



Pre-feasibility Study

PET PREFORM MANUFACTURING UNIT (19 LITER BOTTLE)

December 2021

“The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA’s website and consult financial experts to stay current with market conditions.”

Small and Medium Enterprises Development Authority
Ministry of Industries and Production
Government of Pakistan

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1 DISCLAIMER

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2 EXECUTIVE SUMMARY

The proposed project is about establishing a PET preform manufacturing unit (19 Liter). The subject project is strongly recommended to be established in the major cities or urban areas with dense population. The prevalence of such facility would add economic benefits in the country and would number of direct and indirect employment. Moreover, features like low cost & less complexity associated with installation of such unit make it more attractive project. Currently the project is being designed / proposed for major cities having large population but the same can be proposed for relatively smaller cities.

The PET preform manufacturing unit (19 Liter) is a project of plastic sector, in which the perform of 730 gram for 19 liter/5 gallon are made from Polyethylene Terephthalate (PET). Clarity is one of the main reasons why PET is used for bottling water. PET used in water bottles can provide products that are extremely clear or even faintly blue in color. Hygiene is also particularly important for bottling water. As water is a relatively flavorless product, it is of key importance that plastic bottles remain tasteless and odorless in order to preserve its purity. In general terms, PET does not affect the taste of the product it protects and is therefore the preferred material for packaging water. With its added properties of being lightweight, transparent and unbreakable, PET is the preferred packaging material for water.

The PET Preform Manufacturing Unit has the capacity of producing approximately **1,152,000** preforms of 730g annually and will be operational for 300 days a year and 8 hours a day. Initially the unit will be operated at 50% of capital utilization and will increase it by 5% annually. The Maximum capacity utilization will be 90%. The total project investment is **Rs. 58,648,694/-** with an Internal Rate of Return (IRR) of **49%** and Net Present Value (NPV) of **334,183,948/-**. The total project investment would be paid back in **4.08** years.

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 successful 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 capacity building programs of different types in addition to business guidance through help desk services.

4 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, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in **PET Preform Manufacturing Unit for 19-Liter bottles** 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 basis of any Investment Decision.

5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Following key parameters must be addressed as per pre-feasibility study under preparation

- **Technology:** This proposed unit is a semi-automatic PET Preform Injection molding machine with specifications of 330T weight, comprising injection molding machine, preform molds and auxiliary systems.

This is an optimized injection molding machine for PET preforms injection molding. It is the most important PET machine in PET bottle preform manufacturing process. Or even in whole PET bottle production process. The PET injection molding machine is dedicatedly designed according to the PET materials characteristics. This is a professional PET injection molding machine that is optimized with the injection unit (Screw, barrel, heating, etc), Clamping Unit (Clamping platen, clamping force, Ejectors, etc), and the machine`s frame & controls.

Second, the injection molding production cost is primarily calculated from the hourly rate and the cycle time. The hourly rate is proportional to the size of the injection molding machine being used, so it is important to understand how the part design affects machine selection.

- **Location:** The subject project is strongly recommended to be established in the densely populated major cities or urban areas. Initially the project will be focusing on all industrial clusters in Lahore, Karachi, Hub / Lasbela, Hyderabad, Gujranwala, Multan, Rawalpindi, Quetta and Peshawar etc. are suitable to house the project
- **Product:** Keeping in view the market demand and characteristics “PET perform of 730g for 19-liters bottle” is recommended to be the final product of the proposed prefeasibility.
- **Target Market:** The target customers for the proposed product would primarily be bottled water selling businesses, whole sellers and retailers.
- **Employment Generation:** The proposed project will provide direct employment to 14 people.

6 PRODUCTION PROCESS

The PET preform, better known as preform, is accomplished through a molding process. The fused PET injected into a mold become a preform, which, by an additional processing step (blowing), takes the form of bottles for beverages for elementary, oil or detergents use.

A preform is made by a "finish" (bottleneck), which will not change in the blowing process.

"Finish" diameter and thread type are the main features of the preform, features that determine the kind of screw bottle cap and the use of the bottle (for still water, sparkling water, oil, milk).

On the other hand, the tubular structure will form the bottle in the blowing and molding processes and it determines the basis weights of the final product; diameter, length and shape are the key elements that give the main features to the blown container.

The PET used for the production of preforms doesn't have a colour, it's almost transparent, but once mixed with colouring additives, it can have different shades of colour according to customer requirements.

Following is the process flow of a PET perform for 19-liter bottle:

6.1 PET Preform 730g for 19-liter bottle Production Process

Storage

The PET resin is transported in tankers or in Big Bags. The material, once entered into factory, is piped into 19 storage silos from which it's taken depending on the production requirements.

