

## The NERSUS Rig®



**The NERSUS Rig® is a patented designed rig created by the NERSUS Company.**

Today, yacht enthusiasts wish to find new ways, explore new perspectives, answer current concerns to achieve the next super-yacht generation.

Yacht design and construction provide a perfect platform to achieve their goals through inventive approaches, thus opening the gates to creativity and pushing the technological innovations boundaries.

The NERSUS Company wants to be part of this future by introducing the NERSUS Rig®.

Designed for super-yachts and commercial vessels, the NERSUS Rig® combines a 360° rotating free-standing wing-mast, a 35° camber adjustment balestron which may be connected or disconnected to the wing-mast (Patented system by NERSUS).

The NERSUS Rig®'s wing-mast comes equipped with external and internal cameras, position sensors, wind speed & direction sensors from bottom to top, turbulence sensors, load and distortion sensors, all connected by optical fiber and monitored/controlled by computer.

On the aft of the wing-mast a mobile hinged leading edge flap accommodates the high profile furled soft main sail.

The NERSUS Rig®'s soft mainsail version 2 will be the double-skin soft wing-sails currently developed by the Americas Cup' teams for their new AC75.

Halyards operations, captive winches, hooks and other technical fittings will be located inside the wing-mast, for a total free ropes appearance.

The NERSUS Rig® is an active part of the global hybrid propulsion of the vessel built around it.

Its profile efficiency, technical specification and facility of operation offer architects and designers creative possibilities and solutions for their projects. A subtle blend of spirit, functions and simplicity.

### **NERSUS Rig® keys points**

Reduces the height of the masts by adding more efficiency in the sail performances.

Gives the possibility to big vessels to comply with PANAMAX rules regarding bridges clearance with human sized systems and sails to operate.

Self-standing: removes the Marconi rig's over-sized standing/running rigging and reduces drastically the huge drag that these super-sized rigs and masts generate.

Simple and easy: a self-standing 360° rotating wing-mast and reasonable sails area controlled by hydraulics and computer, with possibility to be operated manually.

Minimizes mast/rig's drag in harbor.

Gives the technical possibility to disconnect the wing-masts from all other vessel equipment (balestrons, sails, halyards) to keep them free or controlled in rotation following the true wind direction.

Offers a controlled and safe sailing configuration in heavy wind and sea.

Developed to optimize the motor-sailor mode and give the vessel a true low consumption capacity. The vessel equipped with NERSUS Rig® is a high efficiency motor-sailer that can be used in manual or automatic mode. The rotating wing-masts/sails are handled by the NERSUS monitoring & sails control software®. The vessel is able to motor sail at very close angle facing the true wind direction.

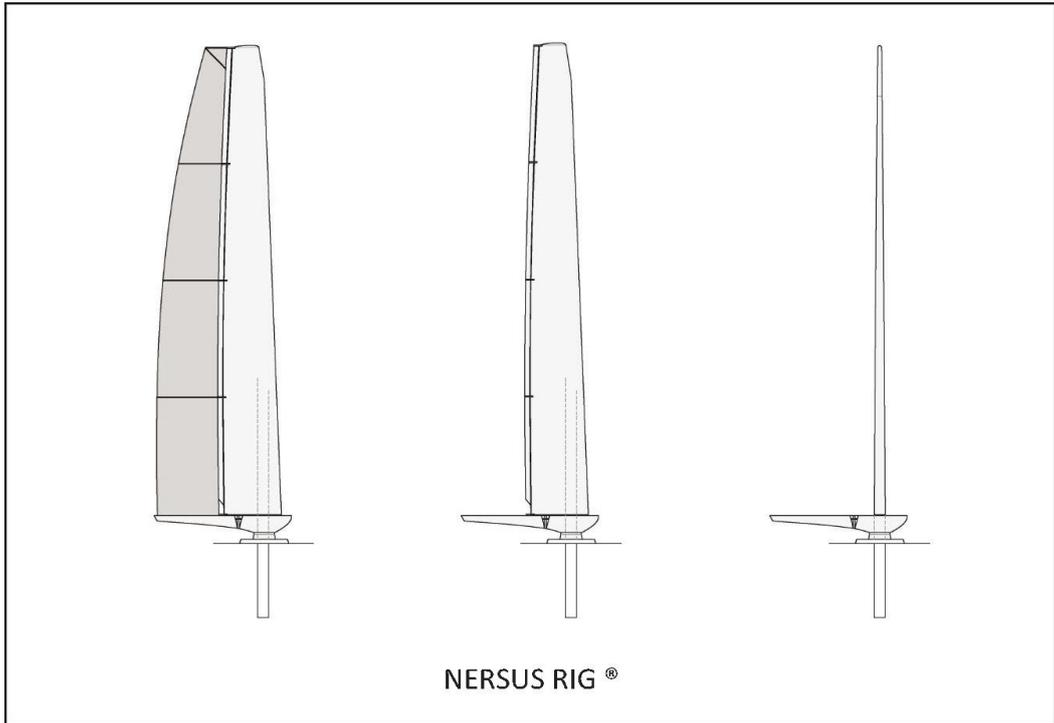
Coupled with a diesel-electric or GNL propulsion the software optimizes the ratio sails/propulsion efficiency to obtain a radical gain in terms of fuel consumption.

