

Digitizing Utilities Prize

Dominion Energy

NASPI Fal 2022 Hybrid Meeting

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The Value of Data is Immense

Dominion ROI from high-resolution telemetry & PingThings' PredictiveGrid:

1. What gets measured gets fixed → Dominion's T&D plant is ~\$25B
2. "Traditional" use cases \$10Ms per year
3. "Clean Energy" use cases \$100Ms per year

Safety - Ethics - **Excellence** - One Dominion - **Embrace Change**

Challenges to Using Data in the Utility

Focus on Control Room Apps

Acting on Unearned Wisdom

Distracted by Artificial Intelligence

High Cost of Experimentation

Insufficient Talent Pipeline

Inadequate Incentive Structures

Investing in Digital Infrastructure

The **Clean Energy Transition** is fundamentally a digital transformation!

Physical Infrastructure

- Inverter-Based-Resources (IBRs)
- FACTS
- Drop-In-Place-Control-Enclosure (DICE) - 61850

Data Infrastructure

- High-resolution grid telemetry
- Bandwidth upgrades
- State-of-the-Art Data Platform (PredictiveGrid™)
- **Creating financial incentives for digital transformation: analytics development, cloud infrastructure, custom software development**

Workforce

- Build & retain a digitally literate engineering and technician workforce.

Why We Are Participating in the Prize

We see the opportunity for layered positive outcomes:

(Good) Accelerate execution of our internal roadmap.

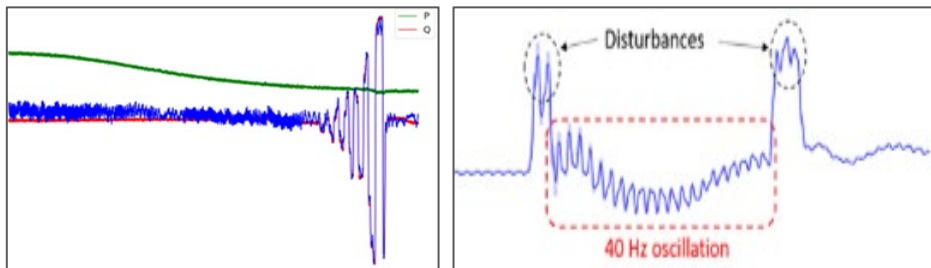
(Better) Grow our “virtual” team.

(Best) Learning how to construct robust incentives for large-scale, flexible collaborative structures with industry experts and “outsiders”.

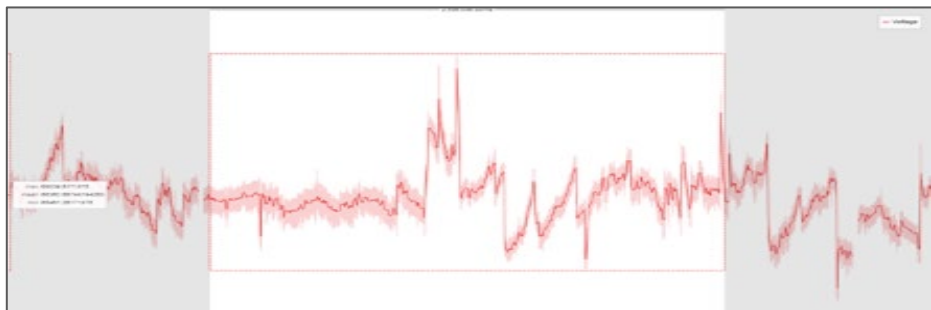
What We Are/Aren't Looking For in a Team

- All data is not created equal. Looking for people that are **excited about the unique opportunities for high-resolution & ultra-high-resolution** sensor data from the grid.
- Not looking for a “hero”. **Looking for collaborators!**
- Looking for **highly motivated teams/individuals** that are able to **quickly self-educate**.
- Not looking for fancy/exotic solutions. Looking for **practical, scalable approaches**.
- Not looking for black-box machine learning approaches. Looking for **domain knowledge coupled with interdisciplinary skills** like Physics, Signal Processing, Control Theory, Statistics, Time-Series Data Analysis, etc. that require physical intuition of complex systems.
- Not looking for custom architectures or cloud infrastructure solutions. **We have our own platform that you'll work in with everything that you'll need.**

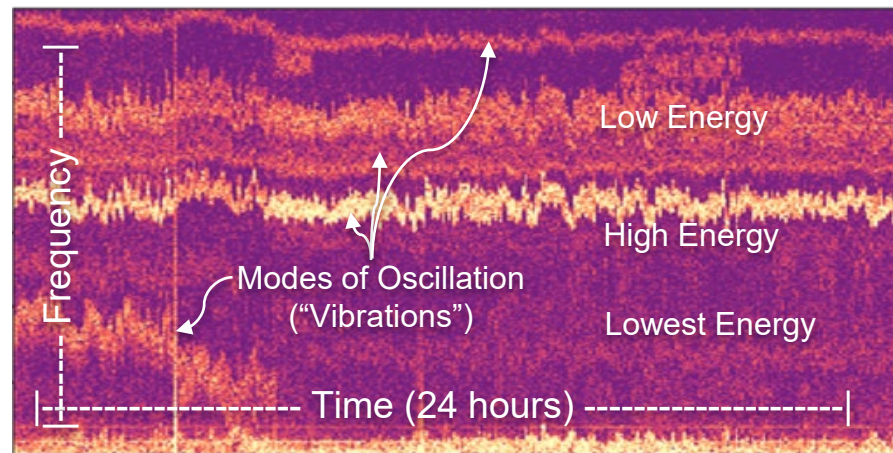
A Paradigm Shift in Studying Grid Dynamics



Events are great, but rare...



“Ambient” data is rich and underrated!



Join our (Growing) Team!



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Hesen Liu, Ph.D.

Eng. Analytics, Data Eng.



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Technology, Data Eng.



Joshua Mellen

Data Eng., Data Integration



WFP Vacancy x2

Eng. Analytics, Data Eng.

