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First Marine International US naval shipbuilding industry benchmarking

Mark Spicknall – Senior Consultant

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Project scope

Update the 2005 Global Shipbuilding Industrial Base Benchmarking Study (GSIBBS)

Deliverables:

- Individual shipyard reports
- Government actions report
- Education/skills gap analysis
- Productivity in two yards
- Industry report

Completion summer 2015

Participating shipyards

Large shipyards

- HII Newport News
- GD Electric Boat
- GD Bath Iron Works
- HII Ingalls
- GD NASSCO

Mid-tier shipyards

- Austal USA
- Marinette Marine Corporation
- Bollinger Lockport

Benchmarking

Shipyards assessed in 69 elements across the 10 subject groups

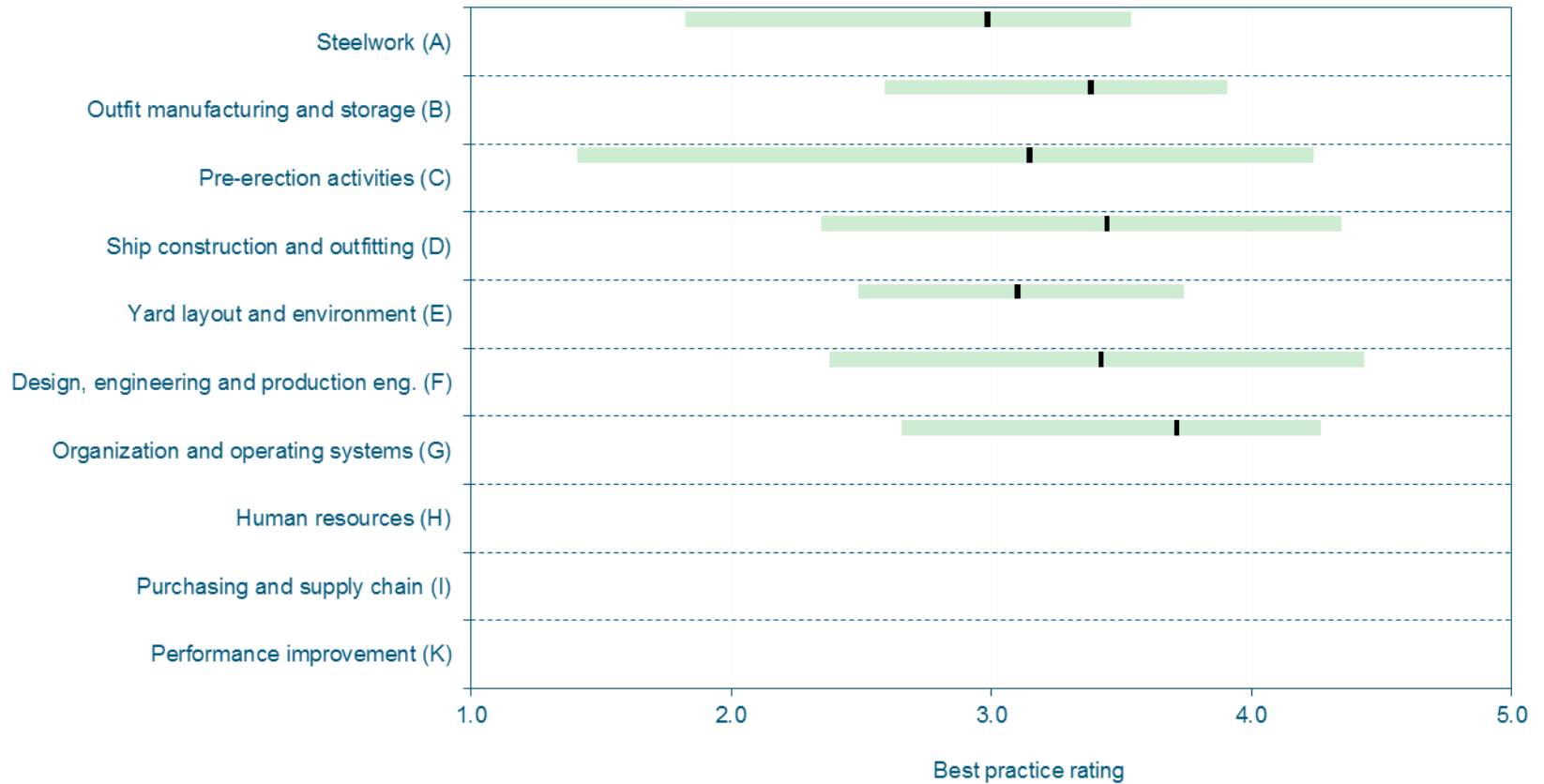
Current level of applied technology established