A vessel which will successfully combine multiple NERSUS Rig® and a LH<sub>2</sub> (Liquid Hydrogen) propulsion, could be one of the most innovative technical responses from our industry to the climate change challenges .

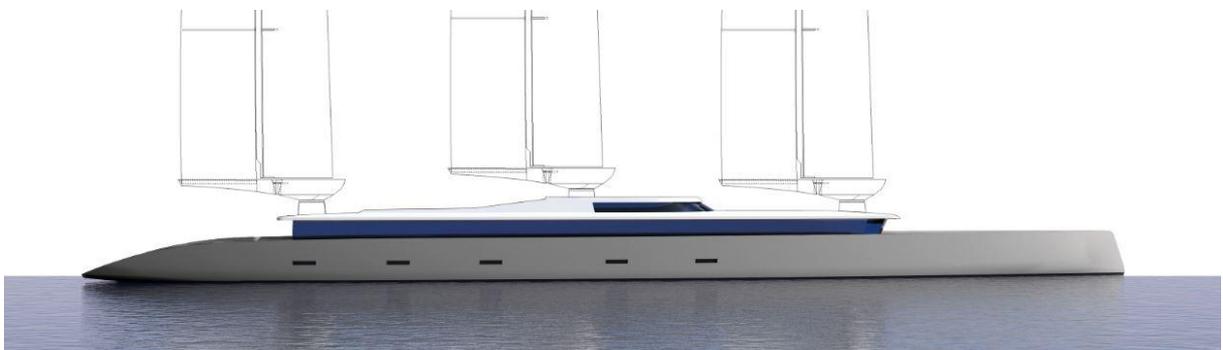
Such a combination gives to the vessel a true "zero emission" qualification.

### **NERSUS Rig®: Docking configuration**

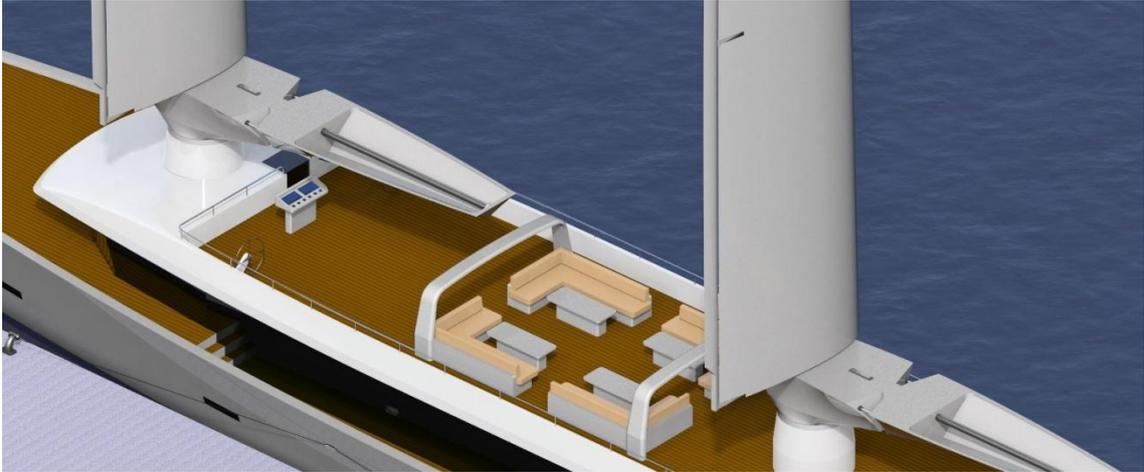
- 1) The wing-masts are disconnected from balestrons.
- 2) The wing-masts rotations are free (following the wind direction), or computer controlled (NERSUS monitoring & sails control software®).
- 3) Balestrons are secured in boat center line or could be used as crane for tenders.



