Functional Safety Methods (FSM) have been developed and implemented for different domains of complex systems over the past 30 years. However, as mech-aero systems have become more complex with the integration of cyber and physical systems, there is a need to revisit and evolve these FSM methods for the successful co-design of Cyber Physical Vehicle Systems (CPVS). This presentation will describe how this evolution of FSM for civil aircraft and systems development has taken place over the past decade by using a Development Assurance (DA), rather than a Qualification Assurance (QA) approach. It will then describe how the DA approach can be and should be applied for certification of military complex CPVS and for Unmanned Aerial Systems (UAS), both with civil and military application.

Biography
Daniel P Schrage had a distinguished career in three different fields. 1) As a military officer and commander in nuclear weapons in Europe and in combat aviation systems operations in Southeast Asia; 2) As an Engineer, Manager and Senior Executive in the Science & Technology development, design and production of all of today’s complex Army aviation systems, e.g. UH-60 Black Hawk, AH-64 Apache and CH-47 Chinook; and 3) As a Professor, Director and advisor/consultant to government & industry from academia. He has obtained BS Engineering degree from USMA in 1967; MS in AE from Georgia Tech in 1974; MA in Bus Admin, from Webster U in 1975 and a DSc in Mechanical and Aerospace Engineering from Washington U in 1978. He has over 100 publications, including many refereed papers and book chapters.

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