



Annual Report – ORC Rating Systems
October 2021 – Season Activity – from ORC

1. ORC Rating Systems - summary:

The ORC Rating Systems (ORC International, ORC Club) are managed in 35 countries by National Rating Offices on five continents and centrally managed by ORC for 10 countries where a national office is not yet established. The ORC Superyacht Rule, first introduced in 2015, is centrally managed by ORC. Thus, in total **ORC certificates are issued for boats in 45 countries.**

Developments for ORC this year include a return in popularity of ORC championship events, a substantial recovery in the number of certificates, boats and participants nearly back to 2019 levels, introduction of new Non-Spinnaker certificates, and the beta testing of the new ORC Multihull rule at events in 2021 with an anticipated roll-out for 2022.

The year-to-date 2021 fleet certificate statistics are shown in Section 10: at the end of September 2021 there were 13460 ORC certificates issued to 9184 boats, and through the end of 2020 there were 10154 certificates issued to 6640 boats. These figures show a substantial (25%) increase thusfar this year in the number of certificates over 2020, and an even great (38%) increase in number of boats receiving certificates. The increase in certificates this year is due not only to recovery in the number of boats racing, but also due to the increase in Double Handed certificates and the introduction of a new Non-Spinnaker certificate type.

Increases in ORC certificates from 2020 are observed in 32 of the 45 countries in the world that use ORC. These include ARG, AUS, AUT, BRA, BUL, CAN, CRO, CYP, DEN, ESP, EST, FIN, GER, GRE, HUN, ITA, JPN, KOR, LAT, LTU, MLT, NED, NOR, PER, POL, POR, ROU, RSA, RUS, SWE, UKR and USA

ORC this year has continued to assist the **SuperYacht Racing Association (SYRA)** in administering, developing and refining the ORC Superyacht Rule (ORCs_y), with an increase in boats and certificates from 2020 as Superyacht racing returning in several regattas. More details on ORCs_y are found in Section 2 of this report.

Since ORC Rating systems are unique in measuring the stability of offshore yachts, the size and types of boats using ORC_i/ORC Club is quite broad, ranging from very small cruisers and Sportboats to racing SuperYachts. 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 is receiving more interest worldwide, such as the USA and Turkey, where the 2021 ORC European Sportboat Championship was held this year.

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 **2021 ORC World Championship** was a successful event held in Tallinn, Estonia attracting 104 entries from 13 countries, and the **2021 ORC European Championship** was also successful held in Capri, Italy with 63 entries from 12 countries. The **2021 ORC Sportboat European Championship** was held in Istanbul, Turkey with 27 teams entered from 4 nations.

Details of the 2021 events are found in Section 7 of this report.

For 2022 the **ORC World Championship** will be held over 22-30 June at **Yacht Club Costa Smeralda** in Porto Cervo, ITA, and the Notice of Race has just been issued. Organizers are confident the event will be well-attended and competitive.

Besides World and Continental championships, ORC encourages regional and national authorities to organize events, and a total of **16 countries organized ORC National Championship regattas in 2021**.

Many offered racing in a Double-handed format.

Among several dozen regattas using ORC ratings held in five continents around the world, there have been 4 Rolex-sponsored events in 2021 that also used ORC scoring, including **Rolex Capri Race Week**, the **Rolex Giraglia Cup**, the **Rolex Middle Sea Race** and the **Rolex Sydney-Hobart Race**.

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 2020 as racing and events has returned from last year's hiatus. The number of regattas using the rule system in Europe, the Caribbean, New Zealand and the USA is expected to increase even further with new events like this year's inaugural Ibiza JoySail 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. 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.

3. New ORC MultiHull Rule (ORCmh)

The ORC MultiHull Rule (ORCmh) has made enough development progress to be tested at its first events, the **2021 Multihull Cup** in Mallorca and the **Loro Piana Regatta** in Porto Cervo.

This development work has been focused on creating a viable VPP that can produce reliable results, but also develop a new measurement and VPP infrastructure to measure boats, devise scoring options, and deliver certificates. Besides the ORC technical staff and ITC Chairman Andy Claughton, Simon Forbes from World Sailing has been an active member of this development group with his knowledge of the MOCRA system.

