



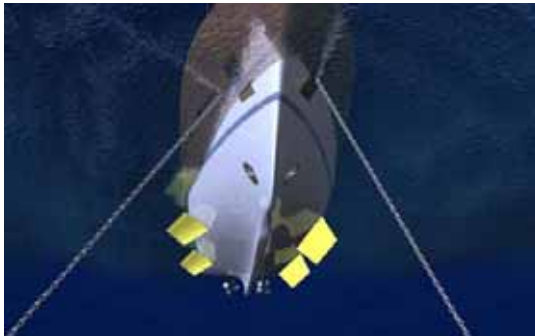
STABILITY - A DRIVER FOR GROWTH OF LUXURY YACHTS?

It goes without saying that the growth in the construction of luxury superyachts over the past five years has been unprecedented goes without saying. The reasons for this parabolic rise in the construction of these magnificent vessels are many and most can be well defined. They include: the petroleum boom in Russia and Eurasia; the increase in the value of global equity prices; the vast global creation of wealth resulting from the attendant boom in industrial commodities and the ascendancy of the BRIC (Brazil, Russia, India and China) economies that have sparked the demand for energy and industrial commodities.

The growth in the luxury yacht industry has not been confined to just the new construction sector of the industry but has been evidenced in the increase in demand for charter yachts and the purchase and refurbishment of older vessels.

While the expansion in the number of the world's wealthiest individuals is the prime source of growth in the popularity of luxury yachts, there is another major driver that has contributed to the attractiveness of yacht ownership – COMFORT!

Back in 1999 and 2000 a small but enterprising company based in Florida, Quantum Marine Engineering, implemented the first successful application of a stabilization system that could not only stabilize the vessel when the ship was sailing but also when the yacht was at anchor. This innovation would prove to have some far reaching impacts on the global market for owning and



chartering megayachts. It is well known that the majority of time spent aboard these yachts is with the yacht either in a port or when the yacht is at anchor.

In the past owners, their guests and charter parties accepted the fact that the yachts would roll when they were at anchor and sometimes in port as well. The fact that the yachts would roll when anchored did serve to restrict the market somewhat, due to the fact that many people are very sensitive to such motions. After all, who in their right mind would spend hundreds of thousands of dollars per week to expose themselves to the discomfort and inconvenience of living aboard a constantly rolling platform?

Quantum realized the potential for these systems to greatly enhance the 'yachting experience' and invested heavily in terms of its limited resources to bring the technology into the mainstream. The very first successful application was driven by one of Quantum's customers who, after Quantum had successfully upgraded his stabilizer system aboard a 48m Dutch built luxury yacht, asked the question; "Can you do anything about the rolling when we are anchored?"



Above & Left:
The Trinity yacht 'Fox Harb' y Too' launches with her Quantum Zero Speed™ Stabilisers clearly visible.

Far Left:
An artist's drawing showing Quantum Zero Speed™ Stabilisers in action with the yacht at anchor.



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Given that challenge, the group of technicians at Quantum brought to bear all of their experience, knowledge and most of their resources to explore this possibility. The company had a significant amount of experience in improving conventional stabilizer performance by the upgrade of the control systems. Over the relatively short period of three years Quantum supplied its control technology to over 350 yachts with remarkable success and the company gained a reputation as somewhat of a miracle worker for yachts fitted with older and outdated systems. Quantum's control designer, a Dutchman, had developed what was at that time the most sophisticated control technology that was commercially available for the private sector. He has also been involved in a previous but unsuccessful attempt to provide stabilization with a vessel at anchor and he therefore understood the challenges. The first application did not go without its ups and downs and, after several false starts the system was eventually tested and proven in the year 2000 to the great relief and satisfaction of both the customer and the Quantum team. Word of this first application spread rapidly and, within a very short time, Quantum had orders from other owners who wished to have this unique enhancement installed on their yachts.

