

Electric Transmission is Fundamental



Matthew Gardner
VP Transmission, Dominion Energy



Our mission is to provide the reliable, affordable, and increasingly clean energy that powers our customers every day.

Dominion Energy provides regulated electricity service to **3.6 million** homes and businesses in **Virginia, North Carolina, and South Carolina.**

& regulated natural gas service to 400,000 customers in South Carolina.

29.5 GW
Electric generation capacity

4 Nuclear Facilities
Powering more than 3M homes

79,300 miles
Of electric distribution lines

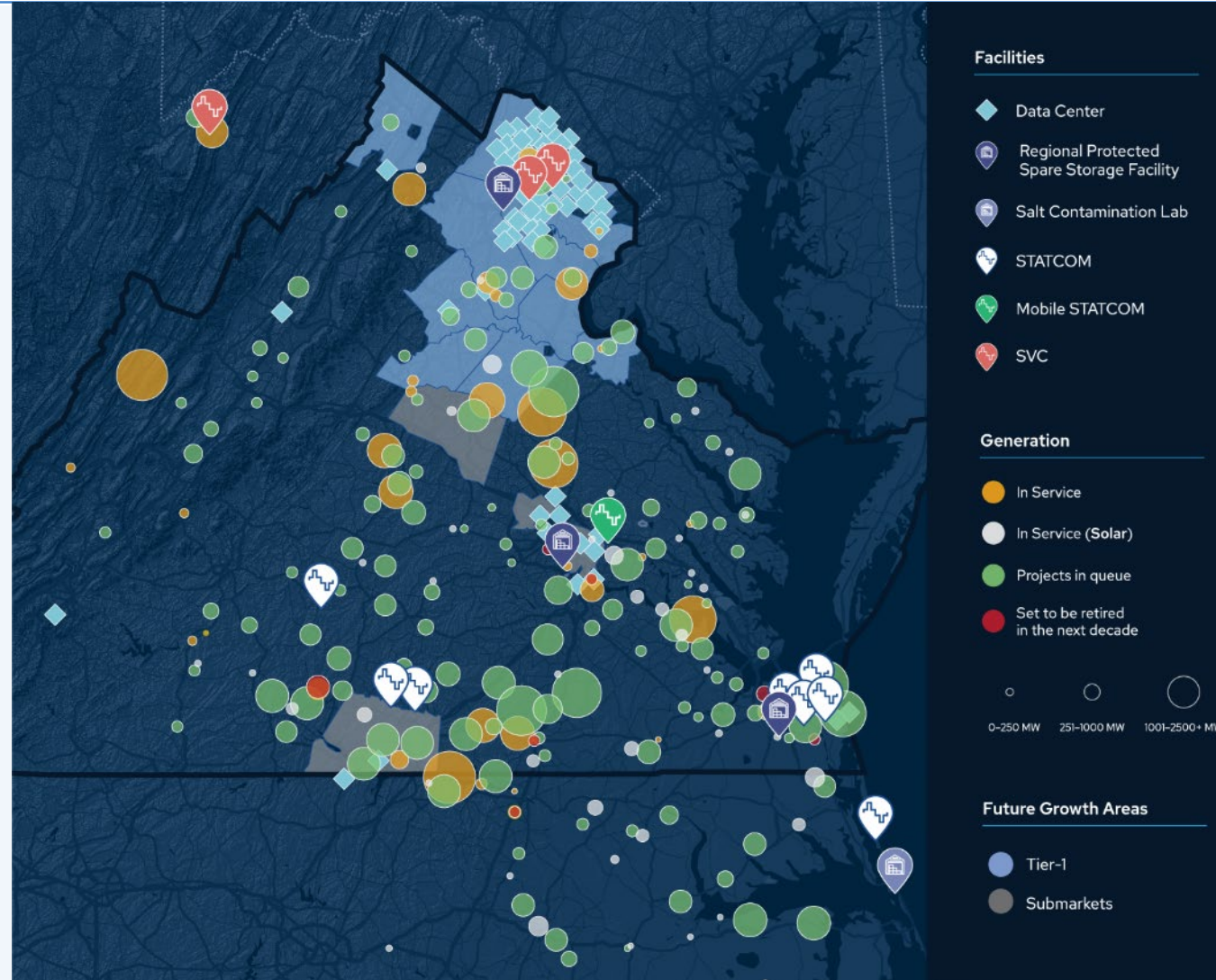
10,600 Mile Network
Of electric transmission lines

\$1.9B Invested
In transmission infrastructure in Virginia and the Carolinas in 2023

More Than 12 GW
Of renewable energy in service or under development

15 Data Centers
Accounting for 933MW of electric load connected to the grid

Data source: "Dominion Energy Annual Report 10-k" Dominion Energy, Feb 23, 2024



Electric Transmission

Dominion Energy Virginia's Electric Transmission
operates in Virginia, North Carolina, & West Virginia

