

MITIGATING THE EFFECTS OF EMERGENCIES IN BALTIC SEA REGION PORTS 2016–2019

North European Port Authorities' Website Content and Usability Evaluation

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Port Authorities' website content and usability evaluation

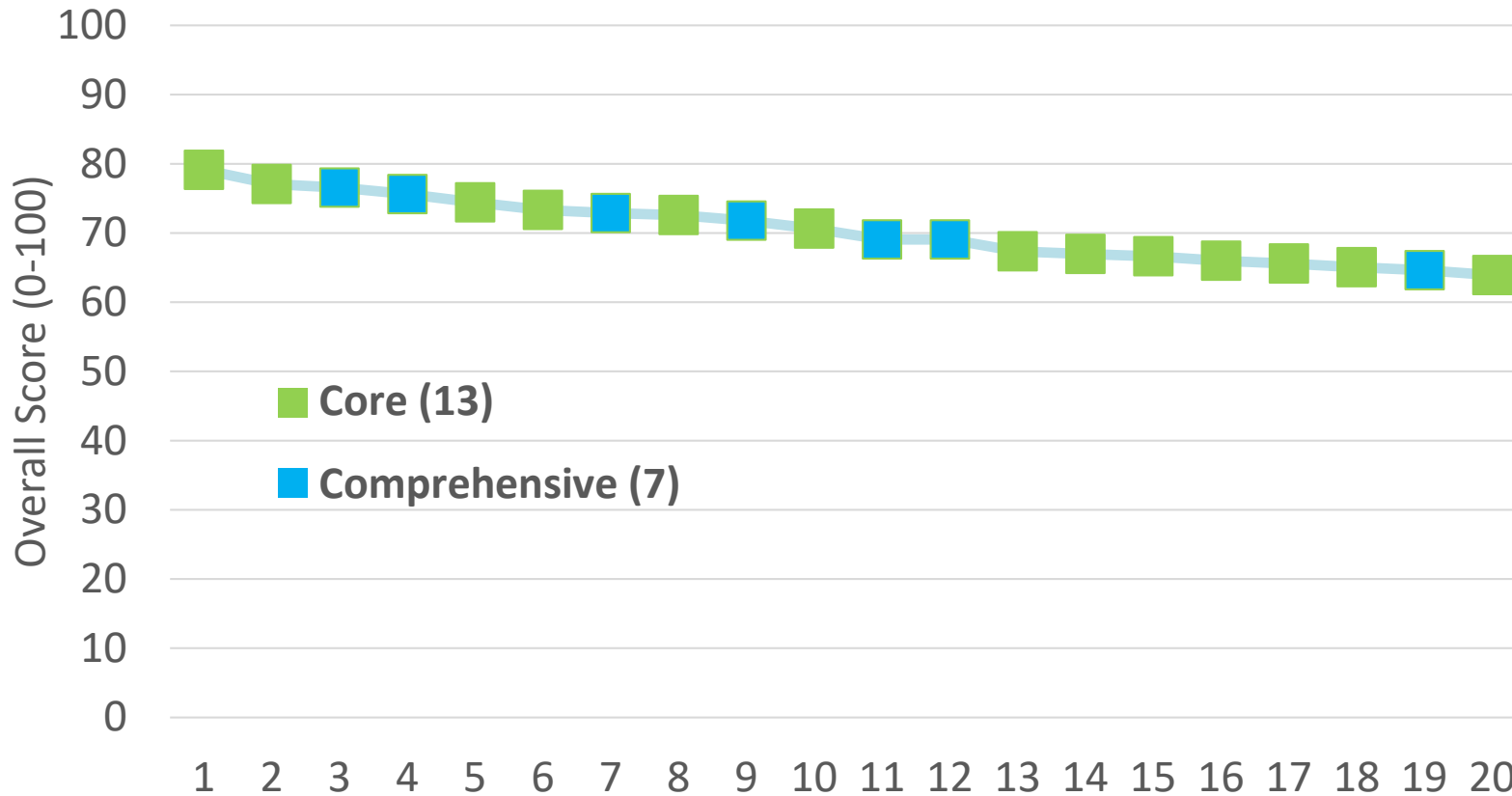
- 97 Port Authorities within the scope, which manage 116 seaports
 - All TEN-T Core seaports north of Le Havre + British Isles (n = 54)
 - TEN-T Comprehensive seaports* in the Baltic Sea Region (n = 41)
 - Selected Norwegian & Russian seaports* (n = 21)
- 88 websites with English content were evaluated and ranked

**) With an annual cargo turnover > 2 M tonnes or > 1 M passengers, incl. 3 EU seaports outside TEN-T*

Assessment Categories

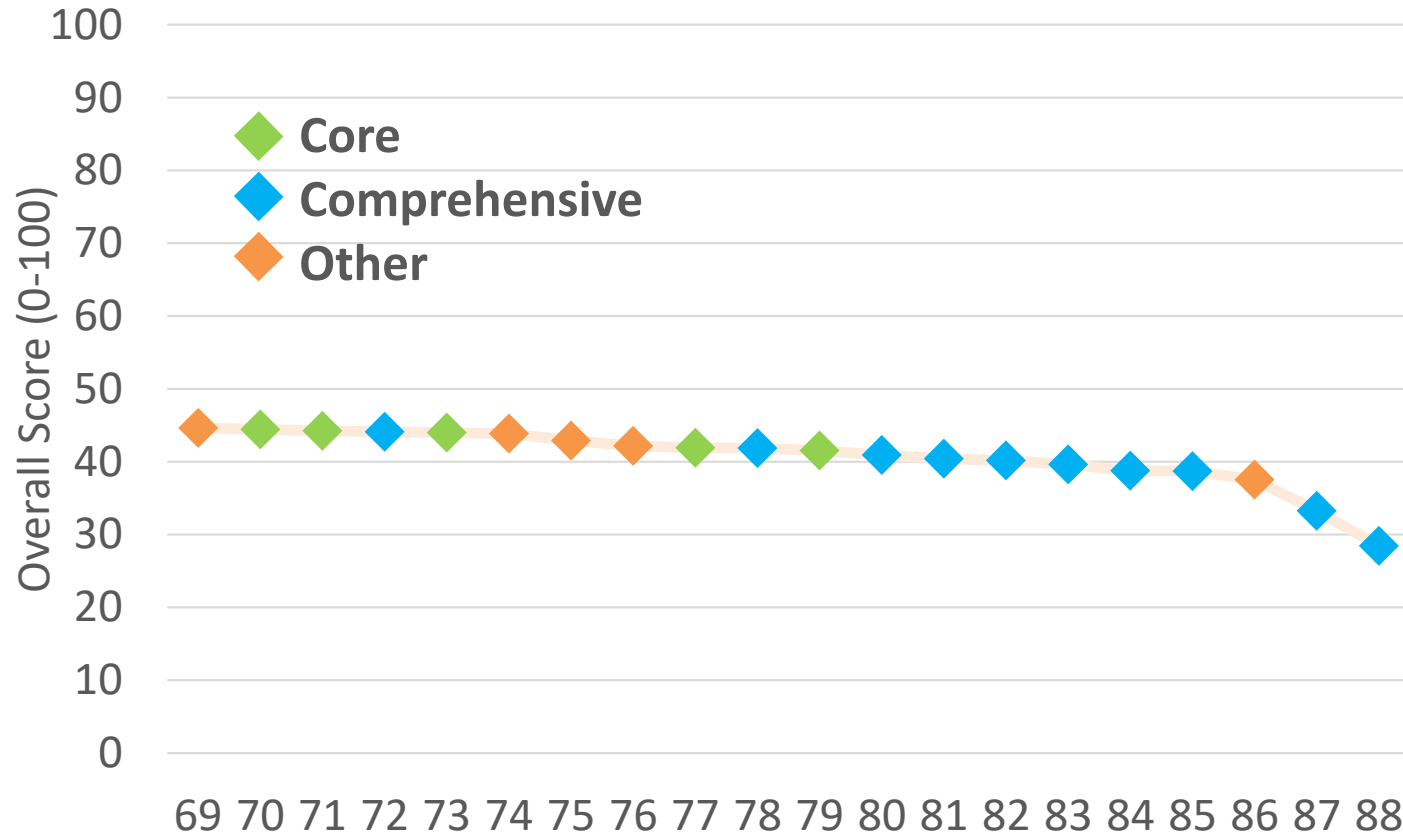
Category	Content				Usability		
Point of view	Passenger Operations (n = 30)		Cargo Operations (n = 88)		General Information on Port Authority	User opinion	Silktide Quality Assurance tool
Sub-category & the no. of dimensions	Basic Information (18)	Safety and Security Information (24)	Basic Information (42)	Safety and Security Information (31)	General Information on Port Authority (15)	General usability and quality (6)	Quality assurance (144)
Code	B1	B2	B3	B4	B5	B6	B7

Top 20 Seaport Authorities



Rank	Port (City)	Country	Overall Score (0-100)
1	Helsinki	FI	79.1
2	Dover/Folkestone	UK	77.1
3	Rauma	FI	76.6
4	Pori	FI	75.6
5	Tallinn	EE	74.4
6	Felixstowe	UK	73.3
7	Oxelösund	SE	72.9
8	HaminaKotka	FI	72.6
9	Oulu	FI	71.8
10	Glasgow	UK	70.6
11	Kokkola	FI	69.1
12	Raaha	FI	69.0
13	Milford Haven	UK	67.3
14	Bristol	UK	67.0
15	Cardiff & Newport	UK	66.6
16	Liverpool	UK	66.0
17	Turku	FI	65.6
18	Gdansk	PL	65.1
19	Fredericia	DK	64.6
20	Southampton	UK	63.9

