

# BULLETIN NEWS & MORE

ASTILLEROS DE  
**MALLORCA**

SUMMER YACHTFILE EDITION 2013

## Dolphins are born efficient

Preliminary efficiency survey

## Transforming Astilleros

with the LEAN productivity  
improvement tool

## Engine replacement

Has the time come to equip your  
yacht with new engines?

## A glimpse into our Electrical Department

Switchboards and Thermograph inspections





## The Superyacht Cup Palma 2013 Edition

### BULLETIN NEWS & MORE

SUMMER  
YACHTFILE  
EDITION 2013

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Photo courtesy [www.clairematches.com](http://www.clairematches.com)

ASTILLEROS DE  
**MALLORCA**



We have had the pleasure of experiencing an intense and exciting **Superyacht Cup Palma 2013!** It was the 17<sup>th</sup> year for this Mediterranean event that combined competitive racing and a fun, relaxed social ambiance each evening.

The enthusiasm was generated by the spectacular sight of five J Class yachts competing.







Boat	Size	Design	Shipyard
Atalante	27	Hoek Yacht Design	Claasen Shipyards
Drumfire	24	Hoek Yacht Design	Bloemsma Aluminiumbouw
Firefly	35	Hoek Yacht Design	Claasen Shipyards
Freja	27	Frers	Nautor Swan
Hanuman	42	Dykstra Naval Architects	Royal Huisman
Heartbeat	24	Hoek Yacht Design	Claasen Shipyards
Highland Breeze	34	Frers	Nautor Swan
Lionheart	42	Hoek Yacht Design	Claasen Shipyards
Maria Cattiva	40	Bruce King	Royal Huisman
Only Now	31	German Frers	CNB
P2	38	Briand Yacht Design	Perini Navi
Penelope	30.7	Dubois Naval Architects	Oyster Yachts
Rainbow	40	Dykstra Naval Architects	Holland Jachtbouw
Ranger	42	Burgess & Stephens / Dykstra Naval Architects	Danish Yachts
Rebecca	43	German Frers	Pendennis
Reesle	30	Hoek Yacht Design	Engelaar Shipyard
Salperton	45	Dubois Naval Architects	Fitzroy Yachts
Scorpione Dei Mari	29	Castro Design	Jongert
Tulip	26	Frers	K&M Yacht Builders
Velshedha	38	Nicholsons / Dykstra Naval Architects	Camper and Nicholson

It had been the first time that Palmas residents could enjoy the racing of the legendary yachts HANUMAN, RANGER, LIONHEART, RAINBOW and VELSHEDA in our waters.

The J Class Association has chosen the Superyacht Cup Palma as one of three regattas

for the yachts to line up against each other.

It was also the 17<sup>th</sup> meeting to be held here. HEARTBEAT was the overall winner in class 2, Manon Borrius Broek, the Owner on board was overwhelmed by the result, she bought the 23.8m Claasen yacht specifically big enough (and still

