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The Superyacht Industry in 2024



The past year has been one of both challenges and triumphs, with the yachting sector demonstrating remarkable resilience in the face of economic and geopolitical shifts.

This stability raises an intriguing question: have yacht sales settled into a new, elevated norm. The buoyant stock markets in regions like the US and the Netherlands have undoubtedly played a role in maintaining strong demand, fostering an environment where luxury purchases, including superyachts, continue to flourish. However, the landscape has not been without its challenges. Geopolitical tensions, particularly the ongoing conflicts in the Middle East, have tempered the enthusiasm of some prospective yacht owners, adding a layer of uncertainty to the market.

RINA has achieved a significant milestone in the yacht classification sector with over 1300 yachts classified, of which 75 had a Gross Tonnage of more than 500 GT. New projects currently number 408 worldwide, of which 20 are over 500 GT. This accomplishment underscores RINA's expertise and proficiency in providing high-quality classification services for luxury vessels, and demonstrates the trust yacht owners place in the organization to ensure the safety, efficiency, and compliance of their ships.

New and Pre-Owned Yacht Sales: Adjusting to New Realities. The new yacht segment experienced a notable shift in 2023, with 203 yachts over 30 meters sold, representing a 17% decrease from the 245 units sold in 2022. Despite this reduction, an annual sales figure exceeding 200 units remains impressive by historical standards.

The most significant decline occurred in the 30-40 meter range, which saw a drop of 23 yachts compared to the previous year. The largest percentage decrease was in the over-

80 meter category, where sales fell from 10 in 2022 to just six in 2023. On a brighter note, the 40-50 meter segment saw only a 10% decline, and the 50-60 meter category experienced a modest drop of three yachts, totaling 18 units for the year.

The pre-owned yacht market also followed a downward trend, with sales declining by 27% from 403 in 2022 to 296 in 2023. This reduction suggests a return to more typical levels following the extraordinary sales surge observed in previous years.

Superyacht Completions: A Year of Progress and Potential. Between 2014 and 2021, the number of new yacht completions remained relatively steady, fluctuating between 150 and 160 units annually. This trend changed in 2022, with completions rising to 170, spurred by a surge in orders placed in the latter part of the previous year.

In 2023, this momentum continued, with an impressive 202 yachts completed, exceeding projections and highlighting the industry's capacity to ramp up production. The increase in completions is a testament to the significant investments made by shipbuilders in expanding their production capabilities and enhancing supply chains.

Despite this progress, a substantial backlog persists. In 2023, 352 yachts were initially projected for completion, yet only 202 were delivered, reflecting a 43% delay rate, similar to that of 2022. Looking ahead to 2024, the industry anticipates the potential completion of 340 yachts, many of which are semi-custom models. With the challenges of fulfilling such

a large volume of orders, we estimate around 205 completions over 30 meters, based on the demonstrated production capabilities of 2023.

The Luxurious Allure of Superyachts. Owning a superyacht continues to symbolize ultimate luxury, representing a pinnacle of wealth and sophistication. Despite the economic pressures brought about by global challenges such as inflation and geopolitical conflicts, the demand for these magnificent vessels has reached new heights.

This surge is driven by the ultra-wealthy's evolving tastes and the innovative ways superyachts are being utilized. The desire for seclusion and exclusive experiences has fueled interest in large, customizable vessels that offer unparalleled privacy and luxury.

Expanding Horizons and New Markets. The superyacht market continues to grow, buoyed by the increasing number of ultra-high-net-worth individuals around the world. American buyers are currently leading the charge, but significant growth is also anticipated in regions like China and Southeast Asia. The rising wealth in these areas, coupled with extensive coastlines and islands, creates ideal conditions for a thriving superyacht market.

This expanding customer base has bolstered the industry's resilience, especially in light of sanctions that have impacted Russian oligarchs, who have traditionally been major buyers of superyachts. The sanctions, imposed in response to geopolitical conflicts, have led to the seizure of numerous superyachts, highlighting the intersection of luxury and geopolitics in today's world.

A New Era for the Superyacht Industry. Western Europe remains a hub for superyacht production, but the industry faces potential revenue losses due to sanctions and asset seizures targeting Russian oligarchs.

Despite these challenges, the rise of a new class of wealthy individuals in the US and the Pacific Rim is driving demand and ensuring continued growth. Leading companies are at the forefront of meeting this demand, investing in cutting-edge facilities and technologies to maintain their competitive edge.

As the superyacht industry navigates the complexities of the global economic and geopolitical landscape, it continues to capitalize on new opportunities and embrace an expanding clientele. The allure of superyachts remains as strong as ever, a testament to the enduring appeal of luxury and exclusivity on the high seas.

RINA Maxima and the Future of Maxi Yachts. RINA Maxima was launched at the 2022 Monaco Yacht Show to address the needs of the growing maxi yacht industry. It offers services for large recreational vessels with metal hulls, focusing on decarbonization, digitalization, and comfort. For decarbonization, RINA Maxima has introduced standards for alternative fuels like methanol and hydrogen, and advanced propulsion systems including hybrids, batteries, and fuel cells. In digitalization, the Sertica Yacht software optimizes the management of these complex vessels, developed by RINA Digital Solutions. Comfort is ensured through guidelines for quiet, vibration-free operation, and stability. Advanced simulations and real-world trials predict and adjust the boat's reactions to sea stresses, resulting in a stability certification now used as a contractual standard.

