PROJECT REPORT

Of

SMART ENERGY METER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Smart Energy Meter Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

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PROJECT AT A GLANCE

1	Name of the Entreprenuer		xxxxxxxxxx
2	Constitution (legal Status)	:	xxxxxxxxxx
3	Father / Spouse Name		xxxxxxxxxxxx
4	Unit Address	:	xxxxxxxxxxxxxxxxxxxxxx District : xxxxxxx Pin: xxxxxxx State: xxxxx Mobile xxxxxxx
5	Product and By Product	:	**SMART ENERGY METER**
6	Name of the project / business activity proposed :		**SMART ENERGY METER MANUFACTURING UNIT**
7	Cost of Project	:	Rs.24.95 Lakhs
8	Means of Finance Term Loan Own Capital Working Capital		 Rs.17.02 Lakhs Rs.2.49 Lakhs Rs.5.43 Lakhs
9	Debt Service Coverage Ratio	:	2.95
10	Pay Back Period	:	5 Years
11	Project Implementation Period	:	5-6 Months
12	Break Even Point	:	24%
13	Employment	:	12 Persons
14	Power Requirement	:	30.00 HP
15	Major Raw materials	:	Plastic, Electrical components and other material
16	Estimated Annual Sales Turnover (Max Capacity)	:	243.98 Lakhs
17	Detailed Cost of Project & Means of Finance		

COST OF PROJECT

(Rs. In Lakhs)

Particulars	**Amount**
Land	Own/Rented
Plant & Machinery	18.31
Furniture & Fixtures	0.60
Working Capital	6.04
Total	**24.95**

MEANS OF FINANCE

Particulars	**Amount**
Own Contribution	2.49
Working Capital(Finance)	5.43
Term Loan	17.02
Total	**24.95**

SMART ENERGY METER MANUFACTURING UNIT

Introduction:

Smart energy meter is an electronic device that measures the most accurate amount of electricity consumed by a residence, business or any electrically-powered device. A smart meter is reliable source for most accurate information of consumed energy that reduces the chance of error in the existing billing system to minimal, voltage levels, current, and power factor. Smart meters communicate the information to the consumer for greater clarity of consumption behavior, and electricity suppliers for system monitoring and customer billing. Smart meters typically record energy near real-time, and report regularly, short intervals throughout the day. A smart meter appears to be very similar to a traditional electricity, gas, or water meter located in a residence or business. Both smart and traditional meters provide metrology by measuring quantities of voltage, current, pressure, velocity, temperature, or flow rate, and communicate this information to the utility. The difference between the two types is that smart meter's record consumption in intervals of an hour or less. Additionally, the Advanced Metering Infrastructure (AMI) of smart meters provides two-way communication between the utility and the user, and AMI supports remote reporting.

Uses & Market Potential:

Smart Energy meters are tools used to manage and record electricity and performance of electronic devices in the home. What makes the meters "smart" is their ability to provide detailed and accurate analytics on electrical usage in real-time or at predetermined intervals, all without a technician. The global smart meter market size was valued at $21.13 billion in 2019 and is projected to reach $39.20 billion by 2027, registering a CAGR of 8.80% during the forecast period. Smart meters are electronic devices that accurately monitor electricity, gas, and water usage. These smart meters can send usage information through power line communication, radiofrequency electromagne t ic radiation (RF), and cellular communication, helping the utility company to effectively manage the energy usage. Smart meters offer a host of benefits such as reduction of meter reading cost, preventing disconnection, removing inefficiencies in billing, and re-connection costs to corporations and consumers. The major factor that drives the smart meter market growth is supportive government policies and financial incentives. In addition, large scale installations of the smart meters by the utility companies are focusing on strengthening the distribution of the smart meters. Various benefits offered by the smart meter market such as automatic meter reading and bill generation are further expected to contribute towards the growth of the smart meter industry.

Product:

Smart Energy Meter

Raw Material:

The raw materials required are:

- **Plastic**-PP or PVC Granules
- **Electrical components:** Such as Power convertor, Processor, Modem, Internal Battery, Operator Interface, Cover Tamper Switch, Tact switches, Hall Effect Sensor, Customized circuit board, LED or LCD- which displays the energy consumption in digits, etc.
- **Other:** Screws, Springs, Soldering flux, Solder wire and paste, Battery, Battery contacts, Connectors, Wires, etc.

Manufacturing Process:

The steps are:

- ✓ Raw material procurement
- ✓ Injection Molding-Plastic Molding
- ✓ PCB Assembly
- ✓ Assembly
- ✓ Testing

Area:

The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and polishing area. Also, some of the area of building is required for office staff facilities, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 2000-2500Sqft.

