# Powering the People

## SMARTER ENERGY, SMARTER FUTURE

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### TROVE Predictive Data Science CEO Ted Schultz speaks about competing in the data race



The race to capitalize on big data isn't just for big tech companies like Google and Amazon. Electric companies are producing a tremendous amount of data from their customers, from their power plants that produce a terabyte of data daily, and from the energy grid. "Data science, with platform computing, is fundamentally changing the way we do business." That wasn't just the view of Ted Schultz, CEO of TROVE Predictive Data Science, but of many attendees at the Institute for Energy Innovation's recent "Powering the People:  Smarter Energy, Smarter Future" event. When Schultz asked, quoting from InfoWorld: "Why are so many companies still struggling to put their data to good use?" many heads in the audience nodded knowingly.

As step one, Schultz suggested creating an internal SWAT team focused on how to derive value from data. "There are a couple of success factors from every team I'm familiar with," Schultz said.

- First, you have to free the team from other day-to-day activities.
- Second, you've got to have executive support.
- Third, focus. Get to something big enough to matter.
- Fourth, use "discovery-driven planning." Start with a concept and a business case, and apply "the half-right test." Are you at least half-right? If so continue. If not, axe it.

If you are half right, then move to proof of concept. Take a subset of what you're trying to do and create a prototype. If the proof of concept proves the hypothesis, scale that prototype into production. If it doesn't work, drop it and move on – and quickly.

One example: A large California electric company formed a team to make demand response (DR) a more reliable resource. The thinking went like this: if we could do forecasts for every DR resource, we could run event scenarios and make DR much more dependable. In this case, Schultz's team actually improved DR reliability 30 to 40 percent! "We now do event predictions involving 500,000 customers and 330 megawatts (MW) of DR," Schultz said. "We generate 5 million reference and event forecasts every day."

A second example: An East Coast electric company spun off a group within its transmission business. The task: Define new work units and renegotiate transmission contracts. It took two months to get to the proof of concept. We pulled in all their work orders, Schultz said. We pulled in weather, geography and more, and came up with new work units. The company introduced new pricing based on those work units and now is saving $5 million annually.

Schultz says the DR example could apply to any distributed resource on the grid. The idea is, for example, take a substation and work through the whole circuit. Aggregate the resource so you can see the load on a transformer, see the load on a feeder, and see the load all the way up to the grid itself. Then, validate the resource.

Just as the energy grid is changing, data analytics is changing the way we do business.