

Pre-Feasibility Study

(Auto & Mechanical Manufacturing Workshop)



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Government of Pakistan

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December, 2013

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S M E D A

1 DISCLAIMER

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2 PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document / study covers various aspects of project concept development, start-up, production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in **Auto & Tractor Parts Manufacturing** business by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

Apart from carefully studying the whole document, one must consider critical aspects provided later on, which form the basis of investment decisions.

3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need based capability building programs of different types in addition to business guidance through help desk services.

4 INTRODUCTION TO SCHEME

'Prime Minister's Youth Business Loan' scheme, for young entrepreneurs, with an allocated budget of Rs. 5.0 Billion for the Financial Year 2013-2014, is designed to provide subsidised financing at 8% mark-up per annum for one hundred thousand (100,000) beneficiaries, by designated financial institutions, initially by the National Bank of Pakistan (NBP) and the First Women Bank Ltd. (FWBL).

Loans of 0.1 million to 2.0 million, with a tenure of upto eight (8) years, inclusive of grace period of 1 year and a debt : equity ratio of 90 : 10 will be disbursed to SME beneficiaries across Pakistan, covering; Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Gilgit-Baltistan, Azad Jammu & Kashmir and Federally Administered Tribal Areas (FATA).

5 EXECUTIVE SUMMARY

This Pre-feasibility is for establishing an "Auto & Mechanical Manufacturing Workshop". Induction of an experienced machinist and two helpers will be a necessity along with technically experienced and skilled owner / manager.

The total project cost is Rs. 2.20 million out of which Rs. 1.33 million is the capital cost and Rs. 0.87 million for working capital. The debt to equity ratio is 90% and 10%. The project NPV is around Rs. 22.62 million, with an IRR of 79%, and payback period of 2.13 years.

The project is proposed to be set up in a locality of peri-urban area. It will provide direct employment to a maximum of six (06) persons at the initiation time. The total capacity of this business with combination of a few machines, would be small sized sheet metal stampings, fabricated sheet metal shapes, turned parts, machined parts with work equivalent of 120,000 stampings.

6 BRIEF DESCRIPTION OF THE PROJECT & PRODUCT

This specific project pertains to set up a small sized manufacturing facility on the outskirts of different cities. The workshop is proposed in a rented premises having a covered shed which may consist of second hand galvanised tin sheet roofs, along with two secure brick rooms to be used as a store and office, along with the usual boundary wall and entrance gate.

Manufacturing side can be taken up if the individual who will be the owner / manager feels confident that he can seek orders from the market through his contacts, is able to manufacture as per engineering drawings / as per accurate

sample obtained, service the order successfully and get his payment. The workshop is proposed to be operated as a “Sole Proprietorship”.

7 CRITICAL FACTORS

- The entrepreneur should have knowledge and few years experience in the engineering field related to small sized parts manufacturing or repairing / rebuilding of engines / gear boxes / differentials sub-assemblies.
- If in manufacturing, should be able to read engineering drawings, inspect the dies ordered for blanking / slitting / bending / shaping operations, understand fabrications, know where to find proper grade sheet metal / alloy bars etc.
- Delivery on time of accurately manufactured component parts would be the key element in the initial success of such an established workshop.
- Success of the project is based on the quality of service rendered to the clients in terms of ‘as per specifications’ adherence for a manufactured product, in time. Also, use of proper grade materials American Society for Testing and Material (ASTM) and accurate measuring tools such as external micrometers, vernier calipers, steel foot rulers, sheet metal gauges etc.
- Understanding the use of primers and phosphating process to do rust free work, margins available on the bulk purchase of steel sheet, round bars, steel flats, welding rods, cast / forged items purchased and the price of Die Set and its good use life span.

8 INSTALLED & OPERATIONAL CAPACITIES

The project will engage a maximum of six (6) permanent staff including owner / manager at its later breakout stage. The manufacturing facility will function 10 hours on a daily basis if orders arrive. If in manufacturing business then work to start will be dependent on how long the die maker takes to make a die, before manufacturing effort starts. For each sheet metal part a different die will have to be made by a die maker, therefore, this task is proposed to be outsourced. For a fabricated sheet metal product, number of dies for the bending / shaping operation could be three or five etc. in a set for a single job order.

