

# **COVID-19 – impact on shipping**

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# 1. Introduction

The global outbreak of the Coronavirus (COVID-19) had an impact on global shipping, affecting all shipping sectors from passenger ships to container ships and oil tankers. The coronavirus crisis escalated to unprecedented levels in Europe in March 2020, with a severe impact on health, people and economy. Many countries responded to the pandemic by imposing lockdowns or restricting movements. The European Union responded to the outbreak of COVID-19 and its consequences by adopting a wide range of measures in many areas (health, economy, research, border, mobility, etc.). Since the start of the COVID19 crisis, the Commission, the Member States and the shipping industry have been taking measures to ensure the continuity of operations and thus the security of supply.

Coronavirus still is an ongoing situation. What shipping will look like post COVID-19 is unclear; however, EMSA has the necessary data and tools to analyse the impact of the pandemic on certain shipping activities by analysing vessel traffic data and providing reliable figures to assist in the definition of the recovery policies and specific measures. These figures should assist all parties involved (EU, maritime administrations and shipping industry) in determining a recovery strategy to overcome the economic crisis that Europe is facing.

The objective of this report is to provide figures on the impact of COVID-19 on shipping traffic; it is based on solid vessel movements statistics showing the port call trends without interpreting the statistical data. The report could not serve the purpose of an economic impact analysis since the trade volumes are not available in the EMSA systems. The report focuses mainly on EU ports and EU flagged ships, but there are also statistics about the shipping routes from Europe to China and from Europe to the US have been affected.

For the purpose of this report, the term Member States refer to EU Member States, EFTA countries (Iceland and Norway).

The report is divided into sections presenting the impact in the following areas:

- a. **Ship calls at EU ports:** Analyses information provided to the SSN system and focuses on traffic to EU ports. This section provides general statistics comparing ship calls in 2019, 2020, 2021 and 2022 as well as detailed statistics per ship type and per Member State.
- b. **Ships flying the flags of EU Member States:** This section is based on information available in SSN and the LRIT DC crosschecked with MARINFO data (EMSA database fed by information bought from commercial providers). It analyses the impact of the COVID-19 outbreak on the activities of the fleets flying the flags of EU Member States.
- c. **EU – China and EU – US Traffic:** This section analyses data on traffic intensity between the EU and China and between the EU and the US (irrespective of the flag of the ship) and identifies trends in 2020 2021 and 2022 in comparison with 2019. It is prepared based on MARINFO information.
- d. **Impact on cruise ships sector:** This section deals with the evolution in the number of cruise ships calling at EU ports and analyses the differences in PoB on cruise ships (2019 vs 2020 vs 2021 vs 2022) based on information provided by Member States to SSN. In addition, this section presents the evolution of the cruise ship port calls worldwide based on MARINFO.

## 2. Executive summary

With international transport at the forefront of trade and dependent on travel and human interaction, the shipping industry has been impacted both directly and indirectly from the outbreak of COVID-19. Using data mainly from the Union Maritime Information and Exchange System (SafeSeaNet<sup>1</sup>), and in certain cases combined with LRIT and MARINFO data, EMSA issues a report providing figures on the impact of COVID-19 on shipping traffic. The report is based on solid vessel movements statistics<sup>2</sup> showing the port call trends without interpreting the statistical data.

By analysing ship calls at EU ports it was found that the number of ships calls at EU ports declined by 10% in the 2020 compared to 2019. When comparing year 2021 with 2019, it was observed the number of ships calls at EU ports increased by 3%. The number of ships calls in June 2022 increased by 13% compared to the same month in

<sup>1</sup> Directive 2002/59/EC on Vessel Traffic Monitoring

<sup>2</sup> The data in the system overall has a 99.6% accuracy.

2019. The most significant decrease in the number of ships calls was detected for Containerships, Refrigerated cargo ships and Vehicle carriers.

Countries still heavily impacted in 2022 are Finland, Germany, Italy, Latvia, Lithuania, Norway and Portugal. The detailed statistics on impact on ship calls to EU ports per Member State and per ship type can be found in section 3.

In 2022 there was a general increase of the values of port calls worldwide under EU flag until February, but in March and during this last trimester, many countries and ship types inverted a recuperation trend probably. This has affected more the tonnages travelling over sea than the number of calls. Still, and overall, EU-MS flagged fleets port call activity worldwide is above the pre-pandemic year of 2019 by +4.2%.

In fact, the ship types that are less affected by this new tendency are precisely Passenger Ships and Ro-pax ships which maintain their values as before even slightly increasing in some cases. Cargo ships are the ones showing higher negative variations in the last trimester, compared with the first trimester of 2022.

In 2022 it is still observed a reduction of the trade between China and the EU, comparing both with 2021 and 2019. This may result from the methodology in view of a change in the pattern of trans-shipments that could have originated in the past a higher number of port calls arriving to Europe directly from Chinese ports, compared with current days. Vehicle carriers seem to have recovered in 2022 to a positive variation from China to Europe.

For the US, in 2022 it is observed a continuous increase of the trade between USA and the EU. The EU exports to USA seem to have fully recovered and increased beyond 2019, but the imports although increasing compared with last year, are still below the values of 2019.

The EMSA analysis put focus on cruise ships which were mostly affected by COVID-19. Every major cruise line in the world suspended departures in mid-March of 2020 as the coronavirus outbreak grew, with some returning to operations in limited number of vessels and areas. The number of cruise ships calling at EU ports declined by 61% in the 2021 compared to 2019. The figures of 2022 shows that the number of cruise ships calling the EU ports in the first half of 2022 increased significantly and is close to the number of calls in the first half of 2019, the last year prior to Covid-19 pandemic. The number of persons on board cruise ships is lower than in 2019 but significantly higher than in 2021.

Ports calls for cruise liners worldwide from 2020 and for 2021 are almost of the same magnitude with reductions of -52.7% and -50.5% compared with 2019, meaning that the recovery for the Cruise sector in 2021 was almost null. The year of 2022, however, shows a significant recovery in the months from January to June reducing the decrease of port calls to -18.2%, compared again with similar period of 2019. The European continent presents the most significant recovery from all continents. Even if the number of calls is still below 2019 values, there is an increased share of port calls taking place in 2021 in European regions compared with other continents.

America is already in June 2022 at the same levels of port calls of the full year of 2021 and, in this first half of 2022 the region figuring Europe is already at three quarters of the volume of calls observed in the full year of 2021, therefore, with summer months ahead, this region will most likely surpass last year's values. More details can be found in the section 6 of the report.

### 3. Impact on ship calls to EU ports

This section analyses the impact of COVID-19 on ship calls at EU ports. These statistics have been prepared based on ship call information provided by Member States to SafeSeaNet in 2019, 2020, 2021 and 2022. Only confirmed ship calls (i.e. ship calls for which MSs reported Actual Time of Arrival) have been extracted from SSN and grouped per month. The ship types have been retrieved from the MARINFO database based on IMO numbers reported to SSN.

#### 3.1 General statistics

In June 2019, there were 73,321 ship calls at EU ports, and in June 2022 there were 82,805 ship calls. The number of calls increased by 13% in comparison with 2019.

The table below shows the number of ship calls per month in 2019, 2020, 2021 and 2022 and the trends between 2020 and 2019, between 2021 and 2019 and between 2022 and 2019. It has been decided to use year 2019 as a reference since it was the last year without COVID-19 in Europe.

Total Year to Date row presents only comparison of data from between January and June and will be updated over the year with months that are completed in 2022.

Month	2019	2020	2021	2022	Trend 2019 to 2020	Trend 2019 to 2021	Trend 2019 to 2022
January	52,975	57,593	52,827	54,294	9%	0%	2%
February	50,746	50,874	51,153	53,180	0%	1%	5%
March	57,871	51,711	59,297	62,284	-11%	2%	8%
April	61,954	43,268	59,435	65,477	-30%	-4%	6%
May	69,941	49,457	65,452	76,747	-29%	-6%	10%
June	73,321	57,977	73,638	82,805	-21%	0%	13%
July	79,392	70,108	84,044	-	-12%	6%	-
August	78,470	72,504	86,560	-	-8%	10%	-
September	71,383	65,742	77,891	-	-8%	9%	-
October	67,140	62,584	70,659	-	-7%	5%	-
November	59,549	57,442	61,635	-	-4%	4%	-
December	52,818	57,675	58,593	-	9%	11%	-
<b>Total Year to Date</b>	<b>366,808</b>	<b>310,880</b>	<b>361,802</b>	<b>394,787</b>	<b>-15%</b>	<b>-1%</b>	<b>8%</b>

Table 1: Number of ship calls reported to SSN in 2019, 2020, 2021 and 2022 per month

The significant decrease in the number of ship calls began in week 12 (16-22 March 2020). This was the week after the WHO declared the COVID-19 outbreak a pandemic (12 March 2020). Since June 2021 the number of ship calls is higher than in 2019, the last year prior to Covid-19 pandemic.

The figure below shows the comparison of the number of ship calls per month in 2019, 2020, 2021 and 2022:

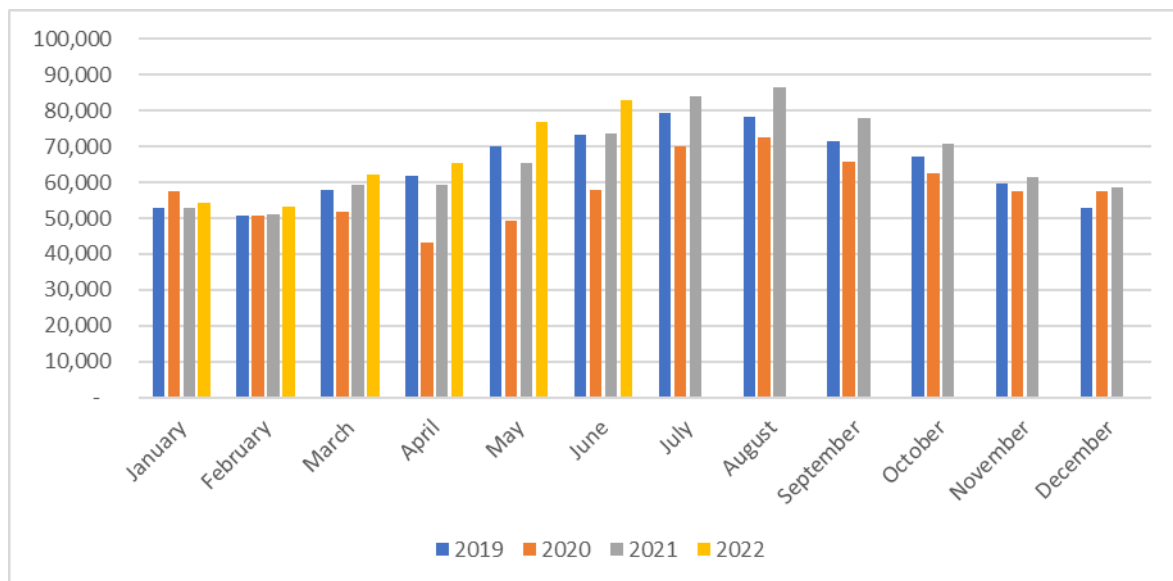


Figure 1: Ship calls reported to SSN in 2019, 2020, 2021 and 2022 per month

### 3.2 Statistics per ship type

The COVID-19 outbreak impacted ship traffic due to:

- the limitations in movements of passengers and crew members (heavily affecting passenger ships), and;
- the lockdown measures in various Member States, reducing international trade.