RINA Maxima's services have been well-received, which is reflected in our collaboration with major shipyards. The brand tailors its services to shipyards' specific needs, whether focusing on decarbonization, comfort, or digitalization. It also provides cybersecurity assessments to protect mega and giga yachts from hacking. At the 2023 Monaco Yacht Show, RINA showcased projects including a zero-emission PEM fuel cell system with CRN and a mixed diesel-methanol propulsion system with Meccano Engineering.

RINA also partnered with Sea Index to measure yachts' environmental impact and signed an agreement with Eni to promote biofuels like Hydrogenated Vegetable Oil (HVO), which offers environmental benefits and flexibility for use with existing propulsion systems.

RINA Maxima's comprehensive approach integrates advanced technology and sustainable practices, leading the maxi yacht industry towards a greener and more efficient future. RINA Maxima uses advanced vibro-acoustics simulation software to assess noise and vibration levels in custom superyachts early in the design process. It also employs acoustic cameras and motion amplification to locate and address noise and vibration sources without extensive dismantling. RINA ensures onboard comfort while maintaining performance and efficiency. ■



Paolo Moretti
Chief Executive Officer,
RINA Services



BIO.
Ione Astondo

Ione Astondo is part of the fourth generation of the Astondo family. The family has been engaged in the construction of pleasure boats for over one hundred years, following the company's creation in Alicante, Spain, in 1916.

Ione has a Masters Degree in Digital Marketing, E-Commerce and Social Media, as well as a Double Degree in Tourism and Business Administration from the University of Alicante. She speaks Spanish, English, German and Valencian.

Ione joined the yard's management team as Marketing and Communications Manager, a position she combined with Cost and Production and HR Management. She subsequently became Director of Operations at Astondo Shipyard. Since joining the company, she has led the renewal of the marketing strategy with very satisfactory results.

Ione is the daughter of Jesús Astondo, CEO of Astondo. She and the family are committed to supporting charitable causes, to which Ione dedicates a part of her free time.

INTERVIEWS

Build quality, with Spanish flair

Interview with **Ione Astondo**,
Operational Director of Astondo

Photo courtesy of **Astondo**



At Astondo, everything, or almost everything, is produced in-house, from the designs, the engineering, the molds, the laminates in composite materials, to the machining and stainless steel parts. Our goal has always been to successfully maintain the accessibility of a family-run business with the highest standards of build. For example, excellence in carpentry work continues to be one of the hallmarks of our brand.

Astondo has 108 years of history, and our goal is to consolidate our position as a leading shipyard in the manufacture of luxury boats without losing one iota of what distinguishes us: quality.

Since 2020, we have renewed our boat ranges and introduced new design lines. As a result, the As range is born with two models (As5 and As8) and the Coupe range, also with two models (377 Coupe and 677 Coupe).

In 2023, we launched the Ax range with the Ax8 model. And this year, we have put our efforts into adapting and shaping ourselves according to the market.

We have decided to emphasize the Balearic territory, opening our first office in Puerto Portals, Palma de Mallorca. We wanted to create an 'Atelier Astondo', a real boutique, where we can serve our sailing customers in the region and approach potential customers who are in the Balearic Islands.



For 2025, we are working on the design of new models, mainly of medium length, where Astondoa has a strong name.

In addition, we are working on the design and conception of another model that will be part of the sports range, which is also scheduled to be launched in 2025. Our idea, and what occupies us at the moment in design, is the development and consolidation of these ranges, although we also like to surprise the market, so I cannot say much more!

Of course we cannot speak about new models without mentioning sustainability. The yachting industry is committed to the European objectives on decarbonization.

At Astondoa, we are constantly evolving and investing in facilities and equipment, while customers are increasingly demanding a sustainable sailing experience with more environmentally-friendly performance.

I would highlight five points about sustainability:

1. Design: the basis of sustainable yacht construction is eco-design. Every aspect, from the selection of materials to the construction process, is carefully considered to minimize environmental impact. This includes the use of renewable, recyclable materials and clean energy technologies, such as solar panels and electric propulsion systems.

2. Innovation in materials: advances in composite materials are redefining the standards of quality and sustainability in luxury yacht construction. Alternatives such as carbon fiber and bio-compatible materials are lighter, more durable and have a lower environmental impact.

3. Use of sustainable woods: opting for woods certified by organizations such as the Forest Stewardship Council (FSC) ensures that they come from sustainably managed forests. These woods are not only beautiful, suitable and durable, but also contribute to the conservation of forest resources.

4. Energy efficiency: the integration of smart technologies and energy management systems maximizes performance while minimizing environmental impact. Energy efficiency is fundamental to sustainable yachts.

5. Propulsion innovation: last but not least, the search for more efficient propulsion is crucial. From hybrid systems to hull design, measures are implemented



to reduce energy consumption and emissions.

