

Paris MoU

on Port State Control

THE PARIS MEMORANDUM OF UNDERSTANDING ON PORT STATE CONTROL

Port State Control

Progress and performance;
highlights of the Paris MoU 2024

ANNUAL REPORT 2024

Paris MoU



on Port State Control

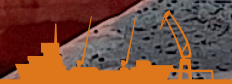
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Annual Report 2024

CONTENTS

Introduction Chairman and Secretary-General	4
Paris MoU	6
International cooperation	8
Information, statistics and availability	10
Statistical Annexes Annual Report 2024	12
White List	17
Grey List	18
Black List	21
Recognized Organization performance	38
Explanatory note - "White", "Grey" and "Black List"	43
Secretariat Paris Memorandum of Understanding on Port State Control	44

Introduction

CHAIRMAN AND SECRETARY-GENERAL



We are pleased to present the Paris MoU Annual Report for 2024, continuing our commitment to transparency and the enhancement of maritime safety. This year, we have further refined our digital approach, ensuring even greater accessibility for the public and the shipping industry. Our aim remains to provide clear and accessible information to all stakeholders.

For the past two years, we have expressed our concerns regarding the persistently high average detention rates. In 2022, we recorded a rate of 4.25%, with a slight improvement to 3.81% in 2023. However, in 2024, we observed a regrettable increase to 4.03%. These figures

remain significantly higher than the pre-COVID-19 period, a trend that has persisted for the last three years. This necessitates continued close monitoring of developments in the coming period. Notably, an analysis of recorded deficiencies has not revealed any specific area as the primary cause of this increase in non-compliance. We urge all stakeholders to re-evaluate their operational practices and ensure adherence to international maritime standards.

A particularly alarming trend is the growing number of "false flag" ships worldwide. These ships are reported to be flying the flags of International Maritime Organization (IMO) member States and other States without the knowledge or authorisation of those States, and without possessing genuine certificates of registration. This

evasion of legitimate flag State jurisdiction and control poses a significant threat to the safety of navigation, the well-being of seafarers, and the prevention of marine pollution. Such ships undermine the integrity of international maritime regulations, and we are working with the IMO and its member States to address this serious issue.

Compounding this concern is the increasing number of ships operating within the so-called "shadow" or "dark fleet". By sailing through the coastal waters of Paris MoU member States without port calls, these ships effectively circumvent the Paris MoU's risk-based port State control system. Because compliance with international maritime regulations cannot be monitored on these ships, risks to maritime safety and pollution prevention arise, impacting both the Paris MoU region and the global maritime community. Given the inherent limitations of Port State Control in effectively addressing the risks posed by 'false flags' and 'shadow fleets' which do not call to any ports in the Paris MoU region, innovative strategies and intensified international cooperation are now indispensable.

Our collaborative efforts with other regional Port State Control regimes have been further strengthened through ongoing information sharing and coordinated inspection campaigns. The invaluable contributions of the IMO and International Labour Organization have been crucial in promoting global harmonisation.

The Paris MoU remains steadfast in its commitment to fostering safer, cleaner, and more efficient shipping. We extend our sincere gratitude to the European Commission, EMSA, and all our partner organisations for their unwavering support. Above all, we acknowledge the dedication of our Port State Control Officers and maritime administration colleagues, whose tireless efforts are the foundation of our success.

We look forward to a future of enhanced maritime safety, seafarer welfare and environmental protection, while acknowledging the significant challenges that lie ahead. ■



Brian Hogan

A handwritten signature in blue ink, reading "Brian Hogan".

Chairman of the Paris MoU Committee



Luc Smulders

A handwritten signature in blue ink, reading "Luc Smulders".

Secretary-General of the Paris MoU



Paris MoU

MISSION & VISION

The mission of the Paris MoU is to accomplish the elimination of substandard shipping by inspecting the ships in the region using a risk-based methodology. This risk-based inspection method ensures that the merchant ships in the region meet the international safety, security and environmental standards, and that crew members have adequate working and living conditions in compliance with the international maritime labour standards.

To actively pursue this mission, the Paris MoU focuses on the elements below:

1. The Paris MoU will further develop its risk-based inspection mechanism to more effectively eliminate substandard shipping.
2. This will keep pace with developments in technology and digitisation in the maritime industry.
3. Increasing attention will be paid to effective control of environmental compliance by ships operating in the region.
4. In addition, the Paris MoU will continue to focus on harmonisation within the Paris MoU itself as well strengthen harmonisation with other Port State Control Agreements, including by facilitating the use of each other's data.
5. Given the importance that internationally operating fishing vessels are also subject to port State control, the Paris MoU will explore the possibility and feasibility of a port State control regime for fishing vessels.

MEMBERS AND OBSERVERS

The Paris MoU consists of the maritime Authorities of: Belgium, Bulgaria, Canada, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovenia, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland.

Various observer organisations participate in the meetings in the context of the Paris MoU. This concerns the International Maritime Organization (IMO), the International Labour Organization (ILO) and the following other regional Port State Control Agreements: Abuja MoU, Acuerdo de Viña del Mar, Black Sea MoU, Caribbean MoU, Indian Ocean MoU, Mediterranean MoU, Riyadh MoU, Tokyo MoU and the United States Coast Guard.

MAIN ACTIVITIES OF PARIS MOU REGARDING INSPECTIONS AND THE HARMONISATION

Once a year, the Port State Control Committee, the executive body of the Paris MoU, meets in one of the member States. During these meetings, the Committee considers policy issues related to the regional implementation of port State control, reviews the work of the Technical Evaluation Group (TEG) and task forces, and decides on administrative procedures.

The task forces are each assigned a specific work programme focused on enhancing operational, technical and administrative port State control procedures. The outcome of the task forces is discussed by the TEG, in which

all Paris MoU members and observers are represented. The evaluation by TEG is submitted to the Committee for final consideration and decision.

The MoU Advisory Board advises the Port State Control Committee on matters of a policy nature and provides direction to the task forces and the Secretariat between meetings of the Committee. The Board meets several times a year and in 2024 consisted of Canada, France, Italy, the United Kingdom and the European Commission.

To achieve its mission, the Paris MoU carries out approximately 18,000 inspections annually. The results of these inspections are published both at individual ship level and in various, more general information reports. In addition, the possibility is provided to download inspection results in bulk.

In order to enhance harmonisation between the member Authorities, the Paris MoU provides trainings and seminars for its Port State Control Officers (PSCOs).

Training plays a vital role in achieving the primary goal of the Paris MoU - the elimination of substandard shipping - and aims to enhance the harmonisation and standardisation of inspections across the region. Throughout the year, the Secretariat, in cooperation with member Authorities, organises various trainings:

1. Seminars;
2. Expert Training (focusing on Safety & Environment and The Human Element);
3. Specialised Training (targeting Tankers, Bulk Carriers or Passenger Ships).

PSCOs from all member Authorities participated in one (or more) of the trainings and seminars; sometimes also as a trainer. Representatives from other MoU Regions participated in various trainings and seminars.

ROLE OF EMSA

EMSA supports and advises the Paris MoU in various ways. For example, EMSA manages the information system in which the inspection results are recorded and ensures updates and upgrades to the system. The inspection data recorded in the system is not only relevant as input for the risk-based inspection methodology itself, but is also shared with the IMO in order to draw conclusions about compliance with IMO requirements. In addition, this information is also interesting and relevant for the Paris MoU member Authorities themselves, for the shipping industry and for the general public.

Secondly, EMSA participates in the work of the Paris MoU by attending meetings and participating in task forces to advise the members of possible developments in the European Union with regard to port State control.

In addition, in a joint effort with the Paris MoU, EMSA also offers training for new entrant PSCOs and for experienced PSCOs (refresher trainings). This training programme has been revised during the year and will be delivered in a new format as of 2025 with different modules on specific topics delivered online and face-to-face.

DEVELOPMENTS

During the 2024 meeting of the Paris MoU Port State Control Committee (PSCC), several topics were discussed and decided.

During its discussions, the Committee reviewed the evaluation of the Concentrated Inspection Campaign (CIC) on Fire Safety, held from 1 September to 30 November 2023. A total of 3,856 inspections were carried out using the CIC-questionnaire, revealing a high level of compliance overall. Detailed information on the CIC results has been made available on the Paris MoU website. ■



International COOPERATION

The Paris MoU is actively involved in international meetings and initiatives to enhance the harmonisation in the field of port State control inspections.

Each year the Paris MoU participates in the IMO Sub-Committee meeting on Implementation of IMO Instruments (III Sub-Committee) where information is shared on the inspection results achieved in the previous year. Meeting documents are usually submitted jointly with other MoUs. A notable example of this is the joint submission by the Paris MoU, Tokyo MoU and the United States Coast Guard on “underperforming Flag Administrations”.