Cost of Machines:

Machine	Quantity	Rate
Injection Molding Machine	1	700000
Solder Paste Printer	1	100000
Pick and Place Machine	1	150000
Single Reflow Oven	1	90000
SPI Machine	1	165000
AOI Machine	1	400000
Temperature controlled soldering station	1	26000
Printing Machine	1	150000
Testing Equipment's	-	50000
Total Amount		**1831000**

Power Requirement- The estimated Power requirement is taken at 30 HP.

Manpower Requirement– Following manpower is required:

- Machine operator-2
- Skilled/unskilled worker-3
- Helper-4
- Manager cum Accountant-1
- Sales Personnel-2

FINANCIALS

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	3.73	6.39	10.13	14.11
Add: Additions	2.49	-	-	-	-
Add: Net Profit	6.23	7.97	9.74	11.98	14.27
Less: Drawings	5.00	5.30	6.00	8.00	10.00
Closing Balance	3.73	6.39	10.13	14.11	18.38
CC Limit	5.43	5.43	5.43	5.43	5.43
Term Loan	15.13	11.35	7.56	3.78	-
Sundry Creditors	3.67	4.37	5.09	5.85	6.62
TOTAL :	**27.96**	**27.54**	**28.22**	**29.17**	**30.44**
APPLICATION OF FUND					
Fixed Assets (Gross)	18.91	18.91	18.91	18.91	18.91
Gross Dep.	2.81	5.20	7.23	8.96	10.43
Net Fixed Assets	16.10	13.71	11.68	9.95	8.48
Current Assets					
Sundry Debtors	2.94	3.64	4.29	4.97	5.69
Stock in Hand	6.76	9.88	11.54	13.26	15.05
Cash and Bank	2.15	0.30	0.71	0.99	1.21
TOTAL :	**27.96**	**27.54**	**28.22**	**29.17**	**30.44**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	126.15	156.07	183.83	213.11	243.98
Total (A)	**126.15**	**156.07**	**183.83**	**213.11**	**243.98**
B) COST OF SALES					
Raw Material Consumed	91.80	109.24	127.35	146.13	165.61
Elecricity Expenses	2.01	2.35	2.69	3.02	3.36
Repair & Maintenance	2.52	3.12	3.68	4.26	4.88
Labour & Wages	11.97	15.56	19.45	23.34	27.78
Depreciation	2.81	2.39	2.03	1.73	1.47
Cost of Production	111.11	132.66	155.19	178.48	203.10
Add: Opening Stock /WIP	-	3.70	4.42	5.17	5.95
Less: Closing Stock /WIP	3.70	4.42	5.17	5.95	6.77
Cost of Sales (B)	107.41	131.94	154.44	177.71	202.28
C) GROSS PROFIT (A-B)	18.74	24.13	29.39	35.40	41.70
	14.86%	**15.46%**	**15.99%**	**16.61%**	**17.09%**
D) Bank Interest i) (Term Loan)	1.85	1.51	1.09	0.68	0.26
ii) Interest On Working Capital	0.60	0.60	0.60	0.60	0.60
E) Salary to Staff	7.31	9.21	10.87	13.58	15.62
F) Selling & Adm Expenses Exp.	2.27	3.90	5.51	5.97	7.32
G) TOTAL (D+E+F)	**12.02**	**15.22**	**18.07**	**20.82**	**23.80**
H) NET PROFIT	6.72	8.91	11.32	14.58	17.91
	5.3%	**5.7%**	**6.2%**	**6.8%**	**7.3%**
I) Taxation	0.49	0.94	1.58	2.60	3.64
J) PROFIT (After Tax)	6.23	7.97	9.74	11.98	14.27

