Institute for Regulatory Policy Studies Cyber Security Panel

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**CISO & Senior Director**
MISO Energy

MISO – What We Do

- Maintain the reliability of the electrical Grid

- Schedule generation and use of transmission lines

- Monitor flow and manage congestion

- Operate and monitor the market

- Provide equal access to energy transmission

- Plan and manage transmission expansion

- Manage the interconnection of new generation

- Manage restoration activities during emergency conditions
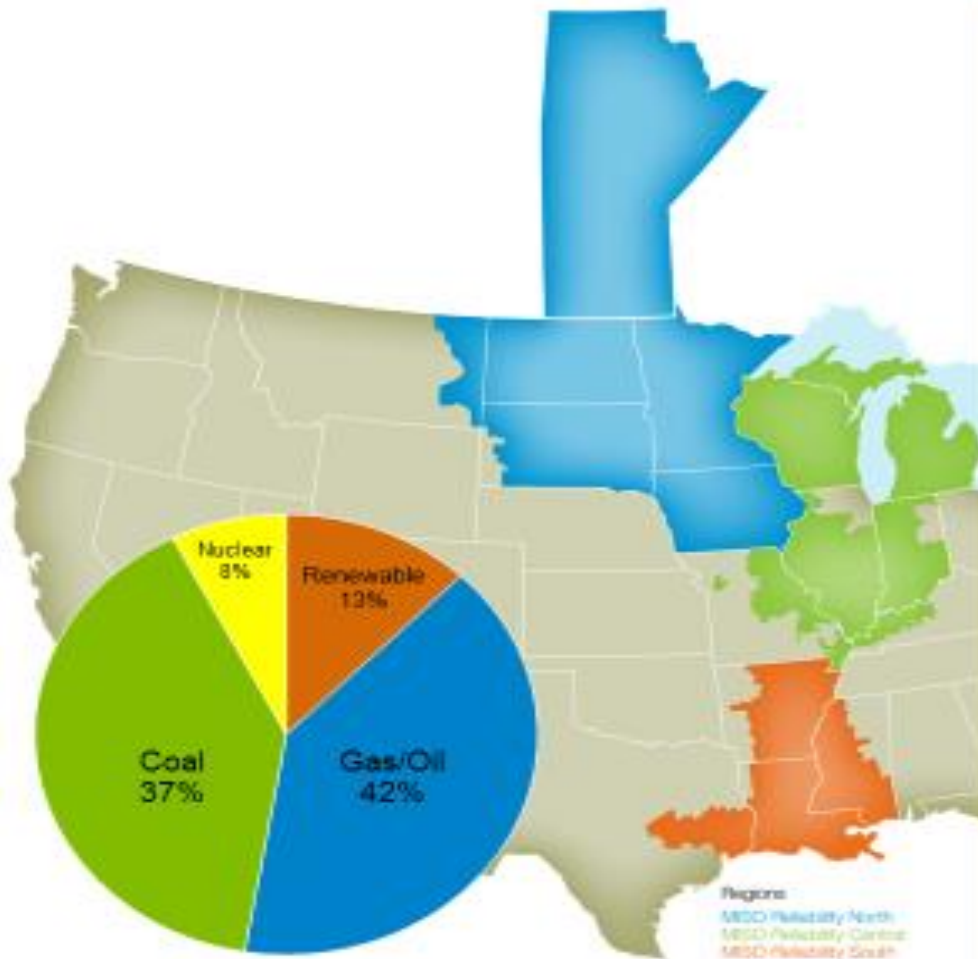
MISO – Where We Operate
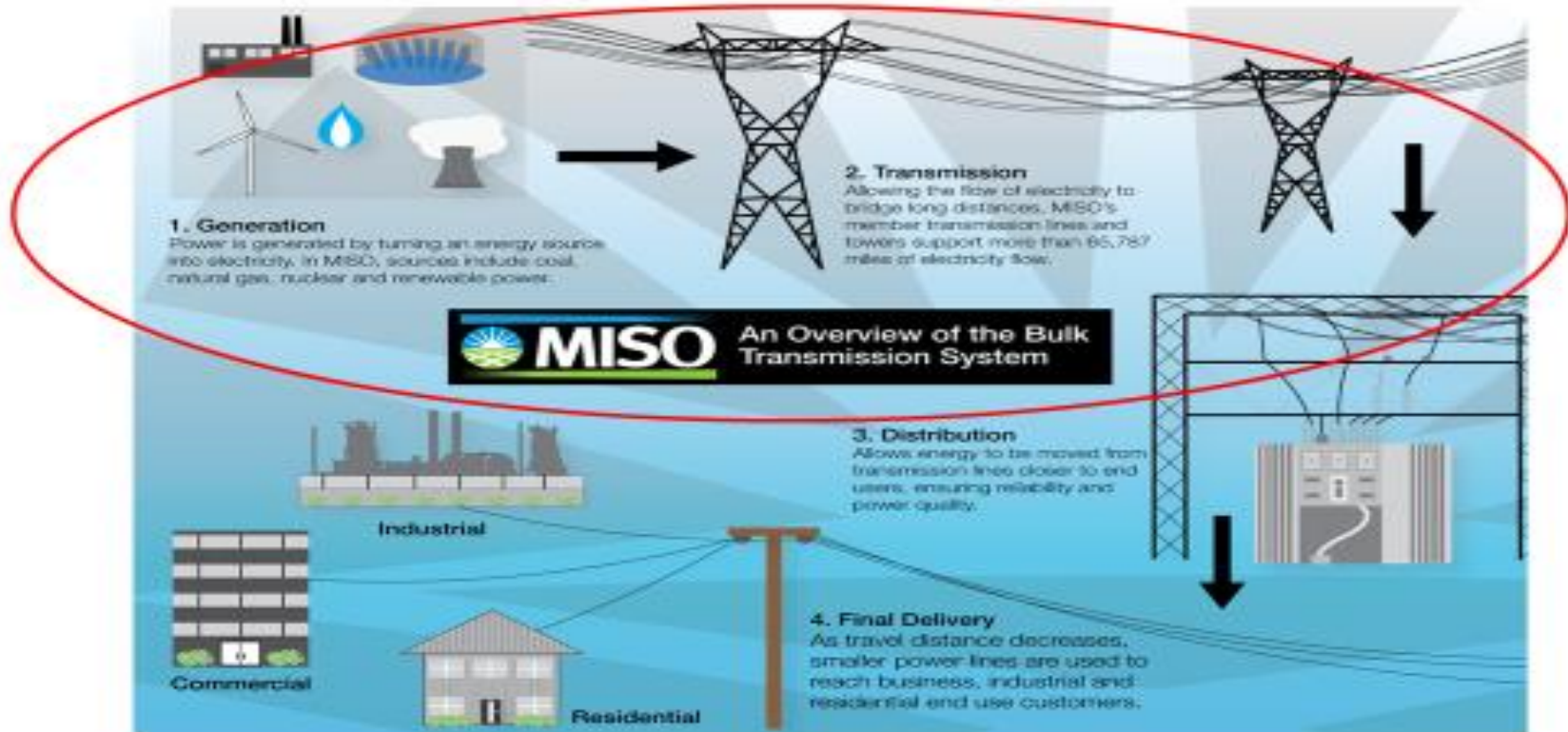
MISO – Reliability Footprint

