

SW110 | WIND MACHINE CONTROL & MONITORING



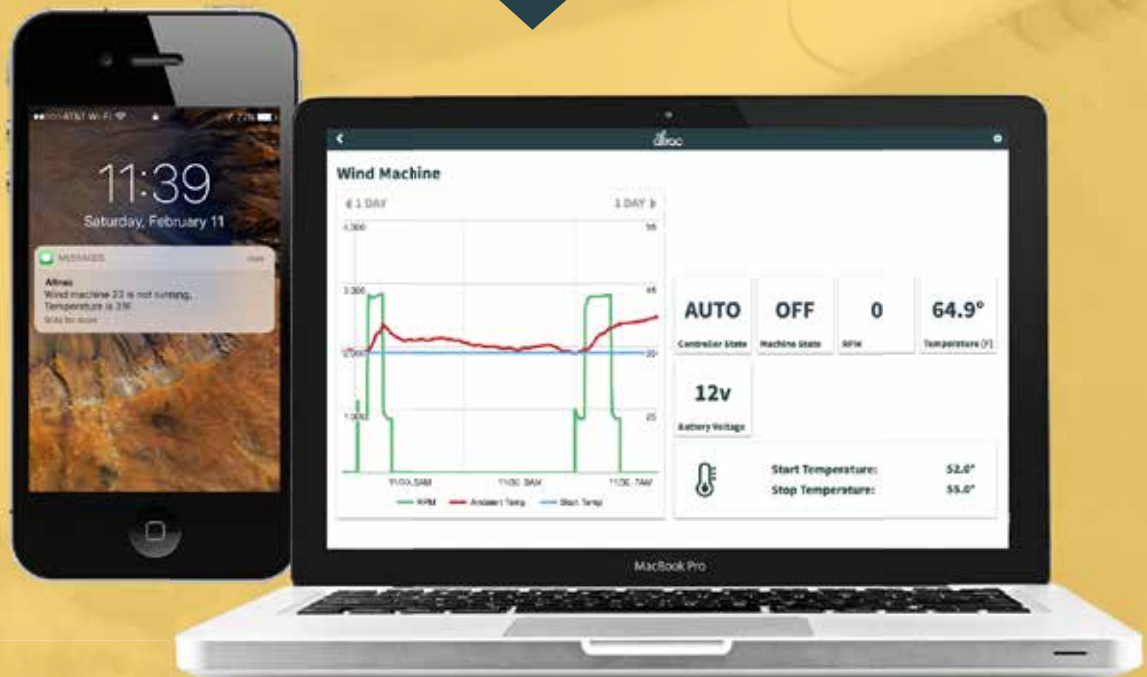
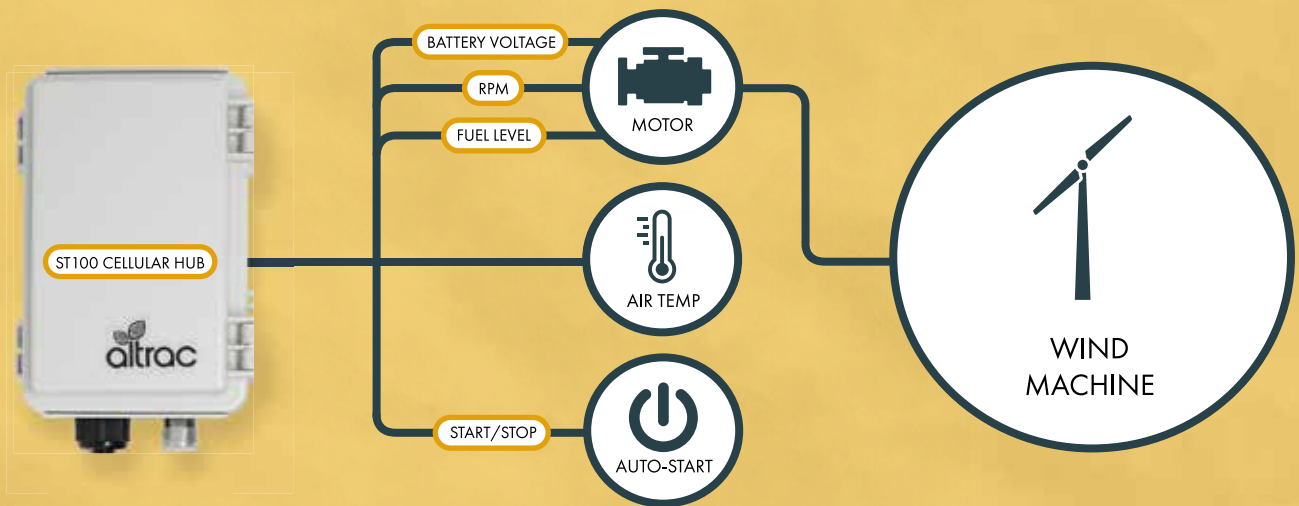
Altrac started in 2015 at Blue Heron Vineyards in Roseburg, OR. Frustrated with the available automation products, Heath Westbrook engineered his own cellular-based system to monitor and control irrigation pumps, valves, flow meters, weather stations and wind machines for frost protection. Neil Schultz joined in 2016 in order to field-proof the hardware and bring the system to market.