6,740 Miles

Of Transmission Lines

Nearly

900 Substations

45,416

Transmission Structures

500 kV

1,314 Miles

230 kV

2,973 Miles

138 kV

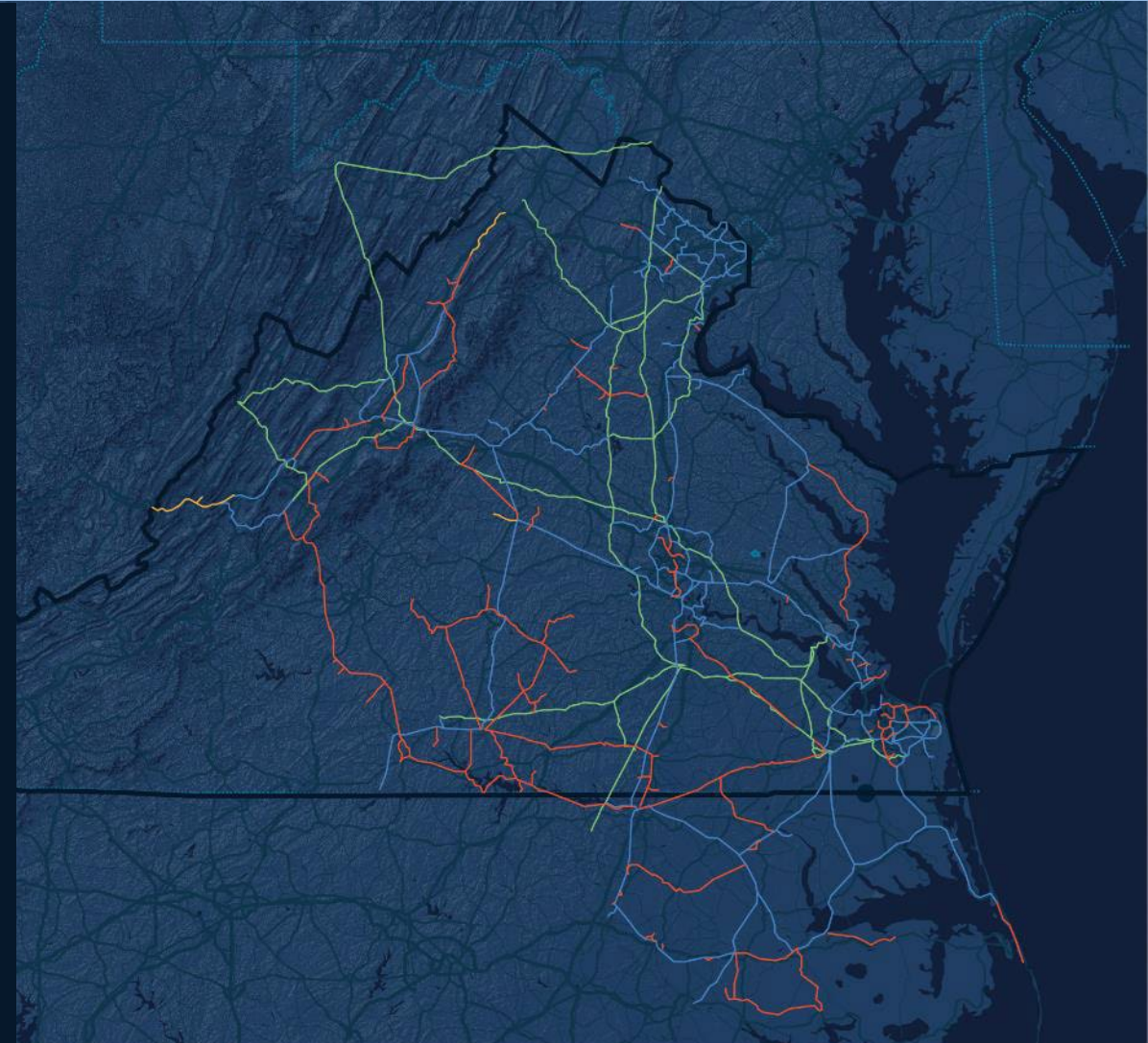
63 Miles

115 kV

2,311 Miles

69 kV *(not shown)*

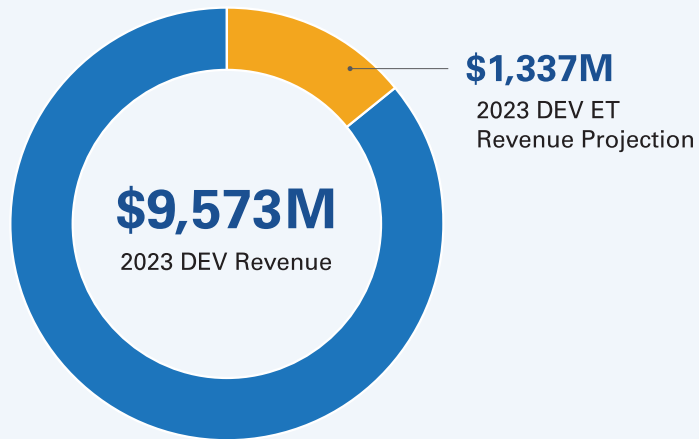
67 Miles



Electric Transmission

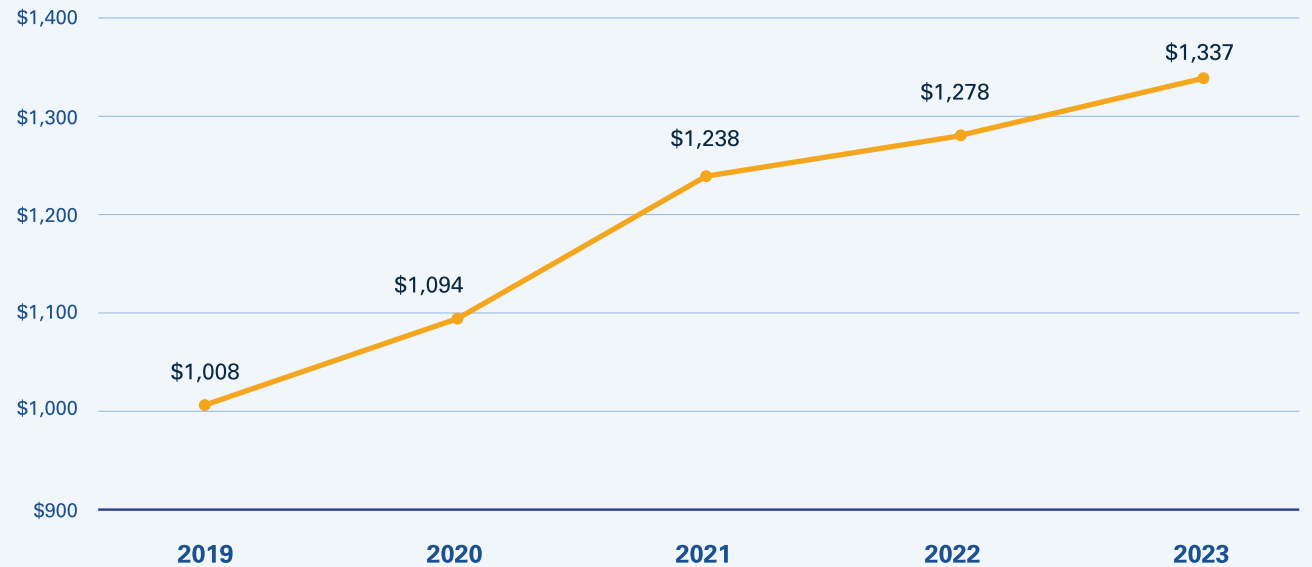
Electric Transmission is a major contributor to Dominion Energy's annual revenue and growth.