Regions
MISO Reliability North
MISO Reliability Central
MISO Reliability South
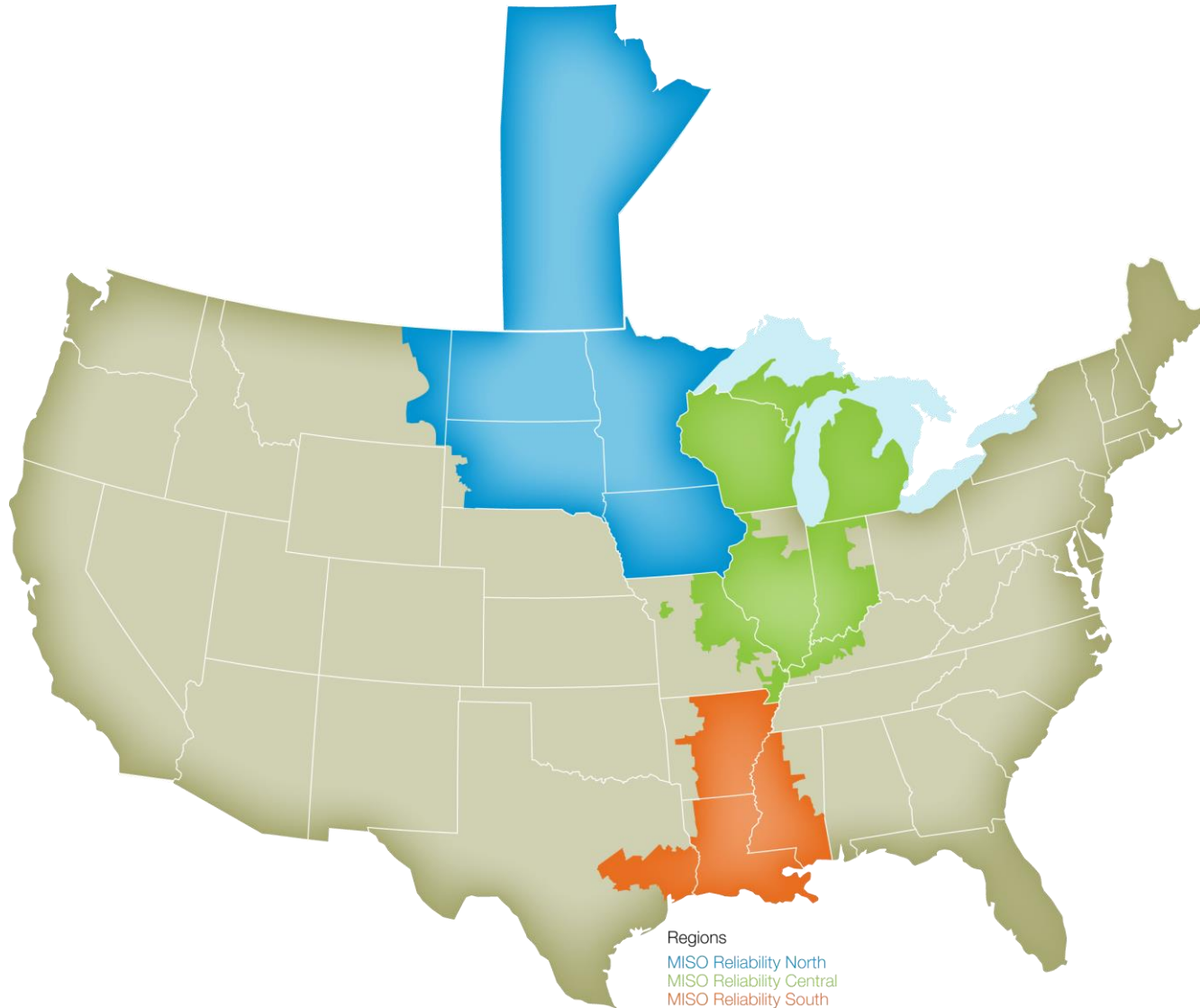
MISO – Key Statistics

