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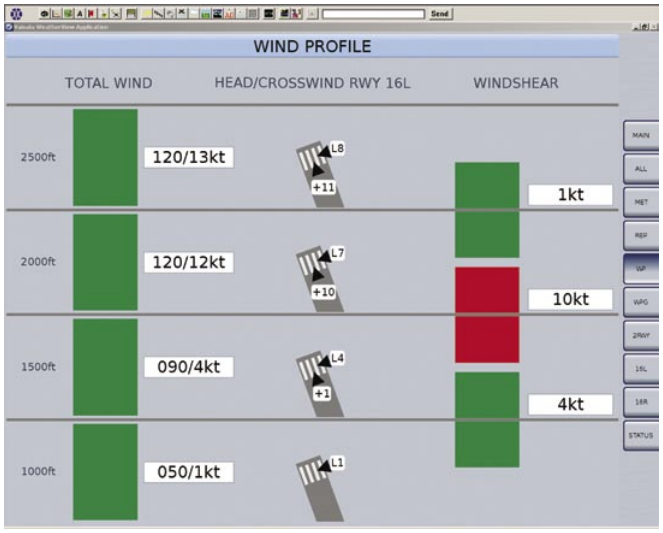
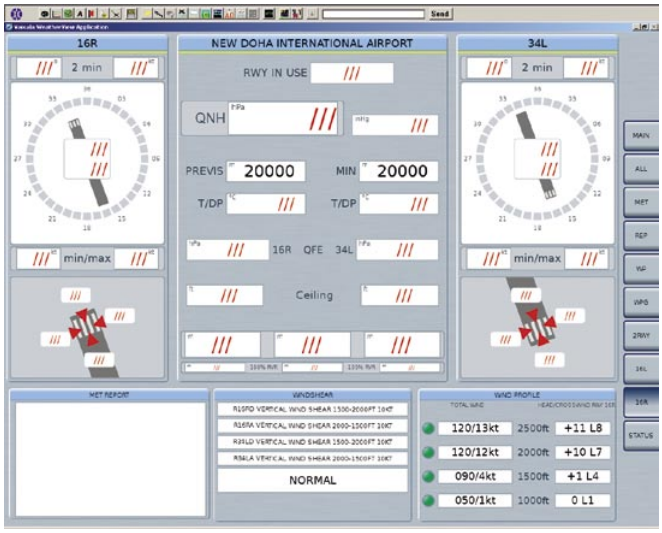
Vaisala AviMet® Vertical Wind shear Display





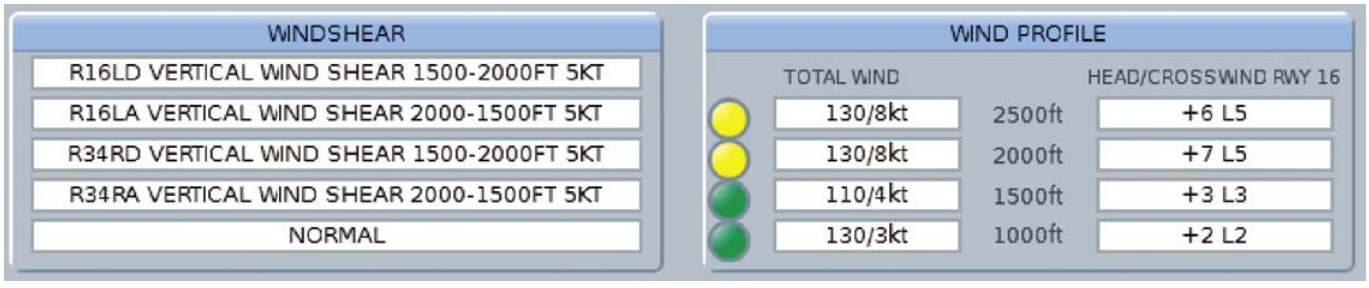
Wind shear poses dangers to aircraft in flight, especially during take-off and landing. Often wind shear is measured and reported in horizontal wind terms, whereas vertical wind shear reporting has been largely neglected. Vertical wind shear is mainly related to topography, land and seas breezes, and low jet streams, but can also be related to microbursts, which have been identified as hazardous to flight.