This section presents the impact of COVID-19 on different ship types. Ship calls have been extracted from SSN and ship types retrieved from the MARINFO database using the IMO numbers reported to SSN for cross reference purposes. The table below shows the comparison in the number of ships calls per month in 2019, 2020, 2021 and 2022 for the selected ship types:

Ship type	Year / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Year To Date
Bulk carrier	2020 vs 2019	9%	7%	-2%	-10%	-6%	-2%	-2%	-1%	-4%	-6%	-4%	-5%	-1%
	2021 vs 2019	-4%	4%	1%	5%	1%	2%	7%	9%	3%	4%	6%	11%	1%
	2022 vs 2019	4%	13%	7%	8%	16%	14%							
Chemical tanker	2020 vs 2019	16%	1%	41%	8%	22%	22%	0%	-18%	-23%	-31%	-24%	-11%	18%
	2021 vs 2019	-13%	-10%	4%	-6%	-9%	-7%	-7%	-8%	-14%	-22%	-3%	-10%	-7%
	2022 vs 2019	-5%	-5%	11%	-4%	-2%	12%							
Containership	2020 vs 2019	6%	0%	-5%	-9%	-10%	-8%	-7%	-4%	-3%	-8%	-6%	4%	-5%
	2021 vs 2019	-8%	-5%	-2%	-6%	-8%	-6%	-7%	-6%	-5%	-10%	-9%	-5%	-6%
	2022 vs 2019	-16%	-15%	-13%	-17%	-11%	-13%							
Cruise	2020 vs 2019	-1%	-3%	-58%	-94%	-97%	-96%	-91%	-85%	-86%	-87%	-83%	-57%	-86%
	2021 vs 2019	-49%	-56%	-69%	-85%	-88%	-75%	-51%	-36%	-24%	-22%	-13%	0%	-79%
	2022 vs 2019	0%	-4%	12%	13%	2%	12%							
General Cargo	2020 vs 2019	3%	-7%	-4%	-8%	-9%	-6%	-6%	-2%	-1%	-1%	3%	10%	-5%
	2021 vs 2019	-2%	-2%	1%	-2%	-2%	3%	-2%	2%	3%	-1%	4%	3%	-1%
	2022 vs 2019	-10%	-9%	-1%	-10%	-8%	-7%							
Liquified gas tanker	2020 vs 2019	10%	4%	0%	-9%	-18%	-9%	-4%	-9%	-1%	-1%	-7%	6%	-4%
	2021 vs 2019	1%	0%	3%	-3%	-4%	-2%	-6%	-7%	-2%	-1%	-7%	0%	-1%
	2022 vs 2019	-5%	1%	1%	0%	-1%	-4%							
Oil tanker	2020 vs 2019	12%	3%	1%	-7%	0%	-2%	-1%	1%	-1%	-8%	-4%	5%	1%
	2021 vs 2019	-1%	3%	6%	3%	-1%	-1%	2%	6%	7%	3%	5%	9%	1%
	2022 vs 2019	-1%	4%	5%	4%	5%	2%							
Passenger	2020 vs 2019	11%	10%	-55%	-93%	-95%	-73%	-35%	-29%	-40%	-32%	-10%	-4%	-65%
	2021 vs 2019	-22%	-36%	-30%	-37%	-35%	-13%	-2%	7%	3%	19%	39%	61%	-26%
	2022 vs 2019	53%	44%	35%	57%	40%	26%							
Refrigerated cargo	2020 vs 2019	-2%	-14%	-18%	-25%	-19%	-11%	-30%	-19%	-33%	-33%	-11%	-15%	-15%
	2021 vs 2019	-26%	-28%	-25%	-38%	-44%	-30%	-51%	-34%	-33%	-19%	-30%	-20%	-32%
	2022 vs 2019	-44%	-42%	-41%	-46%	-43%	-35%							
Ropax	2020 vs 2019	14%	4%	-18%	-46%	-32%	-12%	1%	4%	4%	4%	0%	19%	-17%
	2021 vs 2019	12%	11%	10%	4%	9%	13%	22%	22%	22%	15%	4%	20%	10%
	2022 vs 2019	15%	18%	20%	17%	24%	29%							
Ro-Ro cargo	2020 vs 2019	3%	-1%	-4%	-21%	-15%	-12%	-4%	0%	1%	-3%	0%	17%	-9%
	2021 vs 2019	-3%	6%	6%	9%	7%	8%	8%	11%	10%	2%	1%	12%	6%
	2022 vs 2019	-5%	1%	-1%	-1%	3%	2%							
Vehicle carrier	2020 vs 2019	4%	-6%	-16%	-56%	-57%	-34%	-22%	-19%	-14%	-14%	-5%	3%	-29%
	2021 vs 2019	-18%	-15%	-12%	-15%	-19%	-15%	-21%	-19%	-17%	-22%	-13%	-14%	-15%
	2022 vs 2019	-22%	-30%	-32%	-27%	-28%	-22%							

Table 2: Evolution in number of ship calls per month for different ship types by comparing data from 2019, 2020, 2021 and 2022

The last column compares the number of ship calls reported in the first 6 months of 2019 with those reported in the same periods of 2020, 2021 and 2022 respectively.

By comparing the number of ship calls between 2019 and in 2022 (last column), it was found that containerships, refrigerated cargo ships and vehicle carriers are the ship types for which the highest decrease in ship traffic has been detected.

### 3.3 Statistics per Member State

This chapter presents the impact of COVID-19 on Member States. The table below shows a comparison of the numbers of ship calls per month in 2019, 2020, 2021 and 2022. The statistics focus only on the number of ships calls at Member States ports and does not refer to cargo transported (information not available to EMSA).

Member State	Year / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Belgium	2020 vs 2019	9%	-4%	-5%	-14%	-20%	-11%	-8%	-4%	-6%	-10%	-9%	3%	-8%
	2021 vs 2019	-7%	-3%	-6%	-2%	-9%	-4%	-7%	0%	-1%	-7%	-6%	3%	-5%
	2022 vs 2019	-6%	-10%	-5%	-5%	-11%	-5%							
Bulgaria	2020 vs 2019	0%	-3%	-10%	-15%	-12%	-17%	-16%	-12%	-11%	-1%	2%	-6%	-10%
	2021 vs 2019	-14%	-15%	-11%	-10%	-27%	-19%	-10%	0%	-13%	-17%	-6%	-9%	-16%
	2022 vs 2019	-15%	3%	2%	-13%	-13%	-1%							
Croatia	2020 vs 2019	14%	0%	-35%	-68%	-87%	-84%	-70%	-59%	-78%	-73%	-3%	6%	-72%
	2021 vs 2019	11%	22%	-17%	-60%	-77%	-52%	-21%	-1%	2%	-8%	18%	11%	-54%
	2022 vs 2019	9%	31%	36%	15%	23%	35%							
Cyprus	2020 vs 2019	4%	-8%	-26%	-26%	-22%	1%	-13%	4%	-5%	6%	-1%	-1%	-14%
	2021 vs 2019	-18%	-15%	-34%	-23%	-27%	2%	-20%	0%	-22%	2%	9%	-2%	-20%
	2022 vs 2019	-2%	-8%	-17%	-5%	-17%	6%							
Denmark	2020 vs 2019	1%	-2%	0%	-1%	1%	3%	-2%	13%	23%	13%	8%	21%	1%
	2021 vs 2019	9%	12%	26%	15%	16%	19%	13%	17%	26%	22%	28%	26%	16%

