



Smeralda

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FAST, FUEL-EFFICIENT PASSAGEMAKING IS AT THE CORE OF HANSEATIC MARINE'S LEAN, LIGHTWEIGHT MOTOR YACHTS. ITS 77 METRE CREATION CONTINUES THE TREND

A threatening storm stacks the sky with dramatic cloudscapes as *Smeralda* streaks across the dark ocean like a long, slender dart. Settling into a 25 knot sprint, her wake flares briefly white against the sea and then disappears, leaving very little disturbance.

On board, the acceleration from 15 knots to 25 knots is a smooth surge, quickly achieved without drama. No great roar from the engines, no vibration through the structure, no massive rooster tail behind – just the steady flick of numbers rising on the GPS displays.

Tracking parallel with the shoreline, the view through the wheelhouse windows changes rapidly as the 77 metre yacht reels off the miles.

High speed efficiency is what this yacht is about and in sea trials off the West Australian coast she is demonstrating her capabilities. *Smeralda* is the third in a line of yachts from Hanseatic Marine that have proven the concept in all conditions. Earlier 73 metre twin sisterships *Silver* and *Silver Zwei* completed transoceanic passages at average speeds of 20 knots, with a fuel burn of less than 400 litres per hour. On one of these passages, winds of 50 knots and big seas had to be negotiated.

Based on long, narrow, lightweight hulls with relatively low horsepower, *Smeralda* shares the same 10 metre beam as the earlier two yachts, but stretches the overall length to 77 metres. Her twin MTU diesel engines are slightly more powerful, but still deliver less than 6,000kW.

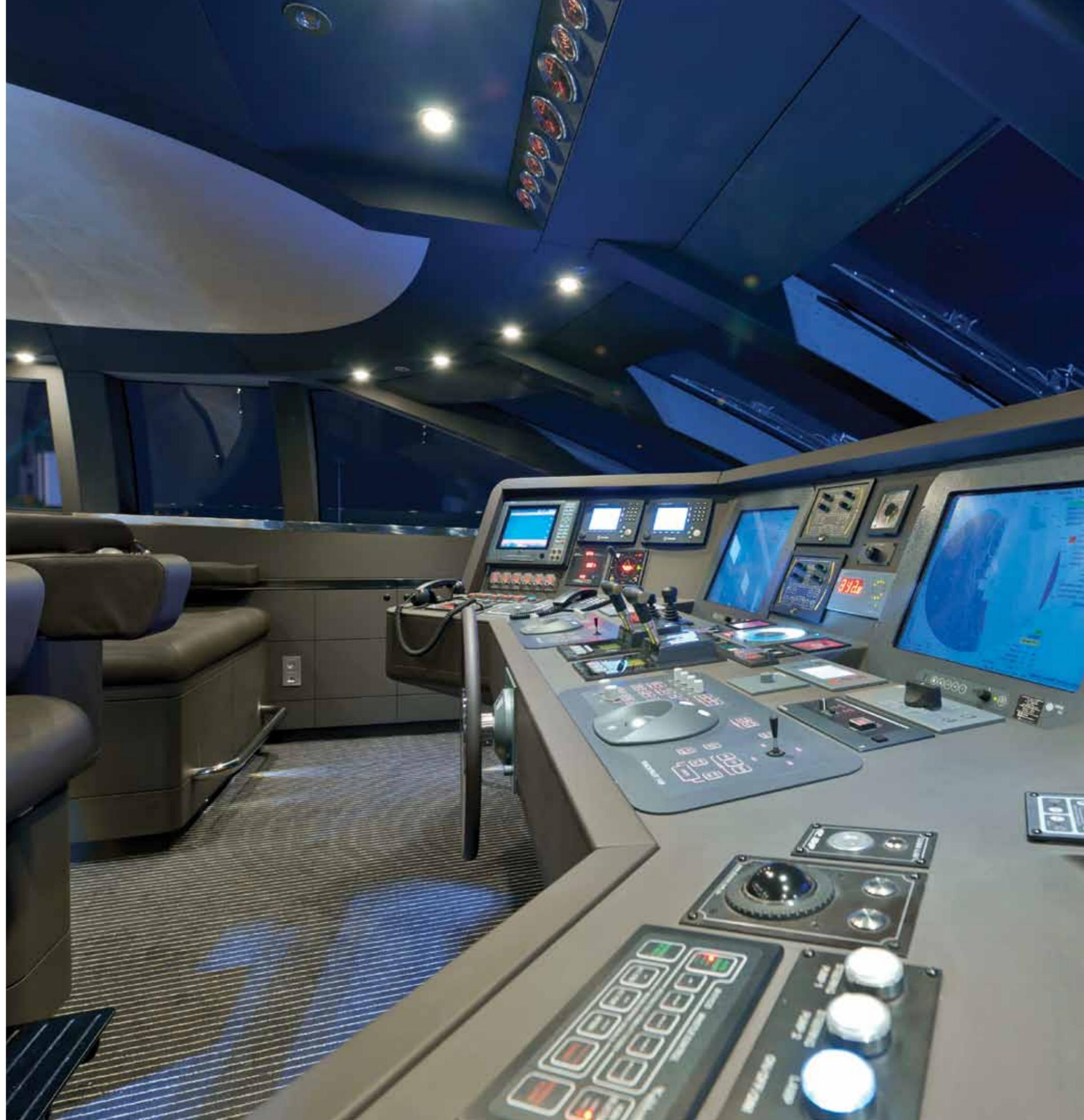
At the beginning of the new millennium, when German industrialist Guido Krass began this quest for highly efficient superyacht performance, the solution for clients wanting more speed was simple: add more horsepower. Krass admires the English economist EF Schumacher, who proclaimed: 'Any intelligent fool can make things bigger, more complex and more violent. It takes a touch of genius – and a lot of courage – to move in the opposite direction.'