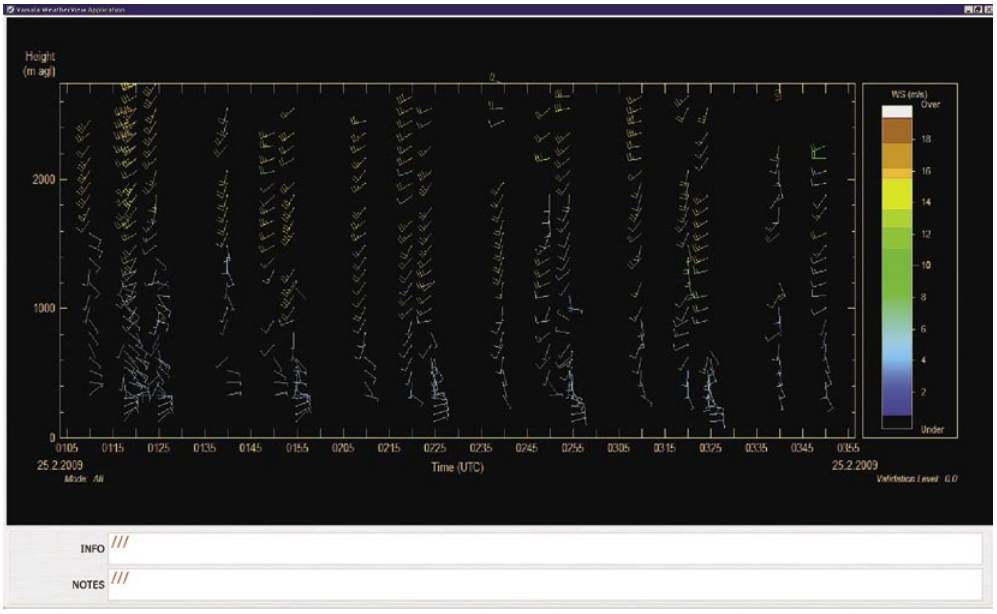
If information on vertical wind shear is available, ATC can inform pilots of the wind shear conditions, and make more informed decisions on the choice of runway and can make appropriate changes to arrival and departure routes, to ensure the safety of flights. The wind information is provided by a wind profiler. A wind profiler can measure wind speed up to height of 3000 m, at intervals of about 100 m.

Vaisala offers a solution to vertical wind shear measurement and reporting, in order to provide air traffic control with vertical wind shear data and alerts. By providing vertical wind profile data to pilots in addition to low level wind shear data, ATC has both horizontal and vertical wind shear data at their disposal. For this purpose, Vaisala has integrated a wind profiler into the AviMet® system. It has been designed especially for ATC, with data displayed on a user friendly display with various data display options.

Configurable display of data

The lower and upper limits of the measured vertical airspace can be selected to display the vertical wind shear data. The limits can be set as height and altitude. Wind shear is identified as a significant change in speed or direction between these upper and lower limits, which are pre-set. There are at least 5 layers





between these limits. Data can be shown in table format with wind data, wind shear warnings, or as a vertical profile of wind barbs for every layer measured on a separate row. Color -coding and audible alarms are used to easily identify the severity of the wind shear. The layers can overlap, totally or partially.

Wind shear alerts

The vertical wind shear displays alerts:

- when wind difference between two height levels exceed pre-set wind limits
- on cross-wind and headwind/ tailwind vertical wind shear separately
- on temporal changes in vertical wind shear
- turbulence

Alert when wind difference between two height levels exceed pre-set limit

This is important feature for vertical wind shear detection. Both the high-low altitude levels and the wind difference amount are user configurable through password protected UI.

There are at least five vertical shear warning layers.

There is a timer for each eventual warning so that a user can set the warning duration on display.

The high-low altitude levels will be set to be the height levels used by the wind profiler.

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For more information, visit www.vaisala.com or contact us at sales@vaisala.com