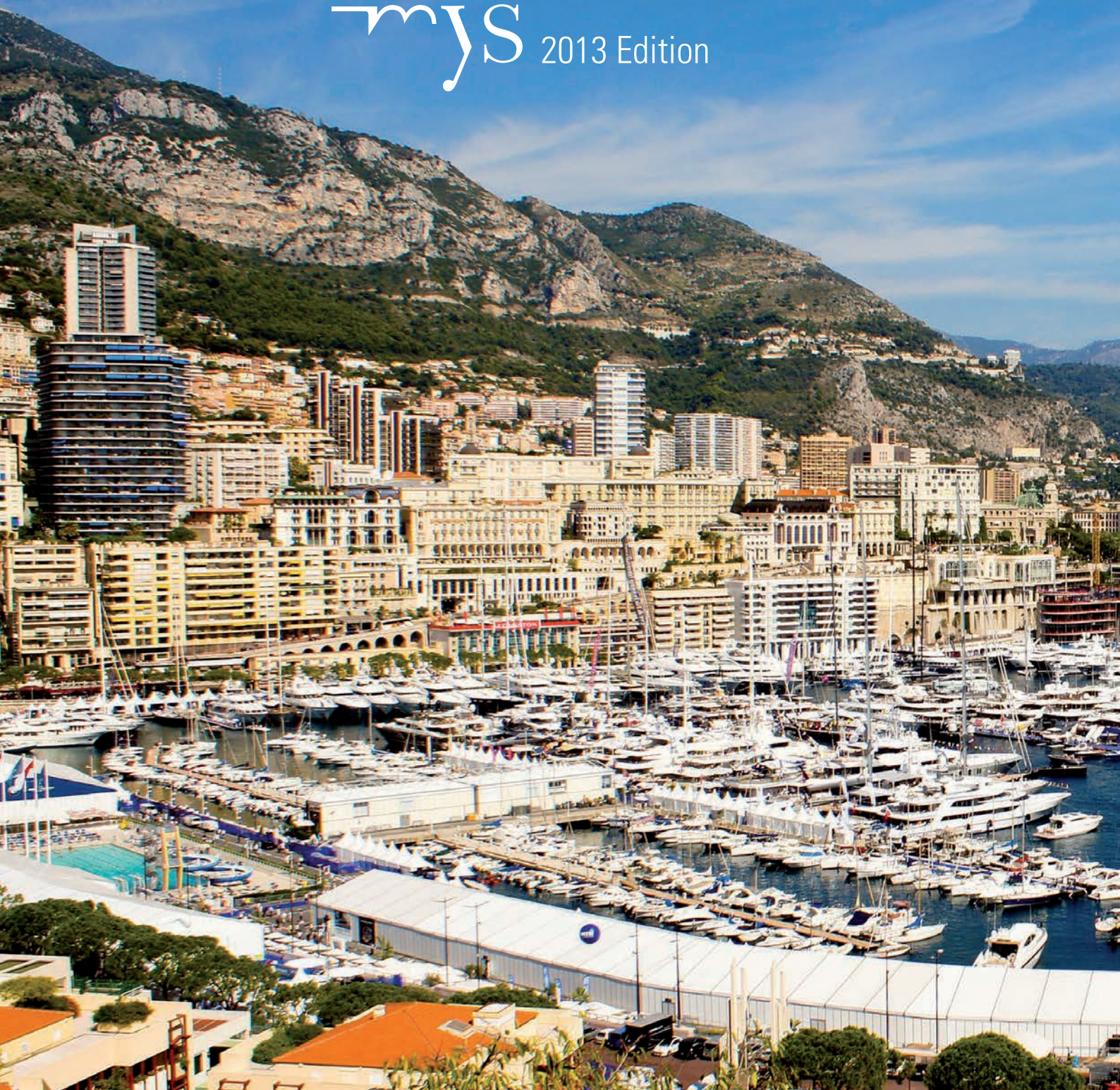
the smallest in the fleet) so that she could enter the Superyacht Cup. "It was our dream to participate in the Superyacht regatta, we have been fine tuning for 3 years and are now the winners. We are very happy."

There has been a great response from regular Superyacht Cup visitors to Palma.



# MONACO YACHT SHOW

## *mys* 2013 Edition



The **Monaco Yacht Show** is held annually in September at Monaco's Port Hercules and brings together the 500 top companies from the international luxury yachting industry.

It is the perfect event to keep up to date with the industry movements and the whereabouts of the individual yachts along with the companies and service providers who gather to show off the latest and greatest equipment for the Superyachts.

The Monaco Yacht Show is the only yacht show worldwide which is exclusively dedicated to superyachts of at least 25 meters in length. With the exhibition of around 100 superyachts it is Europe's biggest floating luxury yacht display.



