



How the Industry Needs to Conform the Control Room Operations

Dr. Renuka Chatterjee

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Reliability Imperative is work that defines how we enable the resource portfolio transition

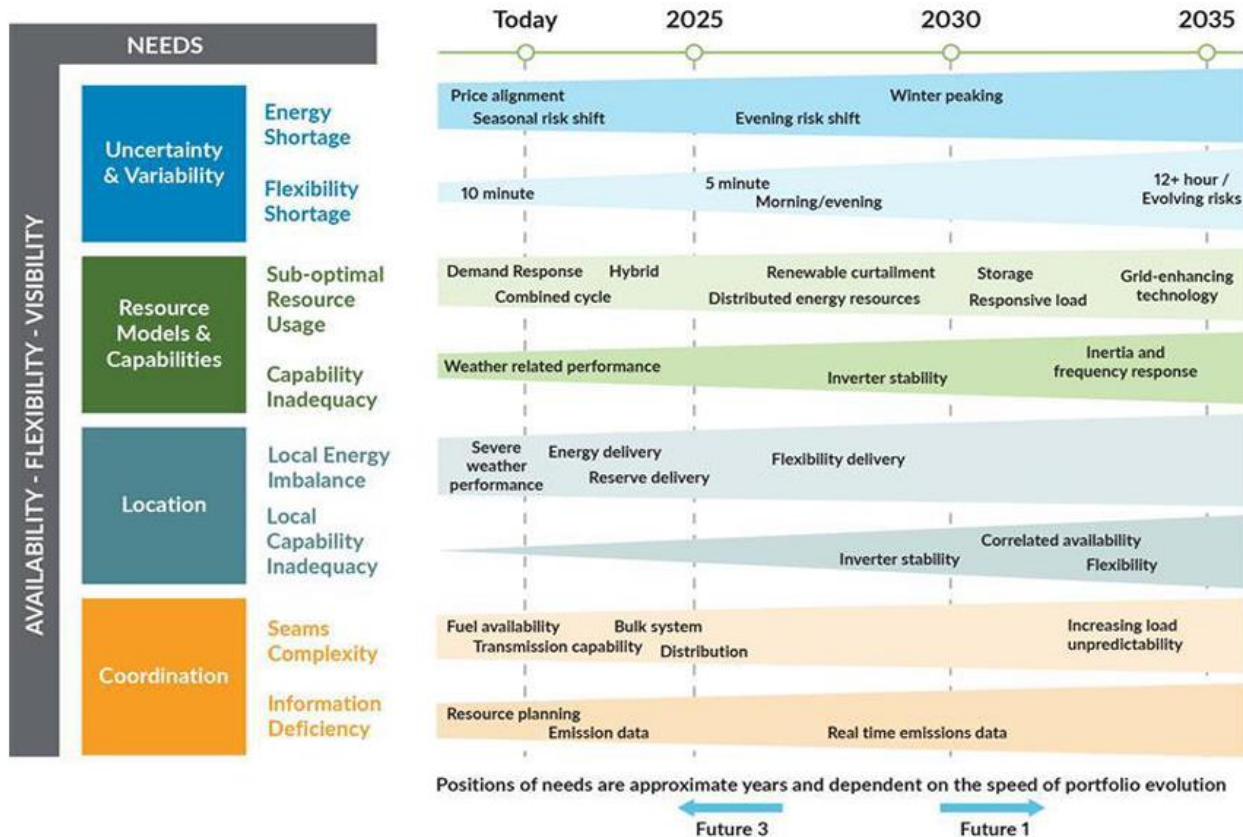


Strategic priority objectives help us plan, organize and execute the critical work necessary to meet our stakeholders' needs

Operations of the Future Initiatives				
Operations Preparedness	Situational Awareness	Critical Communications	Operations Planning	Operational Continuity
Improved simulation tools and training	Integrated toolset that leverages advanced technologies and enhanced data to help turn data into actions	Enhanced capabilities that enable quicker and more efficient communications	Better aligned operations and planning models and improved outage coordination analysis processing capabilities	Improved tools and updated processes to ensure reliable operations, mitigate risks, and recover quickly

Market Redefinition Initiatives			
Uncertainty & Variability	Resource Models & Capabilities	Location	Coordination
Seasonal resource adequacy construct, accreditation reforms, and scarcity pricing enhancements that better align system needs and capabilities	Enhance existing models and design and implement new market participation models	Enabling reserve zone adjustments, enhanced sub-regional resource adequacy assessments, and steps toward inverter-based resource optimization	Streamline coordination efforts and processes for collecting and sharing data, as well as refining the modeling objectives

The needs of the MISO region evolve over time, and new needs emerge as the fleet transitions



Forward-looking work is underway to ensure that MISO has the people skills, processes and technology to anticipate and respond to operational opportunities and challenges