Target scores established for each element

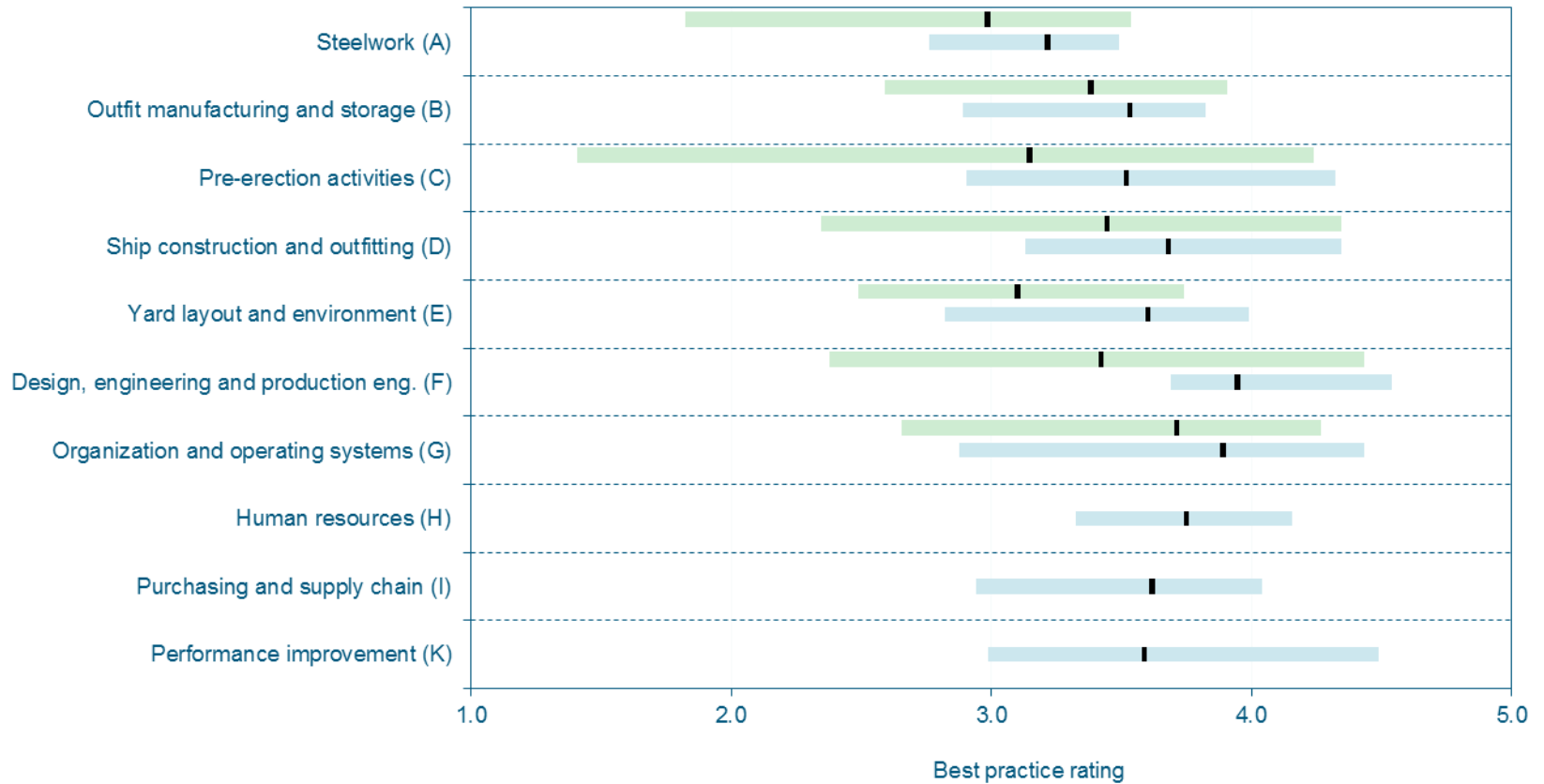
Prioritization analysis

Benchmarking and characteristics reports

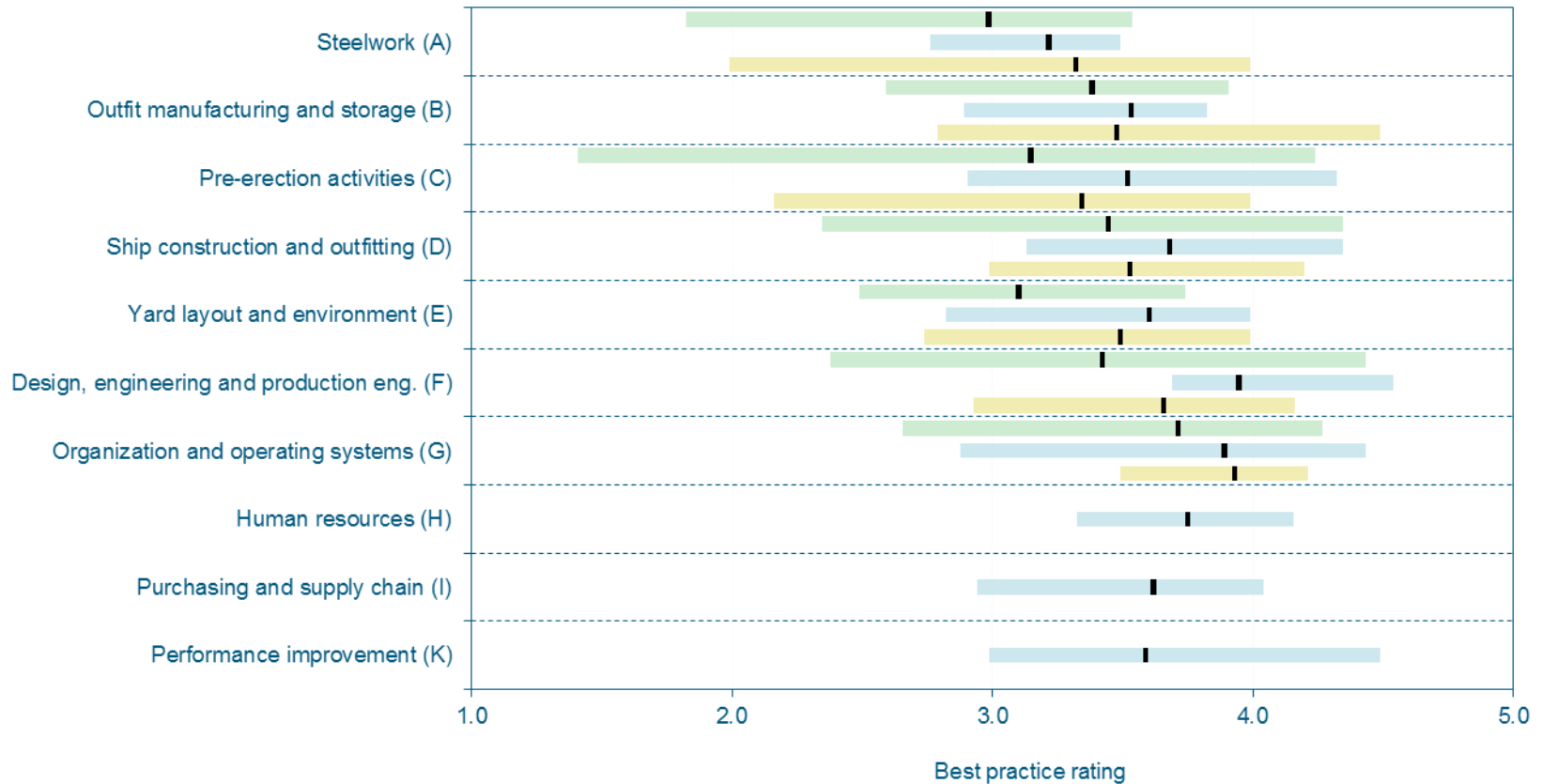
Summary of findings



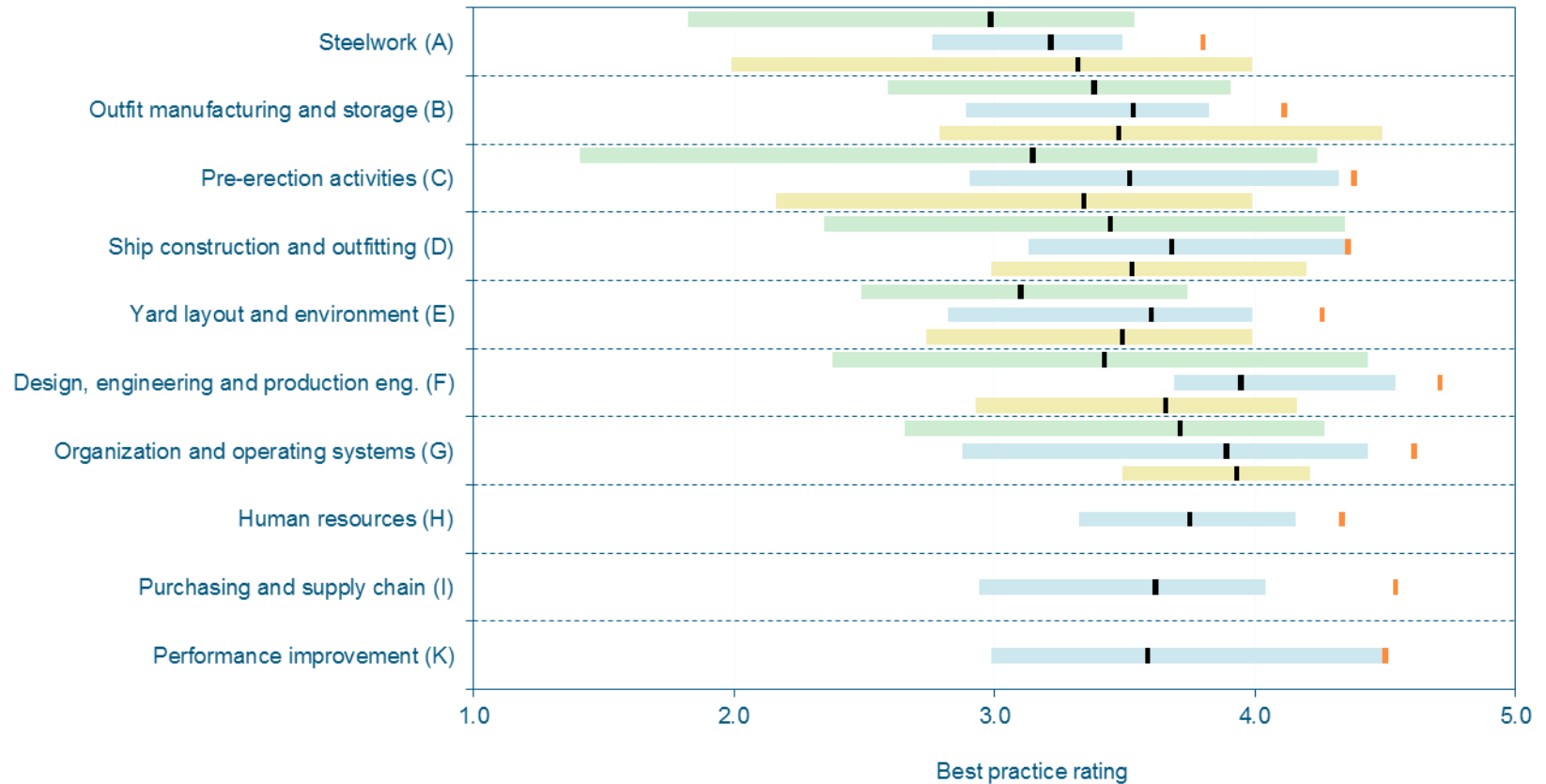
Summary of findings



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Summary of findings



Summary of findings – large shipyards

Group	Description	US yards average rating		International large yard average rating 2004	Average proposed target	Average technology gap
		2004	2014			
A	Steelwork production	3.4	3.4	3.7	3.8	0.4
B	Outfit manufacturing and storage	3.7	3.7	3.6	4.1	0.4
C	Pre-erection activities	3.6	3.7	3.8	4.5	0.8
D	Ship construction and outfitting	3.6	3.9	3.7	4.4	0.5
E	Yard layout and environment	3.3	3.8	3.4	4.2	0.4
F	Design, engineering and production engineering	3.7	4.0	3.8	4.7	0.7
G	Organization and operating systems	4.0	4.1	4.0	4.6	0.5
H	Human resources	-	3.8	-	4.3	0.5
I	Purchasing and supply chain	-	3.9	-	4.5	0.6
