## Tempting

There is an unusual level of science behind a new IRC racer from Japan

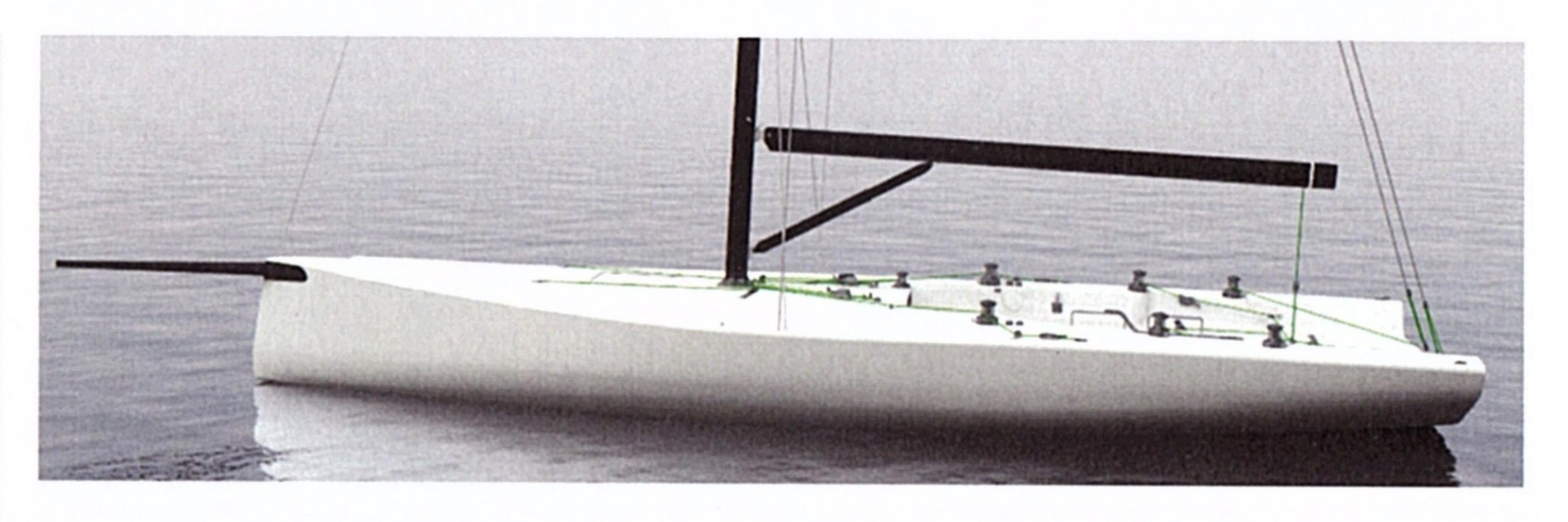
The K36-Samurai2 represents a comprehensive evolution in high performance yacht design – a platform shaped not only by advanced simulation and analysis, but also by real-world experience and competitive insight. The successor to the original K36-Samurai, the new model integrates the cutting-edge CFD workflows in which our office specialises, further structural optimisation and refined on-deck ergonomics to deliver a race-ready IRC/ORC yacht that is competitive across a wide range of conditions.

K36-Samurai2 is not an upgrade – it's a transformation. Lighter, faster and more powerful, she has been meticulously engineered. And while there are deliberate trade-offs for ultra-light conditions, across a regatta this is more than compensated for with performance gains in medium to heavy breezes.

The original K36 has demonstrated its strong performance, winning against bigger, more powerful IRC competitors with TCCs between 1.05 and 1.10. Over the past five years a fleet of five K36s has been racing competitively together, allowing us good insight into potential improvements. Meanwhile, the pitch has also been tilting to our advantage, with IRC rating trends making light displacement yachts of this size and type much more competitive.

The yacht has been developed in collaboration with SDK, with construction underway at Code Yachts in Hungary in partnership with Pauger, builder of the K36. Building on the foundations of its predecessor, the K36-Samurai2 design was driven by a rigorous CFD hull optimisation that evaluated more than 300 hull geometries.

Our CFD process involved simulating hull behaviour in both upwind and downwind configurations, across a matrix of wind speeds. However, we work far beyond the usual (simple) resistance or lift analyses – focusing too on yaw balance in relation to sail trim,



appendages and best LCG position at each wind speed, plus acceleration characteristics and dynamic performance in waves.

To translate CFD results into predictive performance, a robust VPP analysis was conducted, modelling aerodynamic interactions, matching hydrodynamic behaviour and hull stability across a spectrum of speeds, heel and leeway angles – evaluating not just peak speeds, but also controllability, yaw balance and sail trim dynamics, essential to delivering high real-world race performance consistently and over longer courses.

Manufacturing is entrusted to Code Yachts, renowned for precision composite construction and expertise in high-performance builds. Their craftsmanship ensures that SDK's weight targets and structural specifications are faithfully realised – translating digital intent into a physical platform with minimal compromise.