We partner with existing equipment dealers to sell and service automation gear. Initially focusing on frost protection, Altrac has expanded to irrigation equipment.

Altrac is located in San Francisco, CA. 4 of the top 5 growers in California and 2 of the top 5 growers in Washington use our products. We enjoy bringing on new clients each week, and look forward to working with you.

HOW IT WORKS

SIMPLE AND EASY TO INSTALL ON ANY MAKE OR MODEL OF WIND MACHINE



THE APP

NOTIFICATIONS SENT DIRECTLY TO YOUR DEVICE BY TEXT, E-MAIL, OR PHONE CALL.

STOP AND START WIND MACHINES FROM YOUR PHONE WITH A SINGLE CLICK.

SEE STATUS OF WIND MACHINES IN REAL TIME SO YOU CAN SOLVE ISSUES FAST.



WEB APP LETS YOU QUICKLY SEE THE STATUS OF YOUR WIND MACHINES AT A GLANCE.

- AMBIENT AIR TEMP
- ENGINE STATE:
 WHITE: ENGINE OFF
 BLUE: WARM UP
 COOL DOWN
 GREEN: ENGINE FULL RUN
 RED: ENGINE FAILURE
- AUTOSTART STATUS:
 ARMED
 DISARMED

DAILY, MONTHLY, YEARLY REPORTS

altrac
Run Report
November 19, 2018

Group	Device Name	Start Time	End Time	Minimum Temp (F)	Below 32F (min.)	Fuel Level	Cycles	Run Time
Fresno West	Bispo #1	5:38 AM	6:19 AM	31,5	33	63%	1	0 h, 41 min
Fresno West	Fred #1	3:02 AM	7:04 AM	31,3	76	59%	4	1 h, 13 min
Fresno West	Fred #2	1:41 AM	7:32 AM	31,5	85	34%	7	2 h, 16 min
Fresno West	Mazmainian #1			36,7	0	71%	0	
Fresno West	Mazmainian #2			32	22	68%	0	
Fresno West	Mazmainian #3	2:27 AM	7:04 AM	31,7	52	75%	3	3 h, 8 min
Fresno West	Sullivan #1	3:13 AM	6:28 AM	31,7	47	65%	3	1 h, 22 min
Fresno West	Sullivan #2	5:32 AM	6:08 AM	31,7	9	63%	1	0 h, 35 min
Madera	Headquarters #1			28,8	406	43%	0	
Madera	Headquarters #2	3:16 AM	6:56 AM	31,3	78	51%	3	2 h, 20 min
Madera	Madera #1	1:58 AM	7:08 AM	31,1	83	65%	5	2 h, 18 min
Madera	Madera #2	5:21 AM	6:19 AM	31,5	22	67%	1	0 h, 57 min
Madera	Madera #3	12:56 AM	7:39 AM	32,9	0	60%	5	3 h, 49 min
Madera	Madera #4	4:03 AM	6:43 AM	31,5	26	62%	2	1 h, 34 min
Paul/Parga	Fisher #1	2:33 AM	6:58 AM	31,5	50	32%	5	1 h, 36 min
Paul/Parga	Ohanesian			32,4	0	68%	0	
Paul/Parga	Parga #1			32,2	0	72%	0	
Paul/Parga	Paul #1			32	10	64%	0	
Paul/Parga	Paul #10	5:17 AM	6:57 AM	31,7	26	58%	2	0 h, 37 min
Paul/Parga	Paul #11	2:54 AM	6:56 AM	31,5	62	43%	3	1 h, 9 min
Paul/Parga	Paul #12	4:15 AM	6:27 AM	31,5	30	20%	2	0 h, 44 min
Paul/Parga	Paul #13			31,7	37	28%	0	
Paul/Parga	Paul #14			33,1	0	28%	0	
Paul/Parga	Paul #15			32	15	31%	0	
Paul/Parga	Paul #16			31,3	86	56%	0	
Paul/Parga	Paul #2			32,6	0	72%	0	
Paul/Parga	Paul #3	5:16 AM	5:46 AM	31,7	18	64%	1	0 h, 30 min

RECEIVE DAILY RUN REPORTS TO QUICKLY FIND OUT ABOUT EQUIPMENT PERFORMANCE.

