3DFS BRINGS YOU THE FUTURE OF ELECTRICAL POWER, TODAY

OCT 21, 2016 | BY MATT HUNCKLER

You probably don't give much thought to electricity on a daily basis. You use it to power the lights, appliances and devices in your home or business, and you pay for how much you use each month. Simple enough. Unfortunately, you also pay for a lot of electricity that never even makes it to the devices you're powering.

If that sounds confusing, it's because electricity generation and distribution is no simple matter. Our national power grid is extremely inefficient, resulting in losses of almost 70% of all the electricity that's generated. In general, we expend three times the electrical energy we use just delivering it where it needs to go, and consumers lose a lot of the electricity they pay for because it becomes waste heat and vibration as it traverses their local network.

The science behind this is complex, and I won't try to explain it all here, but you ought to know about "software-defined power." It's a new way of controlling power supply by means of dedicated software, and it has been identified as the way of the future by industry veterans.

Pittsboro, NC-based 3DFS is using software-defined power to upgrade and optimize existing electrical systems, almost entirely eliminating waste, increasing efficiency and reducing usage costs.

3DFS is not the first player in software-defined power. Power Assure, founded in 2007, pioneered the technology and applied it to power management in large data centers. It closed in 2014, but many other Data Center Infrastructure Management (DCIM) companies provide comparable services. And in Raleigh, NC—close to home for 3DFS—GridBridge sells energy routers that let power providers control voltage distribution and integrate renewable energy (like solar and wind power) into the grid.

But 3DFS is different from these companies because its technology manages the *way* electricity moves through a power grid, not *where* it moves. It actually corrects inefficiencies in the flow of electricity through wiring, resulting in far less waste, as mentioned above.

Their two power controller products connect to existing home networks or "microgrids" and instantly optimize them; VectorQ2 is intended for large power networks, and SineSync is for homes and small businesses. An analytics suite called CurrentSee can tell you exactly how much electricity your devices are using, when they need maintenance and when you can expect them to fail.

Continued from page 1

Building a Network

Naturally, 3DFS needs people to sign onto their technology if they're going to revolutionize electricity. The company's LinkedIn page states the team is working with companies to get their technology integrated into devices and power grids. They plan to begin with the upcoming Chatham Park mixed-use development that will be located just outside Pittsboro.

The company manufactures its products in Pittsboro and is in the process of moving to a new 10,000 square foot facility, which they expect will create 30-40 full-time jobs by the end of next year. They hope to be the largest employer in North Carolina within 15 years

Of course, growth is no guarantee for disruptive tech in an old and established industry. Reason for concern can be found in contemporaries and predecessors of 3DFS. As mentioned above, Power Assure went belly-up despite $60 million in funding over its seven years of operation, and the closely-related DCIM market, while growing, is no longer viewed by investors with the same rampant optimism as it was several years ago.

Can 3DFS Woo the Industry?

Even if 3DFS can prove to utility companies and businesses that their technology will save money and provide more efficient power, they may face resistance to change. When an industry hasn't evolved much in over 100 years, there can be a paradoxical "why bother?" attitude toward new ideas.

3DFS will definitely have to push against this tendency. It's good the team has long-term goals on their mind, as theirs will likely be a slow, incremental growth. Investor funding could be a boon to development, but as of now they remain self-funded.

If their technology truly delivers the "like magic" results that Doerfler advertises, then there's little doubt 3DFS is working on something revolutionary. Doerfler believes this is the case, as he closes an article posted to LinkedIn Pulse by asserting that software-defined power "is the most significant energy efficiency discovery and energy technology since Nikola Tesla's time. "

This is an inspiring sentiment, but 3DFS must take care, as students of history might know that Tesla's efforts to introduce new innovations into the electricity industry ended with bankruptcy. Let's hope 3DFS fares much better.

Published October 21, 2016 in Forbes, Reinventing America