

PROJECT INFORMATION

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DURATION: 24 months, started in June 2016



CONSORTIUM



ABOUT

STRESS addresses Human Performance (HP) in future SESAR scenarios.

WEBSITE

stressproject.eu

The European ATM system is expected to face challenging situations, with the growth of air traffic, the increase of its complexity, the introduction of innovative concepts and increased automation.

The roles and tasks of air traffic controllers (ATCOs) will change in the future and it is vital to enhance the comprehension of human responses to their role changing, that is, from active control to monitoring of complex situations and managing unexpected system disruptions.

ATCOs performance is recognised to be impacted by several aspects such as stress, emotions, attentional resources available, attention focus and so on. In the recent years, the concept of Human Performance Envelope (HPE) has been introduced as new paradigm in Human Factors. Rather than focusing on one individual factor (e.g. fatigue, situation awareness, etc.), the HPE considers their full range, mapping how they work alone or in combination leading to a decreased performance that could affect safety.

At the EU level, there are projects currently addressing the research goal of monitoring the team performance, including monitoring some of the above aspects. However, most of these research activities focus on pilots and airplane cockpits. In line with this, there is a clear definition of the future scenario for pilots and of the corresponding HP implications, while a corresponding work on the ATCO role is still to be performed. STRESS deals with it.

OBJECTIVES

- 1 To identify and validate neurophysiological indexes for monitoring in real-time the controllers' mental state;
- 2 To use them to study the impact of advanced highly automated system on controllers' performance envelope;
- 3 To provide automation design guidelines to support human performance during safe transitions from high levels of automation to low levels, and vice versa.

EXPECTED OUTCOMES

- Future scenarios, expected in October 2016
- Neurophysiological indexes, expected in September 2017
- HP envelope in future scenarios, expected in March 2018
- Automation design guidelines, expected in May 2018



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