



## Annual Report – ORC Rating Systems October 2022 – Season Activity – from ORC

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### 1. ORC Rating Systems - summary:

The ORC Rating Systems (ORC International, ORC Club) are managed by National Rating Offices in 40 countries and centrally managed by ORC for 6 countries where a national office is not yet established, thereby **providing rating services to 46 countries on five continents**. The ORC Superyacht Rule, first introduced in 2015, is also centrally managed by ORC. In total this year **12,302 ORC certificates were issued through 30 September 2022**.

Developments for ORC this year includes continued popularity of ORC championship events, an increase in the number of certificates, boats and participants from last year, continued refinements of the ORC VPP and ORC Superyacht Rule, and a roll-out of the new ORC Multihull rule use at events during this season.

The year-to-date 2022 fleet certificate statistics are shown in Section 10: at the end of September 2022 there were 12,302 ORC certificates issued to 8958 boats – **this is the highest-ever value of boats receiving certificates in the history of ORC**. This may be attributed to greater use of ORC in new and existing fleets.

Increases in ORC certificates in 2022 from 2021 are observed in nearly all of the 40 countries in the world that used ORC in 2022. These include ARG, AUS, AUT, BRA, BUL, CAN, CRO, CYP, DEN, ECU, ESP, EST, FIN, FRA, GBR, GER, GRE, HKG, HUN, ISR, ITA, JPN, KOR, LAT, LTU, MLT, MNE, MRI, NED, NOR, PER, POL, POR, ROU, RSA, SLO, SUI, SWE, TUR and USA. Note that ORC fleets in RUS and UKR (supported by the rating office in RUS) did not receive ORC certificates in 2022.

The decrease in 2022 DH and Non-Spin certificates seen in Section 10 are due primarily to some rating offices (GRE, NED and NOR) issuing these certificates types to their fleets on an on-demand rather than automated basis for this year.

Measurement and promotion seminars were held in three countries this year: Runsgsted, DEN; Riga, LAT, and Helsinki, FIN, with a fourth planned as part of the International Measurers seminar in Annapolis, USA in November.

ORC this year has continued to assist the **SuperYacht Racing Association (SYRA)** in administering, developing and refining the ORC Superyacht Rule (ORCsy), with a significant increase in boats and certificates from 2021 as Superyacht racing returning in several regattas. More details on ORCsy are found in Section 2 of this report.



Finally, after three years of development, the **ORC MultiHull Rule (ORCmh)** was launched this year with the capability to have an established measurement protocol, run the VPP, issue certificates and score races.

It's worthy to note that the world's first offshore-capable foiling monohull, the Mills-designed 60-foot **FLYING NIKKA**, has been issued an ORCi certificate after extensive work by the ORC tech staff to describe this boat's unique performance niches using the ORC VPP, allowing it fair ratings throughout all wind conditions.

Since ORC Rating systems are unique in measuring the stability of offshore yachts, the size and types of boats using ORCi/ORC Club is quite broad, ranging from very small cruisers and Sportboats to racing SuperYachts and now multihulls and foiling monohulls. The rule is thus quite versatile, since the VPP can characterize all manner of performance-enhancing features and thus rate them under ORC Rules. These include movable ballast features such as water ballast and canting keels, with all combinations of associated appendages, such as DSS, bilgeboards, etc. ORC's Sportboat Rule for performance keelboats remains popular in Europe and elsewhere as well.

ORC championship events continue to be popular and competitive, with high levels of participation and the highest-quality teams emerging on top after a combination of several inshore and offshore races.

Individual races are competitive and often resolved only within seconds of corrected time. Inspections and measurement controls are strictly enforced at championship events, with a variety of designs – both racers and cruiser/racers – winning these events, suggesting fairness in the system for all boat types.

The **2022 ORC World Championship** was a successful event held in Porto Cervo, ITA attracting 69 entries from 15 countries, and the **2022 ORC European Championship** was also successful held in Hango, Norway with 65 entries from 7 countries. The **2022 ORC Sportboat European Championship** was held in Sestri Levante, Italy with 21 teams entered from 5 nations.

Details of the 2022 events are found in Section 7 of this report.

For 2023 the **ORC World Championship** will be held over 4-12 August in Kiel, GER. With a possible event attendance record suggested by 128 entries already pre-registered, organizers are confident the event will be a complete success.

Besides World and continental championships, ORC encourages regional and national authorities to organize events, and a total of **15 countries organized ORC National Championship regattas in 2022**, with many offered racing in a Double-handed format.

Among several dozen regattas using ORC ratings held in six continents around the world, there have been 5 Rolex-sponsored events in 2022 that also used ORC scoring, including **Rolex Tre Golfi Sailing Week**, the **Rolex Giraglia Cup**, the **Rolex Middle Sea Race**, the **Rolex Sydney-Hobart Race**, and new this year: the **Rolex Big Boat Series** in San Francisco, USA.

## 2. ORC Superyacht Rule (ORCsy)



ORC's cooperation with the Super Yacht Racing Association (SYRA) started in 2015 and continued through this year, with an increase in the numbers of certificates and boats from 2021. Regattas using the system this year included the Antigua SY Challenge, the St Barths Bucket Regatta, the Giorgio Armani Cup in Porto Cervo, the Super Yacht Cup in Palma the Safe Harbor Regatta in Newport, USA, the Super Maxi Class at the Maxi Yacht Rolex Cup in Porto Cervo, and the Ibiza Joy Sail Regatta.

The acceptance of the ORCsy system is due in part to its rigorous measurement protocols, flexible and innovative scoring options, and transparency in rules and process which is appreciated by its users, who are often advised by professional America's Cup-level tacticians and crews., and direct assistance provided by the ORC Staff at most of these events.

Periodic updates are made to the rule to increase its accuracy, with rationale agreed by ORC and SYRA and published on the ORCsy rule website.