Member State	Year / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
	<b>2022 vs 2019</b>	18%	20%	37%	25%	32%	29%							<b>27%</b>
Estonia	<b>2020 vs 2019</b>	14%	-5%	-9%	-15%	-21%	-13%	-12%	-7%	-13%	-9%	-11%	2%	<b>-9%</b>
	<b>2021 vs 2019</b>	2%	-9%	-4%	-11%	-11%	-13%	-13%	-12%	-16%	-12%	-11%	0%	<b>-8%</b>
	<b>2022 vs 2019</b>	-6%	-8%	-5%	-14%	-8%	-13%							<b>-9%</b>
Finland	<b>2020 vs 2019</b>	13%	-5%	-13%	-25%	-30%	-26%	-21%	-19%	-19%	-19%	-17%	-10%	<b>-16%</b>
	<b>2021 vs 2019</b>	-11%	-18%	-16%	-22%	-22%	-16%	-18%	-15%	-12%	-8%	-3%	-7%	<b>-18%</b>
	<b>2022 vs 2019</b>	-14%	-18%	-17%	-18%	-15%	-15%							<b>-16%</b>
France	<b>2020 vs 2019</b>	-5%	-7%	-12%	-39%	-41%	-31%	-22%	-19%	-21%	-18%	-14%	3%	<b>-24%</b>
	<b>2021 vs 2019</b>	-15%	-14%	-9%	-19%	-20%	-16%	-9%	-10%	-5%	-5%	-3%	9%	<b>-16%</b>
	<b>2022 vs 2019</b>	-9%	-9%	-7%	-16%	-7%	1%							<b>-8%</b>
Germany	<b>2020 vs 2019</b>	4%	-4%	-4%	-19%	-22%	-19%	-15%	-11%	-6%	-5%	-7%	-4%	<b>-11%</b>
	<b>2021 vs 2019</b>	-13%	-11%	-5%	-10%	-10%	-6%	-4%	-3%	-6%	-3%	-6%	-5%	<b>-9%</b>
	<b>2022 vs 2019</b>	-20%	-15%	-8%	-10%	-7%	-6%							<b>-11%</b>
Greece	<b>2020 vs 2019</b>	-7%	-27%	-41%	-44%	17%	50%	74%	84%	76%	103%	65%	162%	<b>1%</b>
	<b>2021 vs 2019</b>	136%	136%	123%	123%	101%	115%	140%	150%	135%	131%	59%	155%	<b>119%</b>
	<b>2022 vs 2019</b>	152%	160%	152%	183%	164%	165%							<b>164%</b>
Iceland	<b>2020 vs 2019</b>	-7%	-7%	8%	-17%	-42%	-59%	-60%	-48%	-45%	-7%	2%	24%	<b>-27%</b>
	<b>2021 vs 2019</b>	-7%	-25%	15%	-11%	-21%	-40%	-19%	-1%	-8%	10%	15%	42%	<b>-19%</b>
	<b>2022 vs 2019</b>	-14%	3%	6%	-5%	10%	2%							<b>1%</b>
Ireland	<b>2020 vs 2019</b>	-13%	-3%	-14%	-21%	-18%	-8%	-12%	-7%	-4%	3%	17%	-7%	<b>-11%</b>
	<b>2021 vs 2019</b>	0%	4%	3%	-6%	-6%	-3%	4%	8%	2%	3%	7%	2%	<b>0%</b>
	<b>2022 vs 2019</b>	-9%	2%	2%	2%	-3%	-100%							<b>-2%</b>
Italy	<b>2020 vs 2019</b>	5%	-2%	-15%	-33%	-34%	-26%	-18%	-15%	-17%	-19%	-3%	6%	<b>-19%</b>
	<b>2021 vs 2019</b>	-12%	-6%	-4%	-14%	-15%	-19%	-14%	-12%	-12%	-14%	-4%	0%	<b>-13%</b>
	<b>2022 vs 2019</b>	-12%	-9%	-10%	-13%	-8%	-9%							<b>-10%</b>
Latvia	<b>2020 vs 2019</b>	2%	-15%	-9%	-14%	-14%	-8%	-8%	-10%	-7%	-10%	-8%	5%	<b>-10%</b>
	<b>2021 vs 2019</b>	-15%	-18%	-15%	-15%	-10%	-12%	-14%	-18%	-8%	-9%	-5%	-6%	<b>-14%</b>
	<b>2022 vs 2019</b>	-20%	-17%	-10%	-18%	-8%	-10%							<b>-14%</b>
Lithuania	<b>2020 vs 2019</b>	6%	-13%	-1%	-7%	-12%	-4%	-4%	-5%	6%	-3%	-2%	2%	<b>-5%</b>
	<b>2021 vs 2019</b>	-16%	-8%	-8%	-5%	-9%	-7%	0%	-2%	7%	0%	-2%	4%	<b>-9%</b>
	<b>2022 vs 2019</b>	-19%	-17%	-14%	-7%	-16%	-13%							<b>-14%</b>
Malta	<b>2020 vs 2019</b>	32%	30%	-7%	-18%	-15%	-21%	-19%	-19%	n.a.	n.a.	n.a.	n.a.	<b>-7%</b>
	<b>2021 vs 2019</b>	-19%	9%	-12%	-11%	-2%	-10%	-19%	-16%	-12%	-20%	-13%	-11%	<b>-8%</b>
	<b>2022 vs 2019</b>	-5%	5%	-16%	-12%	-3%	-5%							<b>-6%</b>
Netherlands	<b>2020 vs 2019</b>	4%	-7%	-2%	-13%	-14%	-13%	-7%	-5%	0%	-3%	0%	6%	<b>-8%</b>
	<b>2021 vs 2019</b>	-9%	-9%	0%	-5%	-2%	-1%	3%	6%	6%	1%	6%	3%	<b>-4%</b>
	<b>2022 vs 2019</b>	-7%	-10%	9%	3%	1%	2%							<b>0%</b>
Norway	<b>2020 vs 2019</b>	5%	-1%	0%	-12%	-27%	-29%	-27%	-19%	-11%	-6%	-12%	-5%	<b>-13%</b>
	<b>2021 vs 2019</b>	-12%	-15%	-10%	-18%	-29%	-27%	-26%	-22%	-10%	-6%	-10%	-9%	<b>-19%</b>
	<b>2022 vs 2019</b>	-24%	-21%	-15%	-33%	-33%	-38%							<b>-28%</b>
Poland	<b>2020 vs 2019</b>	-4%	-4%	-2%	-12%	-15%	-23%	-12%	-13%	-3%	-10%	-2%	14%	<b>-10%</b>
	<b>2021 vs 2019</b>	-5%	-2%	0%	-5%	-7%	-9%	-8%	-1%	5%	-1%	4%	9%	<b>-5%</b>
	<b>2022 vs 2019</b>	-12%	-5%	6%	-4%	5%	-5%							<b>-2%</b>
Portugal	<b>2020 vs 2019</b>	4%	2%	-11%	-21%	-27%	-33%	-26%	-13%	-13%	-14%	-4%	-1%	<b>-15%</b>
	<b>2021 vs 2019</b>	-13%	-18%	-17%	-12%	-14%	-16%	-21%	-13%	-6%	-2%	-5%	-8%	<b>-15%</b>
	<b>2022 vs 2019</b>	-21%	-24%	-19%	-14%	-12%	-17%							<b>-18%</b>
Romania	<b>2020 vs 2019</b>	19%	15%	1%	-3%	-11%	-7%	-8%	-7%	-7%	-4%	-6%	13%	<b>1%</b>
	<b>2021 vs 2019</b>	-6%	1%	9%	16%	-5%	-3%	-14%	-2%	2%	-15%	-13%	5%	<b>2%</b>
	<b>2022 vs 2019</b>	11%	21%	18%	7%	8%	23%							<b>15%</b>
Slovenia	<b>2020 vs 2019</b>	2%	14%	-6%	-21%	-24%	-32%	-38%	-36%	-32%	-16%	-16%	6%	<b>-13%</b>
	<b>2021 vs 2019</b>	-19%	9%	6%	2%	-20%	-24%	-40%	-21%	-23%	-6%	4%	8%	<b>-9%</b>
	<b>2022 vs 2019</b>	-5%	7%	0%	7%	4%	-10%							<b>0%</b>
Spain	<b>2020 vs 2019</b>	29%	26%	-12%	-53%	-56%	-46%	-33%	-33%	-30%	-28%	-21%	-9%	<b>-25%</b>
	<b>2021 vs 2019</b>	-9%	-7%	-10%	-24%	-23%	-15%	-17%	-17%	-14%	-14%	-9%	-2%	<b>-16%</b>
	<b>2022 vs 2019</b>	5%	11%	1%	-8%	-6%	-10%							<b>-2%</b>
Sweden	<b>2020 vs 2019</b>	6%	-5%	-9%	-18%	-18%	-14%	-16%	-19%	-4%	-7%	-7%	-3%	<b>-10%</b>
	<b>2021 vs 2019</b>	-13%	-11%	-6%	-13%	-7%	0%	-4%	1%	3%	-2%	3%	0%	<b>-8%</b>
	<b>2022 vs 2019</b>	-15%	-12%	-5%	-9%	0%	3%							<b>-6%</b>

**Table 3:** Evolution in number of ship calls per month for Member States by comparing data from 2019, 2020, 2021 and 2022

The last column compares the number of ship calls reported in the first 6 months of 2019 with those reported in the same periods of 2020, 2021 and 2022 respectively.

A high increase in the number of ships calls for Greece is linked to the implementation of new version of the Greek National SSN system aiming at improved data quality and more accurate reporting.

For Malta, data for the period between September 2020 and January 2021 could not be analysed because the ship calls to Maltese ports are not available in SSN due to IT technical problem in the National Maltese SSN system.

By comparing the number of ship calls between 2019 and 2022 (last column), the most affected countries are Finland, Germany, Italy, Latvia, Lithuania, Norway and Portugal (decrease of at least 10%). An increase in the number of ship calls has been noted for Croatia, Denmark, Greece, Iceland and Romania.

## 4. Impact on ships flying the flags of EU Member States

This section analyses the impact of the COVID-19 outbreak on the activities of ships flying the flags of EU Member States (UK excluded). The port calls of those ships, at any port in the world, have been counted month-by-month and compared with equivalent periods in 2019 (for years 2020, 2021 and 2022).

These statistics have been built processing data from MARINFO for 2019, 2020, 2021 and 2022. Specific ship types that appear to be more relevant for international trade for this analysis were considered. The specific ship types have been aggregated under major ship categories.

### 4.1 General statistics

The total number of calls (at all ports in the world) by vessels flying the flags of EU Member States (UK excluded) in 2020 decreased by -3.5% in comparison to 2019; similarly, the related total gross tonnage decreased by -11.1%. In particular, a significant decrease started in mid-March 2020, as an impact of the COVID-19 outbreak escalation across Europe that obliged many EU Member States to put in place lockdown measures. From August 2020, however, this trend appeared more stable, alternating small positive and negative monthly variations.

In year 2022 it is observed a full recovery in the number of port calls (+6% up-to-date and +4.2% in the month of June) but the gross tonnage variation is still below the values from 2019 (-16.2% in the month of June). The lack of uptake of the tonnage is related to the current crisis in Ukraine. Tables below show that there was in general an increase of 2022 values until February and in March the trend inverts for many countries and ship types, probably affecting more the tonnages travelling over sea than the number of calls.

Month	Port calls							(Related) Total Gross Tonnage (in million tonnes)						
	2019	2020	2021	2022	Trend 2019 to 2020	Trend 2019 to 2021	Trend 2019 to 2022	2019	2020	2021	2022	Trend 2019 to 2020	Trend 2019 to 2021	Trend 2019 to 2022
January	139608	153239	141027	161577	9.8%	1.0%	15.7%	2721	3133	2306	2663	15.2%	-15.2%	-2.1%
February	132192	143111	132803	156574	8.3%	0.5%	18.4%	2550	2837	2128	2585	11.2%	-16.5%	1.4%
March	146038	145821	139390	147178	-0.1%	-4.6%	0.8%	2826	2985	2294	2344	5.6%	-18.8%	-17.1%
April	152681	123975	139095	146696	-18.8%	-8.9%	-3.9%	2820	2332	2424	2221	-17.3%	14.0%	-21.2%
May	165282	135048	160193	168586	-18.3%	-3.1%	2.0%	3020	2305	2755	2461	-23.7%	-8.8%	-18.5%
June	170602	144061	171021	177687	-15.6%	0.2%	4.2%	2910	2253	2696	2438	-22.6%	-7.4%	-16.2%
July	182698	174774	186489		-4.3%	2.1%		3049	2571	2817		-15.7%	-7.6%	
August	183285	186358	189616		1.7%	3.5%		3023	2545	2823		-15.8%	-6.6%	
September	161989	161349	189532		-0.4%	17%		2848	2367	2821		-16.9%	-1%	
October	157872	158928	172541		0.7%	9.3%		2848	2471	2734		-13.2%	-4%	
November	142273	145267	156660		2.1%	10.1%		2695	2268	2573		-15.8%	-4.5%	
December	147912	144765	172944		-2.1%	16.9%		2914	2358	2743		-19.1%	-5.9%	
<b>Total</b>	<b>1882432</b>	<b>1816696</b>	<b>1951311</b>		<b>-3.5%</b>	<b>3.7%</b>		<b>34223</b>	<b>30426</b>	<b>31114</b>		<b>-11.1%</b>	<b>-9.1%</b>	

**Table 4:** Number of port calls worldwide (at EU and non-EU ports) by MS flagged vessels (UK excluded) in 2019, 2020, 2021 and 2022 (by month), and related total gross tonnage (in red, months for which a decrease was detected)

Flag	Year / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total year to date
Belgium	2020 vs 2019	15%	-1%	-5%	-16%	-13%	-34%	-30%	-20%	-20%	-33%	-26%	-36%	-18%
	2021 vs 2019	-29%	-36%	-38%	-28%	-36%	-29%	-31%	-14%	-9%	-14%	-6%	-24%	-25%
	2022 vs 2019	3%	-14%	-26%	-29%	-40%	-35%							-24%
Bulgaria	2020 vs 2019	29%	-3%	3%	-8%	-3%	-40%	-40%	-38%	-21%	-3%	8%	-30%	-16%
	2021 vs 2019	-9%	-8%	-6%	16%	-18%	-32%	-21%	-17%	24%	-22%	-6%	-38%	-13%
	2022 vs 2019	-7%	1%	-19%	-27%	-47%	-50%							-28%
Croatia	2020 vs 2019	-11%	-16%	-26%	-64%	-71%	-74%	-62%	-52%	-51%	-50%	-25%	-29%	-51%
	2021 vs 2019	-30%	-28%	-16%	-30%	-40%	-40%	-31%	-27%	5%	-7%	-9%	39%	-21%
	2022 vs 2019	2%	20%	-9%	-11%	15%	10%							5%
Cyprus	2020 vs 2019	17%	12%	14%	-15%	-21%	-22%	-18%	-17%	-13%	-8%	-11%	-17%	-9%
	2021 vs 2019	-13%	-17%	-12%	-12%	0%	-6%	-7%	-6%	4%	-1%	-3%	1%	-6%
	2022 vs 2019	-2%	1%	-14%	-18%	-13%	-12%							-10%
Denmark	2020 vs 2019	16%	12%	4%	-2%	8%	12%	23%	32%	36%	25%	19%	17%	17%
	2021 vs 2019	18%	9%	-1%	9%	22%	27%	34%	37%	51%	19%	19%	24%	23%
	2022 vs 2019	29%	23%	1%	-5%	1%	6%							9%



