

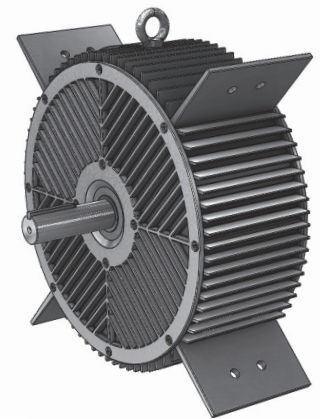
Leading Innovator in Dairy Barn Environments Gains Technological, Operational, and Strategic Advantages Through Partnership with Turntide

Customer profile

- VES scientifically designs environmental systems that optimize cow health and comfort for dairies around the world.
- Founded in 2008 by veterans in agriculture and commercial ventilation, VES has been the leading innovator in dairy barn environments. Using the barn footprint and shape, climate, years of weather data, geography, cow health history, and other factors, VES's veterinarians and consultants create custom barn designs that they call Animal-Centered Environments.
- Based in Chippewa Falls, Wisc., VES employs 50 people and sells into 30 countries around the world.
- VES stands out as a technology leader in a space where people have been traditionally slow to change. Years of low milk prices have forced drastic change on the industry, and hundreds of smaller farms are consolidating into larger enterprises. In the US and Europe, consumer choices and technology have encouraged farms to promote animal welfare and cut their carbon footprints. Meanwhile, Asia and the Middle East are growing their own domestic dairy industries to meet domestic consumer demand and improve national food security. This has initiated a unique technology upgrade cycle that positions VES to grow rapidly.

Nature of Partnership

- Turntide engaged VES starting in 2016 because it recognized them as innovation standouts in an industry -- agricultural supply -- where competition is undifferentiated.
- Turntide was able to provide technology advantages to VES.
 - Turntide provided ultra-energy efficient motors that powered VES's first generation of direct drive dairy fans, eliminating belt failures and the the need for regular belt maintenance.
 - Turntide also provided the IoT infrastructure. This robust integration includes the technology that powers DairyBOS, the Dairy Barn Operating System. DairyBOS collects data from environmental sensors in the barn to automatically adjust barn lighting, ventilation, and cooling, and provide 24/7 monitoring of components and conditions.
 - VES will also be the first strategic partner to implement Turntide's TX-series, a revolutionary "pancake" design optimized for fans.



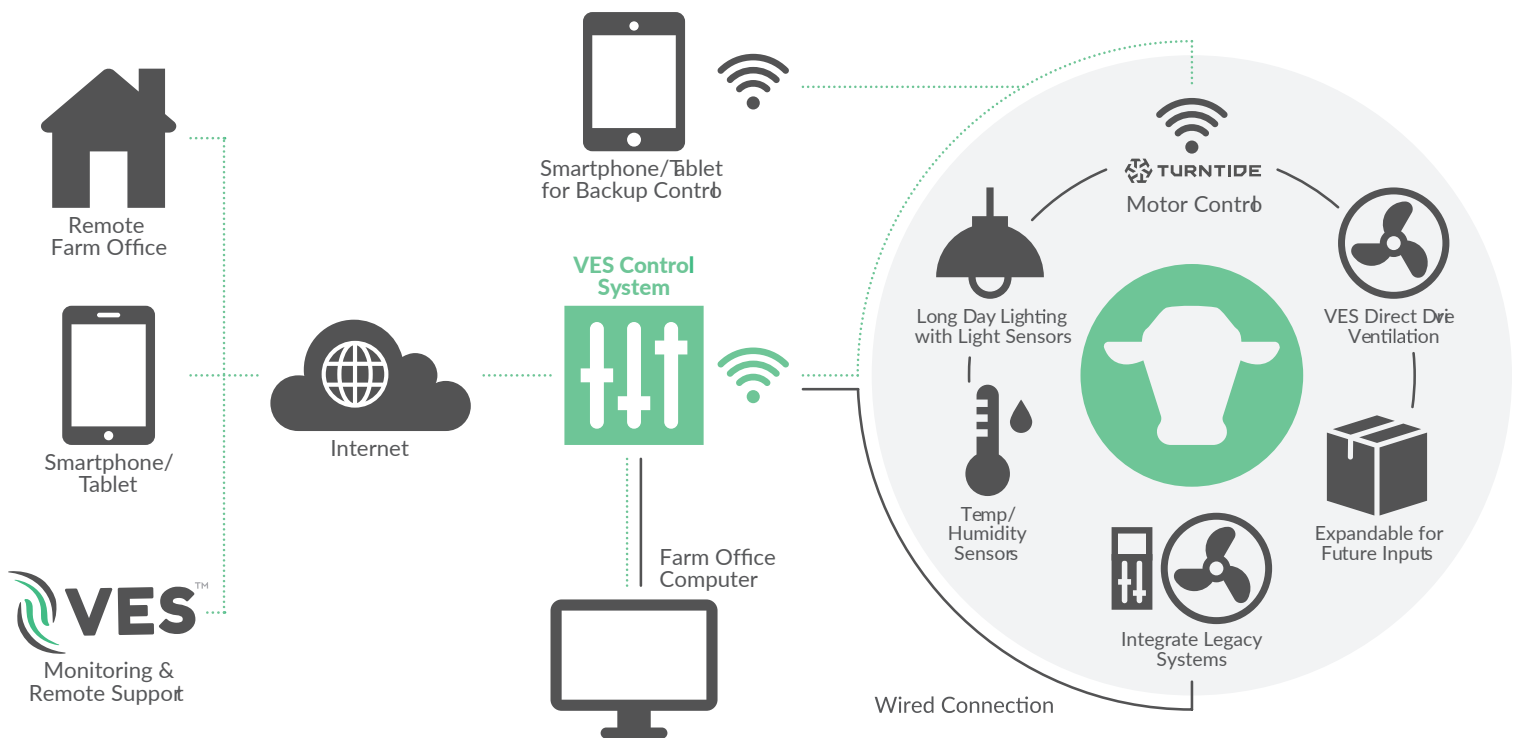
Organizations and Operations

- Turntide partnered closely with VES on product development and integration. VES's first generation of direct drive fans powered by Turntide V-series motors resulted from deep collaboration between the two companies' engineering organizations.
- Turntide provided additional support to VES in strategy, organizational development, training, and marketing, in order to successfully go to market. The two partner companies drove decisions collaboratively, with VES maintaining ownership of its IP and customer relationships.

Results

- From initial pilots, VES has driven full installations with Turntide Smart Motor Systems across three sites, with 178 fans installed and running.
- Three more projects are scheduled for Q1, comprised of 80 more Turntide-powered fans.
- VES plans to ramp revenue significantly in 2020, driven by the V-series fans and the next generation of fans powered by TX motors, with DairyBOS as supporting cloud software technology.

DairyBOS™ (Dairy Barn Operating System)



For more information on VES or Animal-Centered Environments, please visit www.ves.co or call (715) 720-0800.



Turntide Technologies (formerly Software Motor Company) has developed the world's most efficient and intelligent electric motor system. The revolutionary Smart Motor System is based on proven switched reluctance technology, now managed with advanced cloud software and connected to precise controls via IoT. Turntide's vision is to eliminate the 25% of global electricity consumption that is wasted by legacy motors, thus accelerating the world's transition from fossil fuels. Turntide is based in Sunnyvale, Calif., with offices in San Francisco; Arlington, Wash.; and Kennesaw, Ga. Turntide has installed Smart Motor Systems with dozens of customers, reducing their motor electricity consumption by an average of 64%, and is powering the systems of leading OEMs. For further information, visit www.turntide.com.

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