For 2023 the proposed improvements include:

- the Dynamic Allowance routine is improved to give more allowance to bigger and heavier boats

- the Tacking Allowance was revised in a way to slow down underpowered boats with low SA/DSPL ratio
- the Effective Height for Ketches (Heff) for ketches was modified to recognize that boats with very tall mizzen masts (very close to the main mast) and/or well-spaced masts (EB>>E) have more efficient sail plans than classic ketches, and hence the induced drag is reduced
- the routine that computes blanketing of the mizzen over the mizzen staysail has been revised for those boats with big mizzen staysails, with a high ratio of mizzen staysail over mizzen sail areas
- a correction function of the Effective draft for very shallow boats has been modified to increase their induced drag. At the same time also the Effective Draft for very deep boats have been corrected to take into consideration the very short chord of this kind of fins that causes more leeway
- the routine that computes the drag of the centerboard slot has been revised to better assess the resistance of these boats, very common in among Super Yachts
- the routine for superstructure windage has been revised to account for more drag for big superyachts with huge superstructures
- in 2022 the ORCSY VPP powered winches allowance was based purely on the winch speed with allowance nullified at 210 m/min, considered to be the fastest speed for a winch. For 2023 this will be changed considering an allowance divided in three parts:
  1. Allowance for tacking (based on jib winch speeds and foretriangle length)
  2. Allowance for jibing (based on jib winch speeds and bowsprit length - TPS)
  3. Allowance for hoisting spinnaker (based on halyard winch speed and spinnaker hoist)

### 3. New ORC MultiHull Rule (ORCmh) and Certificates



In 2022 the ORC MultiHull Rule made its debut, where the Armani Cup and the Multihull Cup were both scored using ORCmh. Whilst there were only a handful of entries, the handicaps worked well in fleets whose LOA ranged from 52-80 feet. Seven valid ORCmh certificates were issued in 2022, and despite this modest start, the ORC MH group is confident that ORCmh will expand in use next year both in the marquee regattas and offshore races.

The VPP is now at a similar level of development as the other ORC rules, and the emphasis next year will be to grow the fleet of “club” style boats through liaison with existing fleets (e.g., MOCRA and Multi 2000) using our database of standard hulls, which now numbers over 100. The handicap polars produced by the VPP match the observed polars which the OMA (Offshore Multihull Association) gathered over for their 20 members over several seasons.

The development of ORCmh has been a major effort for the ORC staff to create not only a viable VPP that can produce reliable results for multihulls that can fly a hull and use lifting foils to fly (e.g. the modified MOD 70's), but also a new Lines Processing Program (LPP) and a measurement system for these yachts.

For multihulls the difference in performance as wind speed and point of sail changes are dramatic. Upwind in light air it's typically slower than a monohull, but as the wind speed increases and the true wind angle widens the boats rapidly speed up, and the transition from tortoise to hare happens differently for every boat. This is captured in the scoring polar curves that offer much greater equity than a single number TCF. This is similar to the situation with foiling monohulls.

ORCmh is proving to be a fair and easily used handicap rule for the growing class of luxury performance multihulls, and has been acknowledged by the IMA (International Maxi Association) as a candidate for use in their regattas should they adopt multihull classes. During the season several offshore MOCRA races have been shadow scored with ORCmh. Whilst for offshore racing the condition specific handicaps are less appropriate,

ORC is keen to see to what degree the more sophisticated handicapping approach affects the results.

#### 4. ORC Double-handed and Non-Spinnaker Certificates

ORC developed Double-handed (ORC DH) certificates three years ago, and the popularity has remained strong, with 2042 certificates issued thusfar in 31 countries this year. It is ORC policy to offer DH certificates to any boat with a valid ORC Club or ORCi certificate levy-free – this promotion enhances their popularity.

Offered first last year in a similar levy-free promotion, ORC Non-Spinnaker (ORC NS) certificates were popular in their second year of use, with 862 issued in 24 countries. This product is offered to give local fleets more versatility in their use of ORC scoring at casual and cruising club-level events. Both ORC NS and ORC DH certificates are valid alongside standard certificate types, allowing for ease of use among boats that race in these varied formats.

#### 5. Technical developments & Submissions

A hallmark of ORC is that it is an open and accessible system for its users, both through local rating offices and through access to the ORC website. Besides allowing access to all ORC rules, rating system documents and even the VPP used to generate ratings, ORC gives easy access to all available rating and measurement data from a database of over 158,000 boat measurement records gathered over the past 30 years.

The easy access, breadth and depth of this information made available is unique among international rating systems. This access is facilitated by the **ORC Sailor Services system**, which gives **free online access to the ORC database**. At this portal is where copies of issued certificates from the past 12 years are available for free, as well as the ability to run ORCi or ORC Club test certificates under the current VPP for a small fee. ORCsy uses the same web portal with similar features, with access restricted to registered ORCsy users.

To date in 2022 there have been 731 new unique users that purchased at least one test certificate and 3724 test certificate runs in the system. In total there have been 29,327 test certificates generated among 2947 unique users since the system started 13 years ago.

Through the ORC Sailor Services, a customized **Speed Guide** package of polar performance data for any ORC-measured boat is available. The **Target Speed** product is also offered in Sailor Services, where a formatted PDF sheet is generated that gives target boat speed and wind angles based on VMG performance on windward-leeward courses. To date there have been 290 Target Speeds and 273 Speed Guides generated by the system in 2022, a slight increase over 2021.

**ORC Scorer** software is available for free download from this site, as well as the online **Scratch Sheet** that can be built from valid certificates found in the online database. ORC Scorer software is used by the ORC staff to help organizers score results at ORC Championship events, and are posted online with links provided to the event's websites.

This level of easy access and transparency of the ORC system has also prompted web and app developers: for eg, a web developer in the Netherlands has created a website (<http://jieter.github.io/orc-data/site>) that provides performance information – such as rated speeds – for any boat in the ORC system and presents them in both tabular and graphic formats.