Estonia	2020 vs 2019	27%	6%	4%	-34%	-29%	-19%	-4%	3%	2%	-2%	-13%	-13%	<b>-7%</b>
	2021 vs 2019	13%	-2%	1%	-8%	-4%	3%	10%	11%	51%	42%	17%	35%	<b>14%</b>
	2022 vs 2019	64%	33%	45%	24%	25%	18%							<b>32%</b>
Finland	2020 vs 2019	13%	-3%	-11%	7%	-2%	-18%	-5%	-1%	-3%	-8%	2%	5%	<b>-3%</b>
	2021 vs 2019	3%	0%	-10%	11%	8%	4%	13%	23%	33%	7%	14%	22%	<b>11%</b>
	2022 vs 2019	13%	9%	-6%	5%	11%	2%							<b>5%</b>
France	2020 vs 2019	-1%	5%	-8%	-47%	-50%	-42%	-27%	-24%	-24%	-20%	-19%	-18%	<b>-24%</b>
	2021 vs 2019	-23%	-22%	-14%	-20%	-19%	-20%	-16%	-19%	-2%	-3%	9%	3%	<b>-13%</b>
	2022 vs 2019	-9%	6%	1%	-8%	-11%	-7%							<b>-5%</b>
Germany	2020 vs 2019	-3%	-7%	-6%	-33%	-24%	-9%	6%	10%	8%	3%	-10%	-12%	<b>-6%</b>
	2021 vs 2019	-13%	-6%	-1%	-20%	-10%	4%	10%	10%	27%	15%	20%	39%	<b>6%</b>
	2022 vs 2019	8%	2%	-8%	-15%	-4%	6%							<b>-2%</b>
Greece	2020 vs 2019	16%	14%	-2%	-41%	-40%	-32%	-13%	-4%	-13%	0%	-10%	-2%	<b>-12%</b>
	2021 vs 2019	11%	5%	0%	-20%	-23%	-19%	-17%	-18%	-6%	-6%	5%	19%	<b>-8%</b>
	2022 vs 2019	31%	31%	18%	37%	40%	39%							<b>34%</b>
Iceland	2020 vs 2019	241%	142%	139%	7%	-8%	-30%	-29%	-34%	-59%	-61%	-49%	-72%	<b>-10%</b>
	2021 vs 2019	0.5%	-38%	-17%	-27%	-17%	9%	1%	-1%	4%	119%	62%	43%	<b>16%</b>
	2022 vs 2019	33%	21%	18%	15%	57%	46%							<b>34%</b>
Ireland	2020 vs 2019	22%	16%	51%	5%	9%	6%	7%	12%	17%	5%	-4%	3%	<b>12%</b>
	2021 vs 2019	16%	26%	6%	14%	42%	52%	24%	23%	47%	26%	32%	18%	<b>27%</b>
	2022 vs 2019	52%	26%	20%	23%	26%	31%							<b>30%</b>
Italy	2020 vs 2019	-6%	2%	-22%	-55%	-47%	-34%	-12%	-1%	-9%	-8%	-6%	-16%	<b>-18%</b>
	2021 vs 2019	-24%	-13%	-10%	-28%	-15%	-12%	-5%	-10%	11%	-10%	-4%	10%	<b>-9%</b>
	2022 vs 2019	-9%	4%	-6%	-12%	1%	1%							<b>-4%</b>
Latvia	2020 vs 2019	-7%	-11%	25%	-7%	-35%	-19%	-31%	-35%	-31%	-22%	-29%	-24%	<b>-20%</b>
	2021 vs 2019	-15%	-22%	-1%	61%	31%	151%	147%	138%	186%	249%	181%	183%	<b>109%</b>
	2022 vs 2019	44%	189%	49%	10%	5%	13%							<b>52%</b>
Lithuania	2020 vs 2019	23%	13%	15%	-15%	-24%	-10%	-17%	-2%	-15%	-19%	-17%	-14%	<b>-8%</b>
	2021 vs 2019	-10%	-14%	-13%	1%	-5%	21%	4%	11%	19%	-3%	-11%	2%	<b>0%</b>
	2022 vs 2019	16%	5%	-14%	-29%	-38%	-34%							<b>-17%</b>
Luxembourg	2020 vs 2019	58%	18%	1%	-8%	-7%	-9%	-23%	-31%	-25%	-13%	25%	-19%	<b>-4%</b>
	2021 vs 2019	-6%	10%	-6%	4%	3%	-2%	18%	13%	26%	19%	16%	26%	<b>10%</b>
	2022 vs 2019	21%	-18%	-26%	-22%	-17%	-18%							<b>-14%</b>
Malta	2020 vs 2019	13%	11%	11%	-15%	-19%	-22%	-13%	-12%	-15%	-21%	-17%	-17%	<b>-10%</b>
	2021 vs 2019	-19%	-14%	-16%	-14%	-10%	-3%	-3%	-1%	1%	-5%	2%	-6%	<b>-7%</b>
	2022 vs 2019	13%	10%	-12%	-17%	-15%								<b>-6%</b>
Netherlands	2020 vs 2019	13%	8%	9%	-7%	-12%	1%	-1%	4%	-5%	-2%	-1%	-9%	<b>-0.2%</b>
	2021 vs 2019	-6%	-8%	-10%	2%	13%	13%	13%	17%	19%	22%	20%	21%	<b>10%</b>
	2022 vs 2019	25%	28%	-6%	-15%	-12%	-12%							<b>0%</b>
Norway	2020 vs 2019	5%	8%	0%	18%	25%	22%	30%	42%	40%	40%	50%	47%	<b>28%</b>
	2021 vs 2019	58%	55%	27%	12%	12%	16%	10%	16%	28%	18%	19%	27%	<b>24%</b>
	2022 vs 2019	27%	30%	16%	4%	13%	16%							<b>18%</b>
Poland	2020 vs 2019	-47%	-54%	-27%	-52%	-64%	-34%	-46%	-45%	1%	69%	146%	122%	<b>-23%</b>
	2021 vs 2019	67%	-55%	31%	-38%	-7%	-37%	-18%	-6%	115%	1009%	-12%	992%	<b>89%</b>
	2022 vs 2019	-5%	145%	144%	-73%	-72%	-69%							<b>-15%</b>
Portugal	2020 vs 2019	15%	18%	4%	-3%	0%	-7%	8%	14%	11%	9%	13%	-7%	<b>6%</b>
	2021 vs 2019	-3%	0%	-8%	5%	17%	16%	15%	16%	26%	30%	34%	28%	<b>15%</b>
	2022 vs 2019	39%	46%	15%	10%	13%	17%							<b>23%</b>
Romania	2020 vs 2019	38%	2%	57%	37%	69%	19%	4%	-73%	-62%	-51%	-31%	-20%	<b>-1%</b>
	2021 vs 2019	-42%	-20%	-16%	7%	26%	19%	10%	-5%	-10%	8%	6%	33%	<b>-1%</b>
	2022 vs 2019	-10%	-15%	-69%	-72%	-76%	-98%							<b>-56%</b>
Spain	2020 vs 2019	7%	6%	-32%	-62%	-63%	-51%	-28%	-25%	-28%	-26%	-30%	-28%	<b>-31%</b>
	2021 vs 2019	-25%	-35%	-37%	-39%	-28%	-10%	2%	3%	28%	18%	-1%	24%	<b>-7%</b>
	2022 vs 2019	17%	15%	-3%	7%	17%	19%							<b>12%</b>
Sweden	2020 vs 2019	12%	7%	1%	-1%	-5%	0%	11%	15%	19%	23%	25%	22%	<b>11%</b>
	2021 vs 2019	40%	30%	23%	2%	-5%	-1%	7%	14%	41%	7%	-1%	13%	<b>13%</b>
	2022 vs 2019	15%	16%	18%	3%	2%	8%							<b>10%</b>
Total	2020 vs 2019	<b>10%</b>	<b>8%</b>	<b>-0.1%</b>	<b>-19%</b>	<b>-18%</b>	<b>-16%</b>	<b>-4%</b>	<b>2%</b>	<b>-0.4%</b>	<b>1%</b>	<b>5%</b>	<b>-2%</b>	<b>-3.5%</b>
	2021 vs 2019	<b>1%</b>	<b>0%</b>	<b>-5%</b>	<b>-9%</b>	<b>3%</b>	<b>0%</b>	<b>2%</b>	<b>3%</b>	<b>17%</b>	<b>9%</b>	<b>-10%</b>	<b>17%</b>	<b>4%</b>
	2022 vs 2019	<b>16%</b>	<b>18%</b>	<b>1%</b>	<b>-4%</b>	<b>2%</b>	<b>4%</b>							<b>6%</b>

Table 5: Variation between 2019, 2020, 2021 and 2022 in the number of port calls (worldwide) by flag

The analysis per flag is shown in Table 5 above. The number of port calls (worldwide) observed is above the pre-pandemic year of 2019 for almost all the EU-MS flagged fleets by June 2022. The countries with higher positive variations from 2019 to 2022 (up to June) are Estonia, Greece, Iceland, Ireland and Latvia (variations between 30% and 34%). Romanian flag presents the highest negative variation (-56%) followed by Bulgaria and Belgium.

## 4.2 Statistics per ship type

EMSA analysed the variation between 2019, 2020, 2021 and 2022 in the total number of port calls (worldwide) by EU-MS flagged vessels (UK excluded) by ship type and month. The vessels have been grouped following the same ship type aggregation used in the previous sections.

Ship type	Year / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bulk carrier	2020 vs 2019	21%	17%	23%	-1%	13%	-3%	11%	5%	4%	1%	15%	-9%	8%
	2021 vs 2019	-5%	0%	-5%	2%	6%	8%	7%	12%	16%	30%	29%	10%	10%
	2022 vs 2019	28%	25%	-19%	-30%	-28%	-28%							
Chemical tanker	2020 vs 2019	12%	14%	14%	-9%	-14%	-17%	-16%	-8%	-18%	-21%	-22%	-16%	-9%
	2021 vs 2019	-12%	-16%	-6%	-8%	-5%	-4%	-4%	-2%	0%	-11%	-7%	-7%	-7%
	2022 vs 2019	7%	7%	-9%	-12%	-16%	-16%							
Containership	2020 vs 2019	17%	15%	14%	-11%	-22%	-20%	-19%	-21%	-21%	-19%	-18%	-26%	-11%
	2021 vs 2019	-17%	-21%	-21%	-14%	-6%	-6%	-12%	-12%	-8%	-15%	-17%	-19%	-14%
	2022 vs 2019	-14%	-12%	-26%	-30%	-28%	-28%							
Cruise	2020 vs 2019	18%	17%	-39%	-81%	-85%	-85%	-79%	-78%	-77%	-77%	-77%	-76%	-66%
	2021 vs 2019	-77%	-76%	-78%	-77%	-74%	-63%	-49%	-49%	-49%	-35%	-35%	-26%	-56%
	2022 vs 2019	-21%	-14%	-18%	-30%	-28%	-28%							
General cargo	2020 vs 2019	21%	13%	13%	-2%	-11%	-9%	-11%	-10%	-11%	-10%	-8%	-12%	-3%
	2021 vs 2019	-8%	-8%	-10%	5%	13%	17%	14%	15%	18%	16%	14%	15%	9%
	2022 vs 2019	28%	25%	-7%	-19%	-18%	-17%							
Liquified gas tanker	2020 vs 2019	4%	9%	12%	-19%	-22%	-24%	-23%	-13%	-25%	-5%	-19%	-21%	-12%
	2021 vs 2019	-19%	-16%	-18%	-21%	-12%	-5%	-7%	-4%	2%	-7%	-2%	-15%	-11%
	2022 vs 2019	-8%	2%	-17%	-22%	-22%	-26%							
Oil tanker	2020 vs 2019	-5%	-13%	-8%	-26%	-34%	-32%	-15%	-28%	-28%	-32%	-31%	-32%	-24%
	2021 vs 2019	-28%	-27%	-24%	-26%	-23%	-22%	-12%	-3%	-2%	-4%	-1%	-4%	-14%
	2022 vs 2019	11%	15%	-10%	-24%	-20%	-21%							
Passenger	2020 vs 2019	8%	5%	-23%	-40%	-33%	-27%	-1%	13%	13%	25%	45%	25%	-1%
	2021 vs 2019	29%	24%	3%	-18%	-18%	-8%	1%	1%	32%	26%	36%	75%	11%
	2022 vs 2019	36%	38%	16%	9%	21%	18%							
Refrigerated cargo	2020 vs 2019	-11%	9%	-3%	5%	12%	15%	-9%	-24%	-1%	6%	14%	-5%	-0.1%
	2021 vs 2019	-19%	21%	9%	10%	39%	43%	26%	39%	56%	70%	35%	76%	33%
	2022 vs 2019	42%	69%	0%	-11%	12%	-15%							
Ropax	2020 vs 2019	4%	7%	-9%	-20%	-11%	-3%	10%	20%	23%	24%	26%	28%	8%
	2021 vs 2019	25%	27%	15%	-2%	8%	9%	9%	10%	35%	21%	21%	37%	17%
	2022 vs 2019	25%	30%	25%	23%	34%	35%							
Ro-Ro cargo	2020 vs 2019	15%	9%	2%	-18%	-18%	-18%	-8%	1%	-1%	0.4%	-13%	-11%	-5%
	2021 vs 2019	-14%	-12%	-12%	-8%	-3%	-1%	6%	10%	6%	5%	4%	19%	0%
	2022 vs 2019	3%	15%	-11%	-11%	-9%	-10%							
Vehicle carrier	2020 vs 2019	0.5%	-3%	-16%	-44%	-50%	-44%	-46%	-45%	-29%	-31%	-42%	-40%	-33%
	2021 vs 2019	-28%	-38%	-40%	-29%	-27%	-22%	-33%	-19%	-28%	-19%	-19%	-20%	-27%
	2022 vs 2019	-25%	-26%	-43%	-40%	-43%	-39%							
Total	2020 vs 2019	10%	8%	-0.1%	-19%	-18%	-16%	-4%	2%	-0.4%	1%	2%	-2%	-3.5%
	2021 vs 2019	1%	0%	-5%	-9%	-3%	0%	2%	3%	17%	9%	10%	17%	4%
	2022 vs 2019	16%	18%	1%	-4%	2%	4%							

