EUREKA D-SOFT PVT. LTD.

MTOMAN

ESCOBI
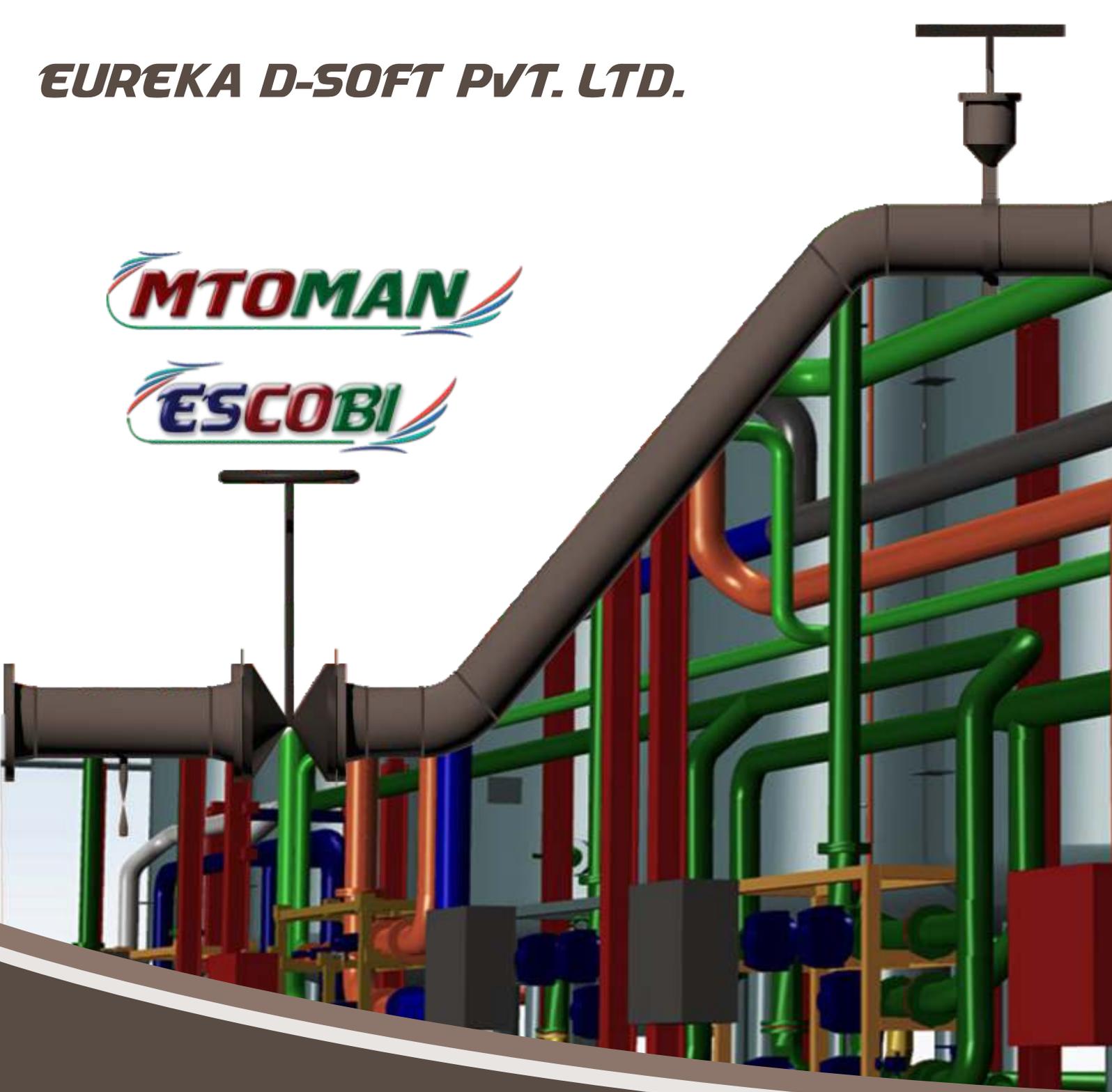
ESTIMATION / INITIAL MATERIAL TAKE-OFF (MTO)

One can generate the estimation MTO based on P&ID or initial piping layout. The program allows the users to create estimation MTO by selecting components directly from the piping material specification or importing data directly from the 3D model.

The consistency of the estimation / initial MTO is guaranteed by an automatic check against the latest revision of piping material specification and it can also be upgraded as per the latest available component catalogue. This is further integrated with MATCONTRK and compared with MTO's from other plant design softwares.