Having made his fortune in eco-technologies and with an eye to environmental impact, Krass sought to move in the opposite direction and find a less fuel-hungry answer.

He recruited his friend, Norwegian superyacht designer Espen Øino, and set about creating his own boatyard in Western Australia, with skills drawn from all over the world and Northern European quality as the benchmark.

The first yacht out of Hanseatic Marine was *Silver* in 2007, when the good times still rolled and Krass's fuel-efficient vision might have been considered uncalled for. Two years later, when *Silver Zwei* launched, the world was a very different place: the global financial crisis was in full cry and energy efficiency was very much a mainstream concern.

But Krass is very careful not to take too much credit for his foresight, or his 'green' credentials. 'There is a lot of phony talk around this issue,' he says. 'The real green vessel was invented 3,000 years ago and it was a sailing boat. If you want to be green, have a sailboat with no engine, no air-conditioning and cold showers.'





'At the touch of a button, *Smeralda's* transom lifts to reveal the beach club, which includes a beauty salon, massage room, sauna and gym'



What he wanted was a fast go-anywhere motor yacht with all the features and comforts of home. To achieve transoceanic range at speed requires efficiency, and an examination of propulsion systems and hull forms, including catamarans and trimarans, led to the long, lean, light displacement formula.

'I wanted a classic, good looking yacht – something along the lines of JP Morgan's famous New York commuter yacht – with a conventional propulsion system,' he says. 'I did not want to go in all kinds of weird directions.'

The demand for light displacement might suggest composite construction and Krass has expertise in this field, with one of his companies producing carbon fibre components for aircraft. In the end, he opted for aluminium. 'From a practical point of view, aluminium is pretty much unbeatable. You can easily form it and bend it into shapes, it has enormous structural integrity and is light.'

Western Australia has expertise in lightweight aluminium construction, primarily in fast ferries and commercial vessels,

The main saloon features large leather sofas in a U formation. The arrangement is broken into informal zones with three glass-top coffee tables and even more intimate side-tables

which could be redirected to superyacht standards.

The first impression of *Smeralda* is the extraordinary quality of the aluminium work. These are the largest all-aluminium superyachts in the world and Øino's long, clean panels with complex curves have given the yard no place to hide. Any flaw in the fairing or paintwork would be instantly revealed and the Hanseatic team has met the challenge.

The demand for light displacement meant fairing compound had to be used sparingly, putting even greater

premium on the accuracy of the plating. Testament to their success in this regard is revealed below the waterline, where no fairing was applied, yet the finish is remarkably smooth.

The four-layer mast that towers above the hull would be an obvious candidate for carbon fibre construction, to save weight aloft and to achieve the smooth wing shapes. But the yard stuck to its credo of keeping all aspects of the build in-house and playing to its aluminium strengths. The masts are 1.6 millimetre plate, so wafer thin special welding equipment

‘Weight control is absolutely critical to the concept. All the panels and joinery comprise veneers over aluminium cores to save weight’



was required. ‘The welders practised on Coca-Cola cans,’ says naval architect Nick Stark. ‘They got pretty good at it.’

