

Dominika Marzec, M. Sc.
(professional title, name)

Warsaw, 1 September 2025

Faculty of Transport
(Faculty/Unit)

Warsaw University of Technology
(University)

ABSTRACT OF THE DISSERTATION

„Risk management method as an element of Warsaw Chopin Airport
safety management system”

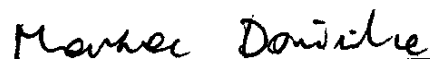
dissertation supervisor: Professor Jacek Skorupski, DSc, Eng.
assistant supervisor: -

This dissertation addresses the problem of the lack of a risk management method appropriate for Chopin Airport. The results of the analyses indicate that it would be beneficial to systematize and standardize Chopin Airport's risk management, based largely on the expert knowledge of its staff, reducing the negative impact of the human factor on the quality of SMS results and leveraging the organization's experience to a greater extent.

The aim of the dissertation was to develop a method applicable to risk management at Chopin Airport, which could become a universal solution for use in other organizations. It was determined that such a method does not exist, which is a key element of the innovative nature of the concept. The dissertation is based on actual data regarding the safety management systems of aviation organizations. The research utilized theoretical methods: analysis, comparison, analogy, abstraction, inductive and deductive reasoning, and synthesis. In particular, Bayesian statistical inference was employed. The Functional Resonance Analysis Method (FRAM) was also applied.

The proposed method increases the efficiency of the risk management process, reduces its negative variability, automates some tasks, and supports experts in avoiding most errors and omissions while maintaining the current, hands-on nature of risk management. Furthermore, it reduces the labor intensity of risk management processes and the inadequacies of conducted analyses, which could lead to a reduction in safety. The developed method can be implemented at Warsaw Chopin Airport and other airports. This work contributes to the development of safety management systems for aviation organizations.

Keywords: risk management, safety management system, airport


.....
(original signature)