The **ORC website** offers easy public online access to ORC publications, explanations of the rating systems, scoring methods and measurement, as well as regular news items related to ORC events and a comprehensive online calendar of races and regattas held in countries where ORC certificates are issued worldwide. Traffic on the site averages about 10,000 unique users/month.

The **ORC Race Management Guidebook** has been developed to help educate race managers of all experience levels – those who need a reference guide and those new to ORC in local fleets. The intent is to update this document annually as use of scoring methods varies among ORC fleets.

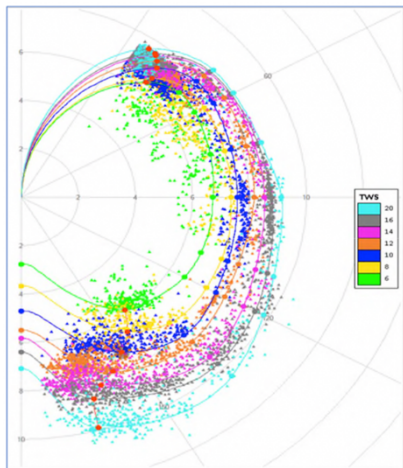
A **User Manual** for the free **ORC Scorer software** is online, and a US Sailing-produced online video on use of the Sailor Services portal is available on YouTube.

The **ORC Measurement videos** for instruction and explanation of proper measurement techniques for Sails and



Rigs has been produced and published on YouTube, with Hulls, Props and Stability remaining to complete the set. This is the first professionally-produced video series on the topic of Measurement and is an important tool for educating new measurers or others interested in the topic.

For the technical public, once the new year's VPP is ready (typically mid-January), the Designer version of the VPP is available for download and purchase from the ORC website. Another important tool for complete transparency of the ORC system, the **ORC VPP Documentation**, is also available on the ORC website to explain all the formulations of the VPP calculations, methodologies and Scoring options.



The **International Technical Committee (ITC)** is the research and development group for ORC and is composed of prominent designers and sailing yacht technologists:

Andy Cloughton (Chairman), Alessandro Nazareth (Vice-chairman), Davide Battistin (ORC programmer), Antoine Cardin (Judel/Vrolijk), Zoran Grubiša (ORC Chief Measurer), Jason Ker (Ker Design), David Lyons (Naval Arch. Consultant), Marcus Mauleverer (Ker Design), Matteo Polli (Designer), Robert Ranzenbach (Aero Consultant), Manolo Ruiz de Elvira (Designer), Jim Schmicker (Farr Yacht Design), Nicola Sironi (Deputy Chief Measurer), Panayotis Papapostolou (ORC programmer)

ITC has met three times in 2022: on the 1<sup>st</sup> – 3<sup>rd</sup> April, in Winchester, GBR, and in two virtual meetings: 20<sup>th</sup> June and 19<sup>th</sup> August. One final in-person meeting is scheduled for October 21-23 in Trieste to finalize the formulations and test runs of the 2023 VPP.

In addition to responding to 16 Submissions for review, ITC's research work in 2022 included these topics:

1. Work on the Residuary resistance formulation has continued. The CFD database for “real” boats has been extended, and the CFD database used to create the formulations has been re-analysed using a different parameter set. Changing the residuary resistance model disrupts the relative handicaps of nearly every boat, so the ITC is reluctant to contemplate making a change until it is confident that there is something that is more equitable and robust. Whilst there are discernible shortcomings in the current force model, it has served the fleet for nearly a decade.
2. Development of the foiling force model has continued through the year. Whilst the current VPP is restricted to boats sailing in displacement mode and semi foiling (e.g., Figaro 3 and DSS style boats) the development code was used to provide an experimental certificate for the fully foiling FLYING NIKKA. Whilst the handicap polars differ from the observed performance, they do more than adequately capture the step change in performance when the boat moves from Archimedeian to foil-borne sailing.

Some observations on this development:

- a. The ORC was very happy when the designer and owner approached us to produce an experimental certificate. It was an ideal opportunity to implement the force model for this mode of sailing. Once foiling the boat's sails must be trimmed to maintain a constant righting moment, the VPP can no longer rely on righting moment increasing as heel angle increases. This has implications for all boats where the boat's inherent stability is low, which is the case for many sports boats with racks.
- b. It was never considered that the boat could race in a fleet of conventional monohulls sails without:
  - i. Much more VPP development and
  - ii. Some interaction with regatta organizers to avoid disruption to the existing classes.
- c. Producing the certificate produced improvements to the VPP, particularly the multihull VPP where similar force balance issues are in play.
- d. This has laid the groundwork to handicap this type of boat should the need arise.
- e. It clearly shows the futility of using a single TCF for all windspeeds for boats where the hull(s) change their immersion with boat speed. This is beyond the scope of the linear VPP approaches.



3. Examine aero effects of whisker poles set to leeward, this also prompted discussions about the effect of beam on sheeting angles and whether this should be considered in an updated aerodynamic model.

4. Headsails Set Flying: the introduction of an aerodynamic force model that deals with sails of all mid-width ratios from 50% upwards has been widely welcomed by the sailors. The sailmakers can now make good looking practical close reaching sails, without having to force them into the historical paradigm of jibs and spinnakers. These new code

sails are effective both racing and cruising and during 2022 refinements to the force model have been made.

