



Sample Structure

Business Climate

Shipowners/Ship operators

Shipyards

Suppliers

Marine Interiors

Appendix

SMM Maritime Industry Report 2021 Background and Objectives

With about 50,000 visitors and more than 2,200 exhibitors, SMM is the leading international maritime trade fair. In order to keep track of the latest developments and business climate, the SMM Maritime Industry Report provides valuable insights on shipowner/ship operator and the shipyard industry along with their suppliers.

For the marine interior participants, visitors and exhibitors of the MARINE INTERIOR fair were included to the survey. The MARINE INTERIOR is a fair with more than 100 exhibitors and about 2,800 visitors from the industry.

Visitors and exhibitors of SMM and MARINE INTERIORS from all over the world were invited to take part in the SMM Maritime Industry Report survey.

This report collects their assessments of the current situation, outlook on the future and opinions on various topics that concern the maritime industry.



















Sample Structure

6% of all invitation links were used and about 1/2 of these interviews were completed by the participants.

Participation rate 2021

		2019	2017			2019	2017
Number of invitations	44.313* 4	4.787*	69.606**	~ in %	100%	100%	100%
Interviews started	2.655	3.016	3.794		6%	6.7%	5.5%
Interviews finished	1.238	1.493	2.513		2.8%	3.3%	3.6%

A participation rate of over 5% is on a good level for a non-panel sample.

Final sample

Year of survey	Total	0	6	C _O	
2021	1238	205	154	713	166
2019	1493	269	192	932	100
2017	2454	466	315	1673	-

Please note: in 2017, an additional number of 52 interviews with port and port operations were also included. New since 2019 is the category of marine interiors

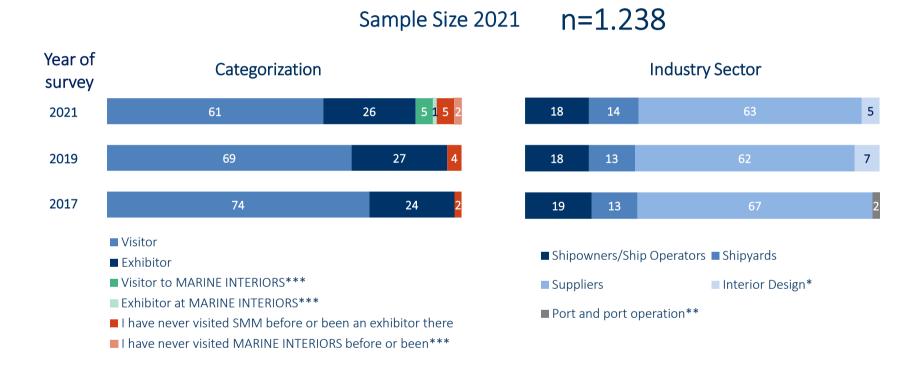
General remark:

There are several questions where multiple answers were possible and the diagrams add therefore up to >100%

^{*}Size of adjusted sample, bounce-back addresses were removed from sample after sending out invitations

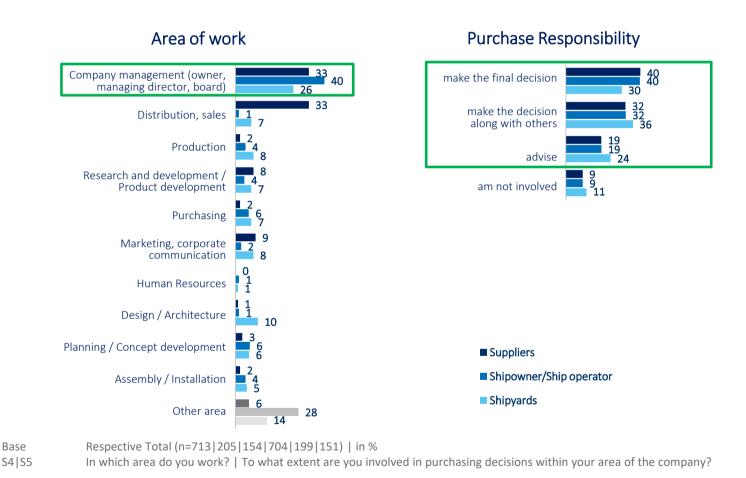
^{**} Smaller sample base for 2019/2021 caused by data base adaptations according to new data protection standards (GDPR)

Very similar sample composition compared with previous years, the vast majority are SMM visitors and come from supplier companies.



Base Respective Total (n=1238|1493|2506|1135|1493|2506) | in % | *not asked for in 2017 | **not asked for in 2019 and 2021 | ***not asked for in 2017 and 2019 S1|S2|S2a: Are you ... | In which of the following sectors can your company/organization be primarily allocated?

Most participants have managerial responsibility and are conclusively involved when it comes to purchasing decisions.



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Business Climate

SMM Maritime Industry Report 2021 The Maritime Industry Business Climate Indicator

This indicator is calculated as an approximation of the general business climate in the maritime industry. Based on all questions on business and growth potential from the different industry sectors, a balance of the shares of positive and negative forecasts is calculated.*

This is based on the following questions:



<u>From shipowners/ship operators - R2-R4c:</u> In your opinion, to what extent will the degree of capacity utilization/cargo rates/charter rates change in your fleet by the end of 2022?



<u>From shipyards – W2a-d & W5a-d:</u> In your opinion, how will order/repair activities for the building of new ships develop in relation to cargo ships/ cruise ships/ work ships/ navy ships/ yachts and others up to the end of 2022?



<u>From suppliers – Z3:</u> In general, how do you rate the sales potential of your products in the shipbuilding industry?

^{*}Formula of Business Climate Indicator = [((T2BR2-4c in % - L2BR2-4c in %) * nR2-4c) + ((T2BW2a-d in % - L2BW2a-d in %) + (T2BW5a-d in % - L2BW5a-d in %))/2 * nW2a-d/W5ad)+(T2BZ3 in % - L2BZ3 in %) * nZ3)] / (nR2-4c + nW2a-d/W5a-d + nZ3)

The general business outlook for the coming year varies by industry sector: shipowners and -operators have gained optimism, while suppliers have lost it.

Maritime Industry Score



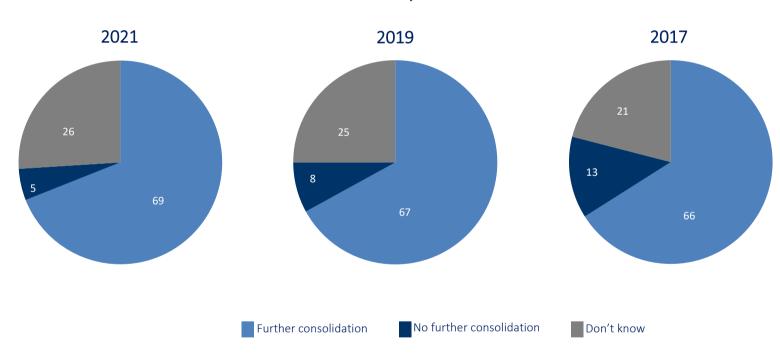
R2|R3|R4|R4c|W2a|b|c|d|e|W5a|b|c|d|Z3: Balance of positive minus negative growth in %-points / in %

market

made.

The consolidation process in the shipping industry continues to grow. As in 2017 and 2019, 2/3 of the shippard respondents believe that it will continue.

Consolidation processes



Base Respective Total (n=154|192|315) | in %

W3: In your opinion, to what extent will the consolidation processes (takeovers, mergers or insolvencies) develop in your market segment/s?