9 GEOGRAPHICAL POTENTIAL FOR INVESTMENT & POTENTIAL TARGET MARKETS

The facility can be started anywhere in the country especially in peri-urban areas close to metropolitan cities like Lahore, Gujranwala, Faisalabad, Multan, Karachi,

Hhderabad, Quetta, Peshawar and Okara etc. or small towns where vehicular traffic is more frequent, and labour mobility is not an issue.

10 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the project. Various cost and revenue related assumptions along with results of the analysis are outlined in this section. The projected Income Statement, Cash Flow Statement and Balance Sheet are attached as annexures.

10.1 Project Economics

All the figures in this financial model have been calculated for a target of 444,000 pieces of small sheet metal parts blanked out / bent in three Die Sets per annum, for a manufacturing facility. It is assumed that during first year of the operations the project will initiate from zero manufacturing orders per week to one per month during the first year and then slowly progress towards 8 orders per month after a few years. The manufacturing service provision details of first year clients are:

Table 1: Category Wise Service(Production / Repair) Capacity in Year I

Sr. No	Description	No of pieces handled in Year 1
1	Sheet Metal Blanking Die Set No: 1	180,000
2	Sheet Metal Forming Die Set No: 2	120,000
3	Sheet Metal Stamping Die Set No: 3	144,000
4	Putting threads on bolts	15,000
5	Sheet metal fabrication work	150
	Total	459,150

Table -2 below shows the internal rates of return and payback period.

Table 2: Project Economics

Description	Details
Internal Rate of Return (IRR)	79%
Payback Period (Years)	2.13
NPV (Rs.)	22,623,204

10.2 Project Financing

Following table provides details of the equity required and variables related to bank loan;

Table 3: Project Finance

Description	Details
Total Equity (10%)	Rs. 220,000
Bank Loan (90%.)	Rs. 1,980,000
Markup to the Borrower (%age/annum)	8%
Tenure of the Loan (Years)	8
Grace period (year)	1

10.3 Project Cost

Following requirements identified for operations of the proposed business:

Table 4: Project Cost details

Capital Investment	Amount Rs.
Second Hand / Rebuilt Machinery	1,150,000
Second hand Office Equipment	51,000
Furniture & Fixtures	50,000
Pre-operating Cost	75,000
Total Capital Costs	1,326,000
Working Capital	874,000
Total Investment	2,200,000

10.4 Area Requirement

Approximately 5 Marla covered shed area alongwith two/three rooms brick built with a secure boundary wall is required for the proposed manufacturing facility. For the repair facility 10 marla area with brick built two rooms are required, along with the standard WAPDA connection and secure boundary wall.

The premises area splits into following main sections:

Table 5: Space Requirement

Main Sections	Space Requirement (sq ft)
Working area	1,000
Office	150
Store	150
Genset	100
Total	1,400

It is recommended to rent an abandoned small industrial plot.

10.5 Machinery and Equipment Requirement

Following table provides the list of machinery and equipment required for the proposed Manufacturing facility.

Table 6: List of Machinery and Equipment-Second Hand

Sr. No	Description	Quantity	Unit Cost (Rs.)	Cum Cost (Rs.)
1	Stamping Machines	3	150,000	450,000
2	Mechanical Hacksaw	1	85,000	85,000
3	16 inch Disc Cutter (new)	1	28,000	28,000
4	Lathe Machine 5 ft bed length	1	100,000	100,000
5	Welding Plant 500 Amps local made (new)	1	50,000	50,000
6	Horizontal & Vertical Milling Machine	1	200,000	200,000
7	Mechanical Shaper 12 inch stroke	1	105,000	105,000
8	Diesel Genset 6 KVA	1	50,000	50,000
9	Steel Inspection Table Grade II	1	50,000	50,000
10	Measuring Instruments & Gauges (new)	1 Set	32,000	32,000
	Total			1,150,000

10.6 Office Equipment

Following table provides the list of office equipment required for the proposed project:

Table 7: Office Equipment (Second Hand)

