Digitizing Utilities Prize

Dominion Energy

NASPI Fall 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!

<table>
<thead>
<tr>
<th>Physical Infrastructure</th>
<th>Data Infrastructure</th>
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<tbody>
<tr>
<td>● Inverter-Based-Resources (IBRs)</td>
<td>● High-resolution grid telemetry</td>
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<td>● FACTS</td>
<td>● Bandwidth upgrades</td>
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<td>● Drop-In-Place-Control-Enclosure (DICE) - 61850</td>
<td>● State-of-the-Art Data Platform (PredictiveGrid™)</td>
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<td>● Creating financial incentives for digital transformation: analytics development, cloud infrastructure, custom software development</td>
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**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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WFP Vacancy x2
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