The Paris MoU also maintains strong relationships with other regional port State control agreements, including by attending their Committee meetings when time and resources permit. In 2024, the Paris MoU physically participated in the meetings of the Caribbean MoU, Indian Ocean MoU and Tokyo MoU. Some other meetings were attended online, where possible. ■



Paris MoU 2024

on Port State Control

Three year trend detention %



2022: 4.25%



2023: 3.81%



2024: 4.03%

Inspection results (2024)



16,508
Inspections



9,677
Inspections
with deficiencies



665
Detentions



15
Bannings

Number of White, Grey and Black flags



40



17



12

Performance in number of ROs



High
10



Medium
17



Low
2



Very low
0

Top 5 Main group of deficiencies

17%

SOLAS ch. II-2

11%

SOLAS ch. II-1

10%

MLC 2006 Title 4

9%

SOLAS ch. III

8%

SOLAS ch. V

Information, statistics AND AVAILABILITY

Information from the Annual Report

The information published by the Paris MoU in its Annual Report mainly contains general information on inspection results and is aimed at the public in general and the shipping industry in particular. Flag States and Recognized Organizations (ROs) are mainly addressed in the latter category.

GENERAL INFORMATION

Throughout 2024, the refusals-of-access (bans) issued remained at a lower level than in the pre-COVID period. The number of bans was 15 and seems stable compared to previous years.

The detention rate for 2024 (4.03%) is increasing again compared to 2023 (3.81%). In addition to the increase, the detention percentage has remained consistently high for several years (4.25% in 2022). The Paris MoU will closely monitor this trend in the coming years.

Looking at the (detainable) deficiencies, there is not a particular convention or part of a convention that shows more non-compliance compared to previous years. There are the usual suspects of parts of conventions that show higher recording, both in numbers and relatively. These are respectively fire safety (SOLAS Chapter II-2: 17.2%), structural and electrical elements of the ship and electrical installations (SOLAS Chapter II-1: 11.3%) and health protection, medical care, welfare and social security protection (MLC title IV: 10.4%).

At deficiency level, fire doors (3.2%) and Seafarers' Employment Agreements (1.5%) show high rates of non-compliance. The more general ISM deficiency was recorded 4.6%.

FLAG AND RO PERFORMANCE

The Flag and RO Performance Lists have become a valuable tool for stakeholders in the maritime industry and beyond.

In terms of flag performance, there are no significant changes compared to previous year(s). The number of low-performing flags remains consistently low, below pre-COVID-19 levels. Despite a relatively high detention rate, the distribution of flag States across the White, Grey and Black lists remains largely unchanged.

Regarding RO performance, no deviating trends can be identified regarding the performance categories. A positive observation is that the number of ROs in the lowest performance category remains limited.

Compared to last year, the number of detainable deficiencies with RO responsibility remains at a higher level, resulting in more detainable deficiencies attributed to individual ROs. While this does not appear to have an impact on the performance categories, it does show a decline in the quality of some ROs.

Statistics

The detailed figures and statistics can be found in the annex of the 2024 Annual Report.



As outlined, the annex includes the flag and RO Performance Lists along with the key figures on inspections, bans, detentions, deficiencies, inspection results for both flags and ROs in 2024.

Available information

The Paris MoU publishes a wide range of information and data on port State control and the inspection results of the Paris MoU.

The main communication channel for the general publications is the Paris MoU website (**www.parismou.org**).

All general information about the Paris MoU, its mission, the Memorandum of Understanding, public available instructions and relevant other PSC information can be found on above-mentioned website.

In addition, the inspection results are also published:

- at individual ship level (in inspection database, inspection search);
- at a total level of inspections with options to drill down to flag/year/etc. (in statistics and current lists, inspection results, KPIs);
- at aggregate level on deficiencies related to inspections with options to drill down to flag/year etc. (in statistics and current lists, inspection results deficiencies);
- in bulk as a downloadable dataset on all publicly released inspection results (on the specific Data Exchange Service (DS) page). ■





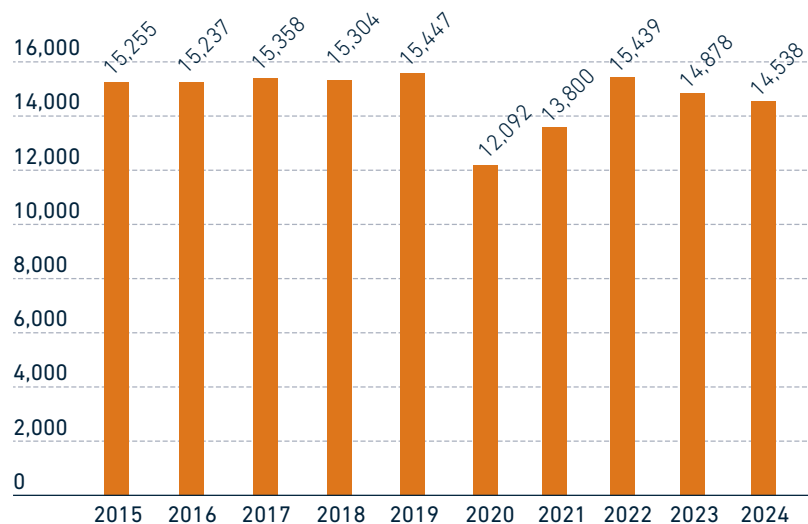
STATISTICAL ANNEXES



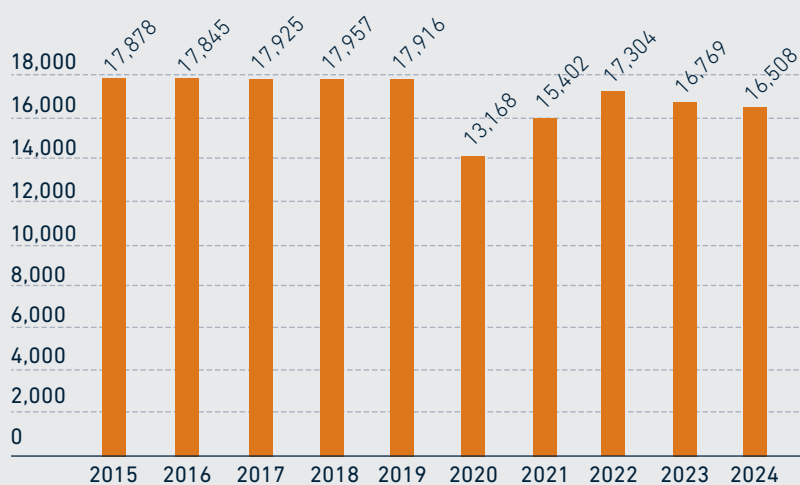
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BASIC PORT STATE CONTROL FIGURES 2024

