PROJECT REPORT

Of

WHEEL RIM MANUFACTURING UNIT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Wheel Rim 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	:	xxxxxxxxxxxxxxxxxxxxxxx		
			District :	xxxxxxx	
			Pin:	xxxxxxx	State: xxxxx
			Mobile	xxxxxxx	
5	Product and By Product	:	**WHEEL RIM**		
6	Name of the project / business activity proposed :		**RIM MANUFACTURING UNIT**		
7	Cost of Project	:	Rs.23.28 Lakhs		
8	Means of Finance				
	Term Loan		Rs.17.42 Lakhs		
	Own Capital		Rs.2.33 Lakhs		
	Working Capital		Rs.3.54 Lakhs		
9	Debt Service Coverage Ratio	:	2.44		
10	Pay Back Period	:	5	Years	
11	Project Implementation Period	:	5-6	Months	
12	Break Even Point	:	40%		
13	Employment	:	14	Persons	
14	Power Requirement	:	30.00	KW	
15	Major Raw materials	:	Aluminum Metal Sheet		
16	Estimated Annual Sales Turnover (Max Capacity)	:	102.24	Lakhs	
17	Detailed Cost of Project & Means of Finance				

COST OF PROJECT

(Rs. In Lakhs)

Particulars	**Amount**
Land	Own/Rented
Plant & Machinery	18.35
Furniture & Fixtures	1.00
Working Capital	3.93
Total	**23.28**

MEANS OF FINANCE

Particulars	**Amount**
Own Contribution	2.33
Working Capital(Finance)	3.54
Term Loan	17.42
Total	**23.28**

WHEEL RIM MANUFACTURING UNIT

Introduction:

Since the 1970s, the production of aluminium alloy wheels has progressed significantly. Casting has surpassed other production processes as a result of improved wheel design. To fulfil the requirements for metal-mould casting qualities, corrosion, and fatigue resistance, alloy wheel material has changed as well. Car wheels alloys currently comprise 7 to 12 percent silicon content, as well as various quantities of magnesium in addition to aluminium. Wheels currently account for around 15% of the average aluminium content in passenger vehicles and light trucks, and while styling has been the primary impetus, weight reduction requirements have led to the development of more sophisticated cast, forged, and fabricated alternatives. These components, on the other hand, provide vital safety duties and must fulfil stringent design, engineering, and craftsmanship requirements. Metal the metal, low-pressure casting, quality control, topping, heat treatment, machining, and painting are all phases in the production of aluminium wheel rims. Self- preparing alloy is the most recent development in this industry. The process begins with the smelting of low-iron primary aluminium ingots in smelting towers. The rim of the wheel supports the tyre in a car, and the form and proportions of the rim should be changed to fit a certain tyre. In this investigation, a disc wheel tyre is used on an automobile wheel rim. Design is a crucial industrial process for defining and specifying product quality. The design and modelling minimises the danger of harm throughout the construction process. The danger of damage during the production process is reduced thanks to the design and modelling. Modeling software was used to create the design for this wheel rim. The model is then imported for analysis when it has been created. The analytical software is used to compute the many forms of force, stresses, torque, and pressures operating on the wheel rim, and it saves time by eliminating the need for a human to do mathematical calculations. The study takes into account two different materials: structural steel and aluminium. Both materials are evaluated and their results are recorded.

Uses & Market Potential:

The rim is the cylindrical outside edge of the wheel that holds the tyre in place. The rim's primary role is to support and seal the tyre to the wheel. The rim maintains the air within the tubeless tyre by ensuring appropriate fit between tyre and rim. The cylindrical rings that hold the tyres of a car are known as wheel rims. The rims guarantee that the tyres are properly aligned and that the air pressure in tubeless tyres is maintained. Between 2020 and 2026, the global automotive wheel rims market is expected to grow at a CAGR of 4%. Because of growing disposable income levels and changing consumer lifestyles, the automobile sector has grown, and sales of important vehicle components such as vehicle wheel rims are expected to increase dramatically. Vehicle performance is improved by improved functionality provided by wheel rim advancements. In turn, this important element will fuel demand for vehicle wheel rims in the approaching years. However, owing to a lack of knowledge and low disposable income levels, the adoption of automobile wheel rims has been reported to be fairly limited in lower and middle-income nations, which may hinder the market's growth. Global Automotive Wheel Rims Market is anticipated to register a CAGR of 4% between 2020 and 2026.

