

March 2022

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## Dear friends,

With a healthy order book and ambitious plans, it is important to have our team not only at full strength but operating fully in tune with the needs of our customers. To do so, we will welcome new talent into our organization in the upcoming months. Stay tuned on our social media accounts where we'll introduce some of the new faces in our company supporting the process from A to Z.

Rondal has always been a strong supporter of superyacht sailing events around the globe, whether by team attendance, event sponsorship, or both. Our service team would like to tell you more about our stepping and tuning services and how we prepare yachts for the racing season (page 2 & 3). Also, have a look at the upcoming events calendar to know where to find the Rondal team in the coming months.

In this issue, you will see that we have been very busy. For more than 20 years, we have developed enormous



expertise in the field of composites, a capability that is now evident in the diversity of the products we manufacture. Whether it is in the production of the broad scope for project 405 or in the development of a solid wing. In the previous issue, you've read how we have decided to make our expertise in aluminum available once again. Read more about the lengths we'll go to for the delivery of a rig on page 7.

Harald Lubbinge,  
Managing Director



## Fine tuning to achieve perfect setting

Rondal rigs have a reputation for reliability. The quality of the spars, the expertise of the design office, and the fully integrated, semi-custom sailing system are major factors. Significant credit is also due to their highly skilled service engineers, riggers, and technicians who travel the world keeping the integrated sailing systems of the superyacht fleet functioning faultlessly.

Largely ignored by class requirements until a decade ago, the five-year servicing of superyacht rigs is now obligatory. In parallel, the carbon rigs – especially of the largest yachts – have become much more sophisticated. Expert maintenance and tuning are essential, requiring the specialised knowledge and experience in which our team excels.

Each project is individual,' says Wim Mooiweer, Service coordinator at Rondal. 'It starts with a conversation with the captain or crew, identifying and discussing specific issues. In the case of very large yachts, such as the 70m+ ketch we're about to start working on, preparation – finding the right cradles and so on – has to start several months ahead. The crane must also be ordered weeks in advance.'

While the team operates globally, most of Rondal's major service and refit jobs are undertaken at four key sites with the necessary facilities on a large enough scale: Rondal's superyacht service hub at Palma de Mallorca, MB92 shipyards in Barcelona Monaco Marine in La Ciotat, and Pendennis in Falmouth. After sails and booms are removed, the team's first task is to de-tune the rig. 'We have to know all the settings,' says service coordinator Henk van der Vaart, 'Then we start setting up lifting strops. New masts have integrated lift points but older rigs must be stropped.'

With the crane in place and strops secured, the rig is de-jacked, turnbuckles slackened and pins pushed out before the headsail furlers are moved parallel to the mast as the crane lifts it clear of the deck. Next, the mast is re-stepped on a dedicated ground base and the stays are re-tensioned to support it. Finally, a second crane rotates the mast from vertical to horizontal, it is lowered into its cradles and everything is methodically taken apart. It often takes four people to remove a rigging cable and there can be 14 on each mast. Standing rigging must be handled with care.



