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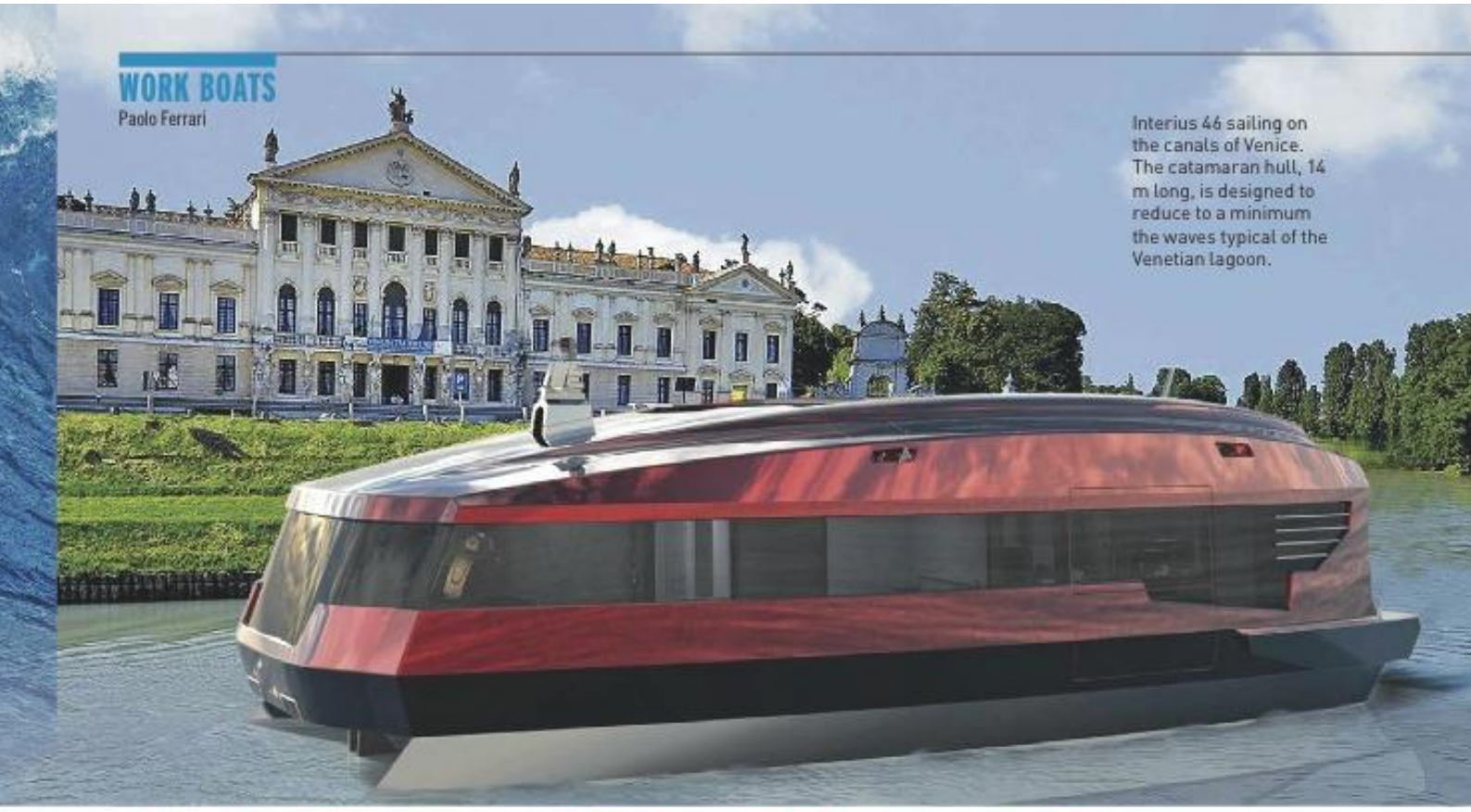

Interius 46 sailing on the canals of Venice. The catamaran hull, 14 m long, is designed to reduce to a minimum the waves typical of the Venetian lagoon.

INTERIUS 46
return to the future

The result of collaboration between the Econboard company and the Yankee Delta studio, Interius 46 is a concept design whose beating heart is a concentrate of technology made in Italy. It implements several innovative systems that help to make it absolutely eco-compatible and suitable both for private leisure and profitable professional activities.

Interius 46 is the result of the combination of two different professionalisms: on the one hand Econboard, a boatbuilder and engineering company that is always focused on professional, highly technological, innovative and eco-compatible vessels. On the other the Yankee Delta naval architecture studio of Massimo Gregori Grgič, engaged for years in developing boats with the highest architectural standards in the yachting sector. The founder partners of Econboard are John Scanu and Luca Rivieri, both aerospace engineers who for more than 10 years have been involved in the design, construction surveillance and certification of pleasure and work boats. After long experience in the research and development of their ideas, aimed at bringing innovation to yacht and ship design, they decided, thanks to the excellent results obtained with various projects, to industrialise their revolutionary ideas in the marine transport field. In the process there was a very important contribution from the Yankee Delta studio whose designers, Michele Stefano and Gianni Bani, guided by the experienced architect Massimo Gregori Grgič , gave to the innovative technologies conceived by Econboard a futuristic layout that could be adapted both to pleasure yachts and to passenger transport vessels.