**Table 6:** Variation between 2019, 2020, 2021 and 2022 of ship calls (worldwide) of EU-MSs flagged vessels (UK excluded), by ship type

The COVID-19 outbreak and the lockdown restrictions have had an impact on EU-MS flagged fleets from the end of March 2020 for all ship types. While all EU flagged ship types experienced reductions in calls worldwide since the 2<sup>nd</sup> half of March, major variations compared with equivalent periods in 2019 can be observed for cruise and vehicle carriers (see Table 7). Since August 2020 the number of port calls (worldwide) from EU flagged Passenger ships has shown an increase in comparison to 2019; similarly, starting from July 2020, it was observed a positive trend for the EU flagged Ropax traffic, in terms of number of port calls (worldwide) compared with the same period in 2019. The overall number of Passenger fleet port calls in 2021 surpasses the 2019 values in September 2021 (+1% increase over the 2019 value).

In the year of 2022 there is a general uptake to values of port calls above 2019. Unfortunately, there has been a deacceleration of this uptake between April and June 2022 with almost all ship types decreasing their port calls in the last trimester of 2022 (possibly due to the Ukraine conflict, no longer due to COVID). In fact, the ship types that are less affected by this new tendency are precisely Passenger Ships and Ro-pax ships which maintain their values as before or with slight variations, opposed to Cargo ships. See for example for Oil tankers variations between January and March 2022: +11%, +15%, -10% and now between April and June 2022: -24%, -20%, -21%. Refrigerated cargo carriers were increasing by +69% in February 2022 compared with 2019 and now in June 2022 are decreasing by -15%. This changing behaviour extends to Ro-Ro Cargo, LNG carriers, General cargo etc.

## 5. EU – China and EU – US traffic

### 5.1 Introduction and methodology

Statistics on the traffic between EU and China (irrespective of ship flags) were analysed in order to identify trends in 2020, 2021 and now in 2022 in comparison with 2019 (last pre-pandemic year). The analysis is based on ship calls in Europe by ships which had previously called at any Chinese port approximately one month before (a reasonable travel time for a ship journey from China to Europe). The same was calculated for the opposite direction (i.e. from European ports to Chinese ports).

To assess the type of trade that was most affected, these calls were segmented by ship type. Container ships are by far the most frequent ship type sailing between China and Europe, making them the most interesting to assess during the outbreak. For a cargo ship, the voyage duration between China and Europe depends on the route, ship type and speed of the ship. The average time is between 30 and 33 days but for this analysis a voyage duration of 33 days was used.

EMSA applied the same methodology to assess port calls by ships engaged in trade between Europe and the United States of America. In this case the expected voyage duration was set to 10 days.

EMSA recognises that the calculation of the number of ship calls (incoming and outgoing traffic in Europe) provides an indication of import/export volumes, but that it does not provide a safe indication of the real direction of the traded goods. The data available in MARINFO do not indicate whether a ship is loading or unloading, or both, or the volumes and values of the traded cargo.

Nevertheless, this methodology can show the traffic trends in 2019, 2020, 2021 and 2022, since any inaccuracies affect the calculations of all years in the same way.

### 5.2 General picture between Europe and China/US

Before taking any conclusions, especially for 2021 when comparing with 2020 and 2019 (as a reference for the last non-pandemic year) two important considerations must be considered. First, that the port call activity worldwide has been growing. Every year port calls have been increasing since 2008 in Europe and in the world, reason why beginning of 2020 is still higher in number of port calls compared with 2019. 2021 will be the first year since 2008 where this tendency is not verified.

Secondly, especially for the comparisons in the first months (between January and March) we must realize the fact that the pandemic hit Europe around March 2020 meaning it was not affecting European trade in early 2020. In fact, for some ship types, the ports calls increased in the first months of 2020 when compared to 2019 (this is either because of the natural growing trend in port call activity, either because of other effects of the pandemic that may have placed higher demand on some goods and in some ship types, especially from China early in the year 2020).

These considerations come to explain that, to observe the after and before the pandemic behavior of the maritime shipping trade between Europa and USA/China and its hoped recovery to a normal standard of shipping activity, one must start looking at the variations from 2019 to 2021 from March onwards, only.

The imports from China to EU are slightly lower in March and April 2020 but the real impact of Covid-19 for these imports is only realized from month 5, that is from May onwards with only 55% of the usual volume of port calls coming into the EU from China. Until March 2020 the values are very much in line with the values of the previous year, 2019.

As for the exports from Europe to China a first major decline happens in April with the number of port calls originated in the EU destined to China representing only 49% of the volume of these port calls in the homologous month in 2019. However, the most significant drop is also realized in month 5 (May) where the number of port calls

from China to Europe drops to the very lowest of 55% of the number of these port calls in the homologous month in 2019. This is the lower peak observed in the year 2020.

A similar exercise was made for port calls with the United States of America, since the US represents the most important destination of goods exported by the EU<sup>3</sup>. The number of port calls by ships trading between the EU and the US are much lower compared to the equivalent calls for the EU and China, but not necessarily the traded volumes and especially the value of the goods.

The impact of Covid-19 in the imports from USA to EU, even though 2020 starts with a higher number of port calls in that direction compared with 2019 as earlier explained, happens in month 4 (April 2020) with a first decline of 44% of the port calls observed in the homologous month of 2019. Again, a more severe drop occurs in month 5 (May) with only 24% of the port calls observed in 2019 from the USA to the EU. The lowest level observed throughout the year and only seen again in December 2020.

As for the exports from Europe to USA the situation is very similar with a first significant decline of the number of port calls from Europe to USA in month 4 (April) representing 59% of the port calls observed in April 2019 and an even higher decline in May 2020 representing only 46% of the port calls observed in May 2019.

Clearly May was the month where it is observed the first and more significant impact in terms of the frequency of the visits to/from China and USA from/to Europe. It is notable that the trends between China and Europe are clearly dictated by the trends in the Containership segment being by far the most frequent ship type sailing between China and Europe. This is also the case for the USA even though in this case the global trend is more influenced by Vehicle carriers than it is for China.

In 2022 it is still observed a reduction of the trade between China and the EU, comparing both with 2021 and 2019. This may be a result of the methodology in view of the diminishing of the trans-shipments that could have originated in the past a higher number of port calls compared with current days.

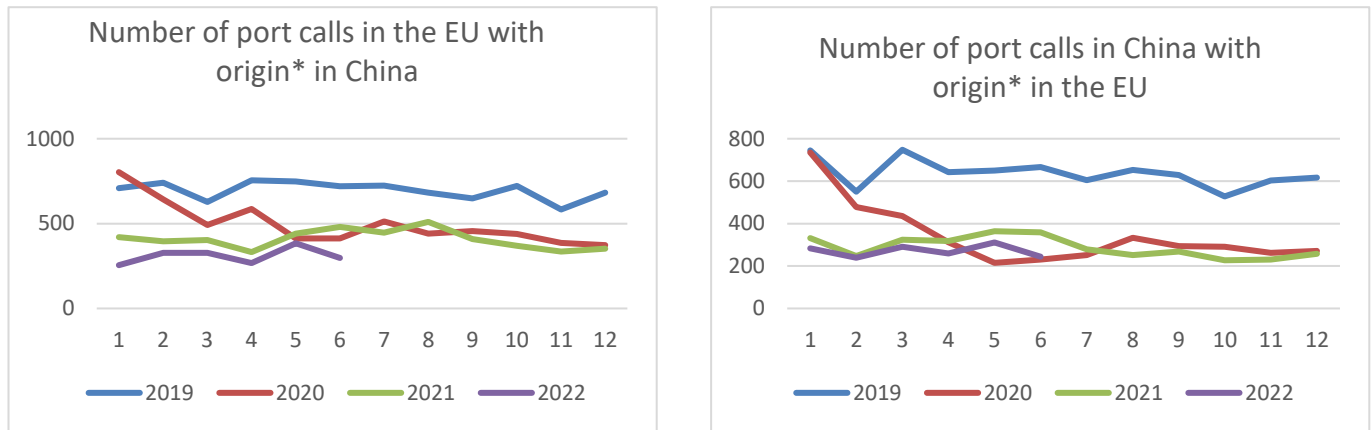
Find below the monthly fluctuations in port calls between China and Europe, and US and Europe.