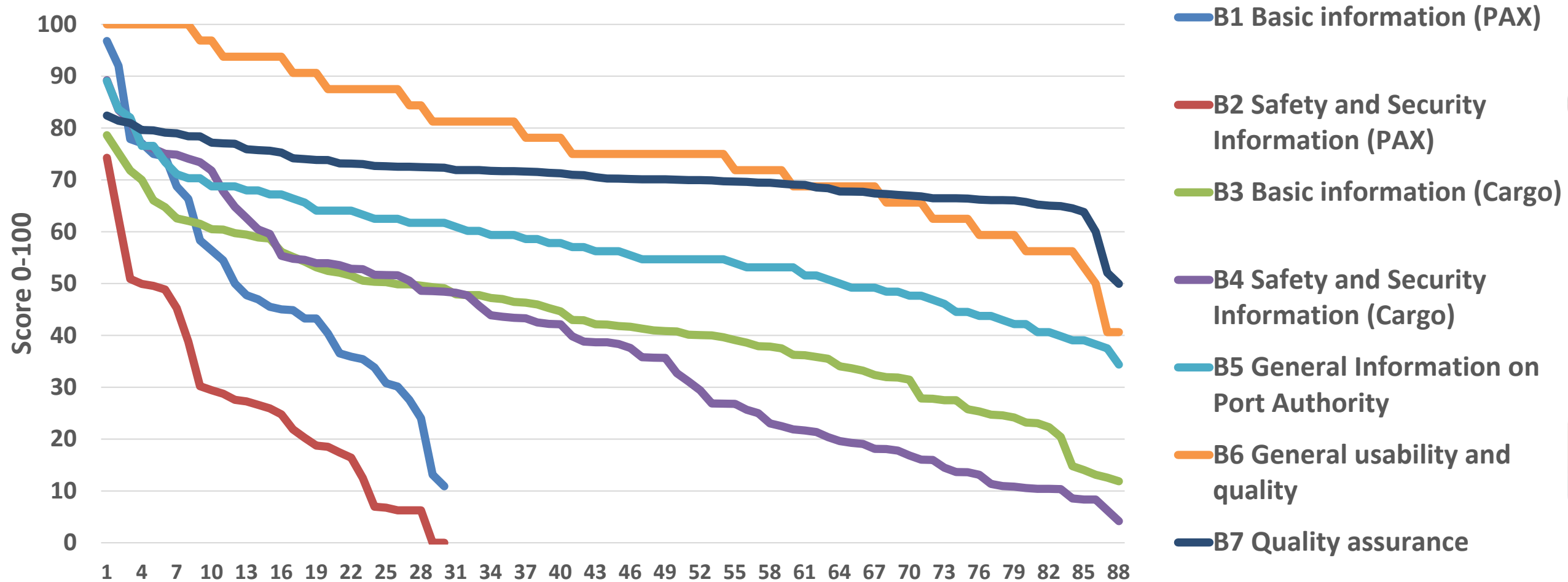
Bottom 20 Seaport Authorities



Rank	Port (City)	Country	Overall Score (0-100)
69	Oslo	NO	44.6
70	Rostock	DE	44.4
71	Dunkerque	FR	44.2
72	Esbjerg	DK	44.1
73	Belfast	UK	44.0
74	Uusikaupunki	FI	43.9
75	Mälarderhamnar: Köping & Västerås	SE	42.9
76	Paldiski	EE	42.2
77	Antwerpen	BE	41.9
78	Karlshamn	SE	41.9
79	Copenhagen-Malmö	DK/SE	41.5
80	Ystad	SE	40.9
81	Rønne	DK	40.4
82	Sundsvall	SE	40.2
83	Niedersachsen Ports: Brake. Emden. Cuxhaven. Stade. Wilhemshaven	DE	39.6
84	Køge	DK	38.8
85	Helsingborg	SE	38.7
86	Kristiansand	NO	37.5
87	Elsinore	DK	33.2
88	Rødby	DK	28.4

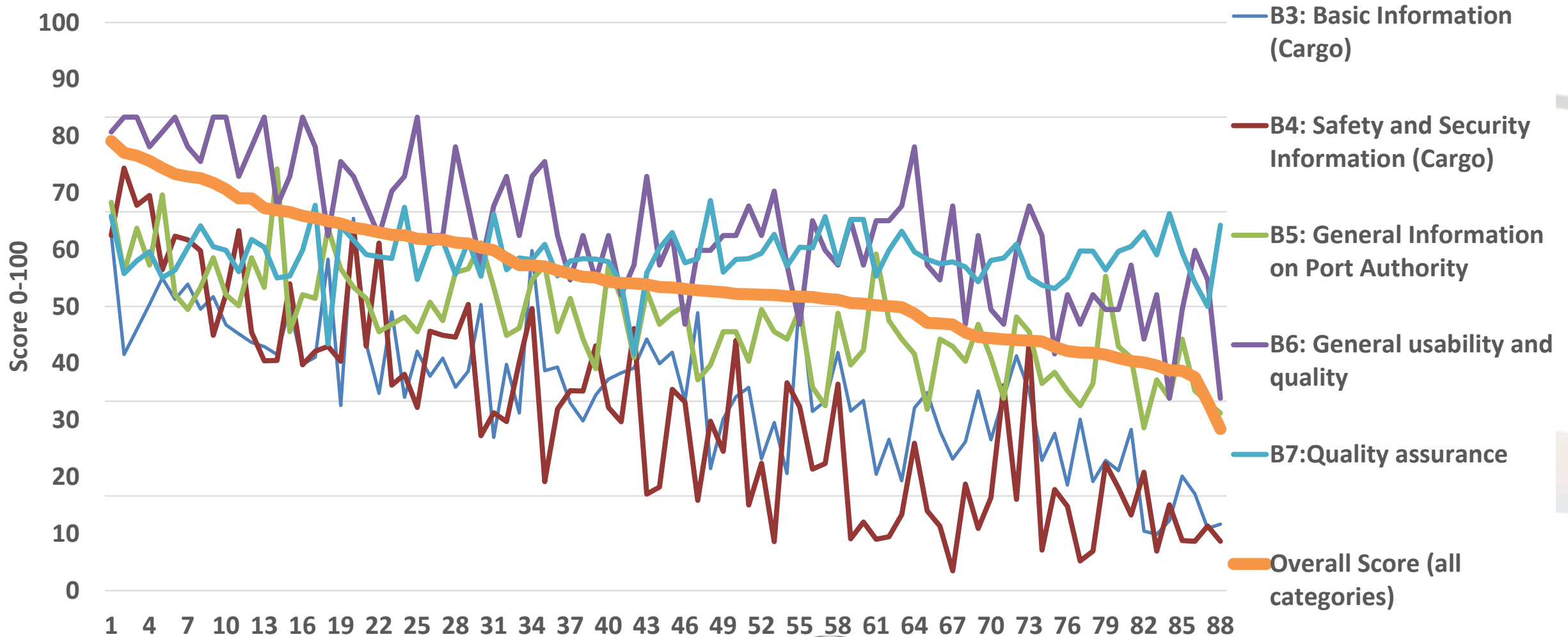
Scores by sub-category from top to bottom

