DoD: Hardware Security Perspective

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Integrity ★ Service ★ Excellence

Prospectus
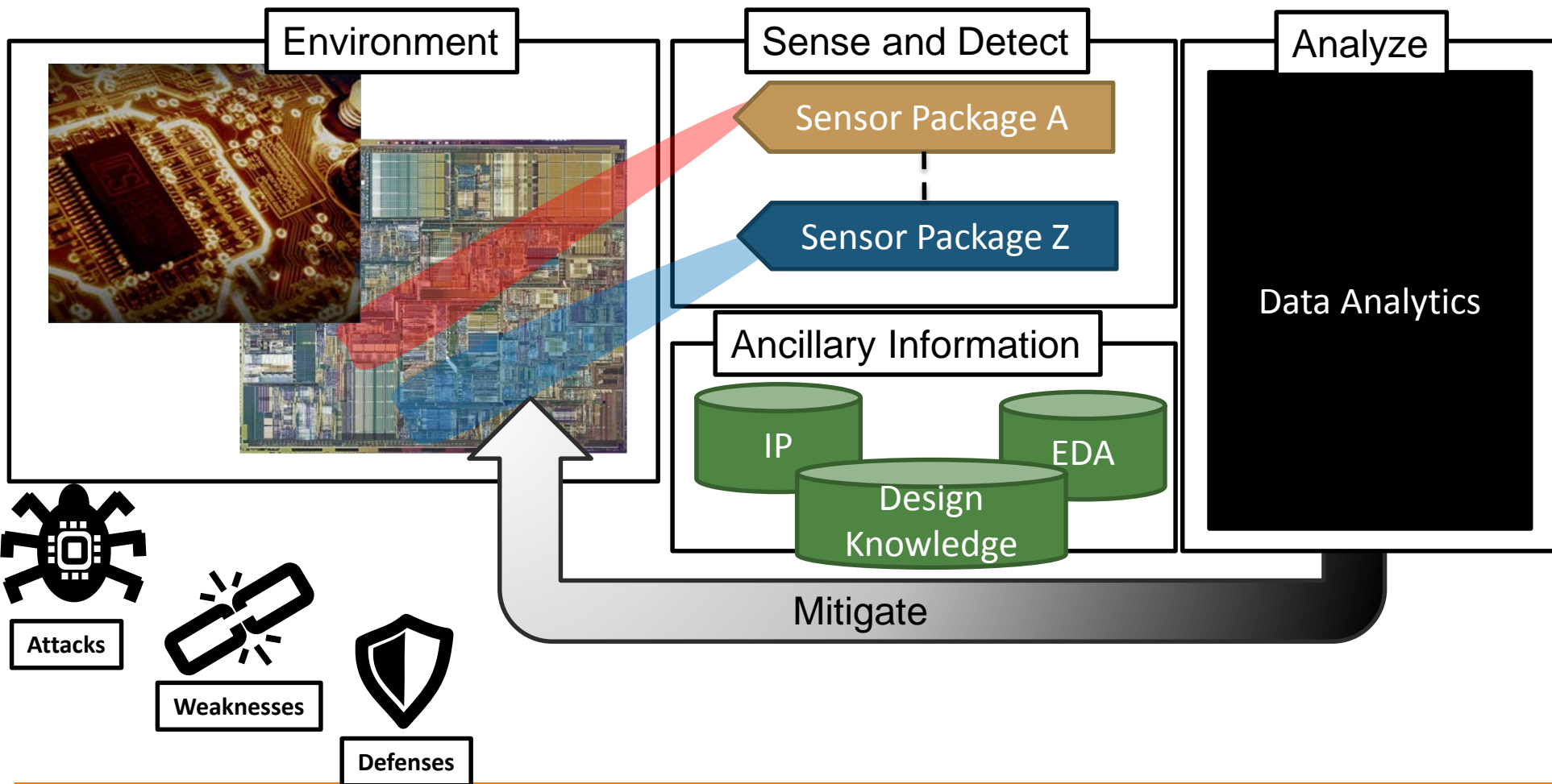
Integrated circuits are the <u>foundation</u> of all DoD systems. The ability to ensure they will operate as anticipated over the lifetime of the system and are free of malicious intent is critical to maintaining U.S. Military systems.

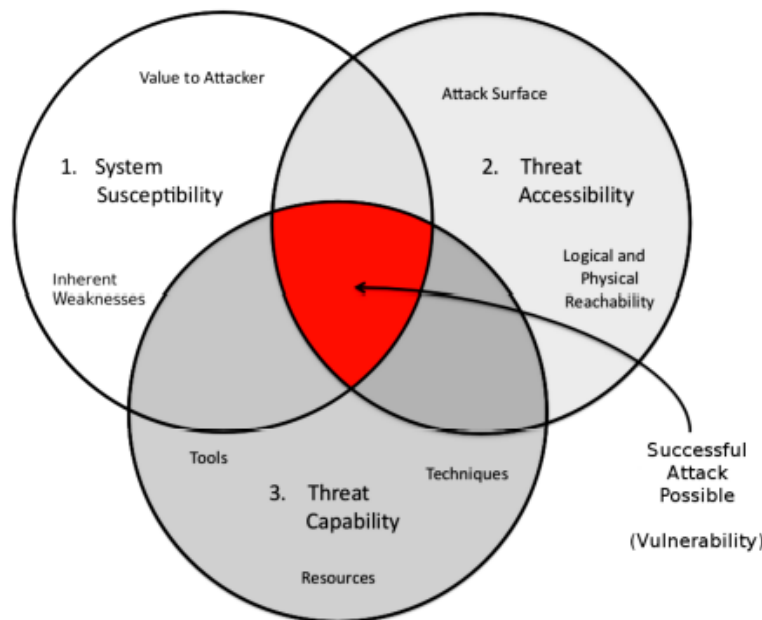# Three Tenets for Secure Cyber-Physical System Design and Assessment

Figure 1. *The Three Tenets* threat model consists of the three elements required for a successful attack. Each *Tenet* will mitigate an element of this threat model.

Tenet 1: Focus on What's Critical –systems should include only essential functions (to reduce susceptibility);
Tenet 2: Move Key Assets Out-of-Band –make mission essential elements and security controls difficult for attackers to reach logically and physically (to reduce accessibility);
Tenet 3: Detect, React, Adapt - confound the attacker by implementing sensing system elements with dynamic response technologies (to counteract the attackers' capabilities).

Summary

- **Must keep in mind: capability, accessibility, susceptibility or means, opportunity, motive**

- **Must rely on our scientific methods – thesis, prove or disprove.**

- **We are interested in engaging the community on developing Trustworthy Electronic research**
  - **Analog Mixed Signal**
  - **TRUST**
  - **Intellectual Property**