Our relationship with RINA in these areas is key. RINA is fully up to date on all the technical advances which it immediately incorporates into its regulations, ensuring the latest technology on our boats. Staff at RINA facilitate the development of the projects. And as a leader in this segment, RINA is able to provide us with a top-quality service entirely tailored to our requirements. We have been working together for more than 20 years.

More generally, regulation and the simplification of regulations relating to the yachting industry will make the market expand and grow.

Here in Spain, we anticipate continued growth. Although the market for smaller length yachts has been somewhat impacted by inflationary factors, we expect this to change, while for the larger lengths the impact has been relatively small.

The pandemic introduced the pleasure of sailing to many more people, and the boating and yachting industry brought in a new group of younger consumers who will continue to embrace this activity.

Two important elements will help draw more young people to the industry. First, we are working to attract new talent and improve training. This way, new generations will be better prepared to take on new roles; and, secondly, sustainability will be key. The integration of sustainability into the corporate culture will be a crucial factor in attracting a new generation to this wonderful industry. ■



Scan the QR code to learn more about **Astondoa**



These days the main shipyards have developed a production of boats so varied and extensive that they cover every type of customer need.

That said, boat owners have become much more attentive to the operational economy of the boats, particularly to fuel consumption, which, due to its high cost, represents an important expense.

This trend has led to the design of less sporty and more efficient boats at low speeds, and more voluminous ones that offer great habitability without sacrificing large spaces for outdoor living.

Great attention is also being paid to on-board comfort, particularly to the reduction of rolling, and

INTERVIEWS

Yacht design adapts to new challenges

Interview with **Fulvio De Simoni**,
CEO of **Fulvio de Simoni Yacht Design**

Photo courtesy of **Fulvio de Simoni Yacht Design**



BIO.
Fulvio De Simoni

Fulvio De Simoni is one of the best-known designers of pleasure boats in activity. Fulvio was born in the Cinque Terre region of Italy and after completing his studies began his career as a designer in Milan.

In 1983, he founded Italprojects. Throughout his long career he has collaborated with prestigious shipyards such as: Pershing, Rossinavi, Austin Parker, Palumbo Superyacht, Filippetti Yacht, Antonini Navi, Mochi Craft, Ilver, Antago, Raffaelli in Italy, Gallart and Astondoa in Spain, Ocea and Simonneau in France, Trojan in the US, Inace and Tarpon in Brazil, and many, many others.

In 2016, Fulvio founded a new company, Fulvio de Simoni Yacht Design, together with long-time collaborators Cristiano Tonarelli and Enrico Lotti, with whom he continues to work on new projects for yachts and pleasure boats ranging from 14 to 80 meters.

In his projects, Fulvio has always sought to create innovative and different designs through original choices. His nonconformist attitude is clearly reflected in his designs.



the lessening of noise and vibration, especially when the boat is stationary.

Hybrid propulsion, along with the increasing efficiency of modern batteries, represents a valid solution today for optimizing consumption and for having a few hours of autonomy in quiet mode, therefore without the use of generators which, although well-insulated, still cause discomfort to guests.

Environmental issues are also changing design processes, of course.

Hybrid propulsion, energy storage systems, solar panels, and other technologies available today for reducing environmental impact result in an increase in technical spaces and weights.

A few weeks ago, the Sea Cat, a 42-meter motor catamaran with a sophisticated energy management system, was launched.



Scan the QR code to learn more about **Fulvio de Simoni Yacht Design**

Thanks to the efficiency of its hull, the availability of batteries, and the large surfaces available for the installation of solar panels, it guarantees great navigation autonomy in fully electric mode.

In this specific case, the distribution of weight on board was also carefully managed to allow for highly efficient hulls.

Several years ago, we designed the Wider 150, a ship with diesel-electric propulsion. This technological solution allowed us to place the engine room in the bow area, freeing up the space usually occupied by the engines.

This space was replaced with a large covered pool that could accommodate a 10-meter tender, which could enter from the stern while floating.

Going forward, I believe that the boating industry will follow what is happening in the automotive sector, where car manufacturers are making huge investments in research and development.

Without a doubt, progress in battery efficiency and safety will be crucial, as they will represent the role currently

fulfilled by fuel tanks and will serve as an additional energy reserve in the future.

In the meantime, **there will continue to be a drive to larger size yachts**. There are many potential owners worldwide for these boats, especially in countries whose economies are experiencing rapid growth, and I am inclined to think that the mega yacht sector will continue to expand.

In particular, the demand for large ships is increasing in Asia.

The future of medium-sized boats is more uncertain, as their popularity is more closely tied to economic fluctuations.

The role of the classification society in the yachting industry is more assured. I have observed how the societies have evolved, and are now serving not only as regulatory references but also providing consultancy functions.

The rapidly evolving boating world requires agility in updating and interpreting regulations.