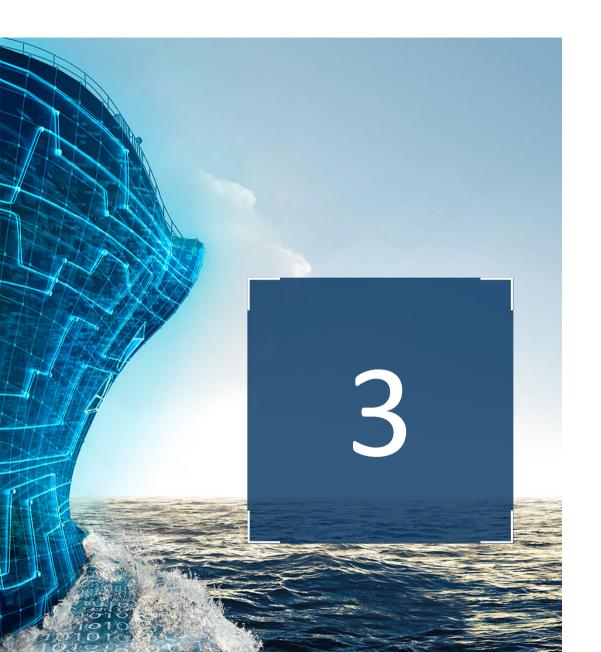
SMM Maritime Industry Report 2021 What is the situation like?

Overall, the participants from all sectors gave a rather positive general outlook on the economical situation of the maritime industry.

In spite of the good business opportunities, the situation remains tense:

Especially the shipyard industry is struggling in the cruise ship sector, but they can compensate this decrease in other business areas. The outlook for suppliers is also slightly more negative than in previous years. At the same time, shipowners/ship operators are very positive about the future, they firmly expect that the decline during the pandemic can be made up again.

In the following, the results from each sector will be presented individually to give detailed insights into the current situation and future trends. New this time is a special section on marine interiors.





Shipowners/Ship operators

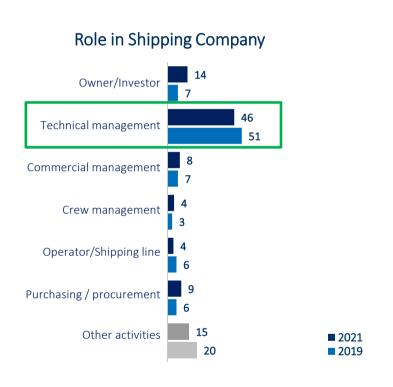


Main Content - Shipowners/Ship operators

- 1 What developments can be expected in terms of business climate?
- 2 What developments can be assumed in the field of investment activities?
- How will the planned emissions reduction goal of the IMO affect the shipping sector?
- 4 Which improvements will occur in fuel options?
- In which areas will digitalization have an impact on the shipping industry?
- 6 How important is cyber security?

Shipowners/Ship operators members only (n=205)
All results are based on the sample of visitors and exhibitors of SMM

Technical management remains the predominant position of the shipowners/ship operators, the various other functions are much less common.







Base Total (n=205|269|466) | in % | *not asked for in 2017 R1: What is your main activity in the shipping sector?

Following the pandemic, the outlook is very positive, with business activity generally expected to increase in all sectors.





Cargo Rates



Charter Rates





Base R2|R3|R4: Respective Total (n=205|269|466|205|269|466|205|269|466) | in %

In your opinion, to what extent will the degree of capacity utilization change in your fleet by the end of 2022? | How do you think the cargo rates will develop up until the end of 2022? | And how do you think the charter rates will develop up until the end of 2022?

Owner and commercial managers look especially at the Capacity <u>utilization</u> positive about the future. Different situation for cargo and charter <u>rates</u>.



Capacity Utilization

Owner/

Commercial Mgt.

+61 (+49)*

16

13

Technical and

other

+50 (+35)*



Cargo Rates

Charter Rates







*Balance of 2019

Base

Respective Total (n=45 | 130 | 45 | 130 | 45 | 130) | in %

R2 | R3 | R4:

In your opinion, to what extent will the degree of capacity utilization change in your fleet by the end of 2022? | How do you think the cargo rates will develop up until the end of 2022? | And how do you think the charter rates will develop up until the end of 2022?

Overall, the outlook for other revenues is also positive, but with a less significant increase. The type of revenue is broad and very similar to the last survey.

2

Other revenue besides freight or charter rates

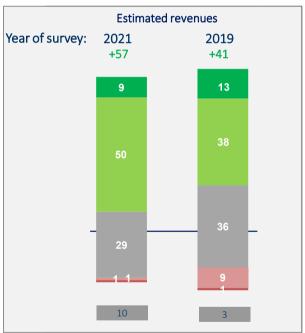
Other revenues show a lot of variation, more often mentioned were:

- Ship management fees
- Consulting
- Supervision, technical support for third parties
- Government ships

Also mentioned, but to a lesser extent:

- Cruise line
- Plant traffic / transport
- Income from port services
- Decommissioning
- And others









Base Respective Total (n=70 | 77) | in %

R4b|R4c: If you cannot classify your compensation under freight or charter rates, what kind of other revenue do you have? How do you estimate the development of your other revenue

until the end of 2022?

Owners and commercial managers in particular look positive on the development of other revenue streams.

2

Other revenue besides freight or charter rates

Other revenues show a lot of variation, more often mentioned were:

- Ship management fees
- Consulting
- Supervision, technical support for third parties
- Government ships

Also mentioned, but to a lesser extent:

- Cruise line
- Plant traffic / transport
- Income from port services
- Decommissioning
- And others

Other revenue until 2022 Estimated revenues







*Balance of 2019

Base Respective Total (n=70) | in %

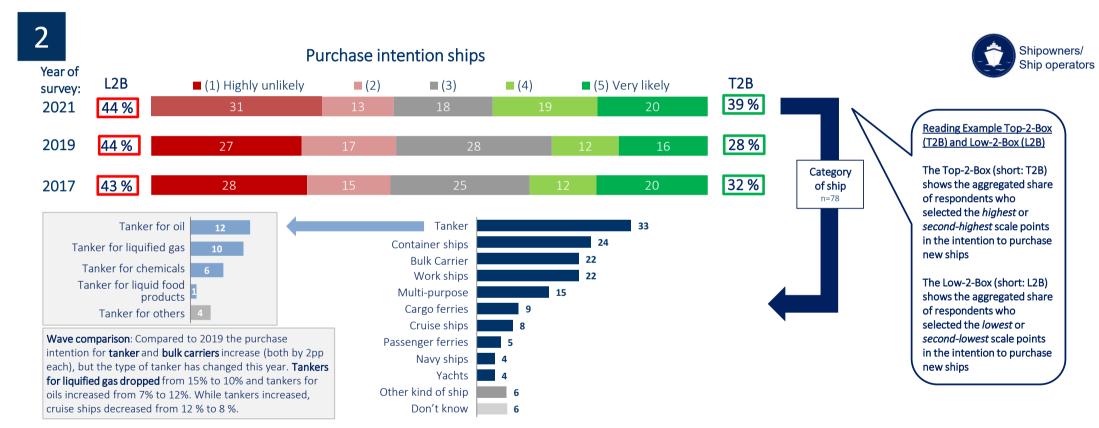
R4b|R4c: If you cannot classify your compensation under freight or charter rates, what kind of other revenue do you have? How do you estimate the development of your other revenue

by 2022?

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19

Higher polarization of planned purchase intention of shipowner: almost the same amount of participants want to purchase or not purchase in the future.



Base Respective Total (n=205|466|269|78) | in %

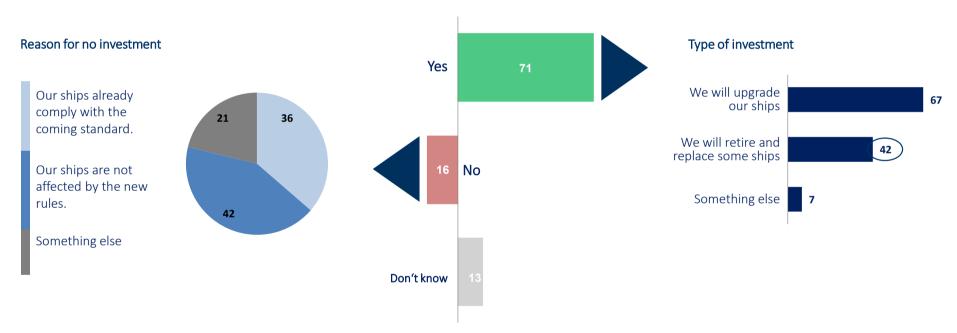
R8|R8a: How likely is it that you will purchase (or recommend purchasing) one or more ships for your fleet by the end of 2022? | Which types of ship are you most likely to purchase for your fleet by the end of 2022?

