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Tatami

BUILT IN DIFFICULT CONDITIONS, DURING EGYPT'S RECENT REVOLUTION, THE WAVE-PIERCING CATAMARAN *TATAMI* STANDS AS A MONUMENT TO ONE MAN'S VISION AND DETERMINATION

words and photography:
Ivor Wilkins

LOMOcean designer Andre Moltschaniwskyj sketches *Tatami*'s lines on the blackboard, which separates an informal children's area from the galley



Launching a new superyacht in the midst of a revolution is, by any definition, a step outside of the ordinary. Yet, as Egypt erupted in sometimes violent political turmoil during the Arab Spring of 2011, the ancient port city of Alexandria witnessed the launch of the 24 metre composite motor yacht *Tatami*.

Just about everything to do with this project was extraordinary – not least the fact that it was built in a vinyl tent on broken ground and spawned the almost simultaneous launch of a similar vessel built in aluminium as a port authority fireboat.

Further stretching conventional boundaries, both are futuristic wave-piercing catamarans. In the context of Egypt's customary maritime stock – anything from timeless wooden lateen-sail feluccas to rugged steel work boats – they resemble visitors from outer space.

Both are testament to the vision and modernising zeal of Egyptian marine industrialist Philippe Maari, who combines a prodigious respect for the region's history with a strong commitment to helping forge a contemporary future.

Glancing the short distance across the Mediterranean, he observed Turkey's rapid advances in the superyacht arena. Depending on whether Egypt chooses modern industrialisation or radical fundamentalism, he sees potential for it to follow a similar path. To demonstrate his faith in this vision, Maari commissioned New Zealand-based LOMOcean Design to produce lines for an epoxy, wood, E-glass and carbon wave-piercing catamaran.

Philippe Maari is a second-generation entrepreneur in Egypt. His father and uncle were both involved in shipbuilding enterprises until the Timsah shipyard founded by his uncle, Roger Maari, was nationalised in the 1960s.

Philippe's father Gabriel founded Mapso, a company with a division specialising in the supply of marine equipment, particularly propulsion systems for tugs, ferries, fire boats, coastguard vessels, Nile cruise ships and the like.

Mapso also supplies 'completely knocked down' (CKD) kits to shipyards. These contain all parts for the final product, typically the design, pre-cut steel or aluminium sheets and extrusion, propulsion system and all machinery and equipment. It places naval architects, project managers and engineers into a yard to help direct construction.

Innovation is part of the Maari DNA. Philippe has an appetite for new concepts and technologies. 'All the boats we have done have tended to be unusual,' he says. 'We have supplied over 300 Voith Schneider propeller units into the Egyptian and Middle Eastern markets, which makes us the biggest customer for these units worldwide. We introduced aluminium construction and the first HamiltonJet propelled boats in Egypt. We are into new markets and products and research and development.

'I love it when somebody says it can't be done. That almost always means it will be done.'

To propose building a wave-piercing composite catamaran virtually on a beach would qualify as such a challenge. To help achieve it, Maari brought in experts from New Zealand to supervise the composite construction and high quality stainless steel fabrication.

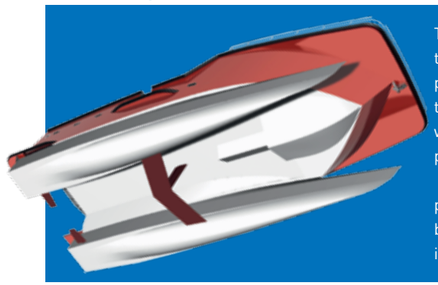


Although *Tatami* has attentive crew, the atmosphere is one of informality, including the help-yourself hot drinks station (above) and sundeck forward (right). Just aft is the wheelhouse (top), which, in contrast to *Tatami*'s whimsical design elsewhere, is all business



PHILIPPE MAARI

Fast improvement: how LOMOcean perfected its assist foil



The first assist foil LOMOcean Design applied to one of its vessels was a retrofit to a 14 metre powercat called *Solitaire*. 'This was a 30 knot boat that went very well and everybody was delighted with it, including the owner,' says LOMOcean co-principal Andre Moltschaniwskyj.

'We investigated the potential for improving the performance of *Solitaire* using an assist foil, in the belief that sooner or later we would be using them in other projects.'

The high priest of assist foils applied to catamarans is Professor Gunter Hoppe of Stellenbosch University in South Africa. LOMOcean had discussions with Hoppe before venturing into the subject, taking a first principles approach.