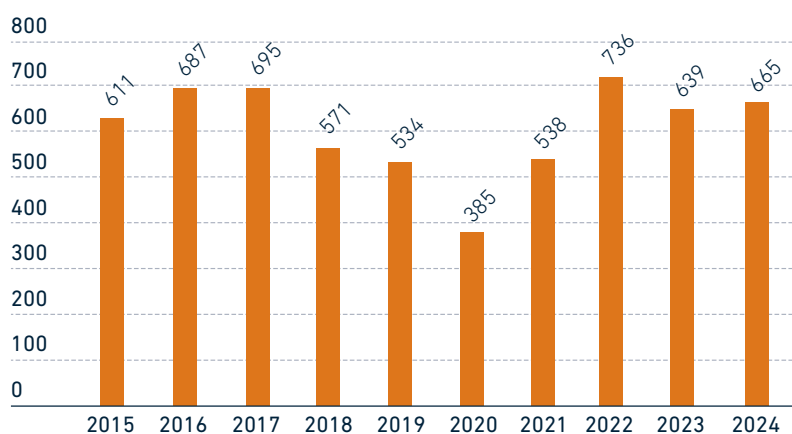
NUMBER OF INDIVIDUAL SHIPS INSPECTED



NUMBER OF INSPECTIONS

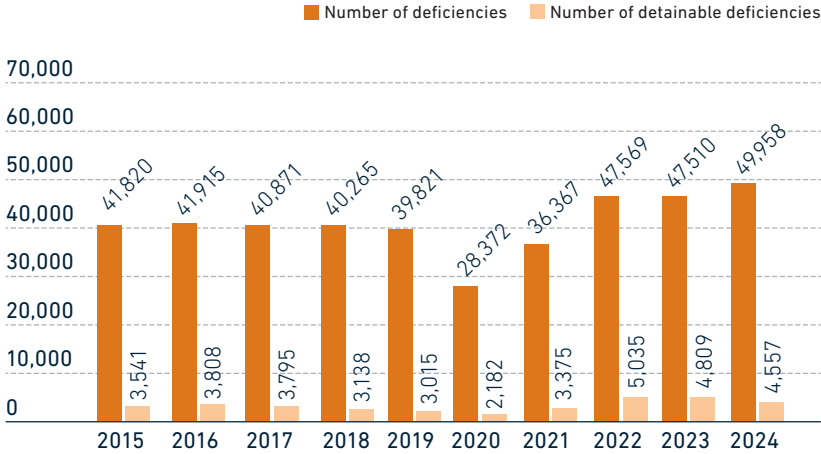


NUMBER OF DETENTIONS

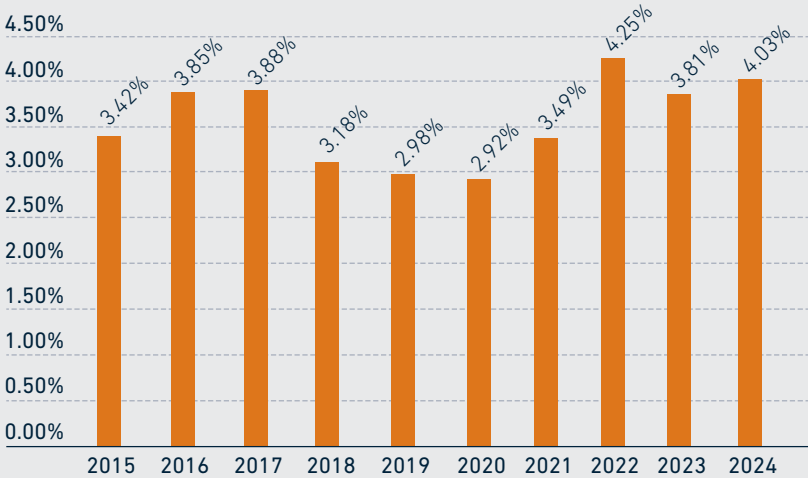


Note: The cut-off date for inspection data to be included in the Annual Report 2024 was 12-02-2025. Changes to inspection data after this date have as a rule not been taken into account. As a result of a decision by PSCC50, the Annual Report data will, from now on, include the current annual year and all amended data in previous years back to 3 calendar years.

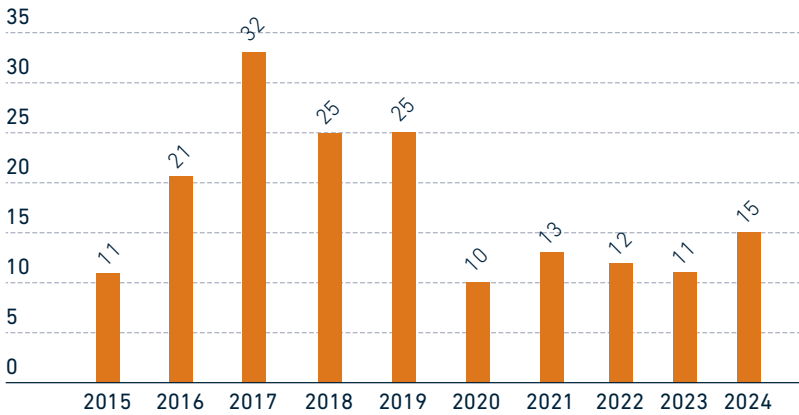
NUMBER OF DEFICIENCIES
AND DETAINABLE DEFICIENCIES



DETENTIONS IN
% OF INSPECTIONS



NUMBER OF REFUSAL
OF ACCESS





WHITE LIST

RANK	FLAG	INSPECTIONS 2022-2024	DETENTIONS 2022-2024	BLACK TO GREY LIMIT	GREY TO WHITE LIMIT	EXCESS FACTOR
WHITE LIST						
1	France	297	1	29	13	-1.78
2	Denmark	1,246	14	103	72	-1.75
3	Norway	1,824	23	146	109	-1.74
4	Netherlands	2,690	46	211	166	-1.61
5	Singapore	1,745	28	140	104	-1.61
6	Cayman Islands (UK)	318	3	30	14	-1.52
7	Finland	364	4	34	17	-1.50
8	Italy	846	14	72	47	-1.48
9	Luxembourg	235	2	23	10	-1.42
10	Japan	232	2	23	9	-1.41
11	Hong Kong (China)	1,596	34	129	94	-1.40
12	Sweden	317	4	30	14	-1.37
13	Germany	486	8	44	24	-1.35
14	China	265	3	26	11	-1.35
15	Greece	599	12	53	31	-1.25
16	Bahamas	1,758	45	141	105	-1.25
17	Portugal	2,050	54	163	124	-1.24
18	United Kingdom	729	16	63	39	-1.22
19	Cyprus	2,226	63	176	136	-1.17
20	Malta	3,747	113	288	236	-1.16
21	Marshall Islands	5,470	181	414	351	-1.09
22	United States	135	1	15	4	-1.07
23	Ireland	91	0	11	2	-1.05
24	Bermuda (UK)	154	2	16	5	-0.90
25	Isle of Man (UK)	354	9	33	16	-0.84
26	Spain	112	1	13	3	-0.81
27	Barbados	863	29	73	48	-0.81
28	Liberia	6,035	257	456	389	-0.76
29	Gibraltar (UK)	293	8	28	13	-0.68
30	Faroe Islands	225	6	23	9	-0.56
31	Belgium	168	4	18	6	-0.48
32	Türkiye	607	25	53	32	-0.42
33	Estonia	84	1	10	2	-0.33
34	Lithuania	100	2	12	2	-0.15
35	Antigua and Barbuda	1,708	95	137	102	-0.14
36	Thailand	51	0	7	0	-0.09
37	Poland	46	0	7	0	0.02
38	Jersey (UK)	44	0	6	0	0.03
39	Canada	36	0	6	0	0.08
40	Egypt	36	0	6	0	0.08

GREY LIST

RANK	FLAG	INSPECTIONS 2022-2024	DETENTIONS 2022-2024	BLACK TO GREY LIMIT	GREY TO WHITE LIMIT	EXCESS FACTOR
GREY LIST						
41	Saudi Arabia	72	1	9	1	0.00
42	Croatia	92	2	11	2	0.01
43	India	55	1	7	0	0.11
44	Latvia	162	7	17	5	0.13
45	Korea, Republic of	178	8	19	6	0.13
46	Morocco	48	1	7	0	0.15
47	Russian Federation	265	14	26	11	0.19
48	Panama	5,854	390	442	377	0.20
49	Lebanon	38	2	6	0	0.39
50	Cook Islands	81	5	10	1	0.42
51	Philippines	105	7	12	3	0.46
52	Albania	58	4	8	0	0.49
53	Algeria	77	6	10	1	0.57
54	Saint Vincent and the Grenadines	246	19	24	10	0.63
55	Sierra Leone	173	14	18	6	0.66
56	Tunisia	30	3	5	0	0.66
57	Bangladesh	43	5	6	0	0.81





BLACK LIST

RANK	FLAG	INSPECTIONS 2022-2024	DETENTIONS 2022-2024	BLACK TO GREY LIMIT	RISK	EXCESS FACTOR
BLACK LIST						
58	Saint Kitts and Nevis	269	29	26	Medium risk	1.30
59	Togo	273	32	27		1.58
60	Palau	489	55	44		1.67
61	Guinea-Bissau	51	9	7		1.94
62	Belize	220	32	22	Medium to high	2.29
63	Vanuatu	357	52	33		2.55
64	Ukraine	43	9	6		2.57
65	Comoros	258	48	25	High risk	3.59
66	Viet Nam	43	12	6	Very high risk	4.42
67	Moldova, Republic of	32	10	5		4.81
68	Tanzania, United Republic of	149	41	16		5.88
69	Cameroon	144	43	16		6.56



FLAGS MEETING CRITERIA FOR LOW RISK SHIPS 2024

Flags meeting criteria for Low Risk Ships (as per 1 July 2025)		
Antigua and Barbuda	Bahamas	Barbados
Belgium	Bermuda (UK)	Canada
Cayman Islands (UK)	China	Cyprus
Denmark	Egypt	Estonia
Faroe Islands	Finland	France
Germany	Gibraltar (UK)	Greece
Hong Kong (China)	Ireland	Isle of Man (UK)
Italy	Japan	Jersey (UK)
Liberia	Lithuania	Luxembourg
Malta	Marshall Islands	Netherlands
Norway	Poland	Portugal
Singapore	Spain	Sweden
Thailand	Türkiye	United Kingdom
United States		

To meet the criteria for Low Risk Ships, flags should be on the Paris MoU White list and have submitted evidence of having undergone an IMO (V)IMSAS Audit.

Non-listed flags having undergone IMO (V)IMSAS Audit			
Bahrain	Bolivia	Brazil	Brunei Darussalam
Bulgaria	Cape Verde	Congo	Cuba
Curacao	Djibouti	Dominica	Dominican Republic
Equatorial Guinea	Ethiopia	Gabon	Gambia
Guyana	Hondura	Iceland	Indonesia
Israel	Jamaica	Jordan	Kazakhstan
Kuwait	Malaysia	Mauritius	Mexico
Monaco	Mongolia	Montenegro	Nigeria
Pakistan	Qatar	Sao Tome and Principe	Seychelles
Slovenia	Turkmenistan	Tuvalu	United Arab Emirates

Flags whose total number of inspections over a three-years rolling period do not meet the minimum of 30 are not included in the Paris MoU White list. Consequently some flags, which have had at least one inspection in the 3-year period, cannot meet the criteria for their ships to qualify as Low Risk Ships under the Paris MoU, despite having undergone the IMO (V)IMSAS Audit.

