



METHODOLOGY APPLICATION

APPLICATION NO:	VM006
APPLICATION TITLE:	Tender Adjudication of a Material Handling System
INDUSTRY:	Mining
VALUE METHODOLOGY APPLIED:	Value Management (including Perspective Modelling Matrix)

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INTRODUCTION

This case study explains the Value Management (VM) approach of selecting the best Contractor / Supplier for a new Materials Handling System within the existing footprint of a mine (Brown Field Project).

The purpose of this Tender Adjudication was to identify the ideal partner / contractor responsible for final detail design, procurement, construction, commissioning and handover of an all inclusive materials handling system, meeting all stipulated schedule, performance and quality criteria within the agreed contract price.

The Mining Company's Materials Handling System (MHS) comprised of the following main elements:

- Underground trunk conveyors x 4;
- Underground surge bunker x 1500t (By others);
- Underground surge bunker discharge chute facilities x 2;
- Incline conveyors x 2;
- Surface bunker x 15000t c/w tripper conveyors, bypass chute arrangements x 2 and bunker discharge chute arrangements x 14;
- Surface Throw-out Stockpile facility x 15000t;
- Surface bunker reclaim conveyor;
- Overland conveyor x 3 flights;
- A surge bin at each of the overland conveyor transfer points complete with an emergency stop dump facility at each transfer;
- Linking in to the existing feed conveyor feeding the Export Plant

Seven (7) Companies have been included in the tender process:

These companies submitted seven (7) Base Case Options and Five (5) Alternative Options (Twelve (12) Proposals in total)

PURPOSE STATEMENT

Select the best proposal for the Materials Handling System



PROCESS EXPLAINED

The following processes have been applied to ensure a comprehensive and fair evaluation of all the proposals presented:

1. The joint EPCM and Client adjudication team prepared a Scorecard (Evaluation Criteria) with definitions and weight factors. The main criteria areas reflect the Commercial, Technical, Project Management, HSE and Social Responsibility of which the last two are perceived as Clarifier and Modifier and have not been included in the actual Score Card Evaluation but being utilised to qualify or disqualify some of the options.
2. For each participating companies a PIN Analysis (Positive, Interesting, Negative) was completed reflecting the company’s anticipated performance against all agreed on criteria (scorecard).
3. The joint EPCM and Client team initially evaluated the proposals received and thereafter three Focus Groups independently evaluated each proposal and completed the Commercial, Technical and Project Management scorecard evaluation.

OBJECTIVE

That the correct Criteria are determined to identify the ideal partner / contractor responsible for final detail design, procurement, construction, commissioning and handover of an all inclusive materials handling system and reflect alignment within all respective stakeholders.

CRITERIA SELECTION (MHS)

List of Criteria

NO.	AREA	CRITERION	DETAILS / DEFINITION
1	COMMERCIAL	30%	Financial and contractual compliance
1.1		Contract price	Arithmetically checked & commercially aligned contract price
1.2		Financial & commercial profile	Financial capacity, annual turnover, references wrt previous similar contracts
1.3		Commercial track record	Commercial astuteness, approach, history wrt previous credible litigation / claims. Contract compliance and value alignment
1.4		Risk / reward attitude	Willingness & ability to take on risk (price, schedule (timing), performance) for financial gain (both parties)
1.5		Contracting options: - Fixed rate, re-measurable - Target Price with Incentive - Lump-sum	Improves the project risk profile.
1.6		Qualifications to conditions of contract	Compliance to conditions of contract (acceptance of terms and conditions)
1.7		Understanding & compliance to the <u>intent</u> of the enquiry	Overall Compliance and <u>understanding of enquiry</u> . Attention to details related to operational compliance



