

Research Directions

Office of Research Services

Auditory Icons for Civil Aviation



A 1999 Cessna 182S (L) and a Cessna G1000 equipped C182T (R).

Associate Professor Kate Stevens and Dr Mark Wiggins, MARCS Auditory Laboratories, have received research funding from the Australian Transport Safety Bureau to investigate auditory warning signals for use in civil aviation.

Audible warnings in aircraft cockpits have been recommended for all aircraft. The cause of at least two civil aviation accidents in Australia since 1999 has been the failure of the pilot or other members of the flight crew to respond appropriately to a reduction in air pressure in the aeroplane. In those aircraft, the only indicator of something being wrong with the air pressure was a single warning light on the console. Investigation reports into these accidents recommended auditory warnings also be fitted to civil aircraft.

The first problem that needs to be overcome with auditory warnings is a tendency to not respond to certain kinds of sounds – many office workers, for example, now treat fire alarms in the workplace as an inconvenient faulty alarm. This study will overcome that type of resistance to warning sounds by using auditory icons – sounds that are strongly associated with something – for example, the sound of breaking glass is likely to send us running to see what has been broken.

‘Two experiments will be conducted that investigate the effects of a single warning icon and an auditory plus visual warning on event recognition speed and accuracy’ said Professor Stevens. ‘The results will assist the design of warning signal sets in future civil aviation cockpits’.

Project title: *Design and Evaluation of Auditory Icons for Civil Aviation: Experimental Investigation of Environmental Sounds as Informative Warning Signals.*

Funding has been set at: \$25,000.

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