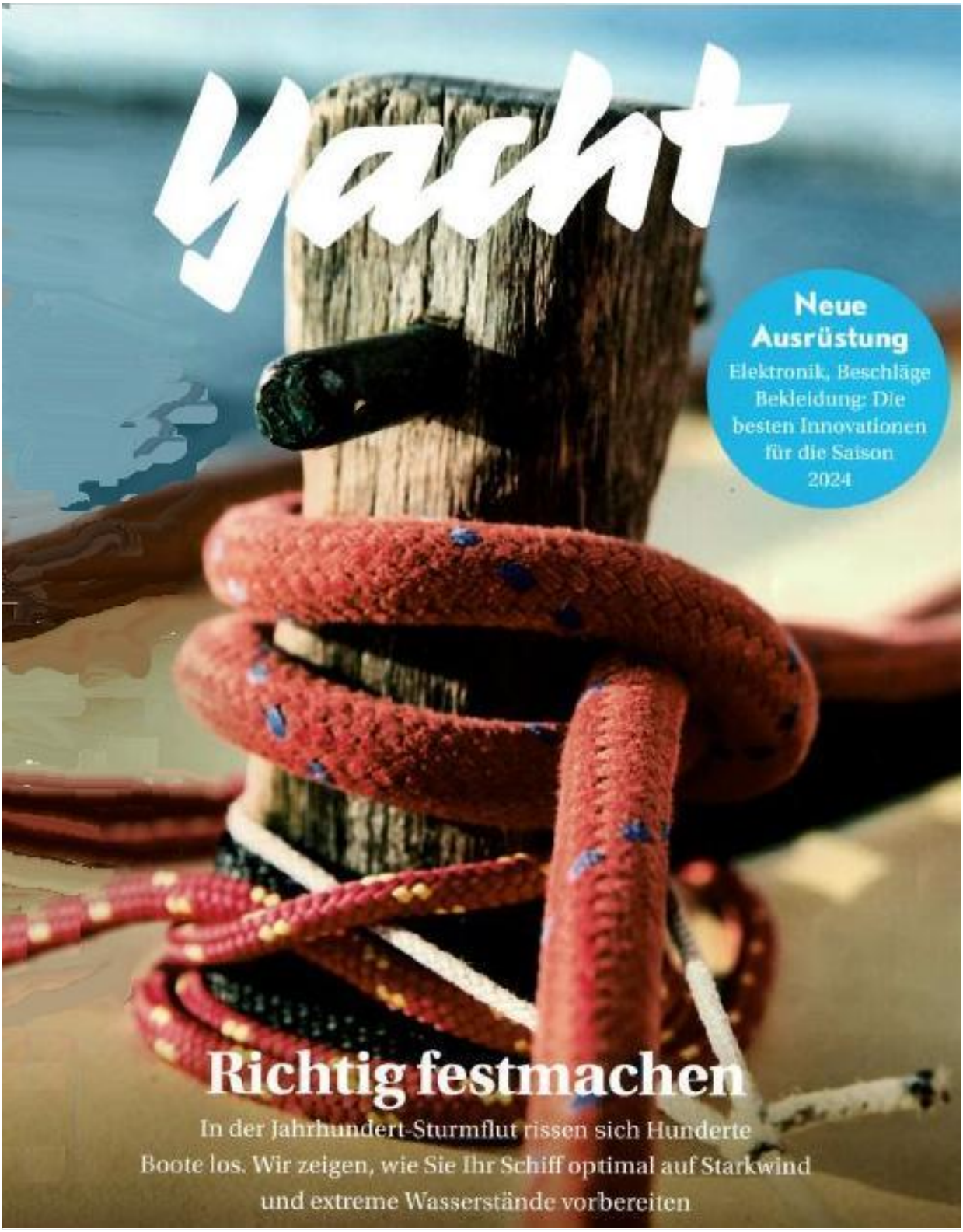

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“FLANEUR”….. how a modified series trimaran became a racing machine

Andreas Lindlahr
December 17, 2023

Editors Comment: With clarification from the skipper and support of the author, this is a free translation of an article originally published in German in the sailing magazine YACHT Jan 2024. This version is dated April 2024.