NO.	AREA	CRITERION	DETAILS / DEFINITION
2	TECHNICAL	45%	Technical and performance compliance
2.1		Detail design track record	Recent successful design of similar MHS installations across all disciplines.
2.2		Construction track record	Construction (including partnership) of similar MH systems and major project installations (+/- last 5 years)
2.3		Overall schedule duration and logic	Construction methodology (project specific) / logic and implementation approach / alignment with required project schedule. - Interface with bulk earth/works contractor. - Surface bunker commissioning within commissioning date. - U/Ground surge bunker & incline conveyor/s commissioning date/s. Commissioning plan. Extent of scheduled float.
2.4		Integration management	Process to achieve satisfactory level of integration / discipline interface with engineering, procurement and construction. Construction interface activities
2.5		Performance guarantees	The ability to meet the performance criteria. Willingness to provide / extent of guarantees
2.6		Innovation	Ability to present credible Alternative/s including financial and functional benefits.
2.7		Technical Specification	Compliance / optimisation of Technical specification / standards
3	PROJECT MANAGEMENT	25%	Management ability to effectively materialise the deliverables
3.1		Scope	<u>Understanding of scope</u> . Provision in the price for the full scope. (PMBOK Principles)
3.2		Time Management	Extent to which the bidder meet the milestone dates and if not what is the mitigating actions
3.3		Resource Management	Extent to which the bidder has access to human and other resources to execute the scope of work and management there off. (Key personnel availability, materials, equipment etc.)
3.4		Cost Management	Bidders capability and structures to finance the work and / or service during execution, to compile accurate progress certificates and invoices. Cost control, cashflow forecast etc.
3.5		Risk Management	Risk Management system integrity
3.6		Quality Management	Bidders ability to proactively manage quality of work and / or service and capability to rectify
3.7		Administration	Bidders ability to effectively administrate scope of work and / or service, specifically site administration
3.8		Communication	Capability and available infrastructure to ensure effective two way communication
3.9		Procurement / Contract Management	Bidders capability to effectively manage the contract, specifically with respect to Change Management



NO.	AREA	CRITERION	DETAILS / DEFINITION
4	HSE MANAGEMENT	Qualifiers / Modifiers	Ability to manage towards zero harm
4.1		Health, Safety, Environment Management strategy	<ul style="list-style-type: none"> Application of HSE policy, systems & procedures / level of understanding of Sasol requirements Application of HSE risk assessment / mitigation measures envisaged Level of management commitment to contractual obligations Safety incentive schemes Roll-out of behavioural safety
4.2		Legal awareness	<ul style="list-style-type: none"> Working knowledge of MHSA & OHS Act Construction Regulations
4.3		Team quality (Safety focused)	<ul style="list-style-type: none"> Capability / experience of key personnel – head office and site based (safety focused)
4.4		Environmental awareness / compliance	Environmental management / EMP compliance during construction
4.5		Safety Track Record	Recordable case rate of less than 0.45 per 200'000 hours over 12 month rolling horizon.
4.6		SASOL Vendor assessment rating	Being approved by Sasol as an approved Vendor meeting minimum statutory requirements
			<i>Be aware that we utilise the criteria as a Modifier / Qualifiers for final selection</i>
5	SOCIAL RESPONSIBILITY	Qualifiers / Modifiers	Contribution towards compliance to the MINING CHARTER
5.1		Community involvement	<ul style="list-style-type: none"> Community development / investment commitment Employment of local labour Use of local SMME's
5.2		BEE	<ul style="list-style-type: none"> Policy, Scorecard, % BEE expenditure of contract TIV
5.3		Industrial relations	<ul style="list-style-type: none"> Construction labour management policy, procedures, practices
			<i>Be aware that we utilise the criteria as a Modifier / Qualifiers for final selection</i>