B1 - B2 n = 30; B3 - B7 n = 88



Sub-category scores by Overall Score performance

B3 - B7 n = 88

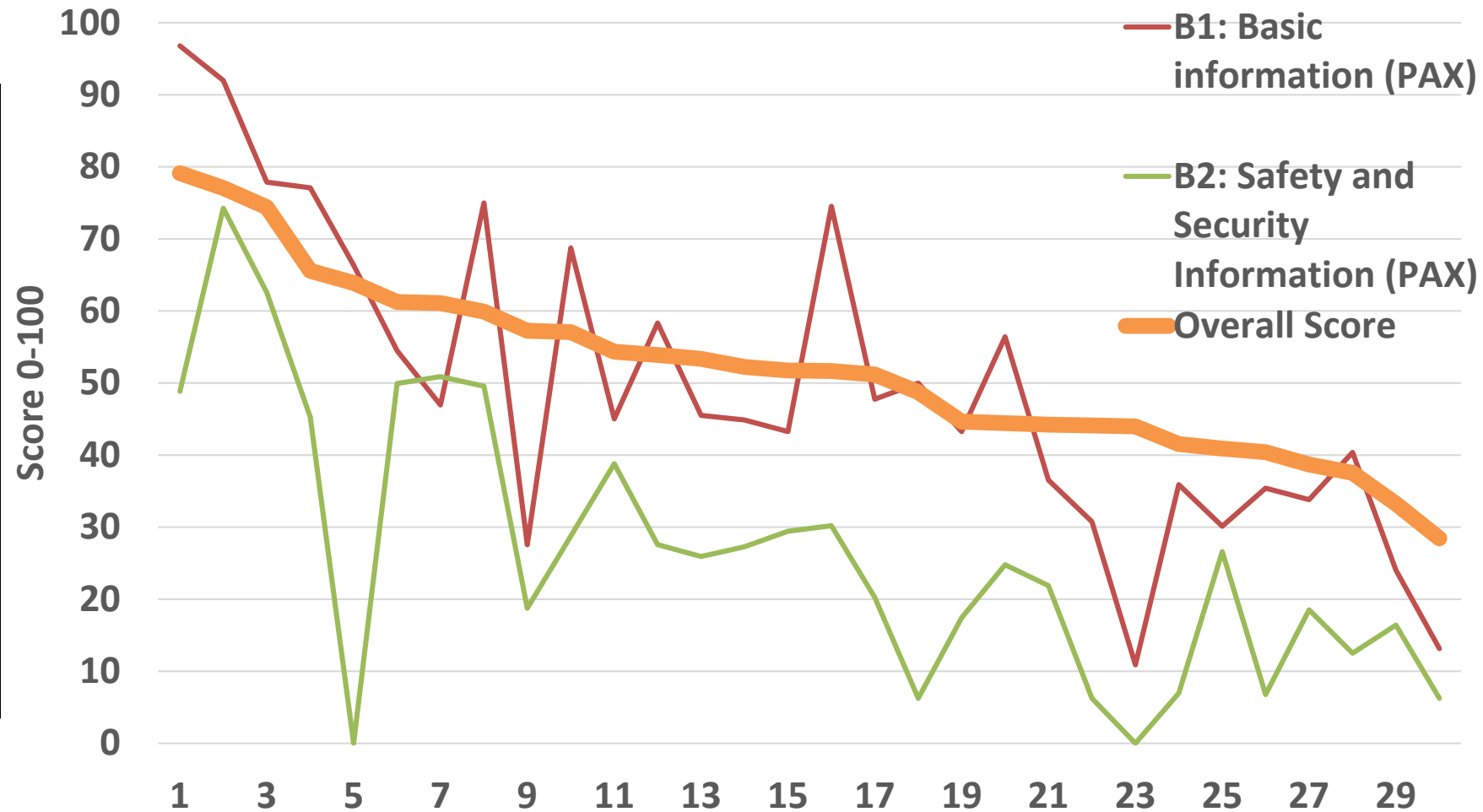


Sub-category scores - Passenger port Categories

n = 30

Top 10 Passenger Seaports

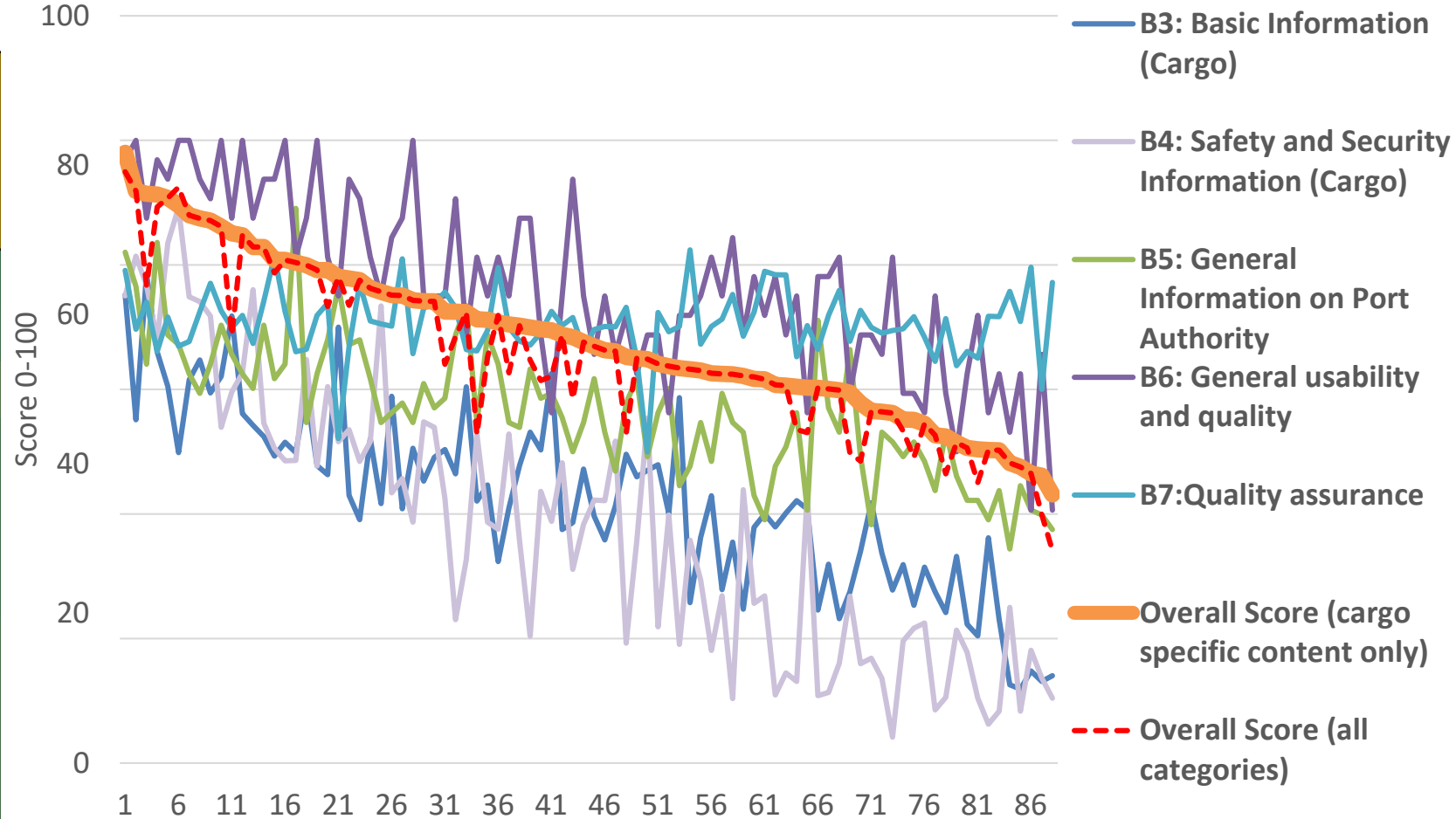
Rank	Port (City)	Country	Overall Score
1	Helsinki	FI	79.1
2	Dover/Folkestone	UK	77.1
3	Tallinn	EE	74.4
4	Turku	FI	65.6
5	Southampton	UK	63.9
6	Świnoujście - Szczecin	PL	61.2
7	Ports of Stockholm	SE	61.1
8	Mariehamn	FI	59.9
9	Rotterdam	DE	57.2
10	Kiel	DE	57.1



Sub-category scores by Overall Score with passenger specific content excluded $n = 88$. B3 - B7

Top10 Cargo Seaports

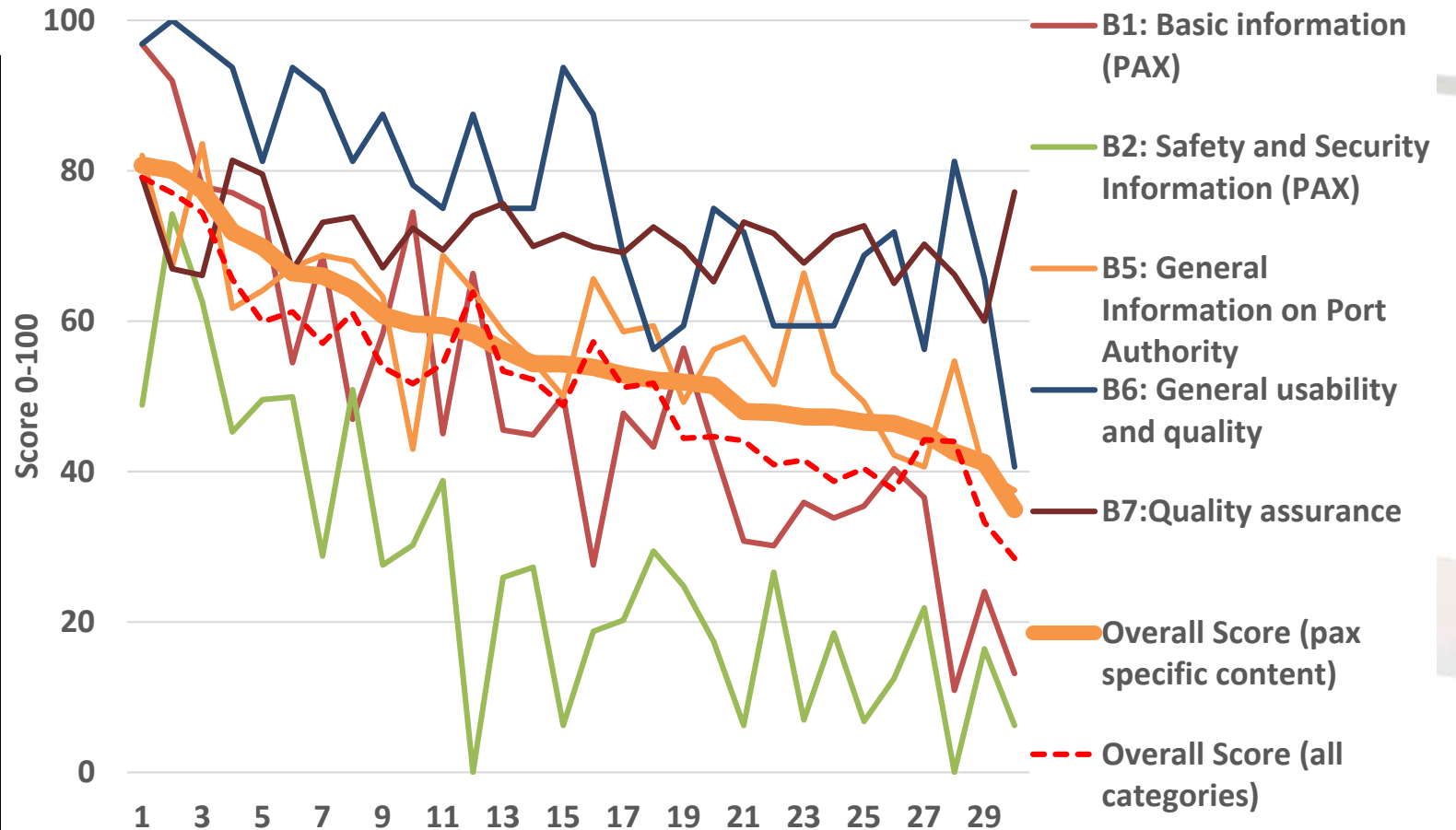
Rank (Cargo)	Total Rank	Port (City)	Country	Overall Score (cargo specific content)	Overall Score
1	1	Helsinki	FI	81.7	79.1
2	3	Rauma	FI	76.6	76.6
3	20	Southampton	UK	76.2	63.9
4	5	Tallinn	EE	76.1	74.4
5	4	Pori	FI	75.6	75.6
6	2	Dover/Folkestone	UK	74.7	77.1
7	6	Felixstowe	UK	73.3	73.3
8	7	Oxelösund	SE	72.9	72.9
9	8	HaminaKotka	FI	72.6	72.6
10	9	Oulu	FI	71.8	71.8



Sub-category scores by Overall Score with cargo specific content excluded n = 30. B1-B2 & B5-B7

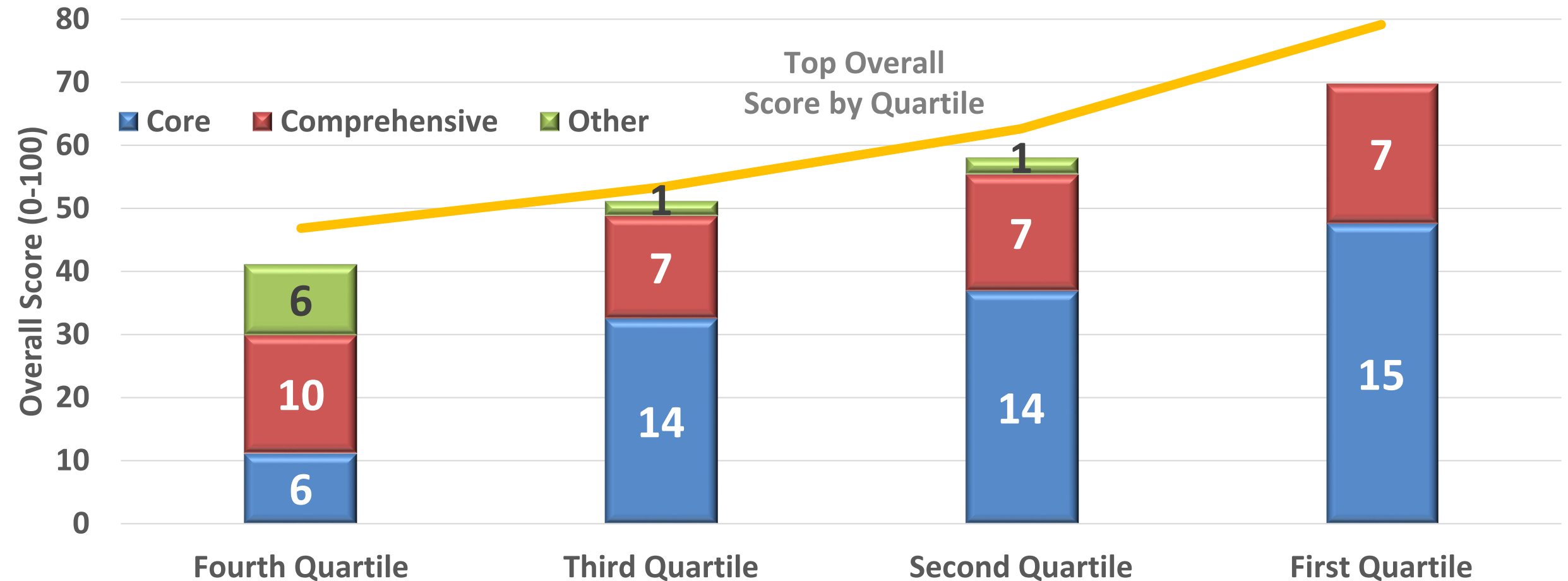
Top10 Seaports (Cargo content excl.)