## Upcoming events calendar

16-20 March

St Barths Bucket Regatta

1-5 June

Loro Piana Regatta

31 March – 6 April

Superyacht Challenge  
Antigua

29 June – 3 July

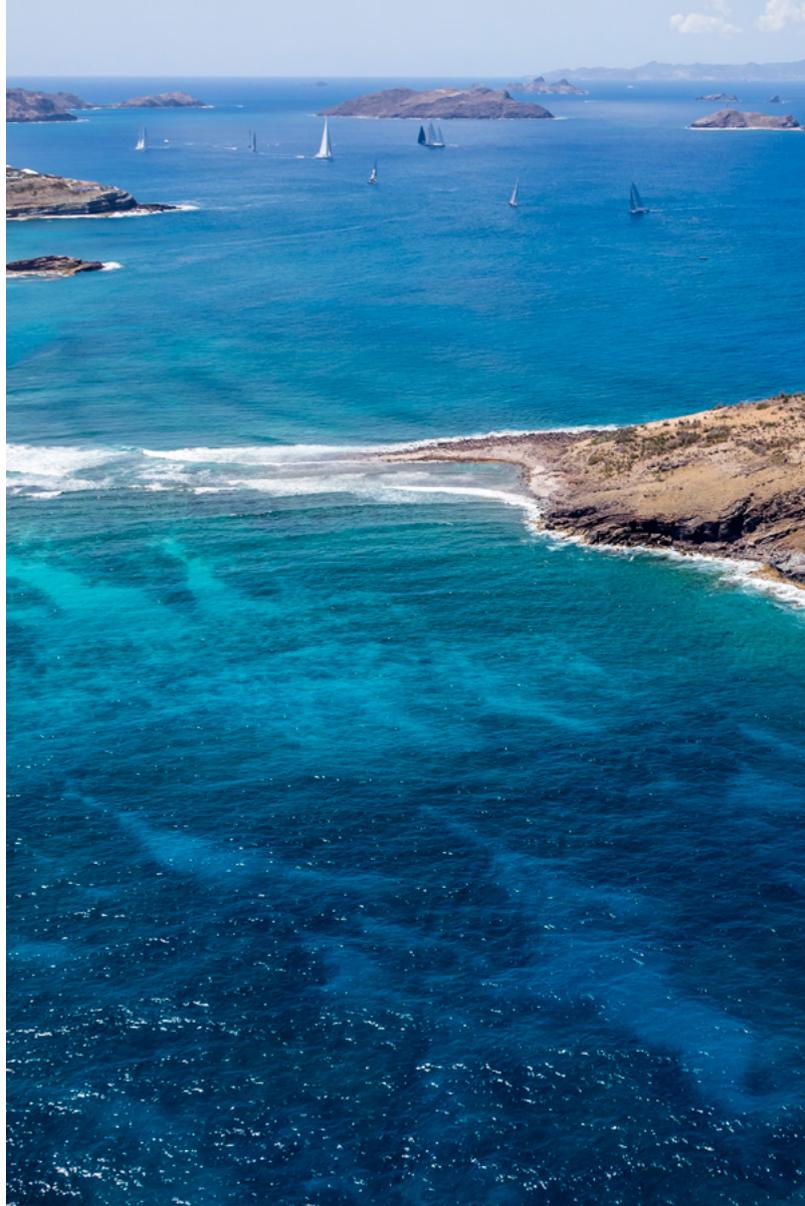
Superyacht Cup Palma

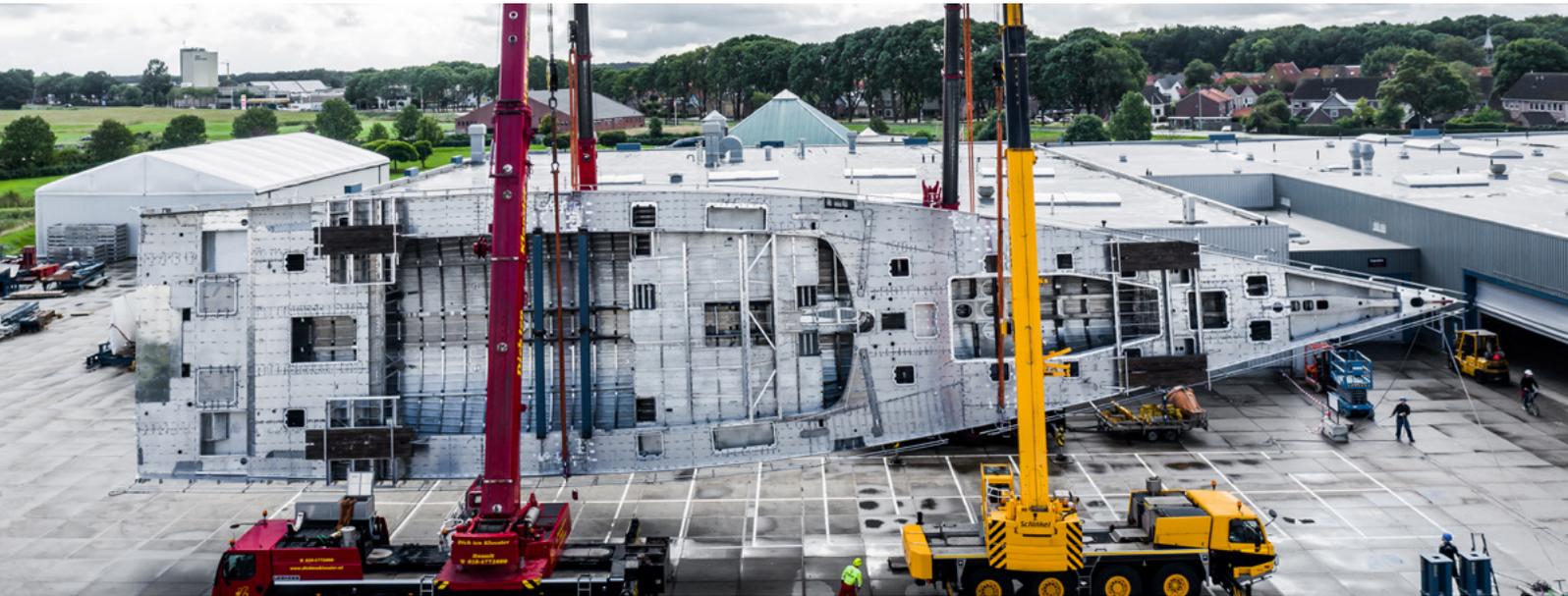
17-23 April

Les Voiles de St Barths

The work is meticulously planned but the team must always be ready to find quick, creative solutions to problems they can encounter on site – even in their preferred locations. ‘We recently had to extend a shed by putting a shipping container next to the doors,’ says van der Vaart. ‘And with a 70m+ ketch, the mast tube in its cradles is more than 4m off the ground, because of the spreader angle, so we need cherry-pickers to work on it.’

Rondal conducts a visual inspection of the entire rig, plus dye-penetrant testing of all metal parts. An independent contractor scans the mast with ultrasound, and the standing rigging supplier does its own tests. The shipyard or yacht’s crew organize the re-painting of the spars before the Rondal team returns to reassemble the rig, step it and tune it, working closely with the design office as required, for another five years of reliable service. ‘For racing and cruising superyachts the setup and goals are the same,’ says Mooiweer, ‘to ensure a safe rig that will perform in all circumstances.’





## Covering the waterfront

Rondal plays a major role in project 405 – 46.82m / 154ft Reichel / Pugh Nauta high-performance cruiser sloop under construction at Royal Huisman.

With project 405 now in an advanced production phase, a wide variety of Rondal components have already been delivered. These include: rigging cylinder, furlers, deck winches, captive winches, steering pedestals and several below-deck blocks. The composite watertight bulkhead will soon be installed by the teams of Rondal and Royal Huisman, as will the Rondal sliding door.