Key Statistics

Member Companies	175
Market Participants	425
Millions of People Served	42
Peak Load (MW)	133,181
MWs of Generating Capacity	194,673
Miles of Transmission Lines	65,800
Generation Sources	6,505
SCADA data points	289,430
Square Miles of Territory	900,000
States Served	15

Plus Manitoba Province, Canada

$31.4 billion in transmission assets under MISO's functional control

Why is Security So Hard?
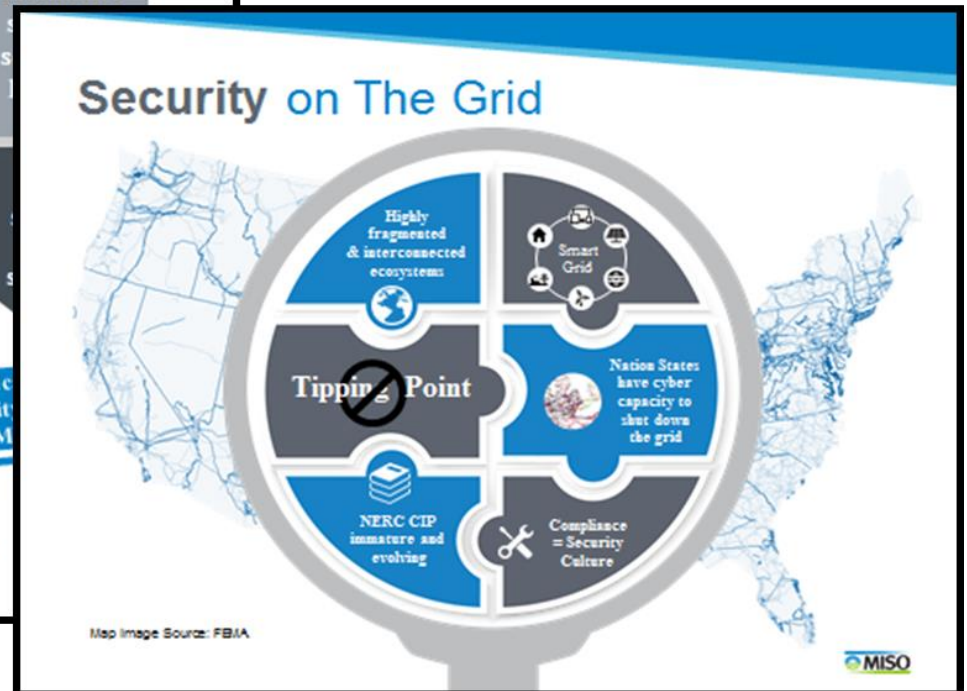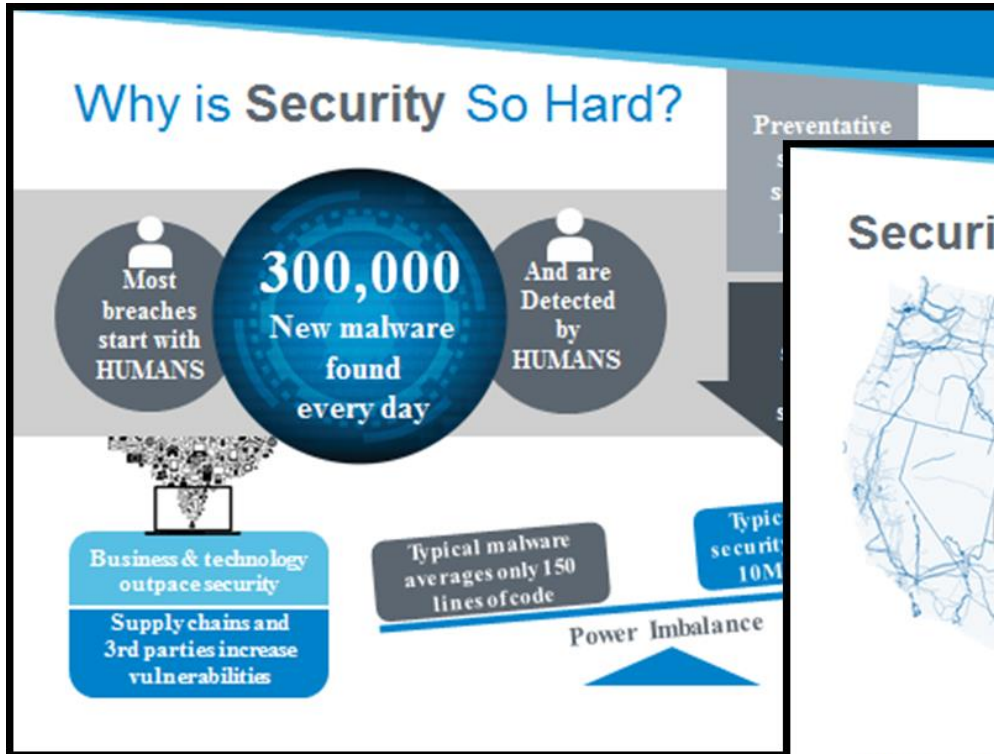
Utility Threat Actors

