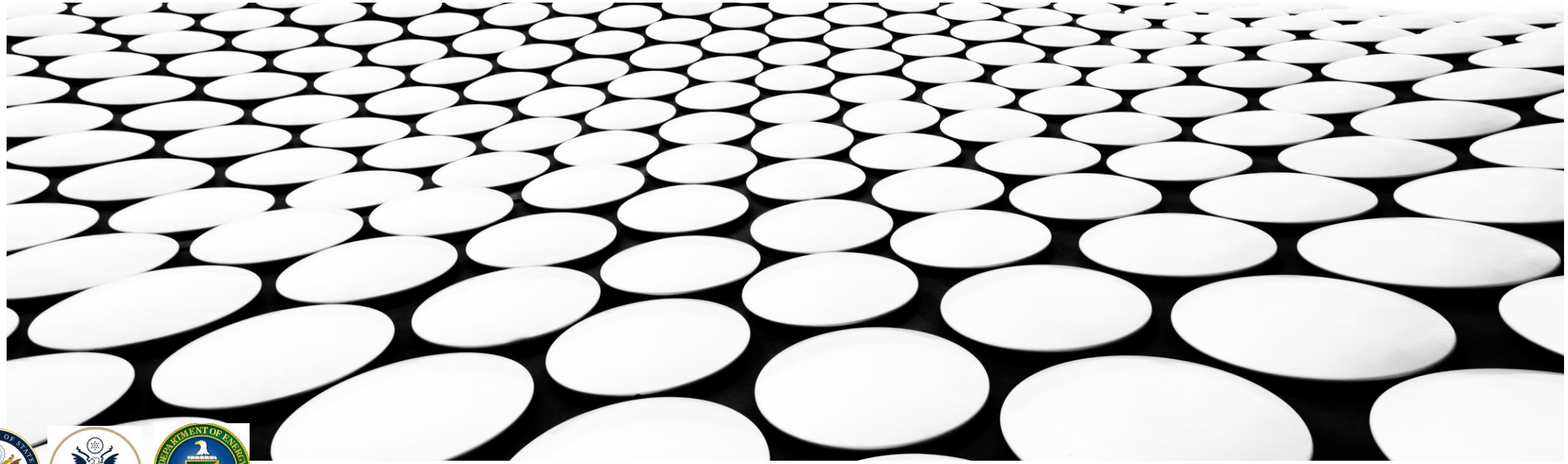
LEVERAGING STI TO IMPROVE RESILIENCE

PH-US-UNCTAD HARNESSING STI FOR DISASTER RISK REDUCTION

DR. BANDANA KAR, TECHNOLOGY POLICY FELLOW @ US DEPARTMENT OF ENERGY

METRO MANILA, PHILIPPINES, 29 FEBRUARY – 01 MARCH, 2024



CURRENT STATE OF DISASTERS

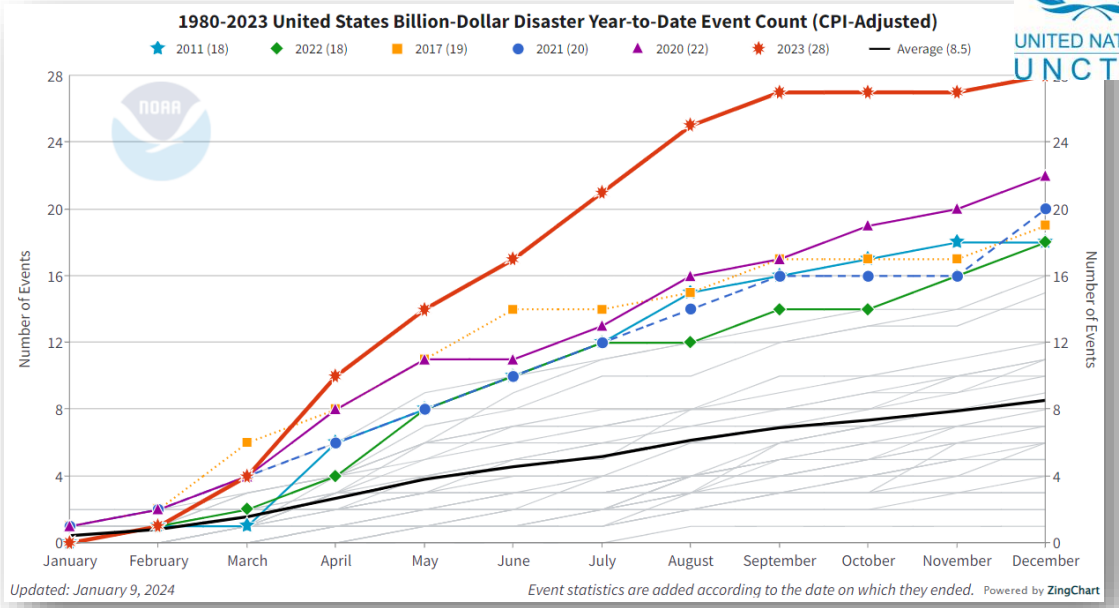
2023 Global Disasters

Storm Daniel, Libya
Maxar Technologies

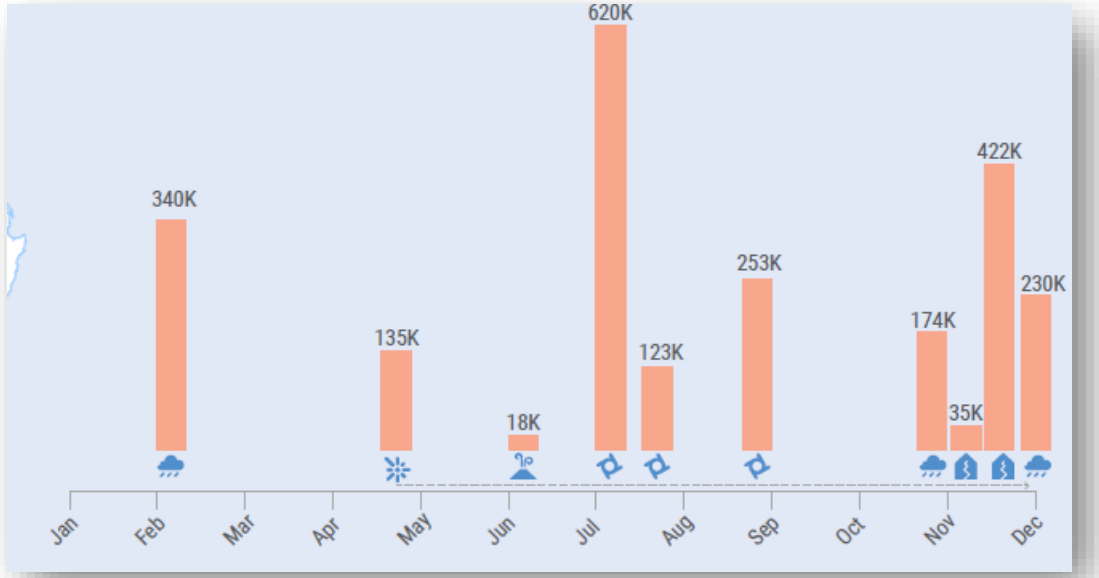
Typhoon Doksuri, Philippines

Hawaii Wildfire, USA
Maxar Technologies

