



Safety recommendation no. 520

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Safety deficit	<p>On 3 June 2015, an airprox occurred between a commercial aircraft and a hot-air balloon within the terminal control area (TMA) of Zurich Airport. The commercial aircraft was approaching Zurich Airport using radar vectoring. The hot-air balloon had entered the terminal control area several times without clearance from an air traffic control centre because the balloon pilot was insufficiently aware of the risks he was posing even if only entering into such airspace by a short distance. Because the transponder was switched on, the hot-air balloon was in theory visible to air traffic control. However, the display on the air traffic controllers' monitors was so inconspicuous that the unauthorised entry went unnoticed until the airprox.</p> <p>The hot-air balloon was visible on the air traffic controllers' monitors in the pale-brown colour typical of uncontrolled VFR flights. Approximately 12 minutes passed between the first unauthorised entry into the TMA and the closest approximation. During this time none of the three air traffic controllers involved noticed the hot-air balloon's unauthorised entries. An automatic warning system for the air traffic controller in the case of an unauthorised entry of a VFR aircraft into a TMA had been suggested at Skyguide in the past. However, to date this has not been put into effect. Taking into consideration that other airspace violations had been investigated, the STSB is convinced that an effective improvement of air safety could be achieved by introducing a warning system of this kind swiftly.</p>
Safety recommendation	The Federal Office of Civil Aviation, together with Skyguide air traffic control, should develop measures to warn air traffic controllers of unauthorised entry into airspace that mainly serves instrument flight rules traffic.
Addressees	BAZL Bundesamt für Zivilluftfahrt
Stage of the implementation	<p>Implemented. Skyguide has developed a new filter function, VFR Display Priority, for its radar systems. This displays to air traffic controllers only those visual flights which could become relevant to a conflict situation in a given airspace.</p> <p>This filter function also includes the new Area Infringement Warning (AIW) system. Visual flights that take place with the transponder switched on and that enter controlled airspace without permission are displayed in red in order to draw the air traffic controller's attention to the airspace violation. The filter function can be switched on or off by the air traffic controller; the AIW cannot. These new features were introduced at Zurich in March 2017 and at Geneva in July 2017.</p>

Investigation report concerning

the safety recommendation

