



PAB's Biases

**Advanced System Architecture
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Background and biases

- Education
 - Bachelor in Aerospace Engineering
 - M.S. Aeronautics & Astronautics
 - ESD PhD student
- Way that people approach and think about problems
 - Discipline focused (e.g. aerodynamics, structure, etc.)
 - Holistic view and macro system thinking are often omitted in the “traditional” aerospace engineering world
 - Shift with the ESD system thinking type of approach
- Hard problems
 - Systems with humans
 - Systems that are “complex” (often due to the misunderstanding of the link between the structure and the behavior of the system)
 - NP hard problems (solvability limitations)
 - Stochastic nature of phenomena



Background and biases

- Expertise that are honored and respected
 - Data analysis and modeling
 - Quantitative methods
 - Intellectual rigor

- Designs that are considered good and elegant
 - Complex and convoluted (engineer view)
vs. Simple (artist view)
 - What's elegant for the designer may not be elegant for the user !
(e.g. Hub and Spoke System)
 - A good design is (or should be):
 - Flexible, Robust, Safe, Durable, Sustainable, Reliable, etc.