Non-listed flags with no detentions 2022-2024*			
Bahrain (2)	Georgia (3)	Mauritius (7)	Syrian Arab Republic (1)
Boliva (2)	Guyana (2)	Nauru (1)	Taiwan, Province of China (15)
Cape Verde (4)	Iceland (4)	Niue (6)	Virgin Islands British (UK) (3)
Cuba (1)	Israel (15)	Sao Tome and Principe (3)	
Dominican Republic (2)	Kuwait (28)	Seychelles (14)	
Falkland Islands (UK) (Malvinas) (1)	Malaysia (9)	Slovenia (5)	

Flags that have had at least one inspection in the three-year period but for which the total number of inspections over that period does not meet the minimum of 30, will not be included in the White, Grey and Black lists of the Paris MoU. The flags in this table had too few inspections to be included in the lists, but had no detentions in the mentioned period. * Note: The flags are listed in alphabetical order. The number of inspections over the mentioned period taken into account is shown between brackets.

INSPECTIONS, DETENTIONS AND DEFICIENCIES 2024

Flag	Nr of Inspections	Inspections with deficiencies	Inspections with detentions	Nr of detainable deficiencies	% of Inspections with deficiencies	% of Inspections with detentions
Albania	14	14	-	-	100.0	-
Algeria	25	18	1	6	72.0	4.0
Antigua and Barbuda	584	408	38	208	69.9	6.5
Bahamas	492	254	12	63	51.6	2.4
Bangladesh	14	6	3	24	42.9	21.4
Barbados	338	225	11	68	66.6	3.3
Belgium	56	34	2	3	60.7	3.6
Belize	87	82	17	134	94.3	19.5
Bermuda, UK	49	18	1	8	36.7	2.0
Bolivia	1	1	-	-	100.0	-
Brazil	8	2	-	-	25.0	-
Bulgaria	4	4	1	4	100.0	25.0
Cameroon	46	44	12	138	95.7	26.1
Canada	12	6	-	-	50.0	-
Cape Verde	2	1	-	-	50.0	-
Cayman Islands, UK	106	55	-	-	51.9	-
China	97	49	2	13	50.5	2.1
Comoros	87	86	21	211	98.9	24.1
Congo	1	1	1	13	100.0	100.0
Cook Islands	18	14	1	8	77.8	5.6
Croatia	29	21	1	5	72.4	3.4
Curacao	6	4	-	-	66.7	-
Cyprus	749	450	22	131	60.1	2.9
Denmark	369	181	4	11	49.1	1.1
Dominica	2	2	1	4	100.0	50.0
Egypt	11	6	-	-	54.5	-
Estonia	27	9	1	5	33.3	3.7
Ethiopia	1	1	-	-	100.0	-
Faroe Islands	79	48	3	7	60.8	3.8
Finland	119	68	1	4	57.1	0.8
France	103	53	-	-	51.5	-
Gabon	7	7	1	7	100.0	14.3
Gambia	8	8	3	24	100.0	37.5
Georgia	3	3	-	-	100.0	-
Germany	149	86	3	22	57.7	2.0
Gibraltar, UK	78	49	3	8	62.8	3.8
Greece	162	77	3	7	47.5	1.9
Guinea-Bissau	27	25	6	80	92.6	22.2
Honduras	4	4	1	18	100.0	25.0
Hong Kong (China)	511	252	7	52	49.3	1.4

Flag	Nr of Inspections	Inspections with deficiencies	Inspections with detentions	Nr of detainable deficiencies	% of Inspections with deficiencies	% of Inspections with detentions
Iceland	2	1	-	-	50.0	-
India	23	11	-	-	47.8	-
Indonesia	14	11	2	9	78.6	14.3
Iran, Islamic Republic of	6	6	2	14	100.0	33.3
Ireland	20	7	-	-	35.0	-
Isle of Man, UK	118	58	1	17	49.2	0.8
Israel	5	4	-	-	80.0	-
Italy	268	123	8	38	45.9	3.0
Jamaica	2	1	-	-	50.0	-
Japan	82	39	1	2	47.6	1.2
Jersey, UK	20	6	-	-	30.0	-
Jordan	1	1	1	7	100.0	100.0
Kazakhstan	1	1	-	-	100.0	-
Korea, Republic of	83	42	4	13	50.6	4.8
Kuwait	11	5	-	-	45.5	-
Latvia	55	31	2	9	56.4	3.6
Lebanon	11	6	-	-	54.5	-
Liberia	2,062	1,215	88	522	58.9	4.3
Libya	6	4	-	-	66.7	-
Lithuania	34	20	1	8	58.8	2.9
Luxembourg	70	38	-	-	54.3	-
Malaysia	1	-	-	-	-	-
Malta	1,178	583	38	166	49.5	3.2
Marshall Islands	1,729	933	57	285	54.0	3.3
Mauritius	2	-	-	-	-	-
Mexico	1	1	1	9	100.0	100.0
Monaco	1	1	-	-	100.0	-
Mongolia	6	6	-	-	100.0	-
Montenegro	6	4	1	6	66.7	16.7
Morocco	15	9	-	-	60.0	-
Netherlands	898	459	21	83	51.1	2.3
Nigeria	1	1	-	-	100.0	-
Niue	2	1	-	-	50.0	-
Norway	582	332	5	16	57.0	0.9
Pakistan	1	1	1	20	100.0	100.0
Palau	208	191	24	177	91.8	11.5
Panama	1,891	1,264	99	840	66.8	5.2
Philippines	29	14	1	1	48.3	3.4
Poland	16	8	-	-	50.0	-
Portugal	754	419	14	104	55.6	1.9

Flag	Nr of Inspections	Inspections with deficiencies	Inspections with detentions	Nr of detainable deficiencies	% of Inspections with deficiencies	% of Inspections with detentions
Russian Federation	21	16	-	-	76.2	-
Saint Kitts and Nevis	122	104	14	103	85.2	11.5
Saint Vincent and the Grenadines	86	66	9	78	76.7	10.5
San Marino	26	20	1	5	76.9	3.8
Sao Tome and Principe	1	1	-	-	100.0	-
Saudi Arabia	19	9	-	-	47.4	-
Seychelles	5	1	-	-	20.0	-
Sierra Leone	58	55	5	43	94.8	8.6
Singapore	563	253	13	64	44.9	2.3
Slovenia	1	-	-	-	-	-
Spain	25	12	-	-	48.0	-
Sweden	95	49	-	-	51.6	-
Switzerland	11	6	1	1	54.5	9.1
Taiwan, Province of China	4	3	-	-	75.0	-
Tanzania, United Republic of	67	63	17	180	94.0	25.4
Thailand	20	14	-	-	70.0	-
Togo	69	64	10	75	92.8	14.5
Tunisia	10	9	1	10	90.0	10.0
Türkiye	199	124	11	69	62.3	5.5
Tuvalu	8	7	1	12	87.5	12.5
Ukraine	8	8	3	39	100.0	37.5
United Arab Emirates	1	1	1	13	100.0	100.0
United Kingdom	219	120	6	33	54.8	2.7
United States	46	26	-	-	56.5	-
Vanuatu	111	101	14	180	91.0	12.6
Viet Nam	13	12	3	20	92.3	23.1