Month	CHINA TO EU				EU TO CHINA			
	2019	2020	2021	2022	2019	2020	2021	2022
January	708	803	420	255	745	735	331	283
February	740	643	395	327	551	478	247	239
March	627	492	403	327	748	435	324	291
April	755	586	332	268	642	312	318	259
May	748	413	441	384	650	215	364	311
June	719	413	480	297	666	230	359	244
July	723	512	446		605	251	278	
August	683	440	510		653	333	252	
September	649	456	409		628	294	268	
October	721	438	369		528	291	227	
November	583	387	336		603	262	231	
December	683	373	353		616	271	257	
<b>Total (until December)</b>	<b>8,339</b>	<b>5,956</b>	<b>4,894</b>	<b>1,858</b>	<b>7,635</b>	<b>4,107</b>	<b>3,456</b>	<b>1,627</b>
<b>Variation until December/June for 2022 (with previous year)</b>								
		<b>-28.6%</b>	<b>-17.8%</b>	<b>-24.8%</b>		<b>-46.2%</b>	<b>-15.9%</b>	<b>-16.3%</b>
<b>Variation until December/June for 2022 (with year 2019, pre-pandemic)</b>								
			<b>-41.3%</b>	<b>-56.8%</b>			<b>-54.7%</b>	<b>-59.3%</b>

Year	2019	2020	2021	2022	var (19-20)	var (20-21)	var (19-21)	var(19-22)
<b>Total (Imp and Exp)</b>	<b>15,974</b>	<b>10,063</b>	<b>8,350</b>	<b>3,485</b>	<b>-37.0%</b>	<b>-17.0%</b>	<b>-54.7%</b>	

Table 7: Number of port calls per month between EU and China in 2019, 2020, 2021 and 2022 (up to March 2022)

<sup>3</sup> <http://www.europarl.europa.eu/factsheets/en/sheet/160/a-uniao-europeia-e-os-seus-parceiros-comerciais>



**Figure 2:** Graphical display of the number of port calls between Europe and China per month in the years 2019, 2020, 2021 and 2022

As anticipated, due to an initial activity increase in 2020 the decreases of the port calls from China to EU in the first months of 2021 were higher in 2020 than in 2019 (despite the pandemic already installed in China at that time). In March however this effect is overcome and comparisons with 2019 and 2020 are almost equal until April when management of Covid hits more severely the European society.

Once the effect of the COVID-19 pandemic becomes more evident in 2020 (which is taking effect more widely and more significantly in Q2 2020) the differences between the current year and the previous two years (pandemic and non-pandemic years) will be showing how much was the traffic up-take (we hope) in 2021 from 2020 and if that uptake was already recovering to a normal standard, based on the port call values of 2019 as indicative pre-pandemic year.

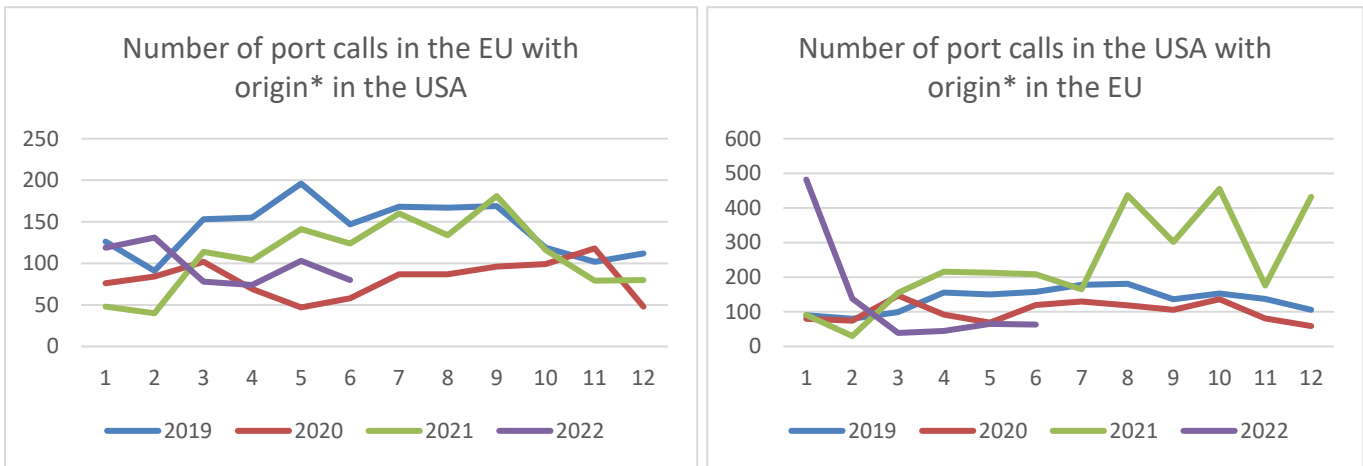
In 2022 it is observed a continuous increase of the trade between USA and the EU. The EU exports to USA seem to have fully recovered and increased beyond 2019, but the imports although increasing compared with last year, are still below the values of 2019.

Month	USA TO EU				EU TO USA			
	2019	2020	2021	2022	2019	2020	2021	2022
January	126	76	48	119	90	80	91	482
February	91	84	40	131	80	74	30	138
March	153	102	114	78	99	147	155	39
April	155	69	104	74	156	92	216	45
May	196	47	141	103	150	69	213	65
June	147	58	124	80	158	120	208	63
July	168	87	160		178	130	165	
August	167	87	134		181	119	437	
September	169	96	181		136	106	302	
October	119	99	116		153	136	455	
November	102	118	79		137	81	176	
December	112	48	80		106	59	432	
<b>Total (until December)</b>	<b>1,705</b>	<b>971</b>	<b>1,321</b>	<b>585</b>	<b>1,624</b>	<b>1,213</b>	<b>2,880</b>	<b>832</b>
<b>Variation until December/June for 2022 (with previous year)</b>		<b>-43.0%</b>	<b>36.0%</b>	<b>2.5%</b>		<b>-25.3%</b>	<b>137.4%</b>	<b>-8.9%</b>
<b>Variation until December/June for 2022 (with year 2019, pre-pandemic)</b>			<b>-22.5%</b>	<b>-32.6%</b>			<b>77.3%</b>	<b>13.5%</b>

Year	2019	2020	2021	2022	var (19-20)	var (20-21)	var (19-21)	var(19-22)
<b>Total (Imp and Exp)</b>	<b>3,329</b>	<b>2,184</b>	<b>4,201</b>	<b>1,417</b>	<b>-34.4%</b>	<b>92.4%</b>	<b>26.2%</b>	

**Table 8:** Number of port calls per month between EU and US in 2019, 2020, 2021 and 2022 (up to June 2022)



**Figure 3:** Graphical display of the number of port calls between Europe and the US per month in the years 2019, 2020 and 2021

The variation of the port call activity from US to EU until September 2020 was negative and of -48.5% compared with 2019 and in 2021 the same variation (also from 2019) is still negative and equal to -24.0% (even though there is recovery from 2020 to 2021 of 47.7%). In the opposite direction, that is from EU to US these values are respectively -23.7% and +48.0%, showing significant recovery in 2021.

There has been a very significant increase of the number of port calls to and from the US to Europe from the month of March 2021 onwards to more than the double seen in January and February 2021. These values are becoming more aligned with 2019 values (US to EU) and increasing above the 2019 values (EU to US).

### 5.3 Trade between China and Europe by ship type

The main ship types engaged in trade between Europe and China are by far containerships. Vehicle carriers also appear with some relevance but with a much smaller number of port calls. Data was also retrieved for general cargo, gas carriers and bulk carriers.

Table 10 shows the total number of port calls per ship type from China to Europe and vice versa for 2019, 2020 and 2021 (up to July 2021) and their variations from the previous year and from the year of 2019 (last year before pandemic).

Ship type	CHINA TO EUROPE				Var 19-20 (%)	Var 20-21 (%)	Var 19-21 (%)	Var 19-22 (%)
	2019	2020	2021	2022				
Containerships	7,554	5,164	3,700	1,492	-31.6%	-28.4%	-51.0%	-62.0%
Vehicle carriers	407	323	584	221	-20.6%	80.8%	43.5%	12.8%
General cargo	101	182	159	46	80.2%	-12.6%	57.4%	-28.1%
Gas carriers	87	105	154	21	20.7%	46.7%	77.0%	-36.4%
Bulk Carriers	86	65	95	46	-24.4%	46.2%	10.5%	-8.0%

Ship type	EUROPE TO CHINA				Var 19-20 (%)	Var 20-21 (%)	Var 19-21 (%)	Var 19-22 (%)
	2019	2020	2021	2022				
Containerships	5,928	2,970	2,473	1,199	-49.9%	-16.7%	-58.3%	-62.6%
Vehicle carriers	902	437	402	253	-51.6%	-8.0%	-55.4%	-43.5%
General cargo	128	114	105	32	-10.9%	-7.9%	-18.0%	-51.5%
Gas carriers	195	166	89	29	-14.9%	-46.4%	-54.4%	-70.4%
Bulk Carriers	300	300	234	74	0.0%	-22.0%	-22.0%	-37.8%

**Table 9:** Port calls per ship type between EU and China in 2019, 2020, 2021 and 2022 (up to June 2022).

In 2022 the traffic from China to EU is still negative for containerships compared with 2019 (possibly due to reduction on the number of trans-shipments carried out in the current days) which can be observed in other ship types as well as in the opposite direction, that is, from EU to China.

A positive note goes to the significant recovery of vehicle carriers from China to EU.

To note that on an analysis more extended in time some fluctuations may be absorbed being compensated by increases in the port call activity taking place in subsequent months.

### 5.4 Trade between US and Europe by ship type

The ship types here monitored in trade between Europe and the US are containerships and vehicle carriers.

Ship type	US TO EUROPE				Var 19-20 (%)	Var 20-21 (%)	Var 19-21 (%)	Var 19-22 (%)
	2019	2020	2021	2022				
Containerships	948	608	604	224	-35.9%	-0.7%	-36.3%	-56.6%
Vehicle carriers	311	143	146	99	-54.0%	2.1%	-53.1%	-27.2%

Ship type	EUROPE TO US				Var 19-20 (%)	Var 20-21 (%)	Var 19-21 (%)	Var 19-22 (%)
	2019	2020	2021	2022				
Containerships	1,026	939	1,113	229	-8.5%	18.5%	8.5%	-55.0%
Vehicle carriers	246	96	178	40	-61.0%	85.4%	-27.6%	-66.9%

**Table 10:** Port calls per ship type between EU and the US in 2019, 2020, 2021 and 2022 (up to June 2022).

In 2022 the traffic from US to EU (EU imports) has improved for Vehicle carriers, even if the variation is still negative, but is still decreasing for containerships (possibly due to similar reasons as explained for China). This would require further investigation on port calls frequencies and the methodology for trade used as proxy to imports/exports. To note that 2022 absolute values are only from January to June and their variation towards 2019 is also made for the 1<sup>st</sup> semester of 2019.

To note that on an analysis more extended in time some fluctuations may be absorbed being compensated by increases in the port call activity taking place in subsequent months.

## 6. Impact on cruise ships

The COVID-19 outbreak created a high degree of public concern about the approach to health and safety on board cruise ships. Large numbers of people in confined spaces on cruise ships can make both passengers and crew prone to infectious diseases.

Cruise ships sector was the one mostly affected by COVID-19. Every major cruise line in the world suspended departures in March 2020 as the coronavirus outbreak grew. Although operators have taken steps to improve infection control, cruise ships continued to experience COVID-19 outbreaks, affecting passengers and seafarers.

This section presents more detailed statistics on cruise ships.

