

SUNREEF FOCUSES ON "ECO" BOATING WITH HYBRID OR ELECTRIC PROPULSION, PHOTOVOLTAIC PANELS INTEGRATED INTO THE HULL, AND SUSTAINABLE DESIGN. ONE EXAMPLE IS THE LATEST MODEL LAUNCHED SUNREEF 80 POWER ECO

Paola Bertelli

ELECTRO SHOCK

Sunreef today employs 2,400 people and is expanding. The new site in Ras Al Khaimah (UAE), on 65,000 sq.m, will soon be operational.

The shipyard was founded in Gdansk (Poland) more than 20 years ago, when the city had a strong shipbuilding industry for large commercial ships but not for pleasure boats (let alone luxury ones). It focuses only on large, high-end catamarans; over time it has offered them in larger and larger sizes, first sail-only and then motor-only, increasingly custom-made, until it also entered the superyacht market.

Sunreef was one of the first shipyards to talk about hydrofoil, energy conservation, hybrid, electric, and now hydrogen propulsion. Today it is a reference for high-end multihulls and builds sailing, motor, and superyacht catamarans.

RECENT AND FUTURE CHALLENGES

The latest model presented is the Sunreef 80 Power Eco, a motor catamaran with electric propulsion and photovoltaic panels integrated into the hull: a solution that combines sustainable technology and unique visual appeal.

Coming soon are the Ultima series sport motor catamarans with hybrid propulsion: five models, from 14 to 27 m, to be built at the new Ras Al Khaimah site.

Sunreef's next big challenge is Zero Cat, a sailing catamaran with hydrogen-powered



electric motors that will use a hydrogen generator to produce hydrogen from methanol on board.

The system will benefit from the green power produced by the yacht's solar power system. The fuel cell system will generate clean energy



The Sunreef 80 Power Eco



with zero emissions that will be used for both the electric propulsion and hotel loads. Methanol avoids the issues of regulations and bulky tanks needed to store hydrogen and solves those of supply. Sunreef plans to launch Zero Cat by the end of the year.

interview



Nicolas Lapp, Sunreef Yachts CTO and Co-Founder

AN OPEN-MINDED SHIPYARD

WE TALKED ABOUT THE LATEST DEVELOPMENTS AT SUNREEF WITH NICOLAS LAPP, SUNREEF YACHTS CTO AND CO-FOUNDER

What are the main technical features of this technology?

Sunreef Yachts undertakes in-house production of solar panels: our R&D team imagined a composite-integrated solar power system for the yacht, with extremely efficient cells boasting a peak performance of 24%.

The panels exhibit exceptional flexibility and can be strategically affixed to any surface on the yacht, maximizing energy generation.

The integration technique makes it possible to replace the panels if needed and provides extreme shock resistance.

What about its performance?

An 80 Sunreef Power can be fitted with close to 200 sq.m of panels (around 360 kg) delivering 40 kW peak per hour. This optimized solar energy set-up not only excels in terms of weight efficiency but can also produce the energy of two generators (weighing approximately 800 kg all together), thus allowing the yacht to operate solely on renewable energy, particularly at reduced cruising speeds.

Sunreef Yachts is actively pioneering advanced solar yacht solutions across its entire range, aiming to achieve the highest solar power efficiency available in the market.

These panels are particularly lightweight and impact and abrasion-resistant, right?

Indeed they are, with a thickness below 1 mm and weighing around 1,8 kg per sq.m (average solar panels will weigh between 8 and 15 kg per sq.m). In addition, tests have proven that they have a very high resistance to shock and abrasion: this allows them to be used on any surface, including hull sides.

Why did you build the hydrogen-powered boat Zero Cat?

The owner of Zero Cat, which produces green hydrogen, specifically asked us for a boat with hydrogen propulsion.

At the construction level, the core of the project was to remove the genset diesel and replace it with a hydrogen fuel cell.

The rest of the equipment is already compatible.