Rank (PAX)	Total Rank	Port (City)	Country	Overall Score (pax specific content)	Overall Score (all categories)
1	1	Helsinki	FI	80.73	79.13
2	2	Dover/ Folkestone	UK	80.08	77.07
3	3	Tallinn	EE	77.40	74.41
4	4	Turku	FI	71.85	65.58
5	8	Mariehamn	FI	69.88	59.91
6	6	Świnoujście - Szczecin	PL	66.43	61.24
7	10	Kiel	DE	66.00	57.07
8	7	Ports of Stockholm	SE	64.18	61.10
9	12	Frederikshavn	DK	60.76	53.90
10	16	Calais	FR	59.64	51.68



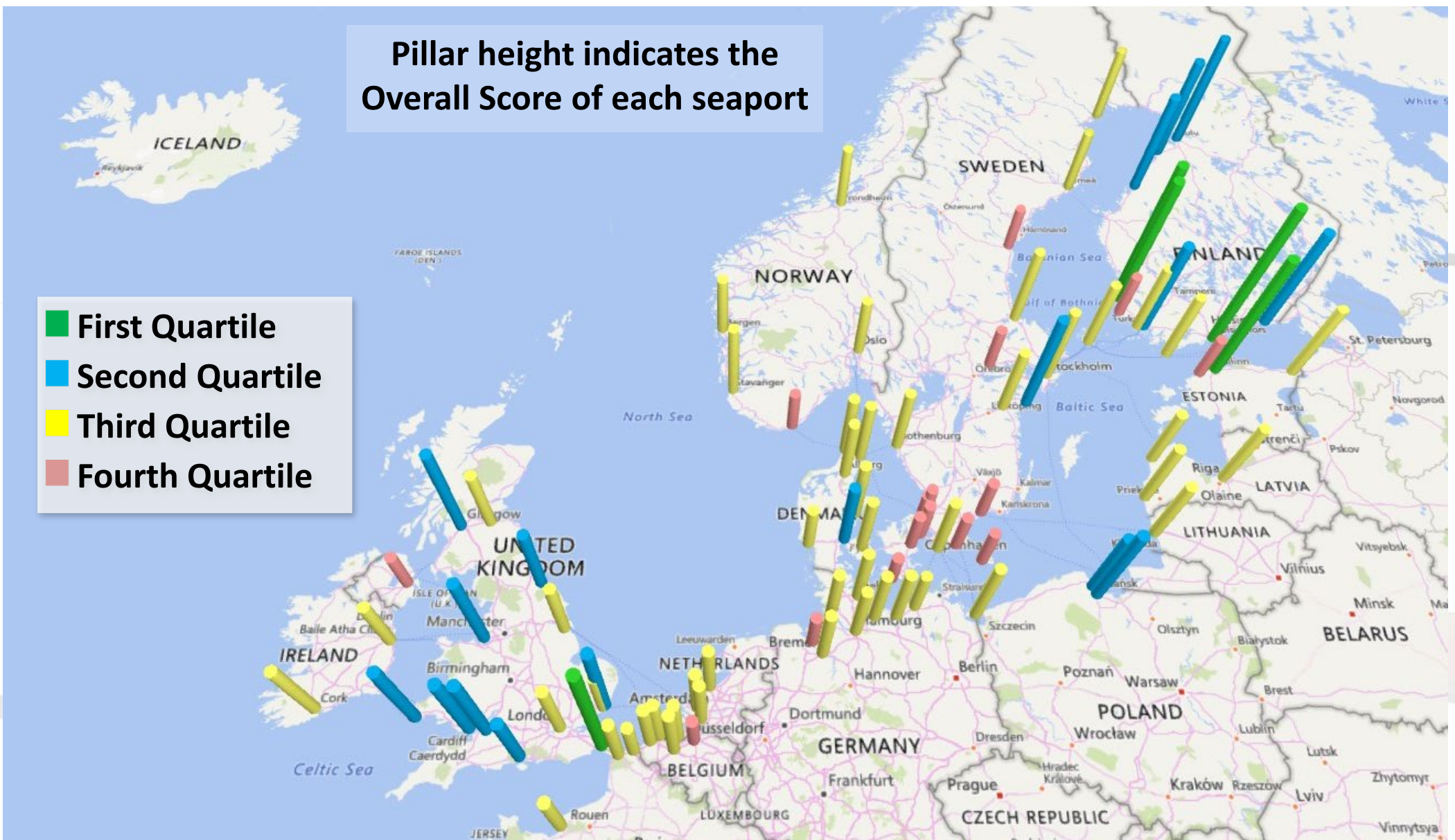
Average Overall Score by seaport type and Quartile

(N = 88)

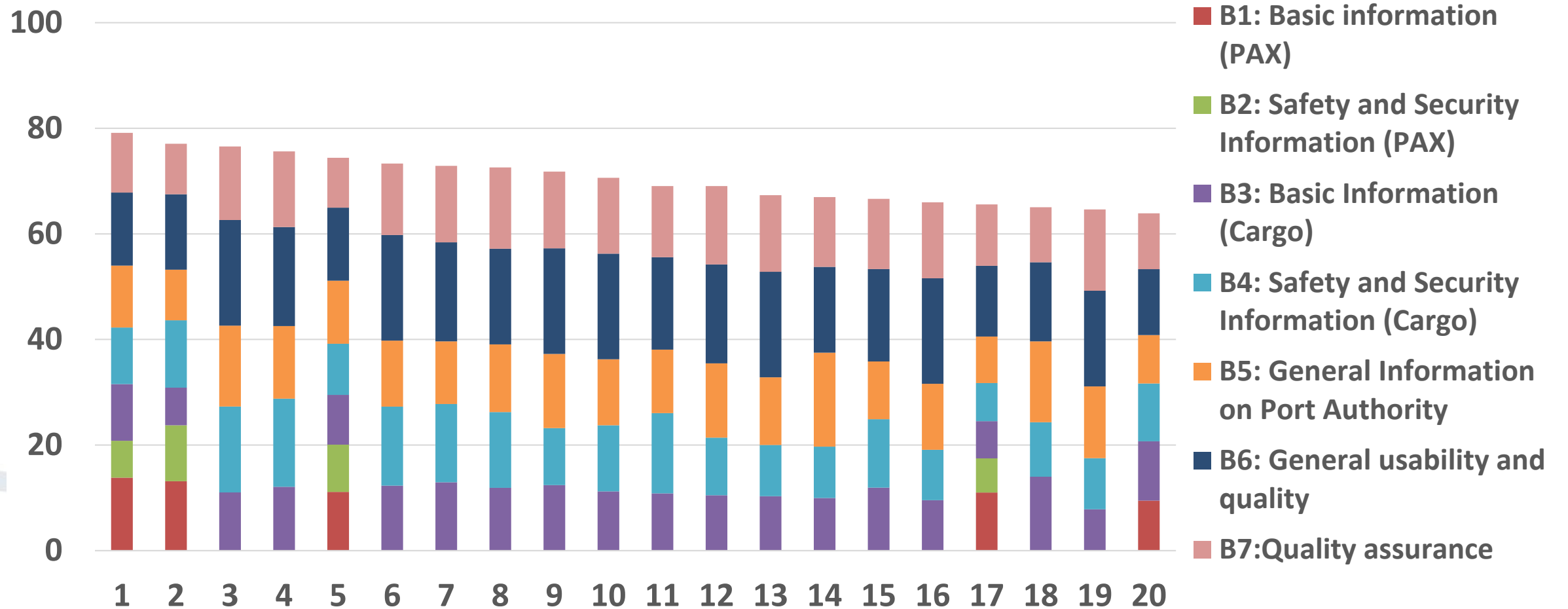


Pillar height indicates the Overall Score of each seaport

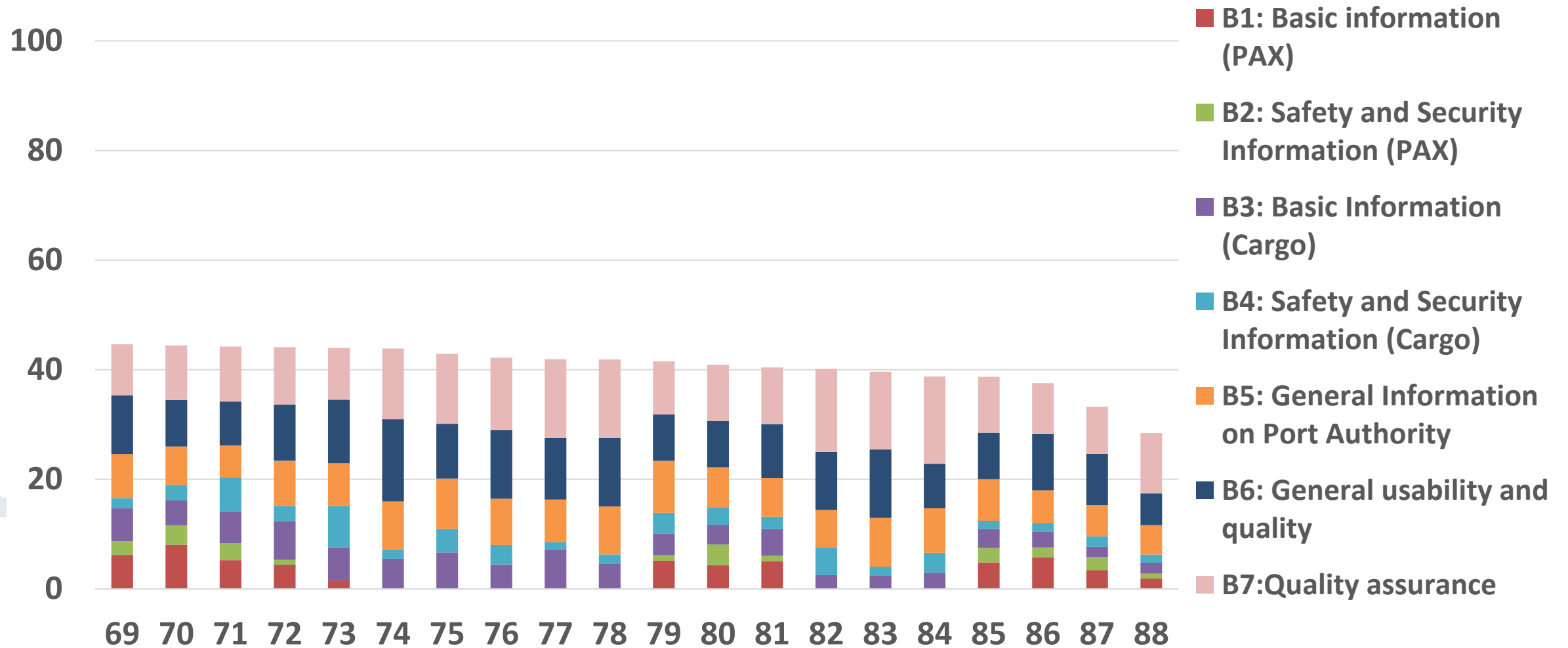
- First Quartile
- Second Quartile
- Third Quartile
- Fourth Quartile



