# TCIP: Trustworthy Cyber Infrastructure for the Power Grid

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## TCIP Vision and Strategy
- Drive the design of an adaptive, resilient, and trustworthy cyber infrastructure for the electric power grid
- Enable the realization of a new power grid with advanced energy applications

## Challenges Addressed
- Create secure and reliable computing base
- Support a large number of devices
- Enable timely, reliable, and secure data and control information flow
- Develop coordinated, adaptive detection and response techniques
- Enable trustworthy multiparty interactions
- Develop evaluation methodology and tools (Among others)

## Approach and Impact

### New Approach
- Unique, holistic, technological approach driven by power grid needs
- Integrate security, dependability, and timeliness properties
- Close interaction with 33-member industry advisory board

### Research Impact
- Radical, unified, cyber architecture
- Multi-level, hierarchical, simulation, emulation, and physical evaluation
- Technology transition pathway

### Challenges Addressed

#### Security and Reliability Base
- Establish, design, and develop security and reliability base
- Comply with existing and future national security policies
- Develop innovative, robust, and reliable measurement systems

#### Trustworthy Communications and Control Protocols
- Develop novel, secure, and robust control and communication protocols
- Focus on real-time and reliable monitoring, detection, alarm, containment, and recovery operations in cases of perturbations, vulnerabilities, and attacks

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