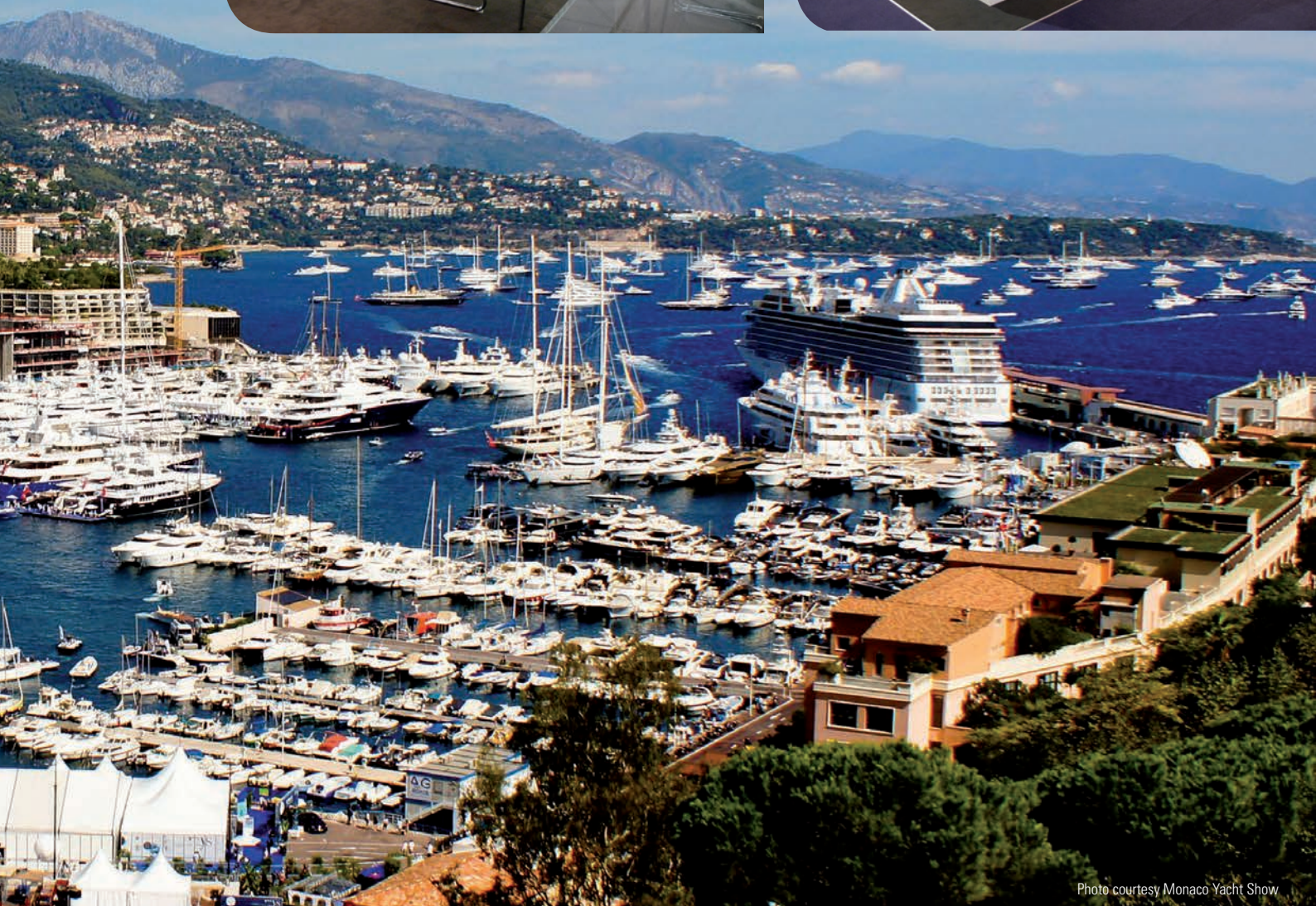


Photo courtesy Monaco Yacht Show

With a record attendance of 33,000 professional and private visitors at the 2012 edition, the MYS is the long-awaited superyachting meeting of the year for the prestigious brands, allowing them to meet up with the most important international clientele.

The highest standard of the show is guaranteed by the strict selection of the exhibiting companies in order to ensure the presence of top quality products and services.

We will be glad to welcome you at our **stand QD 41 Darse Nord**.

Please do not hesitate to contact us if you require a "Day Pass".



# TRANSFORMING ASTILLEROS

with the LEAN productivity improvement tool.



The core idea is to improve and create a more organized and pleasant work environment which will maximize customer value.

LEAN applies in every business and every process. It is not a tactic or a cost reduction program, but a way of thinking and acting.

The company started moving from an old way of thinking to LEAN thinking and required a complete transformation on how Astilleros conducted business.

It takes long-term perspective and perseverance compared to a traditional business system, however Astilleros de Mallorca is now able to respond to changing customer desires by offering more variety at a high quality standard and still optimizing costs.

One of many tools used at Astilleros to achieve an agreeable work atmosphere is the 5s technique. This method describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used. It produces a clean, uncluttered, safe and organized workplace. All our staff became empowered, engaged and that resulted in a well-organized workplace, completed with visual controls and order. Now we have an environment that has "a place for everything and everything in its place, when you need it".

The 5S stand for 5 Japanese words that constitute good housekeeping.

Roughly translated they are:

1. **SEIRI** Sort - the first step in making things cleaned up and organized.
2. **SEITON** Set In Order - organize, identify and arrange everything in a work area.
3. **SEISO** Shine - regular cleaning and maintenance..
4. **SEIKETSU** Standardize - make it easy to maintain - simplify and standardize.
5. **SHITSUKE** Sustain -maintaining what has been accomplished.



The core idea is to improve and create a more organized and pleasant work environment which will maximize customer value.



**Lucía Mingot**  
Technical Manager



ENGINE REPLACEMENT,  
has the time come to equip  
your yacht with new engines?



The economic study is designed to assess,  
allowing you to evaluate the effectiveness of a  
change of engines.





## All these factors make an economic study advisable, designed to assess allowing you to evaluate the effectiveness of a change of engines.

Since the 80's the price for the diesel fuel used in marine engines has increased ninefold and tripled since the year 2000. In the past four years the price has risen 35%.