2023 Revenue



Electric Transmission provided **14%** of Dominion Energy's overall annual revenue in 2023

DEV ET Revenue Projection \$M



Data source: https://s2.g4cdn.com/510812146/files/doc_financials/2023/q4/2024-02-22-DE-IR-4Q23-Earnings-Release-Kit-vTC.pdf
<https://www.pjm.com/markets-and-operations/billing-settlements-and-credit/formula-rates>

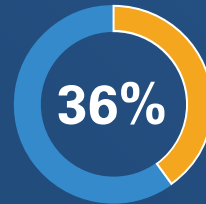
Electric Transmission

Electric Transmission is experiencing significant growth



Significant Growth ⁱⁿ DOM Zone Load

CAGR 5.6% for next 10 years

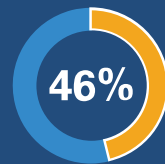


YOY Increase in ET All-in Total Spend

from 2023 to 2024:
\$2.6B to \$3.6B

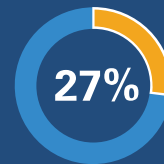
\$19.4B

ET Capex Planned
2024-2031



Diverse Hires

YTD 2024



3-year Growth Trend

Substation Assets

Expanding Data Center Growth

outside Data Center Alley

1,668

Current ET Planning & Operations Authorized Headcount

Requesting Additional Headcount of

307

 **an 18% increase**

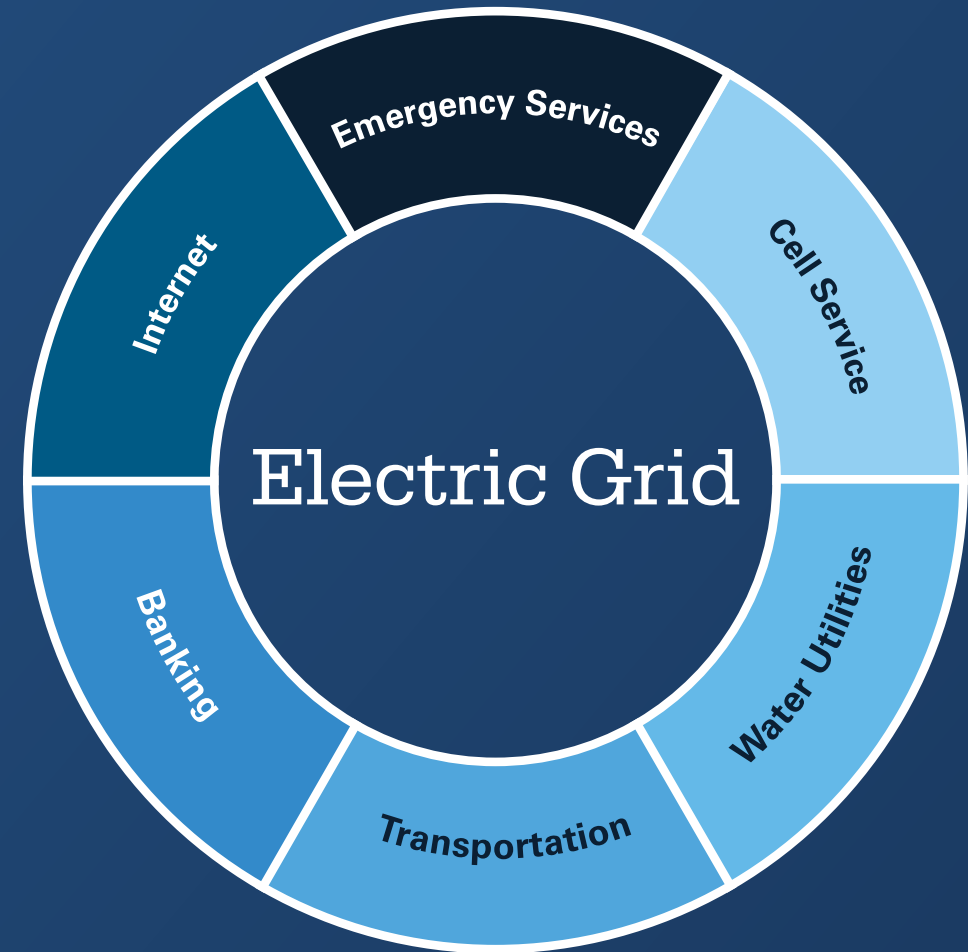
Massive Expansion of ET Transmission & Substation Projects

