

Windlab Systems

/ Success Story

SECONDWIND
by Vaisala



Windlab Systems, whose wind developments span three continents, wanted to validate its shear extrapolations using measured higher-height data for one of its projects. The Triton[®] Sonic Wind Profiler proved the project had more value than had been predicted by the tower data, and Windlab is now using Triton to expedite its wind assessments worldwide.

Wind developer finds more energy using the Triton Sonic Wind Profiler

Windlab uses Triton Sonic Wind Profiler for early stage prospecting, hub height shear profile validation, and wind resource assessment.

CUSTOMER PROFILE

Windlab Systems is a global wind energy development company with proven success in identifying, securing, and developing sites, underpinned by the expertise of its people and its world-leading wind mapping technology. Windlab's track record in progressing commercially viable sites is reflected in a growing portfolio of projects spanning Canada, U.S., South Africa, Australia, and New Zealand.

Founded:	2003
Headquarters:	Canberra, Australia, with offices in the U.S., Canada, and South Africa
Employees:	35
To learn more:	http://windlab.com



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*Dr. Nathan Steggel, Windlab
President, North America*

Windlab uses Triton for:

- Early stage prospecting
- Hub height shear profile validation
- Wind resource assessment

In 2009, Windlab deployed a Triton Sonic Wind Profiler on a site in the U.S. Midwest. The site had two 50-meter meteorological towers on the site, but Windlab needed measurements from higher heights to more accurately determine the shear profile.

“The Triton units help us to be more flexible at a project’s early stage and enable us to do things more quickly,” said Windlab Systems cofounder Nathan Steggel, president of the U.S. and Canadian operations.

On the Midwest site, Triton operated flawlessly and measured higher wind speeds than had been predicted using extrapolated tower data, which meant the site had greater potential and more value than Windlab had initially thought.

Based on that experience, Windlab now uses 12 Tritons to evaluate wind on sites in Australia, South Africa and North America.

“We don’t have to wait for met tower permits to come through. We can take a

risk on a site because if it doesn’t work out we can easily move the Triton to a new site,” Steggel said. “Depending on the site, that can result in enormous savings. South Africa, for example, has an arduous approval process for building a met tower. Other countries are less onerous, but it’s still much easier to use a remote monitoring system that we can just place on site and move when we need to. The Tritons allow us to quickly redeploy capital assets to new projects and that is essential.”

Banking on Remote Sensing

Windlab uses its Windscape atmospheric modeling technology — developed by Steggel and Windlab cofounder Keith Ayotte — to identify broad geographical areas that have promising wind resource.

Once a piece of land has been chosen for further study, Windlab must provide its investors with hard data about the wind potential on that parcel. Investors are now demanding reliable data from heights that met towers can’t reach. Triton provides this higher height data while met tower instruments provide the corroborating data that investors’ engineers expect.

“We’ll put in a 60-meter mast on a site, but for ‘bankability’ we have to get as close to the hub height as possible, even if it’s up to 100 meters,” Steggel said. “We can get that data from Triton. It gives us more certainty on a site’s shear profile than we have with just data from the mast.”

On many sites, Windlab uses Triton as the first monitoring device. If the site looks promising, the company will bring in a met tower with cup anemometers to satisfy investors’ current requirements.

The Triton technology is developing so quickly, Steggel said, that soon Windlab might only need a single mast and one or two Tritons to thoroughly evaluate a site, depending on its topography.

Cost and Time Savings

Windlab monitors and manages its Triton units remotely through the SkyServe Web portal. When a project is finished, Triton’s mobility enables Windlab to move units to begin a new study with a fraction of the cost and labor.

“When you start a project, cost is a big factor,” Steggel said. “Not all sites are successful. If you can quickly re-deploy a device, the cost and time savings are significant. Breaking down a met tower is expensive and time consuming. You have to recalibrate and recondition the instruments before you can move them to another site. There can be as many as 10 to 12 instruments on one mast, and all have to be restored. The mast and the equipment can cost about \$50,000 new. After moving and reconditioning, you’ve put \$20,000 to \$30,000 more into it. A remote sensor is much easier. It’s in one compact, ground-based package, which reduces the risk from the elements. All we have to consider are the logistics of moving it.”

Steggel envisions a growing role for remote sensing as systems like Triton prove themselves and move toward “Stage 3” status, which means investors accept them as standalone data sources without corroborating data from met towers.

“We’re a few years away yet, but once Triton moves into Stage 3 standalone status, monitoring masts will become things of the past, which would be fantastic,” he said.

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Through the combined expertise of Vaisala, a global leader in atmospheric observation, and Second Wind, a global leader in remote sensing technology and data services for the wind energy industry, we offer an integrated suite of wind measurement solutions.

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Please contact us at
www.vaisala.com/secondwind



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