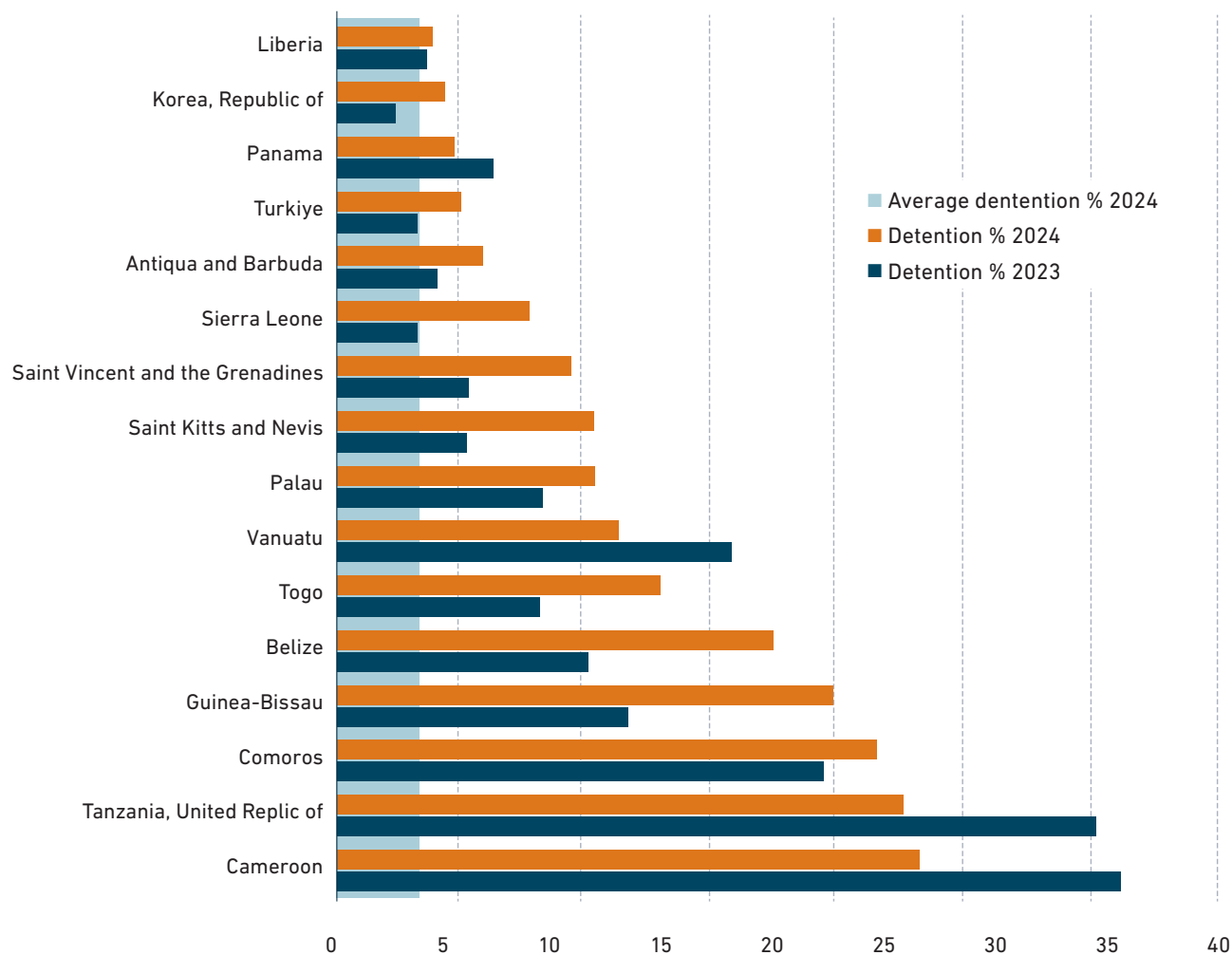


2024 DETENTIONS PER FLAG, EXCEEDING AVERAGE PERCENTAGE

Flag	Nr of Inspections	Inspections with detentions	% of Inspections with detentions	Excess of average 2024	Detentions % 2023	Excess of average 2023
Antigua and Barbuda	584	38	6.5	2.5	4.5	0.7
Belize	87	17	19.5	15.5	11.3	7.4
Cameroon	46	12	26.1	22.1	35.1	31.3
Comoros	87	21	24.1	20.1	21.8	18.0
Guinea-Bissau	27	6	22.2	18.2	13.0	9.2
Korea, Republic of	83	4	4.8	0.8	5.3	1.5
Liberia	2,062	88	4.3	0.2	4.0	0.2
Palau	208	24	11.5	7.5	9.2	5.4
Panama	1,891	99	5.2	1.2	7.0	3.2
Saint Kitts and Nevis	122	14	11.5	7.4	5.8	2.0
Saint Vincent and the Grenadines	86	9	10.5	6.4	5.9	2.1
Sierra Leone	58	5	8.6	4.6	3.6	-0.2
Tanzania, United Republic of	67	17	25.4	21.3	34.0	30.2
Togo	69	10	14.5	10.5	9.1	5.3
Turkiye	199	11	5.5	1.5	3.6	-0.2
Vanuatu	111	14	12.6	8.6	17.7	13.8

Only flags with 20 and more port State control inspections and with a detention percentage exceeding the average percentage of 4.03% are recorded in this graph (in 2023 the average was 3.81%).

2024 DETENTIONS PER FLAG, EXCEEDING AVERAGE PERCENTAGE

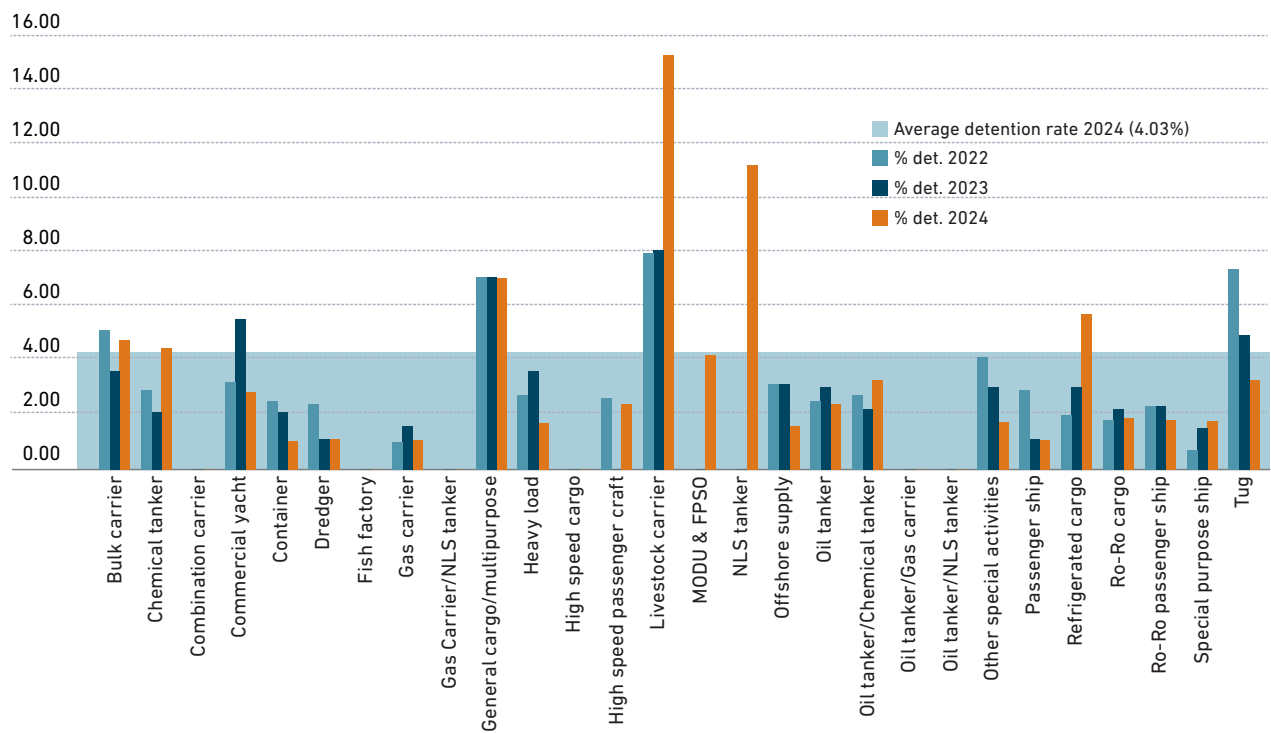


■ Only flags with 20 and more port State control inspections in 2024 and with a detention percentage exceeding the average percentage of 4.03% are recorded in this graph. In 2023 the average detentions percentage was 3.81%.

■ The light blue column represents the 2024 average detention percentage (4.03%).

INSPECTIONS AND DETENTIONS 2024 PER SHIP TYPE

Ship type	Nr of Inspections	Inspections with deficiencies	Percentage of inspections with deficiencies	Nr of individual ships inspected	Inspections with detentions	Percentage of detentions to inspections 2024	Percentage of detentions to inspections 2023	Percentage of detentions to inspections 2022	+ / - average detention % 2024
Bulk carrier	3,839	2,494	64,96	3,508	181	4.7	3.6	5.1	0.7
Chemical tanker	451	249	55,21	410	20	4.4	2.1	2.9	0.4
Combination carrier	7	3	42,86	6	-	0.0	0.0	0.0	-4.0
Commercial yacht	213	83	38,97	210	6	2.8	5.5	3.2	-1.2
Container	1,921	1,005	52,32	1,772	20	1.0	2.1	2.5	-3.0
Dredger	90	46	51,11	86	1	1.1	1.1	2.4	-2.9
Fish factory	6	6	100,00	5	-	0.0	0.0	0.0	-4.0
Gas carrier	458	184	40,17	425	5	1.1	1.6	1.0	-2.9
Gas Carrier/NLS tanker	10	6	60,00	10	-	0.0	0.0	0.0	-4.0
General cargo/multipurpose	4,175	2,840	68,02	3,364	292	7.0	7.0	7.0	3.0
Heavy load	59	21	35,59	56	1	1.7	3.6	2.7	-2.3
High speed cargo	24	9	37,50	24	-	0.0	0.0	0.0	-4
High speed passenger craft	84	48	57,14	56	2	2.4	0.0	2.6	-1.6
Livestock carrier	86	76	88,37	62	13	15.1	8.0	7.9	11.1
MODU & FPSO	24	13	54,17	24	1	4.2	0.0	0.0	0.2
NLS tanker	9	5	55,56	7	1	11.1	0.0	0.0	7.1
Offshore supply	381	218	57,22	369	6	1.6	3.1	3.1	-2.4
Oil tanker	1,009	454	45,00	953	24	2.4	3.0	2.5	-1.6
Oil tanker/Chemical tanker	1,347	679	50,41	1,213	44	3.3	2.2	2.7	-0.7
Oil tanker/Gas carrier	1	-	-	1	-	0.0	0.0	0.0	-4.0
Oil tanker/NLS tanker	1	1	100,00	1	-	0.0	0.0	0.0	-4.0
Other special activities	408	219	53,68	399	7	1.7	3.0	4.1	-2.3
Passenger ship	282	129	45,74	261	3	1.1	1.1	2.9	-2.9
Refrigerated cargo	124	79	63,71	119	7	5.6	3.0	2.0	1.6
Ro-Ro cargo	646	290	44,89	605	12	1.9	2.2	1.8	-2.1
Ro-Ro passenger ship	494	322	65,18	272	9	1.8	2.3	2.3	-2.2
Special purpose ship	113	53	46,90	112	2	1.8	1.5	0.7	-2.2
Tug	246	145	58,94	239	8	3.3	4.9	7.3	-0.7