ORCmh, while complex, represents a significant step forward towards providing fair and scientific handicapping for the growing class of luxury performance multihulls.

4. ORC Double-handed and Non-Spinnaker Certificates

ORC developed Double-handed (ORC DH) certificates two years ago, and the popularity has been strong, with 3275 certificates issued thusfar in 22 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.

New this year and offered in a similar levy-free promotion are ORC Non-Spinnaker (ORC NS) certificates. 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 145,000 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 and helps to engage the entire ORC community of users – owners, race managers, industry members,

designers, project managers, etc – to source rating and measurement information they seek about their boats.

This access is best demonstrated 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.

In 2021 so far there were **3988 test certificates** issued by the system, a 30% increase over 2020. In total there have been **30,451 registered users** who generated **24,688 test certificates** among **2465 unique users** since the self-serve system started 10 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 **282 Target Speeds** and **260 Speed Guides** generated by the system in 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.

This level of easy access and transparency 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 9000 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 in early 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 some of the world's most prominent designers and technologists. ITC has met four times in Zoom calls in 2021, with one final meeting planned to finalize the formulations and test runs of the 2022 VPP.

In addition to responding to 13 Submissions for review, ITC's research work in 2021 included these topics:

- Default crew weight
- Examine necessity to have a minimum-sized headsail (important for catboat ratings)
- Update PIPA values for electric strut drives and generator pods
- Examine aero effects of whisker poles
- Examine aero treatment of Headsails set Flying
- Examine effects from CFD research on Residuary Resistance models
- Examine force coefficients of symmetric and asymmetric spinnakers

Next year's research agenda will be announced at the ORC AGM next month.

30 Submissions have been received this year **from 8 National Authorities** – this is an average number of submissions for ORC, which is taken to indicate a general satisfaction with the current system by its users. These submissions are discussed in the following committees, with many reviewed by multiple committees: 6 for the Management Committee, 7 for the Offshore Classes and Events Committee, 13 for the ITC, 8 for the Rating Officers Committee, 4 for the Measurement Committee, 1 for the Promotion and Development Committee, and 5 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

With the relaxation of the Covid travel restrictions two measurement seminars were held in 2021. The first one, held in Sweden, was focused on the 3D scanning and implementation of new technologies available in capturing the geometries of the hull with appendages and the subsequent generation of offset files used in rating calculations. Modern technology makes this process significantly easier and more accurate than before, and ORC is in close cooperation with various production boat builders in scanning and preparing offset files for their latest production models.

The same method is encouraged for getting this data from older designs that have not being scanned in the past – this program saw success among numerous boats in large new fleets in the USA. A similar seminar is being planned by the end of the year in Finland where the ORC rating system is growing fast, replacing the local system as the main handicapping method for the large Finnish fleet of hundreds of boats.

Another measurement seminar was held in Tallinn, prior to the ORC World Championship. This seminar was covering all parts of the measurement process needed for an ORC International certificate from rig, sail and propeller measurements up to the flotation with freeboards and inclining measurements.

ORC Certificates are issued by the National Rating Offices that are supervising the measurement and rating of their national fleets. For countries where a National Rating Office is not yet established, the central ORC Rating office can give support by issuing certificates. As soon as the ORC fleets grown and established in such countries a proper National Rating office is established – for example, this is expected for 2022 for South Africa where the local fleet has grown to over 150 boats.

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 major events, where the ORC staff is often asked to provide direct support consisting of NOR and SI reviews, event promotion, measurement services, and scoring support.

The **2021 Alexela ORC World Championship** held in Tallinn over 6-14 August was a very successful championship with 104 boats from 13 countries: 8 boats from 3 countries in Class A, 34 boats from 11 countries in Class B and 62 boats from 10 countries in Class C. As typical ORC championship events, the fleet was very diverse, with dozens of Performance and Cruiser/Racer designs represented in the entries. Some were brand-new custom designs, while the majority were production Cruiser/Racers. Despite this wide variety of designs, there was close racing throughout all classes with the small margins in corrected time results proving the quality of the ORC rating system in being able to equalize the equipment and thus measuring the ability of the crews.



