

CONVERSATION

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“Our products work on any asset, made by anyone.”

What do you do with Uptake?

I lead Uptake’s energy team. That includes everything from generation to distribution all the way down to how energy is used by customers, big and small.

Uptake is in eight different industries: agriculture, aviation, retail, mining, construction, energy, equipment dealers, and rail. Through predictive analytics, my team challenges the possibility of something we all depend on daily: energy.

The early work of Uptake’s energy team, although we have other efforts across the energy supply chain, has been on the first part of that journey: generation. Earlier this year, two of Berkshire Hathaway Energy’s subsidiaries chose Uptake’s predictive analytics software for their wind fleets.

What does Uptake do for the wind industry?

Uptake’s predictive analytics products turn data coming from a wind turbine into real-time, real-world insights people can act on to stop problems before they start. That means less downtime and more energy.

Knowing problems before they occur increases the reliability of wind turbines and the energy they produce. By increasing reliability, Uptake is creating new opportunities for



the wind industry that have been out of reach.

The first opportunity is reduced costs — making wind energy even more competitive with other energy sources.

Knowing about a failure before it happens lowers maintenance costs. Small problems don’t turn into more serious and costly problems — or cascade and cause more problems. That allows you to plan maintenance more strategically and reduce overtime costs.

The second real opportunity is that with greater reliability, wind operators and owners can participate and sell more in the day-ahead energy markets.

That second opportunity is connected to the third: moving to a cleaner energy stack faster. Gener-

ating more wind power gets us to that goal, but when you add greater reliability to wind power, utilities don’t have to fire up as many carbon-heavy power plants.

For every 1 percent increase in reliable wind or clean-energy output, 1 percent less energy is needed from energy sources that emit carbon dioxide.

How has predictive analytics changed the wind industry?

I’d say we are just getting started, but already seeing the effects of predictive analytics.

Just months after Uptake first ingested data from one of the wind farms we are monitoring, our software identified a potential problem. The maintenance costs that had to be performed were about \$5,000. But had that problem been allowed to fester, it would have cost \$250,000 and a few days of downtime on a turbine. In just four months, Uptake has generated predictive insights on 10 percent of the wind turbines with our software installed.

When we find problems like the one we did in Iowa before they happen, it starts to have a cumulative effect. So that’s why I think the impact of what we are doing is just getting started.

What pushes Uptake to the top of the list when it comes to predictive analysis in wind turbines?

Before I came to Uptake, I was the chief information and innovation officer at a Fortune 100 company. I had a \$1 billion annual budget. That's a large amount of money, but it always felt like not enough.

Part of that reason for the heads-they-win, tails-I-lose feeling was that what we paid for the technology was never tied to an outcome or value. It was mostly just a sunk cost.

At Uptake, we have challenged and redefined that model. We sell data-driven, user-created and user-centered software that creates proven value; that increases wind-energy production and the reliability of that energy production. Others in the market right now are simply selling a piece of technology and don't share any of the risk whether it works or not.

Our incentives are the same as our customers, and part of that is because we are also independent and not tied to one brand of turbine. Our products work on any asset, made by anyone. With Uptake, you don't have the same people who build the machine auditing its health. We are independent.

Uptake brings everything together for customers: proven leaders with deep experience running wind businesses and operations, industry-leading data scientists who understand nuanced energy data. All of that works within the processes and workflows that customers have already.

When people think about enterprise software, the first thing they

think about probably is what they dislike the most. And that is largely due to the fact that the software is built around the technology, not the user. We are challenging and changing that at Uptake. We start with the user and design the software around them and how it can help that person do their job better. We go out and talk to people. We aren't sitting in an office and saying this is how this is going to work. We want this to be intuitive.

Here's the thing: Insights are interesting but useless without action.

Based on the potential of what we are creating, we joke here that the future of wind started in the Windy City. But we really do believe that. We are in the Industrial Heartland and surrounded by wind farms.

Why do you think the wind industry is turning to predictive analytics right now?

There are a few forces at play right now. The first is that predictive analytics is a very real thing now. Sensors got cheap enough to put them everywhere. Cloud computing and storage prices fell. Connectivity is everywhere and affordable. So it's first the fact that it is possible.

In the United States, there remains uncertainty at the federal level on energy policy. You also have the phase-out of the Production Tax Credit coming. That's the financial pressure side, and it will necessitate new sources of revenue and better, more nimble technology, both hardware and software together.

On the policy and demand sides,

nearly three-dozen states have established renewable energy standards. People are more conscious of how their energy is generated and demanding more energy from renewable sources.

What is happening largely in the energy industry and where do you see it going?

I joke about this, but I generally believe that if you brought back Alexander Graham Bell and showed him an iPhone, he would have no idea what it was.

But I bet Thomas Edison could probably run most utilities in America today.

We are just starting to see the energy industry as a whole change through innovation that hasn't been there for the last 100 years. With that, we are seeing the old, centralized model — where you produce megawatts in a central location, send power over large transmission lines and you plug things into the wall and you have your electricity — be completely disrupted.

It is moving to a centralized plus decentralized model that allows for rooftop solar, intermittent renewable sources, and electric cars. The consumption and production is fundamentally changing and becoming more complicated. For that new model to work, you have to have more production and more reliability. And you have to do both of those without sacrificing safety and security. That's really where predictive analytics will make this new model possible. ↴

For more information, go to www.uptake.com



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