



Topics of dissertations for the admission procedure
to the doctoral program
at the CTU in Prague Faculty of Transportation
Sciences



Commencement of Study: March 1, 2025

Department of Air Transport (K621)

Study programme: Air Traffic Control and Management

Supervisor: doc. Ing. Andrej Lališ, Ph.D.	
Topic: Integration of system safety analyses from aircraft design with safety management processes during aircraft maintenance	
Research topic is agreed with supervisor	Language: English
Abstract: OEMs of aircraft systems carry out system safety analyses at the initial concept stage and continue them further with the development, production and operation of the developed air transport technology. However, as soon as the developed systems are employed in the operations, OEMs have a limited amount of data and information, which is usually subject of an agreement between the specific operator and respective OEM. In addition to the commercial and legal limitations, there are also technical limitations, which result from understanding what data, in what quality and for what purpose it is necessary to share from operations to the development of aircraft systems so that further development of the same or similar systems makes maximum use of the experience and knowledge earned from operations. A similar question arises on the part of operators, i.e. what data and information from the development of aircraft systems are needed by aviation organizations to ensure flight safety, including how to use them in safety management. The work aims to explore and propose a deeper integration of system safety analyses in the development of aircraft systems with processes of safety management, specifically in aviation maintenance, in order to improve the learning from the operations of the developed systems and to improve the ability to prevent safety incidents related to the systems.	
References: [1] International Civil Aviation Organization (ICAO). Safety Management Manual (SMM): Doc 9859 AN/474. ICAO, Montréal, Quebec, 3rd edition, 2013. [2] SAE International. ARP4761A: Guidelines for Conducting the Safety Assessment Process on Civil Aircraft, Systems, and Equipment. SAE International, 2020. [3] Leveson, N. An Introduction to System Safety Engineering. The MIT Press, Cambridge, Mass, 2023.	
Number of doctoral students: 1	
Form of study: full-time	