People

- Adaptable
- Shift synergies
- Less fragmented

Process

- Inquiry-driven
- Automated
- Seamless IT/Ops integration

Technology

- Timely
- Integrated
- Reliable
- Enabling

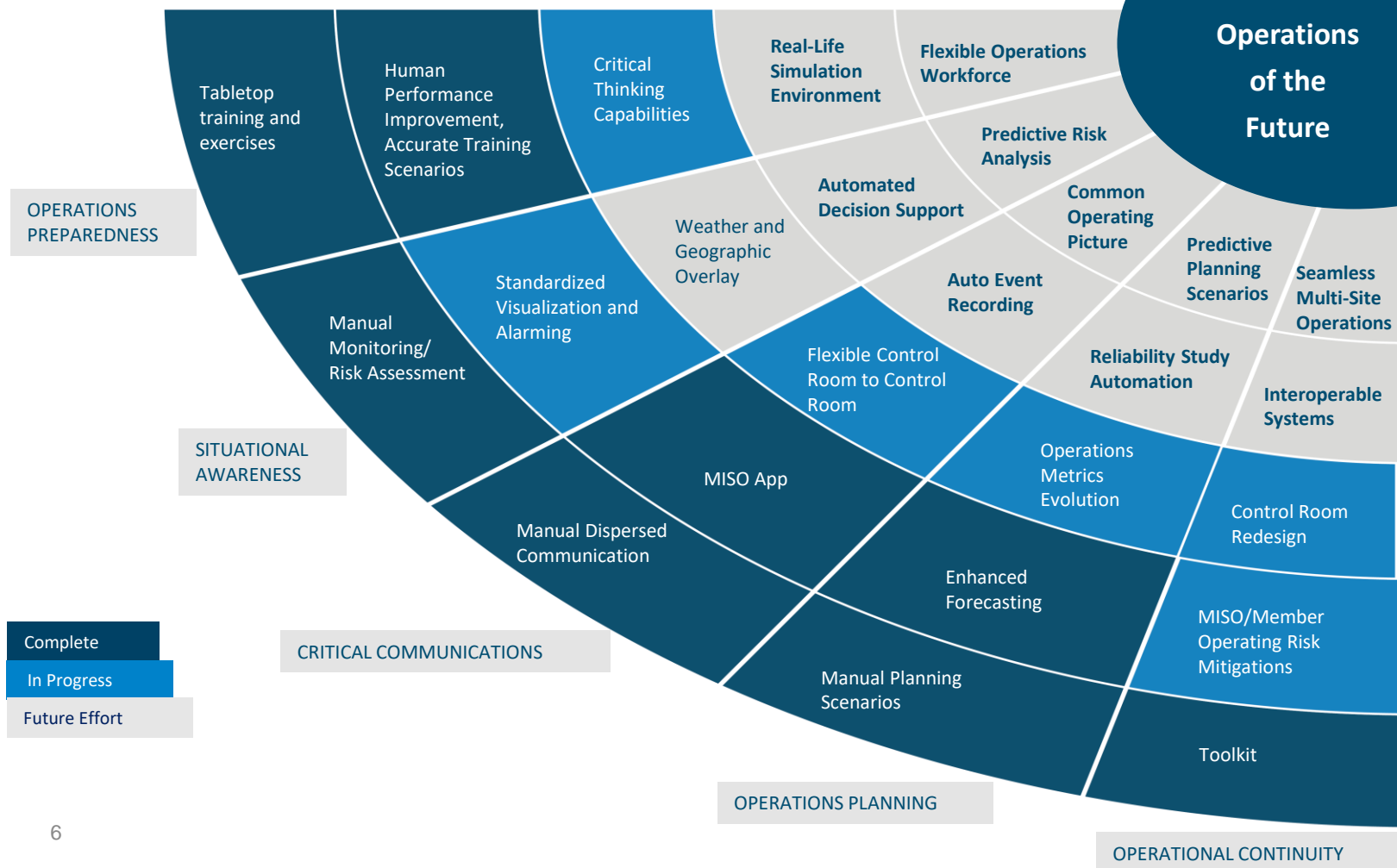


2020

Today

2030+

Operations of the Future



To achieve this work, MISO will need to scale throughput with additional resources and investments while working through post-COVID talent shortages



**INVEST IN PROCESS
& TECHNOLOGY**



**RECRUIT & TRAIN
TALENT**



**RETAIN & MANAGE
TALENT**

- Work identified to date in the Reliability and Market portfolios requires an investment of approximately \$80-150 million dollars over the next 3-5 years
- A hybrid approach to talent management is necessary given the shortages in experienced talent and the unique skillsets that are needed
 - Rely on external talent with vendors and strategic business partners
 - Train and retain workforce through internships and college hires

Electra Video

<https://cdn.misoenergy.org/20191212%20Board%20of%20Directors%20Electra408760.mp4>



Questions?