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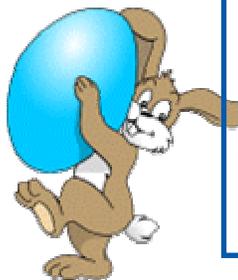
In the spotlight:

- ☑ TP52 Quest –string layout optimization
- ☑ Andrea Avaldi & Fabio Bressan on RigEdge

AzureProject News:

- ✦ Open your SmSw6 designs in AzureProject: simply import your design and you will have them available as AzureProject file ready to be used!
- ✦ Azure Project video tutorials available to AzureProject Users
- ✦ Improved graphics
- ✦  SMAR Azure channel
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- ✦ Visit our brand-new website at: www.smar-azure.com and find new case studies, videos and technical info.

Happy Easter!
From SMAR Azure



TP52 Quest - String layout optimization



The Challenge: in collaboration with Ian Broad (Hood Sailmakers – Australia) and Brad Stephens (D4/ Dimension-Polyant - Australia), the SMAR Azure team has optimized the string layout of a mainsail and jib on the TP52 Quest. The main goal of the optimization was the development of fiber layouts that were able to hold a fast sail-shape, be easy to trim and light so as to maximize the boat speed and stability.

The Solution: by both aligning the fibers along the principal stress direction and considering the stress magnitude distribution, SMAR-Azure was able to develop **light** and yet **low stress fiber layouts** that demonstrated an ability to hold a fast shape without compromising the durability of the sail. The design and optimization was carried out with SA-Evolution.

On Board Test: extensive on-board tests carried out by the Dimension-Polyant team have confirmed the expected performance in terms of shape holding and durability. Corner loads estimated by SMAR-Azure were, on average, 15% higher than those measured during sail testing, suggesting that, with weight reduction as a main goal, the proposed layouts were safe.



Andrea Avaldi and **Fabio Bressan**
Owners and directors of **ABstructures**, a company that offers innovative structural design solutions for lightweight structures made of advanced composite materials and/or high performance metal alloys.

Currently involved in the **wing structural design** of an **AC72** for the **2013 America's Cup**,



ABstructures has more than 10 years of experience in operating at the highest level in yacht racing (America's Cup & Volvo Ocean Race) aerospace and car racing.

ABstructures 'delivers optimized structural solutions, by using a creative approach and the most advanced technologies'. As a result, 'it is crucial to be able to explore alternative design solutions using robust and reliable design and analysis tools'.

RigEdge 'is a flexible preliminary design tool that we can use during the conception phase of any sort of rig. The main benefit is that we can quickly develop different rig configurations, apply material properties and run a full structural analysis. It also includes full fluid-dynamic and structural analysis of sail-plans'.

While other programs for preliminary design are currently available, 'we selected RigEdge as it provides a fully integrated design and analysis system that takes into account both sail loads and tuning loads'.

'We have carried out an internal validation of the results generated by RigEdge. We are fully satisfied with them'.

'Working for the America's Cup, we have been asked to push rig design to the limit! Being able to quickly and effectively evaluate various design solutions is crucial. We would recommend using RigEdge to any designer operating under similar conditions'.