The Winches & Feeders Department resumed the assembly of the RW18000 and the necessary FAT tests will take place on the test bench. The new captive winches are showing good initial results and the design of their carbon-wound drums and caps for increased serviceability is considered especially impressive.

The Carbon keel trunk installation began and it is planned to place the entire superstructure – consisting of a cockpit and deckhouse – in one piece.

Within the composite department we are moving towards the completion of the mast. The finishing touches are being put on the lugs and the mast will then go towards pre-assembly. The boom is already part-completed and now ready to undergo the necessary machining and fitting sessions. The finishing of the composite deck hatches is in full swing, with the first examples now coming back from the painter ready to be assembled by Rondal. Installation on board will take place in the near future.

This broad-ranging project is too comprehensive to describe in full detail here – the order list runs to numerous A4 pages. It might be more informative to note that Rondal's contribution to designing, manufacturing and installing elements of project 405 represent a good one-third of the total scope. It naturally follows that it involves exceptionally strong collaboration between Rondal and Royal Huisman, with each learning a good deal from the other throughout the process.



## Solid wing development

Innovations have always been the backbone of Rondal's success. Since the company was founded, smart solutions were developed in various fields and several became industry-trendsetters. Inhouse design and engineering skills have ensured that there is potential to improve efficiency, reliability, and performance to save energy, cost, or weight. Because of the responsibility we have in these future challenges, we are investing substantially in R&D. The research certainly does not stop here...