Product:

WHEEL RIM

Raw Material:

Aluminum Metal Sheet

Manufacturing Process:

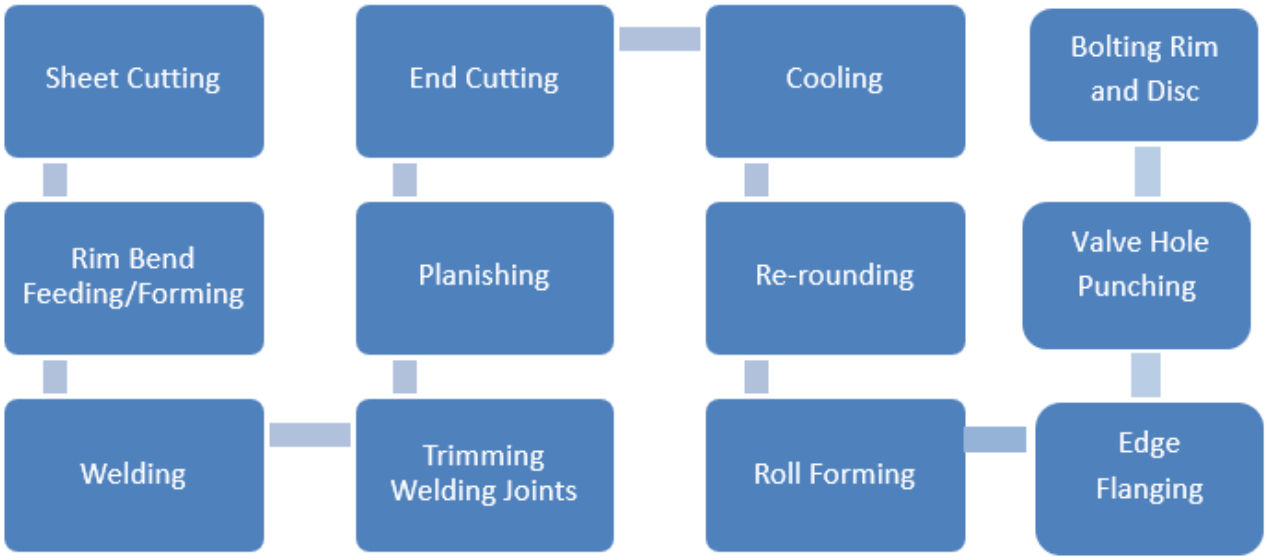

Fig. 1 – Process Flowchart

Area:

The industrial setup requires space for cutting, welding, rolling and punching. area. Also some of the area of building is required for office staff facilities, documentation, office furniture, etc. Thus, the approximate total area required for complete small scale factory setup is 2500-3000Sq. ft. approximately.

Cost of Machines:

S No.	Machine	Unit	Price (INR)
1.	Feeding Machine	1	2,00,000/-
2.	Rim Bank Coiling Machine	1	2,40,000/-
3.	Flattening Machine	1	1,80,000/-
4.	Butt Welding Machine	1	52,000/-
5.	Trimming, Planishing, End Cutting Machine	1	3,95,000/-
6.	Horizontal Flaring Machine	1	1,00,000/-
7.	Roll Forming Machine	1	3,00,000/-
8.	Edge Flanging	1	68,000/-
9.	Expanding Machine, Gas Tightness Testing, Valve Hole Punching Machine	1	1,50,000/-
10.	Press Disc into Rim	1	1,00,000/-
11.	Welding Machine	1	50,000/-
	Total		**18,35,000/-**

