

GRID20/20

Proactive Grid Management to Support New Demands

A few decades ago, nobody could have foreseen a day when progressive initiatives—such as the adoption of distributed energy resources (DER) and battery storage systems, decarbonization, electric vehicles (EVs), and legalized marijuana—would dominate the headlines. Although each initiative represents a form of “progress,” they all lag in one crucial aspect. They rely on the assumption that existing, aged infrastructure can accommodate the unplanned, never-imagined energy demand burdens that accompany new industry sectors.

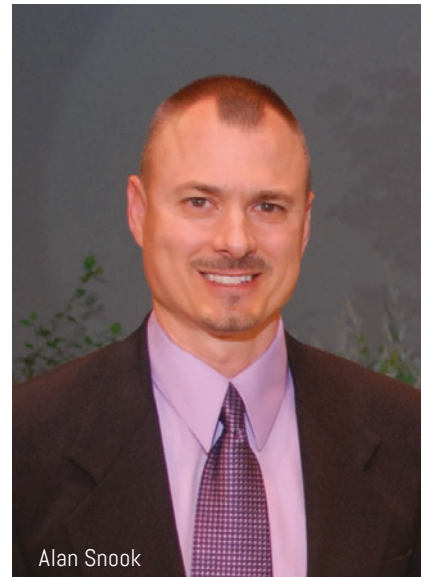
Essentially, the initiatives are exerting tremendous stress on the power grid. While EV charging stations have created unplanned grid-edge loading on aged transformers, hydroponically-grown marijuana consumes a ton of electricity. Consider that growing just four cannabis plants adds 29 refrigerators of power usage, and a solitary EV charging station amounts to 2.5 homes of energy demand. Likewise, with DER being emphasized and mandated across various U.S. states, the grids are facing the unique dilemma of “reverse overloading” of transformers. Imagine driving your car in reverse at 70 miles per hour for 4 hours per day. That is what DERs and excessive clean energy production are doing to aging transformers.

Clearly, existing grid infrastructure is unable to support said initiatives. So grave is the situation that electric utility operators are unable to predict a power outage until it is reported.

Determined to flip this script is GRID20/20, a smart grid solution provider that supplies best-in-class distribution

transformer monitoring devices along with valuable analytics offerings. Through a groundbreaking Advanced Transformer Infrastructure (ATI) solution, GRID20/20 provides “reliable, unique, timely, accurate, and granular intra-grid data” to enhance the distribution grid management capabilities of electric utility operators across the world. “We flip the historical reactive grid management efforts into a proactive, ‘hands-free’ grid management process through our solution,” says Alan Snook, the president of GRID20/20.

The “hands-free” aspect of the solution truly stands out since GRID20/20 is focused on giving utility operators a superior level of power and control over the aging grid infrastructure.



Alan Snook

“**Because our patented sensors can accurately capture both forward and reverse energy, along with other key data points, the client can proactively monitor various intra-grid impacts**”

So, how do operators gain unparalleled intra-grid awareness via the ATI solution?

It's a rather straightforward process. Through a user-friendly software, operators can establish their desired intra-grid tolerances before GRID20/20's patented sensor suite (i.e., OptaNODE®), and robust software platform kicks into high gear. Thereafter the OptaNODE-powered solution delivers automated alerts when intra-grid conditions go awry and pinpoints outage notifications

to accelerate restoration efforts. By leveraging actionable data to identify existing and manifesting intra-grid problems, utilities gain critical grid visibility intelligence and accurately identify adverse grid-edge impacts. Rather than supplying voluminous, useless information, the solution delivers only critical, actionable data. “The unique capabilities presented by ATI to capture and report a host of data points within the most dynamic and vulnerable segment of

the grid is becoming a versatile game-changer for utilities around the world,” declares Snook.

Intra-Grid Visibility Successfully Tested for Utilities in 12 Countries.