resulting from Offshore Wind, Solar, & Data Center Projects



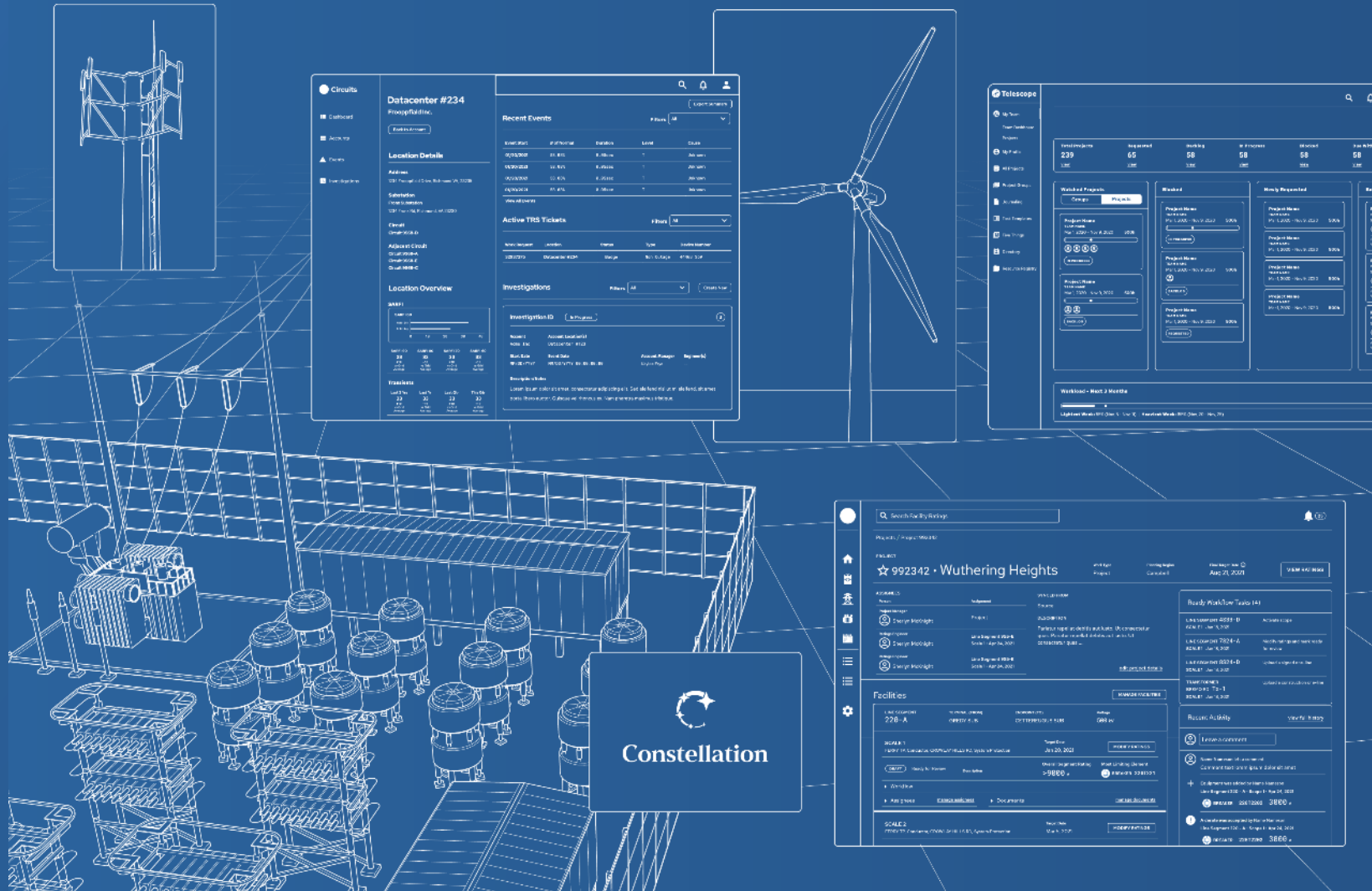
Electric Transmission is Fundamental.

We find ourselves at the beginning of a transition that is transforming our industry and will fundamentally change the world we live in.



Initiatives

The challenges we face are broad and varied and require innovations across our processes, tools, and approach.



Initiatives

ANODE

Asset Rating Confirmation (ARC) Program*

CIGRE and IEEE engagement

Circuits

Constellation Program

Coastal Virginia Offshore Wind (CVOW)*

Data Center Impact Analysis

Data Center Load Curtailment Program*

Drop-in Control Enclosures (DICE)*

Encrypted Grid Pilot

ET Engineering Analytics and Modeling Team

Facility Ratings Database*

FERC Order 1920

FERC Order 2023

FERC Order 881*

Grid Bricks*

High Voltage Lab (HVL)*

Hosting Capacity Study

Integrated Resource Plan (IRP)

The Locks Campus Microgrid

Long Term Planning (LTP) Hub

MARS

Monitoring Analysis and Restoration Center (MARC) *

MODOM

NightVAR

Operational Reliability Dashboards & Regional Load Forecasting

OT Monitoring Center (OTMC)

Pi Platform

PJM Generation Interconnection Queue Process

PJM's Long-term Regional Transmission Plan (LTRTP)

PJM's Regional Transmission Expansion Plan (RTEP)

Predictive Grid

Private LTE platform*

Sixth Man

Synchrophasor EMS

Telescope

Initiatives

Asset Rating Confirmation (ARC) Program

Ensuring facilities meet standards and specifications and ratings are documented accurately in the field

FERC Order 881

Develop and Implement Ambient-Adjusted Ratings (AAR)

Facility Ratings Database

Managing and tracking ratings of all equipment and facilities on the transmission grid

The screenshot displays a complex web application interface for managing facility ratings. It features several overlapping panels and data tables.

