



Cybersecurity Challenges for a Changing Electric Industry

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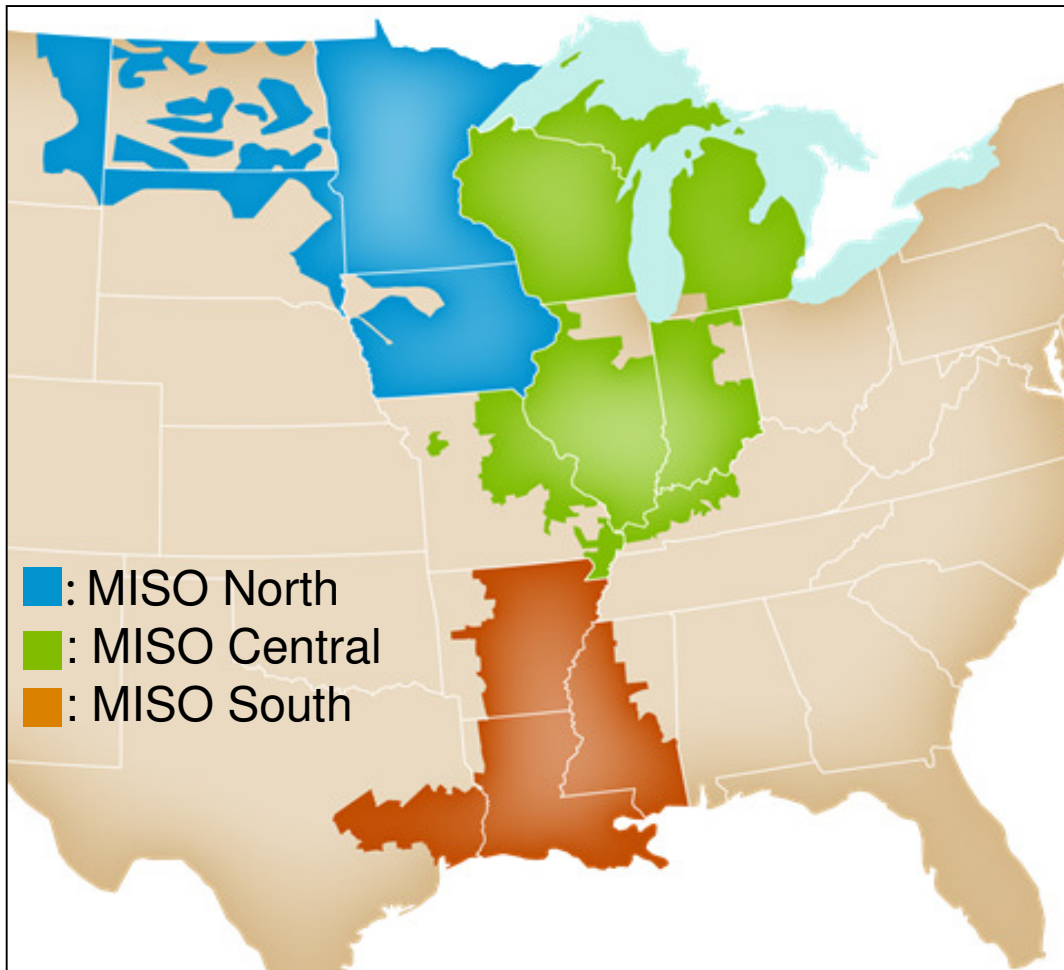
Vice President, Market System Enhancement

HARVARD ELECTRICITY POLICY GROUP

PLENARY SESSION

October 4, 2018

MISO is an independent, Regional Transmission Operator in 15 U.S. States and one Canadian province