# MATERIAL TAKE-OFF BASED ON SHORTNAME OF COMPONENTS AND PIPING ROUTING.

Component wise sequencing can be done on the top of line wise piping MTO / item master as the base. Short codes are pre-designated for the piping components. Sequencing to match the exact piping routing can be done using short codes to simplify the efforts.

Routing of P&ID, GAD, Piping isometric drawings can be used as a reference for creating detailed MTO with an organized flow of piping component data.

The program generates data like spool MTO, joint data and other related reports which are used as input for SPOOLMAN / ERMAN software.

REPORTING:

The user can generate various reports like line wise summary MTO, project scope in terms of material Inch Dia, material Inch Meter, joint details, painting - insulation scope with item wise breakup details & reports configured according to client specific requirements.

TABLE	Key
WELD	W
SETON	S
RPAD	Y
SUPP	Z
PLATE	Q
BEAM	H
Branc...	)
Loop ...	{
Loop ...	}
Tappin...	[
Tappin...	]
PIPE	P
GASK...	G
FLANGE	F

LineId	Rev_!	SheetNo	SpoolN	Spoo	Spec	TABLE	ITEM_CODE	Description	Size1	Size2	Category	Length
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	FLANGE	FWC5167Z018192ZZZ	FLANGE WN B16.5 600#...	12		Fabrication	162.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	WELD	BW-WELD		12		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	PIPE	PI25317Z01818ZZZZ	PIPE B-36.10BE SEAML...	12		Fabrication	1450
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	WELD	OLET-WELD		1		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	OLET	YSS52D2Z018ZZ06ZZ	SOCKOLET MSS-SP97 ...	12	1	Fabrication	22.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	WELD	BW-WELD		1		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	PIPE	PI21977Z00619ZZZZ	PIPE B-36.10PE SEAML...	1		Fabrication	950
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP1	1	B1A	WELD	BW-WELD		1		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	ER	1	B1A	VALVE	51001ZZZ006ZZZZZZ	VALVE GATE API-602 / IS...	1		Erection	105.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP2	1	B1A	WELD	BW-WELD		1		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP2	1	B1A	PIPE	PI21977Z00619ZZZZ	PIPE B-36.10PE SEAML...	1		Fabrication	1550
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP2	1	B1A	WELD	BW-WELD		1		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP2	1	B1A	FLANGE	FSC0147Z00619ZZZZ	FLANGE SW B16.5 300#...	1		Fabrication	10.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	ER	1	B1A	GASKET	GK65074Z006ZZZZZZ	GASKET B-16.20/ANSI B...	1		Erection	3.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	ER	1	B1A	BOLT	175BOLT1125X	175 BOLT STUD WITH 3...	1...		Erection	0.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	ER	1	B1A	FLANGE	FBC0147Z006ZZZZZZ	BLIND FLANGE B-16.5 3...	1		Erection	17.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	ER	1	B1A	WELD	BW-WELD		12		Erection	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	ELBOW	WAG684Z101819ZZZZ	ELBOW 90DEG BW R=1...	12		Fabrication	914.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	WELD	BW-WELD		12		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	PIPE	PI21977Z00619ZZZZ	PIPE B-36.10PE SEAML...	1		Fabrication	4225
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	WELD	BW-WELD		1		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	TEE	WEG684ZZ01818ZZZZ	TEE EQUAL B-16.9 BW...	12	12	Fabrication	762.00
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	WELD	BW-WELD		12		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	PIPE	PI25317Z01818ZZZZ	PIPE B-36.10BE SEAML...	12		Fabrication	1780
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	WELD	BW-WELD		12		Fabrication	
12-P-ABC-1234-B1A-IH-C	R00	010F01	SP3	1	B1A	FLANGE	FWC5167Z018192ZZZ	FLANGE WN B16.5 600#...	12		Fabrication	162.00

Line Name : 12-P-ABC-1234-B1A-IH-C

Sheet 01 Of 01 Revision No R00 ShortcutKey Value Apply current spool setting Set Fabrication component