Earthquake, Turkey and Syria
USAID

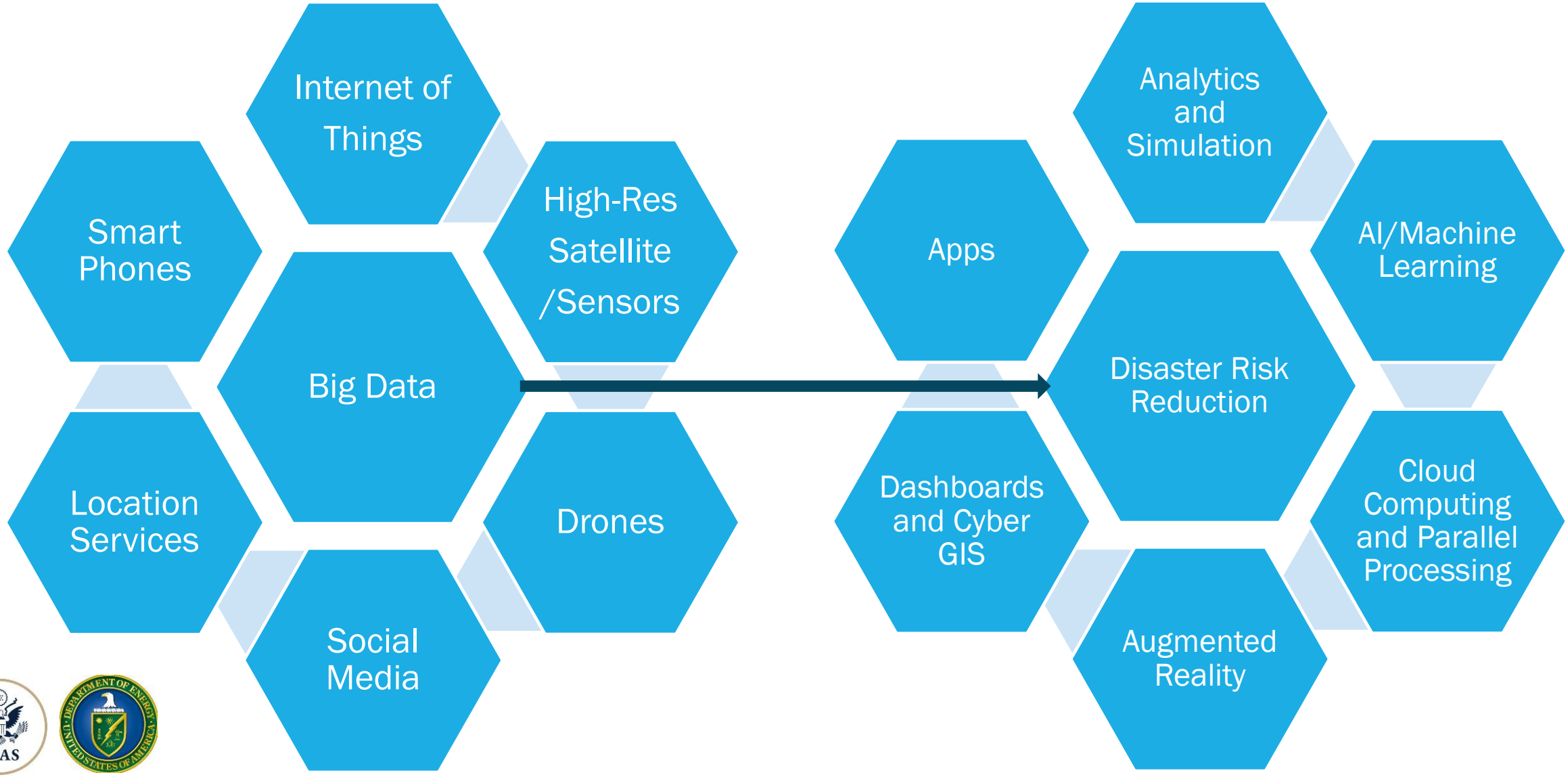


23 Billion-Dollar Climate Disasters Affected the USA in 2023



STATE OF STI – INDUSTRIAL REVOLUTION 4.0

IMPROVING THE SPEED OF LINKING INFORMATION TO RESPONSE

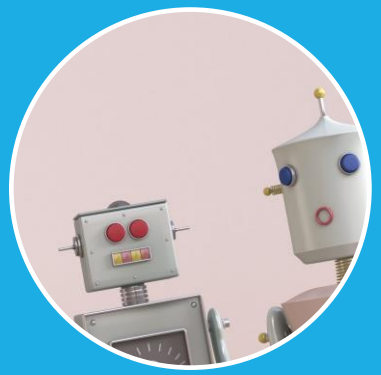


INDUSTRIAL REVOLUTION 5.0

EMPOWERING SOCIETY THROUGH CONVERGENCE OF TECHNOLOGIES

Digital Twin

Generative AI



Advanced Robotics/Bots

CONTINUING CHALLENGES AND BARRIERS

Decision Ready Data

Data File and Content Format
- Structured vs unstructured
- Geospatial vs aspatial

Data Access
- Public vs proprietary
- File size

Data Usability
- Privacy and Ethical Issues
- Relevance and reliability
- Skill sets

Decision Ready Information

Model Accessibility
- Copyright and legal issues
- Absence of a central hub for models

Model Interpretability
- Complexity of models
- Parameters and processes

Usability
- Model uncertainties
- Too many models

Action Oriented Outcomes

Information Access
- Reliability in information and source
- Inadequate information