As per the ORC Championship Rules, 8 races were held - 6 windward/leeward races and two coastal/offshore races – one of these was an overnight race and one a shorter coastal race. All races had a scoring coefficient 1.0. Points from these long races were non-discardable and were shown as being a good combination for the inshore and offshore goals of the event. Weather conditions during the week of racing represented all wind strengths. Inshore races were sailed on three different racing areas. Class C was split into two groups and scored in a heat system, with the Gold and Silver groups divided halfway through the event.

The German custom Mills 45 HALBTROCKEN 4.5 won Class A with 4 wins, in close competition with the Silver medal winner, the German TP52 OUTSIDER. In the Bronze medal position was the Finnish GP42 MERCEDS BENZ EQ POW. There were no all-amateur teams eligible for Corinthian division racing in Class A.



The Class B champion was a mixed nationality team racing on the Romania-based ESSENTIA, a Grand Soleil 44P. Runner-up and winning silver medals was another mixed nationality team on the Estonia-based Swan 42 KATARIINA II. Winning Bronze was the German X-41 SPORTSFREUND. The top Corinthian (all-amateur) division team in Class B finished in 4th place: OLYMPIC, a modified X-41 from Estonia.

Class C was won on a tie-break between two Estonian-based teams: the J-112E MATILDA winning Gold and the defending champion from 2019, the Italia

11.98 SUGAR 3. Bronze was won by the top Corinthian team from Sweden, the modified First 36.7 PRO4U.

This event was the 8th in the last 10 years of ORC World Championships that attracted over 100 entries, and had there not been Covid uncertainty for many international events in 2021, there would have been even stronger participation from teams outside the region. Regardless, these events are important in competitive handicap racing since they 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.

The **2021 ORC European Championship** was held as part of Rolex Capri Race Week over 15-20 May, with venues split between Napoli and Capri, Italy. The format also included Windward/Leeward and distance racing.

Even with rigid Covid protocols in place, the event still attracted 63 teams from 12 countries, with 19 teams from 6 countries in Class A, 22 teams in Class B from 4 countries, and 22 teams from 6 countries in Class C.

Italian teams were the winners in every class. Podium finishers in Class A were the defending champion from 2019, the TP52 XIO (ITA), who dominated the results, followed by the Swan 45 FEVER (GBR) winning Silver, and the 2014 World Champion, the TP52 FRECCIA ROSSA (ITA), winning Bronze. The top Corinthian entry finished 4th: the Swan 45 TENGHER (ITA).



Italian Swan 42 teams dominated the podium in a competitive Class B: FANTAGHIRO' winning Gold, MELA winning Silver on a tie-break with BEWILD winning Bronze. The top Corinthian entry finished in 6th place: the J122 CHESTRESS (ITA).

In Class B the winner was the Italia 11.98 SCUGNIZZA, with another Italia 11.98 – SUGAR 3 (EST) - winning Silver, and the Farr 30 TOPAS from GER winning Bronze. This team was also the top Corinthian entry in the class.



Design NIMBUS, followed by another Turkish J/70 named CHEESE SAILING. Only ½ point back in third was a Turkish Farr 25 One Design named ORIENT XS.

The **2021 ORC Sportboats European Championship** was delayed from 2020 to be held over 23-29 August in Istanbul, the first-ever ORC championship event to be held in Turkey.

With two days of flat conditions preventing racing, the event's remaining two days were used to hold 6 inshore races among 27 entries from 4 countries, with most being from Turkey.

Overall winner was the Turkish J/70 One Design NIMBUS, followed by another Turkish J/70 named CHEESE SAILING. Only ½ point back in third was a Turkish Farr 25 One Design named ORIENT XS.

8. Future ORC Championship events

Future confirmed ORC Championship events include:

- 2022 ORC World Championship in Porto Cervo held over 22-30 June
- 2022 ORC European Championship at Hanko, Norway over 5-13 August 2022.

The 2022 ORC Sportboat European Championship and other future ORC championship events will be determined by the Offshore Classes and Events Committee Meeting and the ORC Congress held online and in Athens over 13-14 November. With the explosive growth of ORC use in the USA, a new ORC North American championship is also expected in 2022. An ORC DH European Championship is planned in Stockholm, Sweden with the Gotland Runt Race in early July 2022.

The demand for hosting future ORC championship events remains high, with active bid proposals from Spain and Malta for 2023.

