AMPLIFY ATM TEAMWORK WITH AUTOMATION

An Eye Tracking Study of Air Traffic Management Tools on Two Large Displays During Regular ATM Simulator Training

2011 – 2012 there were several incidents the air space over Sweden where aircraft were too close to each other. As a consequence of the incidents LFV decided to investigate how the ATCOs actually work with their tools.

More precisely, how they distribute their (limited) visual attention over the two large displays in order to manage the traffic safely and efficiently.

12 fully licensed ATCOS with valid ratings (6 male, 6 female, 9-38 years of experience) were recorded during verification-of-competence scenarios including irregularities. Data was also collected to assess the design of conflict detection and planning tools.

Q1: How is visual attention distributed over ATM tools during regular work and during unusual events?
Q2: Is there a difference between visual attention in the planner versus the executive positions?
Q3: Is there a difference between visual attention in overflight versus vertical movement control areas?
Q4: How can a normal dual screen ATC position be recorded through eye tracking?

Dual display eyetracking in an ATC position. Radio and discussion between planner and executive was recorded. Quantitative analyses of gaze data is being conducted (above). Qualitative analysis can be done through synchronized replay and annotation software.

Eyetracking was found non-intrusive by ATCOS