As a result of the emission reduction goals 71% want to make further investments - 2/3 of them focusing on ship upgrades.

3

Investments needed due new emissions regulations: reduction of at least 40% by 2030 and 50% by 2050 (compared with 2008)





Base Respective Total (n=205 | 145 | 33) | in %

R5|R5a: Do you think this will require investments in your fleet within the next two years? | To what extent do you think you will need to invest in the fleet?

R5b: You stated that no investments will be needed because of the new emissions regulations. Why not?

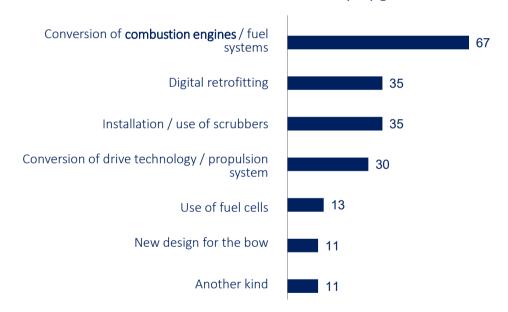
Investments are mainly made in conversion of combustion engines and fuel systems to modernize the ships.



Investments needed due new emissions regulations: reduction of at least 40% by 2030 and 50% by 2050 (compared with 2008)



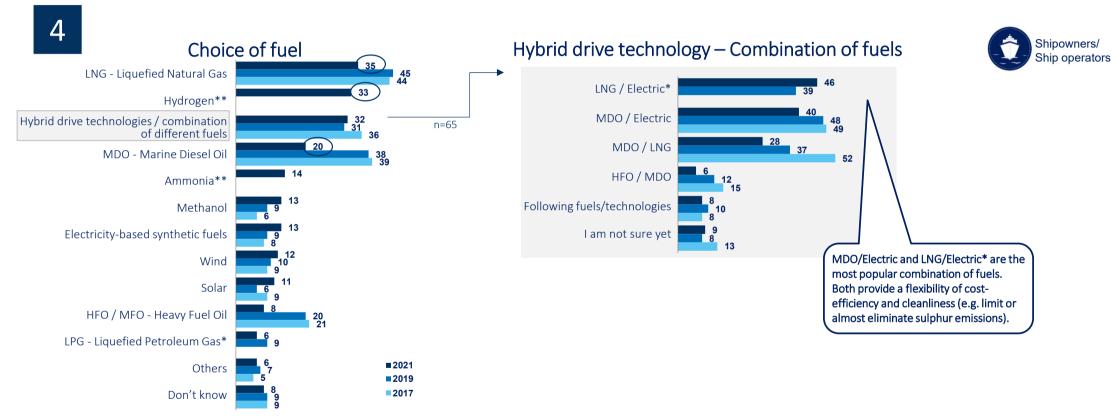
Kind of investment in ship upgrades



Base Respective Total (n=97) | in %

R5aa: What upgrades do you think you will be doing?

The importance of fossil fuels is decreasing in future investments, while hydrogen and hybrid drives become more and more important.



Base Respective Total (n=205|269|466|65) | in % | *not asked for in 2017 | **not asked for in 2017 and 2019

R6|R6a: Which kinds of fuels will you prefer when making future investments? | You said that you would prefer a combination of different fuels/drive technologies in future. Which combination(s) of fuels/drive technologies do you mean?

Digitalization is on the rise in many areas of the shipping industry, especially relevant for fleet management and ship operation.



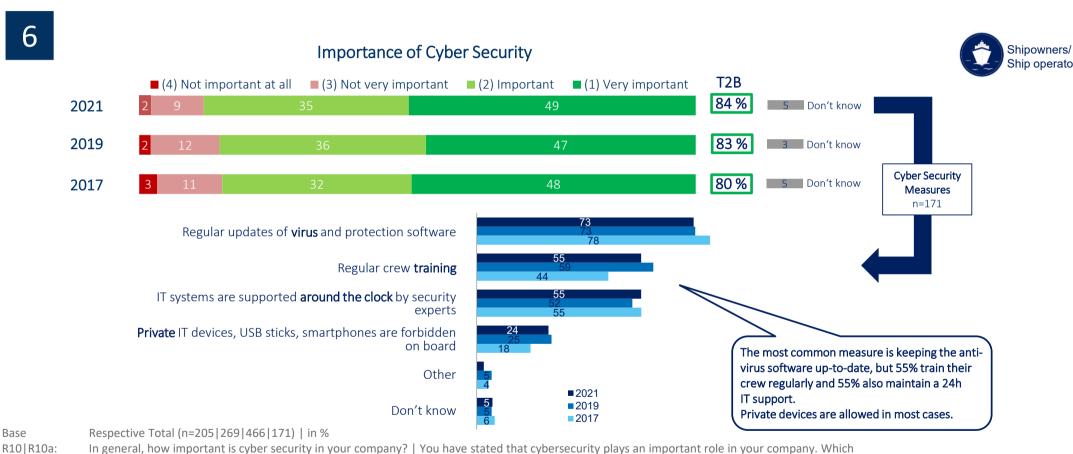




Base Respective Total (n=205) | in %

R7: Thinking of the next few years, in which areas do you expect the most impulses for the shipping industry in the next few years due to increasing digitalization?

Cyber security remains a crucial topic for most. The key measures remain similar to the last years.



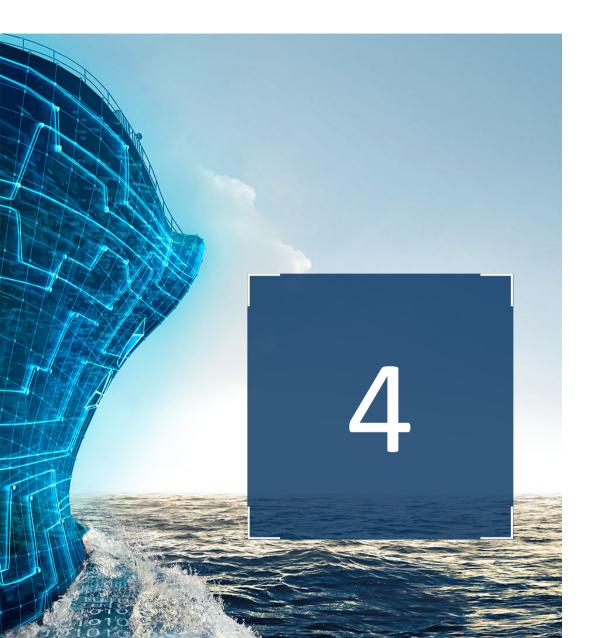
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specific measures do or have you carried out?

Summary – Shipowners/Ship operators



- Most participants expect better freight and charter rates as well as better capacity utilization. In 2021 the expectations are even more positive, especially for **utilization**.
- This is also reflected in an increase in purchase intentions: 39% of the participants plan to buy **new ships**. This is especially the case for **tankers** (esp. oil). On the other hand cruise ships and passenger ferries declined.
- The new emissions regulations requires fleet investments for about 71%, who strongly prefer **upgrading their ships** but also significantly driving **replacement** of ships.
- **Hydrogen** and **hybrid drives** become more and more important. The preference for LNG! and other fossil fuels is decreasing!
- The digitalization will affect many areas of the shipping industry and will be especially relevant for **fleet management** and **ship operations**.
- **Cyber security** remains of utmost importance, with virus and protection software, training and constant IT systems support as most crucial measures.