FPOPVPFGBF)EPTPFGB)PEPRPEP OK

Weld: On Off

Spool: Number Prefix SP Spool No: 1 Suffix: Pipe Length: Pipe Data Add Spec

Spool
Sheet

Add
Remove

Save | Approve For Report
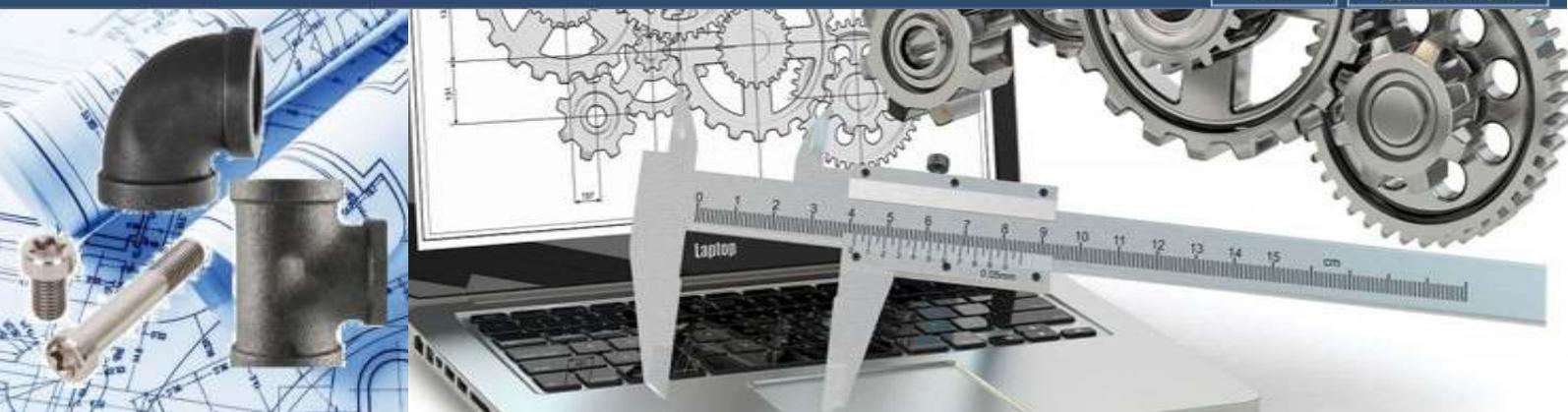
PIPING SPECIFICATION, BRANCH TABLES, PIPING ASSEMBLIES :

The piping material specifications based on the catalogue can be generated quickly, with the help of user friendly filter queries.

Company catalogue can also be standardized. The Program automatically creates the list of required project piping components from the piping material specifications which will be used as a reference to carry out the Material Take-Off.

The Piping branch table states the type of connecting components for the branch intersection between various header size and branch size combinations.

The Program automatically selects the required branch components detail from the piping material specification connected to the branch table. The Program can also manage the piping assemblies like vents, drains, instrument connections etc. Piping assemblies can be pre-defined with group of associated piping components. User has to just define the count of assemblies & the program automatically accommodates the break-up piping components in the Material Take-off.

ICGP - ITEM CODE GENERATION PROGRAM

ICGP is a software for creation of new ItemCode, generation of equivalent ItemCode as per the company norms. Item codes are generated by reading standard parameters of item description like Item type, Item sub-type, nominal size, schedule / rating, material description / material grade, thickness, diameters, special remarks etc.

ItemCode generation program follows a logical process for code generation, where variety of rule logics can be created to obtain the desired new codes. ICGP takes care of all Item Codification activity required for generating & updating the central library of ItemMaster which is used in EPCPROMAN.
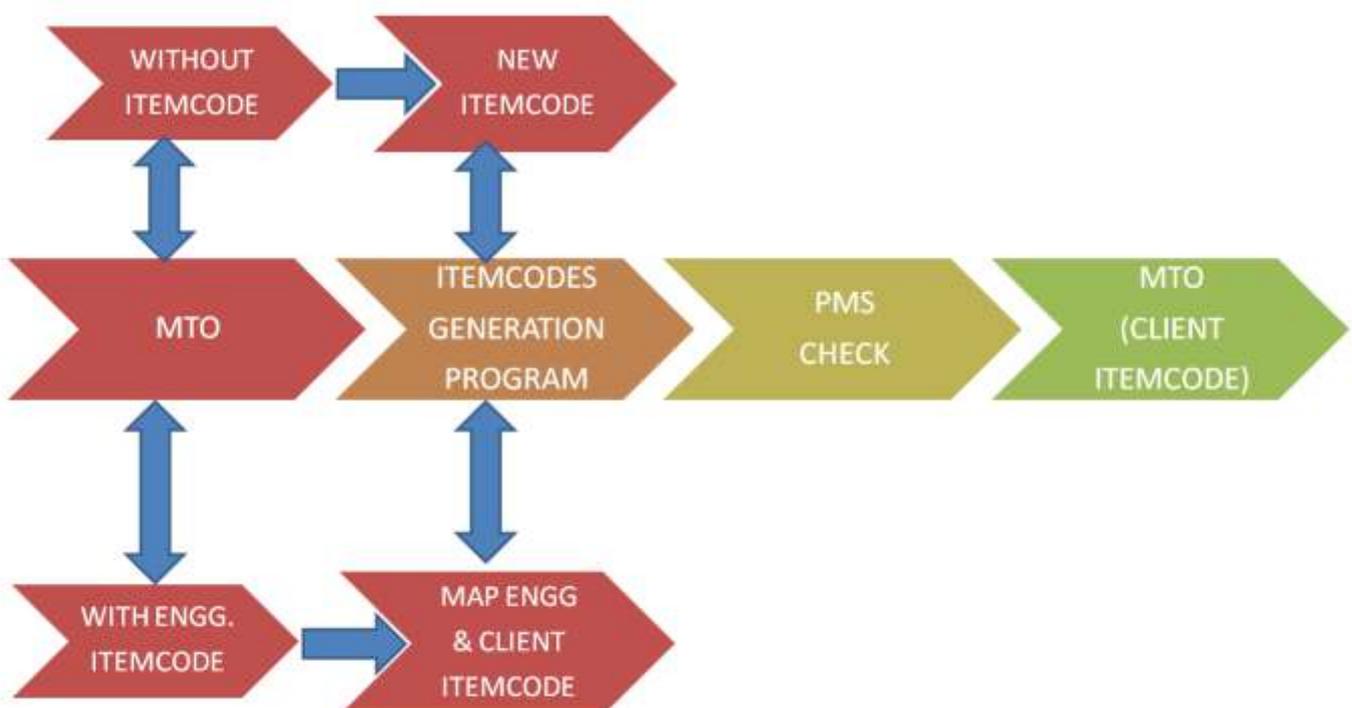
ESCOBI (ESTIMATION, COSTING AND BIDDING)