- f. To improve the family of force coefficients that spread from jibs through to spinnakers. This is now a rational continuum for any sail mid girth.
  - g. Develop algorithms that prevent the VPP setting these sails when the boat cannot because
    - i. The apparent wind angle is too narrow for the cut of the sail,
    - ii. The heel angle is too high for the boat to carry the sail,
    - iii. The apparent wind is too strong for the sail to be used,
    - iv. The geometry of the standing rigging prevents the sail being sheeted.
    - v. Items c and d are particularly in play for the multihulls.
3. The design of offwind sails set on a bowsprit has developed over the last decade, and these sails are common on the popular one design boats. These sails are now replacing conventional spinnakers set on poles on older designs and the ITC is looking to update the coefficients to reflect the improved sail designs and avoid making conventional sails un-competitive.
  - a. The Performance Database continues to expand with the help of KND, adding new boats with high fidelity observed polars against which we can judge VPP results. The adoption of ORC in the USA has further widened opportunities for interested owners to contribute the ITC's efforts.
  - b. A perennial complaint is that small boats are unfavourably handicapped. 30 footers don't like racing 40 footers, 40 footers don't like racing 50 footers, 50 footers don't like racing 60 footers and so on until you reach the 70 footers where bigger boats are less nimble and the complaining stops. It's unclear to what degree the VPP force models give rise to this fact of life. Larger boats getting off the start line and into clear air will always be a factor, but in the 25-35 foot range there are some issues that can be addressed to shift the balance a little bit. The adjustment to the wind gradient made in the 2022 VPP is a case in point.
4. Rationalization of the Default and Declared crew weight so that the calculation of handicap polars and Stability Index were correctly assessed. This was particularly necessary to create double-handed certificates.
5. Set up the VPP to accommodate:
  - a. Cat Boats (Single sail on each mast). This involved eliminating some legacy code which required the VPP to have a jib set.
  - b. Update PIPA values for electric strut drives and generator pods.
6. ITC member David Lyons is chairman of the ISO WG 35 (Working Group) on keel structures. The loss of keels due to structural failure is a pressing problem, not just for older boats where wear and tear have reduced structural safety margins, but also amongst newly built boats. David will present a summary of the first WG meeting at the next ITC meeting. (21 October). This is the most important item on the ITC's safety agenda and we offer the WG our full support. Whilst there are several failures reported each year the technical reports nearly always remain sub-judice and the therefore the findings are not informing the design community. Confidentiality is leading to more failures.

Next year's research agenda will be announced at the ORC AGM next month, but there will be no surprises. The VPP is already extraordinarily sophisticated for an open-source tool whose raison d'être is to provide handicap polars. Careful refinement of the existing infrastructure will continue using the most modern methods, but attention must also be focused on the other two elements of the ORC system. The user experience rests on 3 pillars - VPP, Scoring and Measurement - and each needs the attention of the ITC to function well.

In 2022 the ORC refreshed the membership of the **ITC Research Associates** group. Traditionally this was a group of retired ITC members who wanted to keep in touch with the ITC's work. This year the ITC were delighted to welcome 8 new members to join Lex Keuning: Stu Bannatyne (Doyle Sails), Adolfo Carrau (Botin & Partners), Jeremy Elliott (North Sails), Antoine Lauriot Prevost (VPLP), Mark Mills (Mills Design), Bruce Nelson (Nelson/Marek YD), Adam Scott-Mackie (Malcolm Mckean YD), and Chris Williams (North Sails).

This group have a different purview to the ITC: they are at regattas, sailing boats, and wrestling with the practicalities of preparing boats to race: this was a move to let the ITC get its head out of the bottom of the boat! It has worked very well with three 90-minute, virtual meetings held this year and the interaction on practical matters from flying headsails to centerboards has proved very valuable. The ITC is very grateful for donating their time, despite the myriad of other calls on their time. This initiative will continue.

Finally the ORC would like to thank the contributions from the observers who attended the ITC meetings - their input is nearly always based on personal experience with the rules, is well-researched, and valuable to the ITC.

**40 Submissions** have been received this year **from 9 National Authorities** – this is a slightly higher than the average number of submissions for ORC, indicating an active engagement of ORC users in helping improve and refine the system. These submissions are discussed in the following committees, with many reviewed by multiple committees: 10 for the Management Committee, 18 for the Offshore Classes and Events Committee, 16 for the ITC, 4 for the Rating Officers Committee, 7 for the Measurement Committee, 3 for the Promotion and Development Committee, and 6 for the Race Management Committee. These deal variously with topics regarding the ORC Rating Systems, the ORC VPP, championship rules, and with general policies. Most of these are addressing improvements and refinements of current rules and policies, with no major complaints about overall operation of the system.

## 6. Measurement and Rating Offices



Several measurements seminars were held in 2021. The first took place in Rungsted, Denmark and covered the complete process of boat measurement including flotation and stability measurements as well as rig, sails and propeller measurement. A similar seminar was held in Riga, Latvia. Differing aspects of race management and scoring were presented at both seminars.

The third seminar held in Helsinki, Finland was focused on 3D-scanning and capturing hull and appendage geometry. During the last few years, ORC has developed standardized procedures of using 3D scanners available on the market to gather a laser cloud of points with defined freeboard references to generate an accurate hull offset file to be used in hydrostatic calculations and rating assessments for both monohulls and

multihulls. These procedures are explained in detail in the Hull Scanning Measurement guide available on the ORC website.

This guide has also been useful in training new users who already have the equipment and proficiency to provide points cloud data to the ORC offset file staff who then process this into offset files approved for ORCi certificates. This year there were two new users in the USA providing files on this basis.

Training on ORC measurements will also be offered at the International Measurer's seminar in Annapolis, USA in November.

New National ORC Rating offices have been established in Turkey and South Africa, increasing the number of national rating offices to 40 that are on the African, Asian, European and North and South American continents. Five more countries are supported by the ORC Central Rating office which plans to establish national rating offices in these countries as soon as possible.



## 7. Championship Events

ORC World and continental championship events, Superyacht regattas and numerous other prominent races and regattas that use ORC rating systems are supported directly by the ORC staff. In new regions of use this is also common at other major events, where the ORC staff is often asked to provide direct support consisting of NOR and SI reviews, event promotion and media resources, measurement services, and scoring support.

ORC Championship regattas are important in competitive handicap racing since they typically engage over 1000 participants at each event with additional multipliers of friends and family bringing significant economic and promotional value to site hosts, their sponsors and local and international media.