Shipyards

Main Content - Shipyards

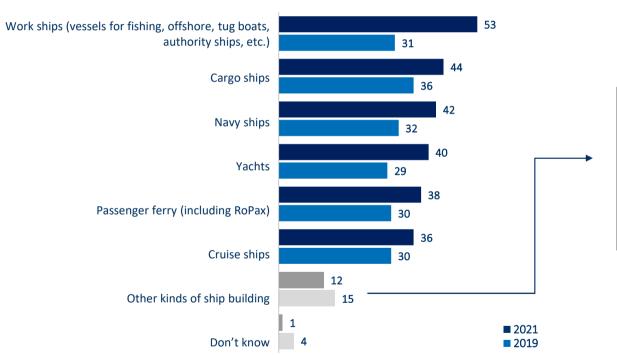
- 1 What developments can be expected in terms of business climate?
- 2 Will the sector continue to consolidate?
- How will planned environmental protection standards affect the shipping sector?
- 4 Which improvements will occur in fuel options?
- Which areas are important for the industry when thinking about the next two years?
- In which areas will digitalization have an impact on the shipping industry?

Shipyard industry members only (n=154)
All results are based on the sample of visitors and exhibitors of SMM

Shipyards participants cover all market segments, with work ships being the biggest category.







Other kinds of shipbuilding

Out of the variety of other options, often mentioned areas are structures / installations, e.g. wind turbines, oil

Additionally, there are individual mentions of icebreakers, ship repair, consulting and engineering.

Base Total (n=154|192) | in %

S6 (2019: W1): In which market segments are you active or what types of ships are you building respectively?

The business climate remains positive, although the order activity for RoRo ships has decreased. Boost expected for container ships.

+14

2021

Tanker

+17

2019

+15

2021

Cargo ships

+41

15

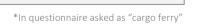
Order activities

Bulk carrier

+18

2021





2019

Respective Total (n=67 | 70) | in % Base

2019

2021

Container ship

W2a In your opinion, how will order activities for the building of new ships develop in relation to cargo ships up to the end of 2022?

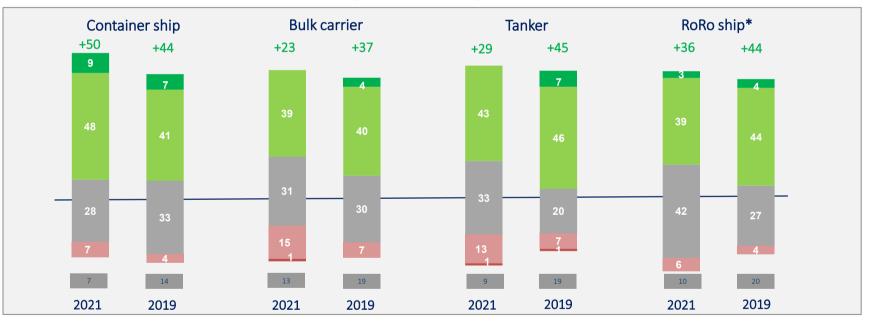
2019

The business climate also remains positive in repairs. The repair of container ships is also in strong demand.

1 Cargo ships

Demand for ship overhauls, repairs, refits or conversions







*In questionnaire asked as "cargo ferry"

Base Respective Total (n=67|70) | in %

W5a In your opinion, how will the demand for ship overhauls, repairs, refits or conversions develop in relation to cargo ships up to the end of 2022?

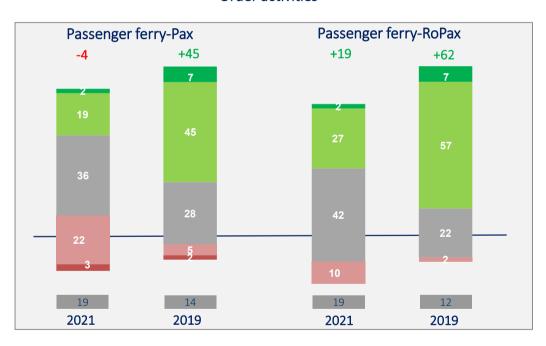
The Corona pandemic has consequences: The demand of new passenger ferries has dropped significantly, but there is still high demand for repairs.

1 P

W5a1

Passenger ferries













Base Respective Total (n=59|58|59|58|59) | in % W2ab In your opinion, how will order activities for t

In your opinion, how will order activities for the building of new ships develop in relation to passenger ferries (Pax and RoPax) up to the end of 2022?

In your opinion, how will the demand for ship overhauls, repairs, refits or conversions develop in relation to passenger ferries (Pax, RoPax) up to the end of 2022?

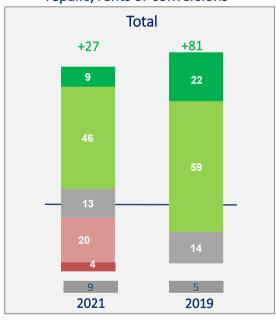
Further effect of travel restrictions: demand for cruise ships has also declined strongly - this also applies to the demand for repairs.

1 Cruise ships

Order activities



Demand for ship overhauls, repairs, refits or conversions







Base Respective Total (n=56|58|56|58|56) | in %

W2ac In your opinion, how will order activities for the building of new ships develop in relation to cruise ships up to the end of 2022?

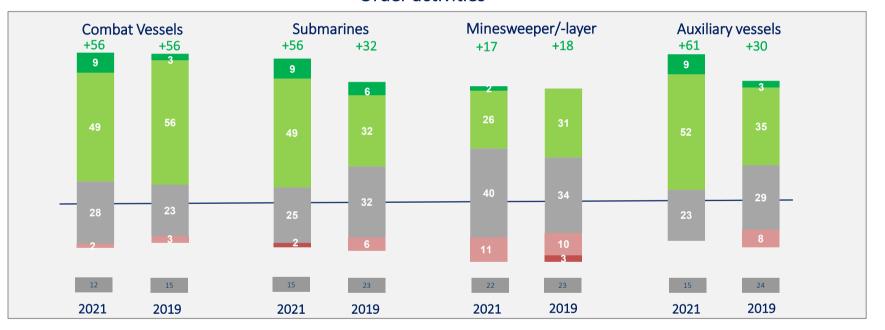
W5a2 In your opinion, how will the demand for ship overhauls, repairs, refits or conversions develop in relation to cruise ships up to the end of 2022?

Navy ships show the highest expected increase – especially for auxiliary vessels more than 60% see increasing order activities.

1 Navy ships

Order activities





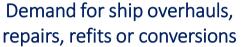


Base Respective Total (n=65 \mid 62) \mid in %

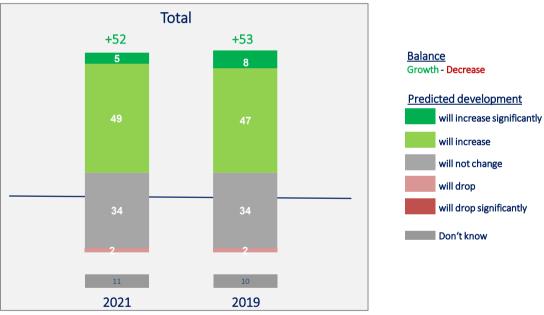
W2c In your opinion, how will order activities for the building of new ships develop in relation to navy ships up to the end of 2022?

Expected need for repairs of navy ships is almost at the same level as in survey 2019.









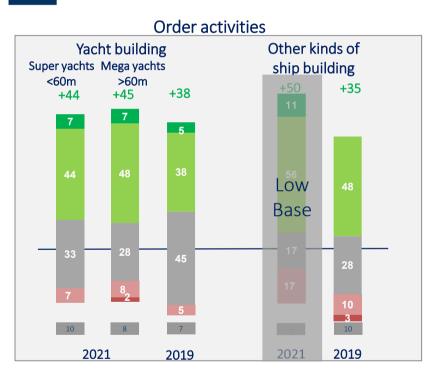
Base Respective Total (n=65|62) | in % W5c2 In your opinion, how will the dema

In your opinion, how will the demand for ship overhauls, repairs, refits or conversions develop in relation to navy ship building up to the end of 2022?

Participants of the yacht business see growing demand for new ships. Demand for yacht repairs are on the same high level as in survey 2019.