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

Manpower Requirement– Following manpower is required:

- Skilled/unskilled worker-8
- Helper- 2
- Machine Operator- 2
- Sales Personal and Accountant- 2

FINANCIALS

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	2.66	4.18	6.57	9.26
Add: Additions	2.33	-	-	-	-
Add: Net Profit	2.93	5.32	7.99	11.19	12.41
Less: Drawings	2.60	3.80	5.60	8.50	9.30
Closing Balance	2.66	4.18	6.57	9.26	12.37
CC Limit	3.54	3.54	3.54	3.54	3.54
Term Loan	15.48	11.61	7.74	3.87	-
Sundry Creditors	0.84	0.94	1.05	1.15	1.27
TOTAL :	**22.52**	**20.28**	**18.90**	**17.82**	**17.18**
APPLICATION OF FUND					
Fixed Assets (Gross)	19.35	19.35	19.35	19.35	19.35
Gross Dep.	2.85	5.28	7.35	9.12	10.62
Net Fixed Assets	16.50	14.07	12.00	10.23	8.73
Current Assets					
Sundry Debtors	1.93	2.31	2.64	3.01	3.41
Stock in Hand	2.84	3.26	3.70	4.17	4.68
Cash and Bank	1.25	0.64	0.56	0.41	0.35
TOTAL :	**22.52**	**20.28**	**18.90**	**17.82**	**17.18**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	58.00	69.22	79.27	90.25	102.24
Total (A)	**58.00**	**69.22**	**79.27**	**90.25**	**102.24**
B) COST OF SALES					
Raw Material Consumed	25.20	28.25	31.39	34.63	37.97
Elecricity Expenses	3.36	3.69	4.03	4.36	4.70
Repair & Maintenance	1.86	2.15	2.38	2.71	3.07
Labour & Wages	16.51	19.48	22.98	26.43	29.87
Depreciation	2.85	2.43	2.07	1.76	1.50
Cost of Production	49.77	55.99	62.85	69.90	77.10
Add: Opening Stock /WIP	-	2.00	2.31	2.65	3.02
Less: Closing Stock /WIP	2.00	2.31	2.65	3.02	3.42
Cost of Sales (B)	47.77	55.68	62.52	69.53	76.70
C) GROSS PROFIT (A-B)	10.23	13.54	16.75	20.72	25.53
	17.64%	**19.56%**	**21.13%**	**22.96%**	**24.97%**
D) Bank Interest i) (Term Loan)	1.89	1.54	1.12	0.69	0.27
ii) Interest On Working Capital	0.39	0.39	0.39	0.39	0.39
E) Salary to Staff	3.28	3.87	4.48	5.29	6.77
F) Selling & Adm Expenses Exp.	1.74	2.42	2.77	3.16	3.58
TOTAL (D+E+F)	**7.29**	**8.22**	**8.77**	**9.53**	**11.01**
H) NET PROFIT	2.93	5.32	7.99	11.19	14.53
	5.1%	**7.7%**	**10.1%**	**12.4%**	**14.2%**
I) Taxation	-	-	-	-	2.11
J) PROFIT (After Tax)	2.93	5.32	7.99	11.19	12.41