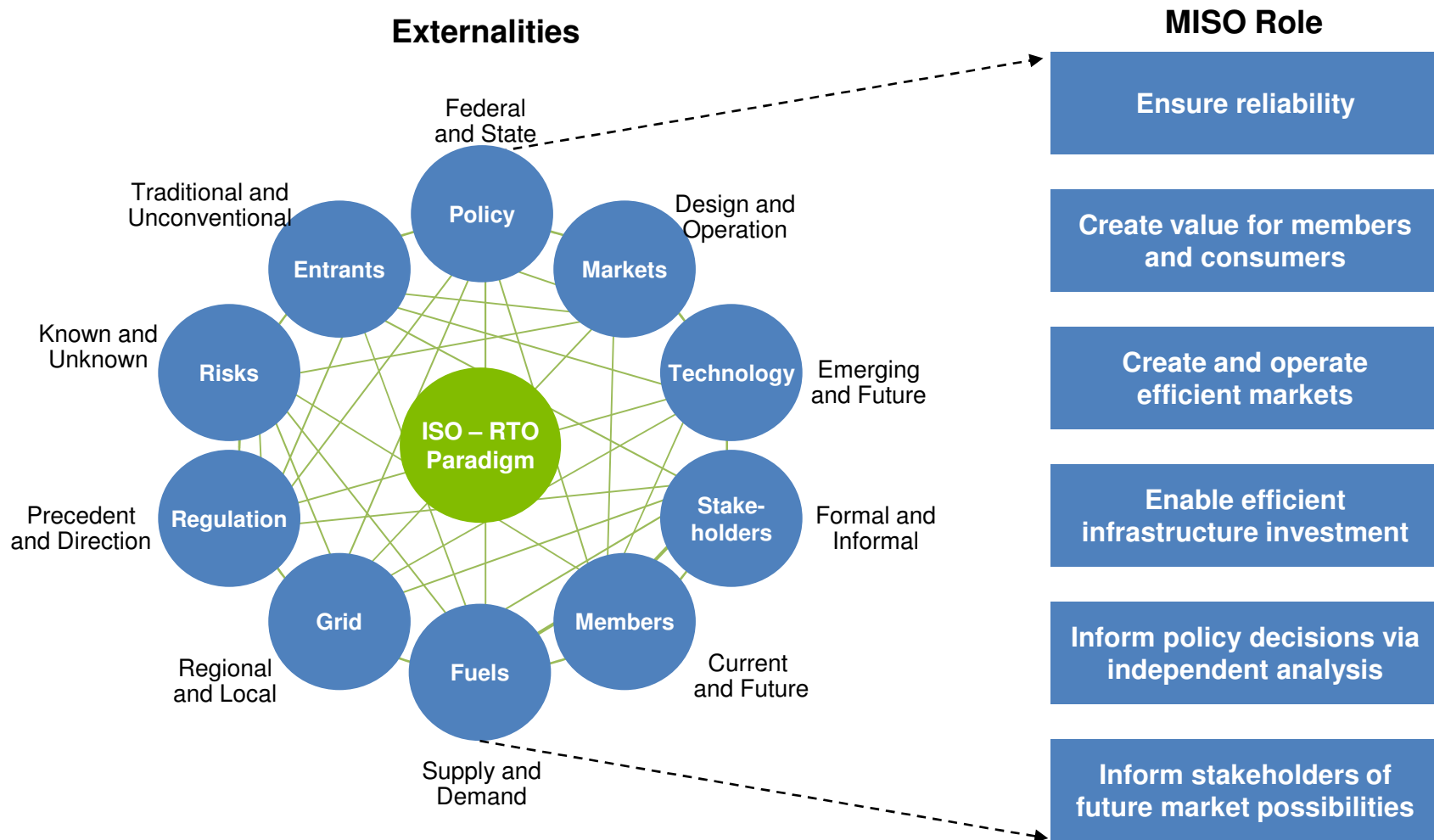
MISO by-the-numbers

High Voltage Transmission	65,853 Miles
Installed Generation	177,388 MW
Installed Generation	1,594 Units
Peak System Demand	127,125 MW

Mission

Work collaboratively and transparently with our stakeholders to enable reliable delivery of low-cost energy through efficient, innovative operations and planning.