K	Performance improvement	-	3.8	-	4.5	0.7
A-G†	Overall yard rating	3.6	3.8	3.8		
A-K	Overall yard rating	-	3.8	-		

† For 2014 the A-G overall yard rating has been calculated excluding the new elements E3 and F10. This ensures the A-G average is comparable with FMI's findings for the GSIBBS. E3 and F10 have been included in the average rating shown for Groups E and F.

Summary of findings – mid-tier shipyards

Group	Description	US yards average rating		International mid-tier yard average rating 2006	Average proposed target	Average technology gap
		2006	2014			
A	Steelwork production	2.3	2.9	2.9	3.7	0.8
B	Outfit manufacturing and storage	2.9	3.2	3.4	4.1	0.9
C	Pre-erection activities	2.3	3.1	2.8	4.2	1.1
D	Ship construction and outfitting	3.1	3.4	3.3	4.2	0.8
E	Yard layout and environment	2.8	3.3	3.6	4.3	1.0
F	Design, engineering and production engineering	2.9	3.8	3.4	4.7	0.9
G	Organization and operating systems	3.3	3.4	3.8	4.6	1.2
H	Human resources	-	3.6	-	4.3	0.7
I	Purchasing and supply chain	-	3.2	-	4.6	1.4
K	Performance improvement	-	3.2	-	4.5	1.3
A-G†	Overall yard rating	2.8	3.3	3.3		
A-K	Overall yard rating	-	3.3	-		

† For 2014 the A-G overall yard rating has been calculated excluding the new elements E3 and F10. This ensures the A-G average is comparable with FMI's findings for the GSIBBS. E3 and F10 have been included in the average rating shown for Groups E and F.

Prioritization

Rank	Element	Technology Gap	Large rank	Mid-tier Rank
1	Design for production (F7)	High	1	4
1	Dimensional and quality control (F8)	High	2	1
3	Process engineering (K3)	Medium	2	7
4	Pre-erection outfitting (C3)	High	7	2
5	Manpower and organization of work (G1)	Medium	2	11
6	Outfit installation (D6)	Medium	9	4
6	Inventory and logistics (I6)	High	5	11
8	Production engineering (F6)	Medium	7	16
8	Attitude to change and new technology (K1)	Medium	10	7
10	Subcontract policy (I9)	High	5	19
11	Vendor furnished information (I7)	Medium	12	11
11	Metrics and measures (K4)	High	15	4
13	Production control (G5)	Medium	17	7
14	Job and skills flexibility (H1)	Medium	10	24
14	Test and trials and setting to work (F10)	Medium	14	19
16	Ship design (F1)	Medium	15	19
17	Outfit parts marshalling (C2)	Medium	12	27
17	Master planning (G2)	Medium	18	16
19	Module building (C1)	High	29	2
20	Status of purchasing and the supply chain (I1)	High	26	7
20	Organization for performance improvement (K2)	Medium	18	19

 High, 1.0 and above

 Medium, 0.5 to below 1.0

Industry-wide focus areas

Design for production

Dimensional and quality control

Production and process engineering

Pre-erection outfitting, outfit installation, module building (mid-tier)

Manpower and organization of work, job and skills flexibility

Facilities and equipment investment

Material handling and storage

Unit and block assembly

Welding

Module building

Support and services

Workstation organization

Pipe shops

Construction points



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