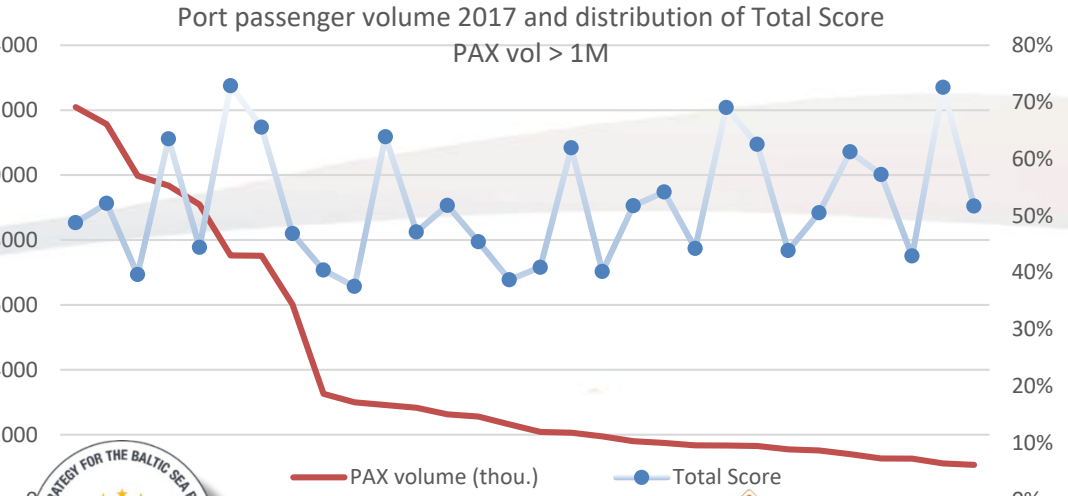
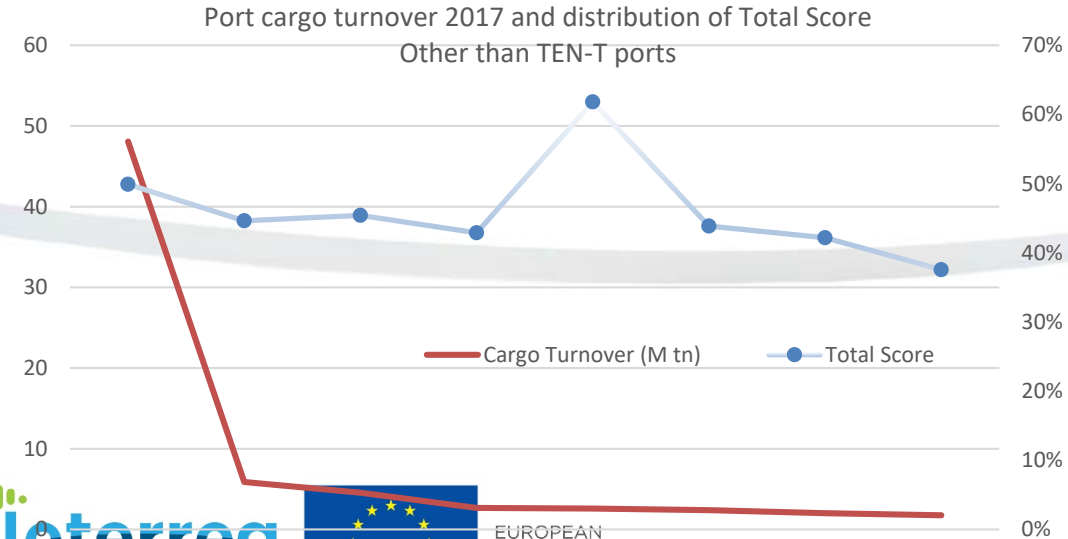
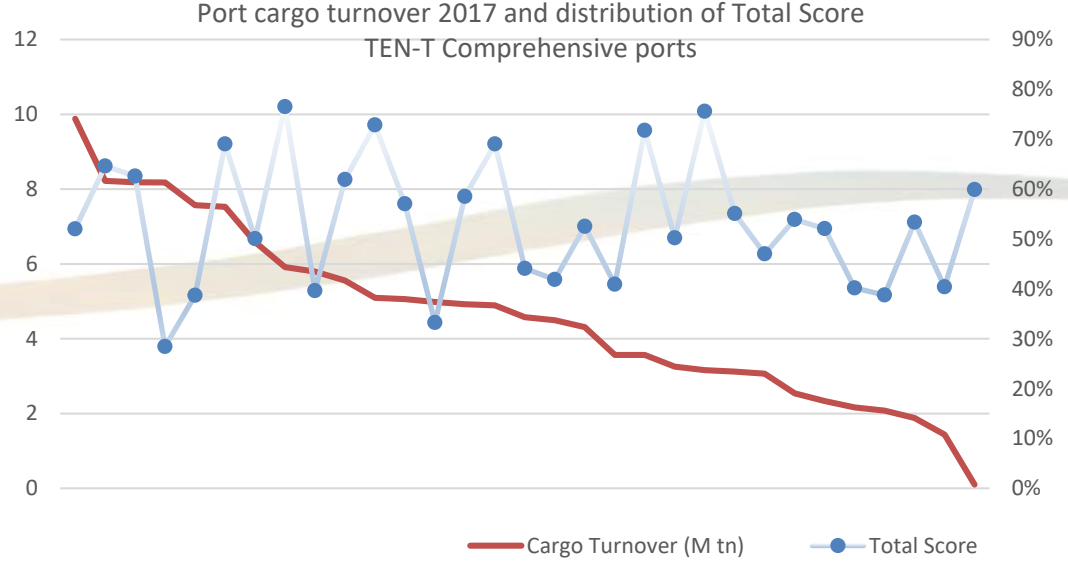
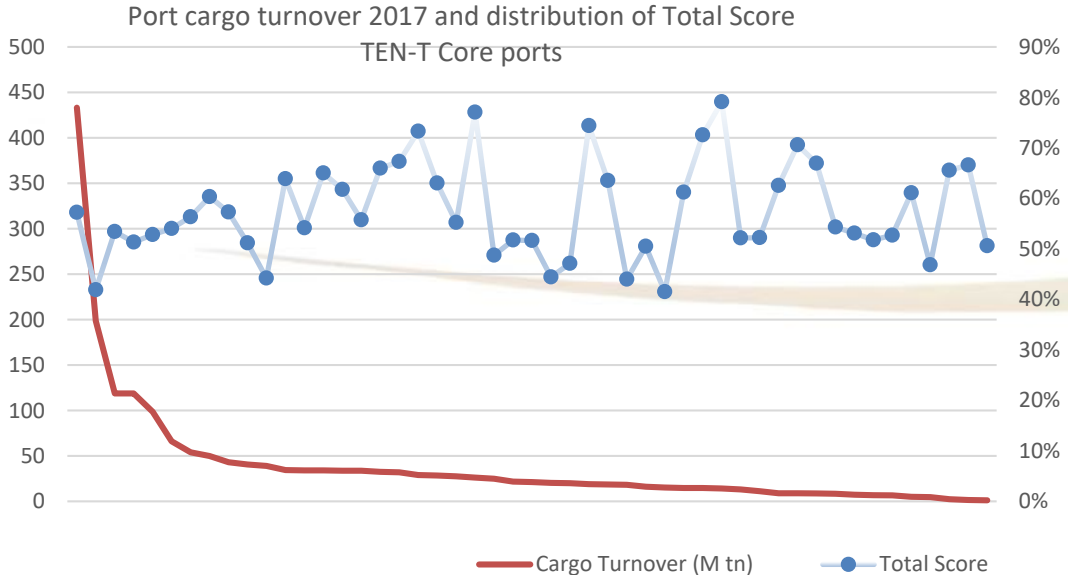
Top 20 Overall Score distribution by sub-category



Bottom 20 Overall Score distribution by sub-category



Cargo and passenger volumes and distribution of total score



EUROPEAN REGIONAL DEVELOPMENT FUND



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B1 : Basic information about port characteristics

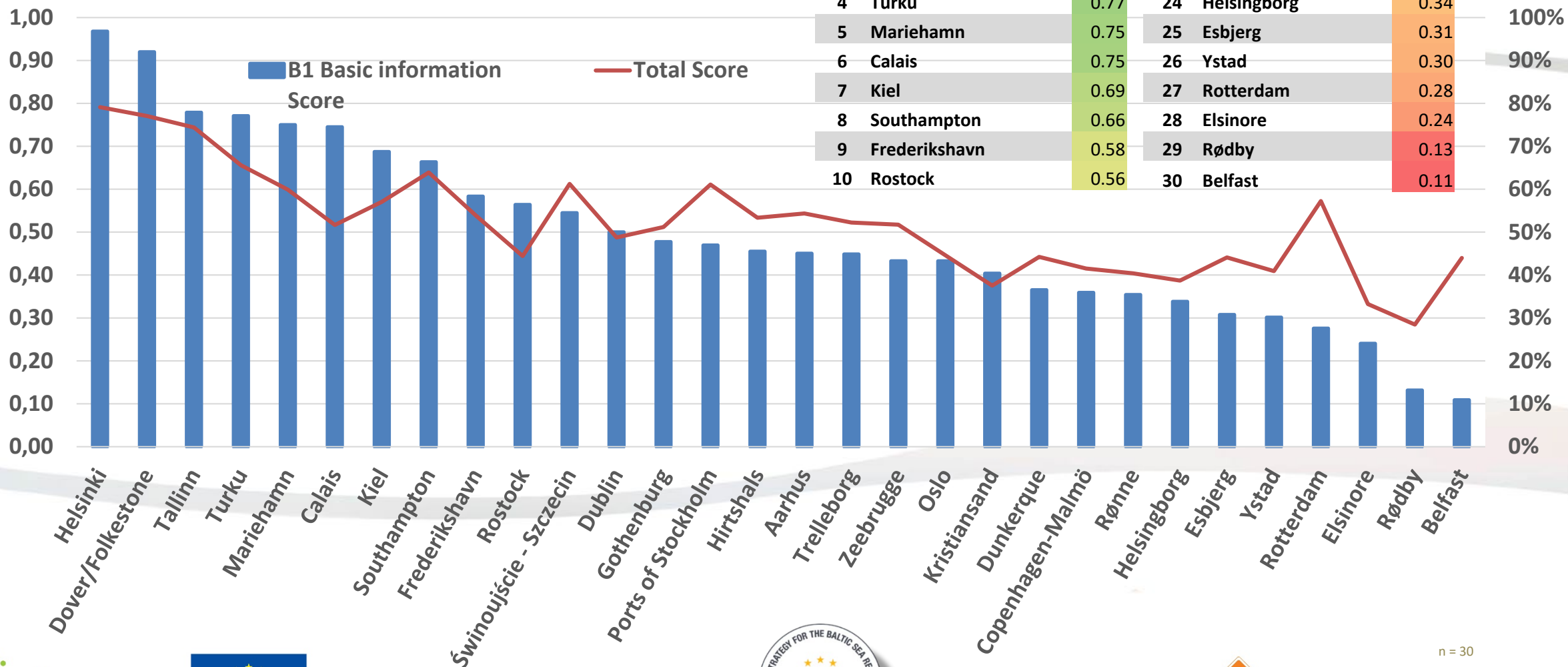
Ports with passenger traffic volume at least 1 mln persons annually (n=30)