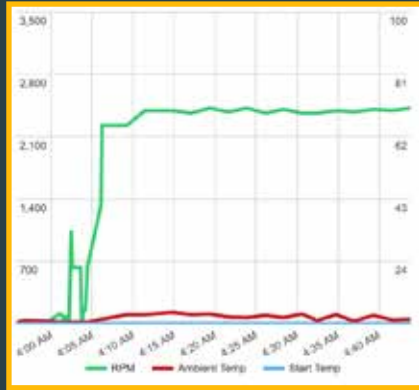
DATA CAN BE DOWNLOADED TO EXCEL FOR FURTHER ANALYSIS.

GET MONTHLY AND YEARLY RUN REPORTS TO SUPPORT MAINTENANCE PLANNING

YOUR INFORMATION WILL BE STORED IN ALTRAC'S CLOUD STORAGE FOR UP TO 2 YEARS.

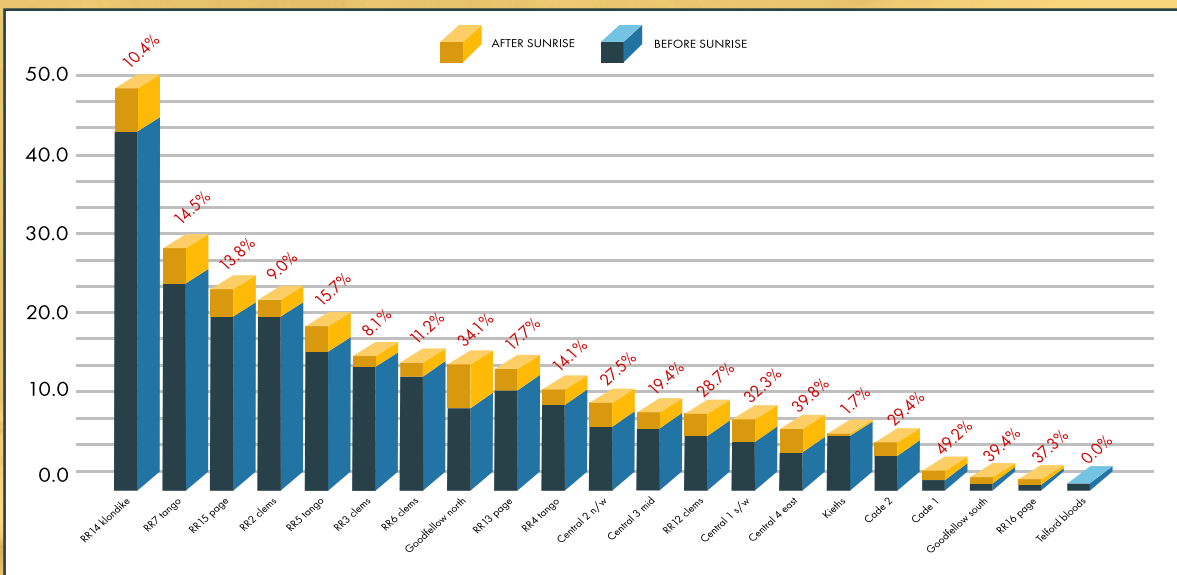
DATA DRIVEN

Altrac analyzed data collected from over 500 wind machines and estimates the engines fail to start 5% of the time on any given night due to human error, low battery or fuel, and mechanical issues.

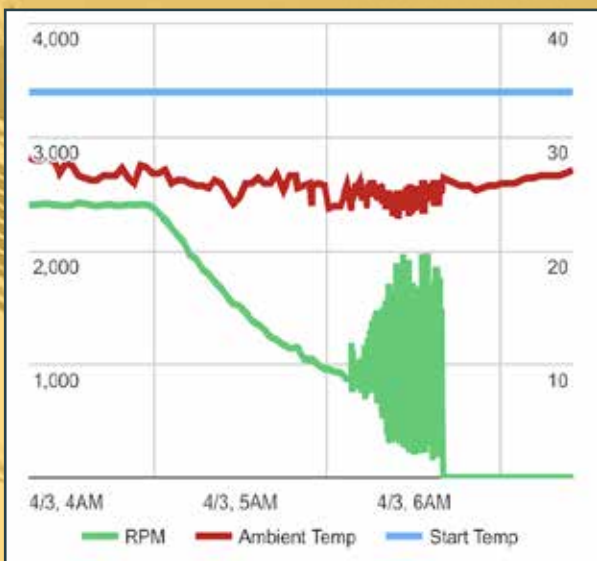


In this case, Altrac caught the failure and notified the ranch manager of the problem immediately and was able to fix the issue within minutes.