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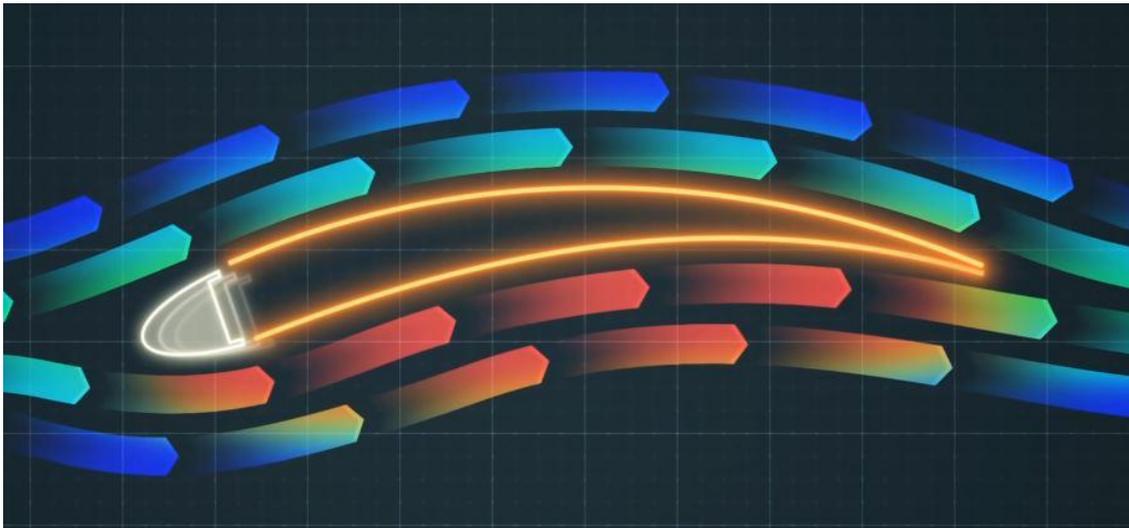
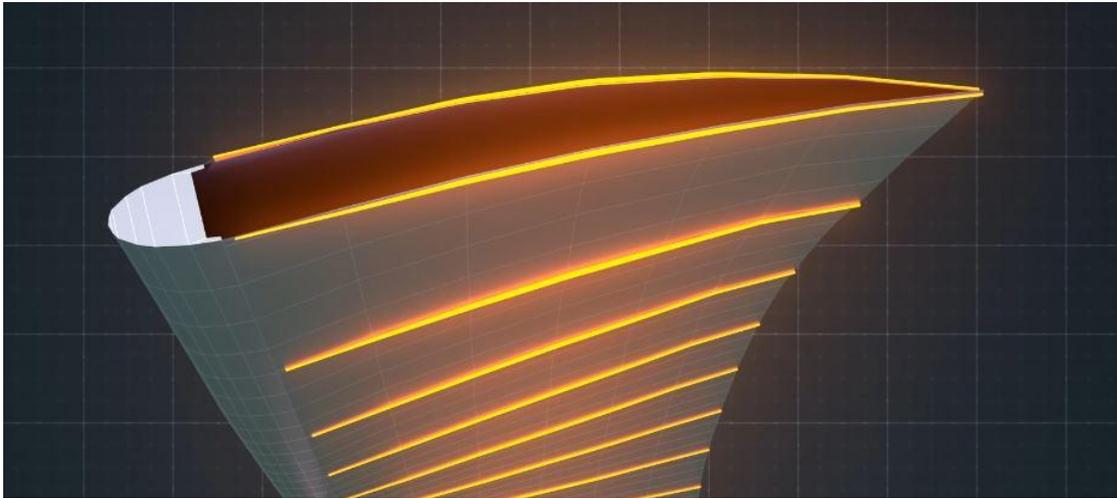


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NERSUS Rig® soft mainsail Version 2



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