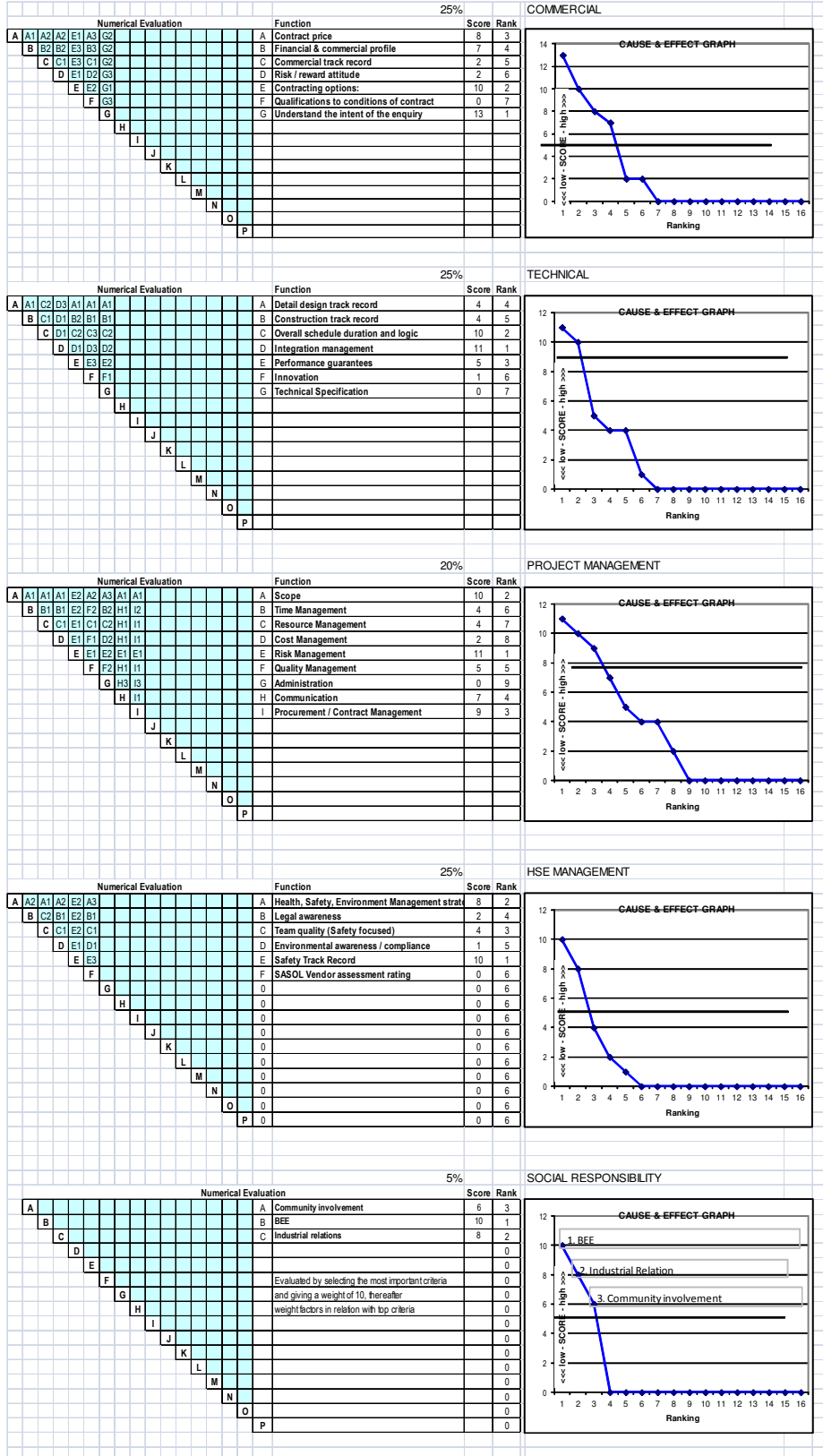
Before the detailed analysis for each criteria (see below it was agreed on to rate the Criteria Areas as follows:

- Technical Conformance (45% impact on decision)
- Commercial (30%)
- Project Management (25%).



Numerical Evaluation

Each criterion was evaluated against each other to determine a weight factor. The tool utilized was the Numerical Evaluation.





The following criteria and weight factors have been included for the actual evaluation:

NO.	AREA	CRITERION	DETAILS / DEFINITION	CRITERIA WEIGHT
1	COMMERCIAL	30%	Financial and contractual compliance	V
1.1		Contract price	Arithmetically checked & commercially aligned contract price	8
1.2		Financial & commercial profile	Financial capacity, annual turnover, references wrt previous similar contracts	7
1.3		Commercial track record	Commercial astuteness, approach, history wrt previous credible litigation / claims. Contract compliance and value alignment	2
1.4		Risk / reward attitude	Willingness & ability to take on risk (price, schedule (timing), performance) for financial gain (both parties)	2
1.5		Contracting options: - Fixed rate, re-measurable - Target Price with Incentive - Lump-sum	Improves the project risk profile.	10
1.6		Qualifications to conditions of contract	Compliance to conditions of contract (acceptance of terms and conditions)	1
1.7		Understanding & compliance to the <u>intent</u> of the enquiry	Overall Compliance and <u>understanding of enquiry</u> . Attention to details related to operational compliance	10
2	TECHNICAL	45%	Technical and performance compliance	W
2.1		Detail design track record	Recent successful design of similar MHS installations across all disciplines.	4
2.2		Construction track record	Construction (including partnership) of similar MH systems and major project installations (+/- last 5 years)	4
2.3		Overall schedule duration and logic	Construction methodology (project specific) / logic and implementation approach / alignment with required project schedule. - Interface with bulk earth/works contractor. - Surface bunker commissioning within commissioning date. - U/Ground surge bunker & incline conveyor/s commissioning date/s. Commissioning plan. Extent of scheduled float.	10
2.4		Integration management	Process to achieve satisfactory level of integration / discipline interface with engineering, procurement and construction. Construction interface activities	10
2.5		Performance guarantees	The ability to meet the performance criteria. Willingness to provide / extent of guarantees	5
2.6		Innovation	Ability to present credible Alternative/s including financial and functional benefits.	1
2.7		Technical Specification	Compliance / optimisation of Technical specification / standards	1
3	PROJECT MANAGEMENT	25%	Management ability to effectively materialise the deliverables	X
3.1		Scope	<u>Understanding of scope</u> . Provision in the price for the full scope. (PMBOK Principles)	10
3.2		Time Management	Extent to which the bidder meet the milestone dates and if not what is the mitigating actions	4
3.3		Resource Management	Extent to which the bidder has access to human and other resources to execute the scope of work and management there off. (Key personnel availability, materials, equipment etc.)	4



NO.	AREA	CRITERION	DETAILS / DEFINITION	CRITERIA WEIGHT
3.4		Cost Management	Bidder's capability and structures to finance the work and / or service during execution, to compile accurate progress certificates and invoices. Cost control, cash flow forecast etc.	2
3.5		Risk Management	Risk Management system integrity	10
3.6		Quality Management	Bidders ability to proactively manage quality of work and / or service and capability to rectify	5
3.7		Administration	Bidders ability to effectively administrate scope of work and / or service, specifically site administration	1
3.8		Communication	Capability and available infrastructure to ensure effective two way communication	7
3.9		Procurement / Contract Management	Bidders capability to effectively manage the contract, specifically with respect to Change Management	9
4	HSE MANAGEMENT	Qualifiers / Modifiers	Ability to manage towards zero harm	Y
4.1		Health, Safety, Environment Management strategy	<ul style="list-style-type: none"> · Application of HSE policy, systems & procedures / level of understanding of Sasol requirements · Application of HSE risk assessment / mitigation measures envisaged · Level of management commitment to contractual obligations · Safety incentive schemes · Roll-out of behavioural safety 	8
4.2		Legal awareness	<ul style="list-style-type: none"> · Working knowledge of MHSA & OHS Act Construction Regulations 	2
4.3		Team quality (Safety focused)	<ul style="list-style-type: none"> · Capability / experience of key personnel – head office and site based (safety focused) 	4
4.4		Environmental awareness / compliance	Environmental management / EMP compliance during construction	1
4.5		Safety Track Record	Recordable case rate of less than 0.45 per 200'000 hours over 12 month rolling horizon.	10
4.6		SASOL Vendor assessment rating	Being approved by Sasol as an approved Vendor meeting minimum statutory requirements	1
			<i>Be aware that we utilise the criteria as a Modifier / Qualifiers for final selection</i>	
5	SOCIAL RESPONSIBILITY	Qualifiers / Modifiers	Contribution towards compliance to the MINING CHARTER	Z
5.1		Community involvement	<ul style="list-style-type: none"> · Community development / investment commitment · Employment of local labour · Use of local SMME's 	6
5.2		BEE	<ul style="list-style-type: none"> · Policy, Scorecard, % BEE expenditure of contract TIV 	10
5.3		Industrial relations	<ul style="list-style-type: none"> · Construction labour management policy, procedures, practices 	8
			<i>Be aware that we utilise the criteria as a Modifier / Qualifiers for final selection</i>	



PROPOSAL EVALUATION (MHS)

PIN Analysis

Each proposal was analysed related to Positive Interesting and Negative attributes.