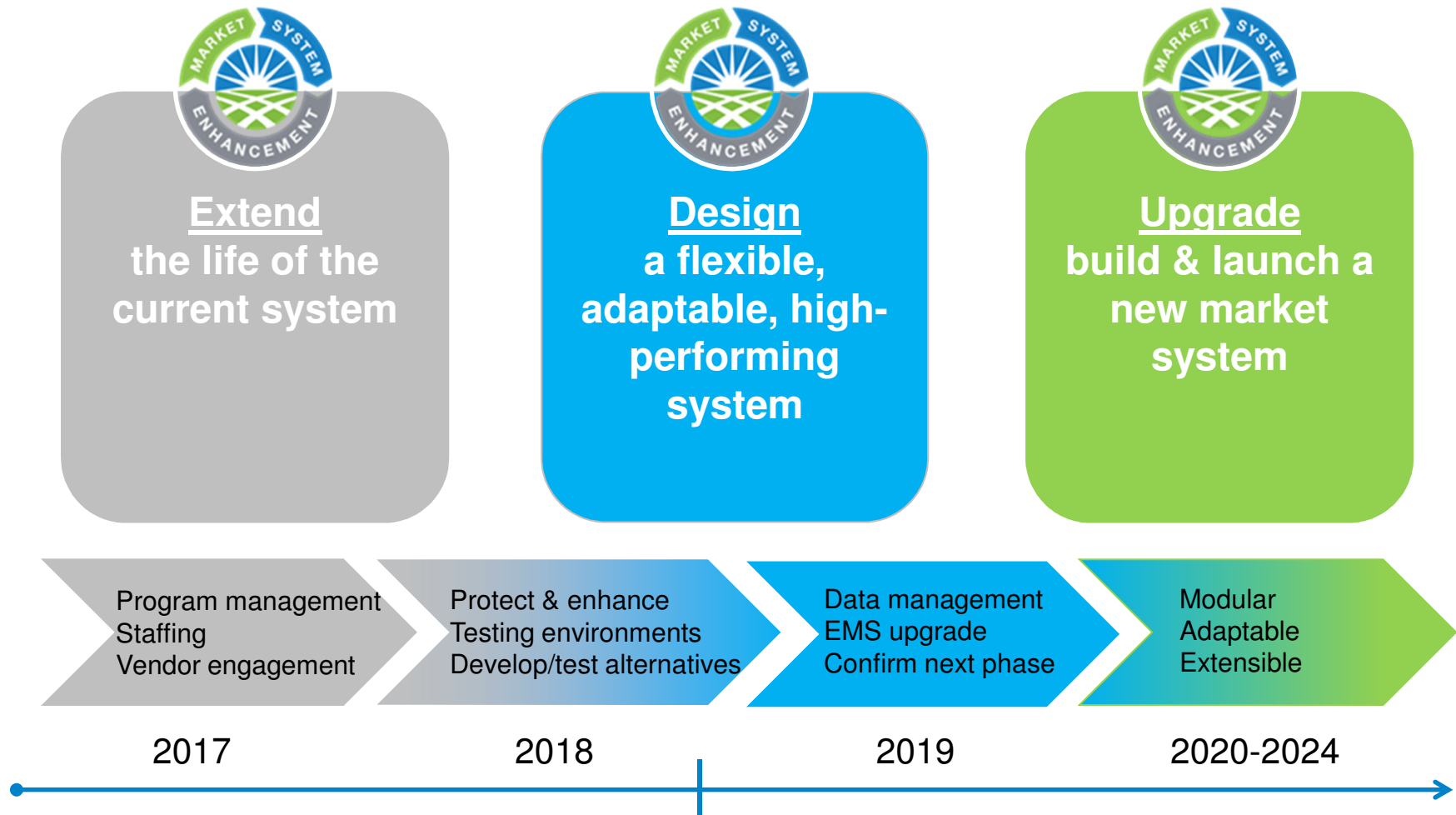
MISO's role continues to evolve as the industry's requirements change



Distributed Energy Resources



Market System Enhancement is transforming our current market platform into a flexible, upgradeable, and secure system