- Parent Line Panel:** Shows details for line 2183-A, including endpoints (CETTEREUGUS SUB, GREY SUB) and segments (2183-A, B, C, D).
- Open Project Scopes Table:**

Project	Status	Target Date
993243 • Wuthering Heights	APPROVE	Apr 30, 2021
993244 • Wuthering Heights	PENDING	May 30, 2021
993245 • Wuthering Heights	PENDING	Jun 30, 2021
993246 • Wuthering Heights	PENDING	Aug 30, 2021
- History Table:**

Project	Status	Target Date
847593 • Cherokee Heights	ACTIVE	Apr 30, 2021
847429 • Cherokee Heights	HISTORICAL	May 30, 2021
847324 • Cherokee Heights	HISTORICAL	Jun 30, 2021
847291 • Cherokee Heights	HISTORICAL	Aug 30, 2021
847234 • Cherokee Heights	HISTORICAL	Aug 30, 2021
- Main Project View:** Displays 'Wuthering Heights' project details, including 'Line Segment 955-E Scale 1 - Apr 24, 2021' and 'Line Segment 955-E Scale 1 - Apr 24, 2021'. It includes a 'VIEW RATINGS' button and a 'MANAGE FACILITIES' button.
- Equipment Table (Modal):**

Type	OP Number	Rating	Last Updated
SWITCH	H328	172.7 MVA	Apr 19, 2019
BREAKER	H3T2183	172.7 MVA	Apr 19, 2019
SWITCH	218328	172.7 MVA	Apr 19, 2019
LEAD(S)	(2) 5" AL Pipe (Sch 40)		Apr 19, 2019
- Other Elements:** Includes 'Ready Workflow Tasks (4)' with actions like 'Activate scope', 'Modify ratings and mark ready for review', and 'Upload a signed one-line'. Also features a 'Recent Activity' section with user comments.

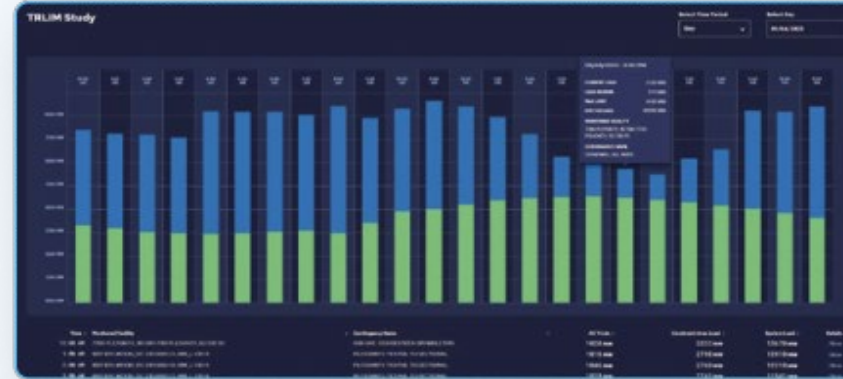
Coastal Virginia Offshore Wind (CVOW)

The only offshore wind project developed and owned by an electric utility company



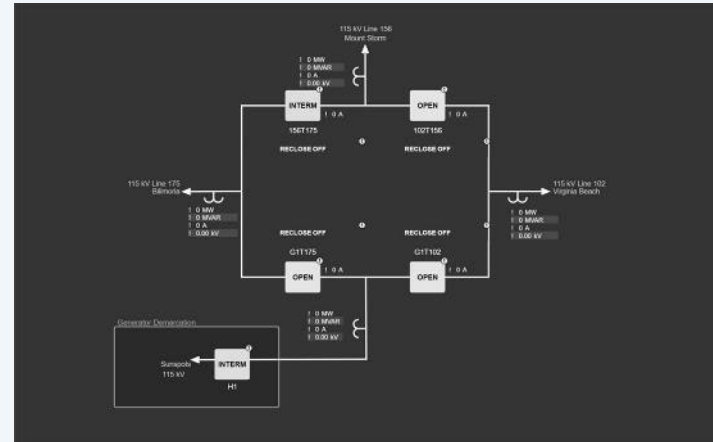
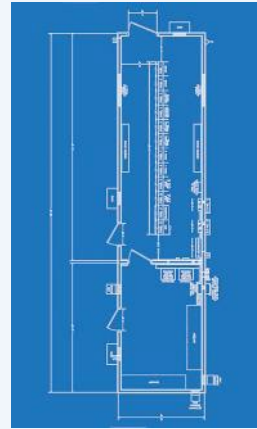
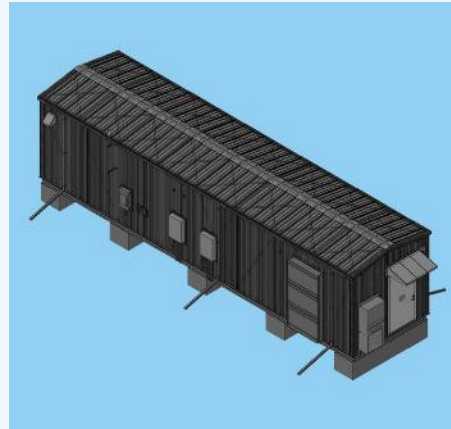
Data Center Load Curtailment Program

