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Data-Driven Approach to Wildfire Resiliency for Utilities & Communities in California

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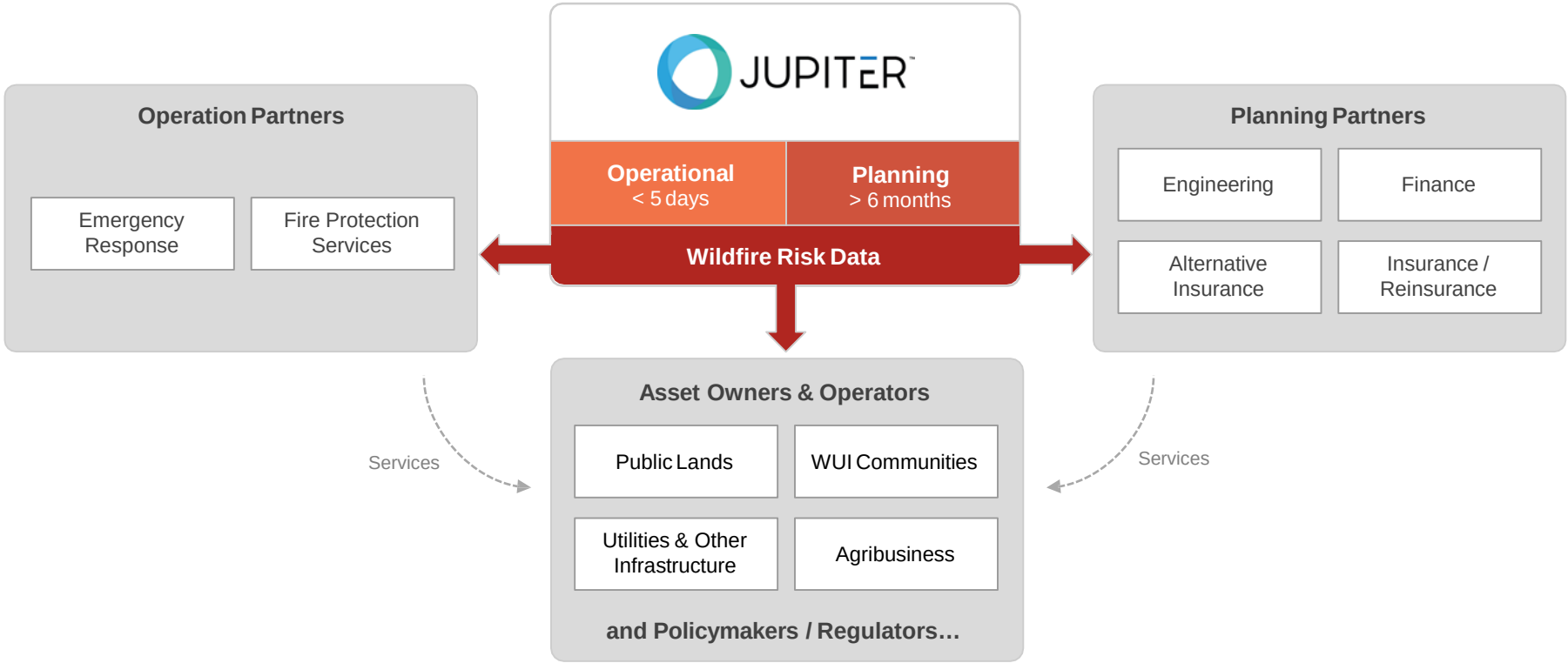
Diverse Hazards, Common Lessons

Sandy impact on NYC T&D catalyzed:
- Greater back-up redundancy
- More robust fuel delivery arrangements
- Capacity building and coordination around generator deployment
- Microgrids in longer term planning

- Although wildfires present a unique set of risks to vulnerable communities, energy resiliency challenges associated with wildfires are not new and lessons learned elsewhere can be applicable

- A critical component to resiliency planning is actionable data that informs short term operational response and long term planning

