Universität Stuttgart

Institut für Luftfahrtsysteme

Human Factors Engineering in Flight Deck Design

Dr.-Ing. Gernot Konrad (Lehrbeauftragter)

10. bis 14. Juni 2024
08:15 bis 16:15
Seminarraum V27 00.012 (CIP-Pool)

Seminar

About the Seminar

The goal of human factors engineering in civil flight deck design is to ensure that the pilot compartment and its installed systems and equipment support safe aircraft operation and comply with applicable certification regulations, are easy to use, maximize human-machine performance, and provide a superior pilot experience. Flight deck human factors engineers work to ensure that the flight deck development process follows a human-centered design approach. They generate requirements by applying data-driven knowledge about the pilot's capabilities and limitations and validate them through analysis and structured evaluation/testing. This seminar is intended to give aerospace engineering students an introduction to human factors engineering in flight deck design and certification for civil aircraft. The seminar reviews the physical, physiological, psychological, and cognitive performance capabilities of flight crews. It explores the limitations of pilots' performance and how they are impacted by systemic variables in the flight deck environment. It then examines how pilots' capabilities and limitations impact crew workload and human error. The seminar builds a theoretical human factors engineering foundation for designing and assessing civil aircraft flight decks and their installed systems and equipment. The seminar provides flight deck design examples and human factors accident report analysis. Key topics include industry standards, certification regulations, design guidelines, and acceptable means of compliance.

About the Instructor

Dr. Gernot Konrad is an aerospace engineer with extensive avionics and pilot vehicle interface experience, demonstrated through over twenty years in design and certification of highly integrated flight decks with complex systems for small and large aircraft. This includes over ten years of technical leadership, applying diverse skills for Agile technology development, and coordinating collaborative multi-level and multi-disciplinary teams. He holds both an advanced degree (Dipl.-Ing) and a doctorate degree (Dr.-Ing) in Aerospace Engineering from the University of Stuttgart, and he is qualified as an engineer (Ing.) in aeronautics by the Austrian Federal Economic Chamber (WIFO). Throughout his career he was involved in recruiting and training flight deck HF practitioners. Today, Dr. Konrad works as Technical Fellow for Integrated Flight Systems at Honeywell Aerospace where he provides HF leadership and vision across multiple program platforms spanning current and future products for the air transport, regional, business, general aviation, helicopter, and urban air mobility market. Dr. Konrad is the chairman of the EASA HF Collaborative Analysis Flight Deck Design and Certification Group, a co-leader in the GAMA Flight Deck HF Working Group, was a member of the RTCA HF Training Steering Committee, and he provides an annual seminar on Human Factors Engineering in Flight Deck Design at the University of Stuttgart. Prior positions include Human Factors Engineering Group Head at Gulfstream, Human Factors and Avionics Engineer at Pilatus, Research Associate at the Institute of Aircraft Systems at the University of Stuttgart, and freelance theoretical knowledge instructor at Lufthansa and Swiss Aviation Training.

Begrenzte Teilnehmerzahl, Anmeldung über C@MPUS möglich.