Allowing the acceleration of new load interconnections



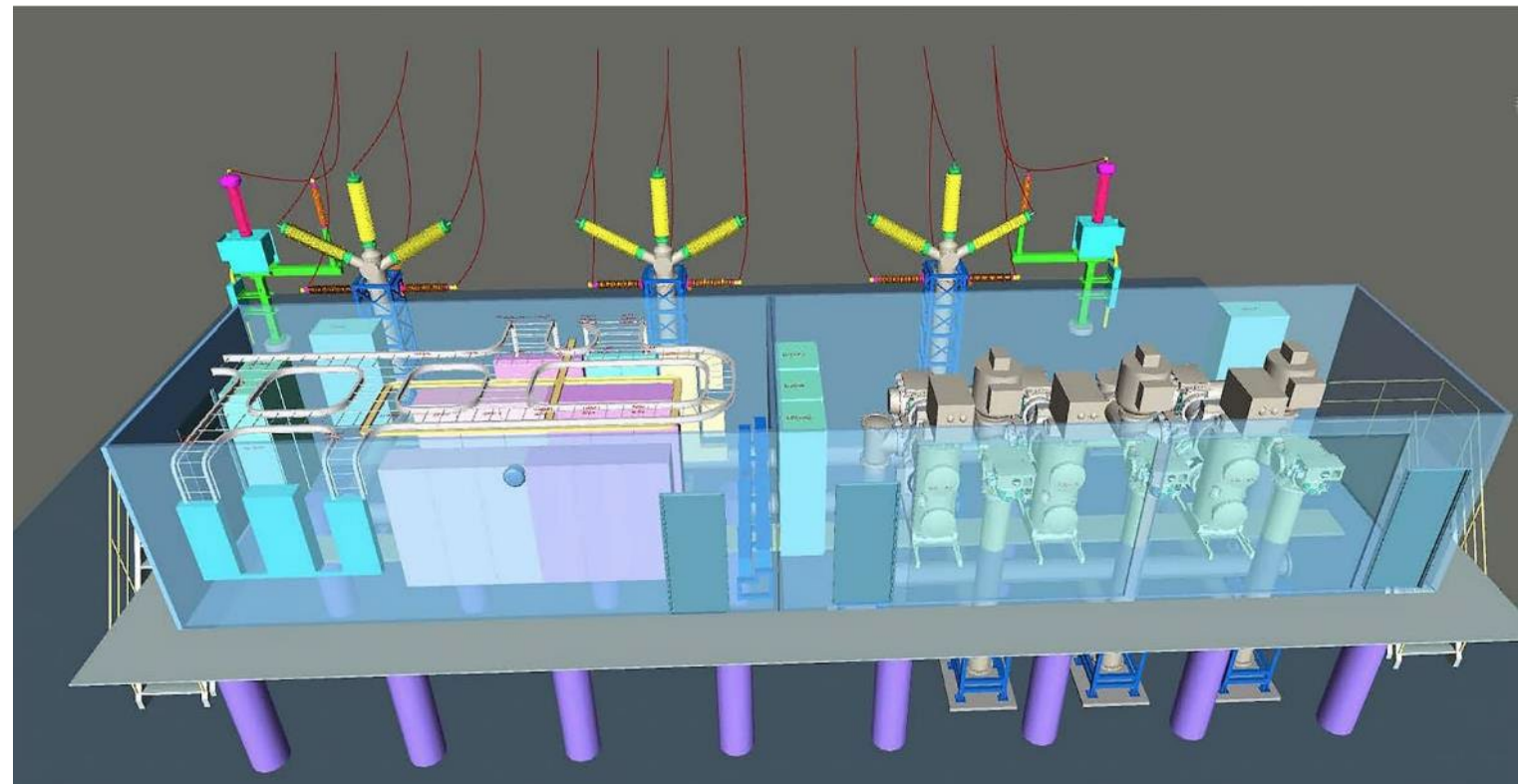
Drop-in Control Enclosures (DICE)

Digitizing the Substation to Keep Up with the Pace of the Interconnection Queue



Grid Bricks

Rapid Renewable Resilient
Infrastructure Manufacturing
and Deployment (R³IMD)



High Voltage Lab (HVL)

Providing an Environment for Controlled Energization of Equipment

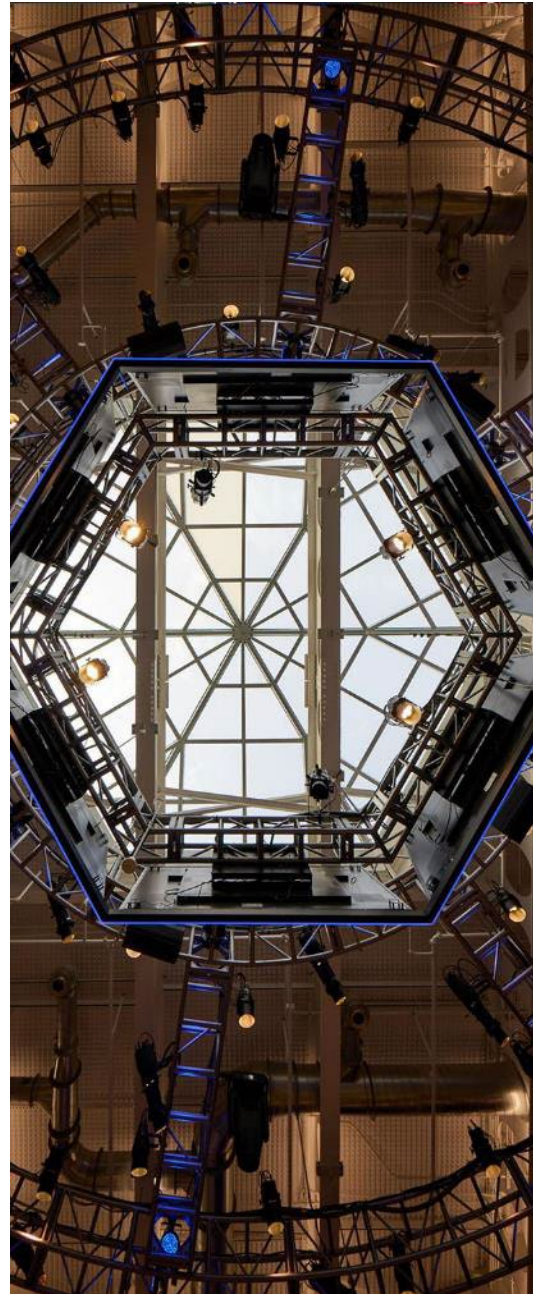
Root Cause Analysis (RCA) Lab at the HVL

Understanding Why Equipment Failed



Monitoring Analysis and Restoration Center (MARC)

A state-of-the-art facility that equips leadership and community stakeholders with real-time intelligence during critical events