'What we have done looks fairly similar to what Professor Hoppe would do,' says Moltschaniwskyj, 'because upon optimisation, the options for solutions inevitably converge at the same place. Many people contemplating retrofitting an assist foil on a catamaran are not in a position to design foils and calculate lift. But fundamentally it is a relatively simple matter of establishing the lift and drag coefficients for various angles of attack and applying basic fluid dynamics design principles.'

Starting with available research from the National Advisory Committee for Aeronautics (NACA), Moltschaniwskyj came across a technical paper from the 1960s discussing plano-convex foils – the favoured foil section for this application.

These are simple, easy to manufacture foil sections with a curved, segmental upper surface and a flat lower plane. This was the basis for the LOMOcean foil. Using a local custom-composites component manufacturer to fashion a carbon fibre foil to its design, it was tested on *Solitaire*.

'The fuel consumption reduced by 20 per cent at 25 knots and there was a noticeable improvement in ride quality,' says Moltschaniwskyj.

The Egyptian fireboat was the first designed to include a foil. 'The boat is the better for the foil. In the case of the fireboat, the foil is an aluminium unit, but all our others have been carbon fibre.'

In the case of *Tatami*, she did end up overweight due to quite significant changes to the post-design equipment specification. She is set to have a carbon fibre foil retrofitted and the calculations indicate this will generate 40 tonnes of lift at 25 knots, raising the bridge deck a further 500 millimetres above the water surface at that speed.





Tatami **defies the pretensions of some interior treatments with an exuberant, rebellious sense of humour, expressed in the red kitchen chairs that look as if they were pinched from Grandma's cottage (top), and the foosball table that doubles as a coffee table (above)**

Normally LOMOcean designs a boat of this size and complexity in discrete sections, built separately. However, concerns about achieving the accuracy required in a somewhat primitive environment meant building the hulls and bridge deck as a single structure. Egypt is not yet set up for the construction of superyachts, so boatbuilding takes place in very basic circumstances. For *Tatami*, although the build took place under known and established conditions, they would be considered far from ideal by contemporary superyacht builders.

In the absence of a level floor, a steel platform was made to maintain a reliable and stable reference base for the build. Construction proceeded at an interrupted pace as Maari occasionally had to divert resources from this personal project to commercial undertakings.

One of these was the supply of the aluminium version of *Tatami*. It was purpose designed on a similar hull platform as a high-speed fireboat for the port of Damietta, located on a branch of the Nile between Alexandria and Port Said.

What began in political stability ended as the Arab Spring plunged the region into turmoil. Maari was in France when the revolution erupted. As planeloads of Egyptians and expatriates quit the country, Maari bucked the trend. 'The planes leaving Egypt were full,' he recalls. 'There were 12 passengers on my flight back into the country.'

In Cairo's Tahrir Square, euphoria and death played out through the February 2011 uprising, as millions demanded the overthrow of the regime of president Hosni Mubarak. Night after night he joined the demonstrators, capturing it on film, listening to debates and absorbing developments.

Nine months later, in the week leading up to Egypt's post-revolution elections, death and protest revisited Tahrir Square and other major centres. By then, Maari's *Tatami* was relocated in Turkey, while the fireboat it spawned was under armed guard in Alexandria, its delivery delayed by the political turmoil.

Ezzat, as the fireboat is named, is an intriguing variation on the wavepiercing theme. LOMOcean has adapted the smooth lines of its pleasure boat versions to create a purposeful look, all hard angles and business.

Built in aluminium and appropriately finished in fire-engine red, *Ezzat* is powered by four Scania engines through HamiltonJet units. In mid-load state, it has exceeded the 25 knot brief.

LOMOcean introduced the wave-piercing concept to the superyacht fleet with its 26 metre award-winning *Ultimate Lady* in 1998. Since then, the firm has developed the form with the addition of an underwater foil. Located just forward of amidships in the tunnel between the two demi-hulls, the foil is a plano-convex shape set at a fixed angle.

'The effect on ride and efficiency is significant,' says LOMOcean co-principal Andre Moltschaniwskyj. 'With the fireboat displacing just under 85 tonnes, the foil supports about 40 tonnes at 25 knots.' (See page 100.)

Certainly, as the boat punched out of Alexandria Harbour it coped admirably with a two metre jumbled sea.



The ride was smooth and efficient, managing without fuss even at speeds over 25 knots. The wave-piercing demi-hulls support a central monohull bow that mostly flies above the water, but provides a dampening effect in waves.

