

Super Yacht

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Modern Day Nautilus

THE SUPERYACHT SUB

Devilish Details

TECHNOLOGY IS KEY





Modern Day



The Superyacht Sub

'Think of it. On the surface there is hunger and fear. Men still exercise unjust laws. They fight, tear one another to pieces. A mere few feet beneath the waves their reign ceases, their evil drowns.' These may be the words of Captain Nemo in the famed 1954 film *Twenty Thousand Leagues Under the Sea*, but they could belong to the two designers who created their own modern day Nautilus. The only difference: their vessel is a superyacht and a submarine. By Courtney Fray.

Nautilus



The year is 2021. A superyacht crew member feels a knot form in his stomach. He spots pirates on the horizon. The moment of panic vanishes almost as fast as it set in. For in a few minutes the captain, crew, owners and friends will enjoy a safe, subsea view as the superyacht pushes full speed ahead – underwater.

This is the future of superyachts, as two innovative designers see it. In Amsterdam last year, the designers were perfect strangers who walked into the same maritime trade show. When they walked out, they had an idea to take luxury yachting to a new level – quite literally. The pair not only designed a new superyacht, but one that dives below the water. They designed a superyacht-submarine crossover.

A SuperSub is Born

Her concept name is Hybrid 2021 and she was born from the creative minds of Edwin Van der

Mark, a conceptual designer, and Harley O'Neill of SuperyachtME. They believe the market begs for a different breed of superyachts. As Mr Van der Mark said, "there is a growing group of superyacht owners" that simply "want something new." The market need is obvious to Mr O'Neill, as international militaries and governments have already approached his team for 'surface to subsea living' designs. "Our designs are directly manifested by the global interest to take quantum leaps into the future of ship evolution," says Mr O'Neill. Filling a market gap, however, is not their only concern. They sense this is the inevitable future for superyachts – perhaps down the line, all superyachts will be submersible. For Mr O'Neill, that future is not far off. He feels certain today's technology can deliver such a superyacht: "the world is changing and technologies are advancing at incredible speeds, allowing for the impossible to be possible."



During an emergency, a passenger can climb into a lifepod as seen above. It then launches into the sea to safety.





She's Got the Look

Atop the waves, Hybrid 2021 is sleek like a submarine, but her 103 metres reveal the unmistakable élan of a superyacht. Like something out of *The Transformers* films, her two solid panels at the stern slide open sideways to reveal her tiered decks. The design allows the panels to remain open at the vessel's destination or at cruising speed. The roof hatch of the owner's cabin lifts, also in transformer fashion, to let sunlight saturate the space anytime the vessel is above water.

Hybrid 2021 is a complete superyacht package with an owner's penthouse, guest apartments, outdoor decks, swimming pools, beach club, helicopter pad, lounge bar and, not to mention, a hidden sun deck in the front of the vessel with a jacuzzi. Located midships, guests will enjoy luxury sleeping quarters. They can also take in a movie at the onboard theatre, go for a dip in the indoor swimming pool or stay fit in the gym studio. She even boasts a garage for toys and tenders with subsea hatches and moon pools to launch a mini-submarine or send scuba divers into the underwater world.

Not to neglect her technical side, the designers expect the Hybrid 2021 to be 'all green' from the inside out. Hydrogen and oxygen generators and

a water maker will supply power, fresh air and water. They intend to power her with all magnetic motors, sodium ion batteries, vortex propulsion dynamics, hydrogen fuel cells and reverse entropy. Mr O'Neill said this is "just a small taste to what we see in our concept transformation."

Superyacht at Heart

With the appearance of luxury submarines and similar concepts in recent years, the two designers affirm their concept has both a different purpose and perspective. Unlike luxury subs, the Hybrid 2021 is a superyacht at heart. They designed her for life above the water, but with the unique ability to push below the surface for temporary dives. Mr Van der Mark: "I wanted to design a complete new type of vessel. At the moment we see a lot of look-a-like designs... we call those 'safe designs.' I want to design with a different approach and take some calculated risk." Mr O'Neill added: "Our designs are still superyachts, just with advanced thinking... our solutions are based upon current needs and technologies. We are strongly dedicated to collapsing ideas together from different industries that have not been accurately intermingled in the recent past." For Mr O'Neill, technology and their unique experience also set the Hybrid 2021 apart

from competing ideas: “When we look at other such theories presented in the market, we see old technologies... limiting the possibility to creating the next generation in ship designing.” Not to mention, Mr O’Neill served with the US Navy Submarine force which gives the team, a realistic understanding of design potentials and limitations. They design with the true intent to build.