MAJOR CATEGORIES OF DEFICIENCIES 2022-2024

		2022		2023		2024	
Deficiencies Main Group		Def	Def %	Def	Def %	Def	Def %
Ballast Water Management		898	1.9	907	1.9	964	1.9
COLREG		444	0.9	441	0.9	453	0.9
Load Lines		2,758	5.8	2,644	5.6	2,620	5.2
MARPOL	MARPOL Annex I	1,530	3.2	1,528	3.2	1,635	3.3
	MARPOL Annex IV	418	0.9	515	1.1	486	1.0
	MARPOL Annex V	821	1.7	930	2.0	977	2.0
	MARPOL Annex VI	618	1.3	771	1.6	851	1.7
	MARPOL Other	47	0.1	57	0.1	75	0.2
MLC	MLC 2006 Title 2	1,453	3.1	1,181	2.5	1,442	2.9
	MLC 2006 Title 3	3,201	6.7	3,151	6.6	3,538	7.1
	MLC 2006 Title 4	4,875	10.2	4,750	10.0	5,189	10.4
	MLC 2006 Title 5	319	0.7	289	0.6	370	0.7
	MLC Other	168	0.4	198	0.4	116	0.2
SOLAS	SOLAS Chapter I	506	1.1	501	1.1	530	1.1
	SOLAS Chapter II-1	5,520	11.6	5,444	11.5	5,653	11.3
	SOLAS Chapter II-2	7,360	15.5	8,227	17.3	8,617	17.2
	SOLAS Chapter III	4,541	9.5	4,391	9.2	4,506	9.0
	SOLAS Chapter IV	844	1.8	793	1.7	781	1.6
	SOLAS Chapter V	3,961	8.3	3,843	8.1	3,813	7.6
	SOLAS Chapter VI	285	0.6	224	0.5	255	0.5
	SOLAS Chapter XI-1	492	1.0	404	0.9	442	0.9
	SOLAS Chapter X (ISM)	2,284	4.8	2,308	4.9	2,309	4.6
	SOLAS Chapter XI-2 (ISPS)	432	0.9	420	0.9	353	0.7
	SOLAS Chapter III (LSA)	320	0.7	331	0.7	422	0.8
	SOLAS Other	954	2.0	869	1.8	748	1.5
STCW	STCW Code Part A ch.I	753	1.6	615	1.3	501	1.0
	STCW Code Part A ch.VIII	1,037	2.2	1,112	2.3	841	1.7
	STCW Other	242	0.5	245	0.5	675	1.4
Other		488	1.0	421	0.9	796	1.6

TOP 5 MAIN GROUPS

Main group of deficiencies	2023		2024	
	Deficiencies	% Total deficiencies	Deficiencies	% Total deficiencies
SOLAS Chapter II-2	8,227	17.3	8,617	17.2
SOLAS Chapter II-1	5,444	11.5	5,653	11.3
MLC 2006 Title 4	4,750	10.0	5,189	10.4
SOLAS Chapter III	4,391	9.2	4,506	9.0
SOLAS Chapter V	3,843	8.1	3,813	7.6

TOP 5 DEFICIENCIES

Deficiencies	2023		2024	
	Deficiencies	% Total deficiencies	Deficiencies	% Total deficiencies
ISM	2,283	4.8	2,285	4.6
Fire doors/openings in fire-resisting divisions	1,519	3.2	1,612	3.2
Seafarers' employment agreement (SEA)	624	1.3	756	1.5
Voyage or passage plan	648	1.4	661	1.3
Auxiliary engine	626	1.3	654	1.3



DETENTIONS OF SHIPS WITH RO RELATED DETAINABLE DEFICIENCIES PER RECOGNIZED ORGANIZATION 2024 (CASES IN WHICH 10 OR MORE INSPECTIONS ARE INVOLVED)

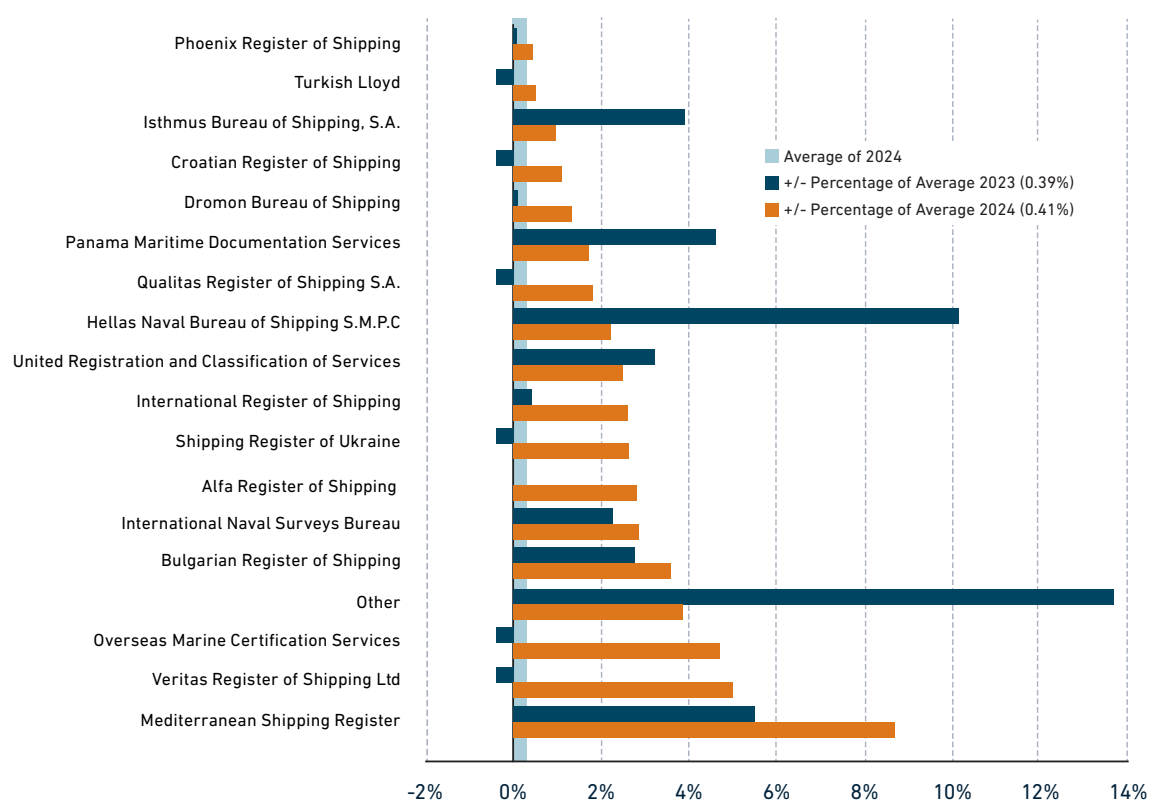
Recognized Organization	Abbr.	Total number of inspections	Number of individual ships inspected*	Total number of detentions**	Detention % of total number of inspections	+/- Percentage of Average 2024. (0.41)	Detention % of individual ships	+/- Percentage of Average Indiv. 2024. (0.44)
Alfa Register of Shipping	AR	31	25	1	3.23	2.82	4.00	3.56
American Bureau of Shipping	ABS	2,029	1,906	1	0.05	-0.36	0.05	-0.39
Biro Klasifikasi Indonesia	BKI	10	7	-	-	-0.41	-	-0.44
Bulgarian Register of Shipping	BRS	100	74	4	4.00	3.59	5.41	4.97
Bureau Veritas	BV	4,063	3,529	11	0.27	-0.14	0.31	-0.13
China Classification Society	CCS	435	412	1	0.23	-0.18	0.24	-0.20
Croatian Register of Shipping	CRS	66	58	1	1.52	1.11	1.72	1.28
DNV AS	DNV	7,158	6,434	8	0.11	-0.30	0.12	-0.32
Dromon Bureau of Shipping	DBS	228	190	4	1.75	1.34	2.11	1.67
Hellas Naval Bureau of Shipping S.M.P.C	HNBS	38	32	1	2.63	2.22	3.13	2.69
Indian Register of Shipping	IRS	105	94	-	-	-0.41	-	-0.44
Intermaritime Certification Services, ICS Class	ICS	24	22	-	-	-0.41	-	-0.44
International Naval Surveys Bureau	INSB	184	150	6	3.26	2.85	4.00	3.56
International Register of Shipping	IS	133	116	4	3.01	2.60	3.45	3.01
Isthmus Bureau of Shipping, S.A.	IBS	73	62	1	1.37	0.96	1.61	1.17
KOREAN REGISTER	KR	764	718	1	0.13	-0.28	0.14	-0.30
Libero Hellenic Register	LHR	17	15	-	-	-0.41	-	-0.44
Lloyd's Register	LR	3,834	3,467	9	0.23	-0.18	0.26	-0.18
Macosnar Corporation	MC	24	19	-	-	-0.41	-	-0.44
Maritime Lloyd	ML	16	11	-	-	-0.41	-	-0.44
Mediterranean Shipping Register	MSR	11	9	1	9.09	8.68	11.11	10.67
National Shipping Adjuster Inc.	NASHA	20	18	-	-	-0.41	-	-0.44
Nippon Kaiji Kyokai	NKK	2,970	2,779	18	0.61	0.20	0.65	0.21
Other	OTHER	117	105	5	4.27	3.86	4.76	4.32
Overseas Marine Certification Services	OMCS	98	83	5	5.10	4.69	6.02	5.58
Panama Maritime Documentation Services	PMDS	47	45	1	2.13	1.72	2.22	1.78
Phoenix Register of Shipping	PHRS	235	202	2	0.85	0.44	0.99	0.55
Polski Rejestr Statkow (Polish Register of Shipping)	PRS	195	145	1	0.51	0.10	0.69	0.25
Qualitas Register of Shipping S.A.	QRS	45	40	1	2.22	1.81	2.50	2.06
Register of Shipping (Albania)	RSA	13	11	-	-	-0.41	-	-0.44
RINA Services S.p.A.	RINA	2,309	1,888	7	0.30	-0.11	0.37	-0.07