Threat Actors	Motivation	Threat Vector	Impact
Criminals	$$$	System Configuration Email/Social Media Insider Threat Third Party	Revenue Trust
Hacktivists	Ideology/ Principles	Web Vulnerabilities Email/Social Media Insider Threat External/Visible Assets	Revenue Disruption Trust
Nation-States Rogue Nations Terrorists	Economic, Ideology, & National Security	System Configuration Email/Social Media Insider Threat Anything that is Necessary	Revenue Disruption Trust

Industry Strategy - A Shift in Approach
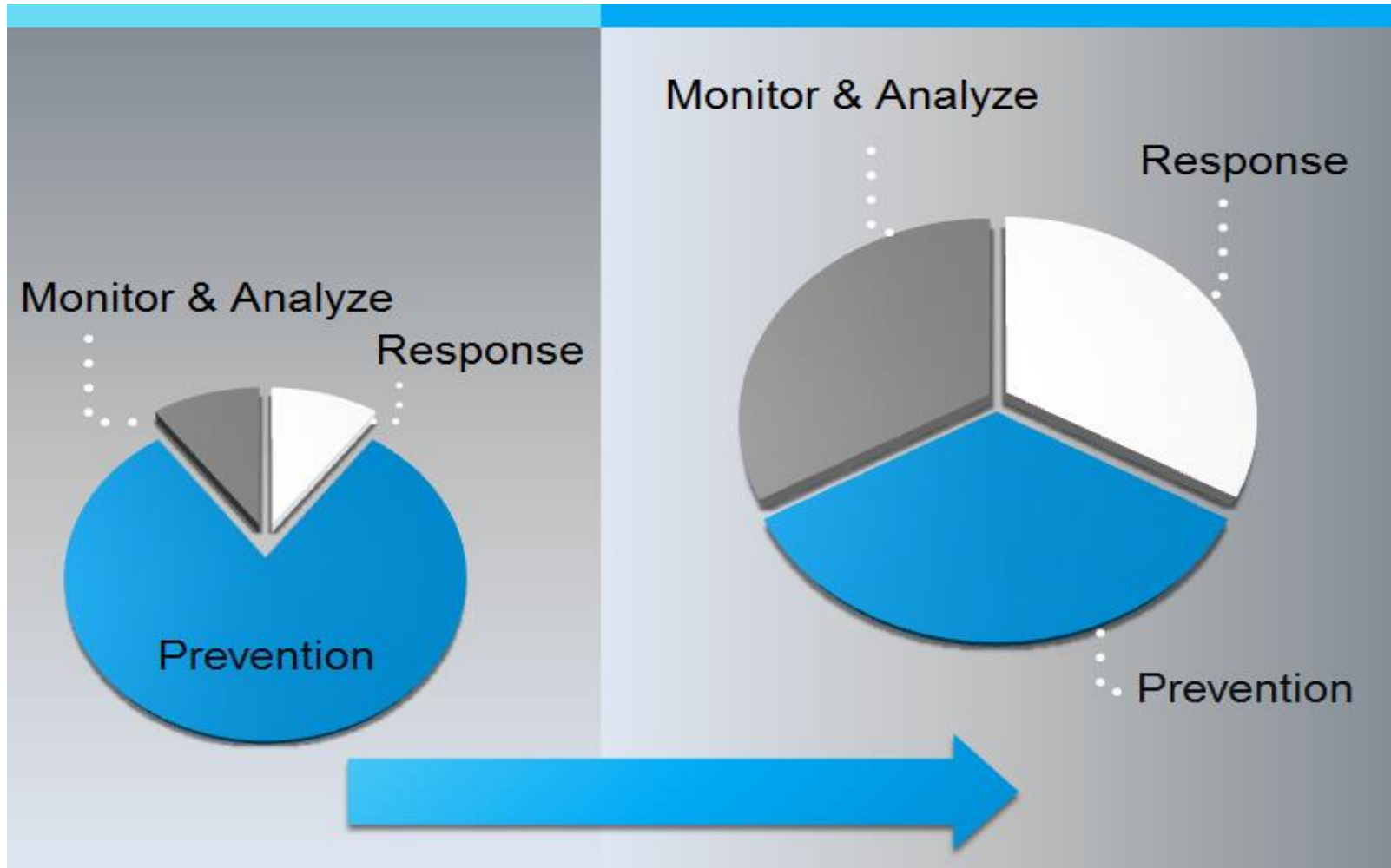
Protection Hierarchy
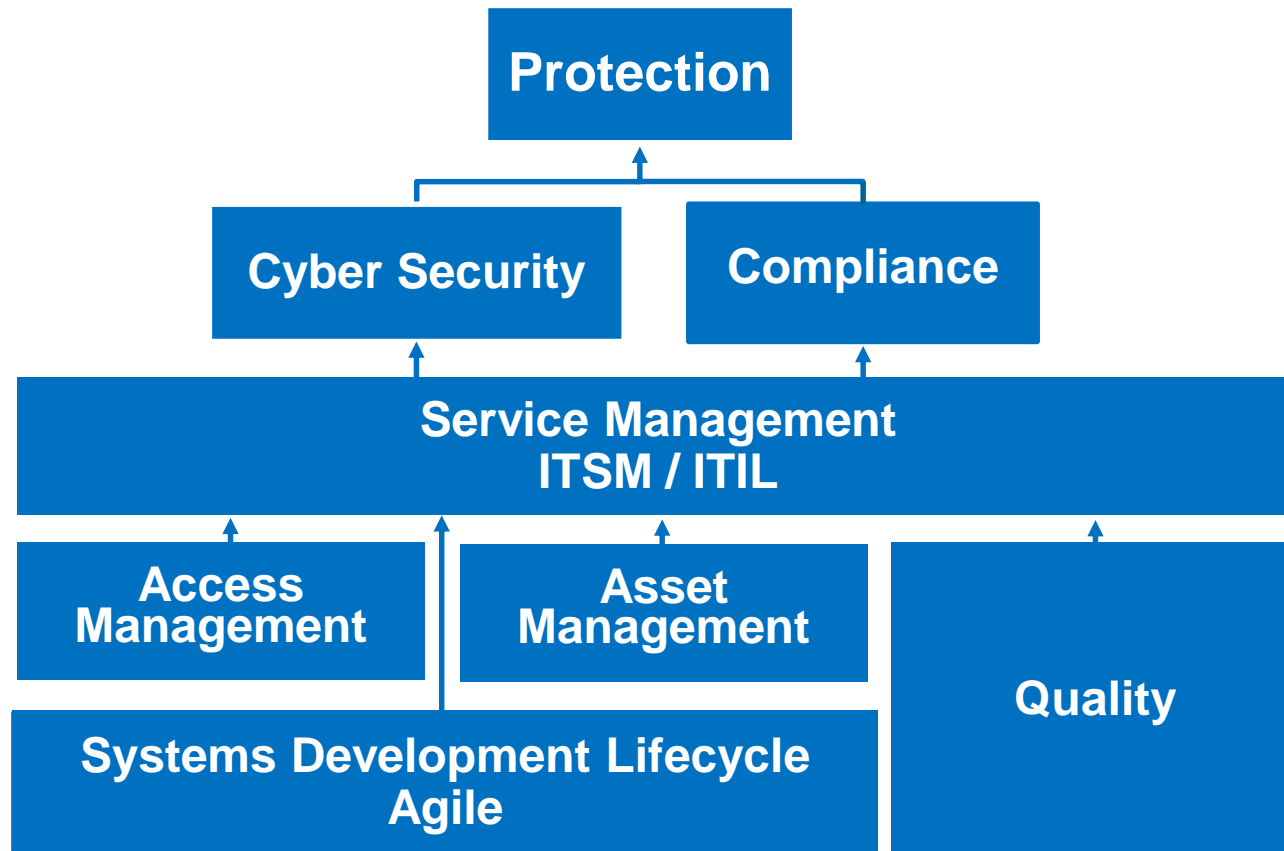
Industry Response – Enhanced Strategies