In this context, the consultancy role of the classification society is crucial for our work. ■



INTERVIEWS

Refit yards to play role in decarbonization

Interview with **Gianni Paladino**,
Commercial Director of Lusben

Photo courtesy of **Lusben**

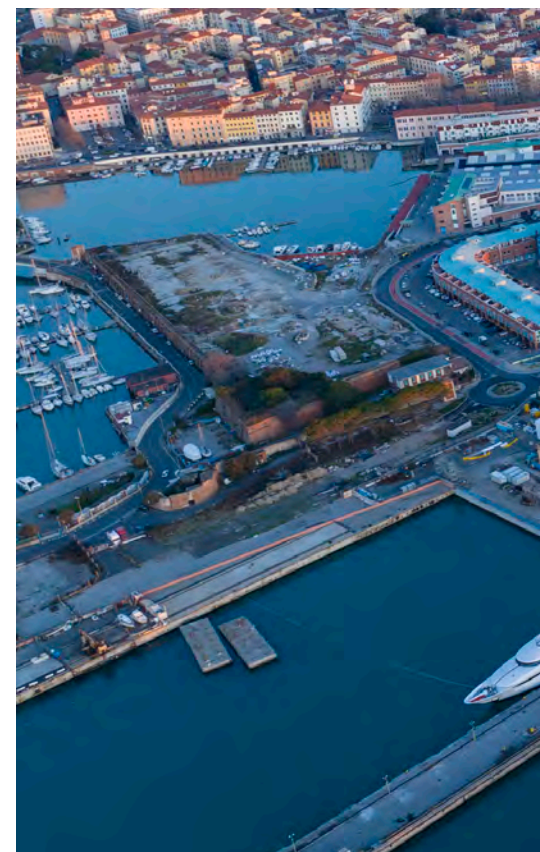


promoting hybrid solutions rather than alternative new “low impact” solutions.

Our comprehensive approach also includes optimizing the overall energy consumption and enhancing hull efficiency, resulting in a significant reduction in the total installed power.

At Lusben, we are determined to foster a sustainable and environmentally friendly culture in different ways.

We play an active role within ICOMIA’s (the International Council of Marine Industry Associations) green committee, which is contributing to the establishment of future sustainability standards for refit facilities.



After the significant spike in new yacht registrations observed in recent years, we are expecting a stabilization in the growth curve in the short term. This stabilization will likely result in a more consistent market growth, rather than the previously observed peaks in new yacht entries.

Looking ahead, we also foresee a longer-term trend towards an increase in the average length of yachts in operation. To accommodate the increase in both the number of cruising yachts and average sizes, there will be a growing demand for more refit and repair capacity from yards such as ourselves.

And, of course, the growth in the fleet will also have an impact on the industry’s carbon footprint.

At the same time, shipping and yachting is looking to decrease its overall CO2 emissions, which will require the decarbonization of existing yachts, as well as new builds.

Refit yards are contributing to this effort, and one of the main solutions to achieving this ambitious decarbonization goal is to focus on the refit of yachts’ engine rooms.

In collaboration with the industry’s main engine makers, we are actively

Furthermore, we are dedicated to minimizing our environmental footprint through substantial infrastructure investments.

This includes the implementation of an advanced black water collection system and the enhancement of electrical distribution and heating system efficiencies.

Finally, in collaboration with our strategic business partners and suppliers, we continue to promote the integration of innovative, eco-friendly technologies in the refit process.

Digitalization, which has become core to the operation of modern yachts,

also plays a part in sustainability, by significantly enhancing the performance and operational efficiency of any yacht.

The adoption of cutting-edge technologies is essential to reduce energy consumption, thereby improving the overall efficiency and sustainability of the yacht.

Meanwhile, by integrating advanced technologies such as predictive maintenance systems, it will be possible to substantially lower overall operational costs.

In tandem with these developments, we are accompanied by RINA, which is offering the latest expert advice in yacht

design and operation.

As we look to the future, it will be crucial to further enhance this collaboration, particularly for major refit projects involving significant transformations such as extensions, aft upgrades, or other structural changes.

The active participation of the classification society in these projects will be a critical success factor for our shipyard. ■



Scan the QR code to learn more about **Lusben**



BIO.
Gianni Paladino

After graduating with honours in electrical engineering from the University of Genoa, Gianni Paladino launched his career as a Sales and Project Manager for various businesses and multinationals, including Siemens, Bombardier and Wärtsilä Italy.

At the start of 2023, Gianni joined Lusben as Commercial Director, building on experience gained in his previous positions in the commercial offices of major international industrial groups.

Gianni is responsible for developing the sales structure in order to increase Lusben's market presence. Prior to his current position at Lusben, Gianni spent nine years at Wärtsilä, becoming Director of Strategic Account Sales.





Bio.
Ramazan Mengi

Ramazan Mengi is a member of the third generation of the Mengi family, which has been building prestigious yachts in Turkey under the Mengi Yay brand for more than sixty years. Ramazan studied Naval Architecture and Marine Engineering at Newcastle University in the UK, when he also completed internships with GINTON Naval Architecture in the Netherlands and Italian designer VYD Studio. He subsequently earned a Master of Science in Artificial Intelligence from the University of Michigan. Following his graduation, Ramazan returned to Turkey to join Mengi Yay Yachts, becoming a Project Engineer. He is also closely involved in business development and, as Technical Business Development Executive, has led the development of multiple superyacht projects. In 2024, Ramazan founded Reviva Refit under Mengi Yay Shipyard. As co-manager, he has successfully positioned the company as a leader in the refit market. Ramazan's diverse educational background has equipped him with a unique skill set, blending traditional shipbuilding techniques with modern AI technologies.