Sr. No	Description	Quantity	Unit Cost (Rs.)	Cum (Rs.)
1	Computer	1	20,000	20,000
2	Printer	1	10,000	10,000
3	Telefax machine	1	5,500	5,500
4	Refrigerator	1	14,500	14,500
5	Telephone	1	1,000	1,000
	Total			51,000

10.7 Raw Material Requirements

The raw material in this trade is bought from the steel related wholesale markets to get quantity discount. The rate at present for mild steel grade products is Rs. 83 to Rs. 90 per Kg. For Alloy Steel materials it is higher. For Die Steel materials it is more than Rs. 650 / Kg. A brief list of these steel materials is provided in the table below. For this kind of business, it is assumed that cost of steel sheet for usage in manufacturing will be 50% of the value as per convention.

Table 8: Raw Materials Used

Steel Products	Foundry & Forge Products
Angle Irons	As Cast castings
Round bars	As Forge castings
Hexagonal bars	Forgings
Flat bars	High Tensile bars to make bolts
Hardware = Nuts,bolts,washers	Cast iron plugs for Engine Block recovery
Sheet Metal Imported	Cast iron weld supports
Sheet Metal galvanized	Aluminium Alloy parts
Welding Rods	Gun metal washers

10.8 Human Resource Requirement

Trained workforce required for successfully operating the proposed business are given below:

Table 9: Workforce Requirement

Sr. No	Description	No of Persons	Salary per Month (Rs.)	Salary per Annum (Rs.)
1	Owner Manager	1	50,000	600,000
2	Machinist	1	15,000	180,000
3	Welder	1	18,000	216,000
4	Press Operator	1	12,000	144,000
5	Helpers	2	10,000	240,000
	Total	6		1,380,000

Hiring of technical workers for this type of business with the Light Engineering background is suitable and engagement may be made on need basis. Six persons including the owner manager in manufacturing business will be the average manpower required to manage the business.

10.9 Revenue Generation

Table 10: Sales Revenue for Proposed (1st Year)

Sr. No.	Category of Services	Cost (Rs.)	Price / piece (Rs.)	Qty	Revenue (Rs.)
1	Blanking	10	20	90,000	1,800,000
2	Forming	30	45	60,000	2,700,000
3	Stamping	10	15	72,000	1,080,000
4	Putting threads on high tensile bolts	3	10	7,500	75,000
5	Sheet metal fabrication work	15,000	40,000	75	3,000,000
	Total				8,655,000

10.10 Utility Costs

Electricity expenses through a three phase meter are expected to be about Rs. 45,000 per month, while Natural Gas per month should cost Rs. 5,000. Water and Sewerage charge of Rs. 6,000 per annum, if in a proper small Industrial Estate. Telephone and Fax bills of Rs. 10,000 per month including mobile phone bills. Postage and stationary will be another Rs. 2,000 per month. Annual increase of 10% will occur in all these costs. Moreover expenses on diesel fuel of generator, where the generator runs four hours per day and six days per week and some miscellaneous expenses will also be a part of operational costs.

Table 11: Utility Costs per annum

Sr. No	Description	Mfg/mth (Rs)	Cost / Annum (Rs)
1	Electricity	45,000/15,000	540,000
2	Natural Gas	5,000/2,000	60,000
3	Tel,Fax, Internet	10,000/5,000	120,000
4	Postage/ Statry	2,000/500	24,000
5	Water/Sewerage	500/400	6,000
6	Entertainment	5,000/9,000	60,000
7	Diesel Fuel @ 3 litres / hr x 4 hrs / day @ Rs 120 / litre	36,000	432,000
	Total		1,242,000

