



Artemis Racing and Altair Team Up to Design the Difference™ in Foiling Technology for 35th America's Cup Bid

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Surface To Air film documentary goes behind the scenes on daggerboard design collaboration

TROY, Mich., May 17, 2017 – [Altair](#) and [Artemis Racing](#) together have applied design and simulation technology to help place Artemis Racing in a position to take it all in the 35th America's Cup.

The design of the daggerboards – foils that lift the boat out of the water to break the drag barrier – will be a critical differentiator between the competing teams as they have a significant impact on a boat's performance. The Altair and Artemis Racing technical teams have placed a great deal of emphasis on perfecting these composite material structures.

"Technology plays a huge part in the America's Cup," said Iain Percy, Team Manager and On-Water Tactician for Artemis Racing. "It's been said the fastest boat has won the America's Cup for the last 160 years and I'm not sure that is about to change. The daggerboard is the appendage that we fly the boat off and also transfers side force into driving force. Millimeters of difference make knots of difference so the optimal manufacturing and design of the daggerboard is absolutely critical."

The teams have focused much of their effort on optimizing the strength, shapes and thicknesses, and how water and wind interact with daggerboards using a simulation-driven design approach. To accomplish this, Artemis Racing used several Altair technologies from the HyperWorks® suite including:

- [HyperMesh®](#) complex composite material finite element model development
- [OptiStruct®](#) for structural analysis and optimization
- [RADIOSS®](#) for nonlinear, large deflection analysis

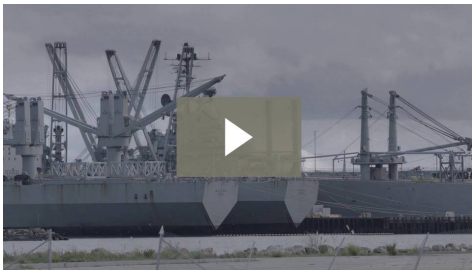
Two sets of daggerboards were created to withstand the unexpected challenges from mother nature – one pair designed to perform optimally in heavier winds and waves and another for lighter wind and wave conditions – both designed to rapidly lift the boat from the water with minimum drag.

"The tools that we use are at the forefront of the industries," says Brett Ellis, lead engineering for daggerboards and rudders. "We are working to tight tolerances and small differences in section shapes on the daggerboards can lead to relatively big gains on the water. We are all pushing hard and pushing the design limits to win that America's Cup."

"The technology involved in designing these boats is a critical component to providing a speed edge for the teams vying for the win," said Uwe Schramm, Chief Technology Officer, Altair. "It was an honor to collaborate with the Artemis Racing design team and apply our design and simulation technologies to create a world-class sailing vessel."

Artemis Racing represents [Kungliga Svenska Segel Sällskapet](#) (KSSS – the Royal Swedish Yacht Club), the fifth-oldest yacht club in the world. Artemis Racing has a multinational crew comprised of the most successful and respected sailors and designers in the world. The sailing team members have participated in 12 America's Cup campaigns and competed in 21 Olympics Games, winning 11 medals, 7 of which were Gold. Additionally, Artemis' engineers, boat builders and support team have been involved in 64 America's cup campaigns, including 14 victories.

Altair has released a short film documentary titled "*Surface To Air*" that was developed to celebrate the hard work and innovation that is positioning Artemis Racing to win the 35th America's Cup. The film highlights the profound impact that simulation-driven design has on the development of the Artemis boat, available for viewing at www.designthedifference.com.



Artemis Racing will present their project at this year's European ATC. Learn more at

www.altairatc.com/europe.

Follow Artemis Racing's journey in the 35th Americas Cup in Bermuda at www.artemisracing.com.

About Artemis Racing

Artemis Racing is a professional sailing team challenging for the 35th America's Cup, representing Kungliga Svenska Segel Sällskapet (KSSS – the Royal Swedish Yacht Club), the fifth-oldest yacht club in the world. Founded in 2006 by Torbjörn Törnqvist and named after the Greek goddess Artemis, the team has won numerous competitions worldwide, including the MedCup and TP52 World Championships and the RC44 World Championship. Artemis Racing was the Challenger of Record for the 34th America's Cup. More information can be found at www.ArtemisRacing.com or [@ArtemisRacing](#).

About Altair

Altair is focused on the development and broad application of simulation technology to synthesize and optimize designs, processes and decisions for improved business performance. Privately held with more than 2,600 employees, Altair is headquartered in Troy, Michigan, USA and operates more than 50 offices throughout 22 countries. Today, Altair serves more than 5,000 corporate clients across broad industry segments. To learn more, please visit www.altair.com.

Media Contacts:

Altair Corporate/North America/Asia Pacific
Biba Bedi +1-757-224-0548 x 406
biba@altair.com

Altair Europe/The Middle East /Africa
Evelyn Gebhardt
gebhardt@bluegecko-marketing.de

Artemis Racing
David Tyler, Commercial Director
+1 415 900 8570
david.tyler@artemisracing.com



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SURFACE TO AIR