The lightweight engineering inside these masts, achieved with a matrix of stringers and bulkheads, is an example of the complex structural design applied with the help of extensive finite element analysis (FEA) throughout the vessel.

‘The structural optimisation of the hull relies on complete three-dimensional design data for every single element in a boat that comprises more than 100,000 parts,’ says Stark. ‘When you put it all together in a design model, even the most powerful computers struggle to cope with it. When we built the first structural analysis, it took eight to 10 weeks.’

The process then involves looping back round and round, refining the design. ‘You never design anything just once.

You do it 47 times,’ says Stark choosing a random number to illustrate the point. ‘We have developed a lot of intellectual property within the company, including writing our own software, to make this happen and to automate the process.’

Where the first structural analysis took weeks, the second took under an hour and continued to compress in a process repeated hundreds of times. The result is a performance 77 metre motor yacht, finished to a high level of luxury for up to 22 guests and 16 crew, with all the attendant systems and air-conditioning, displacing just 560 tonnes.

‘Weight control is absolutely critical,’ says Stark with some feeling. ‘It takes the kind of obsessive approach normally applied to America’s Cup campaigns to achieve it.’ That applies as much to the interior. Walking through the boat

The main dining area (above) is located in the ‘wintergarden’ on the aft deck. Glass panels slide out to encompass this entire area and protect guests from the elements, or they can enjoy alfresco dining open to the ocean breeze, with the panels hidden from view. There is further alfresco dining on the sundeck (left)

later during sea-trials, Krass spreads his arms wide and turns slowly to indicate the internal structure, including panels and joinery. ‘Everything you see is aluminium honeycomb.’

A central element in the performance equation is reducing drag through the narrow hull shape. With only a 10 metre beam, internal volume is constrained, but the space planning across all four decks utilises the fore and aft axis to good effect and leaves no sense of compromise.

Starting from the top, the sundeck comprises a spa pool and sun lounging areas fore and aft, while the middle section, with bar and dining for 10, is shaded from the sun by the mast stack. The forward part of the upper deck is occupied by the wheelhouse, all business, with electronic monitors and controls against a backdrop of charcoal leather

trim. Aft is an owners’ apartment comprising a huge bedroom, his and hers bathrooms, a study and seating area, which opens out to a private aft deck, with dining table and lounging area. For an owner who anticipates spending long periods on board and needs both space and privacy to attend to business, this is a true sanctuary.

Guests find their sanctuary on the main and lower decks. The main deck accommodations are situated beneath the wheelhouse and comprise three VIP suites with the beds facing athwartships, two on the starboard side and one on the port side and all sharing a common entrance lobby.

Moving aft on the main deck leads guests along a starboard companionway past two dayheads and the stairwell to the main saloon. Across on the port side



amidships and unseen to guests is the very large commercial-style galley and service centre providing quick access to the primary entertainment areas of the yacht.

The main saloon is where the fore-aft dimension is most accentuated, stretching more than 20 metres from its forward bulkhead all the way back to an indoor-outdoor zone called the wintergarden. This features a flexible dining arrangement that can be split into three round tables or combined into one long table capable of seating 14. It can be either fully enclosed, or left open for alfresco dining.

Flexibility is also the watchword in the main saloon. The furniture arrangement has one sofa athwartships at the head, with two enormous sofas facing each other down each side. In a formal setting, one can envisage a head of state seated at the top with courtiers ranked down each side.

However, three glass-top coffee tables ranged down the centreline break the area into more informal zones, while small drinks stands stationed along each sofa create even more intimate spaces. The area is capable of many moods from regal formality to cosy chats. Seated or standing, the views from the large side-windows are spectacular.

Aft of the wintergarden is an expansive outdoor area with seating, sunpads, and a well-equipped bar. This can be shaded with custom overhead sails and, when the occasion calls for a party, there is 38,000 watts of sound on tap, complete with pulsating lighting effects – enough high-decibel bedlam, perhaps, to even stop pirates in their tracks.

Down a further level on the lower deck, additional guest accommodation is provided in six twin cabins, two of them with additional Pullman bunks. These are all ranged on either side of a bright companionway. There is provision to section off the aft two cabins for security staff, helicopter pilots, nannies or other personnel who come on board.