### 6.1 Cruise ship calls at EU ports

This section presents the impact of COVID-19 on cruise ships calling at EU ports. Ship calls have been extracted from SSN for cruise ships having passenger capacity bigger than 500 passengers. The figure below shows the comparison in the number of ships calls per month in 2019, 2020, 2021 and 2022 for the cruise ships:

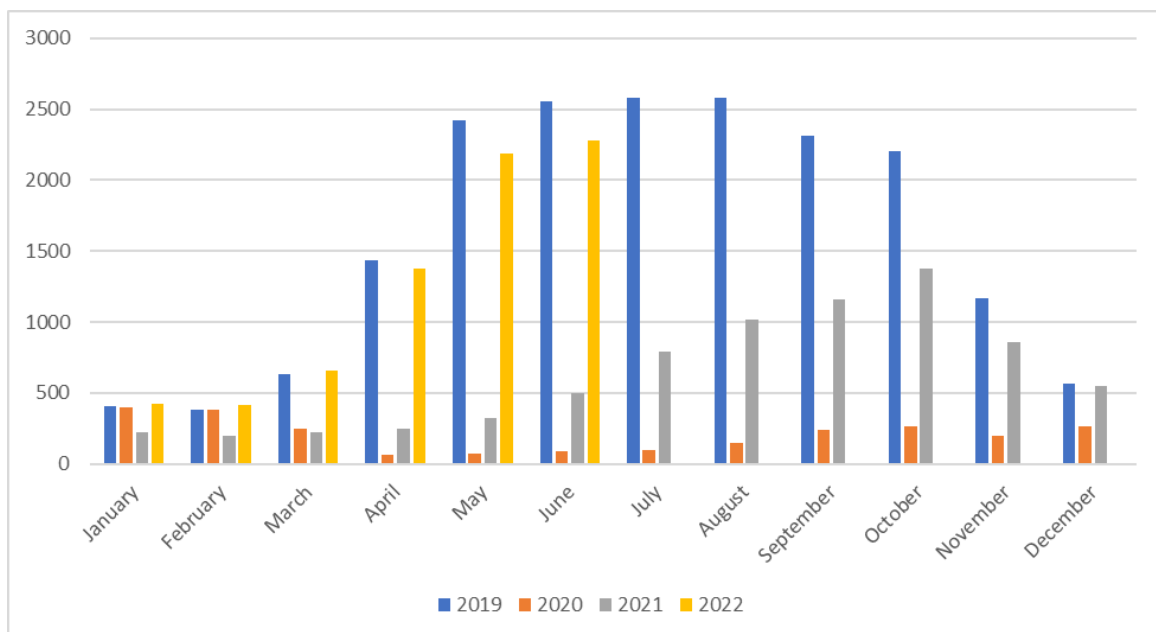


Figure 4: Cruise ship calls reported to SSN in 2019, 2020, 2021 and 2022 per month

It can be observed that the number of cruise ships calling the EU port in the first half of 2022 increased significantly and is close to the number of calls in the first half of 2019, the last year prior to Covid-19 pandemic.

### 6.2 Number of Persons on Board (PoB) on cruise ships

As the cruise industry seeks to resume operations around the world, the cruise shipping lines were introducing some policies and cruise requirements that may vary from port to port, ship to ship or country to country.

Using Persons on Board (PoB) information reported to SSN<sup>4</sup>, EMSA analysed the changes in the PoB numbers for cruise ships having passenger capacity bigger than 500 passengers. The figure below shows the total number of PoB arriving at EU ports per month during 2019 (in blue), 2020 (in orange), 2021 (in grey) and 2022 (in yellow).

<sup>4</sup> The PoB is used in SSN to report the total number of passengers and crew.



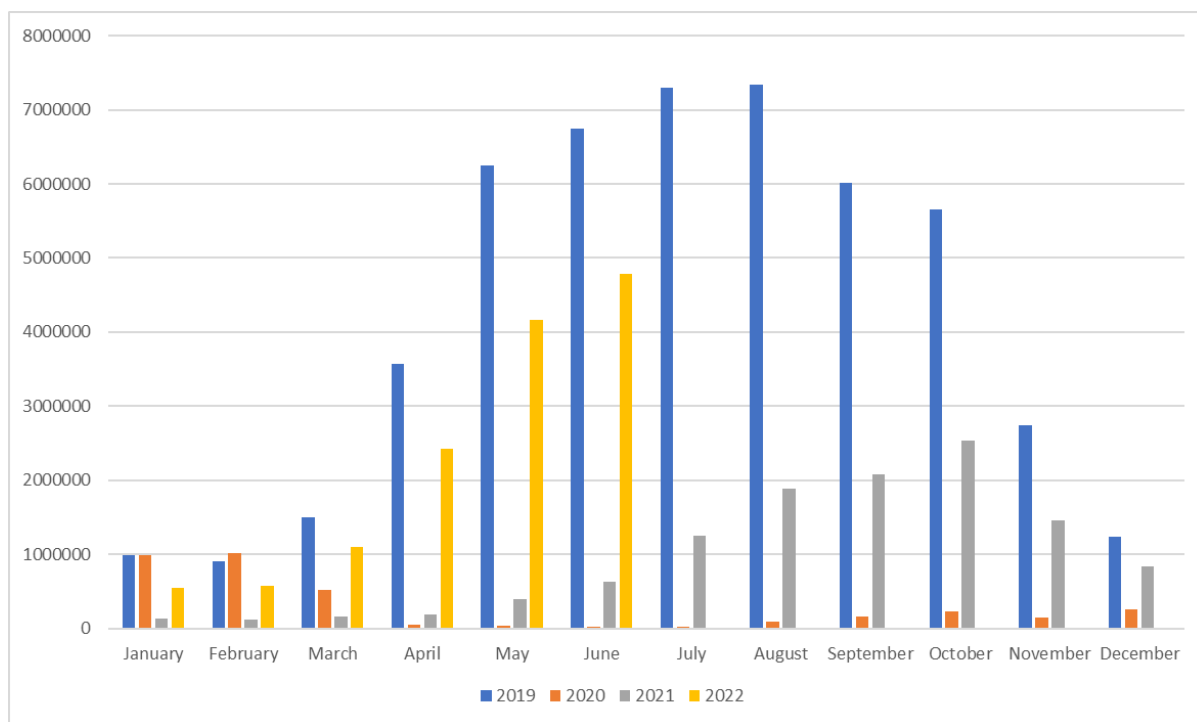


Figure 5: Persons on board cruise ships

Cruise ship operators almost lost their businesses during the Covid-19 pandemic. Figure 5 clearly demonstrates that the number of PoB began to decrease gradually from March 2020. It can be observed that although the numbers in year 2022 are still lower than prior to Covid-19 pandemic (year 2019), there is a significant increase in comparison with 2021 and 2020.

By comparing the number of PoB reported to SSN with the total passenger and crew capacity (MARINFO data) for each cruise ship and port call it was possible to get the average occupancy on board cruise ships per year and per month. In June 2022 the cruise ships calling at EU ports were operating at 64% capacity while a year ago (2021) it was only 33%. The below table presents the detailed figures:

Month/Year	2019	2020	2021	2022
January	78%	74%	21%	42%
February	76%	78%	18%	41%
March	79%	64%	17%	50%
April	83%	27%	20%	58%
May	83%	17%	27%	58%
June	87%	10%	33%	64%
July	91%	10%	45%	
August	92%	19%	54%	
September	85%	17%	51%	
October	86%	23%	54%	
November	79%	16%	53%	
December	76%	28%	48%	
<b>Total year to date</b>	<b>84%</b>	<b>63%</b>	<b>25%</b>	<b>57%</b>

Table 11: Occupancy on board cruise ships in 2019, 2020, 2021 and 2022 per month

### 6.3 Cruise ship calls worldwide

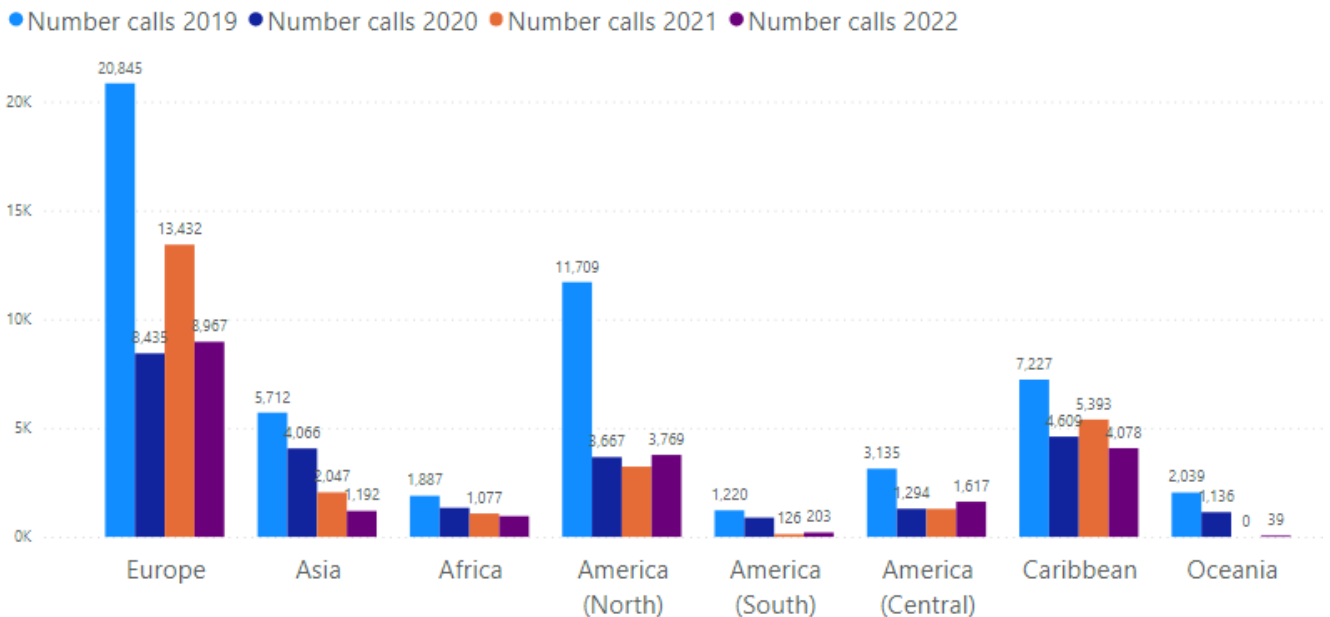
The numbers below show the evolution of the cruise ship port calls worldwide from 2019 to 2022 (until June). Only ships with a Passenger capacity of 500 or more passengers were included in this analysis.



Ports calls for cruise liners from 2020 and for 2021 are almost of the same magnitude with reductions of -52.7% and -50.5% compared with 2019, meaning that the recovery for the Cruise sector in 2021 was very modest. The year of 2022 shows a significant recovery in the months from January to June reducing the negative variation of ports calls in this first semester to -18.2% (this was -15.6% by March).

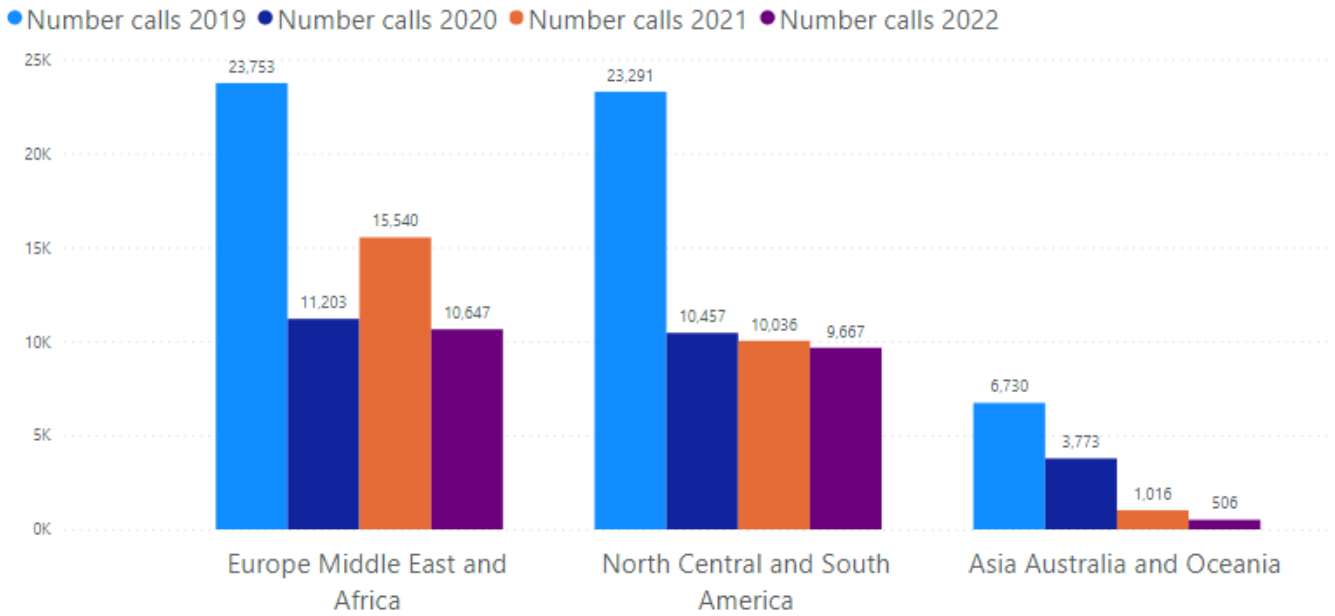
The evolution of these port calls by regions is shown below. Calls in Europe in 2021 have surpassed the calls made in 2020 in a clear sign of recovery, being however still far from the 2019 levels. Other parts of the world have not yet recovered and are still descending.

