PROJECT REPORT

Of

THERMAL SCANNER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Thermal Scanner 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	:	**THERMAL SCANNER**
6	Name of the project / business activity proposed :		**THERMAL SCANNER MANUFACTURING UNIT**
7	Cost of Project	:	Rs.23.75 Lakhs
8	Means of Finance Term Loan Own Capital Working Capital		 Rs.16.21 Lakhs Rs.2.37 Lakhs Rs.5.16 Lakhs
9	Debt Service Coverage Ratio	:	2.66
10	Pay Back Period	:	5 Years
11	Project Implementation Period	:	5-6 Months
12	Break Even Point	:	26%
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)	:	164.06 Lakhs
17	Detailed Cost of Project & Means of Finance		

COST OF PROJECT

(Rs. In Lakhs)

Particulars	**Amount**
Land	Own/Rented
Plant & Machinery	17.31
Furniture & Fixtures	0.70
Working Capital	5.74
Total	**23.75**

MEANS OF FINANCE

Particulars	**Amount**
Own Contribution	2.37
Working Capital(Finance)	5.16
Term Loan	16.21
Total	**23.75**

THERMAL SCANNER MANUFACTURING UNIT

Introduction:

Non-Contact IR Thermal scanner is specially used to measure the body temperature of a person regardless of room temperature. Depending on various skin types and thickness, there may be a temperature difference. Infrared (IR) thermal scanners are available in range of contactless thermal scanners that determine a temperature from the amount of thermal radiation emitted from an object. This device works by focusing thermal radiation on a sensor. To realize the human body temperature fast and non-contact measurement, an infrared thermal scanner is designed. The infrared human body temperature sensor is mainly used to convert the human body's infrared radiation into voltage signal, an operational amplifier to amplify the signal, filter circuit to filter the signal, the analog signal into a digital signal by the A/D conversion circuit, data processing by the MCU, LCD, display so the human body non-contact measurement is realized.

Uses & Market Potential:

Thermal scanners are used to measure temperature quickly, at a distance, and without touching the object you're measuring. They are so useful and easy to operate. Non-contact thermal scanners has a gun-shaped design and fits easily into the grip of hands. Due to its quick reading feature, it is ideal for both domestic and professional use. The thermal scanner market size is expected to grow by USD 1.85 billion during the period 2020- 2024. The recent outbreak of COVID-19 has driven different companies, hospitals, airline companies, Offices, Schools, Colleges, and Hotels to adopt several precautionary measures, such as the use of thermal scanners for inspecting customers, employees, students, workers, passengers' body temperature and disinfecting the particular surroundings. One of the primary growth drivers for this market is the Demand from Airports for Passengers Screening. Airports are increasingly implementing security procedures at various checkpoints to reduce the spread of infectious diseases. Hence, the increasing prevalence of communicable diseases such as COVID-19 is expected to fuel the demand for thermal scanners from crowded places for a person's temperature screening. The main advantage of being a non-contact object, there is a lesser chance of passing on the infection or germs from one person to another. Hence the demand for non-contact thermometers are increasing.

Product:

Thermal Scanner

Raw Material:

The raw materials required are:

- **Plastic**-PP or PVC Granules
- **Electrical components:** Controller IC, Transistors, EEROM, Resistors, Capacitors, etc.
- **Others:** Screws, springs, soldering flux, solder wire, battery, connectors, wires, etc.

Manufacturing Process:

The steps are:

- ✓ Raw material procurement
- ✓ Injection 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	600000
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 & other equipment's	-	50000
Total Amount		**1731000**

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	-	3.36	5.38	8.58	12.60
Add: Additions	2.37	-	-	-	-
Add: Net Profit	4.98	6.52	8.20	10.02	11.92
Less: Drawings	4.00	4.50	5.00	6.00	8.00
Closing Balance	3.36	5.38	8.58	12.60	16.52
CC Limit	5.16	5.16	5.16	5.16	5.16
Term Loan	14.41	10.81	7.20	3.60	-
Sundry Creditors	2.57	3.05	3.56	4.08	4.63
TOTAL :	**25.49**	**24.40**	**24.51**	**25.45**	**26.31**
APPLICATION OF FUND					
Fixed Assets (Gross)	18.01	18.01	18.01	18.01	18.01
Gross Dep.	2.67	4.94	6.87	8.51	9.92
Net Fixed Assets	15.34	13.07	11.14	9.50	8.09
Current Assets					
Sundry Debtors	4.24	5.25	6.18	7.16	8.20
Stock in Hand	4.06	5.85	6.81	7.81	8.85
Cash and Bank	1.85	0.23	0.38	0.97	1.16
TOTAL :	**25.49**	**24.40**	**24.51**	**25.45**	**26.31**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	84.83	104.94	123.61	143.30	164.06
Total (A)	**84.83**	**104.94**	**123.61**	**143.30**	**164.06**
B) COST OF SALES					
Raw Material Consumed	51.30	61.05	71.16	81.66	92.55
Elecricity Expenses	2.01	2.35	2.69	3.02	3.36
Repair & Maintenance	1.70	2.10	2.47	2.87	3.28
Labour & Wages	12.85	16.07	19.28	22.75	26.16
Depreciation	2.67	2.27	1.93	1.65	1.40
Cost of Production	70.53	83.83	97.53	111.94	126.75
Add: Opening Stock /WIP	-	2.35	2.79	3.25	3.73
Less: Closing Stock /WIP	2.35	2.79	3.25	3.73	4.22
Cost of Sales (B)	68.18	83.39	97.07	111.46	126.26
C) GROSS PROFIT (A-B)	16.65	21.56	26.53	31.84	37.80
	19.62%	**20.54%**	**21.47%**	**22.22%**	**23.04%**
D) Bank Interest i) (Term Loan)	1.76	1.44	1.04	0.64	0.25
ii) Interest On Working Capital	0.57	0.57	0.57	0.57	0.57
E) Salary to Staff	7.81	9.84	12.01	14.89	17.57
F) Selling & Adm Expenses Exp.	1.53	2.62	3.71	4.01	4.92
G) TOTAL (D+E+F)	**11.67**	**14.47**	**17.32**	**20.11**	**23.31**
H) NET PROFIT	4.98	7.09	9.21	11.72	14.50
	5.9%	**6.8%**	**7.5%**	**8.2%**	**8.8%**
I) Taxation	-	0.56	1.01	1.71	2.57
J) PROFIT (After Tax)	4.98	6.52	8.20	10.02	11.92