Stakeholder Engagement
- Understanding adaptive capacity vs mitigation strategies

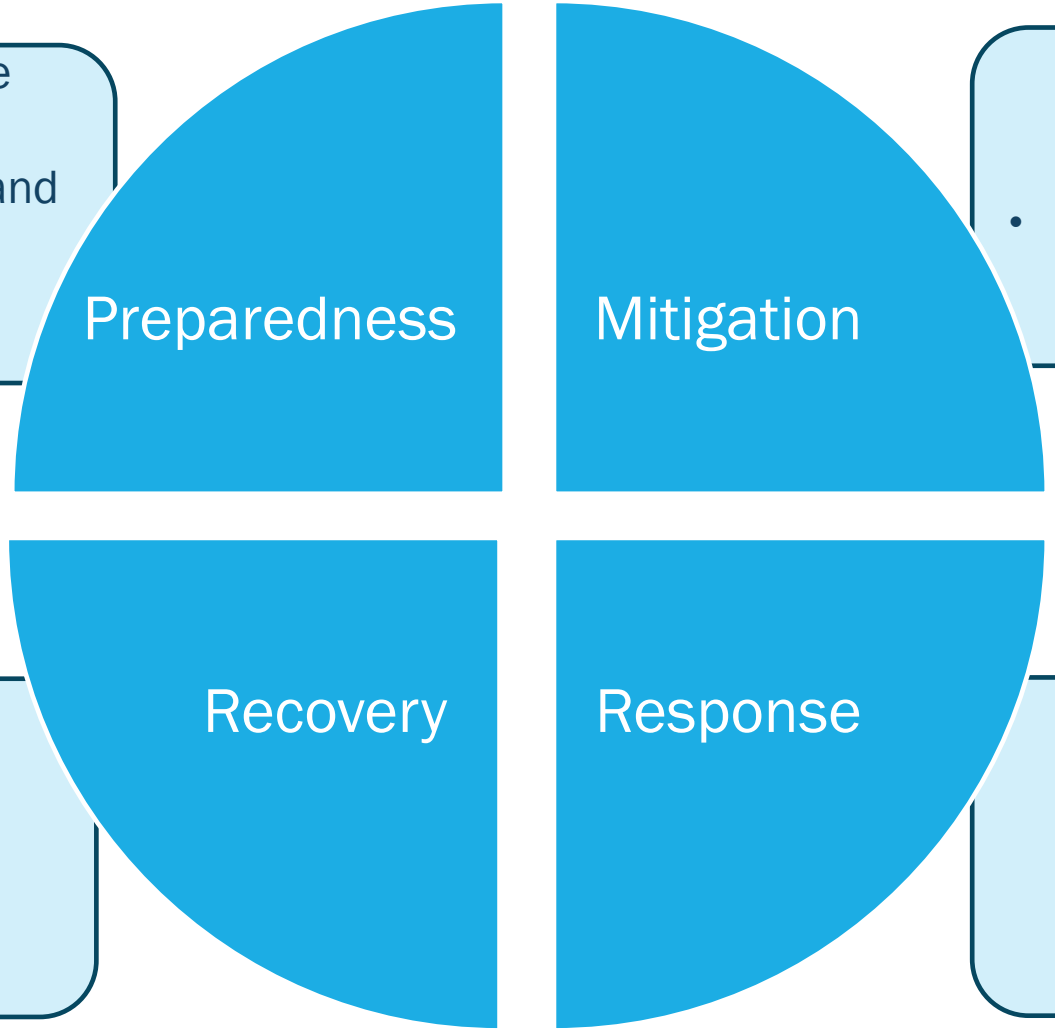
Policy and Funding

POTENTIAL OPPORTUNITIES

CREATING PATHWAYS FROM DATA TO ACTION

Data	• Open data and open science • Data interoperability • Cyber security and data privacy
Models/Analytics	• Transparent and ethical • Accurate and trustworthy • Open access
Decision Making Action	• Early warning systems • Community engagement • Public – private partnerships

