HMD Challenges Keeping Pace with Technology in the World of Training

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ABSTRACT

Over the past two decades, Helmet-Mounted Displays (HMDs) have risen to center stage in military operations, certain areas of small and commercial business and private recreation. In military aviation, the HMD has demonstrated itself to be an indispensable factor in the modern dogfight as well as earning a place in the post-modern era of the battle beyond visual range. The premier HMD employed by U.S. forces over the past 10 years has been the Joint Helmet-Mounted Cueing System (JHMCS) developed to serve four key aircraft platforms and most variants. On the heels of the flight deployment of this system, Boeing Training Systems provided the flight training world with a high-fidelity simulation of this exciting new capability which quickly became the de facto standard for JHMCS training across the military. This paper discusses the challenges and success related to Boeing's development of the Simulated JHMCS as well as perceived difficulties in determining future simulation solutions for advanced capability HMDs as we look forward across a new technological landscape from a rapidly changing fiscal perspective.

BIO

Randall Kovaluk is a visual systems and displays engineer for the Boeing Company. He holds a BS in Electrical Engineering from Michigan Technological University and has worked in development of visual systems for training for nearly 30 years. Randall was the lead development engineer for the Boeing Simulated Joint Helmet Mounted Cueing System (JHMCS) and is currently the principal investigator for helmet-mounted display solutions within Boeing Training Systems.