TENDERER	CRITERIA		POSITIVE	INTERESTING	NEGATIVE
Contractor A - Base Case	COMMERCIAL		Tendered price (R905M)	P&G costs high in surface bunker area Low engineering design costs built in into construction cost. All or nothing qualification	Price excludes hot commissioning; Up-front payment required sufficient to remain cash neutral. No work insurance provided. Omissions are mentioned but have not been priced.
		Financial & commercial profile	Acceptable		
		Commercial track record	Acceptable		
		Risk / reward attitude		Insurance provision seems to be low	No fixed price offer received
		Contracting options: - Fixed rate, re-measurable - Target Price with Incentive - Lump-sum	Escalatable rates. Re-measurable quantities	All or nothing qualification	Escalation is fixed for a 12 month or escalatable immediately
		Qualifications to conditions of contract	Accept Client standard commercial terms & conditions - 10% Performance Bond (demand guarantee) offered; 10% Retention Bond reducing to 5% on MHS handover;	Portions 2,3 & 4 escalatable using XXXXX indices - escalation formulae included in tender	
		Understand the <u>intent</u> of the enquiry	Tender submission confirms understanding & intent of the enquiry		Substation buildings & transformer enclosures excluded; decline conveyor transport labour excluded.
	TECHNICAL	Detail design track record		"Design on the edge"	Designer used on previous similar installations is C-Kit; now a potential conflict of interest.
		Construction track record	Similar installations - good track record	Construction Management Plan - typical included	



TENDERER	CRITERIA		POSITIVE	INTERESTING	NEGATIVE
	TECHNICAL	Overall schedule duration and logic	Meets overall milestone schedule. Good logic in construction management	Scheduled a bunker feed conveyor (is this relevant/).	Mis-alignment of U/G related MHS work activities with mine opening-up development. Logic related to the surface bunker construction start date is un-realistic.
		Integration management	PMBOK referenced		
		Performance guarantees	Performance Bond provided		
		Innovation	Refer alternative offer submitted - attractive, workable alternatives proposed		
		Technical Specification	Priced BOQ. Noise and dust criteria taken into account. Limiting coal degradation in chute design will be accounted for. Lubrication system (manual) included. Belt reelers included.	Power demand on the conveyor system to be confirmed	Not familiar with luffing chute design
	PROJECT MANAGEMENT	Scope	Understanding of scope and priced accordingly		Contractor scope not detailed enough. Did not follow bulletin information. All S/station bld's excluded. All labour to transport material and install incline conveyors is excluded.
		Time Management	Per PMBOK		
		Resource Management	Well structured organogram		
		Cost Management	Per PMBOK		
		Risk Management	Baseline Risk Assessment and Environmental Management Plan (typical) submitted		
		Quality Management	Quality Management Plan (typical) submitted; will work in accordance with PMBOK		



TENDERER	CRITERIA		POSITIVE	INTERESTING	NEGATIVE
	TECHNICAL	Administration	Per PMBOK	Included in Quality Management Plan	
		Communication	Organogram submitted - clear lines of communication		
		Procurement / Contract Management	Procurement system for similar material handling systems in place		
	HSE MANAGEMENT	Health, Safety, Environment Management strategy	Client Mining's HSE specifications accepted; Safety Management Plan (typical) submitted	Diesel powered boom lifts not priced for - based on use of ladders and bosun lift cages	Safety Management Plan is based on the OHSA with no reference to the MHSA - need to assess knowledge thereof
		Legal awareness	Contractors Pack understood and priced accordingly		
		Team quality (Safety focused)	Start of construction slow - used for hands-on' training of crews		
		Environmental awareness / compliance		No specific detail included wrt Environmental Management	Lump sum R6M provision included for 3 x storm water handling systems at each transfer point - no detail
		Safety Track Record	Good - 6 x recordable cases per 1,558,442 hrs worked over past 11 months = RCR of 0.77		System outdated. Questioning their mindset of their current and practice (based on 2003 work done)
		Client Vendor assessment rating	Nil		
	SOCIAL RESPONSIBILITY	Community involvement	Commitment to involve local SMME's		
		BEE		ASGI-SA score card for local content is > 60% - assess BEE status	
		Industrial relations		Confirm that labour force is accommodated off-site	

This PIN Analysis is repeated for all twelve (12) Proposals



Selection Matrix

Having obtained the criteria with weight factors and a good understanding of the various proposals an evaluation utilising the Perspective Modelling Matrix took place.