Recognized Organization	Abbr.	Total number of inspections	Number of individual ships inspected*	Total number of detentions**	Detention % of total number of inspections	+/- Percentage of Average 2023. (0.41)	Detention % of individual ships	+/- Percentage of Average Indiv. 2023. (0.44)
Russian Maritime Register of Shipping	RMRS	34	33	-	-	-0.41	-	-0.44
Shipping Register of Ukraine	SRU	33	24	1	3.03	2.62	4.17	3.73
Turkish Lloyd	TL	107	92	1	0.93	0.52	1.09	0.65
United Registration and Classification of Services	URACOS	138	115	4	2.90	2.49	3.48	3.04
Veritas Register of Shipping Ltd	VRS	37	30	2	5.41	5.00	6.67	6.23
Vietnam Register	VR	13	11	-	-	-0.41	-	-0.44

* As more than one Recognized Organization might have issued or endorsed statutory certificates with regard to the same ship, an inspection can be relevant for more than one RO and might appear multiple times in this column.

** Only detentions with RO related detainable deficiencies are taken into account. (Recognized Organizations with 10 or more inspections are taken into account).

% OF DETENTIONS OF SHIPS WITH RO RELATED DETAINABLE DEFICIENCIES PER RECOGNIZED ORGANIZATION 2022-2024 (CASES IN WHICH MORE THAN 10 INSPECTIONS ARE INVOLVED)



* Only ROs with 10 and more port State control inspections in 2024 and with a detention percentage exceeding the average percentage of 0.41 are recorded in this graph. In 2023 the average detention percentage was 0.39. The light blue column represents the 2024 average detention percentage. (0.41)





RECOGNIZED ORGANIZATION PERFORMANCE TABLE 2022-2024

Recognized Organization	RO Abbrev.	Inspections	Detentions	Low / medium limit	Medium / high limit	Excess Factor	Performance level
American Bureau of Shipping	ABS	6,438	2	148	110	-1.95	High
DNV AS	DNV	23,476	36	505	434	-1.83	
Lloyd's Register	LR	12,071	30	267	216	-1.70	
Korean Register	KR	2,106	4	53	31	-1.67	
Bureau Veritas	BV	12,179	36	269	218	-1.65	
China Classification Society	CCS	1,238	2	33	16	-1.62	
RINA Services S.p.A.	RINA	6,426	19	147	110	-1.62	
Nippon Kaiji Kyokai	NKK	8,922	51	201	156	-1.30	
Russian Maritime Register of Shipping	RMRS	476	1	15	4	-0.91	
Polski Rejestr Statkow (Polish Register of Shipping)	PRS	536	4	17	5	-0.23	
Croatian Register of Shipping	CRS	183	1	7	0	0.13	Medium
Dromon Bureau of Shipping	DBS	626	8	19	6	0.14	
Phoenix Register of Shipping	PHRS	660	9	20	7	0.17	
Turkish Lloyd	TL	288	3	10	1	0.19	
Qualitas Register of Shipping S.A.	QRS	134	1	6	0	0.23	
Intermaritime Certification Services, ICS Class	ICS	79	1	4	0	0.39	
Indian Register of Shipping	IRS	289	5	10	1	0.41	
Veritas Register of Shipping Ltd	VRS	98	2	5	0	0.51	
Bulgarian Register of Shipping	BRS	314	7	11	2	0.58	
National Shipping Adjuster Inc.	NASHA	75	2	4	0	0.60	
Macosnar Corporation	MC	71	2	4	0	0.62	
Panama Maritime Documentation Services	PMDS	158	4	7	0	0.62	
Shipping Register of Ukraine	SRU	111	3	5	0	0.63	
Overseas Marine Certification Services	OMCS	239	6	9	1	0.65	
Isthmus Bureau of Shipping, S.A.	IBS	220	6	8	0	0.70	
International Naval Surveys Bureau	INSB	561	14	17	5	0.73	
United Registration and Classification of Services	URACOS	318	10	11	2	0.90	
International Register of Shipping	IS	353	12	12	2	1.03	Low
Hellas Naval Bureau of Shipping S.M.P.C	HNBS	107	6	5	0	1.61	

In this table only Recognized Organizations that had 60 or more inspections in a 3-year period are taken into account. The formula is identical to the one used for the White, Grey and Black list. However, the values for P and Q are adjusted to P=0.02 and Q=0.01. Performance of Recognized Organizations is measured over a 3-year rolling period.

NUMBER OF CERTIFICATES COVERING RO RESPONSIBLE DETAINABLE DEFICIENCIES 2024

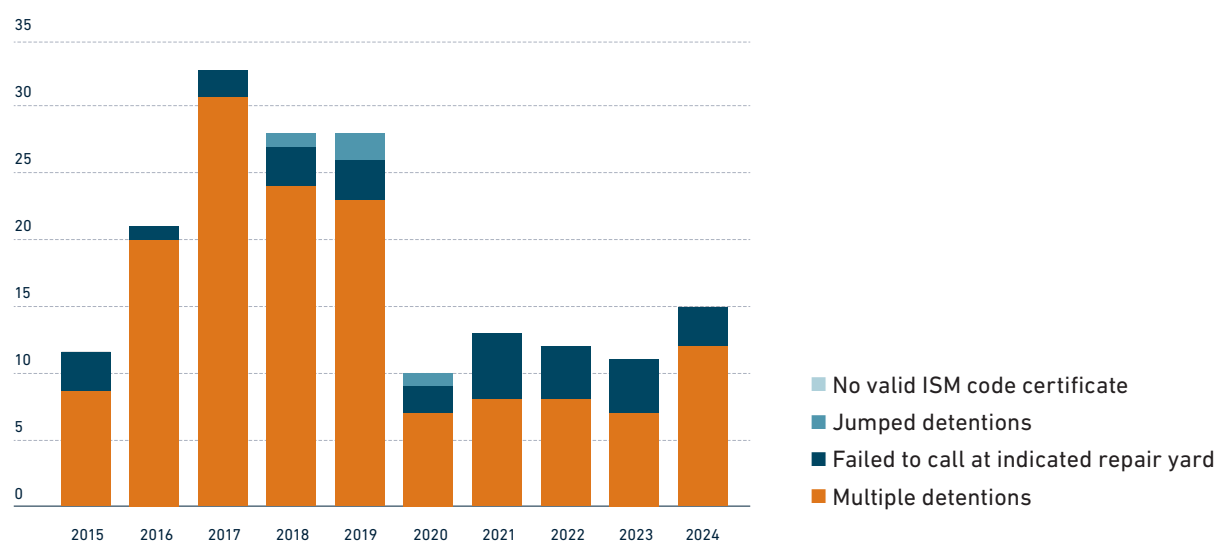
Recognized Organization	RO Abbrev.	Certificates	Total number of RO detainable deficiencies	% detainable deficiencies / certificates
Alfa Register of Shipping	AR	417	1	0.240
American Bureau of Shipping	ABS	20,552	4	0.005
Bulgarian Register of Shipping	BRS	761	11	0.526
Bureau Veritas	BV	38,124	1	0.029
China Classification Society	CCS	4,979	1	0.020
Croatian Register of Shipping	CRS	663	8	0.151
DNV AS	DNV	53,838	4	0.015
Dromon Bureau of Shipping	DBS	2,551	-	0.157
Indian Register of Shipping	IRS	821	0	0.000
International Naval Surveys Bureau	INSB	1,530	6	0.392
International Register of Shipping	IS	1,188	4	0.337
Isthmus Bureau of Shipping, S.A.	IBS	768	1	0.130
KOREAN REGISTER	KR	6,327	1	0.016
Lloyd's Register	LR	31,620	9	0.028
Nippon Kaiji Kyokai	NKK	31,909	18	0.056
Other	OTHER	897	5	0.557
Overseas Marine Certification Services	OMCS	568	0	0.880
Panama Maritime Documentation Services	PMDS	180	3	0.556
Phoenix Register of Shipping	PHRS	2,088	1	0.096
Polski Rejestr Statkow (Polish Register of Shipping)	PRS	1,784	1	0.056
Qualitas Register of Shipping S.A.	QRS	243	0	0.412
RINA Services S.p.A.	RINA	22,549	6	0.031
Russian Maritime Register of Shipping	RMRS	347	0	0.000
Shipping Register of Ukraine	SRU	407	0	0.246
Turkish Lloyd	TL	923	0	0.108
United Registration and Classification of Services	URACOS	1,215	4	0.329
Veritas Register of Shipping Ltd	VRS	345	-	0.580

