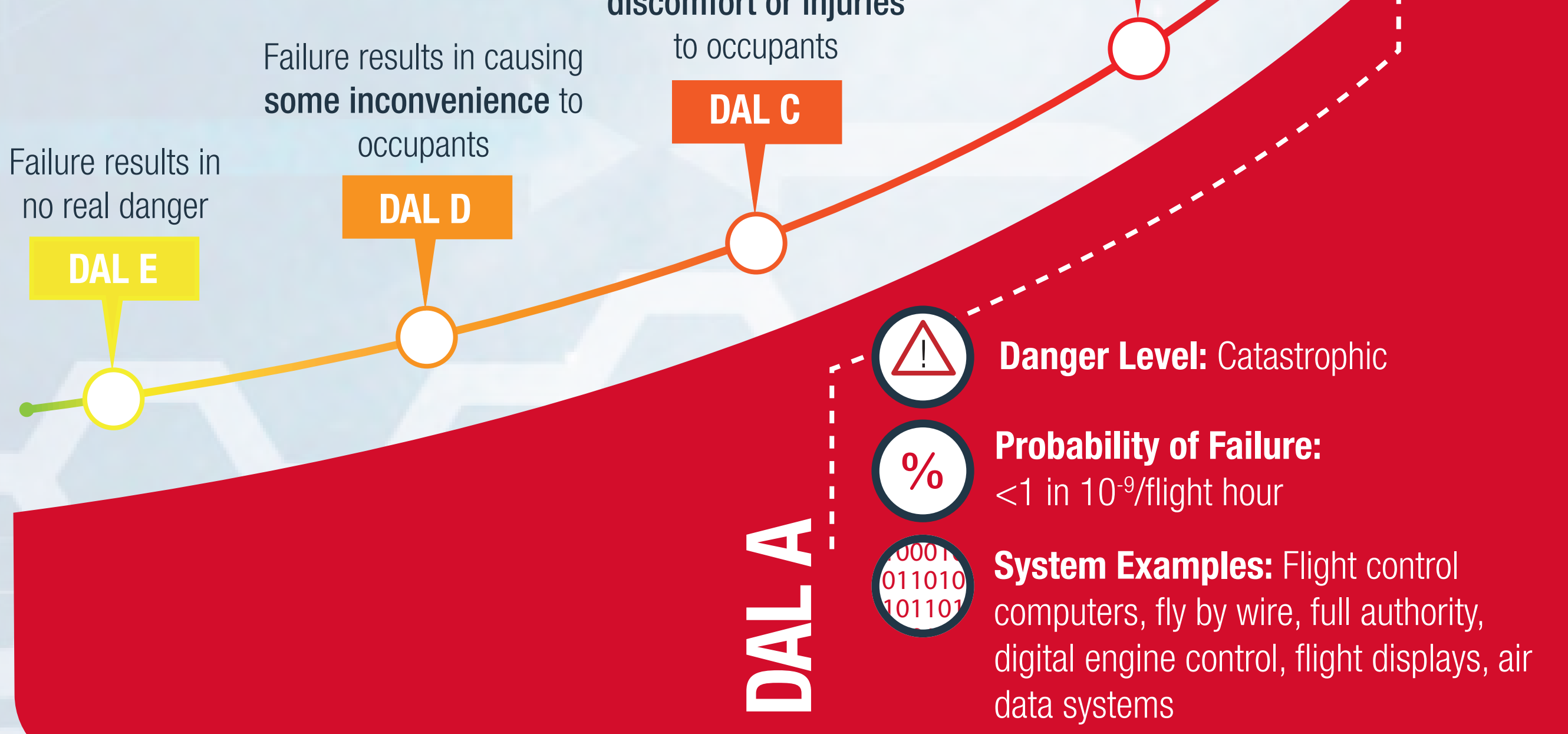


Overcoming the DO-254 DAL A Challenge

1 Design Assurance Levels (DALs) dictate the safety requirements an aircraft system must meet.

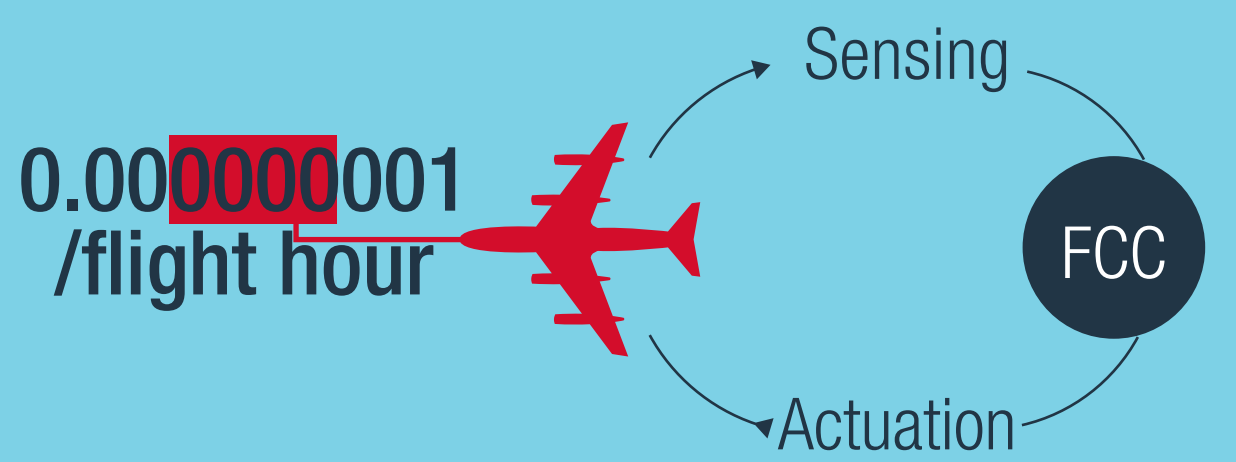
2 Each DAL mandates an **acceptable probability of failure** for a system to demonstrate based on the level of danger that would result from a malfunction.