Criteria - Scorecard	COMMERCIAL										TECHNICAL							PROJECT MANAGEMENT									Commercial 30% - Technical 45% - Project Management 25% HSE & Social Responsibility to be Clarifiers and/or modifiers SUMMARY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Contract Price	Financial & commercial profile	Commercial track record	Risk / reward attitude	Contracting Options	Qualifications to conditions of contract	LOC Assessment	10% Weight Factor	Overall design track record	Construction track record	Over all schedule duration and scope	Integration management	Performance guarantees	Innovation	Technical Specification	4% Weight Factor	Scope	Time Management	Resource Management	Cost Management	Risk Management	Quality Management	Administration	Communication	Procurement Contract Management	4% Weight Factor																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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No:	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20	3.21	3.22	3.23	3.24	3.25	3.26	3.27	3.28	3.29	3.30	3.31	3.32	3.33	3.34	3.35	3.36	3.37	3.38	3.39	3.40	3.41	3.42	3.43	3.44	3.45	3.46	3.47	3.48	3.49	3.50	3.51	3.52	3.53	3.54	3.55	3.56	3.57	3.58	3.59	3.60	3.61	3.62	3.63	3.64	3.65	3.66	3.67	3.68	3.69	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.79	3.80	3.81	3.82	3.83	3.84	3.85	3.86	3.87	3.88	3.89	3.90	3.91	3.92	3.93	3.94	3.95	3.96	3.97	3.98	3.99	4.00	4.01	4.02	4.03	4.04	4.05	4.06	4.07	4.08	4.09	4.10	4.11	4.12	4.13	4.14	4.15	4.16	4.17	4.18	4.19	4.20	4.21	4.22	4.23	4.24	4.25	4.26	4.27	4.28	4.29	4.30	4.31	4.32	4.33	4.34	4.35	4.36	4.37	4.38	4.39	4.40	4.41	4.42	4.43	4.44	4.45	4.46	4.47	4.48	4.49	4.50	4.51	4.52	4.53	4.54	4.55	4.56	4.57	4.58	4.59	4.60	4.61	4.62	4.63	4.64	4.65	4.66	4.67	4.68	4.69	4.70	4.71	4.72	4.73	4.74	4.75	4.76	4.77	4.78	4.79	4.80	4.81	4.82	4.83	4.84	4.85	4.86	4.87	4.88	4.89	4.90	4.91	4.92	4.93	4.94	4.95	4.96	4.97	4.98	4.99	5.00	5.01	5.02	5.03	5.04	5.05	5.06	5.07	5.08	5.09	5.10	5.11	5.12	5.13	5.14	5.15	5.16	5.17	5.18	5.19	5.20	5.21	5.22	5.23	5.24	5.25	5.26	5.27	5.28	5.29	5.30	5.31	5.32	5.33	5.34	5.35	5.36	5.37	5.38	5.39	5.40	5.41	5.42	5.43	5.44	5.45	5.46	5.47	5.48	5.49	5.50	5.51	5.52	5.53	5.54	5.55	5.56	5.57	5.58	5.59	5.60	5.61	5.62	5.63	5.64	5.65	5.66	5.67	5.68	5.69	5.70	5.71	5.72	5.73	5.74	5.75	5.76	5.77	5.78	5.79	5.80	5.81	5.82	5.83	5.84	5.85	5.86	5.87	5.88	5.89	5.90	5.91	5.92	5.93	5.94	5.95	5.96	5.97	5.98	5.99	6.00	6.01	6.02	6.03	6.04	6.05	6.06	6.07	6.08	6.09	6.10	6.11	6.12	6.13	6.14	6.15	6.16	6.17	6.18	6.19	6.20	6.21	6.22	6.23	6.24	6.25	6.26	6.27	6.28	6.29	6.30	6.31	6.32	6.33	6.34	6.35	6.36	6.37	6.38	6.39	6.40	6.41	6.42	6.43	6.44	6.45	6.46	6.47	6.48	6.49	6.50	6.51	6.52	