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11 ANNEXURES

11.1 Income Statement

Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	8,655,000	11,424,600	14,661,570	18,431,688	22,809,214	27,877,928	30,665,721	33,732,293	37,105,522	40,816,075
<i>Cost of sales</i>										
Raw Material Cost	4,567,500	6,029,100	7,737,345	9,726,948	12,037,098	14,712,009	16,183,210	17,801,531	19,581,684	21,539,852
Consumables	456,750	602,910	773,735	972,695	1,203,710	1,471,201	1,618,321	1,780,153	1,958,168	2,153,985
Labour Cost	780,000	858,000	943,800	1,038,180	1,141,998	1,256,198	1,381,818	1,519,999	1,671,999	1,839,199
Generator Diesel Expense	432,000	475,200	522,720	574,992	632,491	695,740	765,314	841,846	926,030	1,018,633
Gas Expense	60,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Water Expens	6,000	6,600	7,260	7,986	8,785	9,663	10,629	11,692	12,862	14,148
Electricity Expense	540,000	594,000	653,400	718,740	790,614	869,675	956,643	1,052,307	1,157,538	1,273,292
Total cost of sales	6,842,250	8,631,810	10,710,860	13,119,401	15,902,542	19,111,117	21,022,229	23,124,451	25,436,897	27,980,586
Gross Profit	1,812,750	2,792,790	3,950,711	5,312,287	6,906,672	8,766,811	9,643,492	10,607,842	11,668,626	12,835,488
<i>General administration & selling expenses</i>										
Administration expense	600,000	660,000	726,000	798,600	878,460	966,306	1,062,937	1,169,230	1,286,153	1,414,769
Rent expense	240,000	264,000	290,400	319,440	351,384	386,522	425,175	467,692	514,461	565,907
Communications expense (phone, mail, etc.)	120,000	132,000	145,200	159,720	175,692	193,261	212,587	233,846	257,231	282,954
Printing & Stationary	24,000	25,200	26,460	27,783	29,172	30,631	32,162	33,770	35,459	37,232
Entertainment	60,000	63,000	66,150	69,458	72,930	76,577	80,406	84,426	88,647	93,080
Promotional expense	15,000	13,500	12,150	10,935	9,842	8,857	7,972	7,174	6,457	5,811
Depreciation expense	142,000	142,000	142,000	144,680	144,680	147,442	150,544	150,544	150,544	154,135
Miscellaneous expense	12,000	13,200	14,520	15,972	17,569	19,326	21,259	23,385	25,723	28,295
Subtotal	1,228,000	1,327,900	1,437,880	1,561,587	1,694,729	1,828,923	1,993,041	2,170,068	2,364,676	2,582,183
Operating Income	584,750	1,464,890	2,512,831	3,750,700	5,211,943	6,937,888	7,650,451	8,437,773	9,303,950	10,253,305
Other income (interest on cash)	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	584,750	1,464,890	2,512,831	3,750,700	5,211,943	6,937,888	7,650,451	8,437,773	9,303,950	10,253,305
Interest on short term debt	-	-	-	-	-	-	-	-	-	-
Interest expense on long term debt (Project Loan)	164,339	150,454	132,204	112,440	91,036	67,855	42,749	15,561	-	-
Subtotal	164,339	150,454	132,204	112,440	91,036	67,855	42,749	15,561	-	-
Earnings Before Tax	420,411	1,314,436	2,380,626	3,638,260	5,120,908	6,870,033	7,607,702	8,422,213	9,303,950	10,253,305
Tax	2,041	119,665	323,625	632,065	1,058,772	1,627,011	1,885,195	2,170,274	2,478,882	2,811,156
NET PROFIT/(LOSS) AFTER TAX	418,370	1,194,771	2,057,001	3,006,195	4,062,136	5,243,022	5,722,507	6,251,939	6,825,068	7,442,149