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	2.33	-			
Reserve & Surplus	2.93	5.32	7.99	11.19	14.53
Depriciation & Exp. W/off	2.85	2.43	2.07	1.76	1.50
Increase In Cash Credit	3.54				
Increase In Term Loan	17.42	-	-	-	-
Increase in Creditors	0.84	0.10	0.10	0.11	0.11
TOTAL :	**29.91**	**7.85**	**10.16**	**13.06**	**16.14**
APPLICATION OF FUND					
Increase in Fixed Assets	19.35	-	-	-	-
Increase in Stock	2.84	0.42	0.44	0.47	0.51
Increase in Debtors	1.93	0.37	0.33	0.37	0.40
Repayment of Term Loan	1.94	3.87	3.87	3.87	3.87
Taxation	-	-	-	-	2.11
Drawings	2.60	3.80	5.60	8.50	9.30
TOTAL :	**28.66**	**8.46**	**10.24**	**13.21**	**16.19**
Opening Cash & Bank Balance	-	1.25	0.64	0.56	0.41
Add : Surplus	1.25	- 0.61	- 0.08	- 0.15	- 0.05
Closing Cash & Bank Balance	**1.25**	**0.64**	**0.56**	**0.41**	**0.35**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	2.00	2.31	2.65	3.02	3.42
Raw Material					
(10 Days requirement)	0.84	0.94	1.05	1.15	1.27
Closing Stock	**2.84**	**3.26**	**3.70**	**4.17**	**4.68**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	2.84		
Less:			
Sundry Creditors	0.84		
Paid Stock	**2.00**	**0.20**	**1.80**
Sundry Debtors	1.93	0.19	1.74
Working Capital Requirement			**3.54**
Margin			0.39
MPBF			**3.54**
Working Capital Demand			**3.54**

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	17.42	17.42	0.48	-	17.42
	Iind Quarter	17.42	-	17.42	0.48	-	17.42
	IIIrd Quarter	17.42	-	17.42	0.48	0.97	16.45
	Ivth Quarter	16.45	-	16.45	0.45	0.97	15.48
					1.89	1.94	
II	Opening Balance						
	Ist Quarter	15.48	-	15.48	0.43	0.97	14.51
	Iind Quarter	14.51	-	14.51	0.40	0.97	13.55
	IIIrd Quarter	13.55	-	13.55	0.37	0.97	12.58
	Ivth Quarter	12.58		12.58	0.35	0.97	11.61
					1.54	3.87	
III	Opening Balance						
	Ist Quarter	11.61	-	11.61	0.32	0.97	10.64
	Iind Quarter	10.64	-	10.64	0.29	0.97	9.68
	IIIrd Quarter	9.68	-	9.68	0.27	0.97	8.71
	Ivth Quarter	8.71		8.71	0.24	0.97	7.74
					1.12	3.87	
IV	Opening Balance						
	Ist Quarter	7.74	-	7.74	0.21	0.97	6.77
	Iind Quarter	6.77	-	6.77	0.19	0.97	5.81
	IIIrd Quarter	5.81	-	5.81	0.16	0.97	4.84
	Ivth Quarter	4.84		4.84	0.13	0.97	3.87
					0.69	3.87	
V	Opening Balance						
	Ist Quarter	3.87	-	3.87	0.11	0.97	2.90
	Iind Quarter	2.90	-	2.90	0.08	0.97	1.94
	IIIrd Quarter	1.94	-	1.94	0.05	0.97	0.97
	Ivth Quarter	0.97		0.97	0.03	0.97	0.00
					0.27	3.87	

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	5.79	7.75	10.06	12.95	13.92
Interest on Term Loan	1.89	1.54	1.12	0.69	0.27
Total	7.68	9.29	11.17	13.64	14.18
REPAYMENT					
Repayment of Term Loan	1.94	3.87	3.87	3.87	3.87
Interest on Term Loan	1.89	1.54	1.12	0.69	0.27
Total	3.82	5.41	4.99	4.56	4.14
DEBT SERVICE COVERAGE R	**2.01**	**1.72**	**2.24**	**2.99**	**3.43**
AVERAGE D.S.C.R.			**2.44**		

Assumptions:

1. Production Capacity of Wheel Rim is 160 Pieces per day. First year, Capacity has been taken @ 50%.
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 10 days.
5. Credit period by the Sundry Creditors has been provided for 10 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 KW.
10. Selling Prices & Raw material costing has been increased by 5% & 2% respectively in the subsequent years.

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