6.53	6.54	6.55	6.56	6.57	6.58	6.59	6.60	6.61	6.62	6.63	6.64	6.65	6.66	6.67	6.68	6.69	6.70	6.71	6.72	6.73	6.74	6.75	6.76	6.77	6.78	6.79	6.80	6.81	6.82	6.83	6.84	6.85	6.86	6.87	6.88	6.89	6.90	6.91	6.92	6.93	6.94	6.95	6.96	6.97	6.98	6.99	7.00	7.01	7.02	7.03	7.04	7.05	7.06	7.07	7.08	7.09	7.10	7.11	7.12	7.13	7.14	7.15	7.16	7.17	7.18	7.19	7.20	7.21	7.22	7.23	7.24	7.25	7.26	7.27	7.28	7.29	7.30	7.31	7.32	7.33	7.34	7.35	7.36	7.37	7.38	7.39	7.40	7.41	7.42	7.43	7.44	7.45	7.46	7.47	7.48	7.49	7.50	7.51	7.52	7.53	7.54	7.55	7.56	7.57	7.58	7.59	7.60	7.61	7.62	7.63	7.64	7.65	7.66	7.67	7.68	7.69	7.70	7.71	7.72	7.73	7.74	7.75	7.76	7.77	7.78	7.79	7.80	7.81	7.82	7.83	7.84	7.85	7.86	7.87	7.88	7.89	7.90	7.91	7.92	7.93	7.94	7.95	7.96	7.97	7.98	7.99	8.00	8.01	8.02	8.03	8.04	8.05	8.06	8.07	8.08	8.09	8.10	8.11	8.12	8.13	8.14	8.15	8.16	8.17	8.18	8.19	8.20	8.21	8.22	8.23	8.24	8.25	8.26	8.27	8.28	8.29	8.30	8.31	8.32	8.33	8.34	8.35	8.36	8.37	8.38	8.39	8.40	8.41	8.42	8.43	8.44	8.45	8.46	8.47	8.48	8.49	8.50	8.51	8.52	8.53	8.54	8.55	8.56	8.57	8.58	8.59	8.60	8.61	8.62	8.63	8.64	8.65	8.66	8.67	8.68	8.69	8.70	8.71	8.72	8.73	8.74	8.75	8.76	8.77	8.78	8.79	8.80	8.81	8.82	8.83	8.84	8.85	8.86	8.87	8.88	8.89	8.90	8.91	8.92	8.93	8.94	8.95	8.96	8.97	8.98	8.99	9.00	9.01	9.02	9.03	9.04	9.05	9.06	9.07	9.08	9.09	9.10	9.11	9.12	9.13	9.14	9.15	9.16	9.17	9.18	9.19	9.20	9.21	9.22	9.23	9.24	9.25	9.26	9.27	9.28	9.29	9.30	9.31	9.32	9.33	9.34	9.35	9.36	9.37	9.38	9.39	9.40	9.41	9.42	9.43	9.44	9.45	9.46	9.47	9.48	9.49	9.50	9.51	9.52	9.53	9.54	9.55	9.56	9.57	9.58	9.59	9.60	9.61	9.62	9.63	9.64	9.65	9.66	9.67	9.68	9.69	9.70	9.71	9.72	9.73	9.74	9.75	9.76	9.77	9.78	9.79	9.80	9.81	9.82	9.83	9.84	9.85	9.86	9.87	9.88	9.89	9.90	9.91	9.92	9.93	9.94	9.95	9.96	9.97	9.98	9.99	10.00	10.01	10.02	10.03	10.04	10.05	10.06	10.07	10.08	10.09	10.10	10.11	10.12	10.13	10.14	10.15	10.16	10.17	10.18	10.19	10.20	10.21	10.22	10.23	10.24	10.25	10.26	10.27	10.28	10.29	10.30	10.31	10.32	10.33	10.34	10.35	10.36	10.37	10.38	10.39	10.40	10.41	10.42	10.43	10.44	10.45	10.46	10.47	10.48	10.49	10.50	10.51	10.52	10.53	10.54	10.55	10.56	10.57	10.58	10.59	10.60	10.61	10.62	10.63	10.64	10.65	10.66	10.67	10.68	10.69	10.70	10.71	10.72	10.73	10.74	10.75	10.76	10.77	10.78	10.79	10.80	10.81	10.82	10.83	10.84	10.85	10.86	10.87	10.88	10.89	10.90	10.91	10.92	10.93	10.94	10.95	10.96	10.97	10.98	10.99	11.00	11.01	11.02	11.03	11.04	11.05	11.06	11.07	11.08	11.09	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17	11.18	11.19	11.20	11.21	11.22	11.23	11.24	11.25	11.26	11.27	11.28	11.29	11.30	11.31	11.32	11.33	11.34	11.35	11.36	11.37	11.38	11.39	11.40	11.41	11.42	11.43	11.44	11.45	11.46	11.47	11.48	11.49	11.50	11.51	