9. WS 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 Corinthian Trophy. 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 Commission Chairman Tom Rinda. Troubleshooting individual cases was resolved by on-site interviews.

10. Fleet Statistics

On the following pages are the following: (1) a summary table of countries and the numbers of issued ORC International, ORC Club, Double Handed, Non-Spinnaker and ORCs certificates as of 30 September 2021; (2) a graph showing ORC Club, ORC International, and ORC SuperYacht boats for 2009-2021; and (3) a graph showing ORC certificates for 2013 – 2021* (*projected to 31 December).



FLEET STATISTICS - 2021

			30.09. 2021				Comparison		30.09. 2020			
	Club	Int	DHc	Dhi	NSc	Nsi	Club	Int	DHc	Dhi	NSc	Nsi
ARG	90	24	1	0	0	0	20	9	1	0	0	0
AUS	191	128	2	14	16	2	76	59	2	9	16	2
AUT	31	5	9	0	5	0	1	4	7	0	5	0
BRA	41	47	0	0	5	0	40	26	0	-1	5	0
BUL	56	10	0	0	7	0	-5	7	0	0	7	0
CAN	50	2	13	2	0	0	34	-1	13	2	0	0
CRO	68	32	0	0	19	0	-32	16	0	0	19	0
CYP	20	1	16	0	5	0	0	0	16	0	5	0
DEN	24	3	3	0	6	0	21	2	1	0	6	0
ECU	0	23	0	0	0	0	0	1	0	0	0	0
ESP	545	571	159	200	79	10	15	67	80	46	79	10
EST	185	70	28	0	3	0	-26	68	9	0	3	0
FIN	518	68	160	14	62	1	-83	26	30	2	62	1
FRA	243	7	0	0	0	0	-8	1	-3	0	0	0
GBR	18	5	0	1	0	0	8	-1	0	-1	0	0
GER	314	100	134	13	26	0	48	9	75	13	26	0
GRE	353	100	331	63	67	0	66	28	160	20	67	0
HKG	1	0	0	0	0	0	-1	0	0	0	0	0
HUN	35	0	0	0	0	0	8	-1	0	0	0	0
ISR	43	0	0	0	3	0	-4	0	-3	0	3	0
ITA	506	445	19	17	21	1	58	145	-1	-17	21	1
JPN	30	2	30	2	0	0	-1	2	30	2	0	0
KOR	62	0	1	0	1	0	22	0	1	0	1	0
LAT	6	2	0	0	0	0	0	2	0	0	0	0
LTU	51	10	0	0	0	0	4	5	0	0	0	0
MLT	11	2	0	0	0	0	2	2	0	0	0	0
MNE	1	0	0	0	0	0	0	0	0	0	0	0
MRI	3	0	0	0	0	0	-6	0	0	0	0	0
NED	727	62	784	12	37	0	2	-3	26	8	37	0
NOR	846	15	900	0	877	0	96	13	146	0	877	0
PER	11	19	0	0	0	0	10	17	0	0	0	0
POL	37	54	23	28	27	32	-1	12	11	21	27	32
POR	58	27	11	9	7	0	14	10	9	-1	7	0
ROU	24	43	1	0	6	2	10	28	1	0	6	2
RSA	187	0	192	0	136	0	64	0	130	0	136	0
RUS	102	8	1	0	2	0	49	1	0	0	2	0
SLO	10	11	4	1	0	0	-4	3	0	0	0	0
SUI	128	1	0	0	1	0	-8	0	0	0	1	0
SWE	4	47	3	0	0	0	4	31	3	-2	0	0
TUR	48	0	0	0	0	0	-32	0	0	0	0	0
UKR	66	2	0	0	2	0	28	1	0	0	2	0
USA	703	289	53	21	31	4	464	216	19	12	31	4
	6447	2235	2878	397	1451	52	953	805	763	113	1451	52
		8682		3275		1503		1758		876		1503
						13460						4137

Certificate types:

Club: ORC Club

Int: ORC International

DHc: Double Handed Club

Dhi: Double Handed International

NSc: Non Spin Club

Nsi: Non Spin International

Green: Increase from 2020

Red: Decrease from 2020

ORC certificates and boats 2013-2021