The efficiency at cruising speed of a yacht has been severely affected by fuel prices. Depending on the shape of the hull and its proximity to the speed limit you can obtain a large margin at the scope of savings by adjusting the motor output to the real needs. As a result, the range of a yacht can be improved allowing, in some cases, the Atlantic crossing of vessels which were not actually designed for that purpose.

The maintenance costs of old engines are very high due to the price of spare parts and increasing number of important revisions to be carried out. The complete overhaul of an older engine can cost about 60% of the price of a new engine, as it very often requires removing from the engine room to transport it to factory.

Not only should the costs be considered when analyzing the energy efficiency of a yacht but also the environmental issues, such as reducing the gas emission; great value in the present day. The technological improvements of marine engines introduced in recent years have reduced more than 15% of the specific consumption (g/hp hour).

Electronic fuel injection and the increased compression ratios, are the most significant improvements in the design of the new Low Emission Engines (LEE).

- Regulations for the Prevention of Air Pollution from Ships (MARPOL 73/78) entered into force in May 2005. With a special focus on Sulphur Oxides (SOx), Particulate Matter (PM) and NOx emissions.
- The amendments to MARPOL entered into force on January 2013 adding a new chapter 4 to Annex Efficiency Design Index (EEDI), for new ships, and (2) the Ship Energy Efficiency Management Plan (SEEMP) for all ships VI on Regulations on energy efficiency for ships to make mandatory: (1) the Energy.
- The EEDI is a performance-based mechanism that requires a certain minimum energy efficiency in new ships. Ship designers and builders are free to choose the technologies to satisfy the EEDI requirements in a specific ship design.
- The SEEMP establishes a mechanism for operators to improve the energy efficiency of ships.
- Other considerations related to Energy Efficiency are: Hull design, appendages, Weather Routing, speed optimisation, propeller design, optimum use of rudders and autopilots, hull maintenance, waste heat recovery, energy management.

In the past year Astilleros de Mallorca has successfully accomplished two important engine room refits with the objective to achieve the maximum propulsive energy efficiency possible. In both cases, the yachts involved were over 30 years old, in good structural conditions and with a very attractive market value due to their uniqueness. After analyzing the cost / efficiency factors, it appeared necessary to reconsider the installed power, the optimal cruising speed, the maximum power and speed, what type of engines would suit that power, the propeller redesign and also the refit of exhaust pipes and auxiliary services needed. The results are particularly satisfactory considering that:

- Achieving the same cruising speed as before, consumption has dropped between a 20 and 30%.
- The Yacht's range has increased 700 miles at 14 knots and 1000 miles at 12 knots.
- The price for new engines does not diverge too much from the cost of a complete overhaul of the old engines at factory.
- The new engines comply with the MARPOL regulations.



Consider the following factors as criteria:

- Fuel prices
- Consumption / speed / range
- Maintenance Costs.
- Price of a thorough overhaul versus the price of fitting in new engine.

As well as the Technological improvements that new engines bring along:

- Dimensions
- Weight
- Specific consumption



**Diego Colón**  
General Manager



# A GLIMPSE INTO OUR ELECTRICAL DEPARTMENT

## Switchboards and Thermograph inspection



Products that improve our service range:



Cathelco



NAIAD DYNAMICS



GIANNESCHI  
pumps and bowers

Commercial and Assistance Partners

Sub-agent for the Balearics

Authorized Integrator

Service Partner

Service Provider

Distributors and Technical Service

Technical Service



## Switchboards

Modifications on engine room equipment such as installation of new compressors or change of genset will require modifications on the main switchboard. In other cases the modifications might result from the installation of new management systems or equipment controllers.

In all those cases, it is vital to comply with the rules of the relevant Classification Society in terms of design and to make the modifications using approved wires and materials. Astilleros de Mallorca provides experienced services, assuring not only compliance with all the rules and recommendations but quality designs that will allow comprehensive use, easy maintenance, and good access for future modifications.

Existing documents and drawings will be updated As Built, ensuring your drawings and schemes are reliable.

Astilleros de Mallorca, is an Authorized Service Centre for the Atlas Marine Systems product line. We are able to supply install and repair any model. Using either a single or dual transformer isolation approach, Atlas Marine Systems provides the widest selection of onboard frequency converters available to the yachting community.

Astilleros de Mallorca, is an Authorized Integrator by the governors specialist DSF Technologies, with whom Woodward EasyGen is supplied and installed. Woodward products include an exceptionally versatile set of genset controllers and protection packages with all the flexibility and features needed to fit a wide range of genset applications. It allows you to standardize on a single, affordable, genset controller for many uses, from stand-alone emergency generators to isochronous parallel operation of up to 32 gensets.