Top10 ports (B1)

Rank	Port	Score
1	Helsinki	0.97
2	Dover/Folkestone	0.92
3	Tallinn	0.78
4	Turku	0.77
5	Mariehamn	0.75
6	Calais	0.75
7	Kiel	0.69
8	Southampton	0.66
9	Frederikshavn	0.58
10	Rostock	0.56

Bottom 10 ports (B1)

Rank	Port	Score
21	Dunkerque	0.37
22	Copenhagen-Malmö	0.36
23	Rønne	0.35
24	Helsingborg	0.34
25	Esbjerg	0.31
26	Ystad	0.30
27	Rotterdam	0.28
28	Elsinore	0.24
29	Rødby	0.13
30	Belfast	0.11



B2 : Port safety and security information for passengers – Content

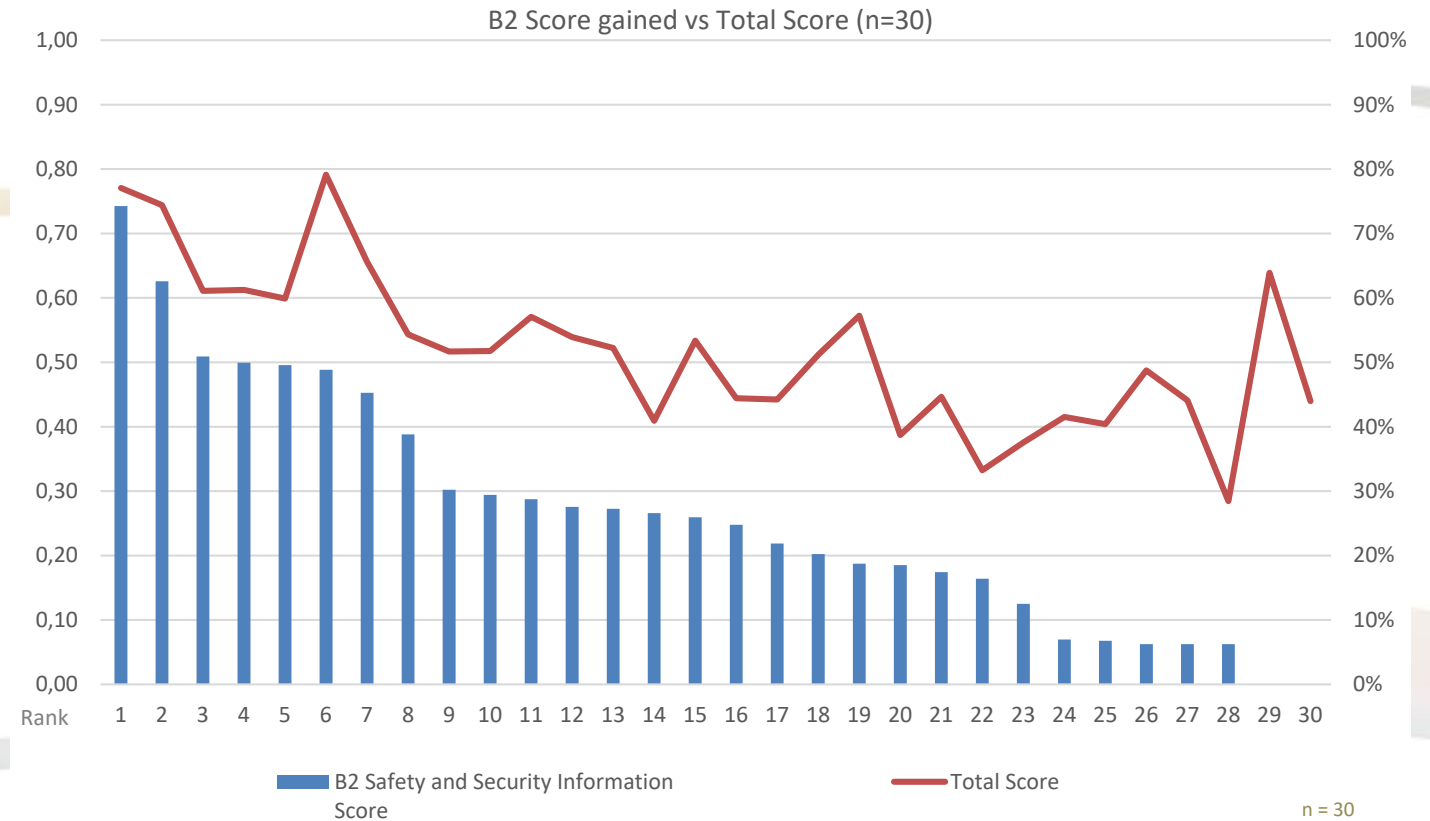
Ports with passenger traffic volume at least 1 mln persons annually (n=30)

Top10 ports (B2)

Rank	Port	Score
1	Dover/Folkestone	0.74
2	Tallinn	0.63
3	Ports of Stockholm	0.51
4	Świnoujście - Szczecin	0.50
5	Mariehamn	0.50
6	Helsinki	0.49
7	Turku	0.45
8	Aarhus	0.39
9	Calais	0.30
10	Zeebrugge	0.29

Bottom 10 ports (B2)

Rank	Port	Score
21	Oslo	0.17
22	Elsinore	0.16
23	Kristiansand	0.13
24	Copenhagen-Malmö	0.07
25	Rønne	0.07
26	Dublin	0.06
27	Esbjerg	0.06
28	Rødby	0.06
29	Southampton	0.00
30	Belfast	0.00



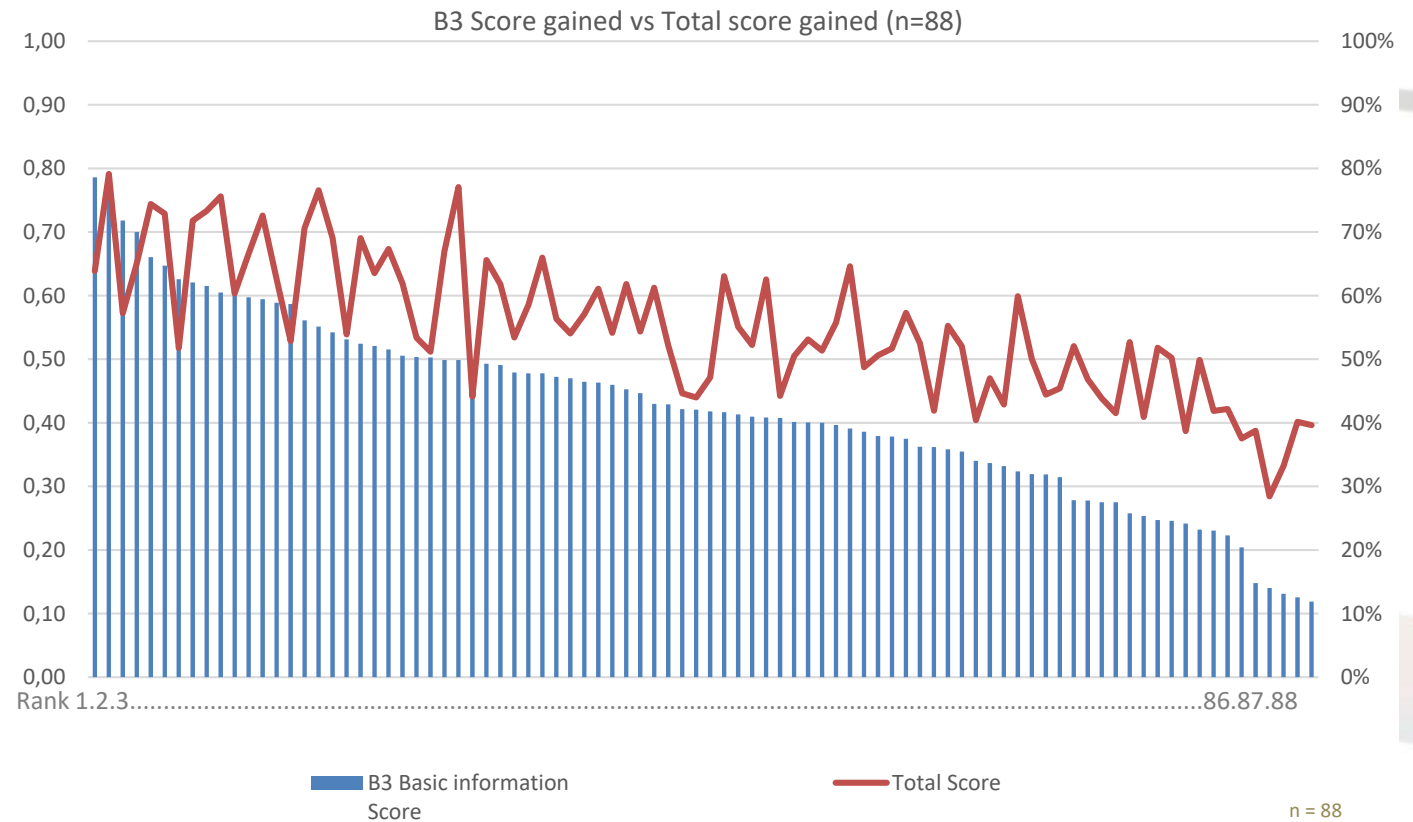
B3 : Basic information about port characteristics for commercial operations – Content (n = 88)

Top10 ports (B3)

Rank	Port	Score
1	Southampton	0.79
2	Helsinki	0.75
3	Rotterdam	0.72
4	Gdansk	0.70
5	Tallinn	0.66
6	Oxelösund	0.65
7	Zeebrugge	0.63
8	Oulu	0.62
9	Felixstowe	0.62
10	Pori	0.60

Bottom 10 ports (B3)

Rank	Port	Score
79	Helsingborg	0.24
80	Bergen	0.23
81	Karlshamn	0.23
82	Paldiski	0.22
83	Kristiansand	0.20
84	Køge	0.15
85	Rødby	0.14
86	Elsinore	0.13
87	Sundsvall	0.13
88	Niedersachsen Ports: Brake. Cuxhaven. Emden. Stade. Wilhemshaven	0.12