Built and finished to a high commercial standard, the *Ezzat* project typifies Maari's determination to help modernise Egypt's maritime fleet. *Tatami* was created with a similar intent. News that the Egyptian Navy was looking at composite boats spurred the determination to establish a track record in this method.

As a first step, however, it was decided to make the transition with a cedar core version, as local builders were at least familiar with working in timber.

On the way to the airport to visit *Tatami* in Turkey, I saw crowds streaming towards the square, awash in a sea of waving red banners. Beyond the square, the city went about its business; the haunting sound of muezzin calling Muslims to prayer drifted over the drone of traffic.

Later that night, across the Mediterranean in Marmaris, Turkey, *Tatami* stood out as one of the larger motor yachts in the crowded marina.

Next morning, as dawn light washed over the town and surrounding mountains, *Tatami* slipped her moorings for a three-day 250-mile cruise east to the city of Antalya. A mix of conditions tested the boat's seakeeping.

These wave-piercing designs slide along happily and very efficiently at 11 to 12 knots, quiet and smooth and dead level, with no sense of trying to climb out of a hole in the ocean. Or they can sprint along at 20-knots plus, equally untroubled, although the motion is more lively and there may be the occasional bang under the bridge deck.

In open water, 11 to 12 knots was the sweet spot, allowing guests and crew to walk about freely, or enjoy meals without clutching at the crockery and glassware.

The big multihull advantage is, of course, volume. These boats are TARDIS-like; the downside is the temptation to fill every space. *Tatami* came in over her design weight, although following the foil's success on the fireboat, she is scheduled to have one retrofitted, which LOMOcean Design is confident will generate 300 to 500 millimetres of lift at speed, reducing deck slam and increasing efficiency.

Tatami offers a massive master suite with private deck on the wheelhouse level, with VIP guest suites on the main deck and a further two cabins in the port demihull.

One is a bunkroom for kids; the other is a double, with the attraction of a glass panel in the floor for underwater viewing. Crew quarters are in the starboard demihull.

Relaxing in the saloon, Maari extends his arms and twists. 'I love the fact that, unlike a monohull which only has a fore and aft axis, these designs give the interior two almost equal axes,' he says. Space and light are a huge bonus.

The décor, with its limewashed floors, shiplap ceiling panels, antique rugs and eclectic furnishings, is akin to a beach cottage. Even young kids can feel totally at ease.

'The interior is indeed meant to be like a beach house: fun, informal, activity oriented,' says Maari. 'Some points of the brief were to avoid any sign of opulence; make kids comfortable to walk in and sit with wet swim trunks; and to remind my dad of his childhood by the seaside in Ras El Bar, Egypt: a middle class summer resort in the 1950s and 1960s, erected of straw mats (or *tatamis*, in Japanese) at the beginning of the summer and pulled down after the season.'



***Tatami*'s multihull design offers plenty of volume; it's tempting to fill it, but elegant restraint has created an atmosphere of space and light, even in the dining areas (top), the large master suite (above) and the VIP suites (see next page), of which there are two on the main deck**

Where's the fire?



PHILIPPE MAARI

***Ezzat*, *Tatami*'s near twin, was constructed at about the same time for the port of Damietta, as a fireboat. Here, in Alexandria Harbour, she tests fire-fighting pumps that can project 1.2 million litres of water per hour to a range of 120 metres. Built of aluminium, *Ezzat*'s design brief was for lightship performance of 25 knots, but she has exceeded this in sea trials with 27 knots in mid-load state**