A game-changer, indeed! As of this writing, GRID20/20 has served the varying needs of electric utilities across 12 countries. While most distribution grids suffer from similar intra-grid issues, every market has its nuances. Team GRID20/20 has the expertise to gauge the differences and

can accurately capture both forward and reverse energy, along with other key data points, the client can monitor various intra-grid impacts. Over the last six years, our valuable intra-grid insights have helped Hawaiian Electric to sustain a safe and reliable grid by facilitating operations and planning decisions,” adds Snook.

GRID20/20’s ATI solution presents substantial revenue growth opportunities for utilities, while simultaneously addressing serious grid issues. While its competitors have been focused on using algorithms and AMI data to examine

GRID20/20 is also determined to help California’s utilities overcome wildfires. While GRID20/20 cannot specifically address transmission line concerns, it can provide utilities with invaluable intra-grid visibility to ideally replace wholesale blackouts with surgical/planned blackouts. “And, once the distribution space is better understood via our ATI solution, we will lessen the amount of excess energy within our transmission lines,” adds Snook.


With the advent of decarbonization mandates, ongoing cryptocurrency mining, and other grid-edge pressures,



alter its solutions accordingly. To that end, it is worth highlighting the sustained value GRID20/20 has brought to the largest supplier of electricity in Hawaii.

Since Hawaii represents the largest U.S. residential PV penetration per capita, their grids can be extremely affected by reverse energy loading and overloading on transformers, and substantial voltage fluctuations. GRID20/20 helps utility operators to evade any such intra-grid challenges. “Because our patented sensors

intra-grid conditions, GRID20/20 has dedicated the last eight years into R&D and countless trials and pilots, to weave its revolutionary solution. Snook elaborates, “In an industry that is notoriously slow to adopt, we have produced and field-proven a pioneering solution. Rather than relying on inaccuracies associated with algorithms and AMI data, we have proven there is no substitute for actual intra-grid data, or having a continuous pulse on the dynamic intra-grid fluctuations and conditions.”

it is crystal-clear that utilities require dependable intra-grid visibility. A pioneer in this next necessary step of grid modernization, GRID20/20—having accumulated 25 patents involving seven separate countries—is postured to grow in strength and scale with imminent market adoption. “Our ATI solution is powered by a game-changing technology that will act as a stalwart contributor to the grid modernization evolution,” concludes Snook. 

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SMART GRID EDITION

Top 10 Smart Grid Solution Providers - 2019

The utility space today is witnessing a significant transformation in every aspect from power generation to supply; smart grids are now increasingly being considered as a relevant measure to bring efficient transmission and restoration of electricity during power outages. Besides, the ever-changing regulatory mandates are leading to drastic policy upgrades to improve security, competitiveness, and sustainability of enterprise power systems. Added to this, the rising proliferation of renewable, distributed energy resources, and growing interest in sustainable power generation act as a robust driving force towards the adoption of smart grids.

Along similar lines, rising demands from companies for upgrading traditional power grid systems to support smart cities and smart buildings along with growing government focus toward grid restructuring are expected to boost revenue in the industry. Understanding the changing times, Utilities Tech Outlook has come up with this edition of Smart Grid Solution Providers.

In the wake of these technology transitions, we are glad to feature Richmond-based GRID20/20 on our annual list of Smart Grid Solution Providers. GRID20/20's turnkey approach involves patented, versatile hardware and multiple analytics suite options to enhance the distribution grid management. GRID20/20 offers a wide range of solutions for utilities throughout the globe to maximize reliability, safely adopt DER, identify technical and non-technical losses, facilitate decarbonization, and reduce distribution inefficiencies. With several innovative technological capabilities and success stories up their sleeves, companies listed in this magazine are continually proving their prowess in the smart grid arena. We hope this issue of the Utilities Tech Outlook helps you build the partnership your firm needs.

We present to you Utilities Tech Outlook's "Top 10 Smart Grid Solution Providers - 2019."



Company:
GRID20/20

Description:
Supplies distribution transformer monitoring devices and intra-grid analytics offerings to enhance the distribution grid management capabilities of electric utility operators

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