1

Yacht building and other kinds of ship building









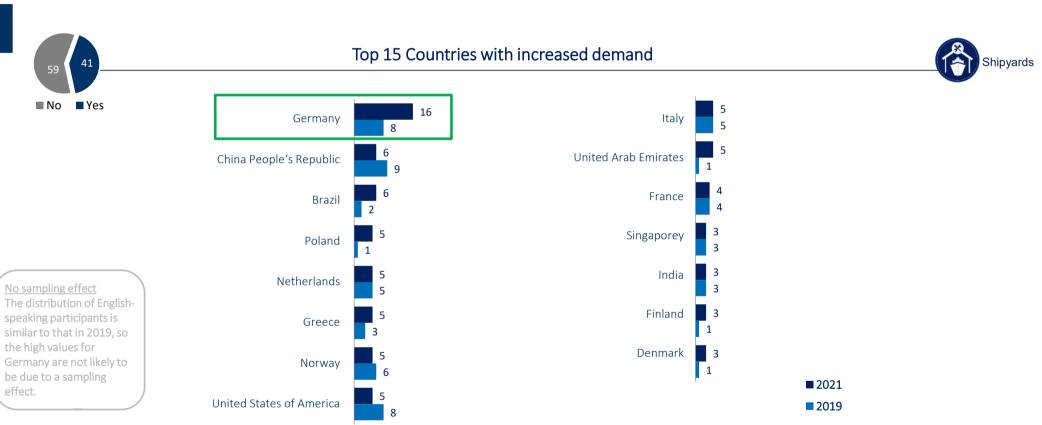
Base W2b1|W2d W5b|W5d Respective Total (n=61|56|18|29|61|28|18|29) | in %

In your opinion, how will order activities for the building of new ships develop in relation to yachts/ in the following areas up to the end of 2022?

In your opinion, how will the demand for ship overhauls, repairs, refits or conversions develop in relation to yacht building/ in the following areas up to the end of 2022?

Compared to the survey 2019, expectations in China and the USA have fallen, but there is a strong increase in demand in Germany, Brazil and Poland.





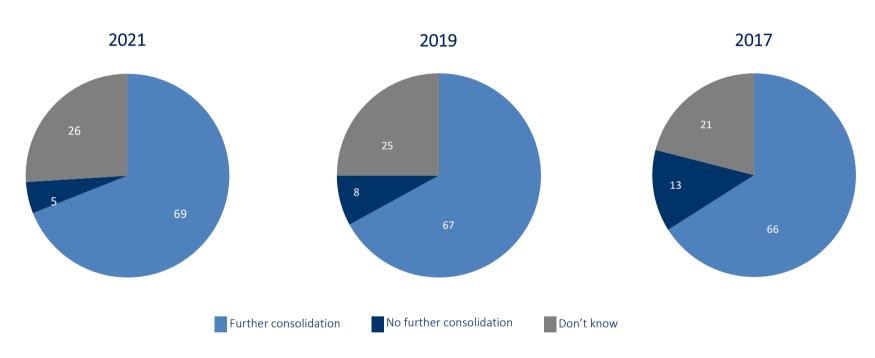
Base Respective Total (n=154|192) | in % | *not asked for in 2019

W5e Are there any specific countries from which you expect increased demand by the end of 2022?

The consolidation process in the shipping industry continues to grow. As in 2017 and 2019, 2/3 of the shippards respondents believe that it will continue, but not further accelerate.

2

Consolidation processes



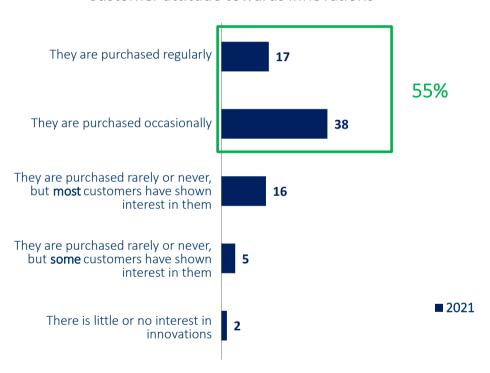
Base Respective Total (n=154|192|315) | in %

W3: In your opinion, to what extent will the consolidation processes (takeovers, mergers or insolvencies) develop in your market segment/s?

Product innovations of the shipyards are accepted by the market: 55% say that they can sell their innovations at least occasionally.

3

Customer attitude towards innovations



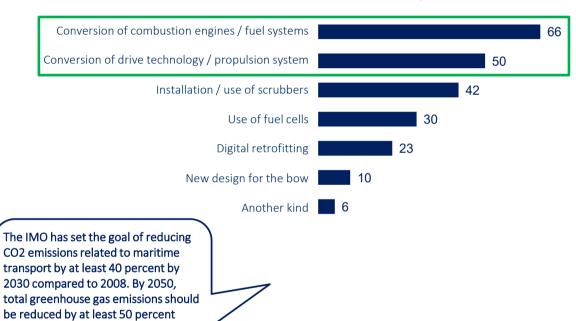


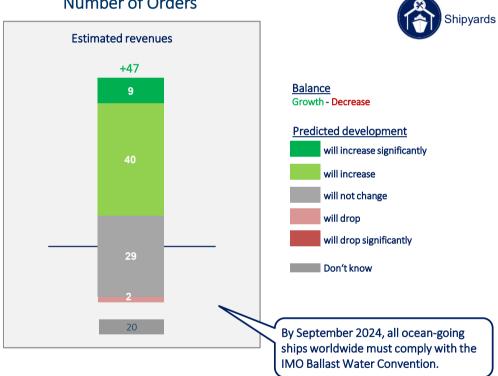
Base Total (n=154) | in % | not asked in 2017/ 2019

W11: What do your customers think about the innovations that you offer?

Most customer inquiries about environmental protection, are expected during





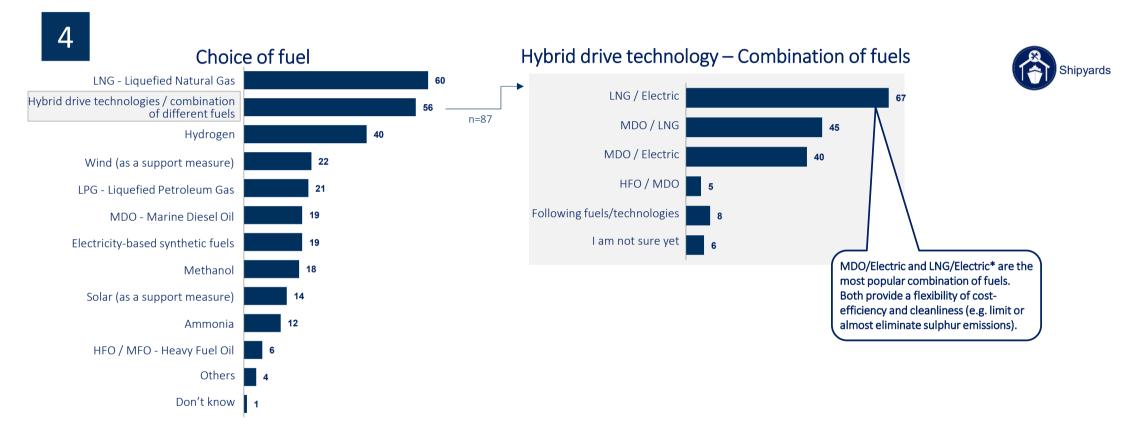


Respective Total (n=154|154) | in % Base

W8|W9: In which areas do you expect the most customer inquiries in the next two years? Do you expect this regulation to result in additional orders until the end of 2022?

compared to 2008.

Shipyards estimate high demand for LNG and hybrid drive technologies in the future. Also for hybrid options, the combination with LNG is most preferred.

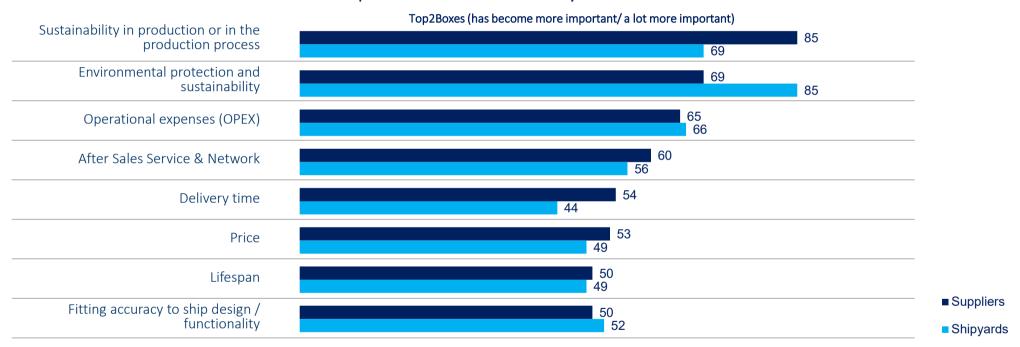


Base Respective Total (n=154|87) | in %

W10|W10a: For which types of fuel do you think there will be the greatest demand in the shipping industry in the future? | Which combination(s) of fuels/drive technologies do you mean?