#### Worldwide Cruise ship calls by Continent



The European continent presents the most significant recovery from all continents in 2021. Even if the number of calls is still below 2019 values there is an increased share of port calls taking place in 2021 in Europe compared with other continents. America appears to be very far from the number of port calls pre-pandemia, but 2022, in its first semester, is already above the values of the full year of 2021, therefore significant recovery is expected this year.

### Worldwide Cruise ship calls by Region

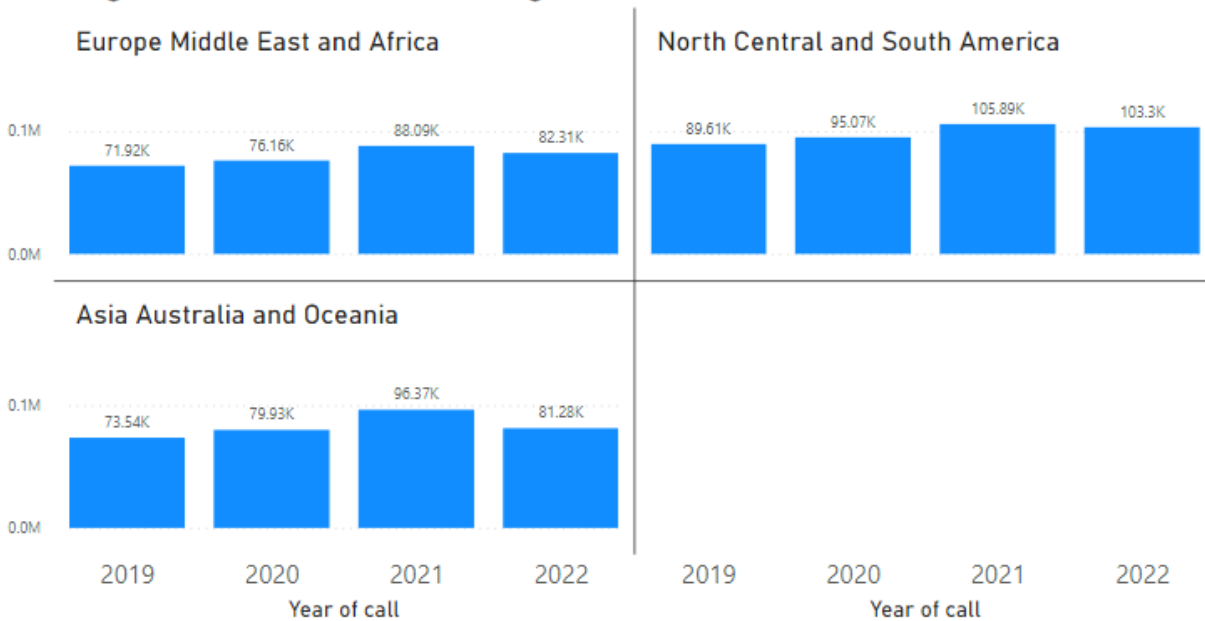


Despite the recovery of the calls still being far from the values of 2019, Europe increased their calls in 2021 well above the values from 2020 (15.540 in 2021 vs 11.203 in 2020), while America was still in 2021 slightly below 2020 (10.036 in 2021 vs 10.457 in 2020). This is certainly related with the seasonality of the cruise voyages in different areas of the globe and the calendar of the pandemic waves.

In this first half of 2022 the region figuring Europe is already at three quarters of the volume of calls observed in the full year of 2021, therefore, with summer months ahead, this region will most likely surpass last year’s values.

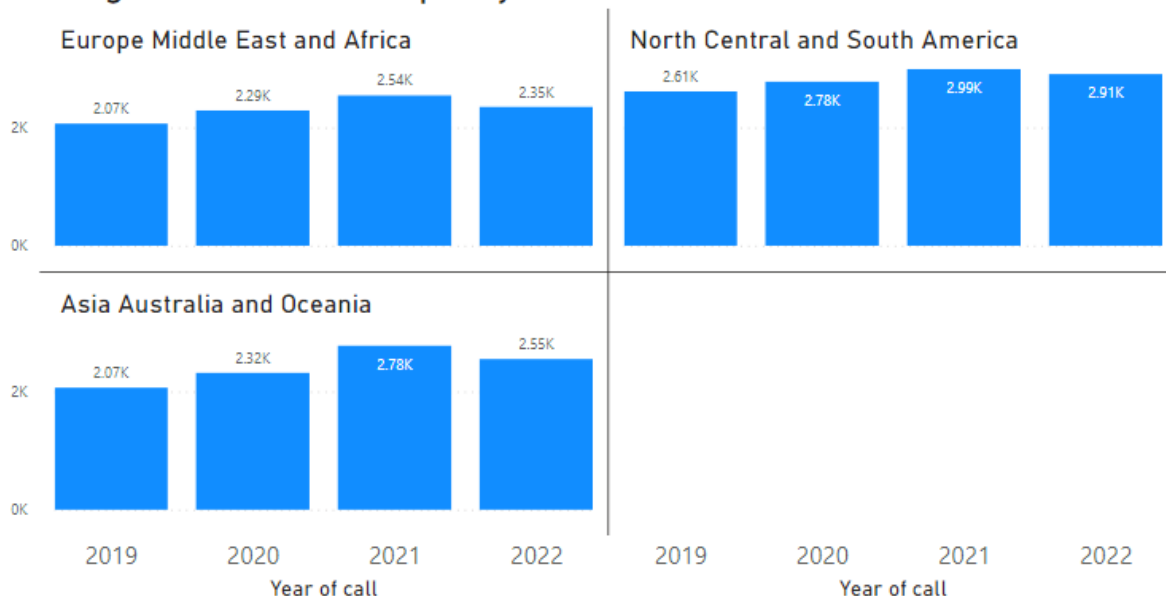
The Average Gross Tonnage of the World Cruise ships sailing has been increasing for most of the regions, despite the pandemic. For the moment 2022 shows values of GT slightly lower but this is not yet fully comparable as it only covers the first semester of 2022 while previous years are assessed in full (from Jan-Dec).

### Average of Cruise Gross Tonnage



The Average Passenger capacity of the World Cruise ships sailing has been increasing for most of the regions, similar to gross tonnage. The number of passengers transported however is surely lower in 2020 and in 2021 (see SSN data for calls in Europe).

## Average of Cruise Pax Capacity



This is the Port call variation from the EU flag perspective worldwide, showing an overall recovery in 2021 compared with 2020 (10,067 in 2021 vs 9,837 in 2020). The first quarter of 2022 is already counting for 82% of the calls from last year, anticipating some recovery of the sector. Swedish flagged cruise ships were highly affected with 673 calls in 2019 decreasing to 161 in 2020 and to 0 in 2021. Besides Sweden, Portuguese and Dutch flags are amongst the most affected in 2021 for big cruise liners with negative variation facing 2019 of 78.8% and -71.3% respectively. The negative trend is either reducing or changing to positive with some flags already above 2019 values of port calls (the case of Norway and Malta).

Flag Name	Number calls 2019	Number calls 2020	Number calls 2021	Number calls 2022	Var calls 2020 vs 2019	Var calls 2021 vs 2019	Var calls 2022 vs 2019 (until June)
Sweden	673	161	0	2	-76.1%	-100.0%	-99.4%
Netherlands	2,149	617	764	749	-71.3%	-64.4%	-27.1%
Portugal	448	95	153	141	-78.8%	-65.8%	-19.4%
Italy	4,820	2,268	2,498	2,024	-52.9%	-48.2%	-12.7%
Germany	1	0	0	0	-100.0%	-100.0%	
Malta	6,987	4,156	5,330	3,249	-40.5%	-23.7%	1.6%
Norway	4,224	2,540	1,322	2,126	-39.9%	-68.7%	3.7%
<b>Total</b>	<b>19,302</b>	<b>9,837</b>	<b>10,067</b>	<b>8,291</b>	<b>-49.0%</b>	<b>-47.8%</b>	<b>-8.8%</b>

## Appendix A Number of vessels flying the EU-MSs flag by ship type

Country of Flag	Bulk carrier	Chemical tanker	Containership	Cruise	General cargo	Liquified gas tanker	Oil tanker	Passenger	Refrigerated cargo	Ropax	Ro-Ro cargo	Vehicle carrier	Total
<b>Belgium</b>	20	1	7	4	11	30	21				5		<b>99</b>
<b>Bulgaria</b>	1				5	1	4	1		1	4		<b>17</b>
<b>Croatia</b>	15	10		26	11		7	170		51	2		<b>292</b>
<b>Cyprus</b>	267	50	181	2	185	13	51	7	4	74	12	5	<b>851</b>
<b>Denmark</b>	10	145	145		42	25	31	25	1	69	20		<b>513</b>
<b>Estonia</b>							5	1	1	20	1		<b>28</b>
<b>Finland</b>	3	3	3		42		4	16		51	29		<b>151</b>
<b>France</b>	3	20	31	14	20	8	16	40		57	22		<b>231</b>
<b>Germany</b>		5	77		64	8	20	72		25	6	3	<b>280</b>
<b>Greece</b>	165	61	5	4	48	47	273	150		198	9	1	<b>961</b>
<b>Iceland</b>					5		2	12		3			<b>22</b>
<b>Ireland</b>	2				42			17		4	3		<b>68</b>
<b>Italy</b>	35	102	7	28	37	17	35	137	4	170	57	24	<b>653</b>
<b>Latvia</b>		1			23		3	2		3			<b>32</b>
<b>Lithuania</b>		1	4		12		1		5	8	5		<b>36</b>
<b>Luxembourg</b>	6	9	1		19	2	4				2		<b>43</b>
<b>Malta</b>	578	365	301	52	192	93	271	17		10	45	34	<b>1958</b>
<b>Netherlands</b>	13	47	36	21	536	27	13	25	3	16	14		<b>751</b>
<b>Norway</b>	76	124	1	11	238	57	72	131	13	309	9	36	<b>1077</b>
<b>Poland</b>					8		1	16		8			<b>33</b>
<b>Portugal</b>	85	42	260	7	137	5	22	34		10	7	10	<b>619</b>
<b>Romania</b>		1			4		2						<b>7</b>
<b>Spain</b>	4	6			21	15	11	88	4	42	8	3	<b>202</b>
<b>Sweden</b>	7	32		4	20		10	91		57	17	7	<b>245</b>
<b>Total</b>	<b>1290</b>	<b>1025</b>	<b>1059</b>	<b>173</b>	<b>1722</b>	<b>348</b>	<b>879</b>	<b>1052</b>	<b>35</b>	<b>1186</b>	<b>277</b>	<b>123</b>	<b>9169</b>

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