Keeping the Lights On



Known unknowns and unknown unknowns

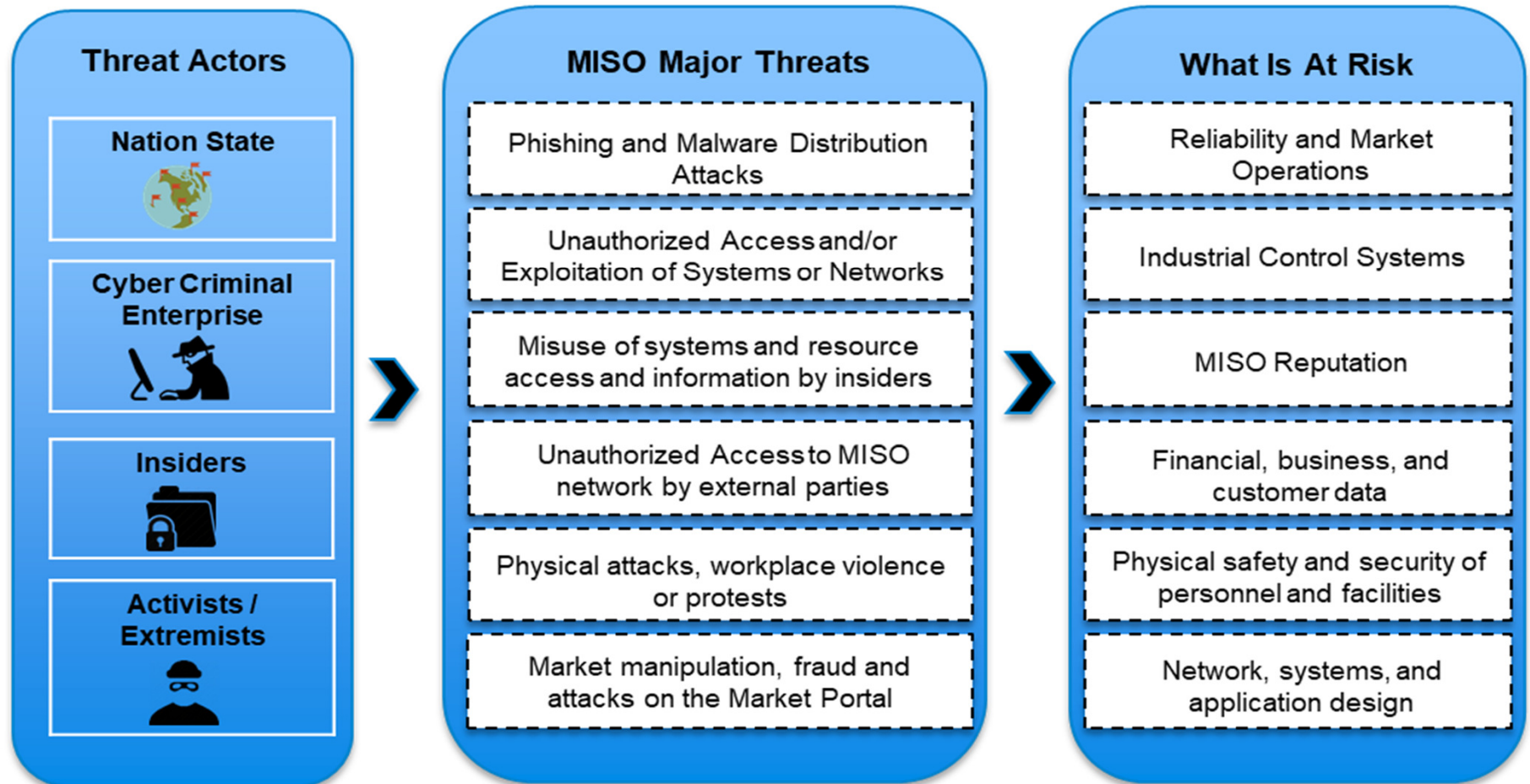


“There are **known unknowns**.
That is to say, there are things
that we know we don't know.

“But there are also unknown
unknowns. There are things
we don't know we don't know.”

- Donald Rumsfeld

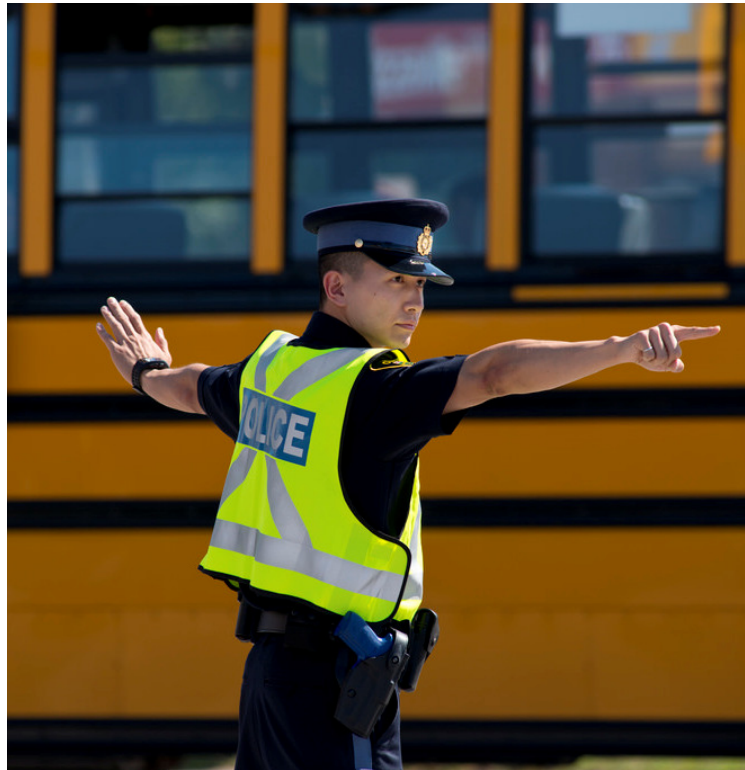
The industry faces a complex threat landscape



Manage risk, with a balanced approach between restrictive rules and flexibility/innovation



Follow the Rules!



Do whatever you want, man.

Integrating different technologies and perspectives can be awkward

Disrupter

Traditional

Technologist

Green Tech

Customer Pref.





Thank You