11.52	11.53	11.54	11.55	11.56	11.57	11.58	11.59	11.60	11.61	11.62	11.63	11.64	11.65	11.66	11.67	11.68	11.69	11.70	11.71	11.72	11.73	11.74	11.75	11.76	11.77	11.78	11.79	11.80	11.81	11.82	11.83	11.84	11.85	11.86	11.87	11.88	11.89	11.90	11.91	11.92	11.93	11.94	11.95	11.96	11.97	11.98	11.99	12.00	12.01	12.02	12.03	12.04	12.05	12.06	12.07	12.08	12.09	12.10	12.11	12.12	12.13	12.14	12.15	12.16	12.17	12.18	12.19	12.20	12.21	12.22	12.23	12.24	12.25	12.26	12.27	12.28	12.29	12.30	12.31	12.32	12.33	12.34	12.35	12.36	12.37	12.38	12.39	12.40	12.41	12.42	12.43	12.44	12.45	12.46	12.47	12.48	12.49	12.50	12.51	12.52	12.53	12.54	12.55	12.56	12.57	12.58	12.59	12.60	12.61	12.62	12.63	12.64	12.65	12.66	12.67	12.68	12.69	12.70	12.71	12.72	12.73	12.74	12.75	12.76	12.77	12.78	12.79	12.80	12.81	12.82	12.83	12.84	12.85	12.86	12.87	12.88	12.89	12.90	12.91	12.92	12.93	12.94	12.95	12.96	12.97	12.98	12.99	13.00	13.01	13.02	13.03	13.04	13.05	13.06	13.07	13.08	13.09	13.10	13.11	13.12	13.13	13.14	13.15	13.16	13.17	13.18	13.19	13.20	13.21	13.22	13.23	13.24	13.25	13.26	13.27	13.28	13.29	13.30	13.31	13.32	13.33	13.34	13.35	13.36	13.37	13.38	13.39	13.40	13.41	13.42	13.43	13.44	13.45	13.46	13.47	13.48	13.49	13.50	13.51	13.52	13.53	13.54	13.55	13.56	13.57	13.58	13.59	13.60	13.61	13.62	13.63	13.64	13.65	13.66	13.67	13.68	13.69	13.70	13.71	13.72	13.73	13.74	13.75	13.76	13.77	13.78	13.79	13.80	13.81	13.82	13.83	13.84	13.85	13.86	13.87	13.88	13.89	13.90	13.91	13.92	13.93	13.94	13.95	13.96	13.97	13.98	13.99	14.00	14.01	14.02	14.03	14.04	14.05	14.06	14.07	14.08	14.09	14.10	14.11	14.12	14.13	14.14	14.15	14.16	14.17	14.18	14.19	14.20	14.21	14.22	14.23	14.24	14.25	14.26	14.27	14.28	14.29	14.30	14.31	14.32	14.33	14.34	14.35	14.36	14.37	14.38	14.39	14.40	14.41	14.42	14.43	14.44	14.45	14.46	14.47	14.48	14.49	14.50	14.51	14.52	14.53	14.54	14.55	14.56	14.57	14.58	14.59	14.60	14.61	14.62	14.63	14.64	14.65	14.66	14.67	14.68	14.69	14.70	14.71	14.72	14.73	14.74	14.75	14.76	14.77	14.78	14.79	14.80	14.81	14.82	14.83	14.84	14.85	14.86	14.87	14.88	14.89	14.90	14.91	14.92	14.93	14.94	14.95	14.96	14.97	14.98	14.99	15.00	15.01	15.02	15.03	15.04	15.05	15.06	15.07	15.08	15.09	15.10	15.11	15.12	15.13	15.14	15.15	15.16	15.17	15.18	15.19	15.20	15.21	15.22	15.23	15.24	15.25	15.26	15.27	15.28	15.29	15.30	15.31	15.32	15.33	15.34	15.35	15.36	15.37	15.38	15



CONCLUSION

This method was to decide on the best proposal for the Material Handling System and further investigations allowed for the correct selection of the contractor.

This approach allows for alignment between stakeholders and the required credibility of having obtained the relevant information to make the correct decision.