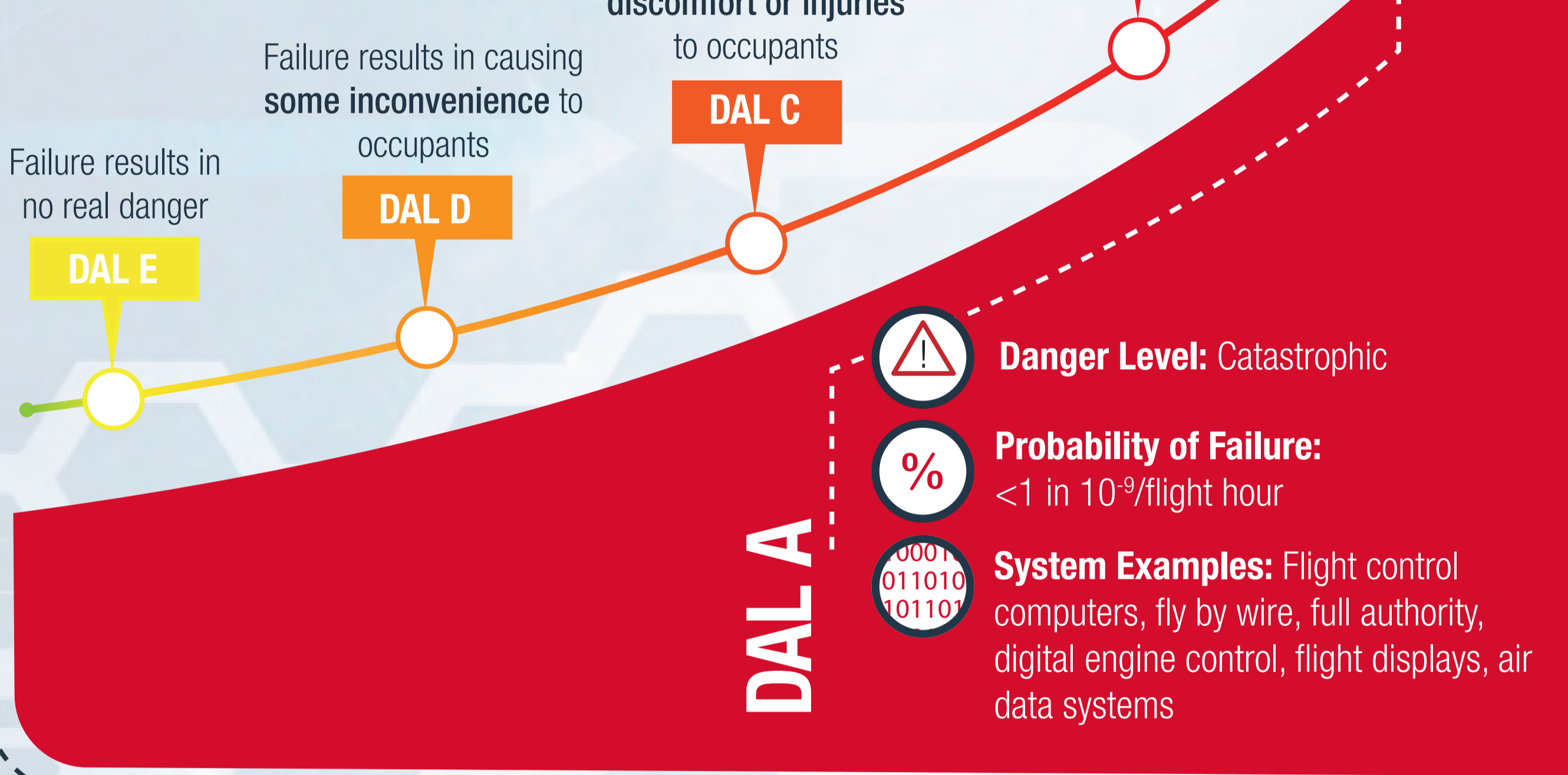


Overcoming the DO-254 DAL A Challenge

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

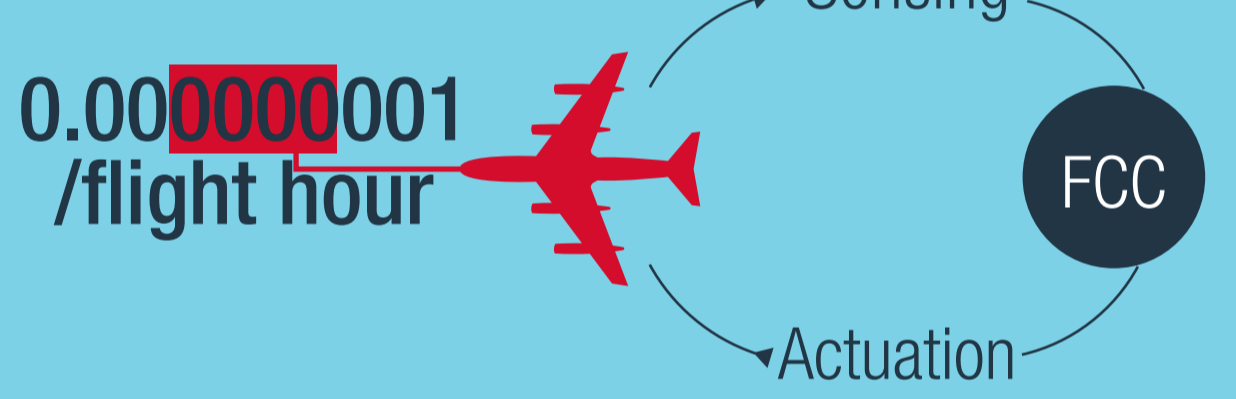
2 Each DAL mandates an **acceptable probability of failure** for a system to demonstrate based on the level of danger that would result from a malfunction.



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 in 10^{-9} /flight hour probability of failure required for DAL A systems



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

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

Common Mode Failures

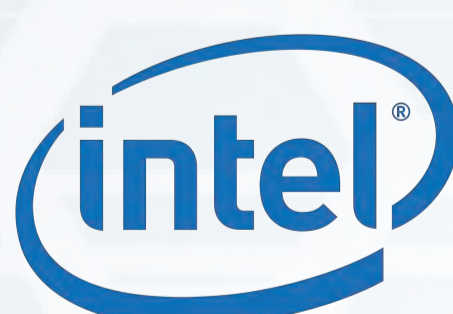
- Lightening Strikes
- Electromagnetic Interference
- Fire or Explosion
- Software / Hardware Bugs

8 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



Download the White Paper

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