INTERVIEWS

Turkey's star continues to rise

Interview with **Ramazan Mengi**,
Shipyard Refit Representative of Mengi Yay

Photo courtesy of **Mengi Yay**

In recent years, Turkish shipyards have begun attracting clients and brokers who, due to previous misconceptions about quality and governmental issues, might have been hesitant 5-10 years ago.

However, as clients become more knowledgeable and involved in the building process, they recognize that constructing full or semi-custom yachts in Turkey offers unparalleled quality.

This superiority is evident in terms of flexibility in equipment selection, engineering, and the customization of interior and exterior designs, alongside innovation. Despite a decline in inquiries post-2023 - where we celebrated eight launches - such fluctuations were anticipated and are not expected to last. Today, around a quarter of our new-build inquiries originate from the US, with the remainder spanning globally.

What truly distinguishes Turkey in the maritime domain is the timeliness and precision of project completion - guaranteed within a maximum of two years and often exceeding expectations.

This punctuality, coupled with an innate flexibility to adapt and cater to diverse client needs, reflects the agility embedded in our DNA. Time is everything, and when we say

Sustainability: at the core

As Mengi Yay, we contribute to the world of sustainability as follows:

- **Efficient Propulsion and House Systems:** we recommend hybrid propulsion methods with PTO and a small battery bank based in LFP lithium phosphate iron (non-combustion) to improve onboard comfort and efficiency. Using wooden lamination in structure of the yacht can be helpful. We built the 45-meter wooden yacht, Aquarius, the largest, most luxurious wooden motor yacht in the world, according to Boat International. This yacht is also lighter than aluminum and composite rivals, with a smaller engine. The noise levels are low, and it was the first wooden yacht in the world to receive RINA's comfort class notation.
- **Using the most sustainable materials:** we recommend using metal types instead of composite plastic-based products. This includes the structural design as well as the piping methods. We always build yachts in steel and aluminum not composite, including recyclable materials such as steel and aluminum and copper for cabling.
- **Joint Waste Tanks:** we make a single discharge tank for grey and black waters which forces the crew to follow Annex IV rules. We have always done this for > 300 GT yachts where a sewage treatment unit is mandatory but we have now decided to implement this on our small yachts as well.
- **Efficient Piping and Electrical Systems:** we use scientific methods to and convince the owner of the most efficient and ease-of use systems, which is more accurate than anecdotal information from the crew.
- **Tracing the materials that are purchased:** this is always done to guarantee the origin and sustainability of the material, and to reject unsuitable sellers.

the project will be completed in 1-2 years maximum, it will be. I think this is what makes Turkey very special.

Flexibility and the ability to make changes in order to adapt to different clients is in our bones, and this gives us strength!

Going forward, **the horizon is limitless, with technological exploration and innovation**, particularly in propulsion and house load systems like hydrogen, propane, and full-electric solutions, still to be fully explored.

Sustainability must be more than just marketing and yards must innovate above and beyond the regulations, which remain somewhat lax compared to what is required. We hope these will be tightened in the years to come.

Combining real-world experience with A.I.

Another area where we believe we are ahead of the curve is in Artificial

Intelligence (A.I.). I have a personal interest in this as, in addition to studying Naval Architecture and Marine Engineering, I also completed a Master's Degree in Artificial Intelligence at the University of Michigan.

Today, digitalization and new technologies are being implemented in all industries and sectors. The question is: when and how to implement such technology? The A.I. field is vast, and growing exponentially.

The key area open to new technology in yacht building is the design and all its facets: naval architecture, exterior and interior design, and structural design – all with equipment selection in harmony.

How these new A.I. models can be implemented is still up for debate. However, it is clear to see that they can be used during the build process, for example, with agent-based strategic models for time management, project scheduling, procurement, budget

management and decision making. It is also inexpensive to develop and install infrastructure for autonomous yachts. This includes the use of the laser-based technology LIDAR, which can be integrated into NAVCOM equipment (transducers, RADARs, cameras and AMS) to give a 3D map of your surroundings.

This can be used to train autonomous yacht cruising computer vision models, such as obstacle detection, human detection, route correction for obstacles, marina parking, security surveillance, face recognition, keyless entry and many other elements that otherwise can only be detected by RADARs.

In terms of digitalization, the AMS user interface, and more integrations and client and crew CRMs, are great way to adapt the builder, client and crew to the building process, as well as to after sales processes.

In the meantime, **we are focusing on our new projects under construction.**



The NB109-112 (47m) is already sold and the NB114 (54 m) will be our largest yacht yet, with incredible features. We are building all three with Nuvolari-Lenard.

We are also building the NB110 and NB113 as part of Virtus XP 53. They feature ICE CLASS 1D and a touch-and-go helipad. They are below 500GT and offer incredible layout, semi-customization, and propulsion methods that are both sustainable and efficient.

We aim to be the best yard in Turkey

for yachts below 500 GT and I think we have already achieved that. We are also developing and selling 500-1,500 GT yachts and want to become a leader in that field for full and semi-custom yachts. Already, we are building the largest number of full and semi-custom yachts in Turkey.