Likewise, scoring for all ORC Championship events has been standardized to be in the same format and using same software to preserve consistency, with ORC staff working with the host club's race committee who provide the raw data used to calculate results. Links are then created from event websites to the ORC results shown on the ORC webpage dedicated to display event results online (examples are described below in the event reports).



The **ORC World Championship 2022** was held at Yacht Club Costa Smeralda in Porto Cervo, Sardinia over 26-30 June was a successful championship event held at one of our sport's premier venues.

A total of 69 entries from 15 countries were entered: 20 boats from 8 countries in Class A, 27 boats from 8 countries in Class B and 22 boats from 9 countries in Class C. As typical of all ORC championship events, the fleet was very diverse, with dozens of Performance and Cruiser/Racer designs – both custom and series built - represented among entries in all classes. Corrected time result margins measured in seconds for each race continues to indicate the quality of the ORC rating system to produce close and fair results.

Seven races were scored, with the event starting with a non-discardable long offshore race: 169-miles in length for Class A, 151 miles for Class B and 137 miles for Class C. The race was a complex tour of the north Sardinian coast and held in moderate to windy conditions of 15-25+ knots. The conditions prompted numerous retirements and several DSQ's for violation of exclusion zone restrictions in some areas of the race course the Race Committee enforced this through use of the Trak-Trak tracking system.

The remaining races were windward/leeward inshore races held on two course areas, with an intended short offshore race cancelled for lack of wind. These races were held in all conditions, from light to heavy winds, with equal-weighting in points for all.

A Corinthian Division was formed for each class among teams whose entire crew were confirmed to be Group 1 using the WS Categorization System. The crew lists were vetted in advance and also on-site (with some difficulties) by Commission member Dobbs Davis with support from the WS staff, but improvements are needed to make this system more accessible for sailors, organizers and Commission members alike.

Karl Kwok's Hong Kong-based TP52 BEAU GESTE won all but three races to claim the Class A World Champion title by a margin of 7 points. Kwok's international team was led by skipper Gavin Brady (NZL) and helmsman Ken Read (USA). Silver medallists were Chain Fernando's team from Argentina on his Swan 45 FROM NOW ON, and in third place was Andrea Pietrolucci's Italian team on his Mylius 14E55 MILU' III.

Having an all-amateur Corinthian crew, MILU' III also claimed the Corinthian division prize in this class which had 9 qualified all-amateur entries.

The 2022 Class B World Champion was the defending champion from 2021: Catalin Trandafir's Romania-based Grand Soleil 44P ESSENTIA44, with their win achieved only in the last day of racing and by only a 3-point margin. Silver and Bronze medallists were two Swan 42's: Andrea Rossi's MELA from Italy and Aivar Tuulberg's KATARIINA II from Estonia, respectively.



Pier Vettor Grimani's X-41 SIDERACORDIS from Italy was the top Corinthian team among 11 all-amateur teams in Class B, finishing 10<sup>th</sup> overall.

The 2022 World Champion in Class C was also a repeat World Champion, from the 2019 event in Sibenik, Croatia. Ott Kikkas (EST) and a mixed team of Estonian and Italian sailors on his Italia 11.98 SUGAR 3 dominated the class, winning all inshore races and scoring second in the long offshore, building enough of a lead in points to not have to compete in the final race. The two Italian Silver and Bronze medallists were also Italia 11.98's – in fact, the top five finishers in this class were all of this same design. Vincenzo De Blasio's SCUGNIZZA earned the Silver medal while Stefano Rusconi's TO BE earned the Bronze medal.

The top Corinthian prize in Class C was won by Corrado Annis's team from Italy on his Italia 9.98 LADY DAY 998, who was among 8 all-amateur teams and finished in 9<sup>th</sup> place overall in this class.

Complete race results are at <https://data.orc.org/public/WEV.dll?action=index&eventid=lelv1>.



The **2022 ORC European Championship** was held in Hanko, Norway over 5 – 13 August, hosted by the Royal Norwegian Yacht Club (KNS). The event venue was at Hanko Yacht Club on the island of Hanko, and racing was conducted on course areas set in the nearby Oslofjord. KNS and HYC expanded their facilities to accommodate a large fleet of 65 entries from 7 nations of northern Europe.

Class A was small, having only 6 entries from two nations, but Class B featured a solid turnout of 21 entries from 6 nations and Class C attracted 28 entries from 6 nations. For inshore racing Classes A and B shared the same course area. Like the Worlds, both custom and production Performance and Cruiser/Racer designs were common throughout the fleet.

Weather conditions for the week were perfect, with sunny skies and mostly southerly breezes varying from 8 to 18 knots. As with most ORC championship regattas, the event started with an overnight long non-discardable offshore race on courses set in the fjord and further south around buoys in the Kattegat. Course lengths varied by class: Class A had a 176-mile course, Class B a 166-mile course, and Class C a 144-mile course. The penultimate race of the series was a short non-discardable offshore race with course lengths of 49 miles for Classes A and B, and 43 miles for Class C.

The remaining six races of the series were sailed on two-lap windward/leeward courses scored using Performance Curve Scoring, yielding close corrected time results in most classes and most races.

The winner of Class A was last year's Class A World Champion: Michael Berhorn's custom Mills 45 HALBTROCKEN. Berghorn and his team from Germany dominated the results, securing first place finishes in all inshore races and scoring second and fourth, respectively, in the long and short offshore races. Silver and Bronze medals were awarded to two TP52's: Per Ottar Skaaret's local-based Norwegian team on JOKERMAN and Holger Streckenbach's German team on IMAGINE.

The top Corinthian entry was the only all-amateur team in the class, 5<sup>th</sup>-placed X-DAY, Lars Hueckstaedt's custom-built GP 42 from Germany.

Winning the ORC European Class B title by only a one point margin was Jens Kuphal's modified Landmark 43 INTERMEZZO from Germany. This team's closest rival finishing as Silver medallists was a near-sistership, Torkjel Valland's Norwegian-based Landmark 43 WHITE SHADOW. The two actually tied in corrected time to the second in the first inshore race of the series, sharing points for first and second place after 56 minutes of racing on a 6.7-mile course. Bronze medals were awarded to Tiit Vihul's modified X-41 OLYMPIC from Estonia, who were also the top all-amateur team among 9 qualifying amateur entries and thus awarded the Corinthian prize in this class.

