The Future of Yacht Racing

Around 150 enthusiastic race sailors joined the 3rd International Yacht Forum in Hamburg to talk about this topic on Saturday, 24.3.2012, and Sunday 25.3.2012, at the Chamber of Commerce in Hamburg, although the weather was fantastic.

Presented by the moderator Dobbs Davis, sailing expert and editor of the Seahorse Magazine, 13 international specialists of high standing gave lectures: about advantages of navigation software (Nick White, NZL) and working with Grib files for tactics depending on weather (Meeno Schrader, GER), about yacht design in relation to rating rules (Jason Ker and John Corby, GBR, and Torsten Conradi, GER), current trends for offshore One Design classes, Box Rules and rating rules (Dobbs Davis, USA), the optimisation of sails for rating systems (Greg Marie, USA), risk minimisation of accidents and breakage of yachts (Stefana Beltrando, ITA), hydro and aero flow analysis and speed prognosis (Kai Graf, GER), advantages and possibilities of video production in offshore sailing (Robert Sleep, GBR), software solutions for race management (Stefan Kunstmann, GBR, Volker Andrae, GER, and Dobbs Davis), development of a new rating rule (HPR) for high performance racing yachts (Jason Ker, Dobbs Davis, and James Dadd, GBR).

The extensive overview of the developments in the international offshore scene was made possible by the commitment of the sponsors ALEXSEAL Yacht Coatings, boot Duesseldorf, Doyle Sailmakers, Ernst Kabel Druck, Farmer's Outdoor Fast Natural Food and the German Offshore Owners Association.

The Saturday of the event was organized (and sponsored) by the agency GentCom GmbH with it’s brand stockmaritime, the Sunday by the German Offshore Owners Association.

Information from the pros at 1.5 forum days

Most noticeable was the growing importance of computers in all areas of the sailing sport. Nick White, developer of the powerful navigation software Expedition, impressively demonstrated the immense advantages of navigation and tactics software. If courses are evaluated, taking weather and flow data as Grib files and performance data of the yacht into account, chances of winning are significantly bigger. Weather expert Meeno Schrader later pointed out the influence of the data quality for the planning.

Some guests left the Forum after White's presentation to take part in the „Go For Speed“ training of the Expedition software, organised by the German Sailors' Association (DSV).

Technology and computers also became very significant in the sailmaking industry. New designs are not first tested on the boat or in the wind tunnel, but on the computer. CFD is the magic word: Computational Fluid Dynamics. Computer programs simulate the air flow on the sail and thus enable the sailmakers to calculate the driving performance of different designs without wasting expensive sail cloth. And the shape and fitting accuracy of the sail can be tested on an accurate 3D model of the rig. Since most boats today are designed on the computer, this data is available from the boat designers. Yacht and sail designers work more closely together anyhow, because lighter boats are faster and need different sails – to be successful, you need an optimal match of both. The sail designer from Doyle Sails conveyed extensive practical and computer experience to the audience in Hamburg. Having travelled to Hamburg from the USA the day before, Marie pointed out the importance of the in-depth dialogue between yacht and sail designers. His concept „Design Loop“ includes all continuous and systematic steps to create a sail, that is fast AND fits well into the rating rule. CFD is of course used a lot for optimising the sail.
This year again the designers and engineers at the Forum presented the creme de la creme of the racing yacht design industry – perfect for talking about the yacht design trends.

In general, there is an – international – trend to boats providing more fun sailing and not mainly fit well into a rating rule. More fun comes along with less weight, more ballast and a bigger sail area – all of that being punished in the rating rules. Today you can easily build a boat of 12m with a total weight of less than 4t – without suffering seaworthiness. But the popular boats in Northern Europe weigh 6t – 8t or more. Even a brand new XP38 of X-Yachts’ Performance Series weighs 6.4t at a length of 11.58m.

