

THE INTERNET OF WIND MACHINES

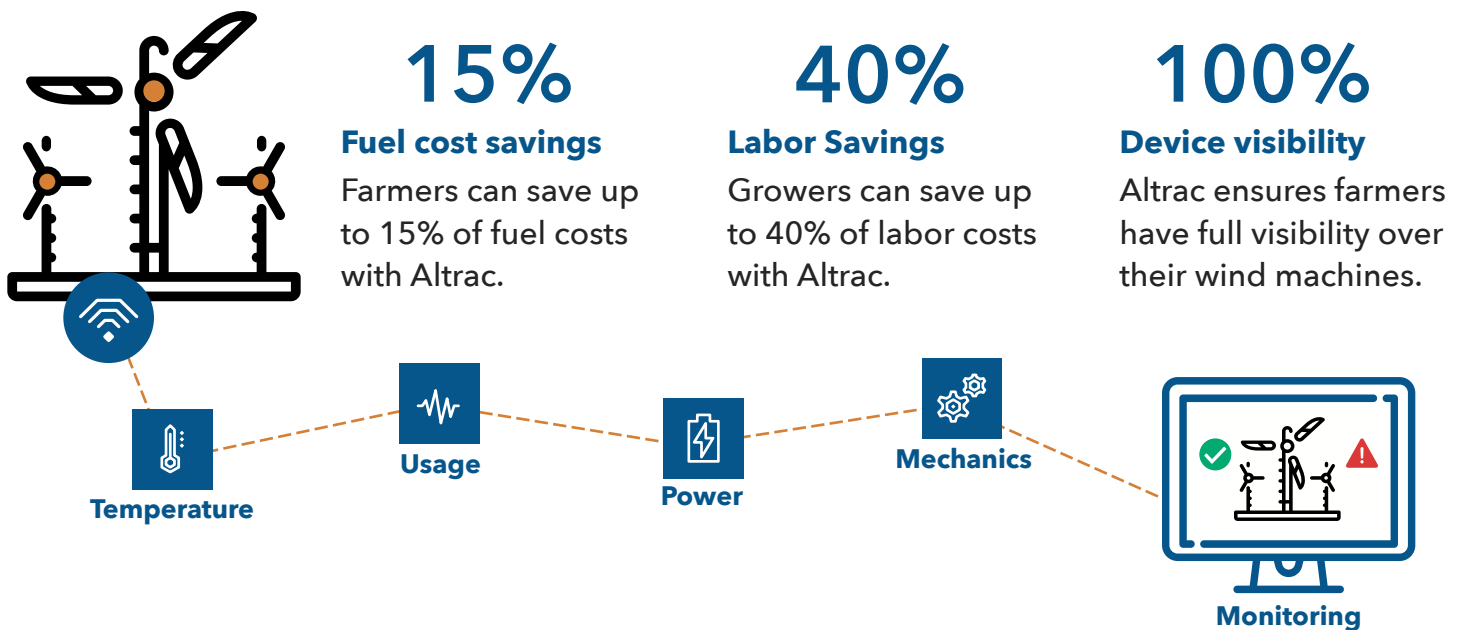
HOW ALTRAC SHIPPED AN IoT PRODUCT TO MARKET



Connecting wind machines at scale

Altrac is helping growers automate their wind machines to save labor and fuel with the Internet of Things.

With the Particle IoT platform, Altrac is connecting wind machines to the cloud so farmers can monitor their equipment wirelessly and ensure that it is running properly 24/7. With this IoT solution, Altrac has been able to help farmers achieve some amazing results:



"Particle was the perfect IoT partner. They helped us build a connected product that could be reliably deployed across thousands of farms."

Neil Schultz
Co-founder, Altrac

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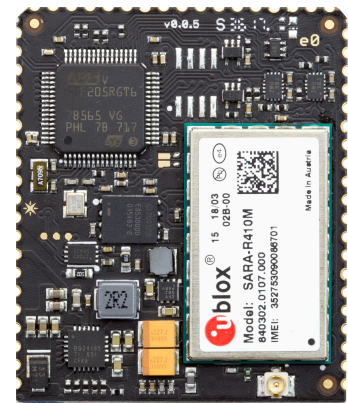
The challenge

Wind machines protect crops against frost damage. However, they frequently fail to start or run out of fuel, resulting in financial losses of \$10,000 per acre. Without an IoT control solution, farmers have no way to confirm their equipment is running properly without driving to each individual machine, costing valuable time and vehicle fuel.

Particle jumpstarts the path to production

Altrac originally chose Particle due to its large developer community. "We loved the community," said Neil Schultz, Co-Founder at Altrac. "That builds trust, and we could get our questions answered from other experts in the field."

When Altrac started building, they used the [Particle Electron](#), which allowed them to connect to the cloud over 3G. But they eventually transitioned to the [Particle E Series](#), an industrial-grade module, which allowed them to connect to the Internet over an LTE cellular network.



Particle E Series

The Altrac wind machine control station

With Particle taking care of the connectivity, Neil and the team were eventually able to develop the Altrac wind machine control station, which is connected to the cloud over a cellular network.

The cost of the Particle E Series was low enough so they could deploy thousands of devices across hundreds of farms.

The Altrac system and Particle E Series also included automotive grade components that were designed to counteract harsh environments where dust, dirt, moisture, and vibration could damage electrical connections



Altrac wind machine control station

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Increasing visibility and improving efficiency

Altrac's smart solution allows growers to control their machines from their phone or via laptop.

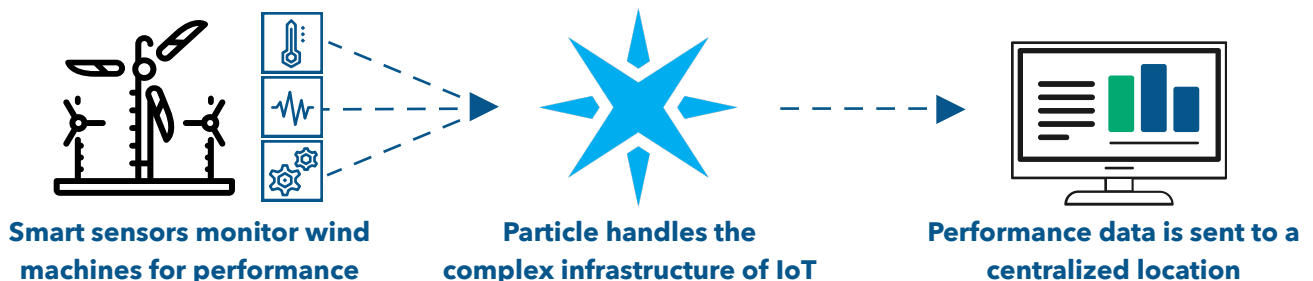
1. Increased Visibility – Farmers can view temperatures, know which machines are running, and monitor engine RPM from a single interface.
2. Improved Efficiency – Farmers can start and shutdown their wind machines at sunrise or during an emergency such as high wind or freezing fog.



Altrac App

Particle simplifies operations for Altrac

For Particle and Altrac, this IoT project proved immensely successful. Altrac is currently expanding their connected solution to include irrigation monitoring in order to help farmers improve water management.



The installation process was simple because Altrac's sensors were powered by the Particle IoT platform. Particle handled the complex infrastructure of IoT for Altrac, meaning they could focus on providing a great product and service.

Contact Particle

If you are looking to build profitable IoT solutions, consult our team of experts at [Particle.io/sales](https://particle.io/sales).



Particle Store

Start your IoT journey by checking out our industrial hardware on the [Particle Store](https://particle.io/store).