In these and other projects, we have been working with RINA for close to 20 years now. This collaboration enables us to push the boundaries of innovation, while guaranteeing safety and excellence.

This way, our yachts exceed both the clients, and our own, expectations. ■



Scan the QR code to learn more about **Mengi Yay**



Thermal efficiency: a low hanging fruit

By **Matteo Magherini**, Head of North Europe Yachting Centre, RINA
matteo.magherini@rina.org

» **Operating superyachts requires a significant amount of energy. However, it is only in the last decade that a real focus has been given to technological advancements that can reduce on-board power demand.**

RINA is the first and only classification society to introduce an additional notation to assess the thermal performance of a yacht.

Whilst a decrease in required energy on board is desirable, trends in the new build market show the opposite trend. Modern yachts carry more volume (i.e., higher gross tonnage and displacement) on the same length compared to older vessels. Newly optimised hulls with wider beams, combined with novel additional features, result in increased energy demands on both propulsion systems and hotel load.

Over a typical year of operation for a modern superyacht, the hotel load is the higher consumer of power. Studies demonstrate that, in many cases, HVAC (Heating, Ventilation, and Air Conditioning) is the most energy thirsty system of all.

One of the most compelling reasons to optimize thermal efficiency is the potential for substantial operational cost savings: fuel consumption can be significantly reduced, leading to lower fuel expenses, famously among the highest

costs of operating a superyacht.

Indeed, optimising the thermal efficiency of a superyacht is a critical factor in reducing operational costs, enhancing overall performance, and promoting eco-consciousness.

Efficient insulation, advanced HVAC systems, and waste heat recovery technologies are pivotal in this regard. High-quality insulation minimizes unwanted heat exchange with the environment, while modern HVAC systems are equipped with smart controls to ensure optimal temperature management. Waste heat recovery systems, which capture and reuse heat from engine exhausts or generators, can further cut down on energy waste.

Moreover, a thermally efficient superyacht can achieve a better range. Reduced fuel consumption means longer intervals between refuelling stops, allowing for extended voyages.

The "Thermally Efficient Yacht" notation by RINA ranks the vessel by adopting a goal-based methodology and a comparative analysis against baseline superyachts, rewarding vessels that achieve higher standards. As the Classification Society with the largest fleet of

superyachts worldwide, RINA has an extensive database of industry standards.

It is a design-based notation and can be assigned during the engineering process. It analyses the performance of the glazing, the insulation package and the HVAC system. The notation comprises 3 different levels of thermal optimisation, so that each individual benefit can be captured.

In today's world, environmental responsibility is becoming a priority for the luxury segment, and superyachts, due to their size and energy requirements, have a significant environmental footprint. Optimizing thermal efficiency is a proactive step towards minimizing this impact.

By receiving this new prestigious notation, owners can enjoy the unparalleled luxury of superyachts whilst contributing to a more sustainable future for our oceans and planet, as well as achieving a higher resell value for their assets. ■

Scintilla Maris: from Trawler to Luxury Yacht

By **Guido Garufi, Benelux & France Marine Business Development Manager, RINA**
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» In the quiet coastal town of Stellendam in the Netherlands, a remarkable transformation has taken place at the Damen Maaskant Shipyard. A 60-meter fishing vessel, once a hardworking sea craft, has been converted into a luxurious yacht, aptly named "Scintilla Maris".

This ambitious project has not only showcased the shipyard's expertise but has also set a new benchmark in the luxury yacht industry.

The journey of Scintilla Maris from a utilitarian fishing vessel to a lavish yacht was an intricate process that demanded meticulous planning, expert craftsmanship, and stringent quality control.

The conversion was overseen by RINA, one of the largest yacht classification societies globally. RINA's involvement was crucial in ensuring that the design and conversion met the highest standards of safety, performance, and luxury.

Vision and Design

The vision behind Scintilla Maris was to create a vessel that harmonized functionality with opulence. The designers (Vripack) aimed to retain the robust structural integrity of the fishing vessel while infusing it with the aesthetics and amenities of a luxury yacht. The result is a yacht that boasts both durability and elegance, capable of enduring rough seas while offering an unparalleled experience of comfort and style.

The Conversion Process

The conversion process was comprehensive and complex. The initial phase involved stripping the vessel of its original fittings and structures. The hull was then inspected and reinforced to meet the new design specifications. Advanced materials and state-of-the-art technologies were employed to ensure the yacht's performance and longevity.

One of the key aspects of the conversion was the redesign of the interior spaces. The new layout includes spacious cabins, a grand salon, a gourmet kitchen, and multiple entertainment areas. High-end materials such as exotic woods, marble, and bespoke fabrics were used to create an ambiance of sophistication and luxury. Each



cabin is equipped with modern amenities, ensuring a comfortable stay for the guests.

Certification by RINA

RINA played an integral role throughout the conversion process. Its team of experts worked closely with the shipyard, providing guidance and supervision at every stage. It conducted rigorous inspections and tests to ensure that the yacht complied with international safety and quality standards. The certification by RINA is a testament to the yacht's excellence in design, engineering, and construction.