Sustainability and environmental protection will be the most important topics for the suppliers and the shipyards within the next two years.

Areas that will become more important within the next 2 years



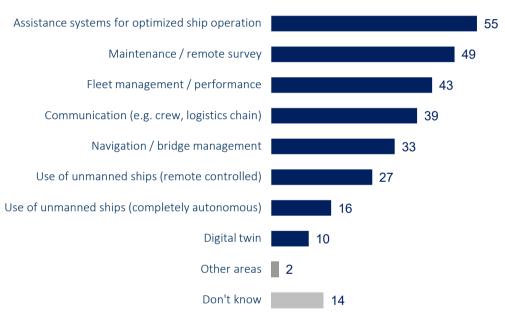
Base Total (n=713 | 154) | in %

27a: Please state for each area whether you think it will become more or less important within the next 2 years. | Please state for each area whether you think it has become more or less important over the last 5 years.

The benefits of digitalization are expected mainly in the optimization of existing systems and less in completely unmanned ships.









Base Respective Total (n=154) | in %

W4: Thinking of the next few years, in which areas do you expect the most impulses for the shipping industry in the next few years due to increasing digitalization?

Summary - Shipyards

- The Corona pandemic is having noticeable effects: low expectations for cruise ships and passenger ferries, but a positive for container and navy ships
- The **consolidation** within the sector will most likely continue. Already 69% believe in further consolidation, which is very similar compared with 2017 and 2019.
- Increase in number of orders expected due to **environmental standards**. Especially conversion of **combustion engines** are expected to be in demand in the future.
- According to the shipyards, **LNG** or a **hybrid drive technology** of LNG and electric will be the chosen fuel in the future.
- In general, the **sustainability aspect** will become more important in the shipping industry. **Price**, on the other hand, will become **less relevant**.
- The shipyards also perceive the importance of **digitalization** in terms of **process optimization**. For example with Assistance systems for optimized ship operation or with a digitized fleet management.





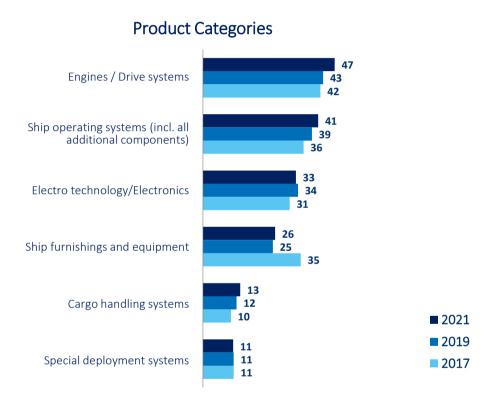
Suppliers

Main Content - Suppliers



- What developments can be expected in terms of business climate?
- What are the attitudes toward innovation?
- Which areas are important for the industry when thinking about the next two vears?
- How will planned environmental protection standards affect the shipping sector?
- What importance have LNG and hybrid refueling systems already from the suppliers point of view?
- In which areas will digitalization have an impact on the shipping industry?

Suppliers represent a broad range of product categories, of which the most common are engine / drive systems, ship operating systems and electronics.





Base Total (n=713|932|1673) | in %

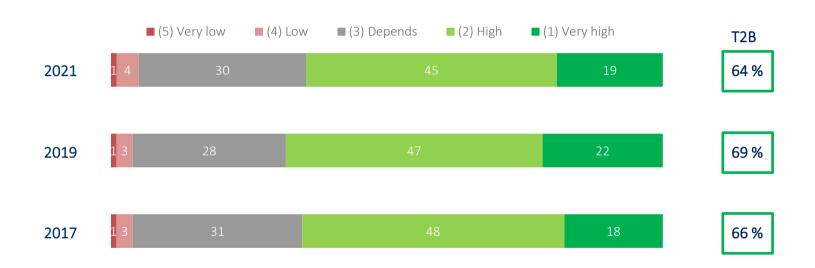
Z1: In which categories do your products generally belong?

The business outlook for suppliers is less positive than in previous years, but more than 2/3 still see at least a high sales potential.



Sales possibilities ship building



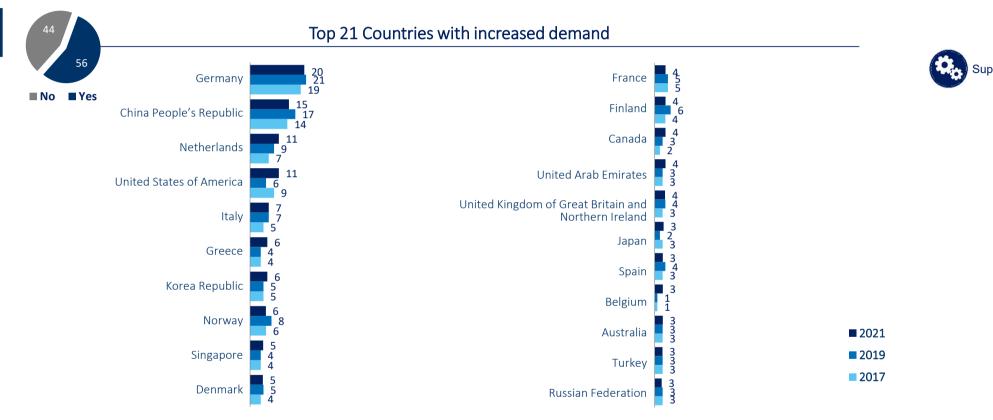


Base Total (n=713|932|1673) | in % Z3: In general, how do you rate the

In general, how do you rate the sales potential of your products in the shipbuilding industry?

US and Netherlands increase in expected demand, but Germany and China are still the in the lead.



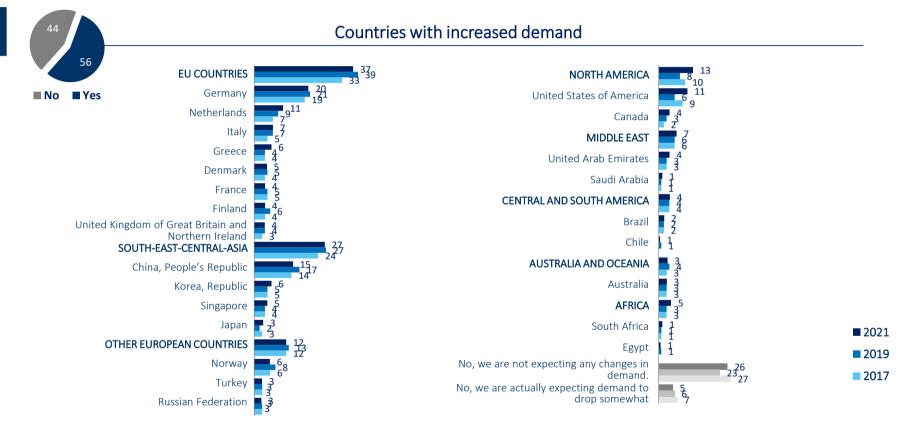


Base Total (n=713 | 932 | 1673) | in %

Z4: Are there any countries from which you are expecting increased demand by the end of 2022?

The countries where suppliers expect demand to increase look similar to 2017 and 2019, with only North America increasing significantly due to the US.