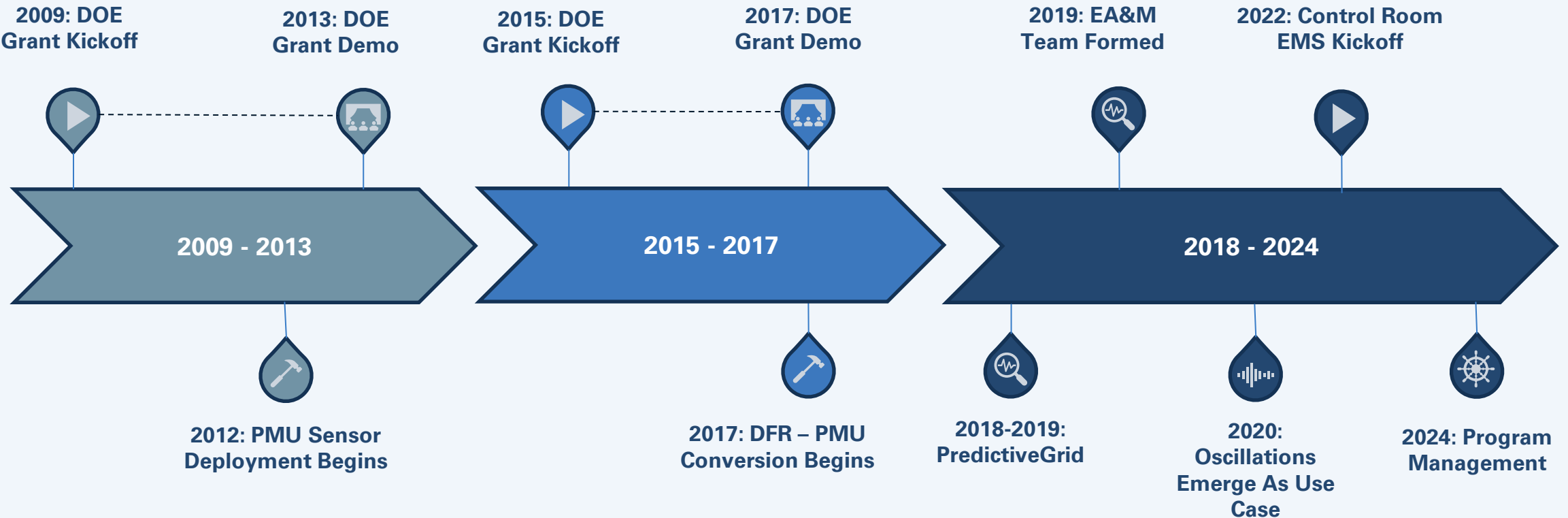


Private LTE Platform

Exploring options to eliminate the reliance on consumer cellular networks



Dominion Energy Synchrophasor Program History



Predictive Grid

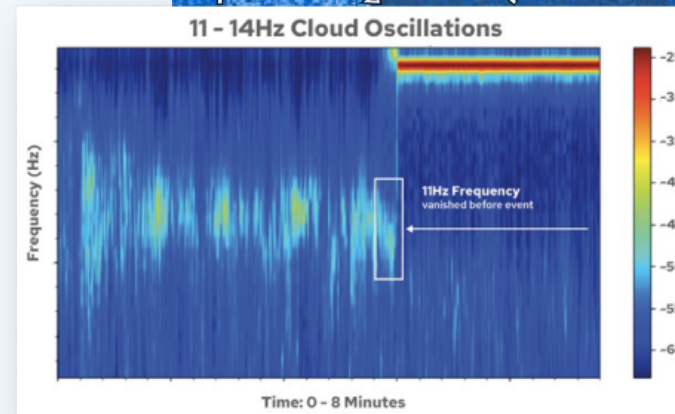
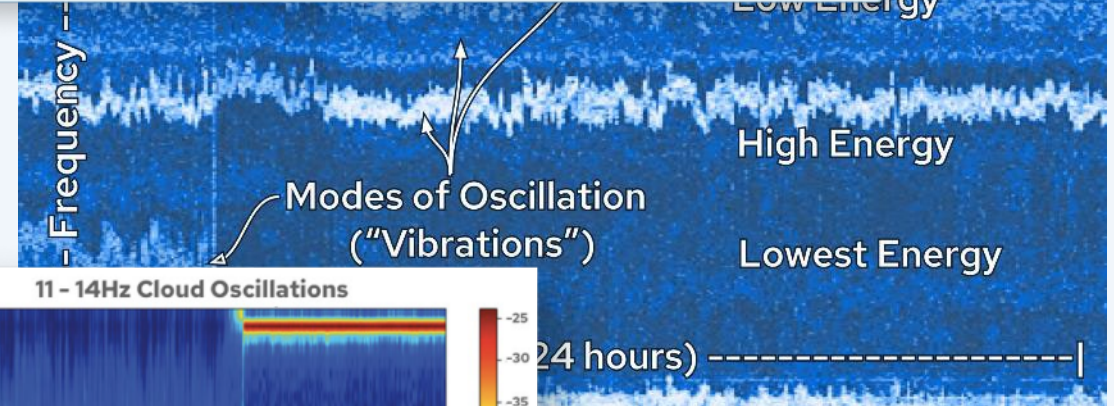
A platform to consume and analyze high fidelity time-series synchrophasor data