A legacy of excellence

Scintilla Maris stands as a beacon of innovation and craftsmanship in the world of luxury yachts. The successful conversion of a fishing vessel into a high-end yacht is a testament to the expertise of Damen Maaskant Shipyard and the stringent standards upheld by RINA.

The yacht is not only a marvel of engineering but also a symbol of how traditional maritime vessels can be reinvented to meet modern luxury demands. As Scintilla Maris sails through the waters, it carries with it a legacy of transformation and excellence, promising an unparalleled experience to all who board her. ■

The RINA Biofuel Yacht Notation

By **Giuseppe Zagaria, Marine South West Europe Technical Director, RINA**
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» **The yacht industry is continually introducing new innovations into the market, and developing new solutions to enhance the ship owner's experience at sea.**

RINA, in its role as a third-party certification specialist, is regularly publishing new technical standards to certify these new onboard innovations.

This is done by means of Class Notations, which declare that a boat is designed and built according to specific technical standards. The shipyard and ship owner can then demonstrate to stakeholders that the boat has been assigned the desired notations, as shown on the RINA certificate.

In the course of its history, RINA has issued several class notations that remain important milestones in the yachting industry, including Green Plus, Green Star Plus Platinum, Comfort, Sustainability.

With new International Agreements aimed at controlling greenhouse gas emissions and air pollution, the yachting industry is making major investments towards becoming a net-zero sector. This will be possible only with a dynamic strategy involving short, medium and long term measures, which identify solutions that are both technologically and financially feasible.

Biofuels are made from a variety of organic sources, collectively called biomass. Among them, a new advanced generation is now available, created from non-food biomass residual feedstock, which aims to replace traditional fossil diesel oil.

The use of advanced biofuels aligns with the new environmental approach to emissions, the so-called "Well-to-Wake" approach, where emissions are measured along the whole production/supply chain.

Among biofuels, the hydrotreated vegetable oil (i.e. HVO) is a very promising potential solution, as it is ready to use and generally suitable for existing propulsion and power generation. It can also be blended with conventional fuel oil. The new RINA notation "Biofuel Yacht" addresses the

safety of yachts using biofuels. It provides clear requirements for document preparation and submission, as well as checks on design and onboard installation.

The latter includes all documentation issued by the engine and auxiliary equipment manufacturers, the type of biofuels allowed, together with their relevant properties, a description of fuel changeover procedures, the biofuel piping system, and engine/auxiliary equipment and risk assessment analysis.

The new RINA notation is future-proof, with flexible requirements regarding the size of the boat, power generation and the power train system. The notation can be applied to both new and existing yachts and allows shipyards and shipowners to consider different types of biofuels.

It is clear as we move into the decarbonization transition period that no single fuel will provide the solution to global emissions reduction, and shipyards must consider a range of options, including new fuels like hydrogen and methanol.

Production of Bio-Hydrogen and Bio-Methanol is expected to increase significantly in future, reducing prices and increasing usage over the medium and long-term. These two fuel types are already covered by the requirements of RINA's "Biofuel Yacht" notation. ■



MANEUVERING: a noisy business

By **Elisa Fassola, Marine Noise & Vibration Engineer, RINA**
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» In the last few years, we have seen increasing interest in noise and vibration comfort both onboard and outboard yachts. Thanks to this interest, noise and vibration comfort during navigation and at berth is taken almost for granted nowadays.

But there remain some operating conditions which are still not widely considered during noise and vibration analysis. First among these, and probably the noisiest, is the maneuvering operation.

Maneuvering is arguably the “business card” of a yacht because it is the first navigation mode used on exiting the harbour. Imagine inviting friends to a new yacht: cocktails are served, passersby in the marina are observing this gorgeous yacht depart, and suddenly everyone – owners, guests, observers - is bombarded by noise from the thrusters. Not a very nice image, is it?

However, noise and vibration experts are working towards a solution, and with specialist software it is possible to foresee and manage noise and vibration levels onboard and outboard yachts during maneuvering conditions.

Side thrusters by their nature are noisy machines, both in terms of airborne and structure-borne noise. It is possible to hear them from all areas of the yacht and beyond - think of passengers on nearby yachts, passersby in the marina, and also fish and mammals!

While it is still not possible to install completely silent thrusters due to technological limits, there are a growing number of solutions under investigation which should help reduce maneuvering noise and vibration levels in the future.

Experts can now propose mitigation solutions: a case-



by-case analysis of the yacht can include investigation of the foundations and bow structures, as well as the components of its insulation, absorption and damping materials. Such analysis can lead to alternative proposals, and even a different choice of side thruster machinery.

Potential solutions will be evaluated by noise and vibration experts, with the aid of their extensive experience and dedicated software that uses Finite Element Analysis, Statistical Energy Analysis and Ray Tracing technology.

Since noise and vibration are not only objective but also subjective matters, the contribution of the owner is important to optimize the onboard comfort of the yacht. Noise and vibration experts and the owner should work together to optimize specific conditions.