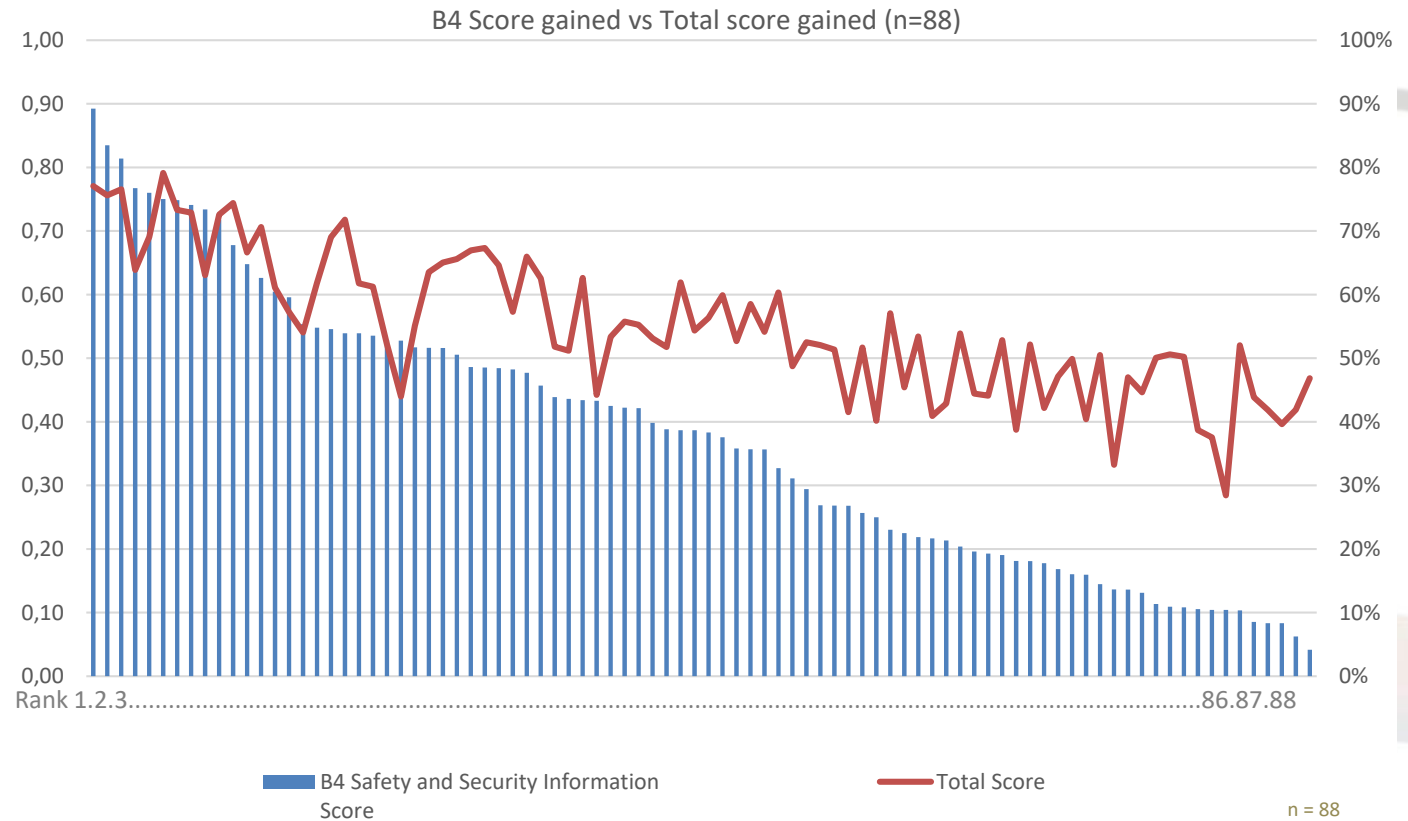
B4 : Port safety and security information for cargo operations – Content (n=88)

Top10 ports (B4)

Rank	Port	Score
1	Dover/Folkestone	0.89
2	Pori	0.83
3	Rauma	0.81
4	Southampton	0.77
5	Kokkola	0.76
6	Helsinki	0.75
7	Felixstowe	0.75
8	Oxelösund	0.74
9	Teesport	0.73
10	HaminaKotka	0.72

Bottom 10 ports (B4)

Rank	Port	Score
79	Wismar	0.11
80	Helsingborg	0.11
81	Kristiansand	0.10
82	Rødby	0.10
83	Brunsbüttel	0.10
84	Uusikaupunki	0.09
85	Karlshamn	0.08
86	Niedersachsen Ports: Brake. Cuxhaven. Emden. Stade. Wilhemshaven	0.08
87	Antwerpen	0.06
88	Harwich	0.04



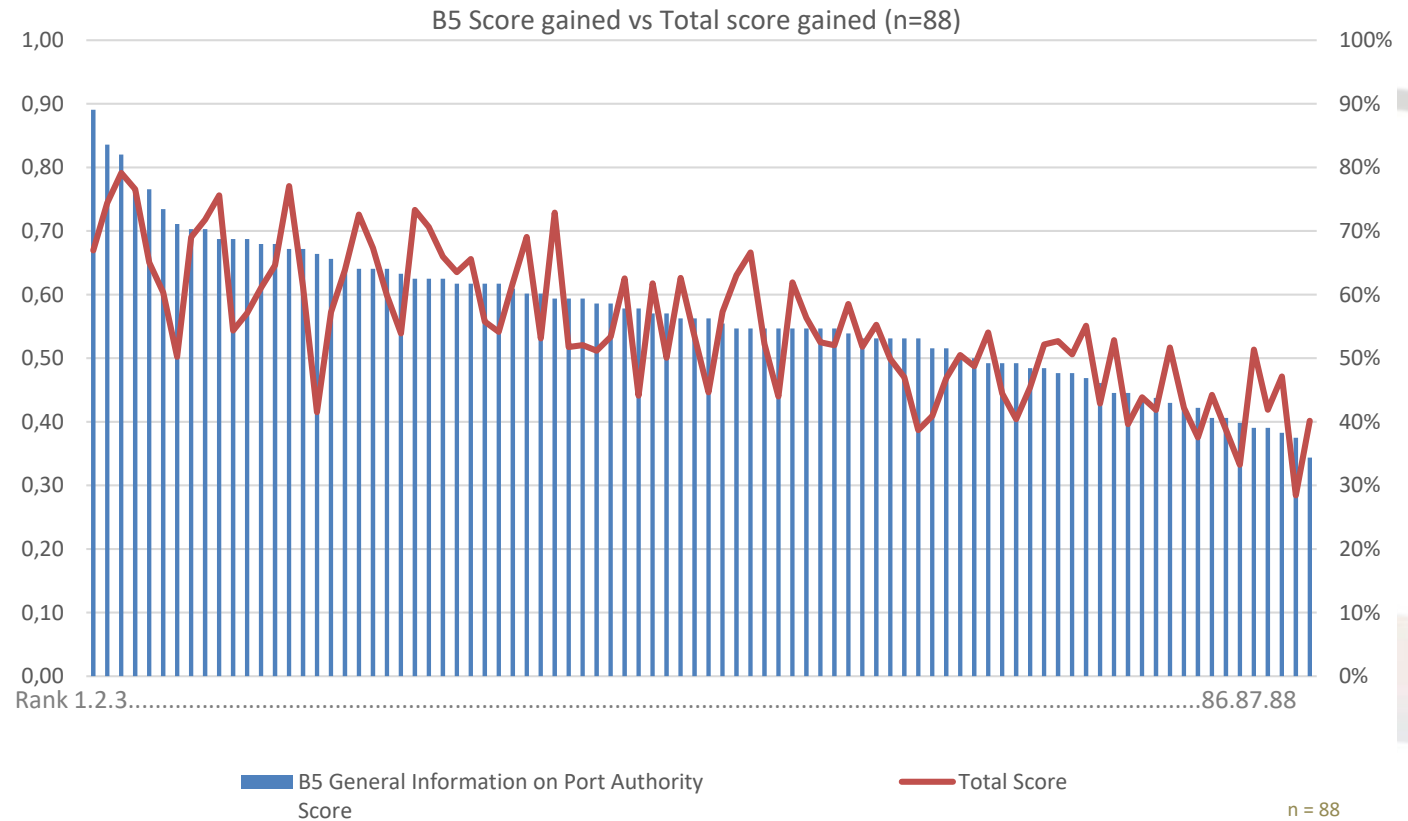
B5 : General Information on Port Authority – Content (n=88)

Top10 ports (B5)

Rank	Port	Score
1	Bristol	0.89
2	Tallinn	0.84
3	Helsinki	0.82
4	Rauma	0.77
5	Gdansk	0.77
6	London	0.73
7	Wismar	0.71
8	Raaha	0.70
9	Oulu	0.70
10	Pori	0.69

Bottom 10 ports (B5)

Rank	Port	Score
79	Paldiski	0.42
80	Kristiansand	0.42
81	Dunkerque	0.41
82	Køge	0.41
83	Elsinore	0.40
84	Hamburg	0.39
85	Antwerpen	0.39
86	Ventspils	0.38
87	Rødby	0.38
88	Sundsvall	0.34



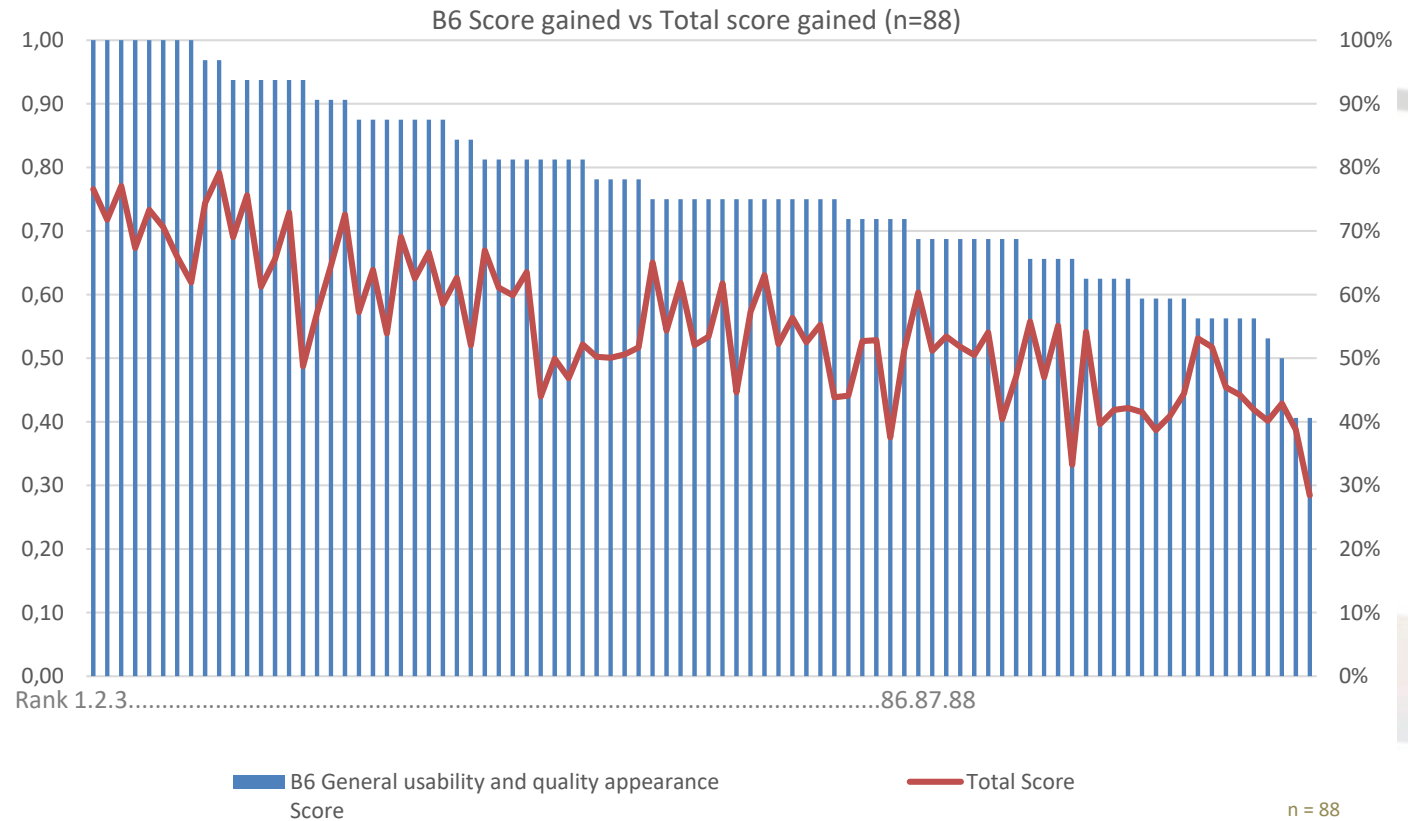
B6 General usability and quality appearance – Usability. user opinion (n=88)