ET Engineering Analytics and Modeling Team

Bringing together innovative technology and deep domain expertise

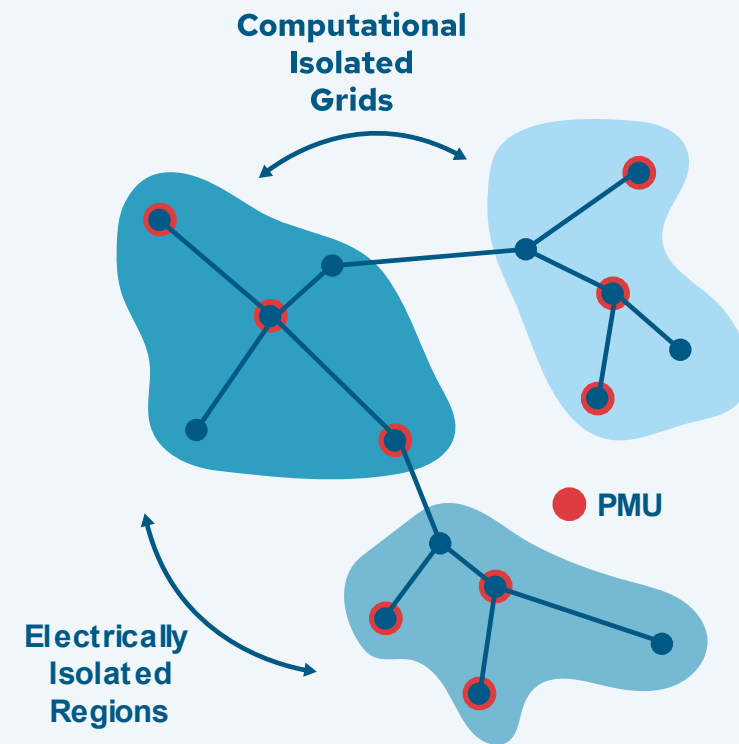
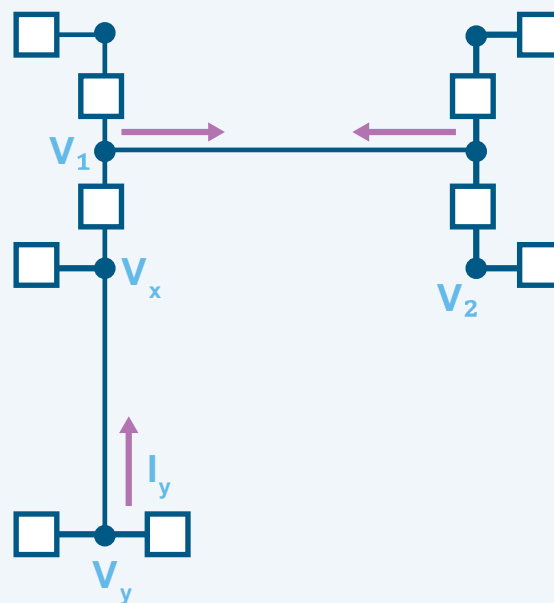
Data Center Impact Analysis

Managing the Hidden Impact of Data Centers



Synchrophasor EMS

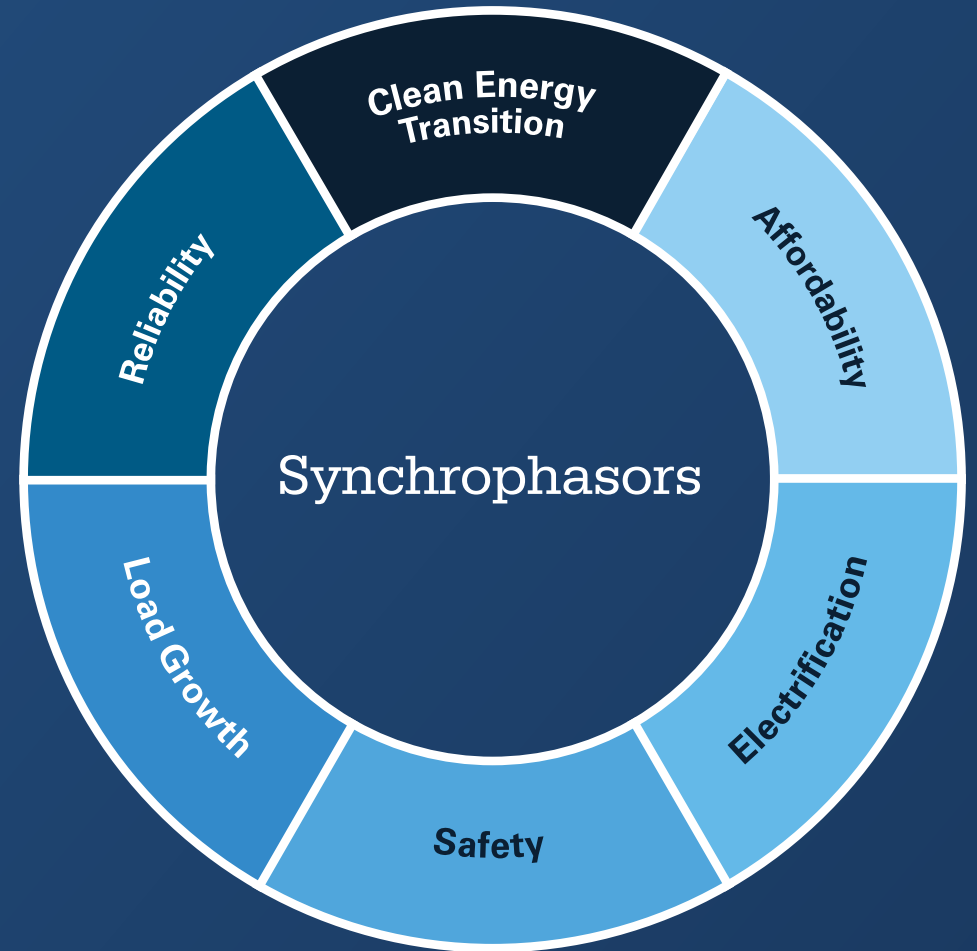
Creating Resiliency for Real-Time Monitoring





Electric Transmission
is Fundamental.

**Synchrophasors
are Fundamental.**



Thank You

Please leverage our
experience & keep up
the great work in the
community

Matthew Gardner
VP Transmission,
Dominion Energy