On the strength of strong inshore and offshore race results, Aivar Tuulberg's mixed Estonian and Italian team on his Arcona 340 KATARIINA II were crowned the 2022 ORC Class C European Champions, a title Tuulberg and team also achieved at the 2018 European Championship in Cyprus and 2016 European

Championship in Porto Carras, Greece. Silver medallists are the Estonian team on Juss Ojala's J-112E MATILDA, who were the 2019 European Champions in Oxelosund, Sweden, and Bronze medals were awarded to yet another former Class C European Champion team in 2017 and 2019 – Patrik Forsgren's modified First 36.7 PRO4U.

In Hanko as in most of their previous championship events, PRO4U finished as the top Corinthian entry among 10 qualified teams in this class.

Complete race results are at <https://data.orc.org/public/WEV.dll?action=index&eventid=EC22>.

New this year was the **2022 ORC Double-Handed World Championship**, held over 30 June – 6 July as part of the Royal Swedish YC's (KSSS) annual Gotland Runt Race. This year's race was 352 miles and attracted 24 entries from 5 nations in Class A, 25 entries in Class B from 6 nations, and 29 entries from 6 nations in Class C. Overall there was an impressive turnout of 78 entries from 7 nations, all from northern Europe.



This year's inaugural ORC DH Worlds race featured a wide variety of wind conditions, some difficult navigational challenges for the teams and a wide diversity of boat types to be a suitable new championship in this genre. As with all Gotland Runt entries, the start was held in Stockholm harbor before proceeding through the archipelago to the open Baltic, around Gotland island, then returning to the eastern edge of the archipelago to finish at the KSSS facilities on Sandhamn.

Winning Class A as the first-ever ORC DH Class A World Champions were Anders Dahlsjö and Martin Strömberg, co-skippers of their Z30+ ZEUS. After over 2 days of racing, these two Swedes were nearly 1.5 hours ahead of Silver medallists Marcus Österberg and Henrik Borg, Swedish co-skippers of their J 122 JOULE. Winning Bronze medals were yet another Swedish team, Fredrik Rydin and Johan Tuvstedt, on their J 121 JOLENE. Rydin and Tuvstedt were the top among three all-amateur Corinthian teams in this class.

The new Gold medallists in Class B at this event were German co-skippers Jonas Hallberg and Till Barth racing their JPK 10.30 HINDEN. Their corrected time delta over the Silver medallist team of Michael Hoefgen and Max Gurgel, two German Co-skippers racing their JPK 10.30 LIGHTWORKS, much closer than in Class A with a margin of only 35 minutes after 2.7 days of racing. And the Bronze medal team of Jens Krogell and Ville-Veikko Niskanen of Finland were also racing a JPK 10.30.

The top among 8 Corinthian entries in Class B was 4<sup>th</sup>-placed Swedes Staffan Larsson and Magnus Wegrell racing their Arcona 340 IMBRUGLIA.

In Class C the winner was a Swedish team familiar to numerous recent full-crew ORC European and World championship podiums: Patrik Forsgren and Joakim Hoppe racing Forsgren's modified First 36.7 PRO4U. Their 2-hour corrected time margin of victory over fellow Swedes Mikael Algevere and Per Lindell's X-332 LADY X was the largest of any class, with Bronze medallists Patrick ten Brinck and Harmen de Jong from the Netherlands racing their HOD 35 HODSPUR another 1.5 hours behind in corrected time.

There were 17 Corinthian entries in Class C, including all podium finishers, so the top prize was awarded to PRO4U.

Complete race results are at <https://data.orc.org/public/WEV.dll?action=index&eventid=dyirq>.



The **2022 ORC Sportboats European Championship** was raced at Diporto Nautico Sistiana on the northern Adriatic, and featured 21 teams entered from five nations. Four days of racing were planned with the first day being a 22-mile distance race, followed by three days of racing on windward/leeward courses. In the end there was no racing on the final day due to lack of wind, so results were determined from the scores of six races with one discard.

The fleet raced together as a group but scoring was divided into two Divisions, 11 entries in A and 10 entries in B, based according to the criteria described in the ORC Sportboat Rules. Wind was light-moderate throughout the event at 6-10 knots.

Winning Class A was Liam Pardy's all-carbon SB4 BEUGEN II (GBR) from the Royal Southern Yacht Club, with runner-up David Tomasin's Melges 24 IL GRIGIO from ITA and in third Davide Rapotez's Melges 24 RAFFICA.

Division B was won by Estonian owner Ott Kikkas's SUGAR and his team on his Corsa 915, repeating last year's success in Istanbul, Turkey. Runner-up was Ugo Guarnieri's Delta 84 CHARDONNAY (ITA) and in third was Lorenzo Bertini's Platu 25 URSA MINOR (ITA).

Prizes were also awarded for the top three all-amateur Corinthian teams in each Division using the WS Categorization scheme to confirm all team members as Group 1 sailors. These were, in order of rank, IL GRIGIO, RAFFICA and Isabella Filippo's Melges 24 ESSETIVI from ITA in Division A. In Division B the top three Corinthian teams were URSA MINOR, Andrea Pietrolucci's Este 24 MILU' 4 (ITA) and Liam Mirko's Ufo 22 UAKU (CRO).

Complete results are at <https://data.orc.org/public/WEV.dll?action=series&eventid=spkhu&classid=ORC>.