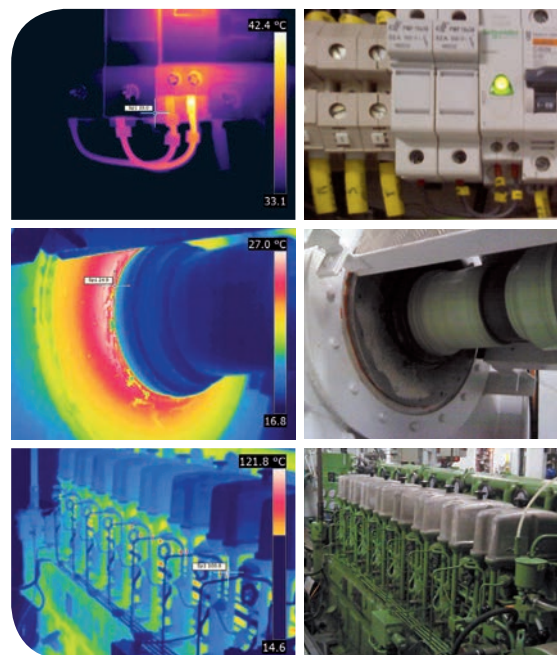
## Thermograph inspection

Non Destructive Testing (NDT) has become a must when trying to evaluate products or systems without alteration of the inspected items. One of those techniques is the thermographic inspection that allows a safe and non intrusive examination without contact with the inspected elements.

As with other NDT techniques, it is a good option not only for troubleshooting, but for preventive and predictive maintenance. Some of the specific applications are:

- Electrical systems inspection. A thermography of the main switchboard will reveal faulty elements and misconnections that need retightening. The thermographic pictures will be presented along with real images to help locate the faulty points.
- Conduction and fluid inspections. Leakages on fluid conductions will be easily allocated. Faulty valves opposing too much resistance to fluid, will also show higher temperatures.
- Mechanical failures: Hot bearings give an early warning of the end of their life span or reveal misalignments. The thermographic inspection helps to identify those components, prior to their failure.
- Insulation faults: A thermal image of an exhaust duct will reveal discontinuities in isolation. Heat leaks identified will also help to improve the efficiency of heating and airconditioning units.
- Engine inspections: A thermal image of an engine will reveal differences in cylinder operations.

Astilleros de Mallorca offers the services of a certified operator that uses a modern Infrared Camera with a Resolution of 76,800 pixels (320 x 240) a Thermal Sensitivity NETD < 50 m°k and works in a Temperature Range of -20°C to +650°C . The accuracy is ±2°C.







ASTILLEROS DE  
**MALLORCA**

  
**ATLANTE**  
MARINE EFFICIENCY  
BEHIND YOU





## DOLPHINS. NATURAL ENERGY EFFICIENCY. Preliminary efficiency survey.

The new IMO regulation which requires a Ship Energy Efficiency Management Plan (SEEMP) faces the yacht industry with the challenge to make a diagnosis of the actual situation and establish achievable objectives towards a more efficient operation.

In this case, Astilleros de Mallorca suggest using the crews' knowledge regarding the behavior of their yacht, guided by Atlante, a Marine Consultancy specialized in the implementation of energy efficiency and the issuing of a **PRELIMINARY EFFICIENCY SURVEY**.



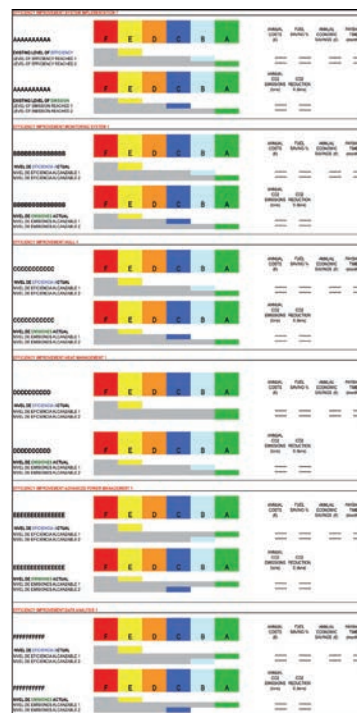
The purpose of this survey is to make a REAL diagnosis of the situation of a yacht.

- Identify the efficiency parameters of the vessel. No two yachts are alike and consequently the list of parameters to be measured is not fixed. We divide them into four main groups of study, shown in the table below.
- Determine the level of efficiency of the vessel. Applicable parameters will be rated from A to F and presented in a report that will highlight the margin to improve each aspect.
- Identify potential efficiency improvements. Possible actions to improve a specific parameter and thus reducing operational and maintenance costs and discomfort level will be identified and presented including an investment/improvement ratio.