Threat Intelligence

Leveraging comprehensive knowledge of the threat landscape

Prevention

Capabilities proactively deployed to protect and prevent compromise

Analytics

Developing ability to detect subtle anomalies in network behavior

Operational Awareness

Understanding normal network activity, data flows and user behaviors

Incident Response

Ability to quickly resolve anomalies to minimize impact

Risk Management

Governance

MISO

Government Roles – Many Players

Cyber Czar
Michael Daniel
Cybersecurity Coordinator

DHS
Oversee CI Protection

DOJ
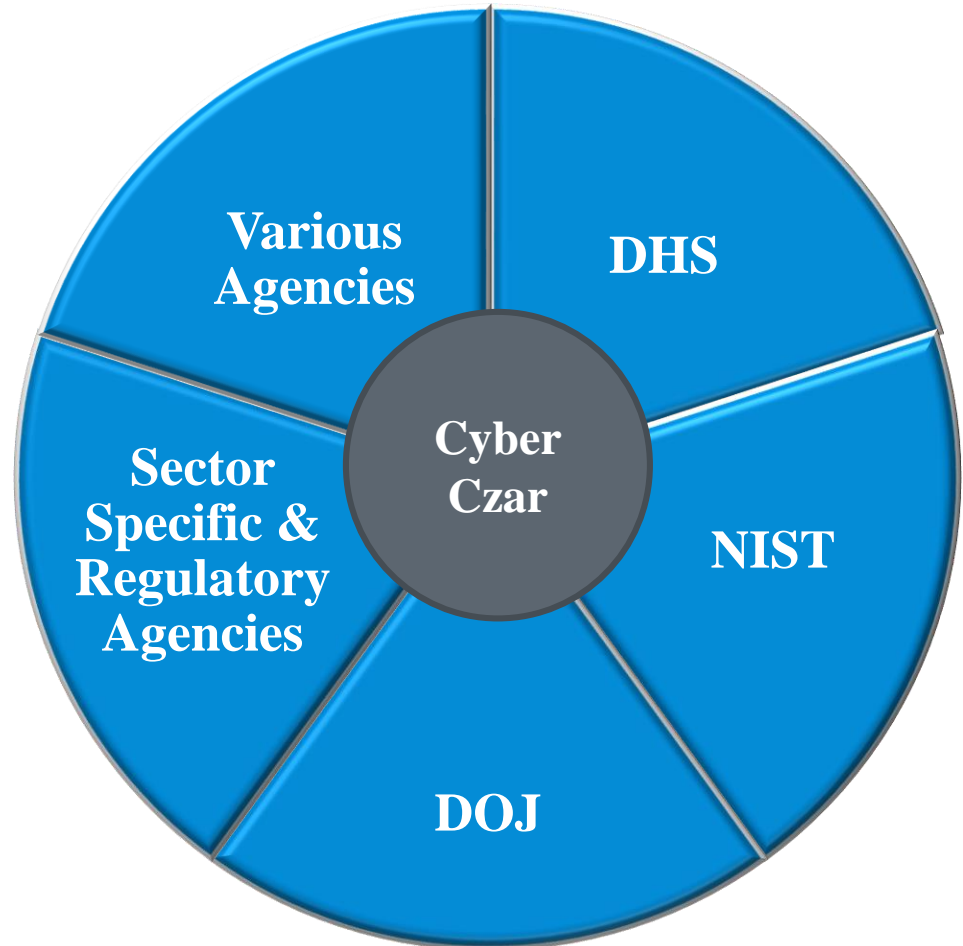Law Enforcement & Investigations

NIST
Standards & FISMA Requirements

Various Agencies
R&D, Labs

Sector Specific & Regulatory Agencies
Protection of CI and Regulations
FERC/NERC

MISO

Thank you