The forward section of the lower deck has crew accommodations, separate crew galley and mess; aft is the engine room and, right at the back, a beach club, complete with beauty salon, massage room, sauna and gym.

Andreas Holnburger of Cologne-based Vain Interiors did the interior design work for the first two *Silver* yachts and was entrusted with *Smeralda* as well. He describes the look as 'more masculine' than the previous two, with the use of many earth tones: light tan leather, sand woollen carpets,

Despite the narrow beam, there is no sense of constraint in the interior areas, which are spacious and stylish



'The essence of the performance package is the long, lean hull and a rigorous approach to weight control allowing fast ocean passages with relatively low fuel consumption'

and cream woven leather details, interspersed with bright scatter cushions. Leather wrapped handrails, occasional glass details and high-gloss walnut panelling feature throughout. A distinct change of mood is struck in the lower-deck companionway, which features lacquered off-white panels with slabs of purple adding a contemporary look.

Despite the emphasis on reducing weight, the use of aluminium cores and veneers has allowed the designers to give all the furnishings and joinery a sense of opulence and substance – there is nothing thin or flimsy about the tactile surfaces. Similarly, no effort has been spared in sound and vibration insulation, so that the sensation under way is exceptionally smooth and silent. When a helicopter lands and takes off from the foredeck, people indoors in the deck below the helipad are unaware anything has happened.

Fuel-efficient fast passagemaking depends on maintaining good averages, as demonstrated by *Smeralda's* smaller sisterships. 'With *Silver* and *Silver Zwei* we had a sweet spot of about 22 knots,' says Krass. 'We would run the engines at a maximum of 1,600rpm and obviously backed off when the weather was rough. With that philosophy, we achieved 20 knot averages on ocean passages of 12 days or more, with a fuel consumption of less than 400 litres per hour.'

This quest for efficiency is a personal thing, he insists. He does not wish to prescribe how others should go about their boating choices. Equally, he does not wish to have the market determine what he produces. He created Hanseatic Marine to develop the kind of yachts he wants. 'I don't ask people how I should do this,' he says. 'I just do it. I don't want to be nervous about what other people think.'

At the same time, he has found ready buyers for *Silver* and *Silver Zwei*, both of which have gone on to deliver excellent service to their new owners in more than 30,000 miles of voyaging. With a *Smeralda* sistership already under construction, an 82 metre design well advanced and a 100 metre yacht in the concept stage, he clearly has faith in the concept and is enjoying keeping Hanseatic fully occupied.

He is closely involved in every aspect of the build and in achieving the quality standards on which he insists. 'I enjoy what I do and enjoy showing people what I do,' he says. 'I feel better being a boat builder than just being a yacht owner, so my kids can't accuse me of just sitting around on a boat.'

This sense of responsibility to future generations comes up more than once in Krass's conversation. EF Schumacher, whom he quotes with approval, espoused a philosophy of responsible use of resources and sustainability. With a big stake in the energy efficiency sector, Krass holds similar beliefs and has applied this thinking to his superyachts. Without going to extremes, he has pursued a pragmatic but rigorous approach to achieving high performance long-range ocean voyaging with relative fuel economy.

'It is a matter of feeling better when you are on board if fuel consumption is kept to an acceptable level. Even wealthy people care about these things. And politically this is becoming more important. Children are a big influence on our generation. They won't accept us just wasting energy any more.'

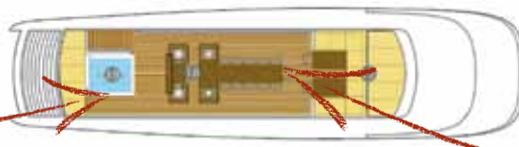


The owners' upper deck apartment comprises a huge bedroom, his and hers bathrooms, study, sitting room and private deck

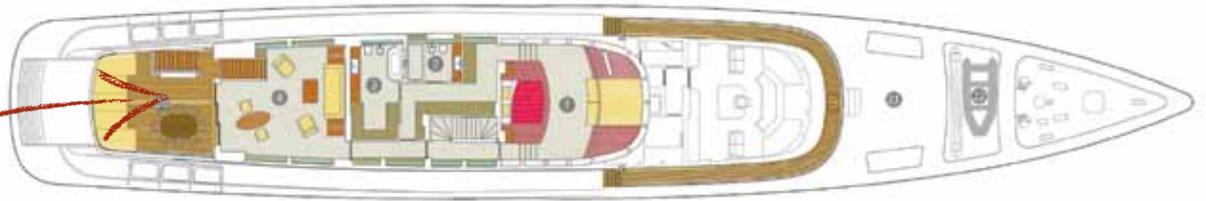


SMERALDA

The sundeck includes a large, glass fronted spa pool for eight and lounging area aft