## 8. Future ORC Championship events

Future confirmed ORC Championship events include:

- 2023 ORC World Championship in Kiel held over 4-12 August 2023
- 2023 ORC European Championship in Malta over 23 April – 1 May 2023
- 2023 ORC Double-Handed World Championship in Barcelona over 9-15 September 2023
- 2023 ORC Sportboat European Championship in Kalamaki, Greece 23 – 29 September 2023

The 2023 ORC DH European Championship and 2024 ORC championship events will be determined by the Offshore Classes and Events Committee Meeting and the ORC Congress held in-person and online over 5-6 November.

## 9. World Sailing Sailor Categorization Code

Application of the WS Sailor Categorization Code is a regular feature to both the ORC Worlds and ORC European and ORC Sportboat European Championships in defining the criteria for entries eligible for the event's Corinthian Trophies. The normal difficulties in use of the Code was this year compounded by the poor condition of accessing the online service database and search tools.

At the World Championship, Commission member Dobbs Davis worked hard during Registration to screen crew lists and with the help of the OA and WS staff. Troubleshooting individual cases was resolved by on-site interviews and 26 entries were determined to be eligible for Corinthian trophies.

At the ORC DH World Championship Davis checked crew lists off site and determined 28 entries were eligible for Corinthian prizes.

At the ORC European Championship Davis and Commission Chairman Tom Rinda were both on site to determine Corinthian crew lists, and except for a few issues related to incorrect Sailor ID's the system worked reasonably well.



At the ORC Sportboat European Championship there was no Commission representative on site, but no complaints were heard. In total there were 12 teams of Corinthian sailors.

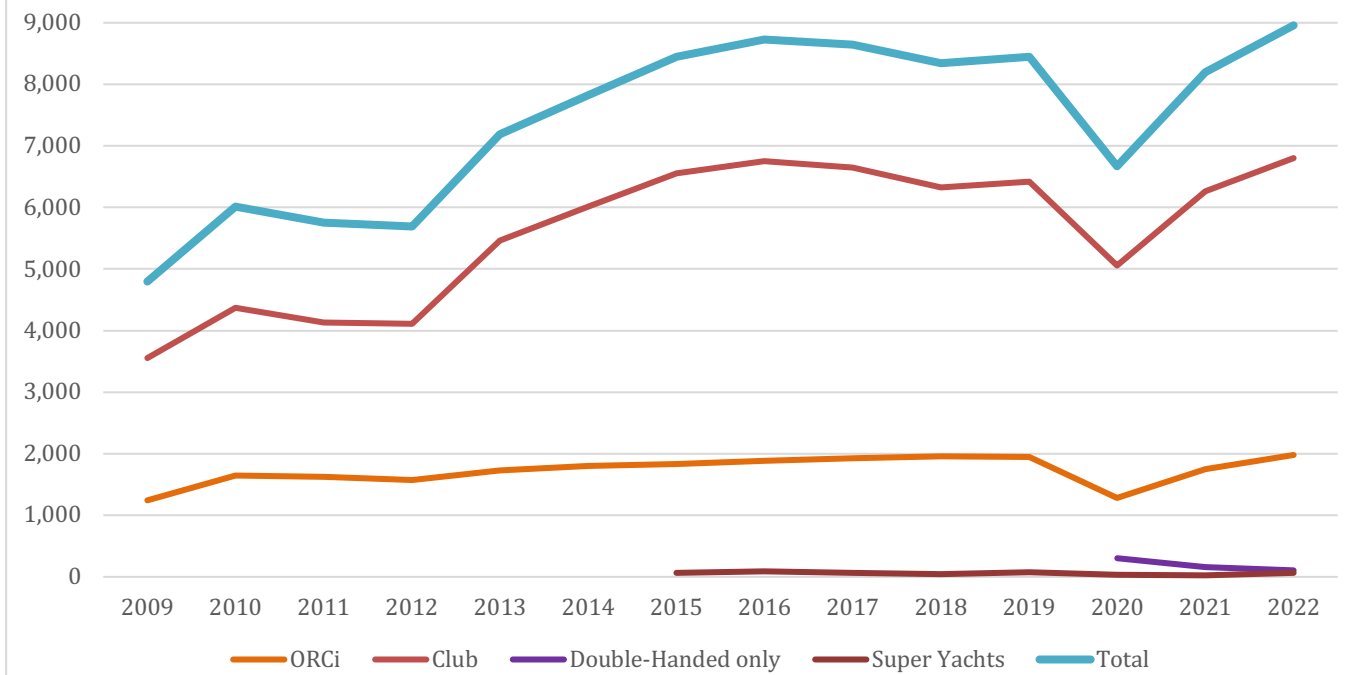
## 10. Fleet Statistics

Shown on the following pages: (1) a summary table of countries and the numbers of issued ORC International, ORC Club, Double Handed, Non-Spinnaker and ORCsy certificates as of 30 September 2022; (2) a graph showing ORC Club, ORC International, and ORC SuperYacht boats for 2009-2022\* (\*through Q3); and (3) a graph showing ORC certificates for 2012 – 2022\* (\*through Q3).

