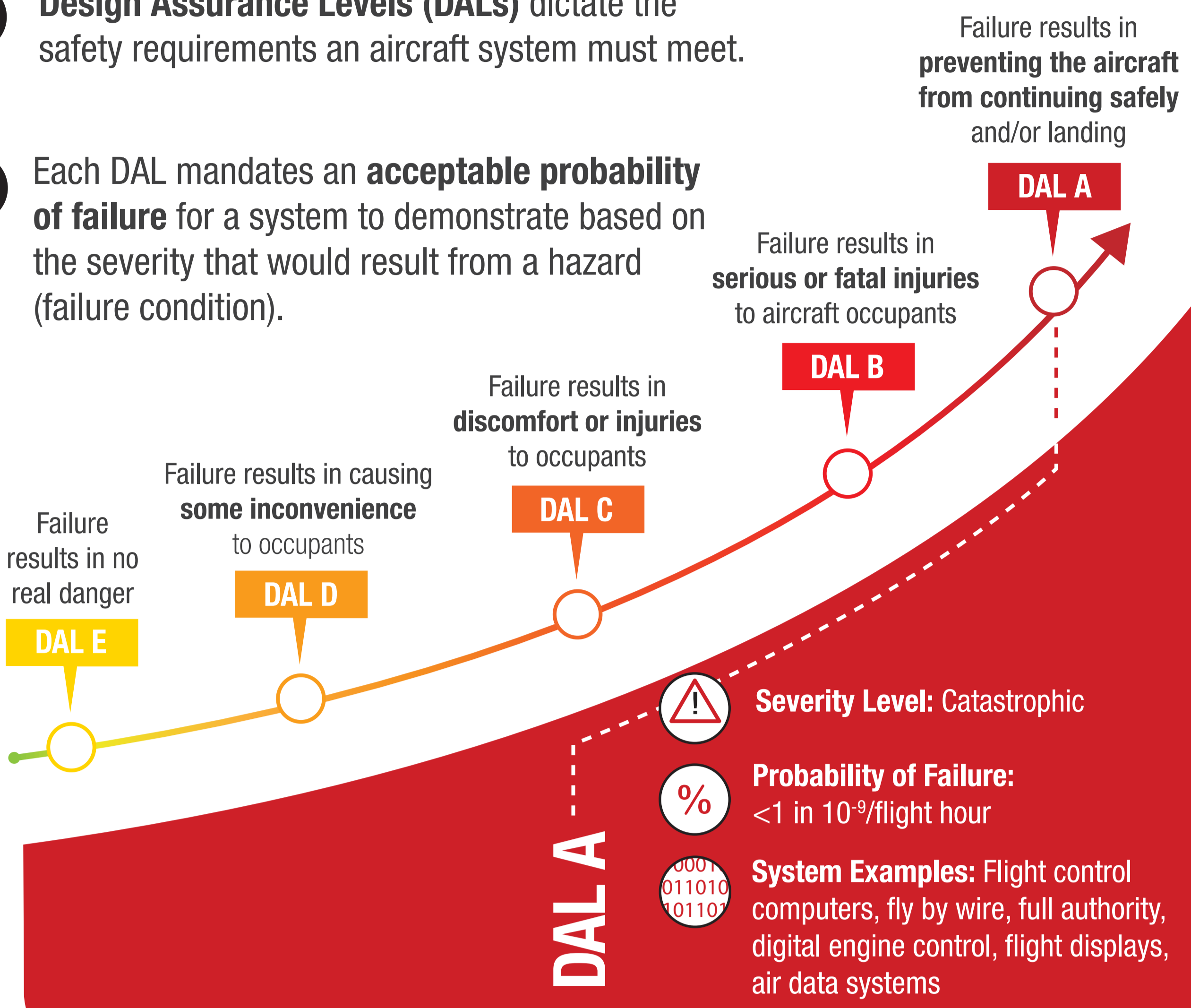


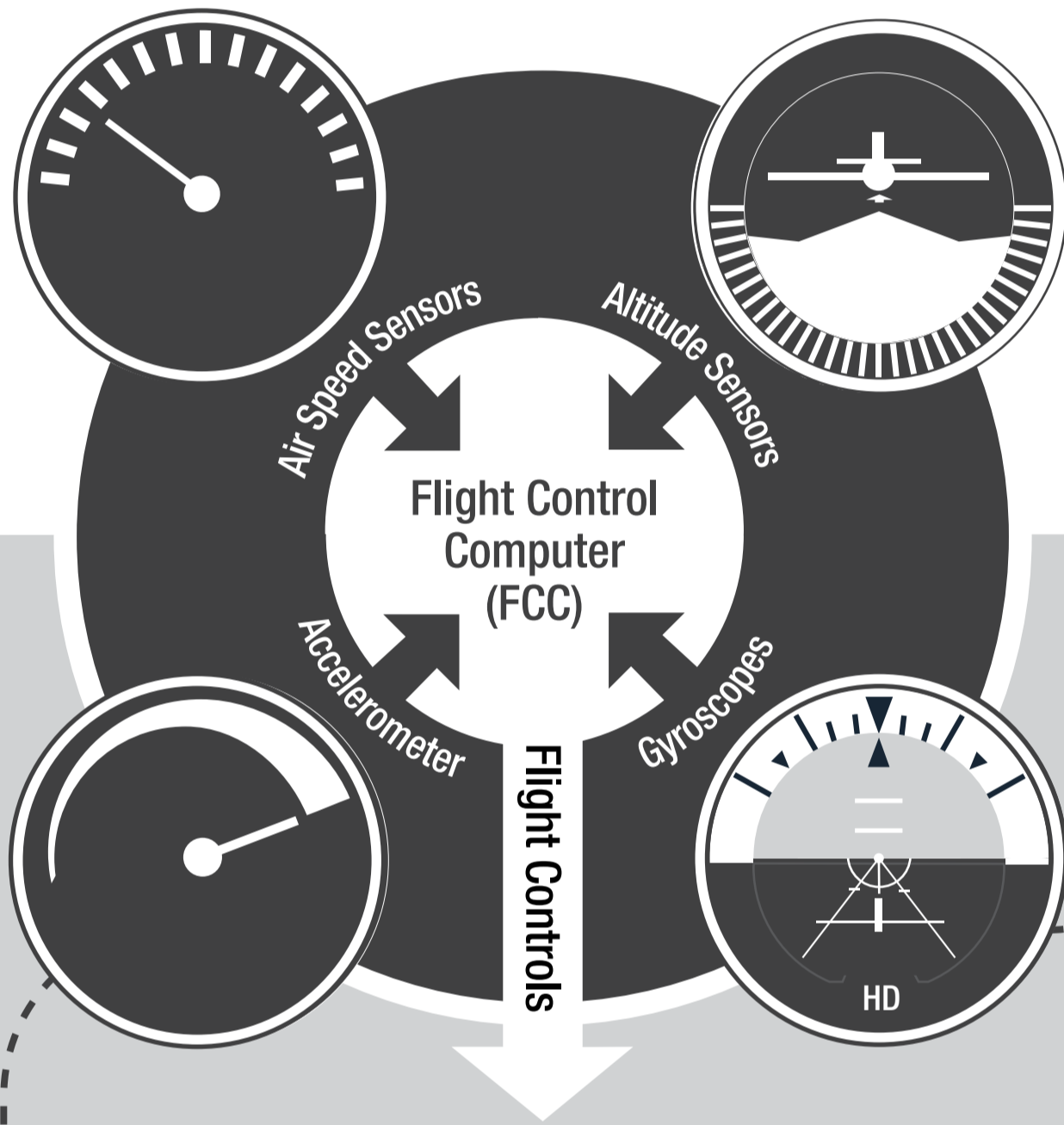
Overcoming the DO-254 DAL A Challenge

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 severity that would result from a hazard (failure condition).



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



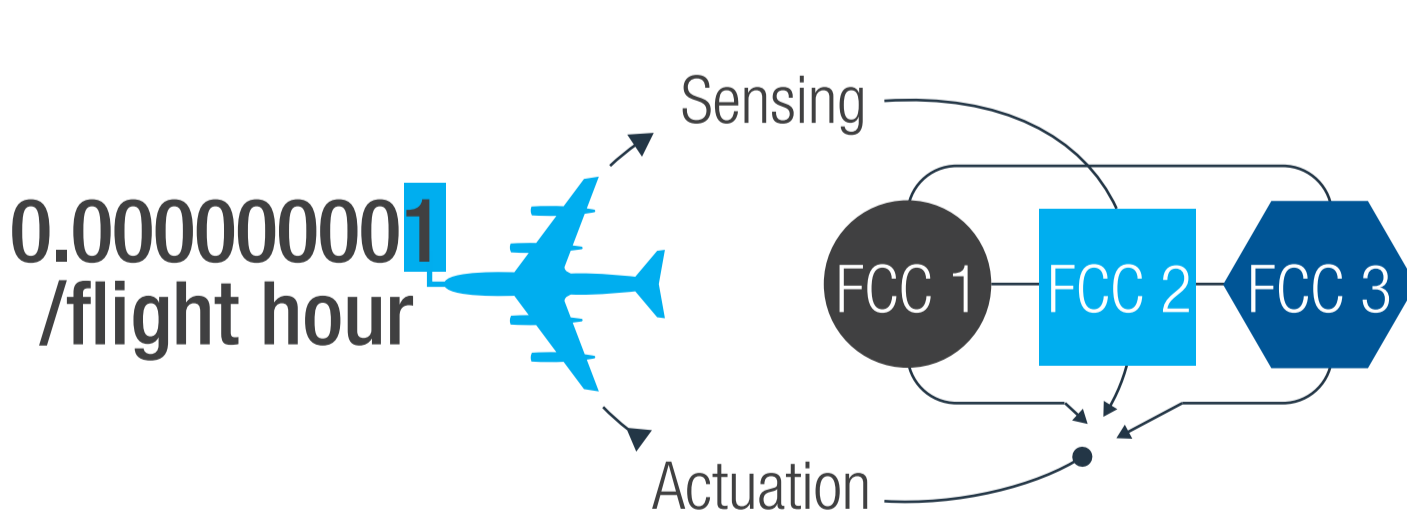
6 Adding redundancy **decreases the probability** of failure...



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

Common Mode Failures

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



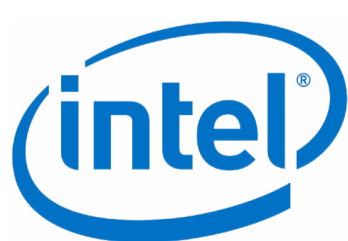
To protect against common mode failures, a **fully fault tolerant system** incorporates redundancy with dissimilar processor architectures, software and applications.

9 That's why Curtiss-Wright's selection of DO-254 safety-certifiable COTS modules offer a choice of processor architectures, and general processing units (GPUs) complying to A(M)C 20-152A, providing a rugged and certifiable single board computer (SBC).

10 And support today's **leading DO-178 certifiable** operating systems

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Download the White Paper

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