12 images
Photos: YACHT/ Andreas Lindlahr … *with construction images by Andre Baetz*

In short, take a *series trimaran, laminate a new wingmast, beams and floats in carbon, plus design and install stabilizing C-foils.* The ultimate package for maximum sailing fun in a small, affordable boat format is then ready.

Topics in this article: *How to make a good trimaran even faster. Here is how a light multihull can be coaxed to sail faster than the wind.*

What sets a 27.5-foot trimaran apart and makes it a boat worth considering? *Its sailing characteristics,* that have been much improved after numerous modifications, *its owner,* who boldly and creatively tackles the most demanding challenges in boat building, and the fact that the *owner can sail 900 nautical miles non-stop* in ocean regattas alone with the tuned version. ***André Bätz*** not only redesigned and built the rudder, the daggerboard and the side hulls of "*Flaneur*" in carbon fiber, but also built a new carbon fiber wingmast and additionally integrated two large C-foils into both floats - first in the old amas and then into the new, self-made ones, both of carbon .

According to Bätz, from around ten knots onwards there is a clear, positive effect from these changes, with an increase in speed by a whopping two to four knots, depending on the course. On the wind the foils are only half extended. *"This allows me to sail three to five degrees higher upwind, though it's hard to estimate exactly,"* says Bätz. "On a reaching course and at around #4 Beaufort, 20 knots are now possible". Depending on the angle setting of the foil, the bow of the leeward hull lifts almost completely out of the water, which also significantly reduces the risk of digging in, and makes the boat not only significantly faster, but also safer.

Such multihulls can easily reach speeds **greater than true wind**

I test rode with Bätz's on version 3.0 of his **"Flaneur**" not far from Svendborg shortly before the largest single-handed race-fleet in the world, the ***Silverrudder***, in which this 'amateur pro' boat builder was about to take part. In the early morning fog we glide through the water with the tri almost silent, even though the bows are clearly moving through the water. A large, circular foil curls out of each of the ama decks. The sun slowly works its way through the fog on this pleasant morning. The beautiful late summer sun is warming the water again, while the past starry night sets its cool air against it, bringing wafts of fog between Gelting and Sønderborg. The black sails blend well with the gray of the air, making everything look like a black and white movie. The main sail stands perfectly on the shiny white rotating wing mast, and although there is

hardly any visible wind, the small trimaran accelerates effortlessly to seven or eight knots.

The tiller extension fits comfortably in the hand and “Flaneur” reacts to the smallest impulses. In order that skipper Bätz, (the single-handed pilot from the Rhineland) can have the freedom to trim, navigate and rest, the push rod of the Raymarine Autopilot is installed neatly in a kind of mini-oarlock, close at hand by his knee, so it can easily be disengaged and engaged with the tiller. Because of the rotating mast, the autopilot does not drive according to the apparent or true wind, but according to the compass.

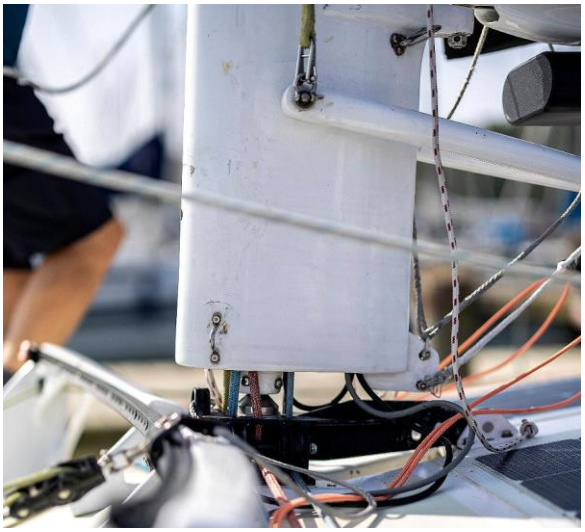
In order to keep a clean, efficient flow on the sails at relatively high speeds, the helmsman must act very sensitively and constantly compensate. This is the most efficient way the Tri can create its own wind, build up speed and maintain it. Sailed well, many multihulls can then reach speeds greater than the true wind. The prerequisites for this are low resistance, low weight and enough finely tuned sail area.. The high geometric stability of a Tri, combined with low weight and little water resistance, gives it wings.

