and data acquisition, automated testing is possible. A typical fully automated procedure using the TFI Device Control software would be:

1. Remove zero offsets from the instrumentation
2. Start the wind tunnel fans and set the required flow speed
3. Rotate the turntable to the required angle
4. Make a measurement
5. Repeat steps 3 and 4 for as many angles as required
6. Stop the fans

Processed data from the instrumentation would be output to both summary and complete time history data files ready for analysis.

CUSTOMISATION

The TFI Device Control software already includes support for a range of TFI and 3rd party instrumentation and controlled equipment. We are able to extend the software support to other instrumentation and equipment as required. We are also able to provide custom hardware for the simultaneous connection of a wide range of equipment to the data acquisition system.

FOR FURTHER INFORMATION

- Visit the TFI website at www.turbulentflow.com.au
- Contact Peter Mousley on (61 2) 6020 9250 or mousley@turbulentflow.com.au