Improvements identified as feasible, will require further surveys, specific calculations and trials, and therefore are part of a second stage not included in the preliminary survey, that we call **ADVANCED EFFICIENCY SURVEY**.

## PRELIMINARY SURVEY PROCEDURE

A naval architect expert from Atlante Marine Consultancy, will visit the yacht for approximately two days. Full cooperation of the crew will be needed during their presence on board. There will be requests to examine information such as drawings and manuals of existing systems and to run some of them. After the on-board survey, all the information will be studied and processed in Atlante's offices. Soon after, you will receive an efficiency analysis certificate, a complete report and a very comprehensive colour coded summary spread-sheet.f



EFFICIENCY SELF QUESTIONNAIRE	YES	NO
The purpose of this questionnaire is to give a preliminary idea of efficiency and potential improvements, based on the expertise of a yacht crew.		
Do you avoid certain ranges of speed due to vibrations?	<input type="radio"/>	<input type="radio"/>
Do you experience problems related to excessive heat radiation from illumination?	<input type="radio"/>	<input type="radio"/>
Do you suffer discomfort due to noise?	<input type="radio"/>	<input type="radio"/>
Would it be useful to know the correlation between rpm of your engine and consequent fuel consumption?	<input type="radio"/>	<input type="radio"/>
Do you frequently clean soot on sides and decks?	<input type="radio"/>	<input type="radio"/>
Do you use your stabilizers even when sailing in calm waters?	<input type="radio"/>	<input type="radio"/>
Do your generators frequently run below 80% of their nominal rated power?	<input type="radio"/>	<input type="radio"/>
Are your AC compressors always running?	<input type="radio"/>	<input type="radio"/>
Do you have complaints from guests about exhaust smells?	<input type="radio"/>	<input type="radio"/>

If the answer is YES to some of these questions, you would benefit from a preliminary efficiency survey carried out by an expert.

GROUPS OF ACTION	EXAMPLES OF PARAMETERS	EXAMPLES OF ACTIONS
Ship Design Structural, Hydro and aerodynamic aspects.	Trim, rudder aspect ratio, rolling period, wave resistance or heat losses.	Modification of propellers pitch, design of a bulb, extension of bilge keels, change of antifouling type.
Machinery Technology Includes main propulsion and other equipments.	Fuel consumption per nautical mile, emission of gases, soot contamination index or vibration levels.	Installation of fuel meters, installation of elastic mounts for fans or exhaust systems, redesign of AC compressors, efficiency monitoring systems.
Electrical system: Power generation and use of it on board.	Generators running time, Fuel consumption per Kw, or Lux level per watt.	Installation of variable speed controllers, paralleling systems, batteries management modules.
Operational issues: Methods and procedures applied on board.	Lighting modes protocol or navigation protocol.	Energy awareness, weather routing, autopilot adjustment.





## PRELIMINARY SURVEY PROCEDURE

The purpose of this survey is to make a **REAL** diagnosis of the situation of a yacht.



ATLANTE offers specialized marine services dedicated to the improvement of efficiency, with particular emphasis on reducing running costs and the improvement of maintenance procedures.

One of the companies concern is to ensure the best possible practices are implemented in order to raise the awareness to respect the marine environment.



## STP SITE We have expanded our capacities



Astilleros de Mallorca have embraced the opportunities that the STP facilities have to offer and have expanded their business premises into this new working area; thus increasing their haul-out and working capacities. With the purchase of state of the art equipment and the latest in technology and machinery, Astilleros have heavily invested in setting up new workshops.



The professional Astilleros Team at STP are located in offices 17 & 18 in the "RS Global Building" and the unique, fully functioning mechanical and metal workshops are available for any specific job or complete refit.

The full range of services and specialities offered within STP include shafts, rudders and stabilizers, propeller balancing, canting keels, crane load tests, load banks and inclination tests. Our team of welders is equally conversant with all types of welding, producing high grade finishes in every case meeting the ISO specifications.

Astilleros de Mallorca works closely in conjunction with all the Classification Societies for all works relating to the inspections required; namely five year special surveys, docking surveys and annual surveys. Having worked closely with these societies for many years and being approved by Lloyds Register, we are both experienced and familiar with their requirements.

With the backup of a shipyard that is proud to conserve a very rich heritage, the Astilleros Team at STP have more than 30 years experience.

We hope to be able to offer you our experience and assistance during your stay at STP.



## Specialities

- Full management team
- Workshop + offices
- 700 tn. travel lift
- Shafts
- Rudders
- Stabilizers
- Propeller balancing
- Canting Keels
- Crane Load Tests
- Load Bank Tests
- Inclination Tests
- Metal and piping Works and Fabrication
- Electrical Works, Megger tests and repairs.