Supplier

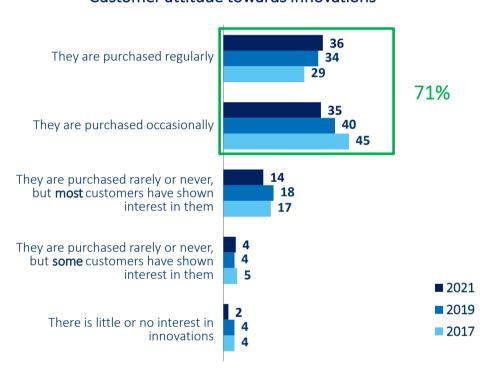
Base Total (n=713 | 932 | 1673) | in %

Z4: Are there any countries from which you are expecting increased demand by the end of 2022?

Product innovations of the suppliers are accepted by the market: 71% say that they can sell their innovations at least occasionally.

2

Customer attitude towards innovations

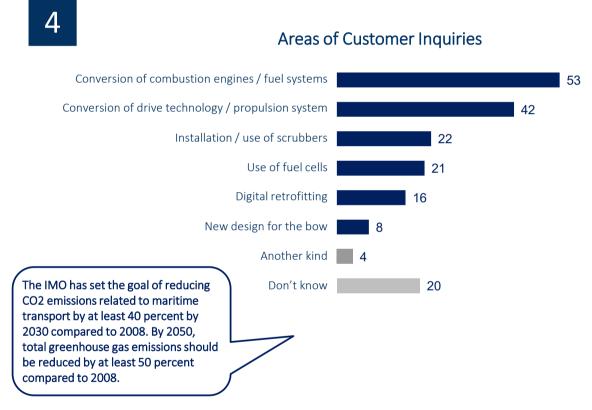


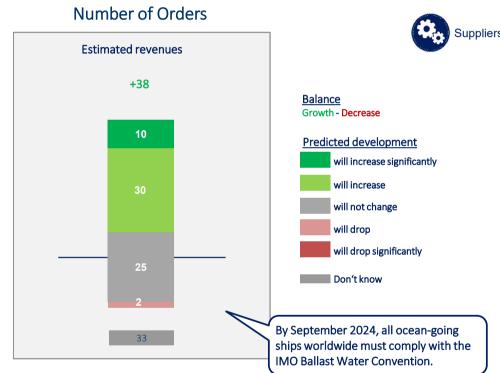


Base Total (n=713 | 932 | 1673) | in %

Z8: What do your customers think about the innovations that you offer?

40% of suppliers expect a higher number of orders due to the IMO Ballast Water Convention.



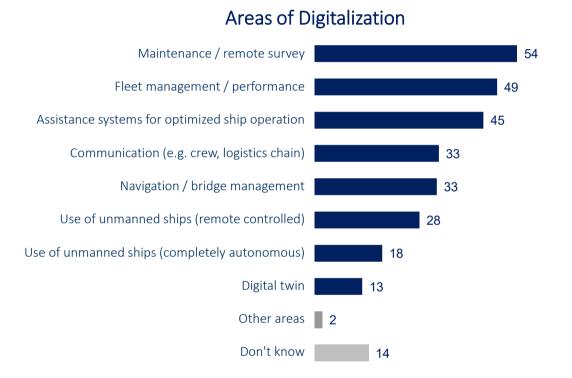


Base Respective Total (n=713|713) | in %

Z10|Z11: In which areas do you expect the most customer inquiries in the next two years? Do you expect this regulation to result in additional orders until the end of 2022?

Digitalization is on the rise in many areas of shipping industry, for suppliers especially relevant in maintenance, fleet management and assistance systems.

6

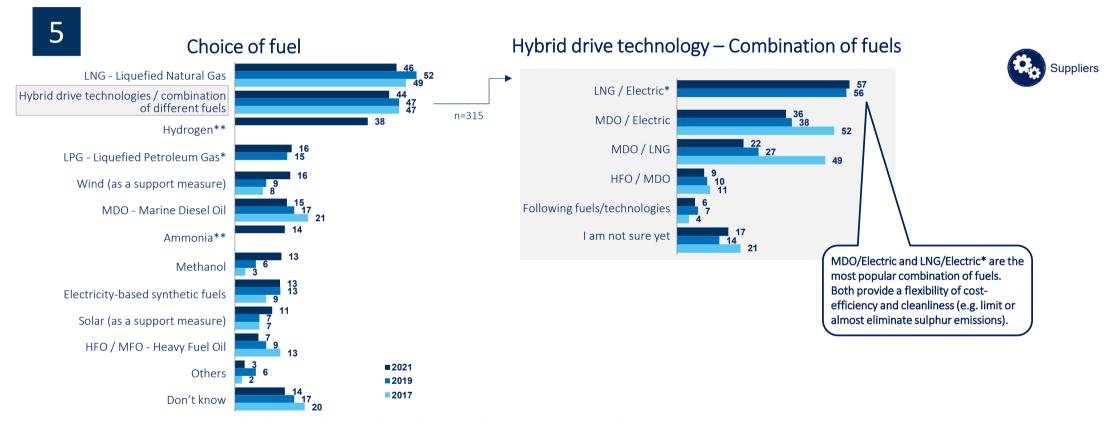




Base Respective Total (n=713) | in % Z9: Thinking of the next few years.

Thinking of the next few years, in which areas do you expect the most impulses for the shipping industry in the next few years due to increasing digitalization?

The LNG trend slows down; instead, hydrogen is expected to take on a greater role as fuel.



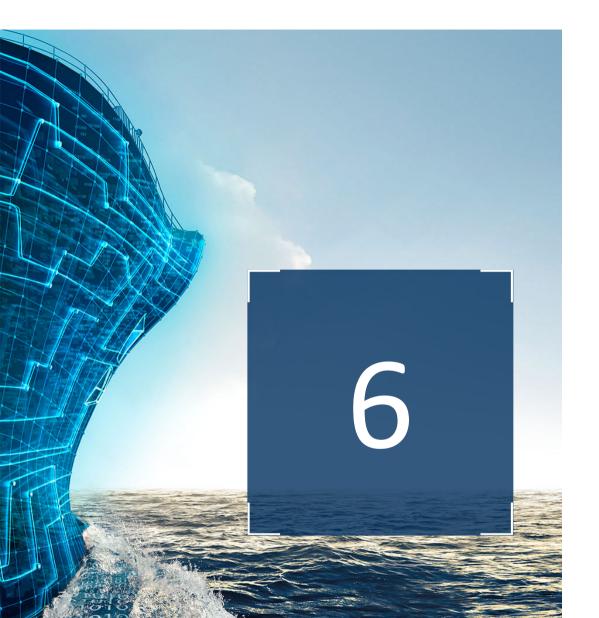
Base Respective Total (n=713|932|1673|315|440|794) | in % | *not asked for in 2017 | **not asked for in 2017 and 2019 Z5|Z5a: In your opinion, which fuels will be in greatest demand in future in the shipping industry? | You stated that you expect

In your opinion, which fuels will be in greatest demand in future in the shipping industry? | You stated that you expect significant demand for a combination of different fuels/drive technologies in future. Which combination(s) of fuels/drive technologies do you mean?

Summary - Suppliers 🕰



- Suppliers are less optimistic about their sales opportunities than last years. Nevertheless, still 64% see high or very high sales possibilities.
- Product innovations of the suppliers are accepted by the market: 71% say that they can sell their innovations at least occasionally.
- For the majority, environmental protection and sustainability will become more 3 important in the next two years: 85% rate sustainability as at least more important.
- Order numbers and customer demand will also change due to environmental protection measures: increasing order numbers and conversion of combustion engines are assumed.
- For the **fuels of the future**, suppliers believe mainly in **hydrogen** or **hybrid solutions**, the LNG trend from 2019 seems less persistent / over the peek.
- About half of the suppliers expect **impulses of digitalization** especially in maintenance/remote survey and fleet management/performance. But it also seems to be relevant for assistance systems.