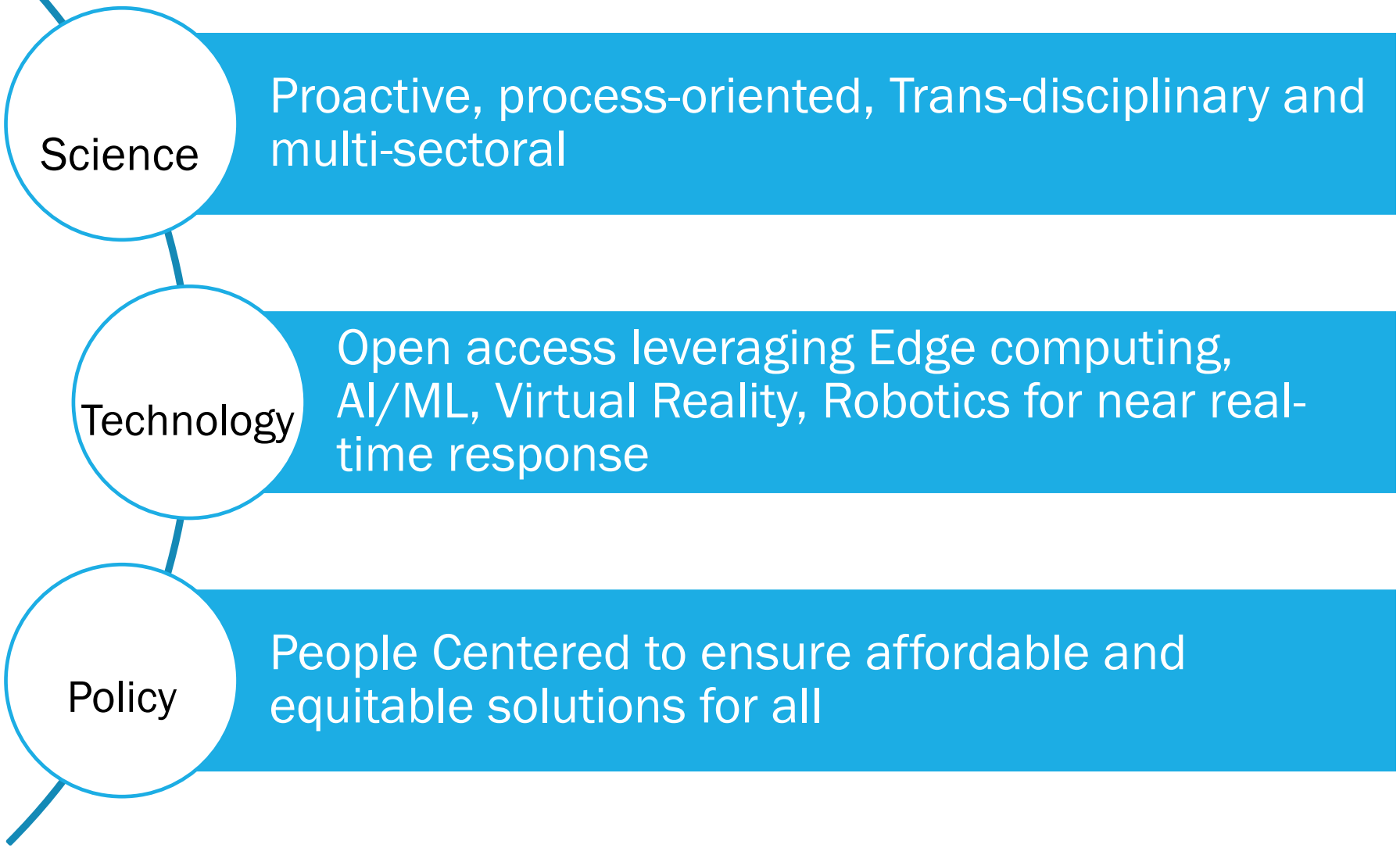
POLICIES AND KEY INITIATIVES FOR DRR IN THE USA



- National Climate Resilience Framework
- Infrastructure Investment and Jobs Act (IIJA)/BIL
- North American Energy Resilience Model (NAERM)

- National Flood Insurance Plan
- National Risk Index
- IIJA
- Decarbonizing the U.S. Economy by 2050: A National Blueprint for the Buildings Sector

- National Disaster Recovery Framework

- Robert T. Stafford Disaster Relief and Emergency Assistance Act
- North American Energy Resilience Model (NAERM)

COMMON GROUND AND COMMON PATH
IMPROVE RESILIENCE AND MINIMIZE IMPACTS