An overview of design and construction of mega yachts

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Superyacht Industry-Design-Construction

- An old but new story
- Global market framework
- Fleet composition
- Design overview
- Case studies
Superyacht Industry: an old but new story
In 1932 Baglietto Shipyard launches the 12 m Alcyone for the Italian Poet Gabriele D’Annunzio
ELBA

Lunghezza: Mt. 11.50
Potenza: HP. 390
Velocità: MPH. 30
Baglietto: Andiamo
Azzam - Lürssen Yachts
The Largest Yacht In The World
My Azzam - Largest Yacht In The World

- **Launched April 2013**
- **180 m Length – 18 m Beam**
- **A main salon with a lengths of 29 m**
- **Top speed of over 30 knots**
- **Powered by 2 gas turbines and 2 diesel engines**
- **Total of 94000 horse powers.**
- **Build only in 3 years plus 1 year of engineering**
- **Italian Design Nauta Yacht**
- **Builder Lürssen Yachts, Bremen Germany**
- **Cost estimated +600 milions euro**
Global Superyachts Market
What’s Happening?
Super Yacht newbuilding
Shipyards delivering SY in the last 5 years

- 2012: 93
- 2013: 73
- 2014: 67
- 2015: 67
- 2016: 66
Average length (m) yacht in construction

- 2013: 47.8 m
- 2015: 49.9 m
- 2017: 50.6 m
The Italian leadership
Italian SY shipyards performances

SY ever delivered: 1,540
% total fleet: 39%
Average L (m): 38
SY delivered (2012-2016): 298
Average L (2012-2016): 40.4

- Sail
- Power 30-45 m
- Power + 45 m
Power SY order book - Countries units share

Main countries share 2017
(% ; boats)

- Italy: 49% (2017), 43% (2016)
- Netherlands: 16% (2017), 17% (2016)
- Turkey: 10% (2016), 9% (2017)
- Asia: 9% (2016), 6% (2017)
- Germany: 5% (2016), 5% (2017)
- UK: 7% (2016), 4% (2017)
- USA: 3% (2016), 3% (2017)
- RoW: 7% (2016), 7% (2017)

In build 2017 (units):
- Italy: 144
- Netherlands: 50
- Turkey: 25
- Asia: 18
- Germany: 14
- UK: 11
- USA: 10
- RoW: 19

Source: Deloitte analysis and estimations based on countries boating associations, specialized media providers and company data and interviews with global operators.
Power SY order book: Countries GT share

Main countries share 2017 (%; Gross tonnage)

- Italy: 31% (2016), 34% (2017)
- Nethelands: 25% (2016), 29% (2017)
- Germany: 21% (2016), 18% (2017)
- Turkey: 10% (2016), 8% (2017)
- China: 2% (2016), 2% (2017)
- Australia: 3% (2016), 2% (2017)
- USA: 2% (2016), 2% (2017)
- RoW: 6% (2016), 5% (2017)

In build 2017 (K tons):
- Italy: 86
- Nethelands: 73
- Germany: 47
- Turkey: 20
- China: 5
- Australia: 5
- USA: 4
- RoW: 14

Source: Deloitte analysis and estimations based on countries boating associations, specialized media providers and company data and interviews with global operators.
SY global fleet growth in the last 20 years
SY L > 80 m global fleet growth
Foreseen SY global fleet in the next 20 years

- 2018: 5425
- 2021: 5863
- 2023: 6155
- 2026: 6593
- 2029: 7031
- 2032: 7469
- 2035: 7880
- 2037: 8150
SY global fleet: sail vs power

- Power Yachts: 80%
- Sailing Yachts: 20%
SY global fleet: hull material

- Steel: 44%
- Alloy: 29%
- Composite: 18%
- Wood: 9%
SY shape and design evolution
Perini Navi: Felicità
Perini Navi-Picchiotti: Exzuma
The Riva Aquaram mith
Riva 50 m
Mahogany wood, stainless steel, leather: the Riva essence
Azimut: AZ 32 Targa «the Ford T of the sea»
Azimut: Azimut 72’ carbon tech
Azimut: 35 m Azimut Grande
Benetti: Seasense
1971 Ferretti launches the first yacht: a 10 m motor sailer
Ferretti Group: Navetta 42
The Ferretti Custom Line flagship
Navetta 42 Ferretti Custom Line
Ferretti Group: CRN: 74 m «Cloud 9»
Motor superyachts order book: boat shape analysis

- Expedition / Explorer: 8% (+5)
- Support Vessels: 2% (+1)
- Open: 4% (+3)
- Flybridge/Multi-deck Low-Mid performance: 72% (+17)
- Flybridge High performance: 14% (+1)

In build share by boat shape (%)

Change 2015-16
Number of orders

Source: Deloitte analysis and estimations based on countries boating associations, specialized media providers and company data and interviews with global operators
Sail SY current market status
Global Sail SY market

Yacht delivered in 2016
- Sail: 17
- Power: 122

Global fleet Super Yacht
- Sail: 18.7%
- Power: 81.3%
Explorer yacht
Explorer Yacht globally delivered

- 13 (1895-1950)
- 29 (1950-1960)
- 37 (1960-1970)
- 30 (1990-2000)
- 128 (2000-2010)
- 114 (2010-2016)
Charter Yacht Regulation
Yacht or passenger ship?
Working with this ambiguity
A ‘passenger ship’ is a ship which carries more than twelve passengers.

A ‘cargo ship’ is any ship which is not a passenger ship.

The regulations, unless expressly provided otherwise, do not apply to:

- Ships of war and troopships.
- Cargo ships of less than 500 gross tons.
- Ships not propelled by mechanical means.
- Wooden ships of primitive build.
- Pleasure yachts not engaged in trade.
- Fishing vessels.
“It is widely recognized that it has become increasingly impractical to apply to pleasure yachts International Convention standards and requirements of the major operational Conventions of the International Maritime Organization (IMO), which have been developed and have evolved to deal with merchant cargo ships and passenger ships”
Large Yacht Services

• LY1, “Code of Practice for the Safety of Large Commercial Sailing and Motor Vessels”, introduced in 1998;
• Code applies to vessels in commercial use for sport or pleasure, L > 24 m in “load line” length;
• Vessels not permitted to carry cargo, or more than 12 passengers;
• LY2, “Large Commercial Yacht Code” into effect on 2004;
• LY2 has now been revised to LY3
“The development of the Code of Practice for Yachts Carrying 13 to 36 Passengers is based on the consideration that full compliance with some of the provisions of the conventions referred to in paragraph 2 as they apply to commercial merchant passenger ships is unreasonable and in some instances disproportionately onerous in terms of design and cost compared to the incremental increase in safety levels achieved for yachts, given that pleasure yachts have a very different operating pattern (for the most part occasional voyages in defined weather conditions or operating areas) when compared to a typical commercial passenger ship which usually operates 24/7 on a tight schedule. “
The 13-36 Passenger Yacht Code

- Launched at Global Superyacht Forum in November 2010
- Applies to Yachts carrying up to 36 Passengers and no cargo.
- No more than 99 persons in total onboard
- The current PYC does not provide for:
  - Sailing Vessels
  - Composite Vessels
- These will be considered in a later edition of the Code.
- Submitted by the UK to IMO as an equivalent standard to the requirements of Load Line, SOLAS, and STCW Conventions.
- Full compliance with MARPOL is required
- Second edition January 2012
Thanks for the attention