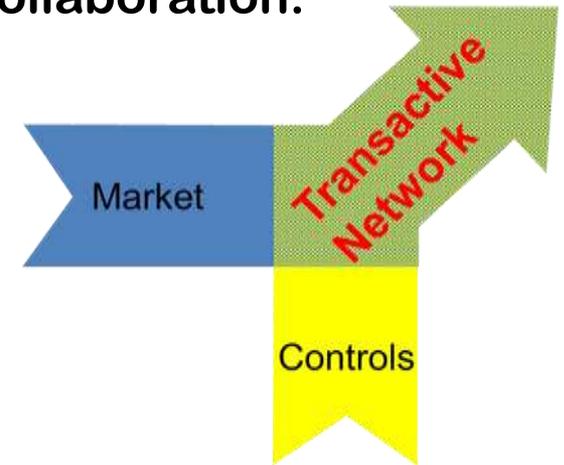




# NIST TE Challenge

Laying the foundation for moving TE forward with modeling and simulation tools and platforms, standards, TE simulations and collaboration.



## What is Transactive Energy (TE)?

- Distributed grid optimization via market mechanisms
- Intelligent devices (appliances, storage) participating as agents in transactions

## Why TE and why the Challenge?

- Maintain grid reliability and stability while integrating DER and demand resources.
- State legislation is driving need for simulation of TE. Do we have the tools we need?
- Markets have potential, but how much? How to effectively integrate with controls?

## Get Involved:

<http://www.nist.gov/smartgrid/techallenge.cfm>

## Why should you participate?

- Collaborate to ID and tackle gaps
- Provide input to utilities and regulators
- Find partners and customers
- Showcase tools and products while receiving feedback

# TE Challenge Goals



1. Develop/enhance modeling and simulation tools and platforms for TE evaluation. Advance standards interoperability and application.
2. Demonstrate how different TE approaches can improve reliability and efficiency of the electric grid to address today's grid challenges.
3. Develop a set of scenarios that can serve as ongoing reference points for modeling and simulation.
4. Develop the TE community—working together and sharing data.
5. Make progress toward successful utility TE pilots: modeling and simulation advancements as well as communications with utilities, regulators and policymakers.
6. Provide a stage for teams to present the exciting work they've accomplished—publicity.

Short version: The goal of the Challenge is to advance TE, whether that is the modeling and simulation tools, standards for use of these tools, standards for TE communications, or studies that show us how TE can work. And of course to make progress in collaboration, providing a place to do that.

# How Participants will Benefit

- A collaborative process to move faster and smarter
- Help point to common gaps in knowledge, tools, techniques
- Move TE research along a path to integrate DER and enable customer load/DER to follow variable supply.
- Collaborate on simulation tools and provide simulation results as input to policy makers and regulators to help them make decisions on utility pilots and programs.
- Build collaborations with potential partners; connect with potential customers.
- Showcase tools, talent and capability; receive publicity from the Challenge.
- Receive critical review and feedback on models, tools, and TE approaches

# Timeline

- TE Challenge Preparatory Workshop, Mar 24-25— demonstrated TE community agreement on the vision and need for the TE Challenge.
- June 2015: TE Challenge **website** at: <http://www.nist.gov/smartgrid/techallenge.cfm>
- **Kickoff Meeting** for team formation (September 10-11, 2015 at NIST)
- Midpoint Coordination and Team Building Meeting (December 3-4)
- **Summit Expo/Report out** (April 2016)—Goal is to present the good work that has been done.
- Second Expo/Report (September 2016)