- ESCOBI is the software solution for Estimation, Costing & Bidding of a project

- Project & sub-units are defined for estimation & bidding

- Multiple groups can work on the estimation, costing & bidding of a project parallely & independently through different quotations

- Estimation team, Costing team, Bidding team can be maintained separately for confidentiality based on separate access rights for estimation / costing / bidding

- Estimation of a project is divided into discipline wise headers like piping, civil, structural, E&I etc. which are grouped at project level

- Disciplines are sub-divided into multiple hierarchy levels which can be further associated & interconnected with final breakup estimation items as per tender bidding documentation (SOR format)

- Multiple hierarchy levels can be defined logically for estimation based on the complexity of the project & requirement

- Against each estimation line item, estimation quantity against relevant UOM (unit of measure)is captured

- Cost of each estimation item per UOM is defined based on cost breakup heads like material, labour, service etc.

- Margin percentage/value is decided against each cost breakup head for a particular estimation item

- Cost is based on various currency type

- Margin is based on percentage of cost (or) a lump value against each cost breakup head of a item

- Flexibility to analyze the impact in bid value by changing the margin flexibility to change the margin breakup of a particular cost breakup at any hierarchy group level

- Any modification & enhancements on cost / margin can be done at group level easily

- Reports of various quotations from different internal groups estimating on the same job can be generated for comparison, analysis & generating a realistic right estimate for final bidding

No	ItemNo	EstimatedQuantity	UOM	Currency	Cost / Item	TotalCost	UnitWiseBreakUp	CostBreakUp	CostBidding	Rate / Item	TotalRate
	H401.01.01	1000	MT	Rupee (Rs.)	75	75000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	78.23	78230.00
	H402.01.01V04	1000	MT	Rupee (Rs.)	80	80000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	83.62	83620.00
	H404.01.01V18	100	SQM	Rupee (Rs.)	790	79000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	790.00	79000.00
	H404.01.01V19	100	SQM	Rupee (Rs.)	900	90000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	900.00	90000.00
	H405.01.01V09	100	SQM	Rupee (Rs.)	900	90000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	960.30	96030.00
	H409.01.01V05	100	SQM	Rupee (Rs.)	960	95000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	1025.43	102543.00
	H940.99.99V01	1000	MT	Rupee (Rs.)	75	75000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	78.61	78610.00
	H940.99.99V02	100	SQM	Rupee (Rs.)	1250	125000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	1330.40	133040.00
	H940.99.99V03	50	NOS	Rupee (Rs.)	26000	1250000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	26620.13	1331006.50
	H940.99.99V04	50	NOS	Rupee (Rs.)	35000	1750000.00	UnitWiseBreakUp	CostBreakUp	CostBidding	37393.25	1869662.50

- Defining project for estimation

- Defining discipline & hierarchy groups

- Mapping estimation line items with group levels

- Defining access rights for Estimation team, Costing team & bidding team

- Estimation of Quantity for each estimation line item

- Cost estimation under various cost heads

- Defining Margin%

- Evaluation of bid quotation

- Impact analysis by modifying Cost & Margin value

- Copying existing quotation

- Reports of estimation, costing & bidding

- Evaluation & finalization of bid value

ESCOBI REPORT

ESCOBI Report

Select Project No :- Project-Name-001   Select Quotation No :- Quotation-001   Show All   Default

