



**European Conference on Aerospace Medicine
2010 Athens
10th – 13th November 2010**

ABSTRACT

Title: THE USE OF ADVANCED HUMAN-CENTERED TECHNOLOGIES IN THE REDUCTION OF AIRCRAFT MISHAPS: PROBLEM OR PANACEA

Author(s) Name: A. Bellenkes

Affiliation: The Aerospace Medical Association, Alexandria, Virginia, USA

Objectives: The quest for the significant reduction of aircraft mishaps identified as having human factors causal and/or contributing factors remains elusive. For human factors engineers, the traditional approach to this challenge has been to implement cockpit systems designed to 'assist' aircrews in carrying out tasks associated with flight operations. However, the employment of such systems has not always resulted in the improvement of human performance; in some cases, new types of human error have been directly associated with the use of such systems have been observed. As a result, human factors engineers have recently turned to the employment of system-based cockpit technologies designed to facilitate and, in certain cases, augment certain perceptual-cognitive functions in aircrew operations. Such technologies have the potential to expand the limits of aircrew performance whilst others are designed to maintain optimal flight performance despite (rather than in concert with) aircrew intervention.

Methods: This presentation briefly reviews some of current and anticipated human factors challenges to be encountered by aircrews during the current century. An overview of programs designed to facilitate, augment and replace pilot perceptual-cognitive performance will be provided. The possibility that such technologies might prove to become sources of new forms of human error will also be discussed.

Results and Conclusions: While findings to date suggest that the employment of such systems have the potential for improvement of aircrew performance, it remains to be determined whether or not these new technologies prove to be the key or a bane to the further reduction of human factors-related flight mishaps.

Name and address for correspondence: Dr. Andrew Bellenkes, Unterpinswang 17,
Pinswang, 6600, Austria

Telephone No.: + 43-5677-20112

Fax No.:

E-mail: dr.andrew.bellenkes@aon.at

Date: 07/08/2010