The technology on board

The catamaran hull, designed by Econboard, is about 14 m overall and is designed to reduce wave production to a minimum. To increase performance in terms of resistance without reducing size and so room on board, Econboard immediately decided on a catamaran hull that would give greater rolling stiffness, particularly appreciated when sailing on inland and coastal waters waters and for pleasure boating. More precisely the hull is an asymmetric catamaran that can effectively reduce resistance to forward

The external lines of the Interius 46 are sleek and modern, thanks to design by the Yankee Delta studio of Massimo Gregori Grgič. Excellent aesthetics help to lighten the volume and balance the proportions between the topsides and the bottom.

motion and at the same time create less wake. The specially studied waterlines are the result of in-depth fluid dynamics studies using the CFD technique and later tank tests.
The Interius 46 has a cruising speed of 9 kn and can reach a top speed of 11. It has two 30 kW Azibox engines whose range varies according to the choice of the owner. The propulsion system of the Interius 46 is hybrid, very quiet and absolutely respectful of nature, with standards comparable to those of the most evolved cars, and permits sailing both in full electric mode and in internal combustion mode with the help of electrical generators.

The Econboard twin in-line azimuth propulsion

The Interius 46 propulsion system, unique of its kind and implemented exclusively on Econboard craft, uses two electric azimuth engines with patented architecture called Azibox, in an in-line configuration from bow to stern also covered by an international patent. The vessel can bus carry out any manoeuver, even the most complex, in a small space and with great simplicity: it is possible to invert the course immediately, rotate 360° at a standstill, move sideways and turn with a practically nil curve radius. It can be handled intuitively using two simple joysticks installed on a comfortable command seat that gives maximum visibility of the exterior. This characteristic, thanks to the ease and immediacy of manoeuvring, is particularly useful for inexpert yacht helmsman and becomes fundamental for commercial vessels in heavy traffic (for example in cities such as Venice or the ports of large European cities or in small anchorages).

The Azibox engines

The Azibox electrical azimuth engines are the result of lengthy research by the company founded by Scanu and Rivieri and are the strong point of Econboard. The Azibox propulsion system is designed to cover a range of power from 10 kW up to 80-100 kW minimising the energy required and making propulsion intrinsically more efficient. It is well known that manoeuvring consumes a lot of energy: in a vessel of new conception, designed also to respect the environment and the ecosystem in which it sales, it is thus important to reduce energy consumption, especially

The collaboration between Econboard and the Yankee Delta studio stemmed from the desire to give concrete form to 10 years of experience of design and research in boatbuilding "clothing" a large number of patented, innovative, ecological ideas with a high technological content with a futuristic style that could be adapted to the varying needs of owners. The result of this collaboration was voted the best project in the "professional" category at the recent International MYDA 2016 competition, taking first place.

when manoeuvring. Thanks to its particular structure, the twin submerged fins of the Econboard Azibox electric motor can significantly reduce not only the energy required for manoeuvring but also the stress on the vessel during manoeuvres, making it possible to have a simpler and hence lighter architecture for the hulls that marks a further step forward towards greater environmental sustainability.

Architecture of the power system

The architecture of the power system has very high performance, catalytic and silenced endothermic generators that work with lithium iron accumulators. The modular architecture satisfies the most varied use requirements making it possible to recharge the

PROFILO ALARE AD INCIDENZA VARIABILE

At the bow of the Interius 46 is a device derived from the aeronautics sector. It is a wing that, according to the angle of incidence in the water, makes it possible to trim the vessel to improve comfort on board and reduce consumption and also reduce wave production.

The Interius 46 is powered by two Azibox™ electric azimuth engines, with a bow-stern in line configuration, making it easy to handle using two joysticks installed on the command seat.

PROPULSORI AZIMUTALI IN LINEA

The Interius 46 in its passenger ferry version, particularly suitable for places such as the Venetian lagoon or river and coastal water navigation.

The open deck of the Interius 46, in its cruising version, makes sailing comfortable, thanks to the large sun deck and two symmetrical dinettes, in addition to the fixed furnishings.

batteries both at the quayside and file cruising. Interius 46, like all Econboard craft, can also sail in full electric mode, with range and performance depending on the technical decisions taken with the owner. The energy-saving of Azibox, together with the build simplicity of the power architecture, the increased efficiency and great structural resistance of the particular "box" geometry of the propulsion unit, help to make the system highly innovative, effective and absolutely eco-compatible.

Trim control

Interius 46 is built in aluminium alloy. Its light weight and ecological power systems greatly reduce the number of sea cocks and further increase safety and navigation. In addition the Interius 46 has a trim control system that uses a device derived from the aeronautics sector installed at the bow. Depending on the angle of incidence the device has with respect to the flow during sailing, there are two important contributions: in the first case the trim can be managed to improve comfort on board and reduce consumption; in the second, thanks to the depression generated on the back of the incidence profile, there is aspiration of the waves entering the space between the hulls that reduces the wake. Also in this case technology helps the environment.

Conclusion

A vessel like Interius 46 raises safety standards and, if the technologies it uses develops on a large scale, in principle that could even allow legislators to review speed limits in protected waters: a hull that produces few waves, and with exceptional manoeuvrability, can offer performance that is unthinkable today for traditional craft, even at higher speeds, in terms of turning, ability to stop and immediate changes of course. The increased manoeuvrability gives greater freedom to the helmsman and could be a very interesting key to development for water transport.