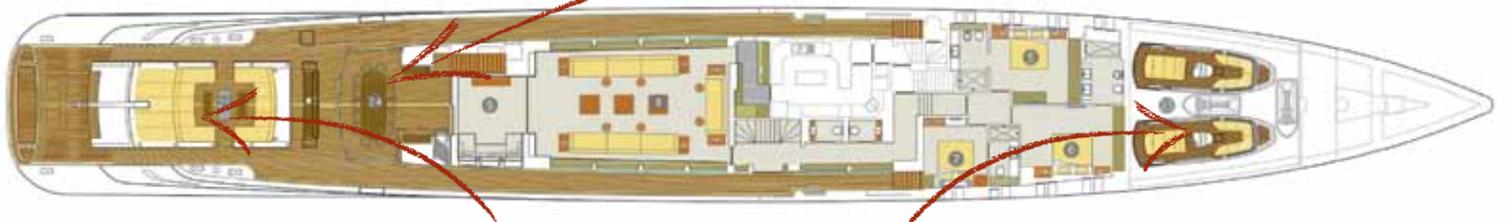


sky high dining is provided for on the elevated sundeck with a table for 10 and a well-equipped bar shaded by the overhead mast stack



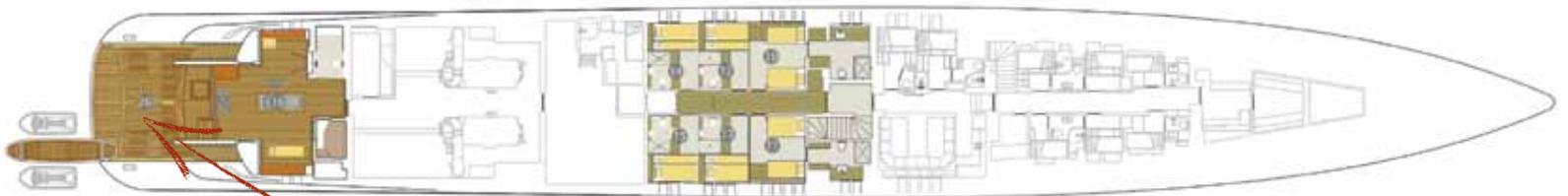
A spacious apartment on the upper deck gives the owner a huge bedroom, his and hers bathrooms, study and seating area and a private deck.

The 'wintergarden' is a fully air-conditioned area with a flexible dining arrangement and the ability to enclose the area in glass, or leave it open to the ocean breeze



The main aft deck comprises an expansive lounging area including bar, sunpads and a 38,000 watt sound system

Two 7.4m custom tenders are stowed in a garage under the foredeck with side opening doors on either side. A touch-and-go helipad is on the foredeck



A beach club complete with beauty salon, massage room, sauna and gym is located aft of the engine room

SMERALDA *Hanseatic Marine*

LOA 77m
LWL 71.1m
Beam 10m
Draught 2.6m
Displacement 560 tonnes
Gross tonnage 952GT
Engines
 2 x MTU 16V 4000 M90 -
 2,720kW at 2,100rpm

Speed (max/cruise)
 27/25 knots
Range at 18 knots
 4,500nm
Bowthruster
 1 x American TRAC Series
 - 150kW electric
Generators
 3 x Northern Lights 1066H
 diesel, 155kWe

Fuel capacity
 112,000 litres
Water capacity
 31,000 litres
Owner and guests 22
Crew 16
Tenders 2 x 7.4m custom
Construction
 Aluminium

Classification
 Lloyd's Register; * 100 A1,
 SSC, Yacht, Mono, G6,
 * LMC, UMS
Naval architecture
 Espen Øino International,
 Monaco/Hanseatic Marine
**Exterior design
 and styling**
 Espen Øino International

Interior design
 Vain Interiors, Germany
Sales broker
 Burgess London
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 burgessyachts.com
 web: burgessyachts.com

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 hanseaticmarine.com
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