The biggest hurdle for Quantum after having completed several successful applications of this technology was to convince the industry's decision makers, largely comprised of yacht builders, naval architects, owners, captains and management companies, that this 'Zero Speed™' technology was 'ready for prime time' and could be implemented onboard a majority of the larger superyachts with excellent results. In the early stages during 2000 through until 2002, Quantum was met with understandable scepticism by the industry professionals and it therefore concentrated on doing these applications as retrofits in order to gain immediate results. Quantum's marketing director understood that, at some point, the technology would reach a critical mass in terms of the installed base where other potential end users could find and witness the efficacy of the technology first hand on a

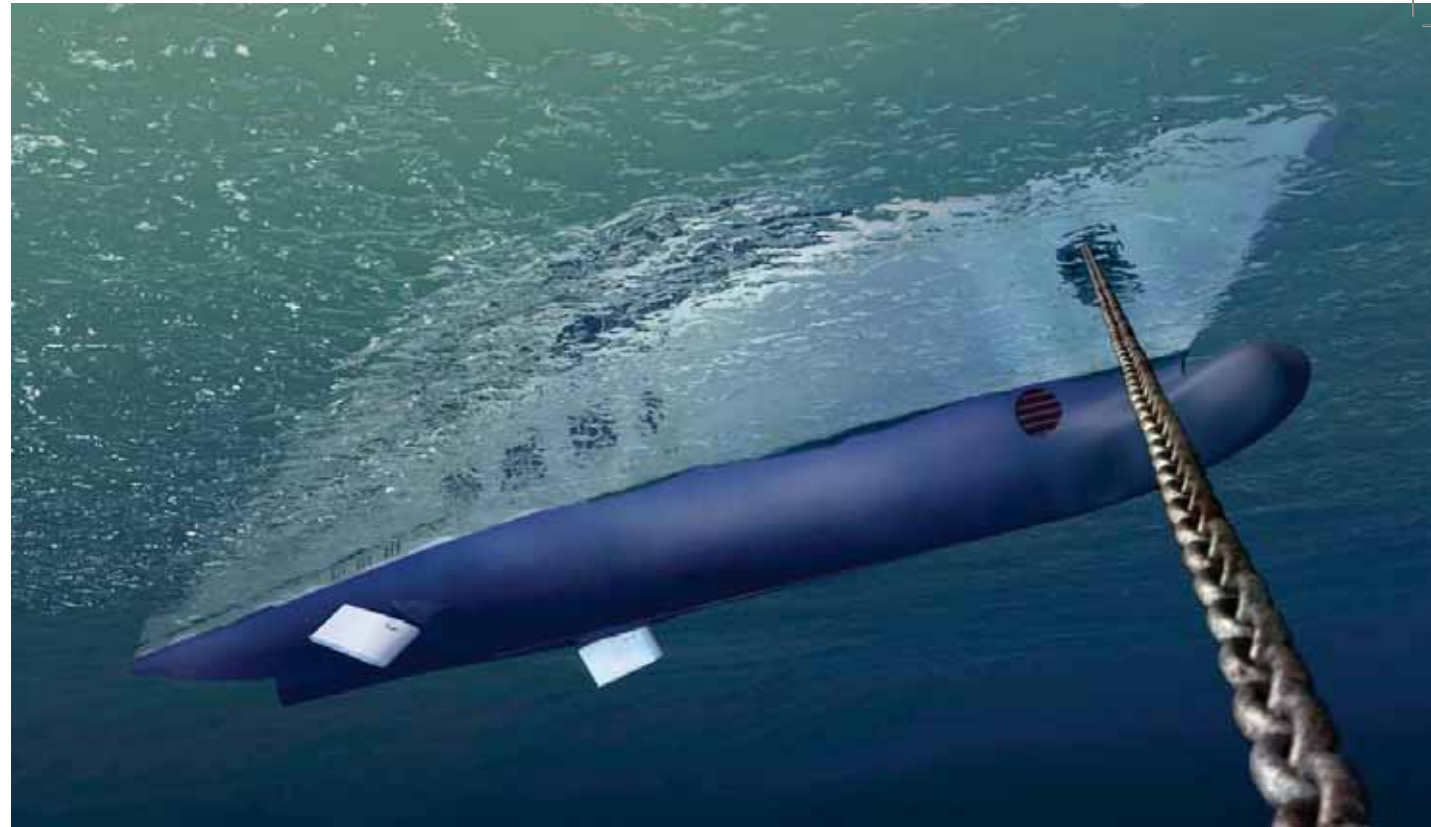
yacht in one of the more popular anchorages. During this period it was Quantum's customers who were instrumental in spreading the word – the builders were slow to follow and they showed an understandable aversion to the risks associated with any new technology.