Piracy Proof

If the Hybrid 2021 indeed sparks a new genre of superyachts, their defining quality will likely be the ability to hide from impending threats. Piracy, as it is known today, may become a danger of the past. According Mr O’Neill, piracy evasion is a key benefit to the Hybrid 2021, “for a ship submerged will always have the advantage over surfaced craft.” Mr Van der Mark said because the Hybrid 2021 will be able to hide underwater from would-be attackers, the piracy issue filled his original design notes.

Piracy is not the only danger the Hybrid 2021 is designed to evade. When a tropical storm or hurricane brews, the vessel can simply slip beneath the water to wait it out. Mr O’Neill also points out, “living below the surface will solve the ancient story of seasickness and discomfort for it’s a smoother ride below the waves than on top of them.” Should disaster strike, however, the designers have more than one solution – abandon ship in the mini-submarine or use their innovative ‘Lifepod System.’ Similar to the capsulated structures used to pick up astronauts in the ocean – multiple lifepods will be installed on Hybrid 2021. During an emergency, a passenger can climb into a lifepod. It then launches into the sea to safety. A large hook atop the pod allows a helicopter to easily pluck it from the water. Mr O’Neill: “Our Lifepod System was specially designed by our team in order to tackle such problems seen with not just submarine applications but also with conventional surface ship applications.”

Men Behind the Design

After serving on fast attack submarines in the US Navy, Harley O’Neill continued into advanced maritime markets. Mr O’Neill developed a speciality in noise and vibration applications for yachts. His coating formulation included decoupling characteristics which proved beneficial for the US Navy. Today, Mr O’Neill maintains a residency in Monaco and an office in Croatia to work with a wide range of damping and thermal products for yacht builders, militaries, governments, universities, and special interests groups. Mr O’Neill is the Director for Global Business Developments for SuperyachtME – a 3D design and maritime engineering firm – with a mission to propel superyacht and military shipbuilding into the future. The other man behind the Hybrid 2021 design, Edwin Van der Mark, initially worked as a designer and illustrator in the advertising industry. He then was a career freelancer with a speciality in artist impressions for real estate companies. However, he followed a childhood dream to design boats, and eventually became a concept designer for the superyacht industry. In the beginning he admits his designs were “nothing special, just nice designs,” but today his designs to give clients a peak into the future. They are “new concepts, never done before.” He looks forward to collaborating with shipyards, partners in project management, interior designers, and naval architects for the Hybrid 2021 adventure.

Watertight

To take a ship beneath the water, keeping her watertight presents a challenge. Her designers confront the issue head on. All onboard doors and hatches linked to the decks will be double locked and watertight. Additionally, sensors and cameras will help keep water out, when the vessel performs a dive. Mr O’Neill is candid about current watertight technology. He explains “watertight solutions have been proven” but the technology will not evolve until groups such as his “come together to help give an extra push.” He adds: “We are not looking to develop deep-sea diver vessels, but instead a vessel that can push itself below the surface during high seas or submerge just below the surface when at port during bad weather.”

Industry Impact

For the future of the superyacht industry, Mr Van der Mark and Mr O’Neill, believe there is no room for outdated technologies nor frames of mind.

They insist their experience coupled with a visionary client and team will bring the idea to life, well before 2021. “We believe all future superyachts will be submersible capable,” says Mr O’Neill. “It is time for mankind to take big steps... to bring the sailor back to the sea.”

i. www.vandermark3d.nl

i. www.superyacht.me



Edwin Van der Mark of Van der Mark 3D Design



Harley O'Neill, Director of Global Business Development for SuperyachtME