

# Challenges for Smart Grid Cybersecurity

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# Strategy and approach

- **Build it right and continuously monitor**
  - *US Federal Government Strategy*
    - Secure and reliable by design
      - Process, hardware and software
      - Attack models (known vs. unknown..)
    - Monitor operation (process execution)
      - Attack/failure detection
      - Diagnosis, recovery
- Certification, auditing, testing
- Do we really know how to do these?

# Challenges

- Design with security properties
- Use of TPMs
- System verification
- System validation
- Building appropriate monitors
  - Computational attacks?
  - False data injection attacks?
- Methods for certification
- Some lessons: planes, trains and automobiles (?)