Ultimately, it was the owners themselves who demanded that their new yacht, whether in planning and design stage or in construction, be fitted with Quantum's new, dual purpose systems. It was only then that the building community started to embrace the technology. The rest of the story is now history as these 'Zero Speed™' systems are now specified by owners in over 95% of the contracts for new construction for yachts over 40 meters in length.

THE 'MARY P'

Quantum, however, is not a company to rest on their laurels. It recently produced its most innovative solution yet for yacht motion control - a combined "Magnus effect" and active trim tab ride control system designed to meet some rather unusual challenges for a new launch at Trinity Yachts.

During the planning stages for the yacht 'Mary P', Quantum met with the yacht owners and builder to plan and design a custom solution for this unique sportfisher. At 122' and built with an aluminium hull, 'Mary P' was



Above:
Zero Speed™ fin units at anchor.

Far Left:
Quantum Zero Speed™ Stabilisers in their extended position.

Left:
An XT™ fin unit with extendable fin retracted (top) and extended (below).



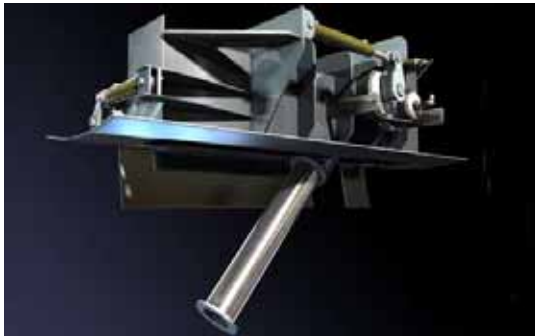
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designed for serious sport fishing with the ability to go anywhere in the world so the owners could pursue their passion for the sport. The owners also wished to be able to enjoy their time onboard in ultimate comfort. This created a challenge for Quantum to deliver a system that could deliver excellent motion control at the vessel's high end operating speed in the mid 20 knot range, while offering the same control while the yacht was trawling at low speeds in the 4 - 7 knot range. In addition to the high speed and low speed motion control requirements was the owner's desire to have the same Zero Speed™ performance that earned Quantum its excellent reputation for the megayacht market.

The team at Quantum came up with a comprehensive motion control system consisting of a combined MagLift™ (rotary stabilizers) and Archer™ (active trim tabs). The MagLift™ system has the unique capability to provide exceptional roll stabilization at slow speeds (3 - 14 knots) whereas a conventional fin stabilizer system would have to have extremely large fins to accomplish the same performance and it would have been impossible to fit the required size fins and keep them within the vessel's beam/keel boundaries.

The MagLift™ also has the ability to deliver the Zero Speed™ performance desired by virtue of Quantum's patented design innovations for this technology. When the yacht is operating at its high end speeds the Archer™ active trim tab ride control system takes over and delivers roll, pitch and trim control. Probably the most unique function for this system is the ability to deliver roll stabilization when the yacht is motoring backwards! At the request of the owners, Quantum designed and added a control feature to allow the MagLift™ stabilizers to operate when the yacht is backing down on a fish. Now that's a tall order indeed. The system on the 'Mary P' is certainly not the largest produced by Quantum, but without doubt is one of the most innovative ones yet developed.

*For additional information on Quantum's Stabilisers, please contact:
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*Above & Left:
The 122' Trinity sportfisher 'Mary P'
prepares for launch.*

*Far Left:
Quantum's MagLift™ Stabiliser.*

*Centre:
Quantum's Archer™ active trim tab
ride control fin can be seen to the
right of the yacht's propeller.*

*Left:
A Quantum MagLift™ Stabiliser on
'Mary P'.*