Torsten Conradi from the design office Judel/Vrolijk explained, that the weight is more dictated by the rating rules than the lack of possibilities to build a lighter boat, illustrated on the racer „Elena Nova“, which has a weight if 5.6t. Even though the boat is optimised for the rating, „Elena“ is almost 800kg lighter than the Rodman „Beluga“ - and its waterline is 1.30m longer. Conradi announced the development of further exciting racing boats: e.g. a new 37ft ORC racer „Shooting Star“ at Speedwave and two impressive Mini Maxis of 72ft – one of them being built at Baltic Yacht in Finland.

Yacht designer Jason Ker showed a diagram illustrating the trend for the weight of racing yachts, in case a new rating rule for high performance yachts would be developed: 3.5t to 4t for a 12m yacht, less than 6t for a 15m yacht. The sailing performance of these boats would be remarkable – a reason for some sailors, designers and measurers in the USA to develop a rating rule for forceful racing yachts, without concern for the cruiser racers.

All speakers agreed on one point: the new light yachts would be extremely demanding for the crew. Everyone must be aware, that you need a lot of practice to manage such a high performance racer to win a race on corrected time.

John Corby presented his design „Rockall“ as an example, that a more conservative heavier design can be successful in yacht races, also because it is controllable in all conditions and can reach his full potential. The crew of the „Rockall“ did receive the „German Offshore Award“ - for its constant great performance in 2011.

For those wanting to compete against each other without a rating rule, a few new, exciting yachts can be found on the market. Especially the Farr 400 promises great fun sailing at affordable costs for purchase and transport to the races, since the 4t carbon boat fits into a 40ft container or even on a trailer. But the „old“ Farr 40 – as Dobbs Davis commented – is not much slower than the new boat, at least in Up and Down races.

The technology for the construction of yachts is getting more and more complex and demanding: Air flow simulation on the computer enables the designers to predict realistic speed data for different designs. This makes it easier to optimise yachts for specific courses – a boat winning Up and Downs today looks different than a boat for long distance races, as Kai Graf from the University of Kiel pointed out. An example: Disregarded by those, who love elegant boats, the Scow bow of David Raison's Mini-Transat yacht offers major advantages in winds of more than 15 knots as well as downwind. The Class 40 association is even thinking about changing their rules.

Quality and testing processes from the aviation industry are used in yacht building – with
success, as statistically proven by Stefano Beltrando from QI. To prevent accidents by measuring the potential weak points is a new trend in the yacht industry: The forces acting on hull and mast on Elena Nova are measured by glass fibre cables laminated into the structure. Judel/Vroijk wants to compare the actual data with the predicted data. It might even be possible to develop warning systems to prevent overload on hull and rig.

Even the served lunch was devoted to performance race sailing: Farmer's Outdoor proved, that freeze-dried, light-weighed food can taste well and even looks good.

For further information visit: www.iyfh.org.
Press contact: Hans Genthe, hg@gentcom.de, ++ 49 - 40 - 866 009 - 0

Pictures for free editorial use:

Yacht designers Torsten Conradi, John Corby. Photo: stockmaritime

CFD helps with sail design. Photo: Doyle
http://www.stockmaritime.com/downloads/iyfh/media/cfd_doyle.jpg
One Design. Fun and fair sailing at reasonable costs – Farr 400. Photo: PCT
http://www.stockmaritime.com/downloads/iyfh/media/Farr400_downwind.jpg

ORC-racer with rating potential: J/V Elena Nova. Photo: Hans Genthe
http://www.stockmaritime.com/downloads/iyfh/media/hg_stm11_img_5108.jpg

The forum in the chamber of commerce.
From left.to.right.: Stefan Kunstmann, Dobbs Davis, Greg Marie, James Dadd, Torsten Conradi, John Corby, Jason Ker, Volker Andreae. Photo: stockmaritime

Race lunch with Farmes Outdoor fast natural food. Photo: stockmaritime