## Aerospace's Trajectory Towards the Year 2050: Sustainability, Mobility, and Challenges for Control

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Societal demands focused on reducing greenhouse emissions and looking and traveling beyond the moon are transforming the future of aerospace. An industry in which change has been evolutionary is now faced with a revolution in how it engineers its products, capabilities, and services. This talk will discuss our trajectory towards the year 2050 and how the industry faces into this challenging future. A discussion on new air vehicle designs, electrification and sustainable fuels, autonomy, urban air mobility, digital engineering, and commercial space will be presented ending with a focus on challenges for engineering automation and control of these systems.

Bio: Kevin A. Wise is a VP, Distinguished Senior Technical Fellow, Flight Control Technology, in The Boeing Company, is President and CEO of Innovative Control Technologies, LLC, and is a Chief Advisor at Kelda Drilling Controls in Norway. He received his BS, MS, and Ph.D. in Mechanical Engineering from the University of Illinois in 1980, 82, and 87, respectively. Since joining Boeing in 1982, he has developed vehicle management systems, flight control systems, and control system design tools and processes for advanced piloted and unpiloted aircraft and weapon systems. His research interests include intelligent autonomy and battle management, aircraft dynamics and control, hypersonic flight control, robust adaptive control, optimal control, robustness theory, and intelligent drilling solutions. He has authored more than 100 technical articles and seven book chapters; he has published a textbook titled Robust and Adaptive Control Theory, with Aerospace Examples; and he teaches control theory at Washington University in St. Louis and at the University of Illinois Urbana-Champaign. Dr. Wise is a member of the National Academy of Engineering, is an IEEE Fellow, and Fellow of the AIAA.