One suspects that greater forces act on “Flaneur” than on a series trimaran

When looking for a new boat, right from the start ***André Bätz*** wanted to find the optimal boat with much potential for tuning. The ideas and laborious purchasing and production process were followed by many adventures in demanding regattas such as

the *Silverrudder* and the *Midsummersail*, which this engineer initially undertook with minimal race experience, but a lot of enthusiasm and courage...

Bätz started his sailing career at the age of five, but the namesake for his trimaran project "Flaneur", was a heavy cabin cruiser that his father had built for excursions on the Lower Rhine with his family. For Bätz, that first sailing experience gave him a great incentive to do things better and faster at some later date. Bätz's wife supports him taking four such trips a year, "I call it the family solo" he says,. Although the adult children come along on occasion, it is usually deemed too wet or too spartan for them.



Bätz uses a trim line to adjust the wingmast to an optimal rotation angle, an angle relative to the boom depending on the course, until the mainsail 'telltales' lay perfectly on both sides of the sail. The effect of this is almost like an accelerator pedal. Baetz adds *"But forcing the mast angle in the other direction, I can actually create a stall or reefing effect."* As an engineer with a good knowledge of fluid mechanics, Bätz knows what the profile of his sail should be.

His mainsheet tackle is very strong for a 27 foot boat and one suspects that greater forces are at work here than on a series trimaran or monohull. In order to avoid the so-called pitch-pole or a capsize, his mainsheet can be easily released with a jerk upwards, even under pressure. .But further forward, mounted under the boom. there is an added device that houses a device to release the mainsheet in an extreme emergency, using a remote control worn around his neck when conditions might require it. *[This is a prototype **Thump'R** created by SeaSafetyTech]*

'Flaneur' is a fast boat, yet of manageable size and budget

As I write, Bätz is already looking forward to the *Silverrudder*. He tests the latest modifications to his ***"Flaneur".*** In full safety gear, the 62-year-old nimbly climbs around on the trampoline and prepares one sail after the other. Gymnastics on the slender beams and hulls requires both care and practice.

After experiences on yachts during Mediterranean trips plus berth-mode trips in the English Channel, he became motivated by single-handed racing heroes like Alex

Thomson. Bätz long dreamed of a boat with high speed potential, so the search for the right boat began. He browsed the Internet and came across various home-made versions by the late designer, *Ian Farrier* that showed potential. As a student in 1969, the New Zealander Ian, converted a used 30-foot Tri and launched his first prototype, followed by small plywood tris using his unique folding system that he then patented. Ian Farrier's designs soon became well received worldwide, creating designs for both home-builders and production boatyards, such as Corsair, initially in California, USA. Bätz kept looking for an affordable used Farrier that initially at least, would have enough performance to handle the challenges of the Rhine with its current.

Just as the Australian Farrier had done 50 years earlier, Bätz had also come to the conclusion that a trailerable trimaran was the best solution. After all, Bätz's place of residence (Hoppers) is in the middle of North Rhine-Westphalia so all significant sailing areas are quite far away. His search for the right trimaran drove the engineer all over Germany, the Netherlands, Belgium and even took him to southern England.

The idea of owning a fast boat of manageable size and budget and using it to explore remote waters continued to fascinate him. After an intensive search, Bätz finally discovered an F82R in Holland. Just weeks later, Bätz tried out gennaker sailing on his own on the Ijsselmeer and was immediately excited by the impressive acceleration. But as a technician. he felt there were still several things that could be improved. He had already read and learned too much to be content with its raw state.

Bätz and “Flaneur” – a kind of sailing symbiosis

Bätz now wants to get the most out of this delicate carbon fiber *triptych* while on our test sail so tries out different sails one after the other. He half disappears under a pile of colorful cloth and clears the gennaker. We are moving fast but still not quite enough to fly on the foils. But more and more sun rays penetrate the fog. The wind is still a long time coming, but it's still fun. The boat feels light and eager to go.