(Recognized Organizations with more than 30 inspections).

REFUSAL OF ACCESS (BANNING) PER FLAG 2022-2024

Flag	Failed to call at indicated repair yard	Jumped detention	Total Banned	Multiple detentions		
				1 st ban	2 nd ban	3 rd ban
Albania	-	1	1	1	-	-
Belize	-	2	2	1	1	-
Cameroon	2	7	9	6	1	-
Comoros	1	1	2	-	1	-
Cook Islands	1	-	1	-	-	-
Liberia	2	-	2	-	-	-
Moldova, Republic of	1	-	1	-	-	-
Mongolia	-	1	1	-	1	-
Palau	2	4	6	4	-	-
Panama	-	4	4	4	-	-
Saint Kitts and Nevis	-	3	3	3	-	-
Tanzania, United Republic of	-	1	1	1	-	-
Togo	-	1	1	-	1	-
Ukraine	-	1	1	-	-	1
Vanuatu	1	2	3	2	-	-
	10	28	38	22	5	1

REFUSAL OF ACCESS 2015-2024



2024 CIC ON CREW WAGES AND SEAFARERS' EMPLOYMENT AGREEMENTS

Number of ships inspected during CIC	Inspections with a CIC questionnaire	Inspections without a CIC questionnaire
Total	3,863	99
Detentions	165	-
Detentions with CIC-topic related deficiencies	30	-

CIC-topic related deficiencies			Nr. of deficiencies, (One inspection can have multiple deficiencies)		Nr. of deficiencies recorded as ground for detention	
Deficiency	Convention		2023	2024	2023	2024
1220 Seafarers' employment agreement (SEA)	MLC 2006 Title 2		139	317	8	25
18203 Wages	MLC 2006 Title 2		23	82	-	4
1331 Collective Bargaining Agreement	MLC 2006 Title 2		7	79	-	-
1139 Maritime Labour Certificate	MLC 2006 Title 5		30	56	2	4
1140 DMLC (part I & part II)	MLC 2006 Title 5		13	49	-	1
1337 Certificate or Documentary evidence of financial security relating to shipowners' liability	MLC 2006 Title 4		14	33	2	3
1336 Certificate or documentary evidence of financial security for repatriation	MLC 2006 Title 2		19	29	2	2
18204 Non-payment of wages	MLC 2006 Title 2		11	23	4	4
18205 Measures to ensure transmission to seafarers' family	MLC 2006 Title 2		1	-	-	-



Explanatory note – “WHITE”, “GREY” AND “BLACK LIST”

The normative listing of Flags provides an independent categorisation that has been prepared on the basis of Paris MoU port State inspection results over a 3-year period, based on binomial calculus.

The performance of each Flag is calculated using a standard formula for statistical calculations in which certain values have been fixed in accordance with agreed Paris MoU policy. Two limits have been included in the system, the ‘black to grey’ and the ‘grey to white’ limit, each with its own specific formula:

$$u_{black_to_grey} = N \cdot p + 0.5 + z \sqrt{(N \cdot p \cdot (1 - p))}$$

$$u_{white_to_grey} = N \cdot p - 0.5 - z \sqrt{(N \cdot p \cdot (1 - p))}$$

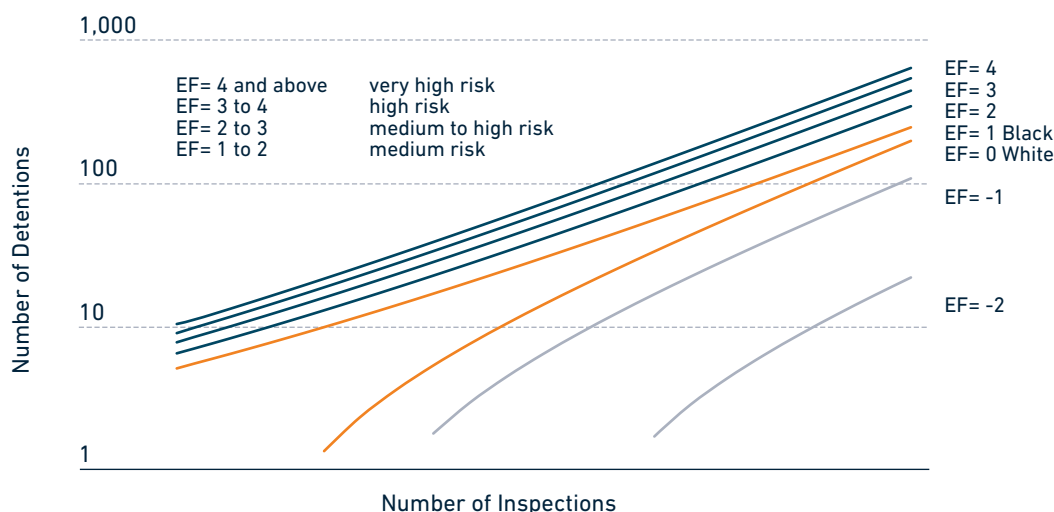
In the formula “N” is the number of inspections, “p” is the allowable detention limit (yardstick), set to 7% by the Paris MoU Port State Control Committee, and “z” is the significance requested (z=1.645 for a statistically acceptable certainty level of 95%). The result “u” is the allowed number of detentions for either the Black or White List. The “u” results can be found in the table. A number of detentions above this ‘black to grey’ limit means significantly worse than average, where a number of detentions below the ‘grey to white’ limit means significantly better than average. When the amount of detentions for a particular Flag is positioned between the

two, the Flag will find itself on the Grey List. The formula is applicable for sample sizes of 30 or more inspections over a 3-year period.

To sort results on the Black or White List, simply alter the target and repeat the calculation. Flags which are still significantly above this second target, are worse than the flags which are not. This process can be repeated to create as many refinements as desired. (Of course the maximum detention rate remains 100%!) To make the flags’ performance comparable, the excess factor (EF) is introduced. Each incremental or decremental step corresponds with one whole EF-point of difference. Thus the EF is an indication for the number of times the yardstick has to be altered and recalculated. Once the excess factor is determined for all flags, the flags can be ordered by EF. The excess factor can be found in the last column of the White, Grey or Black List. The target (yardstick) has been set on 7% and the size of the increment and decrement on 3%.

The White/Grey/Black Lists have been calculated in accordance with the principles above*.

The graphical representation of the system below is showing the direct relations between the number of inspected ships and the number of detentions. Both axes have a logarithmic character as the ‘black to grey’ or the ‘grey to white’ limit.



* Explanatory notes can be found on www.parismou.org/publications

Secretariat Paris Memorandum OF UNDERSTANDING ON PORT STATE CONTROL



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HARD WORK WILL REDUCE DURATION

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WORKING DURATION OF B.A.
IN MINUTES

CYL PRESS IN BARS	6 LITRE COMP. AIR
300	30 MINS
280	27 "
260	25 "
240	22 "
220	19 "
200	17 "
180	14 "
160	11 "
140	9 "

B.A. CONTROL BOARD
STAGE I

TIME OF WHISTLE

REMARKS

COMP. AIR No.

1

NAME

CYL PRESS TIME IN

COMP. AIR No.

2

NAME

CYL PRESS TIME IN

COMP. AIR No.

3

NAME

CYL PRESS TIME IN

COMP. AIR No.

4

NAME

CYL PRESS TIME IN

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