### Solid wings: for power and sail

Currently, the superyacht sector is facing a great challenge: to realize a reduction in emissions and the use of fossil fuels. Yet, propulsion by wind will always beat combustion for energy efficiency. In addition, wind energy is free – of charge, fumes, and noise. Wind energy holds great potential for all future superyachts and zero emissions are within reach when combined with regeneration and battery storage.

Therefore, Rondal, Royal Huisman and former America's Cup team Artemis Technologies have teamed up to research and develop an accessible wind propulsion solution: the next generation of solid wing sails, which should be extremely accessible for future superyachts.



The advantages of this new development appear very promising for both yacht owners who like worry-free cruising as well as those who enjoy performance sailing. An inhouse-built prototype is being extensively tested. Stay tuned for updates and test results, which you will find in the next editions of the Rondal Review.

## Sponsorship announcement: TU Delft Hydro Motion Team

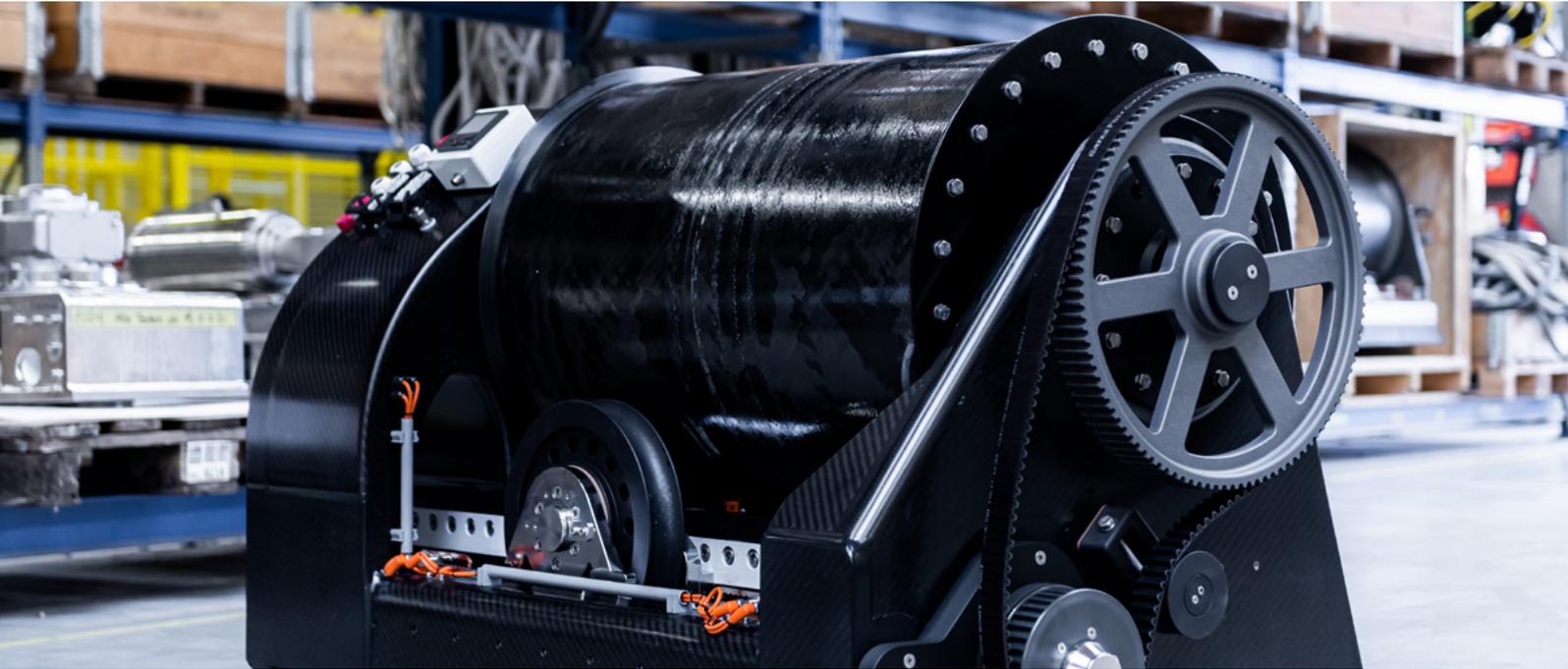
### Fast Forward >> with Rondal

For several years now, Rondal has supported the TU Delft Solar Boat Team. Last year, we saw how the team made the exciting transition from solar energy to hydrogen propulsion. As a result, the team will adopt the new name of TU Delft Hydro Motion Team from this year and Rondal will continue to sponsor the team in their mission towards more sustainable boating. In pursuit of the aim to win the world Energy Boat Challenge in Monaco this summer, we will be sharing our facilities and knowledge.

