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Innovative Design Concept for a Digitally Connected Sail

1-By Design an amateur sailing team dedicated to encouraging philanthropic activities for the blind



through participation in racing regattas and sailing events has teamed up with MIT's start up AFFOA (Advanced Functional Fabrics of America) to develop a digitally connected sail.

Unlike traditional sail manufacturers that look to utilize imbedded sensors or cameras to monitor sail performance AFFOA have developed the technology to weave sensors "into" the carbon fiber of the sail. Yoel Fink, Chief Executive Officer notes "AFFOA is transforming the industry from the traditional use fibers and fabrics into one in which fibers and fabrics are becoming conduits for highly sophisticated devices and systems." Essentially AFFOA has developed the technology to enable the entire sail to become a connected device which can sense movement, store info and communicate.

As the sail moves through the wind, performance characteristics such as velocity, pressure and camber as well as other dynamic characteristics are captured. Once captured the data can be analyzed in real time against a predefined performance norm. Deviations from the norm can be communicated to the trimmer, tactician and helmsmen who adjust as needed.

For the Blind or Visually Impaired Helmsmen the adjustments can be transmitted as impulses via a wireless device that can inform them to sail closer to or further from the wind. For the trimmer impulses can be transmitted into the actual sheets controlling the sails and let them know to trim in or out the sail. Although still teamed with a sighted companion this opens up a whole new world of sailing for the Blind or Visually Impaired sailor.

Scott Hines, 1-By Design's Team Principal believes the application "not only has implications for Blind Sailors but for the first time Sighted Sailors and Sail Manufacturers can have real time data transmitted right off the sail for optimal performance and design feedback". In addition, because communications are transmitted wirelessly and independent of location, transmission can occur in some of the more remote portions of the globe.

If you are interested in learning more about this newest sail performance innovation please contact Scott@1-ByDesign.com or go to our contact page (www.1-bydesign.com).