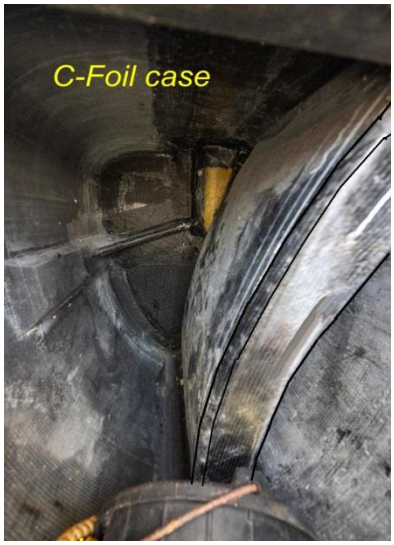
At the start of the Midsummersail 2023, solo sailor and boat builder Wolfram Heibeck whispers aboard his “Black Maggy”, a fast boat he lengthened especially for the Silverrudder: *“That’s André Bätz with his hyper-tuned tri, he can really fly with this thing. If the wind is right, it will wipe everyone away!”* Bätz and his “Flaneur” create a kind of sailing ‘symbiosis’, the coexistence of two creatures of different breeds yet supporting each other for mutual benefit. André Bätz continually updates his boat in line with his ever-growing sailing expertise, constantly adapted to his increasing demands in terms of speed and handling, leading ultimately to his Turbo-version with C-foils and a taller wingmast, both now made of carbon fiber.

Bätz takes off again for a new season and finally, he and his “Flaneur” record success, with his name now at the top of the results lists alongside local heroes and speed junkies like Wolfram Heibeck or Mathias Müller von Blumencron. With plans from Ian Farrier and Mike Waters, he had significantly upgraded his “Flaneur”. First came a new retrofit rudder blade, the position of which moved aft as the stern was extended. Then came an improved centerboard, and Bätz was further inspired by the IMOCA’s to retrofit the existing side hulls with stabilizing foils.

The new Amas now only weighed 52 kilograms each

In the heated workshop with direct access to the living room, Baetz built the two floats, C-Foils, daggerboard and rudder blade, using CF and the vacuum infusion process

After sailing with the new foils in the original amas, Bätz realized that more volume would help the boat to lift, so new lightweight, high volume amas of carbon fiber were developed, with the foil boxes having a more streamlined exit. New foils in old hulls also didn't make much sense, so new floats were built during the evening hours. They only weigh an incredible 52 kilograms each. The new ama bow was intended to be a mild wave piercer with improved deck design so that the hulls could emerge from the waves without much loss of speed.



Finally, the longer, self-built carbon fiber wingmast by designer Mike Waters, would add to the numerous improvements and a new ability to fly would soon be demonstrated.

When building the side hulls, a female mould was constructed using the Farrier principle with spaced-out batten strips. Curved foam panels were then placed transversely into the mold under the influence of heat, and later the inner laminate was produced using vacuum infusion. Then it was time to fit the foil boxes and the forward bulkhead.

Once the two port halves were finished, the mould sections were reversed and the starboard halves followed, After the shell of the two hulls was assembled together, the external laminate was applied and the finish completed by fairing with filler and painting. Each ama hull now weighed 23 kilograms less than the original production version.

Big goal: the ‘Silverrudder’

The *Silverrudder* was one of the biggest drivers of Bätz's thirst for adventure. It's amazing the impact this regatta can have on seemingly ordinary people. ‘Yesterday’ he was content and doing fine as a process engineer in the Rhenish region, but ‘today’ he is an ambitious ‘regatta nut’, a driven person who invests a lot of time and quite a bit of money to ‘torment himself and his boat’ solo around a Danish island on windy and wet cold nights. He will be surrounded by currents, shoals and hundreds of adrenaline-intoxicated family men as well as top-class sailors on a wide variety of yachts and multis. Most will also be tired, hungry and face the constant risk of an unpleasant encounter. But it’s a great challenge and fun nonetheless. Bätz has already suffered one or two scrapes while sailing, including a serious knee injury that forced him to take a longer break. Of course, this time does not go to waste. He carefully documents all his experiences and continues to search tirelessly for new performance perks.