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	2.49	-	-	-	-
Reserve & Surplus	6.72	8.91	11.32	14.58	17.91
Depriciation & Exp. W/off	2.81	2.39	2.03	1.73	1.47
Increase In Cash Credit	5.43	-	-	-	-
Increase In Term Loan	17.02	-	-	-	-
Increase in Creditors	3.67	0.70	0.72	0.75	0.78
TOTAL :	**38.14**	**12.00**	**14.07**	**17.06**	**20.16**
APPLICATION OF FUND					
Increase in Fixed Assets	18.91	-	-	-	-
Increase in Stock	6.76	3.12	1.66	1.72	1.79
Increase in Debtors	2.94	0.70	0.65	0.68	0.72
Repayment of Term Loan	1.89	3.78	3.78	3.78	3.78
Taxation	0.49	0.94	1.58	2.60	3.64
Drawings	5.00	5.30	6.00	8.00	10.00
TOTAL :	**36.00**	**13.84**	**13.67**	**16.78**	**19.93**
Opening Cash & Bank Balance	-	2.15	0.30	0.71	0.99
Add : Surplus	2.15	- 1.85	0.41	0.28	0.23
Closing Cash & Bank Balance	**2.15**	**0.30**	**0.71**	**0.99**	**1.21**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	3.70	4.42	5.17	5.95	6.77
Raw Material					
(10 Days requirement)	3.06	5.46	6.37	7.31	8.28
Closing Stock	**6.76**	**9.88**	**11.54**	**13.26**	**15.05**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	6.76		
Less:			
Sundry Creditors	3.67		
Paid Stock	**3.09**	**0.31**	**2.78**
Sundry Debtors	2.94	0.29	2.65
Working Capital Requirement			**5.43**
Margin			0.60
MPBF			**5.43**
Working Capital Demand			**5.43**

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	17.02	17.02	0.47	-	17.02
	Iind Quarter	17.02	-	17.02	0.47	-	17.02
	IIIrd Quarter	17.02	-	17.02	0.47	0.95	16.07
	Ivth Quarter	16.07	-	16.07	0.44	0.95	15.13
					1.85	1.89	
II	Opening Balance						
	Ist Quarter	15.13	-	15.13	0.42	0.95	14.18
	Iind Quarter	14.18	-	14.18	0.39	0.95	13.24
	IIIrd Quarter	13.24	-	13.24	0.36	0.95	12.29
	Ivth Quarter	12.29		12.29	0.34	0.95	11.35
					1.51	3.78	
III	Opening Balance						
	Ist Quarter	11.35	-	11.35	0.31	0.95	10.40
	Iind Quarter	10.40	-	10.40	0.29	0.95	9.46
	IIIrd Quarter	9.46	-	9.46	0.26	0.95	8.51
	Ivth Quarter	8.51		8.51	0.23	0.95	7.56
					1.09	3.78	
IV	Opening Balance						
	Ist Quarter	7.56	-	7.56	0.21	0.95	6.62
	Iind Quarter	6.62	-	6.62	0.18	0.95	5.67
	IIIrd Quarter	5.67	-	5.67	0.16	0.95	4.73
	Ivth Quarter	4.73		4.73	0.13	0.95	3.78
					0.68	3.78	
V	Opening Balance						
	Ist Quarter	3.78	-	3.78	0.10	0.95	2.84
	Iind Quarter	2.84	-	2.84	0.08	0.95	1.89
	IIIrd Quarter	1.89	-	1.89	0.05	0.95	0.95
	Ivth Quarter	0.95		0.95	0.03	0.95	- 0.00
					0.26	3.78	

Door to Door Period	60	Months
Moratorium Period	6	Months
Repayment Period	54	Months

CALCULATION OF D.S.C.R

PARTICULARS	I	II	III	IV	V
CASH ACCRUALS	9.04	10.36	11.77	13.71	15.74
Interest on Term Loan	1.85	1.51	1.09	0.68	0.26
Total	10.88	11.86	12.86	14.39	16.00
REPAYMENT					
Repayment of Term Loan	1.89	3.78	3.78	3.78	3.78
Interest on Term Loan	1.85	1.51	1.09	0.68	0.26
Total	3.74	5.29	4.87	4.46	4.04
DEBT SERVICE COVERAGE RATIO	**2.91**	**2.24**	**2.64**	**3.23**	**3.96**
AVERAGE D.S.C.R.			**2.95**		

Assumptions:

1. Production Capacity of Smart Energy Meter Manufacturing unit is taken at 50 Pcs per day. First year, Capacity has been taken @ 30%.

2. Working shift of 10 hours per day has been considered.

3. Raw Material stock and Finished goods closing stock has been taken for 10 days.

4. Credit period to Sundry Debtors has been given for 7 days.

5. Credit period by the Sundry Creditors has been provided for 12 days.

6. Depreciation and Income tax has been taken as per the Income tax Act,1961.

7. Interest on working Capital Loan and Term loan has been taken at 11%.

8. Salary and wages rates are taken as per the Current Market Scenario.

9. Power Consumption has been taken at 30 HP.

10. Selling Prices & Raw material costing has been increased by 3% & 2% respectively in the subsequent years.

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