Top10 ports (B6)

Rank	Port	Score
1	Rauma	1.00
2	Oulu	1.00
3	Dover/Folkestone	1.00
4	Milford Haven	1.00
5	Felixstowe	1.00
6	Glasgow	1.00
7	Liverpool	1.00
8	Gävle	1.00
9	Tallinn	0.97
10	Helsinki	0.97

Bottom 10 ports (B6)

Rank	Port	Score
79	Rostock	0.59
80	Luleå	0.56
81	Zeebrugge	0.56
82	Trondheim	0.56
83	Dunkerque	0.56
84	Antwerpen	0.56
85	Sundsvall	0.53
86	Mälardalen: Köping & Västerås	0.50
87	Køge	0.41
88	Rødby	0.41



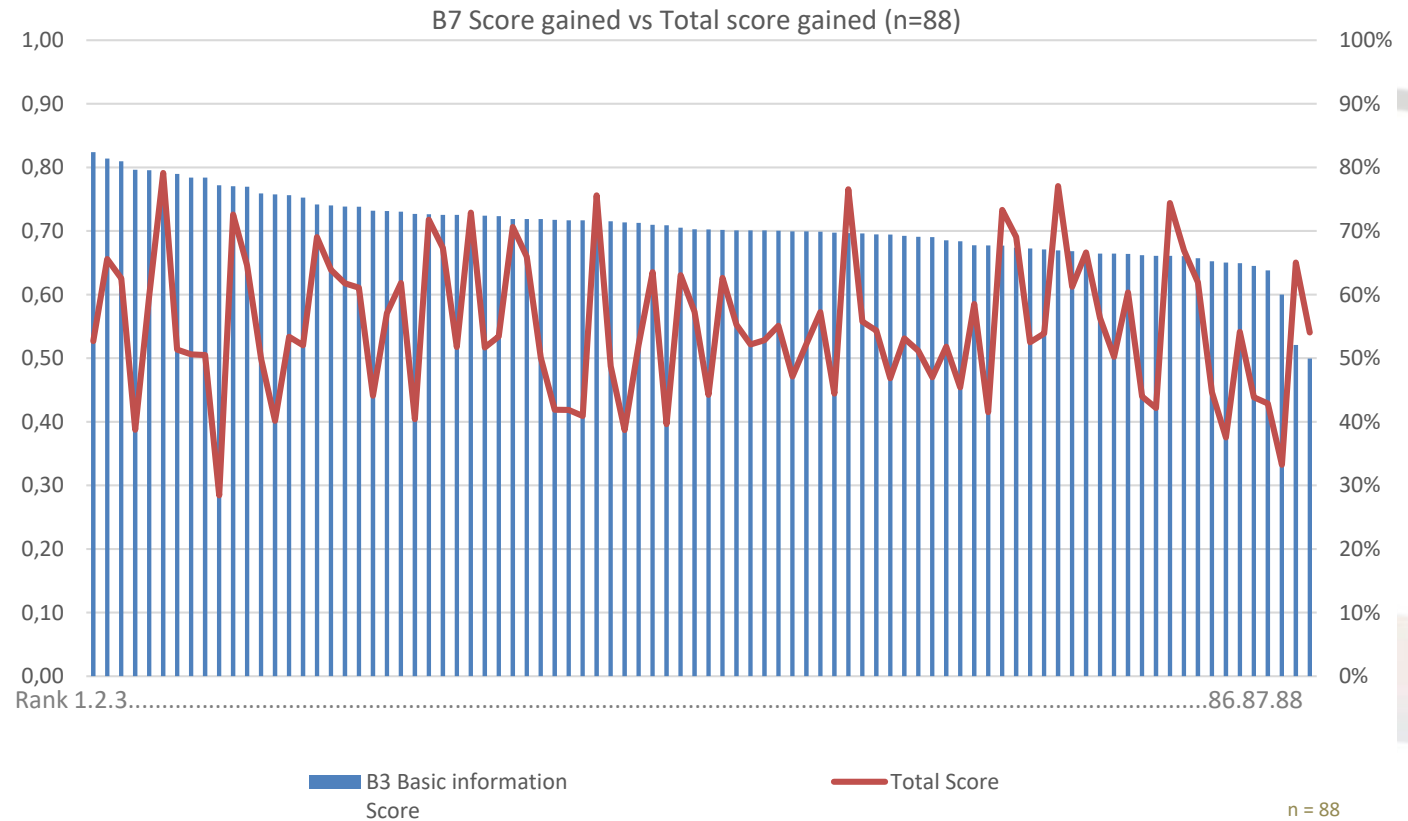
B7 Quality assurance - Usability and technical performance. Silktide website analyzer (n=88)

Top10 ports (B7)

Rank	Port	Score
1	Naantali	0.82
2	Turku	0.81
3	Cork	0.81
4	Køge	0.80
5	Mariehamn	0.80
6	Helsinki	0.79
7	Hamburg	0.79
8	Oostende	0.78
9	Lübeck	0.78
10	Rødby	0.77

Bottom 10 ports (B7)

Rank	Port	Score
79	Bristol	0.66
80	Gävle	0.66
81	Oslo	0.65
82	Kristiansand	0.65
83	Zeeland Seaports: Terneuzen & Vlissingen	0.65
84	Uusikaupunki	0.65
85	Mälärhamnar: Köping & Västerås	0.64
86	Elsinore	0.60
87	Gdansk	0.52
88	Haropa: Le Havre & Rouen	0.50



Block 1-7 correlations

		Correlations						
		B1: Basic information	B2: Safety and Security Information	B3: Basic Information	B4: Safety and Security Information	B5: General Information on Port Authority	B6: General usability and quality appearance	B7: Quality assurance
B1: Basic information	Pearson Correlation	1	,734**	,529**	,546**	,617**	,685**	,363*
	Sig. (2-tailed)		0	0,002	0,001	0	0	0,045
	N	31	31	31	31	31	31	31
B2: Safety and Security Information	Pearson Correlation	,734**	1	0,322	,566**	,614**	,532**	0,168
	Sig. (2-tailed)	0		0,077	0,001	0	0,002	0,366
	N	31	31	31	31	31	31	31
B3: Basic Information	Pearson Correlation	,529**	0,322	1	,702**	,635**	,609**	-0,088
	Sig. (2-tailed)	0,002	0,077		0	0	0	0,415
	N	31	31	88	88	88	88	88
B4: Safety and Security Information	Pearson Correlation	,546**	,566**	,702**	1	,588**	,591**	-0,032
	Sig. (2-tailed)	0,001	0,001	0		0	0	0,767
	N	31	31	88	88	88	88	88
B5: General Information on Port Authority	Pearson Correlation	,617**	,614**	,635**	,588**	1	,600**	-0,08
	Sig. (2-tailed)	0	0	0	0		0	0,46
	N	31	31	88	88	88	88	88
B6: General usability and quality appearance	Pearson Correlation	,685**	,532**	,609**	,591**	,600**	1	0,061
	Sig. (2-tailed)	0	0,002	0	0	0		0,571
	N	31	31	88	88	88	88	88
B7: Quality assurance	Pearson Correlation	,363*	0,168	-0,088	-0,032	-0,08	0,061	1
	Sig. (2-tailed)	0,045	0,366	0,415	0,767	0,46	0,571	
	N	31	31	88	88	88	88	88

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Block 1-7 correlations

Correlations

		B1: Basic information	B2: Safety and Security Information	B3: Basic Information	B4: Safety and Security Information	B5: General Information on Port Authority	B6: General usability and quality appearance	B7: Quality assurance
Spearman's rho	B1: Basic information							
	Correlation Coefficient	1	.705**	.521**	.522**	.588**	.686**	0.272
	Sig. (2-tailed)	.	0	0.003	0.003	0.001	0	0.139
	N	31	31	31	31	31	31	31
	B2: Safety and Security Information							
	Correlation Coefficient	.705**	1	.373*	.497**	.614**	.463**	0.144
	Sig. (2-tailed)	0	.	0.039	0.004	0	0.009	0.438
	N	31	31	31	31	31	31	31
	B3: Basic Information							
	Correlation Coefficient	.521**	.373*	1	.718**	.646**	.600**	-0.036
	Sig. (2-tailed)	0.003	0.039	.	0	0	0	0.739
	N	31	31	88	88	88	88	88
	B4: Safety and Security Information							
	Correlation Coefficient	.522**	.497**	.718**	1	.615**	.564**	0.013
	Sig. (2-tailed)	0.003	0.004	0	.	0	0	0.901
	N	31	31	88	88	88	88	88
	B5: General Information on Port Authority							
	Correlation Coefficient	.588**	.614**	.646**	.615**	1	.614**	-0.028
	Sig. (2-tailed)	0.001	0	0	0	.	0	0.794
	N	31	31	88	88	88	88	88
	B6: General usability and quality appearance							
Correlation Coefficient	.686**	.463**	.600**	.564**	.614**	1	0.1	
Sig. (2-tailed)	0	0.009	0	0	0	.	0.354	
N	31	31	88	88	88	88	88	
B7: Quality assurance								
Correlation Coefficient	0.272	0.144	-0.036	0.013	-0.028	0.1	1	
Sig. (2-tailed)	0.139	0.438	0.739	0.901	0.794	0.354	.	
N	31	31	88	88	88	88	88	

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).