As with all products relating to yachts today, it is crucial to listen to the final user of the yacht and customize equipment and design in order to meet the owner's own personalized perception of comfort. ■



Taiwan's yacht industry: a 60-year legacy

By **Luobing Lou, Greater China Marine Business Development Director, RINA**
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» **Taiwan's yacht industry boasts a rich history spanning over six decades. From its humble beginnings building wooden sailboats for river cruising to today's cutting-edge manufacturing practices, it has laid a solid foundation for craftsmanship and excellence.**

In alignment with global trends, Taiwanese shipyards are actively incorporating advanced technologies, environmental features, and sustainable practices into their yacht designs.

In 2023, Taiwan ranked fourth globally in terms of orders for large power yachts over 80 feet.

Manufacturers have strategically integrated upstream and downstream supply chains, leading to continuous year-on-year growth in output value. The country has developed a strong and growing production base for clients worldwide.

Taiwan's largest client base is in the US, which accounted for 73.1% of its yacht exports in 2023. Long-term supply contracts with US yacht agents contribute to this sustained export success.

The industry has bounced back strongly from the COVID pandemic. Following supply chain delays and geopolitical uncertainty, the country's yacht makers saw a 25.2% drop

in output value in 2021 to \$ 180 million. However, by 2022, it had increased overall yacht exports again, achieving a remarkable 55.2% growth that year in output value.

More than half of Taiwan's yacht manufacturers, producing 80% of the national output value, are based in the yacht production hub of Kaohsiung City.

The country's top three yacht manufacturers - Ocean Alexander Yachts, Horizon Yachts, and Kha Shing (OEM Hargrave Yachts) - are all based in Kaohsiung, which has an excellent manufacturing industry to support the production of yachts.

Domestic demand for yachts in Taiwan is now also growing, as improved living standards have fuelled new demand for water activities and leisure recreation.

Yachts are increasingly popular for sea tourism, sailing races, boating, fishing, and other water sports, though the scarcity of yacht marinas and related facilities remains a challenge.

The Taiwanese government is actively encouraging private investment, and has relaxed legal restrictions on the development of the domestic yacht industry.

The country is benchmarking its practices against countries like the US, Australia and New Zealand, to make continuous adjustments to deregulation and create new laws aimed at opening up water activities and developing new marinas.

RINA collaborates closely with renowned yacht builders, ensuring safety, quality, and compliance throughout the yacht construction process. Authorized by the Taiwan Port Authority, RINA serves as the local yacht certifying organization and it is conducting inspections and certification processes for all interested players in the industry.

As we move into the energy transition, RINA is actively collaborating with Taiwanese industry stakeholders to drive innovation beyond certification: RINA is also championing decarbonization and sustainable practices. With this as a backdrop, Taiwan's yacht industry stands at the intersection of tradition and innovation, and is poised for continued expansion both domestically and globally.

With strategic partnerships, technological advancements, and a commitment to quality, it is charting a clear course towards a bright future on the open seas. ■

PAOLA LENTI



SANTORINI – Design by Francesco Rota

A series consisting of modular shaped elements, available as two- and three-seaters, shaped platform, and pouf. The elements, when combined with the pouf, can be used to create complex configurations with different inclinations that are easily adjustable. The structure and sled bases are made of matte-painted stainless steel in ivory or graphite colors. The padding is made of high-density, non-deformable polyurethane foam and a new recycled and biodegradable polyester fiber. The fixed inner lining is made of water-repellent polyester. The removable outer cover is available in the outdoor fabrics from the collection. The modular elements can be equipped with backrests and armrests padded with the same materials as the seats and covered with the same fabrics, as well as with service tables with a circular or rectangular top made of heat-treated ash plywood Aurea Optima.



ELIANTO – Design by Espen Øino

Circular platform. Structure made of tubular and mesh stainless steel with a matte finish, and adjustable plastic feet. The padding, divided into three sections and shaped to hide the steel base, leaving only part of the feet visible, is made of Aerelle® blue polyester fiber, with a non-deformable polyurethane insert, and a fixed inner lining in water-repellent polyester. The removable cover is available in the outdoor fabrics from the collection. The platform is completed by two rotating backrests and a table attached to the structure. The support of the backrests and table is made of glossy painted stainless steel. The padding is made of Aerelle® blue polyester fiber, with a non-deformable polyurethane insert, and a fixed inner lining in water-repellent polyester. The removable cover is available in the outdoor fabrics from the collection. The table is removable and can be used as a tray. The top is made of aluminum honeycomb, with a solid wood edge, both gloss-painted in a color matching the support.



SABRINA – Design by Espen Øino

Dining chair. Legs in solid Aurea Optima oak treated with a water-based oil- and water-repellent finish or glossy varnished. The padding is made of Aerelle® blue polyester fiber, with a non-deformable polyurethane insert, and a fixed lining in water-repellent polyester. The fixed cover is available in a selection of outdoor fabrics from the collection.



HELICO – Design by Nicolò Morales

Tables with glass tops. The base consists of extruded ceramic elements, handcrafted and hand-decorated in exclusive colors by Nicolò Morales, arranged according to a predetermined pattern. The elements, of various shapes and sizes, have a matte-painted stainless steel core. The core is glued to the top, and plastic tips keep the ceramic elements in position. The circular top is transparent and made through glass fusing.

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