## MOST REPRESENTATIVE PROJECTS

- |                   |                 |
|-------------------|-----------------|
| → VA BENE         | → LADY GEORGINA |
| → ATLANTIC GOOSE  | → SEAQUELL      |
| → TIMONEER        | → JADE MARY     |
| → ALIZE           |                 |
| → BOLERO          |                 |
| → GANESHA         |                 |
| → PRANA           |                 |
| → BLUE ATTRACTION |                 |
| → DÉJÀ VU         |                 |
| → MOONBIRD        |                 |
| → ELLIX TOO WERE  |                 |



**Rob Van Wieringen**  
Production Manager STP



## AN INTEGRATED REFIT & REPAIR CENTRE

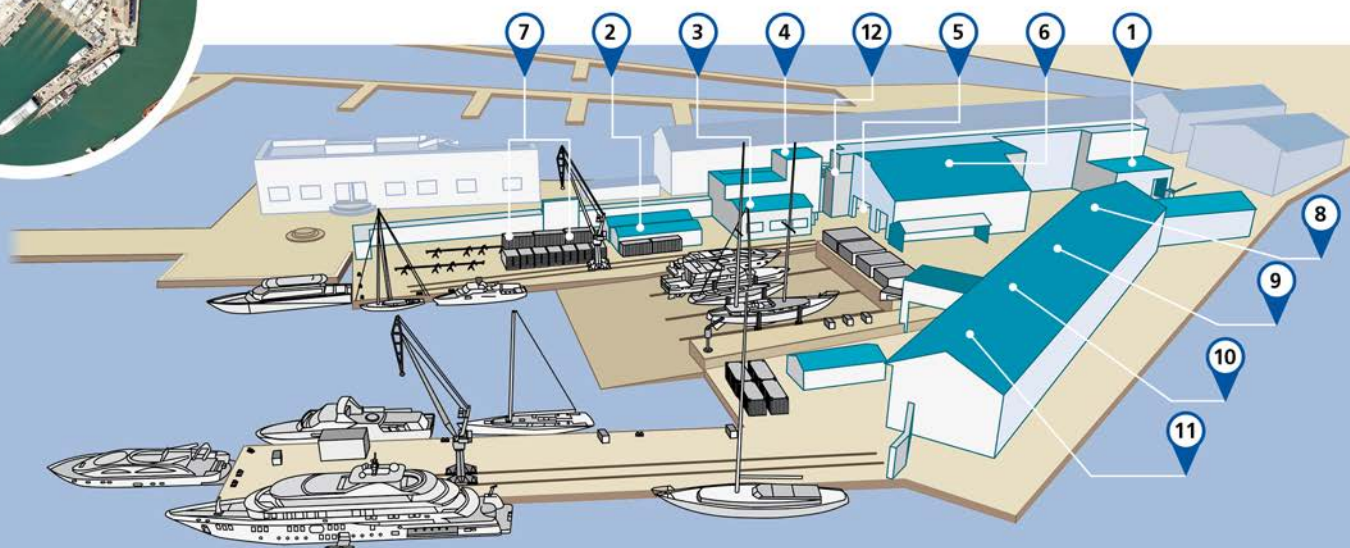
No matter where your haul out takes place,  
Astilleros de Mallorca will offer an integrated and efficient service.







Main site. A fully equipped specialized shipyard.



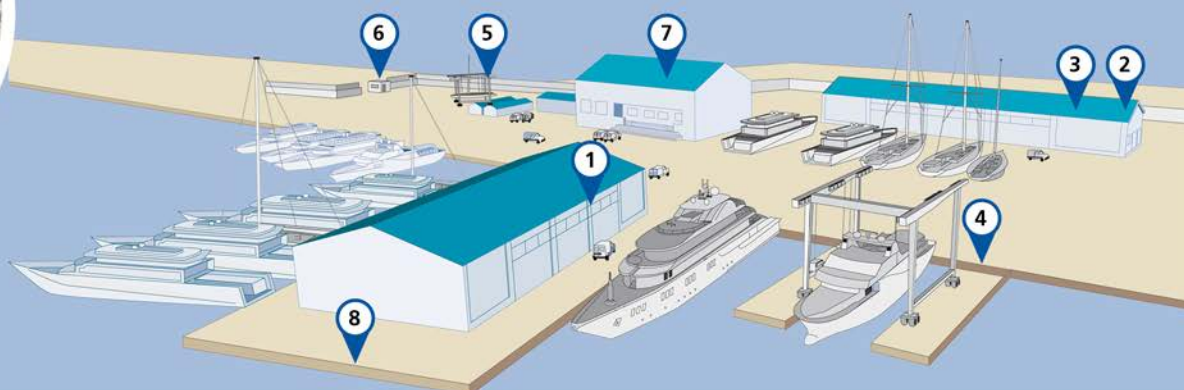
#### CAPACITIES

- 4 Slipways with a max haulout capacity of 1700 tn.
- Outfitting quays for vessels of up to 119 m.
- 3 Cranes for 25, 10 and 3 tn.
- Storage containers for personal and yacht related articles.
- 24/7 security.