[top] Zero cat, the hydrogen-powered sailing catamaran under construction

Ultima 44, the smallest of the new series of fast catamarans. It mounts hybrid engines

shipyard vision

How did the decision to expand come about?

Having already two catamaran construction sites in Poland, Sunreef Yachts has decided to expand its industrial capacity with a new, state-of-the-art facility (its first overseas center). Thus, in 2022 Sunreef Yachts entered into cooperation with RAK Maritime City for the development of a new facility in Ras Al Khaimah (RAK Maritime City Free Zone Authority) in response to rising demand from the Middle East, Asia and Australia.

Developed on a 65 000 sq.m land reserve, the new facility will incorporate the latest technologies in luxury yacht building and will meet the highest standards of sustainability and energy efficiency. The big opening will occur in February 2024, even if the first manufacturing and CNC halls and the shipyard are fully operational since the end of 2023.

What are the main features and strengths of the new site?

The facility will offer a 360° approach to yacht manufacturing with a modern paint shop, carpentry, upholstery and stainless-steel workshops, all equipped with state-of-the-art machinery and the latest robotics (sustainability is the main leading factor in the project).

How did you select the workforce?

We started establishing the shipyard's production site team by engaging Polish experts to conduct training sessions and impart essential knowledge to the initial staff members. Containers with the components manufactured in the United Arab Emirates were already shipped to Poland to strengthen the production in the Gdansk shipyard.

At present, the Ras Al Khaimah shipyard is in the process of recruiting nearly 100 individuals with varying levels of expertise; the project office comprises 30 experienced engineers hailing from diverse global regions, under the leadership of the Managing Director, who possesses extensive experience in the marine industry.



Sól's Flybridge with relaxation area and outdoor wheelhouse

AN ELECTRIC CATAMARAN 23.8 M LONG AND 12 M WIDE, WITH ABOUT 200 SQ.M OF PHOTOVOLTAIC PANELS INTEGRATED INTO THE HULL AND SUPERSTRUCTURE. ON BOARD THERE IS ALSO A 990 KWH BATTERY BANK



The Sunreef 80 Power Eco aims to balance luxury, performance, and energy conservation.

YACHT WITH WOW FACTOR

The first unit of this 23.8 m long and 12 m wide catamaran was unveiled at the Cannes 2023 boat show. Sól, unit number 2 with more powerful thrusters and a record-breaking battery bank, was exhibited at the Fort Lauderdale boat show. 200 sq.m of photovoltaic panels cover the yacht, integrated into the outer bulwarks of the two hulls, the bimini roof and windows, and the front and sides of the flybridge structure. With 36 kWh peak power, they generate the power needed by onboard engines and hotellerie.

THE PHOTOVOLTAIC PANELS AND THE BATTERY BANK

Sunreef has worked to transform photovoltaic panels from unsightly technical elements to strategic complements to both the onboard energy system and the overall aesthetics of the yacht. The design and panel technology, developed in-house by Sunreef, are building blocks of a complex system that includes a pair of 360 kW e-motors each and a battery bank (onboard Sól) with 990 kWh—the largest battery

bank installed on a boat under 24 m, consisting of batteries developed for Sunreef that have a density of less than 5.2 kg per kWh and are nearly 30% lighter than the average systems commonly used in the boating world.

According to data provided by the shipyard, the propulsion system mounted on board Sól allows it to sail in the electric version for about 300 miles, and a generator further extends the range. The boat charging system is able to transform any voltage available in the world's ports: shore power works in 100v–450Volts / 1,2 or 3 phase / 50 and 60Hz. In addition to electric propulsion, a hybrid version of the 80 Sunreef Power Eco is also planned.

THE SPACES ON BOARD

On the Sól about 356 sq.m are available to guests, with four cabins (the master and three doubles, all with ensuite facilities), plus space for four crew members. The large salon is connected both aft, with the cockpit fully protected by the flybridge and featuring a large dining table, and to the forward lounge. From the cockpit, guests can access the aft platform with jet skis and water toys. On the flybridge, in addition to the outdoor command post, there is a large sunbathing and lounging area, a bar, and a dining area.