In particular, we have invited the team to come to Rondal this year to produce their innovative foils. The production period of 4 weeks will start in March.

Curious about what the foils and the boat will look like? [Check out the design presentation:](#)





## Captivating **technology**

Offering significant weight savings onboard large sailing yachts, Rondal's full composite winches are set to experience expanding demand. Owners drawn to the improved sailing performance and efficiency resulting from lightweight construction will often focus too on more sustainable yachts with reduced emissions.

Rondal has already produced a set of 12 winches, now awaiting installation on a 59.7m sailing superyacht currently in build in the Netherlands. There are three main winch variants for 8, 18 and 24 ton line loads, providing safe and efficient handling.

The winch frame is manufactured using prepreg carbon fibre, with the winch parts being autoclave cured. The main frame components are bonded together with mechanical parts, the gearboxes and motors being mounted with fasteners. A clear coat finish is applied to the winch frame. The carbon fibre winch drums are manufactured using a filament winding process and liquid epoxy resins. Drums are wound on metallic mandrels, post cured, then machined to final dimensions before the surface is sealed with a protective clear coat.

With a weight saving of around 22%, full carbon composite winches can reduce the vessel's displacement by several tons. A lighter yacht will accelerate more quickly and provide a more dynamic sailing performance, but there are also major stability benefits, providing designers and engineers with more options for equipment placement and layout.

Full composite construction also makes possible the integration of the winch structure into the vessel structure when composites are also used for hull / deck. Where a more traditional metallic winch may have a heavy base plate, composite winches can be integrated into the supporting structure with a more slimline design using fibre reinforced composites to transfer loads.

Full composite winch construction is much more resistant to corrosion than aluminium and requires a minimum of upkeep to maintain optimum performance. In addition – given the trend for ever larger sailing superyachts – this technology is easily scalable.



## The lengths we'll go to

Over the last period Rondal has been working on the production of a replacement rig for an 50 meter Ketch. The aluminum in-mast furling rig is in final stage of assembly and scheduled to be shipped to Vilanova, Spain. It promises to be a spectacular journey of approximately 10 days. The 49 meter main and 36 meter mizzen mast will encounter several be escorted by local police and drive past beautiful landscapes on the most extraordinary roads. Want to see more about this trip? Stay up to date by following us on [social media](#).

Rondal began its carbon winch development, Rondal has been manufacturing captive winches for over 2 decades, and continues to develop its aluminium range. To light weighting to its range in 2017, designing the winches in-house, while technical partner Solico undertook laminate validation of the composite parts. They were also involved in brainstorming the best design options. The key challenges were to design a compact winch within already defined space arrangements and to meet the weight target already specified. Investigations into the load transfer between the different frame components and deflection of the complete winch, together with integration into the base structure between winch and foundation, were vital elements in balancing weight savings with structural integrity.

Rondal also worked with a laboratory to simulate wear on the drum surface and evaluate the best surface finish. Results indicated some wear on the loaded rope lines, but no damage to the carbon composite rope drum and hence no enhancements required to grip the massive design loads.

In summary, Rondal's full composite winch system provides huge holding power with absolute ease of use, helping to reduce the crew and power requirements on board. Its light weight and power regeneration not only reduces fuel consumption but offers suitable technology for zero emission yachts. This is the future!





# DESIGN - BUILD - SERVICE - SUPPORT

SPARS | WINCHES | COMPOSITES | WINDBREAKS | HATCHES | ENTRANCES

## Stay tuned for the latest

Did you enjoy reading about what's happening at Rondal? Then make sure to follow us on our social media. We're on all the popular channels and update regularly.

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