

MOBILE PLATFORM			Design 1			Design 2			Design 3		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Speed	0.30	feet / sec	2.60	10.00	3.00	1.40	5.38	1.61	1.83	7.04	2.11
Controllability	0.35	experience	good	6.00	2.10	great	10.00	3.50	very good	8.00	2.80
Manufacturing Time	0.13	hours	9.00	5.00	0.65	7.50	7.50	0.98	6.00	10.00	1.30
Modularity	0.15	experience	very good	8.00	1.20	great	10.00	1.50	great	10.00	1.50
Material Cost	0.07	\$	19.00	3.80	0.27	12.00	10.00	0.70	12.00	10.00	0.70
Overall value											

EML2322L Decision Matrices

MOBILE PLATFORM			Design 1			Design 2			Design 3		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Size	0.10	experience	great	10.0	1.00	great	10.0	1.00	great	10.0	1.00
Reliability	0.10	experience	good	8.0	0.80	great	10.0	1.00	good	8.0	0.80
Speed	0.20	feet / sec	2.90	4.00	0.80	0.86	9.00	1.80	0.86	9.00	1.80
Controllability	0.20	experience	moderate	6.00	1.20	good	8.00	1.60	moderate	6.00	1.20
Manufacturing Time	0.15	hours	4.00	8.00	1.20	4.0	8.00	1.20	4.00	8.00	1.20
Modularity	0.15	experience	great	10.0	1.50	great	10.0	1.50	great	10.0	1.50
Material Cost	0.10	\$	27.96	4.5	0.45	29.43	4.0	0.40	30.93	4.0	0.40
Overall value	1.00				6.95		4.3	8.50		4.3	7.90

BALL MANIPULATOR			Design 1			Design 2			Design 3		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Simplicity	0.05	experience	great	10.00	0.50	fair	4.0	0.20	great	10.0	0.50
Size	0.10	experience	good	8.00	0.80	good	8.00	0.80	good	8.00	0.80
Speed	0.20	feet / sec	0.1125	8.00	1.60	0.1125	8.00	1.60	0.1125	8.00	1.60
Controllability	0.25	experience	great	10.0	2.50	good	8.00	2.00	great	10.0	2.50
Manufacturing Time	0.15	hours	6.00	5.00	0.75	6.00	5.00	0.75	4.00	7.00	1.05
Reliability	0.15	experience	great	10.00	1.50	good	8.00	1.20	great	10.00	1.50
Material Cost	0.10	\$	2.98	10.0	1.00	3.17	9.00	0.90	4.70	9.00	0.90
Overall value	1.00				8.65		7.45				8.85

HOPPER/RELEASE MECH.			Design 1			Design 2			Design 3		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Simplicity	0.10	experience	good	8.00	0.80	great	10.0	1.00	great	10.0	1.00
Size	0.10	feet / sec	great	10.0	1.00	great	10.0	1.00	great	10.0	1.00
Speed	0.05	feet / sec	0.84	5.00	0.25	0.84	5.00	0.25	0.84	5.00	0.25
Controllability	0.20	experience	great	10.0	2.00	great	10.0	2.00	great	10.0	2.00
Manufacturing Time	0.20	hours	2.00	8.00	1.60	3.00	6.50	1.30	2.00	8.00	1.60
Reliability	0.25	experience	great	10.0	2.50	great	10.0	2.50	great	10.0	2.50
Material Cost	0.10	\$	2.20	10.0	1.00	5.00	9.0	0.90	2.35	9.0	0.90
Overall value	1.00				9.15		8.95				9.25

they aren't all identical
ditto

X

X

X

X

5.33

4.4

9.4

rotate
180°

Decision Matrices

5.4

5.8

Ball Hopper			Design 1			Design 2			Design 3		
Objective	Weighting Factor	Parameter	Mag.	Score	Value	Mag.	Score	Value	Mag.	Score	Value
Effectiveness	0.40	experience	great	9.0	3.60	fair	5.0	2.00	fair	5.0	2.00
Controllability	0.10	experience	good	8.0	0.8	good	8.0	0.8	good	8.0	0.8
Manufacturing Time	0.20	hours	6.5	5.0	1.0	5.0	7.0	1.4	6.0	6.0	1.2
Modularity	0.20	experience	great	10.0	2.0	good	8.0	1.6	good	8.0	1.6
Material Cost	0.10	\$	4.40	8.0	0.80	4.70	7	0.70	2.35	10.0	1.00
Overall value			8.20			6.50			6.60		