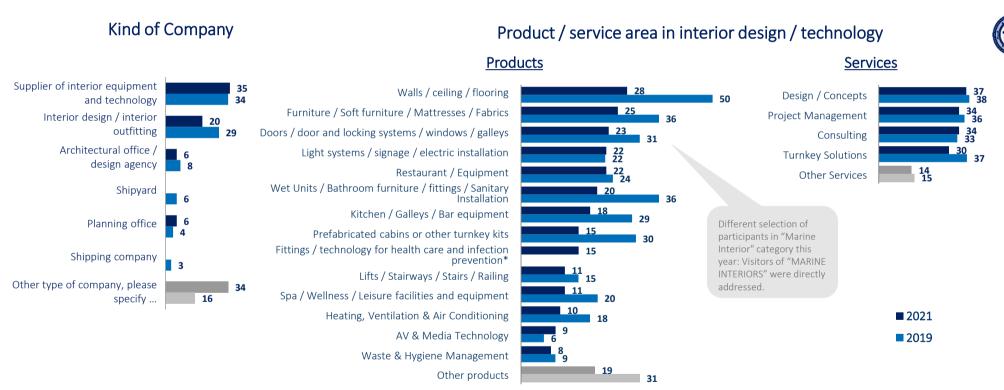
Marine Interiors

Main Content – Marine Interiors



- What developments can be expected in terms of business climate?
- Which areas are important for the industry when thinking about the next two years?
- Is expansion into Asia also an option for marine interior manufacturers?
- What will be the latest trends in marine interior design considering the pandemic?

Marine interior specialists are most commonly suppliers of interior equipment and technology or active in designing and outfitting.



Respective Total (n= 159|100|166|100) Respondents of Ship interior outfitting / interior decoration / interior design | in % | *not asked for in 2019 S2b(2019: CF1) In which of the following sectors can your company / organization be primarily allocated?

CF2: In which product / service area in interior design / technology are you active?

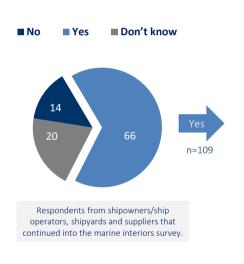
Marine

Interiors

Well over 2/3 see demand for products and services for ship interiors by 2022. The need is spread across the full range of products and services.

1

Need for products and services only for shipowners/ship operators, shipyards and suppliers by 2022





Base Respective Total (n=166 |109|126) | in % | *not asked for in 2019

CF3 | CF4: Do you or your customers and clients have a need for products and services for ship interiors until the end of 2022? | In which of the following product categories and services do

you see a need?

Optimistic outlook: More than 50% of maritime interior producers rate their sales potential as high or very high.





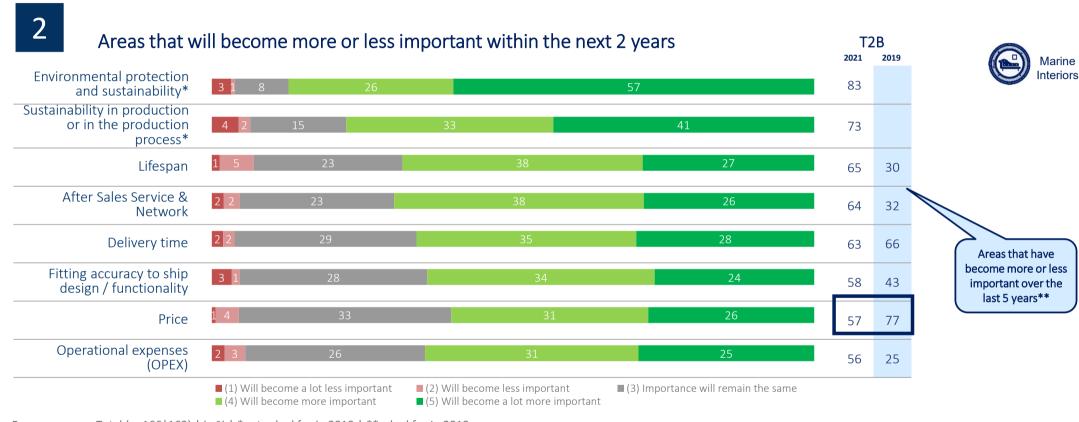
Rate of sales potential



Base Respective Total (n=166) | in %

CF5: In general, how do you rate the sales potential (market demand) of your products in the shipbuilding industry?

Sustainability appears as an important aspect over the different ship areas. In addition the importance of price has also declined for interior manufacturers.



Base Total (n=166|162) | in % | *not asked for in 2019 | **asked for In 2019

CF8: Please state for each area whether you think it will become more or less important within the next 2 years. | Please state for each area whether you think it has become more or less important over the last 5 years.

Summary - Marine Interiors

- Marine interiors are **very optimistic** with regard to their sales opportunities, with over 1/2 seeing their potential as high or very high.
- Sustainability appears as an important aspect over the different ship areas. In addition the importance of price has also declined for interior manufacturers.
- Significant increase in marine interiors, which have already **expanded into Asia**. Especially sales agent and production are more represented in Asia than in 2019.
- Trends within marine interiors will be **pandemic-related developments**, such as **disinfecting measures**, and **further automating innovations**.

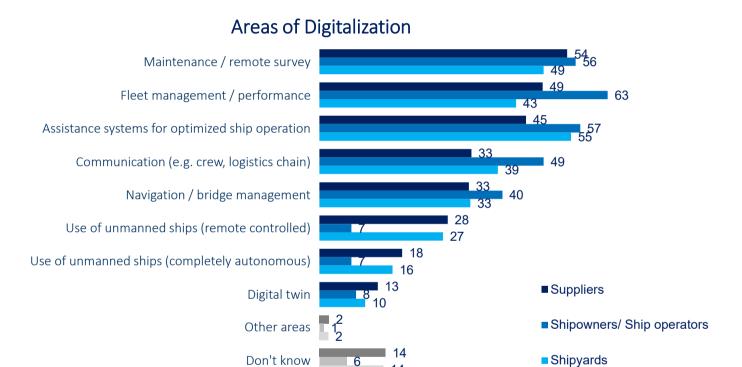






Appendix

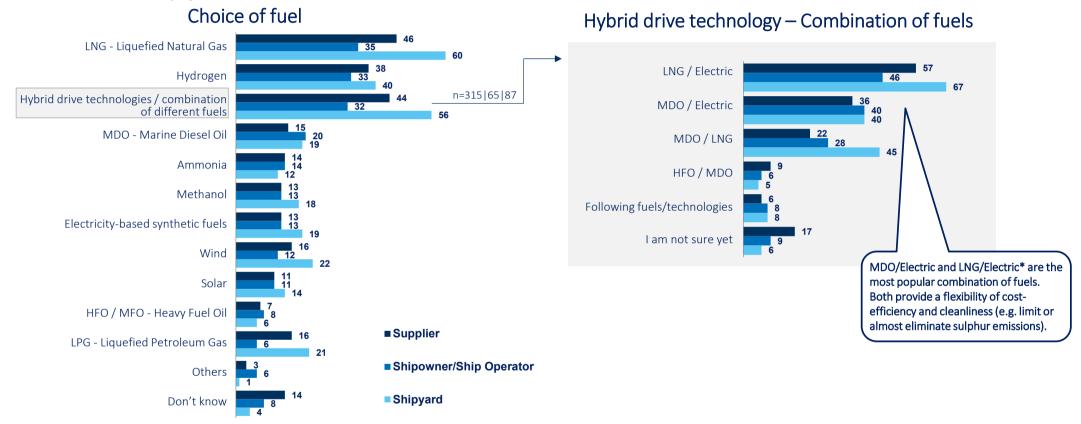
Digitization will have an impact on many areas of the shipping industry - suppliers, shipowners/-operators and shippards agree.



Base Respective Total (n=713|205|154) | in %

Z9|R7|W4: Thinking of the next few years, in which areas do you expect the most impulses for the shipping industry in the next few years due to increasing digitalization?

LNG, Hybrid drive technologies und Hydrogen are the choice of fuel for the future. Shipyards, unlike the others, are still the most convinced of LNG.



Base Respective Total (n=713 | 205 | 154) | in %

Z5|Z5a|R6|R6a Which kinds of fuels will you prefer when making future investments? | Which combination(s) of fuels/drive technologies do you mean?

W10 W10a For which types of fuel do you think there will be the greatest demand in the shipping industry in the future? Which combination(s) of fuels/drive technologies do you mean?