K36-Samurai2 isn't just an updated model. It blends solid science, a true racing spirit and lessons learnt on the water. A yacht born from passion as much as technology – for crews who know that success lies not just in the numbers, but in the nuances. Akihiro Kanai, founder of AC Technology, MSc Stanford, California (aeronautics & astronautics), MSc University of Tokyo (naval architecture) architecture/ocean engineering), PhD Tokyo (naval architecture)

	Custom	builds	
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BOAT	LOA	DESIGNER	BUILDER	LAUNCH	COMMENTS
5.5 Metre	10.1m	Dave Hollom	Composite Craft	2024 onwards	Faster in a breeze. Hollom's latest 5.5 just took a second world title
AC40	12.12m	Team New Zealand	McConaghy, China	2023 onwards	The ultimate one-design but demand looks limited to Cup groups (sad)
Musa 40	12.18m	Gianluca Guelfi	Sangiorgio Marine, Genoa	2023 onwards	Still an all-round Class40 of choice. Still knocking them out (at over one million euros!)
Raison 40	12.18m	David Raison	Gepeto Composites	2025	'Faster downwind' New 40 for Jonas Gerckensi
Dibley 40	12.18m	Kevin Dibley	Carbon Developments NZ	2025	New Zealand joins the Class40 with a sensible but pretty futuristic offering
Lift40-V3	12.18m	Marc Lombard Yacht Design	Gepeto Composites	2024 onwards	Solid performer (especially under Yoann Richomme!). Rarely out of the top five
Mach40.5/6	12.18m	Sam Manuard	JPS Productions	2024 onwards	Earlier planing plus improved reaching pace compared with the V5. Seven sold
MaX40 V2	12.18m	David Raison	JPS Productions	2023 onwards	The latest series-built option from JPS and David Raison
Pogo 40S4 V2	12.18m	Guillaume Verdier	Structures Shipyard	2023 onwards	Still super-competitive and relatively affordable – but production will probably soon cease
Agité 40	12.18m	CT Mer Forte	Mer Agitée	2025	More robust Class40 from Michel Desjoyeaux with round-the-world ambitions
X-Yachts XR	12.74m	X-Yachts Design	X-Yachts	2025	X-Yachts return to the sharp end of the racing scene and with serious attitude
Lift 45	13.88m	Marc Lombard Yacht Design	SR Structure, UK	2025	Superb build. This high-performance cruiser-racer is nearing completion outside our office
Lyman Morse 46	13.95m	Kevin Dibley	Lyman Morse	2022 onwards	A sailor's yacht. Cold-moulded Douglas fir/Western red cedar. Yacht design is back to art
Vismara V48 Vintage	14.6m	Vismara/Villani	Vismara Marine Concepts	2024 onwards	Very classically modern retro styled with the rig (almost) hanging off the back Ultim-style
Dazcat 1495	14.95m	Dazcat Design	Dazcat	2023 onwards	A British yard with a lot to shout about. Fast exciting boats to push hard, roomy when not
SailGP F50	15.2m	Sail GP	Sail GP Technologies	2024 onwards!	Up to no12 with maybe a couple more in the pipeline. Now based in Southampton
RP52	15.85m	Reichel/Pugh	Sail GP Technologies	2025	All-carbon high-performance push-button racer-cruiser from the ex-Core Composites team
Wallyrocket 51	15.85m	Botín Partners	Wally Yachts	2024 onwards	All eyes on Wally's first ever Admiral's Cup racer. Lighter than a TP52. Including water ballast
IRC 52	15.85m	Botín Partners	Sail GP Technologies	2025	Full-on IRC racer. TP52 with the sharper edges knocked off
M&M 55	16.7m	Morrelli & Melvin	Schooner Creek Boat Works	2025	Fast powercat for 49 passengers for whale watching in Maui. Sounds punishing
Mills 58	17.6m	Mills Design	King Marine	2026	TP52-frightener. Very light at nine tonnes dry, IRC/ORC racer with water ballast
Imoca 60	18.28m	Verdier	Carrington Boats	2026	With that breathtaking third place in the 2024 VG, on one foil, Sébastien Simon has earned it
Imoca 60	18.28m	VPLP	Duqueine Atlantique	2025	With help from Airbus A (genuinely) fascinating green project is back on track
Imoca 60	18.28m	Verdier, Koch, Finot, VPLP	CDK (3), Multiplast (2), Persico	2025/26	Too many to list them all but new Imocas on order for VG 2028 break the magic 10
Wallyrocket 71	21.4m	Botín Partners	Wally Yachts	2025	Wally Yachts' first Maxi72-rival <i>Django</i> is racing now. Very light and again with water ballast
Extreme H20 PB72	21.8m	Morrelli & Melvin	Persico	2025	Luxury high-performance full-foiling cat with American Magic handling development
IRC82	25m	Judel-Vrolijk	King Marine, Valencia	2025	Dangerously seductive-looking new maxi-sized racer-cruiser for European regattas
SW100X	30.53m	Farr Yacht Design	Southern Wind Shipyard	2025	Getting bigger and looking (even) better. And they make for the best pix too
Gitana 18	30.53m	Guillaume Verdier	Gitana/Multiplast/CDK	2025	The new Gitana foiler is nearing completion – just a gazillion complex systems to go
Ferrari V-100	30.6m	Guillaume Verdier	Persico/Soldini/Ferrari	2025/26	100ft foiler, yadayada and increasingly dubious. We hope this red beast does materialise
Wally 110	34.2m	Judel/Vrolijk/Wally	Wally Ferretti Group	2025	The second example of this luscious fast cruiser will launch late 2025
Project 404	59.7m	Malcolm McKeon	Royal Huisman	2025	Aluminium hull, carbon up top and a sloop (because one is always cheaper than two)