11.2 Balance Sheet

Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	283,812	655,038	1,656,601	3,664,067	6,864,140	11,470,844	17,729,122	24,906,819	32,846,541	41,994,941	52,117,553
Accounts receivable		355,685	469,504	602,530	757,467	937,365	1,145,668	1,260,235	1,386,259	1,524,884	1,677,373
Raw material inventory	570,188	418,688	552,668	709,257	891,637	1,103,401	1,348,601	1,483,461	1,631,807	1,794,988	1,974,486
Pre-paid building rent	20,000	22,000	24,200	26,620	29,282	32,210	35,431	38,974	42,872	47,159	-
Total Current Assets	874,000	1,451,411	2,702,972	5,002,474	8,542,526	13,543,820	20,258,822	27,689,489	35,907,478	45,361,973	55,769,413
<i>Fixed assets</i>											
Machinery & equipment	1,150,000	1,035,000	920,000	805,000	690,000	575,000	460,000	345,000	230,000	115,000	-
Furniture & fixtures	50,000	40,000	30,000	20,000	10,000	63,814	51,051	38,288	25,526	12,763	-
Cafe equipment	51,000	34,000	17,000	59,039	39,359	19,680	68,345	45,563	22,782	79,118	52,745
Total Fixed Assets	1,251,000	1,109,000	967,000	884,039	739,359	658,494	579,396	428,852	278,307	206,881	52,745
<i>Intangible assets</i>											
Pre-operation costs	75,000	60,000	45,000	30,000	15,000	-	-	-	-	-	-
Total Intangible Assets	75,000	60,000	45,000	30,000	15,000	-	-	-	-	-	-
TOTAL ASSETS	2,200,000	2,620,411	3,714,972	5,916,513	9,296,885	14,202,314	20,838,218	28,118,341	36,185,786	45,568,853	55,822,158
Liabilities & Shareholders' Equity											
<i>Other liabilities</i>											
Deferred tax		2,041	121,706	445,331	1,077,396	2,136,168	3,763,179	5,648,374	7,818,648	10,297,529	13,108,685
Long term debt (Project Loan)	1,980,000	1,980,000	1,760,125	1,522,001	1,264,113	984,821	682,347	354,768	-	-	-
Total Long Term Liabilities	1,980,000	1,982,041	1,881,831	1,967,333	2,341,509	3,120,989	4,445,526	6,003,142	7,818,648	10,297,529	13,108,685
<i>Shareholders' equity</i>											
Paid-up capital	220,000	220,000	220,000	279,039	279,039	342,853	411,198	411,198	411,198	490,316	490,316
Retained earnings		418,370	1,613,141	3,670,142	6,676,337	10,738,472	15,981,495	21,704,001	27,955,940	34,781,008	42,223,157
Total Equity	220,000	638,370	1,833,141	3,949,181	6,955,376	11,081,325	16,392,693	22,115,199	28,367,138	35,271,324	42,713,473
TOTAL CAPITAL AND LIABILITIES	2,200,000	2,620,411	3,714,972	5,916,513	9,296,885	14,202,314	20,838,218	28,118,341	36,185,786	45,568,853	55,822,158



SMEDA

11.3 Cash flow Statement

Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		418,370	1,194,771	2,057,001	3,006,195	4,062,136	5,243,022	5,722,507	6,251,939	6,825,068	7,442,149
Add: depreciation expense		142,000	142,000	142,000	144,680	144,680	147,442	150,544	150,544	150,544	154,135
amortization of pre-operating costs		15,000	15,000	15,000	15,000	15,000	-	-	-	-	-
Deferred income tax		2,041	119,665	323,625	632,065	1,058,772	1,627,011	1,885,195	2,170,274	2,478,882	2,811,156
Accounts receivable		(355,685)	(113,819)	(133,026)	(154,936)	(179,898)	(208,303)	(114,567)	(126,024)	(138,626)	(152,488)
Raw material inventory	(570,188)	151,500	(133,980)	(156,589)	(182,380)	(211,764)	(245,200)	(134,860)	(148,346)	(163,181)	(179,499)
Pre-paid building rent	(20,000)	(2,000)	(2,200)	(2,420)	(2,662)	(2,928)	(3,221)	(3,543)	(3,897)	(4,287)	47,159
Cash provided by operations	(590,188)	371,226	1,221,437	2,245,591	3,457,961	4,885,997	6,560,751	7,505,276	8,294,490	9,148,400	10,122,612
<i>Financing activities</i>											
Project Loan - principal repayment		-	(219,874)	(238,124)	(257,888)	(279,293)	(302,474)	(327,579)	(354,768)	-	-
Additions to Project Loan	1,980,000	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	220,000	-	-	59,039	-	63,814	68,345	-	-	79,118	-
Cash provided by / (used for) financing activities	2,200,000	-	(219,874)	(179,085)	(257,888)	(215,479)	(234,129)	(327,579)	(354,768)	79,118	-
<i>Investing activities</i>											
Capital expenditure	(1,326,000)	-	-	(59,039)	-	(63,814)	(68,345)	-	-	(79,118)	-
Cash (used for) / provided by investing activities	(1,326,000)	-	-	(59,039)	-	(63,814)	(68,345)	-	-	(79,118)	-
NET CASH	283,812	371,226	1,001,562	2,007,467	3,200,073	4,606,704	6,258,278	7,177,697	7,939,722	9,148,400	10,122,612