| Nation    |       |      | 30.09. 2022         |     |       |     | Comparison |     | 30.09. 2021      |     |      |     | Change |
|-----------|-------|------|---------------------|-----|-------|-----|------------|-----|------------------|-----|------|-----|--------|
|           | Club  | Int  | DHc                 | Dhi | NSc   | Nsi | Club       | Int | DHc              | DHi | NSc  | NSi |        |
| ARG       | 68    | 19   | 10                  | 0   | 0     | 0   | -1         | -5  | 9                | 0   | 0    | 0   | 3      |
| AUS       | 296   | 194  | 2                   | 7   | 24    | 4   | 208        | 65  | 0                | -7  | 7    | 2   | 275    |
| AUT       | 54    | 7    | 13                  | 0   | 7     | 0   | 31         | 2   | 4                | 0   | 2    | 0   | 39     |
| BRA       | 53    | 55   | 0                   | 1   | 0     | 1   | 25         | 8   | 0                | 1   | -5   | 1   | 30     |
| BUL       | 72    | 10   | 1                   | 1   | 3     | 1   | 35         | 0   | 1                | 1   | -4   | 1   | 34     |
| CAN       | 60    | 8    | 5                   | 1   | 0     | 0   | 33         | 6   | -8               | -1  | 0    | 0   | 30     |
| CRO       | 85    | 24   | 2                   | 1   | 12    | 0   | 45         | -8  | 2                | 1   | -9   | 0   | 31     |
| CYP       | 22    | 4    | 0                   | 0   | 4     | 0   | 9          | 3   | -16              | 0   | -1   | 0   | -5     |
| DEN       | 1     | 7    | 0                   | 1   | 0     | 0   | 0          | 4   | -3               | 1   | -6   | 0   | -4     |
| ECU       | 1     | 29   | 0                   | 0   | 0     | 0   | 1          | 6   | 0                | 0   | 0    | 0   | 7      |
| ESP       | 567   | 615  | 102                 | 152 | 107   | 14  | 104        | 41  | -57              | -50 | 26   | 4   | 68     |
| EST       | 120   | 68   | 14                  | 4   | 8     | 1   | -21        | -2  | -14              | 4   | 5    | 1   | -27    |
| FIN       | 412   | 44   | 220                 | 35  | 92    | 5   | 72         | -17 | 60               | 21  | 30   | 4   | 170    |
| FRA       | 355   | 17   | 9                   | 0   | 1     | 0   | 156        | 10  | 9                | 0   | 1    | 0   | 176    |
| GBR       | 22    | 8    | 1                   | 0   | 1     | 1   | 11         | 3   | 1                | -1  | 1    | 1   | 16     |
| GER       | 381   | 145  | 170                 | 30  | 37    | 0   | 162        | 45  | 36               | 17  | 11   | 0   | 271    |
| GRE       | 489   | 119  | 55                  | 25  | 94    | 1   | 226        | 19  | -276             | -38 | 27   | 1   | -41    |
| HKG       | 47    | 0    | 0                   | 0   | 0     | 0   | 46         | 0   | 0                | 0   | 0    | 0   | 46     |
| HUN       | 38    | 1    | 0                   | 0   | 0     | 0   | 21         | 1   | 0                | 0   | 0    | 0   | 22     |
| ISR       | 46    | 1    | 2                   | 0   | 1     | 0   | 11         | 1   | 2                | 0   | -2   | 0   | 12     |
| ITA       | 716   | 552  | 22                  | 53  | 26    | 0   | 269        | 107 | 3                | 36  | 5    | -1  | 419    |
| JPN       | 58    | 5    | 48                  | 4   | 0     | 0   | 32         | 3   | 18               | 2   | 0    | 0   | 55     |
| KOR       | 63    | 0    | 0                   | 0   | 0     | 0   | 29         | 0   | -1               | 0   | -1   | 0   | 27     |
| LAT       | 22    | 6    | 5                   | 2   | 0     | 0   | 18         | 4   | 5                | 2   | 0    | 0   | 29     |
| LTU       | 53    | 6    | 0                   | 0   | 0     | 0   | 33         | -4  | 0                | 0   | 0    | 0   | 29     |
| MLT       | 8     | 2    | 0                   | 2   | 0     | 0   | 7          | 0   | 0                | 2   | 0    | 0   | 9      |
| MNE       | 3     | 0    | 0                   | 0   | 0     | 0   | 2          | 0   | 0                | 0   | 0    | 0   | 2      |
| MRI       | 9     | 0    | 0                   | 0   | 0     | 0   | 6          | 0   | 0                | 0   | 0    | 0   | 6      |
| NED       | 660   | 64   | 612                 | 28  | 41    | 0   | -15        | 2   | -172             | 16  | 4    | 0   | -165   |
| NOR       | 847   | 44   | 10                  | 5   | 60    | 0   | 117        | 29  | -890             | 5   | -817 | 0   | -1556  |
| PER       | 14    | 36   | 0                   | 0   | 0     | 0   | 6          | 17  | 0                | 0   | 0    | 0   | 23     |
| POL       | 38    | 43   | 27                  | 34  | 24    | 32  | 22         | -11 | 4                | 6   | -3   | 0   | 18     |
| POR       | 69    | 32   | 24                  | 9   | 14    | 2   | 22         | 5   | 13               | 0   | 7    | 2   | 49     |
| ROU       | 23    | 37   | 0                   | 0   | 11    | 11  | 1          | -6  | -1               | 0   | 4    | 9   | 7      |
| RSA       | 210   | 0    | 204                 | 0   | 203   | 0   | 158        | 0   | 12               | 0   | 67   | 0   | 237    |
| SLO       | 9     | 10   | 6                   | 2   | 1     | 0   | 1          | -1  | 2                | 1   | 1    | 0   | 4      |
| SUI       | 139   | 6    | 2                   | 0   | 0     | 0   | 30         | 5   | 2                | 0   | -1   | 0   | 36     |
| SWE       | 3     | 50   | 3                   | 42  | 0     | 0   | 2          | 3   | 0                | 42  | 0    | 0   | 47     |
| TUR       | 55    | 2    | 0                   | 0   | 0     | 0   | 21         | 2   | 0                | 0   | 0    | 0   | 23     |
| USA       | 580   | 290  | 28                  | 6   | 18    | 0   | 115        | 0   | -25              | -15 | -13  | -4  | 58     |
| Totals    | 6768  | 2560 | 1597                | 445 | 789   | 73  | 2050       | 337 | -1280            | 46  | -664 | 21  | 510    |
|           | 9328  |      | 2042                |     | 862   |     | 2387       |     | -1234            |     | -643 |     | 510    |
| Central   | ORCsy | 63   | ORCmh               | 7   |       |     | 25         |     |                  |     |      |     |        |
| Summaries |       |      | Totals certificates |     | 12302 |     |            |     | Change from 2021 |     | 542  |     |        |



Boats issued ORC certificates 2009-2022 (\*2022 Q3)



ORC certificates issued 2012-2022 (\*2022 Q3)