André Bätz jokingly calls his customized speedster *“my special wind measuring device.”* We drop off a bit and raise the screecher, a neologism from the multihull world, a cross between a reacher and a gennaker. Either one is set on the extended bowsprit. But for its use, no usable breeze has yet established itself, but the foils remain in place.

Nevertheless,“Flaneur” achieves a speed of around seven to eight knots with approximately the same or sometimes even less true wind speed. Faster than the wind? … I can sense what potential is lurking here and just waiting to be used.

Simple and functional interior on “Flaneur”

The operation of the trim lines and halyards is simple and classically distributed throughout the structure. No high-tech here, but everything is centrally located and easy to reach with an outstretched arm.

Below deck it's relatively spartan, simple and functional. Yet in contrast to out-and-out racers like “Black Maggy”, Flaneur looks like it came from the Rococo period on the inside. The toilet is located right next to the companionway, essentially as a multifunctional seat. Intimate space? For what reason? After all, he is alone at sea and needs quick access to the cockpit. The very basic alcohol stove on the main bulkhead owes its existence solely to the fact that it is light. A lonely plastic plate, held in place by rubber straps, waits for a ladle of food, the water tank is a faded canister with a hand pump. Only the wooden *schapps* (glass holder) is a luxury exception to the otherwise simple interior.

From the outset, Bätz prepared himself for the most difficult discipline in sailing .. being single-handed over long distances. The *Silverrudder*, the *Lyø Escape* or the 900 nautical mile non-stop regatta *Midsummersail* being targeted. Sailing solo on long distances races generally introduces a touch of extreme sailing. Bätz always needed to gain more experience with his “Flaneur”, because sailing on such a spartan sports boat is different than sailing as ‘a hand on a comfortable bunk-boat in the Mediterranean’ or even during military service on the “Gorch Fock” training ship. Defeats are part of learning, but Bätz has kept going.

“Flaneur” hunts for titles

Heibeck's one-off "Black Maggy" and the modified series trimaran "Flaneur" - are two very different boats, but both hold serious potential for the treasured title of “Line Honors” or “First Boat Home”. Exhausted but satisfied, after seven days and 900 plus

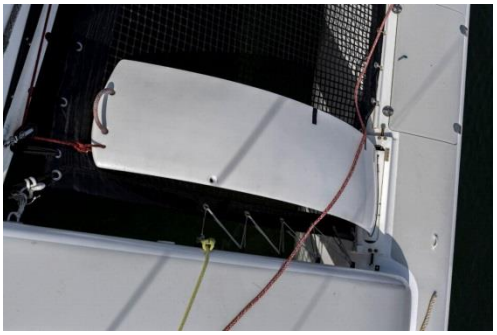
nautical miles, Bätz reached the finish line at *Midsummersail '23* for the second time in his third attempt, passing by the famous yellow Finish Marker … the buoy the most far north in all of Sweden. Not the record time he achieved in 2022, but seven days of non-stop fighting in light winds. After the finish and awards, his sister & partner picks him up from there with the trailer. Luckily, in 2023 he doesn't have to sail back like he did last year. Many other participants still do as their boats are not trailerable.

He had done it again: third in line honors this time, but again first solo finisher and first multihull.

Later in 2023, Bätz received his Finisher Shirt in Svendborg for a second place finish in the Multihull small class at the *Silverrudder*. Now, his "Flaneur" is already folded up on the trailer again. After a short rest, we head back to the slopes of the Rhineland.

While driving home, Bätz already has his thoughts turning to further improvements to his trusty boat. He now plans to save more weight by recreating even the toilet & wash bowls in carbon., plus adding streamlining to his folding system that sometimes drags through the wavetops .. and perhaps even a new design for the daggerboard if time will permit..