S M E D A

11.4 Useful Project Management Tips

Technology

- **Equipment Purchasing Techniques:**

- Use second hand machinery where ever possible to save on cost. Take a machinery purchasing expert or a tool room experienced person along with you. Run the machine at the seller's premises and measure the accuracy of the job produced on the machine to make a price offer.
- Try to purchase a machine which has just arrived from overseas as a junk machine, and take a machine tool rebuilding person along with you to understand what it will take to repair it.
- Lease out a machine with a leasing company if it is imported as second hand and carries a European Union's 6 month warranty of refurbishment at the export stage. This would be a higher accuracy working machine and probably a dedicated work machine

Human Resources

- **Adequacy & Competencies:** Skilled and experienced machinist should be considered an asset for the business.
- **Performance Based Remuneration:** Attempt to manage hiring cost should be focused through performance measurement and performance based compensation.
- **Training & Skill Development:** Enhancing skill of self & employees through exposure to experts and reading about present day best practices is the route

S M E D A

11.5 Useful Links

- Prime Minister's Office, www.pmo.gov.pk
- Government of Pakistan, www.pakistan.gov.pk
- Ministry of Industries & Production, www.moip.gov.pk
- Ministry of Education, Training & Standards in Higher Education, <http://moptt.gov.pk>
- Government of Punjab, www.punjab.gov.pk
- Government of Sindh, www.sindh.gov.pk
- Government of Khyber Pakhtunkhwa, www.khyberpakhtunkhwa.gov.pk
- Government of Balochistan, www.balochistan.gov.pk
- Government of Gilgit Baltistan, www.gilgitbaltistan.gov.pk
- Government of Azad Jammu Kashmir, www.ajk.gov.pk
- National Bank of Pakistan (NBP), www.nbp.com.pk
- First Women Bank Limited (FWBL), www.fwbl.com.pk
- Technical Education and Vocational Training Authority (TEVTA)
www.tevta.gov.pk
- Pakistan Industrial and Technical Assistance (PITAC)
www.pitac.gov.pk
- Technology Upgradation and Skill Development Company (TUSDEC)
www.tusdec.org.pk



12 CONTACTS - SUPPLIERS

- Pakistan Association of Automotive Parts and Accessories Manufacturers (PAAPAM)**
 PAAPAM Head Office 16-B, Westwood Colony, Thokar Niaz Baig, Lahore.
 Tel # +92-42-37498474-5 Fax #+92-42-37498476
- Pakistan Industrial Technical Assistance Center (PITAC)**
 234 – Ferozpur Road, Near Metro Canal Station, Lahore
 Tel: 042 – 99230699, 99230572
- Technology Upgradation and Skill Development Company (TUSDEC)**
 State Cement Corporation Building, Kot Lakhpat, Lahore
 Tel: 042 – 111 000 143
- Technical Education & Vocational Training Authority (TEVTA)**
 Secretariat, 96-H, Gulberg Road, Lahore.
 Tel: 042 - 99263055-59
- Brandreth Road Market, Lahore**

13 KEY ASSUMPTIONS

Capacity Assumptions	
Job Orders for each specific nature of work per day will be one per day	Mfg One Type/ week
Production Capacity Utilization increasing by 20% each month after first month. For Repairs is 10% for each month after first month(for each kind of repairs)	20%/mth during first year, growth 10%/annum
Maximum Capacity Utilization after one year	90%
Operating Assumptions	
Operational per day is 10 hours for Manufacturing facility	10 hrs
Days operational per year	300
Growth Rates	
Starting Production Capacity in First Year	50%
Sales Price Growth Rate/annum	10%
Cost of Raw Materials for manufacturing jobs is 50% of the price of product/service.	50%