



Olivier van Meer

Innovation is a multi-player game

Yacht builders should implement new technology from commercial shipbuilding to speed up the green innovation. Mutual inspiration gathering all actors in the maritime industry, including naval architects, yards, commissioners and suppliers may help yards to catch up on the latest developments. Then, the pre-emission yacht is soon to come says yacht designer Olivier van Meer

Mutual learning and inspiration between commercial shipbuilding and yacht construction should be practised a lot more," naval architect Olivier van Meer concludes. "Propulsion systems, energy management and fuel saving in yacht building are way behind the level of innovation that is seen in commercial shipping. Of course energy saving and fuel cost saving is motivated by economic interests at shipping companies, but yacht owners might be interested, too. It is sad to see so much outdated systems being installed in yachts, mainly because yards take a conservative position, suggesting that owners will not be interested in fuel savings, as yachts typically spend most their time in harbours and at anchorages." But van Meer is optimistic. "For this reason, the economic crisis is a good thing. It takes the rush out of the production time for yachts ordered. This may give designers, yards and owner's more time to think about what they really want to build and how new solutions can be found around."

Commissioner at Olivier van Meer's naval architecture and yacht design office in Eindhoven very from small sailing yachts

to very large sailing and motor super yachts as well as commercial ships, mostly passenger liners and cruise ships. The company founder was literally born into his profession. With





parents being professional sailors, his craft was aboard a 23-meter ketch schooner. Grown up aboard a large sailing vessel, a logical choice for education was the Marine Academy in Exhousien. At age seventeen, Van Meer was Holland's youngest captain on a seagoing commercial vessel. He sailed the seas for some years, but his heart was with design: as an eight-year-old he started making sketches of boats and yachts. So at age 20, Van Meer started his office in naval architecture.

His first line of work was helping owners in classic sailing charter vessels. The first big order to settle the reputation of Van Meer as a yacht designer was the commissioning of Star Clipper and Star Fuen, two four-masted sailing vessels for training purposes. "As I went home after getting this incredible assignment, I did not know how to do ninety percent of the required work. Nevertheless,

two weeks later both boats were sailing."¹ His love for classic sailing yachts reduced from Van Meer's portfolio. Series of yachts like the 27 up to 60-foot cabin yachts "Puffin" or the 66 up to 110-foot series of classic styled "Dawn" sailing yachts clearly define the designer's style and preference. But the office also works in shared projects, doing for example interior layout and naval architecture for motor yachts styled by other designers.

"I am pleased that at the moment we work for some clients that ask us to design in the most sustainable (actual feasibility) possible. They are willing to invest in further development of sustainable technology even though their yachts may be a little more expensive as a result. At the project of a 43-meter motor yacht, we use isolation technologies known from the offshore industry, never applied on a yacht before. In the interior, we use materials that are produced environmentally friendly. In general, a lot of fuel saving can be achieved by setting systems and sometimes more moderate goals. If an owner wants a displacement motor yacht with 18 knots top speed,

that means the engine has to be big enough for such speeds. During the use of the yacht, the owner will only go the fast once a year. But every time the engine runs, it takes lots of fuel. If an owner is willing to set his design speed just a little lower, the engine will run more economically the whole lifespan of the yacht. That can contribute a lot to emission reduction. A green yacht is at first expensive in the mind and expectations of the owner. The transition from conventional technology towards new durable and low-emission systems will continue at an increasing pace. Sustainability is a necessity. And owners of industry typically the clients for large yachts, understand this. I get a lot of clients who talk to me about emission and regarding systems to save energy with other systems, like heating or air conditioning. In line with this, they require investigations into energy efficient propulsion systems."²

Van Meer expects clients to be take the lead in the green trend. "These last years, I was getting quite pessimistic about the chances for sustainable technology in yacht building. Often approaching yards to try another type of engine, solar or isolation, the answer would typically be: we always work with the same supplier, and this company does not have such product in their range. This indicates

hesitation to change production routines at yards. From their point of view, I can understand this. Yards want to deliver yachts of impeccable quality and durability. They rely on trusted systems and proven technology. There is a lot of research, development and re-engineering involved. Clients will have to be the driving force of sustainable innovation. Some clients try to be. Little steps in the good direction have been made in projects that are advertised as green innovations. Yet, the true green super-yacht has not been built. These first projects help clients conceive new aspects of what their yacht might be. People start seeing possibilities."³

