

Investigation of Relationship Between Trust in Automation and Human Personality Traits Among Air Traffic Controllers

Doroteja Timotic
University of Belgrade,
Faculty of Transport and
Traffic Engineering Division
of Airports and Air Traffic
Safety Belgrade, Serbia
d.timotic@sf.bg.ac.rs

Fedja Netjasov
University of Belgrade,
Faculty of Transport and
Traffic Engineering Division
of Airports and Air Traffic
Safety Belgrade, Serbia
f.netjasov@sf.bg.ac.rs

Svetlana Cicevic
University of Belgrade,
Faculty of Transport and
Traffic Engineering
Belgrade, Serbia
s.cicevic@sf.bg.ac.rs

Abstract— The constant growth of air traffic will lead to greater complexity of the Air Traffic Controller (ATCo) tasks. The greater complexity is followed by increasing workload that will affect ATCo's task performance. To cope with that it is necessary to develop a new generation of the Air Traffic Control and Air Traffic Management automation technology, both airborne and ground-based. The proper use of automated technologies should be ensured by the appropriate level of ATCo's trust in automation. The research examines the relationship between ATCo's level of trust in automation and its personality traits when one specific contemporary system is being used by two air traffic control centers. It was found that ATCo's trust in an automated system depends on their age and work experience, as well as on the personal traits that stand out for their openness to new things, both in technology and in everyday situations. The research participants understand how the system behaves by using all appropriate methods to provide the outcome, but they still rely on themselves in the ultimate decision making. They define system's reliability as the most important system's characteristics.