- 1. Entrance.
- 2. Inox Workshop.
- 3. Ground Floor: Commercial and Marketing Department.
- 4. First Floor: Technical, Safety and Environmental Department.
- 5. Ground Floor: Project Managers.
- 6. Metal Workshop Building.
- 7. Tented and open beach area for Masts and Spars.
- 8. Warehouse and Store.
- 9. Carpentry Workshop.
- 10. Mechanical and Piping Workshops.
- 11. Electric Department and In House companies.
- 12. First Floor Entrance: Reception and Secretary.
- 12<sup>a</sup>. First Floor: Direction, Production and Purchasing Department.
- 12<sup>b</sup>. Second Floor: Administration and Billing.



STP site. We have expanded our capacities.



#### CAPACITIES

- 5 Travel lifts ranging from 30 tn. to 700 tn.
- 53 Berths.
- 55.000 m<sup>2</sup> Dry dock.
- 6 Keel pits plus a fuel dock.
- 24/7 security.

- 1. Ground Floor: Mechanical Workshop.
- 1<sup>a</sup>. First Floor: Office.
- 2. Ground Floor: Metal Workshop.
- 3. Ground Floor: Piping Workshop.
- 3<sup>a</sup>. First Floor: Electrical Workshop.
- 4. Travel Lift 700tn.
- 5. Travel Lift 30tn.
- 6. Entrance.
- 7. STP Offices for Check in.
- 8. Petrol Station.



## SOCIAL RESPONSABILITY

### Learning by doing - Guidance for the next generation.

Astilleros de Mallorca has spent years developing actions within its CSR program.

One part of Astilleros de Mallorca's corporate social responsibility is our constant effort to promote environmental awareness, technological innovation, integration of environmental criteria in the way we manage the company. The great involvement and participation of all our staff has finally lead, in 2012, to the recognition of the Confederacio d'Associacions Empresariales de Balears (CAEB), that rewarded us as the company with the Best Environmental Management.

We care for the future and offer guidance for the next generation by participating in various local training programs. Regular visits are organized for students from different schools and training centres so that they can experience firsthand what the naval sector is all about. The students of vocational schools have the opportunity to practise in our facilities in order to enrich their skills. Finally Astilleros de Mallorca works closely with a job placement centre that allows people at risk of social exclusion internships to subsequently join our workforce.



## PALMA DE MALLORCA. REFIT & RELAX

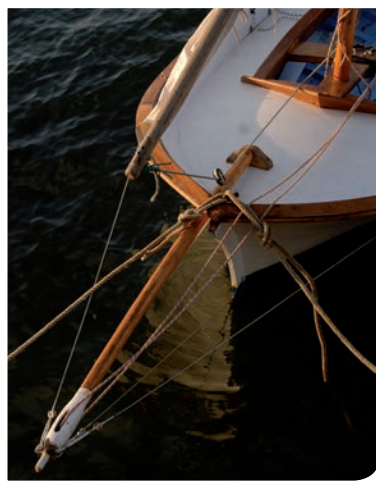
### Come and feel at home with our climate, art, culture, sport and enjoy the international fashion sites.

Majorca or Mallorca, whichever way you prefer to spell it, and whichever way you wish to pronounce it, is the largest of Balearic Islands, along with its sister islands of Menorca, Formentera and Ibiza. Since the 1960's, Mallorca has without doubt, been one of the most popular holiday destinations for all nationalities, offering a wide range of attractions to suit all tastes.

The first recognizable landmark will be the magnificent 14<sup>th</sup> Century Gothic cathedral of Palma. The island has become the turntable for those Superyachts that run both Caribbean and Mediterranean seasons. With a wide range of services, Palma is the ideal "pit stop", refit and repair centre in the Mediterranean.

Our main shipyard and STP facilities are adjacent to the famous Real Club Nautico and located within walking distance of Palma's charismatic historical centre.

The International airport Son Sant Joan is the third largest in Spain and has easy connections with most of Europe's capitals and major cities.



**B&M** SUMMER YACHTFILE EDITION 2013

ASTILLEROS DE  
**MALLORCA**

Quality has been our driving force for more than 30 years

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