Data Enables a Resiliency Ecosystem



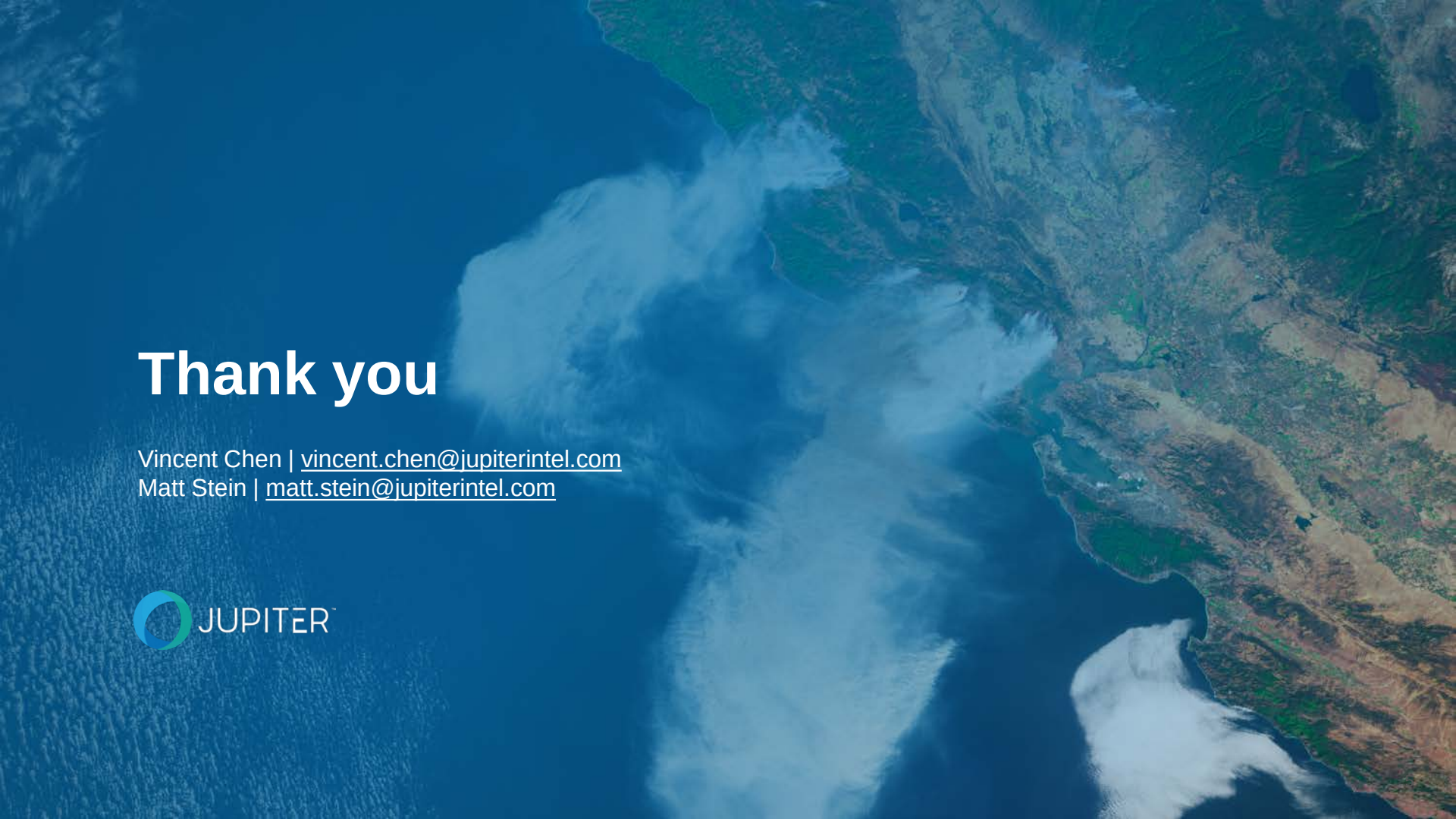
Next-Generation Wildfire Modeling

Short-term Operations

- **Cloud-native Infrastructure**
  On-demand, flexible computing capacity suitable for "burst" processing
- **Hyper-local Numerical Weather Prediction**
  Leverage latest atmospheric science and land-surface science combined with local data assimilation to produce more accurate, high resolution probabilistic forecast of temperature, humidity, wind, and precipitation
- **State-of-the-art Vegetation Model**
  Integration of public domain fuel-surveys and on-demand remote sensing data

Long-term Planning

- **Commercial Satellite**
  Novel data and analytical methods based on optical and radar observations
- **Machine Learning / AI**
  Linking fire characterization to fuel and downscaled meteorological conditions in a changing climate
- **Non-stationary Climate**
  Multi-seasonal climate covariates factoring in non-stationary aspects of the climate
- **Integration with other Earth Systems models**
  Develop full stack capability with integration of biological and social economic models



Thank you

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