The foils: high-tech meets do-it-yourself



Bätz, always the engineer, developed his own method for building the foils and moulds himself. After the originally planned CNC milling manufacture proved too expensive, Bätz built a stable, distorsion-resistant semicircular plug for the mold. He bought a truck-load of 50mm thick poplar multiplex panels. These were cut into semicircle segments and glued together to form a wide half-ring, from which he milled out the shape using a manual milling device.

The wooden support for the hand milling machine was mounted on a fixed pivot point with a centering screw and could be moved by hand in a semicircle along the plug. With a small grin, Bätz explains: "I now only had to run around the semicircle some 500 times with the milling machine in my hand until the contour of the foil top was finished. That took two days." The foil plug was then painted and he was then ready for production of the negative (female) mold. The foil top surface made of GRP was created using the vacuum infusion process. The foil underside mold was then made using the same process. Finally, the two halves were laminated using vacuum

infusion and bonded together. Bätz continues: “This is perhaps not yet the most streamlined shape; as an elliptical tip with a consistent profile would be better, but initially, I didn’t know quite how to make it.” *[Ed: this was solved 2 years later & elliptical tips became a reality]*

A sophisticated C-Foil,- where HighTech meets Do-it-Yourself

The mast: self-laminated without molds

The construction method of the rotating wingmast built for “Flaneur” was uniquely conceived to not require any traditional molds. This means that each mast can be individually adapted to the requirements of a boat and can then also be manufactured cost-effectively. “Flaneur’s” mast was built to specs. defined in a detailed Manual produced by the designer, and in summary went like this. The main dimensions and required positions of the spreaders, halyard sheaves and the gooseneck fitting were first marked out on a flat 13.5 meter long laser-aligned table. Bätz then laminated several flat mast-length strips of specific carbon fibers on the table. This included a narrow sandwich strip that would become the heart of a small ‘H-beam’. Once cured, wider

strips were lightly curved and assembled to the web to form the core of the mast tail, while a thinner laminate was bent and clamped in place to form an elliptical nose. Finally, additional biaxial and unidirectional carbon fiber layers were progressively added for the required strength and stiffness, until the necessary wall thickness of the diamond-stayed section was achieved.

This mast was created according to specs, and procedures by the naval architect, trimaran specialist Michael Waters, originally from England (now Canadian), who developed and authors the website www.smalltridesign.com which is dedicated to all aspects of trimarans up to 10m. Waters started sailing Crowther trimarans in the '80s but later purchased the 25.5ft prototype trimaran *"Magic Hempel"* in 1990 and sailed her for 16 years in the United States. This break-through design was the first Dragonfly product from the Quorning boatyard in Denmark and not only won its class in the legendary *Round Britain Race* in 1985, but also the Award for "the Fastest boat for its Length", being once timed by radar at 25.4kts.. This caused quite a stir in the world of multihulls and laid the foundations for what is now one of the most successful trimaran boatyards in the world, alongside Corsair USA – now in Vietnam.

Technical data of the "Flaneur" with new rig

- **Designer:** Ian Farrier
- **Year of construction:** 2007
- **Hull length:** 8.40 m
- **Waterline:** 8.20 m
- **Width:** 6.10 m
- **Draft:** 1.75/0.3m (with/without DB)
- **Weight:** 1.1t
- **Mainsail:** 29.0 m²
- **Jib:** 14.9 m²
- **Gennaker:** 67.0 m²
- **J0:** 27.0 m²
- **Screecher:** 27.0 m²
- **Sail carrying number:** 5.7

Technische Daten

Konstrukteur	*Designer*	Ian Farrier
Baujahr	*Year*	2007
Rumpflänge	*Length OA*	8,40 m
Wasserlinie	*Length W.L*	8,20 m
Breite	*Beam*	6,10 m
Tiefgang	*Draft* 1,75/0,3 m (mit/ohne Schwert)	
Gewicht	*Weight*	1,1 t
Großsegel	*Mainsail Area*	29,0 m²
Fock	*Jib area*	14,9 m²
Gennaker	*Gennaker*	67,0 m²