"In my dreams, a fleet of classic sailing yachts passes by"



Not all clients ordering superyachts express understanding of the need for development through sustainability. Yael Meer: "I know of a yacht that had problems with a client that demanded the quality of the teak decking should be of the quality that can only be made out of Burmese teak. The yacht answered that the import of this teak wood is forbidden because the Myanmar junta has the population involuntarily chopping virgin rain forests for this wood, and the client furiously replied that he would hold the yacht responsible in court for any sign of poorer quality than expected. This attitude is still common among few clients in the yachting industry, but more yachtmen understand that it is not profitable to have such an expression of purchasing power as a mega yacht and have it built inconsiderate to social and environmental problems."

Even if clients and yachtmen would sometimes tend to be conservative, architects can promote more forward, socially conscious and sustainable solutions. "Experimenting with sustainable energy, I developed a solarpower yacht ten years ago. Then, the market was not ready for such yachts. Battery technology was not what it has become today. Electric propulsion still confounding yacht designers with the problem of power storage. Batteries add lots of weight to a yacht and consume space aboard. For smaller yachts, battery technology is now getting good enough to install well functioning electric propulsion. For large yachts, the demands on range and the variety of other power consuming systems aboard are so big, today batteries are not capable enough yet. It would be a challenge to design the first all-electric large yacht. Thanks to windmill energy, turbines have been developed to generate more current at a wider variety of speeds. This helps to use the screw on a sailing yacht as a generator of electricity. An owner should be willing to sacrifice maybe one knot out of the cruising speed of maybe 14 or 15 knots, but then the concentration sailing yacht, self supporting for all onboard functions, can be designed in the near future."

A well-known statement Yael Meer made concerning the preservation of his boat was the design and build of 'Linger', a classic looking, 53 meter wooden sailing yacht built entirely out of FSC-certified wood. The Forest Steward Council (FSC) is an independent organization monitoring wood to be taken only from plantations or where new sprouts are planted after trees have been taken out of the woods. "Who wants to have a pleasurecraft and know that nature is violated in order to build it?" Yael Meer rhetorically asks.

Progress towards the implementation of new sustainable technology in yacht building has to be a joint intention of client, yachtman and designer. "Innovation can not originate purely from the drawing boards of naval architects. If these great offices have to do all the research and engineering in their own expenses, it will not be possible. I want to support green innovation, but I am not an environmentalist first. Sustainable technology must be suitable and practical, without driving up the cost of a yacht too much. Yael argues: if the choice is realistic, choose the sustainable option. In that aspect, the playing field for naval architects is getting much more fun. Science's task is to research and develop technology that does not harm earth's ecosystems. Yacht design does not have to act like science, developing all kinds of technology on their own. We are the ones to make practical use of the innovations. Today, we



have a much richer choice of options than we had maybe ten years ago. I want to design boats with social and environmental awareness in mind, but it should not be explicit 'have me being green' boats."

"My colleagues – or brothers in yacht design – and myself started designing boats out of love for yachting, inspired by ideas of seamanship. With the evolution of the profession, the idea of conceiving energy efficient or even zero emission yachts adds to the nautical and technological knowledge. A yacht design would be very expensive if I had to bill all the time it takes to consider 'words to create' impact when constructing, using and recycling a boat. I am lucky to have a retired former designer that

still wants to be involved in our office, that spends a lot of time finding out the best solutions for the choice of materials and propulsion systems, from an environmental point of view. I believe we have to develop towards sustainable use of energy. The market is now slowly moving in that direction. And I do not believe the yachtmen and brokers that say clients do not care about energy efficiency on yachts. If it were only for the honor of being in the forefront of green design, a yacht owner would want to have an environmentally innovative boat. The market for small and medium size yachts will follow this trend in moderate pace, but with super-yacht owners, the change in market trend can be quite dramatic and abrupt. The reaction in market demand may occur again. It could be quite a challenge for yachtmen to be able to answer this demand for sustainable energy yachts. But the market for large yachts has everything that is needed for change: class, ambition and lots of money."

© www.yachtingdesign.com

'A green yacht comes from the mind of the owner'