SUNRISE SAVINGS



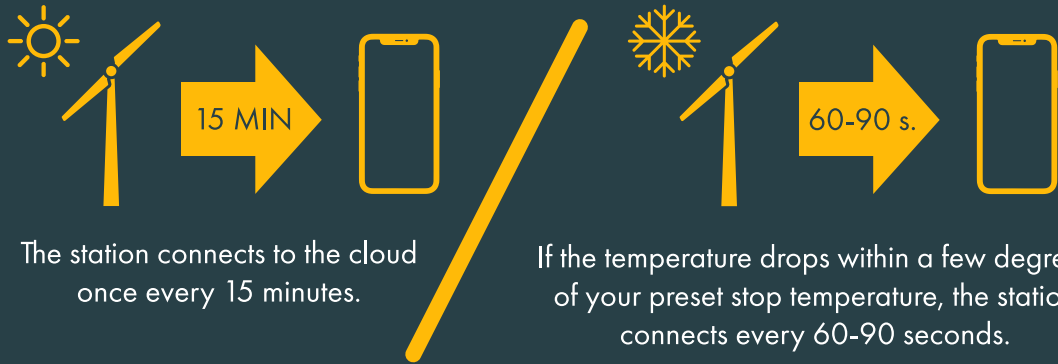
The chart above shows runtime by machine and percentage after sunrise. This is an important stat that Altrac can track, as reducing the amount of runtime after sunrise leads to significant dollar savings in fuel costs to growers.



SURGE PROTECTION

Until the Altrac device provided trend data, it was not common knowledge that the wind machine slowly loses RPM before it begins to surge. The adjacent graph shows a wind machine running out of fuel over 2 hours. Using the Altrac app, if you see your wind machine slowly losing RPM, immediately shut down the wind machine to protect it from damage.

RELIABLE CONNECTIVITY



ANNUAL SAVINGS

As an example, the annual savings for a 500 acre citrus ranch with 42 wind machines equals:

42 machines x \$410 Fuel Savings/Machine/Year	= \$17,220
42 machines x \$257 Labor Savings/Machine/Year	= \$10,800
42 machines x \$283 Crop Loss Prevention/Machine/Year	= \$11,906
	<hr/>
	\$39,926

Total savings per wind machine with an Altrac device is \$951/YEAR

PAYS FOR ITSELF IN 1.5 YEARS

The average cost of the Altrac system is \$1500 including installation and 5 year data plan. For the hypothetical citrus ranch in this example, the total cost to upgrade the ranch to Altrac devices is $42 \times \$1500 = \$63,000$. Cash flow for a three year period is shown below and the payback period is **1.5 years**.

Year 1 = \$23,074
Year 2 = (\$16,852)
Year 3 = (\$39,926)

Three Year Cumulative Savings = (\$56,778)



NO MONTHLY FEES EVER

5 years of LTE/5G cellular data, software maintenance, and data storage costs are included into the price



TRACK THE STATUS OF YOUR WIND MACHINES

Track your equipment in realtime. Receive alerts through SMS Text, E-mail, or Phone Call. Free and unlimited for five years.



INSTANTLY RECOGNIZE PROBLEMS

Target issues quickly and efficiently before damage to your crop can occur.



DAILY, MONTHLY, AND YEARLY RUN REPORTS

Reports make it easy to debrief your team about equipment performance and planning for maintenance.



MONITOR AIR TEMPERATURES

Avoid frost damage when an auto-start fails by getting alerts and reducing exposure time.



SAVE ON FUEL COSTS

Reduce fuel usage by stopping operation of machines remotely at sunrise.



REDUCE LABOR COSTS

Increase efficiency by easily managing more wind machines per person.



PROTECT YOUR EQUIPMENT

Protect your wind machines and crops by shutting down during freezing fog or high winds.

SIMPLE AND EASY TO INTEGRATE INTO YOUR EXISTING AUTOSTART CONTROLLER OR THERMOSTAT ON ANY WIND MACHINE

		<i>Orchard-Rite</i>	VAMCO LTD., INC		ELECTRIC WIND MACHINE
WH100 - 454/460 WH110 - FORD V-10	WH101 - 454/460 WH111 - FORD V-10	WH102 - 454/460 WH112 - FORD V-10 WH140 - CAT6.6/7.1	WH103 - 454/460	WH130 - Cold Air Drain	WH121 - Electric Motor

TRUSTED BY:



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