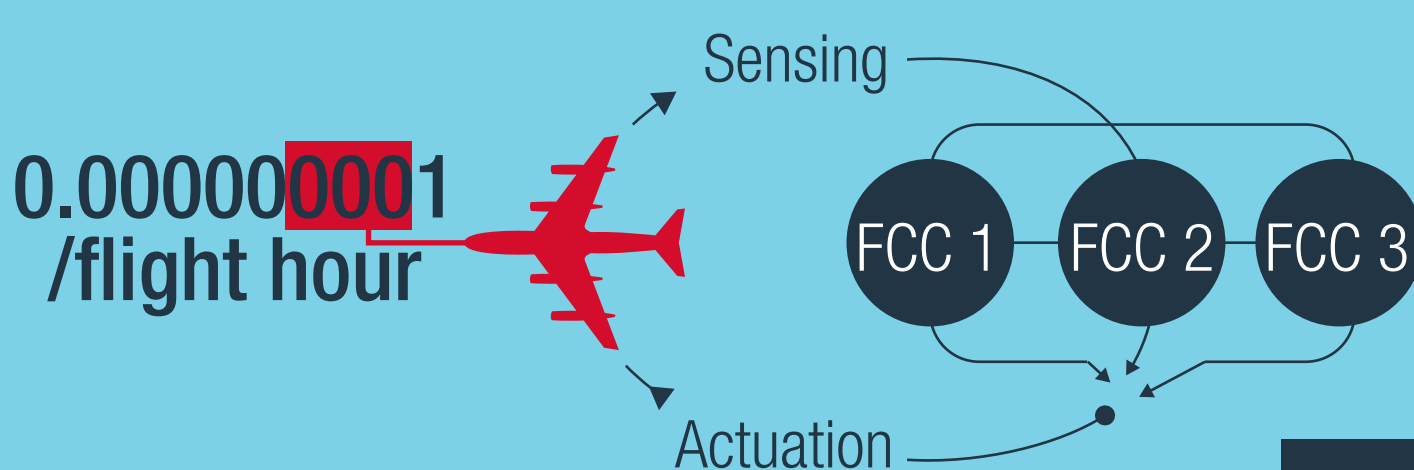
3 Most DAL A systems rely on **data from multiple systems** to calculate outputs.

4 The flight control computer, for example, communicates with these sensors in a **high frequency controlled feedback loop**

5 Relying on a single computer to manage this loop **would not meet** the $<1 \text{ in } 10^{-9} \text{ /flight hour}$ probability of failure required for DAL A systems

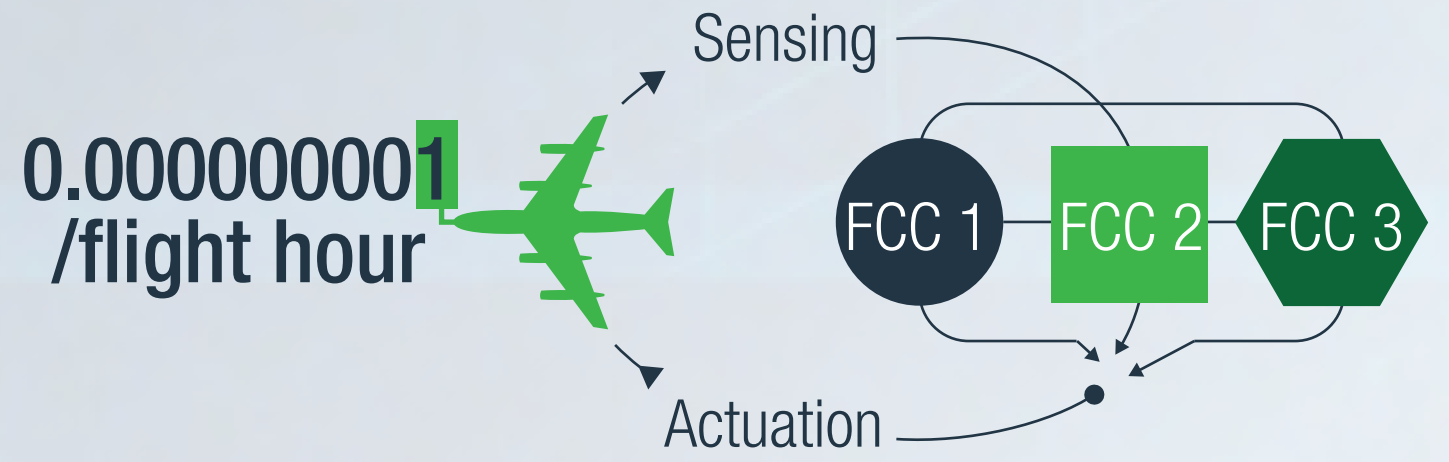


6 Adding redundancy **decreases the probability** of failure...



7 ...But similar systems are susceptible to **common mode failures**

Common Mode Failures



To protect against common mode failures, a **fully fault tolerant system** incorporates redundancy with dissimilar processor architectures, software and applications.

9 That's why Curtiss-Wright's selection of DO-254 safety-certifiable COTS modules offer a choice of processor architectures, including the **embedded computing industry's first rugged, certifiable Arm® Single Board Computer**

10 and support today's **leading DO-178 certifiable** operating systems, such as Wind River® VxWorks® 653



Download the White Paper

Learn more about building a redundant architecture to meet DAL A requirements