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	2.37	-	-	-	-
Reserve & Surplus	4.98	7.09	9.21	11.72	14.50
Depriciation & Exp. W/off	2.67	2.27	1.93	1.65	1.40
Increase In Cash Credit	5.16	-	-	-	-
Increase In Term Loan	16.21	-	-	-	-
Increase in Creditors	2.57	0.49	0.51	0.52	0.54
TOTAL :	**33.96**	**9.84**	**11.65**	**13.89**	**16.44**
APPLICATION OF FUND					
Increase in Fixed Assets	18.01	-	-	-	-
Increase in Stock	4.06	1.79	0.96	1.01	1.04
Increase in Debtors	4.24	1.01	0.93	0.98	1.04
Repayment of Term Loan	1.80	3.60	3.60	3.60	3.60
Taxation	-	0.56	1.01	1.71	2.57
Drawings	4.00	4.50	5.00	6.00	8.00
TOTAL :	**32.11**	**11.46**	**11.50**	**13.30**	**16.25**
Opening Cash & Bank Balance	-	1.85	0.23	0.38	0.97
Add : Surplus	1.85	- 1.61	0.14	0.59	0.19
Closing Cash & Bank Balance	**1.85**	**0.23**	**0.38**	**0.97**	**1.16**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	2.35	2.79	3.25	3.73	4.22
Raw Material					
(10 Days requirement)	1.71	3.05	3.56	4.08	4.63
Closing Stock	**4.06**	**5.85**	**6.81**	**7.81**	**8.85**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	4.06		
Less:			
Sundry Creditors	2.57		
Paid Stock	**1.50**	**0.15**	**1.35**
Sundry Debtors	4.24	0.42	3.82
Working Capital Requirement			**5.16**
Margin			0.57
MPBF			**5.16**
Working Capital Demand			**5.16**

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	16.21	16.21	0.45	-	16.21
	Iind Quarter	16.21	-	16.21	0.45	-	16.21
	IIIrd Quarter	16.21	-	16.21	0.45	0.90	15.31
	Ivth Quarter	15.31	-	15.31	0.42	0.90	14.41
					1.76	1.80	
II	Opening Balance						
	Ist Quarter	14.41	-	14.41	0.40	0.90	13.51
	Iind Quarter	13.51	-	13.51	0.37	0.90	12.61
	IIIrd Quarter	12.61	-	12.61	0.35	0.90	11.71
	Ivth Quarter	11.71		11.71	0.32	0.90	10.81
					1.44	3.60	
III	Opening Balance						
	Ist Quarter	10.81	-	10.81	0.30	0.90	9.91
	Iind Quarter	9.91	-	9.91	0.27	0.90	9.01
	IIIrd Quarter	9.01	-	9.01	0.25	0.90	8.10
	Ivth Quarter	8.10		8.10	0.22	0.90	7.20
					1.04	3.60	
IV	Opening Balance						
	Ist Quarter	7.20	-	7.20	0.20	0.90	6.30
	Iind Quarter	6.30	-	6.30	0.17	0.90	5.40
	IIIrd Quarter	5.40	-	5.40	0.15	0.90	4.50
	Ivth Quarter	4.50		4.50	0.12	0.90	3.60
					0.64	3.60	
V	Opening Balance						
	Ist Quarter	3.60	-	3.60	0.10	0.90	2.70
	Iind Quarter	2.70	-	2.70	0.07	0.90	1.80
	IIIrd Quarter	1.80	-	1.80	0.05	0.90	0.90
	Ivth Quarter	0.90		0.90	0.02	0.90	0.00
					0.25	3.60	

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	7.65	8.79	10.14	11.66	13.32
Interest on Term Loan	1.76	1.44	1.04	0.64	0.25
Total	9.41	10.23	11.18	12.31	13.57
REPAYMENT					
Repayment of Term Loan	1.80	3.60	3.60	3.60	3.60
Interest on Term Loan	1.76	1.44	1.04	0.64	0.25
Total	3.56	5.04	4.64	4.25	3.85
DEBT SERVICE COVERAGE RATIO	**2.64**	**2.03**	**2.41**	**2.90**	**3.53**
AVERAGE D.S.C.R.			**2.66**		

Assumptions:

1. Production Capacity of Thermal Scanner Manufacturing unit is taken at 150 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 15 days.

5. Credit period by the Sundry Creditors has been provided for 15 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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