Display : 100   Rows : 61 || Page(s) : 1   1

9	H940.99.99V03	NOS	Rupee (Rs.)	50	25000	1250000.00	Material	18150	Material Margin	7.75	26820.125	1331806.50
9	H940.99.99V03	NOS	Rupee (Rs.)	50			P&M	3000	P&M Margin	3.00		
9	H940.99.99V03	NOS	Rupee (Rs.)	50			Labour	1500	Labour Margin	3.00		
9	H940.99.99V03	NOS	Rupee (Rs.)	50			Transportion	1500	Transportion Margin	4.00		
8	H940.99.99V03	NOS	Rupee (Rs.)	50			Service	500	Service Margin	3.00		
9	H940.99.99V03	NOS	Rupee (Rs.)	50			Miscellaneous	350	Miscellaneous Margin	1.00		
10	H940.99.99V04	NOS	Rupee (Rs.)	50	35000	1750000.00	Material	27500	Material Margin	7.75	37393.250	1869662.50
10	H940.99.99V04	NOS	Rupee (Rs.)	50			P&M	2000	P&M Margin	3.00		
10	H940.99.99V04	NOS	Rupee (Rs.)	50			Labour	1000	Labour Margin	3.00		
10	H940.99.99V04	NOS	Rupee (Rs.)	50			Transportion	4000.00	Transportion Margin	4.00		
10	H940.99.99V04	NOS	Rupee (Rs.)	50			Service	360	Service Margin	3.00		
10	H940.99.99V04	NOS	Rupee (Rs.)	50			Miscellaneous	150	Miscellaneous Margin	1.00		
					GrandCost	3700000.00					GrandRate	3941742.00

Menu: MYAPP, sadmin, LOGOUT, ADD GROUP LEVEL, ADD PROJECTS, UPLOADS, MAPPING, ESTIMATION, COSTING, BIDDING, ESTIMATION, COSTING AND, ESCOBI REPORT

Costing BreakUp

ItemNo	Estimated Quantity	UOM	Quotation No	Quotation Date
401.01.01	1000	MT	Quotation-001	04-01-2016

Cost / Item	Currency	Cost Breakup Name	Cost Breakup Quantity	ADD Breakup
75	Rupee (Rs.)	•	8	Add

Select	CostBreakUp	BreakUpQuantity	Delete
☑	Material	20	Delete
☑	P&M	12	Delete
☑	Labour	15	Delete
☑	Transportion	13	Delete
☑	Service	10	Delete
☑	Miscellaneous	5	Delete

Margin BreakUp

ItemNo	Estimation Quantity	UOM	Cost / Item	Currency
H401.01.01	1000	MT	75	Rupee (Rs.)

Quotation No	Quotation Date	Rate Calculation By	Rate	RefreshRate
Quotation-001	26-11-2015	Percentage •	78.230	Refresh

CostBreakUpName	CostBreakUpQuantity	MarginBreakupName		MarginBreakUpQuantity
Material	20	Material Margin	•	7.75
P&M	12	P&M Margin	•	3.00
Labour	15	Labour Margin	•	3.00
Transportion	13	Transportion Margin	•	4.00
Service	10	Service Margin	•	3.00
Miscellaneous	5	Miscellaneous Margin	•	1.00

Estimation Costing and Bidding

The program feature aids the bidding team in performing the detailed task of estimation, costing, bidding of the project. The project estimation can be worked out by multiple estimation groups. The access rights are controlled for estimation teams, Costing team, Bidding team to maintain confidentiality of the project data. Multiple projects can be handled parallely. Each project can have various quotations & breakup calculations on estimation quantity, cost & margin parameters.

Estimation team will have complete control in establishing the quantity of each estimation line item for bidding. The Costing team works out the cost break up parameters like cost of materials, plant & machinery, labour, transport, services etc. against each estimation line item. The Project bidding team plays a key role in defining the margin percentage / value against each cost breakup parameter. The cost & margin can also be controlled at hierarchical group levels which are interconnected with the estimation line items. Facility for importing & exporting of data in spreadsheet format is enabled for flexibility.

ESCOBI Report

One can export the quotation with estimation quantity, costing and bid value data project wise. The detailed backup data with the breakup calculation can be generated at project level, unit level, discipline wise & hierarchical group levels.

Quotations prepared by different groups can be compared with percentage difference of quantity, cost breakup & margin breakup for analysis in finalizing the realistic quotation.

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