AVANGRID’s Re-imagined Utility
Our Re-imagined Environment

CT
- Demonstration Projects, Fuel Cells, Energy Storage, Microgrids, EV

NY
- REV, DSIP, NWA, Market Design, Demonstration Projects, Energy Storage, EV, EE, Smart Community

ME
- NTA, Smart Grid Coordinator, VVO, Energy Future Committee, EV, AMI

40% GHG Reduction
50% Generation from Renewables
23% Decrease in Energy Consumption
Increase Customer Choice
EV Adoption
Our Re-imagined Role

The utility role is expanding to smart integrator, owning and operating a diverse platform.

AVANGRID's Re-imagined Role

**The Smart Integrator**

- Serve as a platform for customers and third-party service providers, enabling the growth, integration, and optimization of DER.
- Enable new value-added products and services that benefit customers directly and the overall efficiency of New York’s energy markets.
- Improve delivery service efficiency while improving the reliability and resiliency of the network.
- Enable the participation of customers and suppliers in evolving distribution markets.

**Monitor & Control**

- Real-time grid optimization (voltage/var, power flow, power quality)
- Granular time-based consumption & pricing

**New solutions for customers**

**Information for market providers**

**Distributed System Platform (DSP)**

**Grid Operations**

- Forecasting & planning to accommodate DER
- Leveraging DER as a solution to network problems

**Market Enablement**

- Distribution system expansion & pricing
- New services for customers

**Integrated System Planning**

- Distributed Energy Resource (DER) management
Our Technology Projects

Foundational
- AMI
- Grid Automation
- Grid Model Enhancement
- Enterprise Analytics

Grid Optimization
- ADMS
- DERMS
- MGMS
- DER MMS

Advanced Planning Tools
- Hosting Capacity
- Load & DER Forecasting
- BCA Tool

Innovative Projects
- FICS (ANM)
- Enhanced DER M&C
- EVSE

Information Sharing
- Interconnection Services
- Customer Experience
- Market Services
- Architecture & Integration
Our Technology Platform
AVANGRID’s Re-imagined Utility

Our Guiding Principles

Integrated solution
- No islands of intelligence
- No side systems
- Leverage corporate systems

Include DER in solutions
- VVO
- FLISR
- Capital Planning Alternatives
- Active Network Management

Common Grid Model
- in GIS
- from corporate repositories
- into Planning model
- into Operating model

Data is Crucial
- Quality
- Governance
- Processes
- Roles & Rules

System Flexibility
- Granularity
- Market Design
- Aggregation
<table>
<thead>
<tr>
<th>Our Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control System</td>
</tr>
<tr>
<td>Distribution model</td>
</tr>
<tr>
<td>Distribution power flow</td>
</tr>
<tr>
<td>FO, FLISR, VVO, DERMS, DER MMS</td>
</tr>
<tr>
<td>Active Network Management</td>
</tr>
<tr>
<td>OMS Enhancements</td>
</tr>
<tr>
<td>AMI</td>
</tr>
<tr>
<td>VVO EOL Voltage Sensing</td>
</tr>
<tr>
<td>Automation</td>
</tr>
<tr>
<td>Behind the meter DER M&amp;C</td>
</tr>
<tr>
<td>Integration with OMS</td>
</tr>
<tr>
<td>Automation</td>
</tr>
<tr>
<td>Substation</td>
</tr>
<tr>
<td>Line reclosers</td>
</tr>
<tr>
<td>Tie and sectionalizing switches</td>
</tr>
<tr>
<td>Line regulators &amp; capacitors</td>
</tr>
<tr>
<td>GIS</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Governance</td>
</tr>
<tr>
<td>Processes</td>
</tr>
<tr>
<td>Roles &amp; Rules</td>
</tr>
<tr>
<td>Survey</td>
</tr>
<tr>
<td>VVO</td>
</tr>
<tr>
<td>VO Pilot project (EMT)</td>
</tr>
<tr>
<td>VVO</td>
</tr>
<tr>
<td>Closed-Loop with Smart Meters</td>
</tr>
<tr>
<td>VVO with DER</td>
</tr>
</tbody>
</table>
Our Outage Management Technology Platform
*Integrate Islands of Outage Intelligence*

- Mobile Dispatch
- Mobile GIS & Visualization
- AMI
- Storm Management Via GIS
- One ETR Process
- Automatic Vehicle Location
- Damage Assessment

OMS & Storm Dashboard
The End...

Thank You!