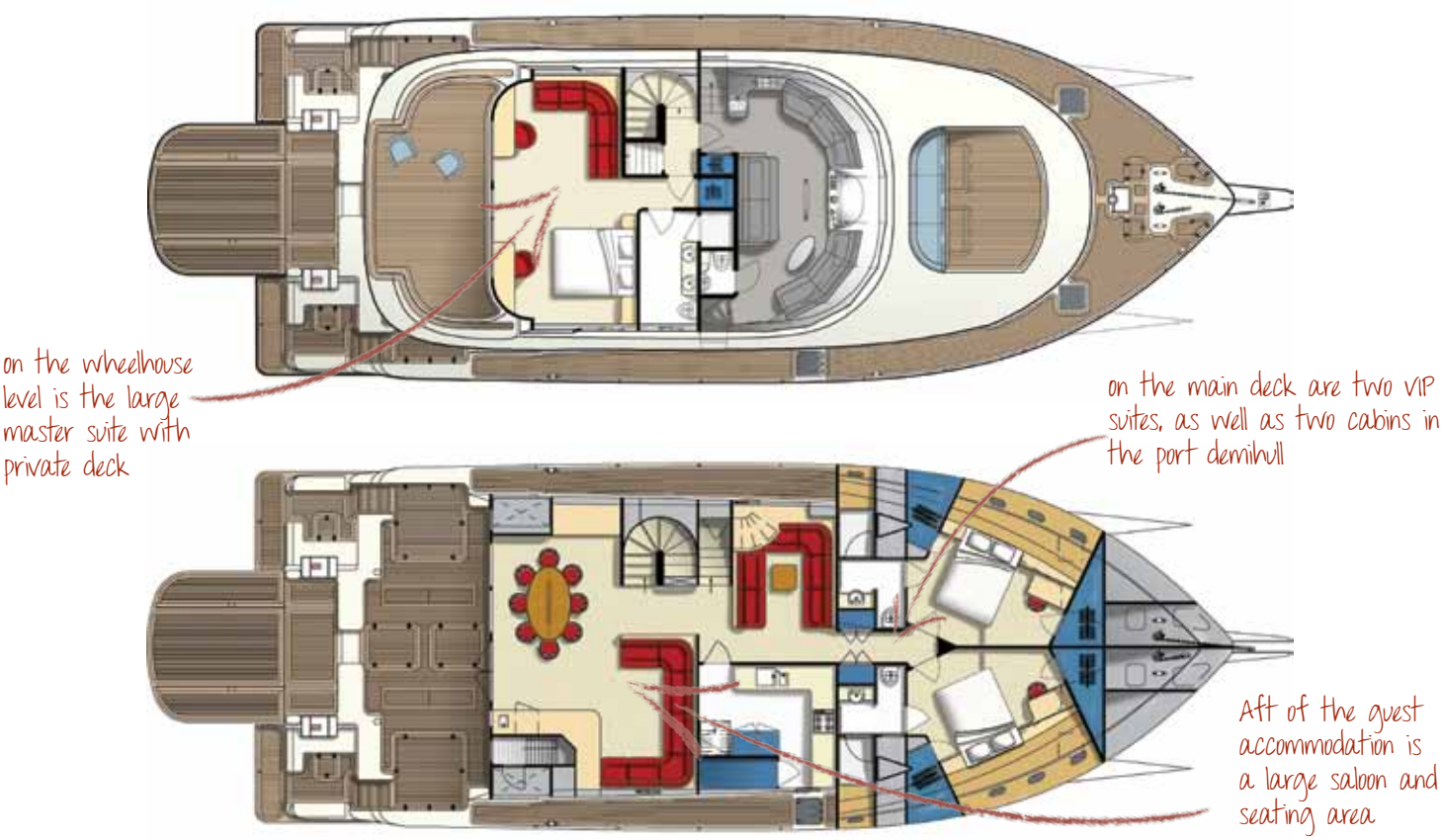
Yet it is at the same time a studied interior with a lot of underlying conceptual design. 'The circulation in this boat is exceptional. There is a sense of flow, a sort of feng shui correctness about it that makes residents and visitors feel immediately at ease,' he adds.

The galley can be closed off for the chef to work in private. But equally, a panel slides out of the way for an open-plan arrangement.

Given the context in which she was created, *Tatami* is finished to an exemplary standard. The fairing, paintwork and detailing are outstanding. She is a credit to Philippe Maari's courage in taking on a project of this complexity. Conceived in one period of Egypt's modern political history, she has weathered the Arab Spring and, once the revolutionary dust has settled, she may yet herald a bold transition to a more contemporary future for Egyptian boatbuilding.

More on iPad





TATAMI *Mapso Marine*

LOA 23.6m
LWL 22.2m
Beam 8.9m
Draught 1.5m

Displacement 75 tonnes

Engines
2 x Caterpillar C32, 1,400hp at 2,300rpm

Speed (max/cruise)
Power: 30 knots/ 20 knots

Range at 10 knots
2,000nm

Generators
2 x Kohler 27kW

Fuel capacity
12,500 litres

Freshwater capacity
1,000 litres

Grey/blackwater
790/650 litres

Owner and guests 10

Crew 4-5

Tenders
1 x Flats Cat 5.8m

Construction
Composite: E-glass, timber, plywood, cross-linked PVC foam

Classification
Germanischer Lloyd, MCS

Naval architect
LOMOcean Design

Exterior styling
LOMOcean Design

Interior design
RMD Marine

Builder/year
Mapso Marine/2011
Cairo, Egypt

tel: +20 12 2 211 0057
email: pm@mapso.com
web: mapso.com/marine