Drying of PET

PET, by its nature, absorbs humidity from the atmosphere, in order to give a perfect product, it has to stand to a drying and dehumidification process. The process consists in maintaining the storage silo connected to the feeding of the PET machine for a certain period of time (which may vary depending on the nature of PET from 4 to 10 hours) during this time it's heated with a stream of hot air at a temperature of 170°. The air heating is produced by a system that uses the thermal oil heated by a heat exchanger connected to a group of cogeneration for the production of electric power.

Plasticization of the PET

Once dried PET is routed through a screw in the injection chamber. During this phase, the PET is heated to a temperature of about 285° and stands to the lamination phase passing from the solid state (granules) to the liquid state.

Before entering into the cochlea the granule can pass through a pre-mixer where it's mixed with a colouring that, with the specific amount, gives the shade as required by the customer.

Injection molding

PET in liquid state is conveyed by the rotating screw in an injection chamber in such quantity as to fill the total cavity installed on the mold. When the mold is closed, the molten PET is injected into the cavities where once in contact with the matrix will solidify and form.

The temperatures of cavities and punches are cooled by a system that allows the PET to solidify before being ejected from the mold through a system of extractors.

Cooling

The solidification process ends when the preforms are ejected from the mold by a cooled automated gripper.

Packing

Once completed the cycle of cooling, the preforms are deposited on conveyor belts and sent in suitable containers called OCTABINS.

Handling and Storage

The OCTABINS are taken by an automated system made by 3 AGV shuttles and stored in the warehouse ready to be shipped, a dynamic system that effectively ensures full compliance with the hygiene standards required in the transformation process.

7 INSTALLED AND OPERATIONAL CAPACITIES

The manufacturing unit has the capacity of producing approximately 1,152,000 preforms annually and will be operational for 300 days a year and 8 hours a day. Initially the manufacturing unit will be operated at 50% of capital utilization and will increase it by 5% annually. The Maximum capacity utilization will be 90%.

7 CRITICAL FACTORS

- Selection of proper location, equipment and staff would be required to run project successfully.
- Unique shape designs for strong product identity and visibility is a must.
- Continuous efforts should be made for up-gradation of the processing techniques.
- The best balance between lightweight material and mechanical resistance to support filling, line handling, storage and transportation.
- To attract large number of customers the product must be processed on quality standards.
- Ergonomic shapes to improve grip of consumers
- Availability of skilled workers

8 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

For the success of the project, it is important to find a location preferably in an industrial cluster where utilities especially electricity and other infrastructure are conveniently available. Presently, Lahore is the Pet Bottles manufacturing center of the country, followed by Karachi, Faisalabad, Hyderabad, Peshawar and Rawalpindi. Therefore, all industrial clusters in Lahore, Karachi, Hub / Lasbela, Hyderabad, Gujranwala, Multan, Rawalpindi, Quetta and Peshawar etc. are suitable to house the project. Establishing the unit in large cities would have an advantage of being close to large buyers, which may lead to consistent orders and referrals.

9 POTENTIAL TARGET CUSTOMERS / MARKETS

PET bottles usage, as liquid packaging material is a growing industrial segment in Pakistan relying heavily on the changing lifestyle patterns and population growth in the country. Major target market for proposed unit includes bottled water selling businesses, whole sellers and retailers. Initially the project will be focusing on

densely populated cities and all industrial clusters in Lahore, Karachi, Hub / Lasbela, Hyderabad, Gujranwala, Multan, Rawalpindi, Quetta and Peshawar etc. are suitable to house the project. Later on an opportunity for expansion could be capitalize depending successful marketing of the product.

10 PROJECT COST SUMMARY

10.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of **Rs. 368,640,000/-** in the year one. The capacity utilization during year one is worked out at **50%** with **5%** increase in subsequent years up to the maximum capacity utilization of **90%**.

The following table shows internal rate of return, payback period and net present value of the proposed venture.

Table 1: Project Economics

Description	Details
Internal Rate of Return (IRR)	49%
Payback Period (yrs.)	4.08
Net Present Value (Rs.)	334,183,948

10.2 Project Financing

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

Table 2: Project Financing

Description	Details
Total Equity (50%)	Rs. 29,324,347
Bank Loan (50%)	Rs. 29,324,347
Markup to the Borrower (%age / annum)	14 %
Tenure of the Loan (Years)	5

10.3 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business.

Table 3: Project Cost

Capital Investment	Rs. in actuals
Land	4,875,000
Building/Infrastructure	6,506,250
Machinery & equipment	25,500,000
Furniture & fixtures	4,532,000
Office vehicles	2,060,000
Office equipment	360,000
Pre-operating costs	282,769
Training costs	-
Total Capital Costs	44,116,019
Working Capital	Rs. in actuals
Equipment spare part inventory	159,375
Raw material inventory	13,608,000
Upfront land lease rental	-
Upfront building rent	-
Upfront machinery & equipment lease rental *	-
Upfront office equipment lease rental *	-
Upfront office vehicles lease rental *	-
Upfront insurance payment	265,300
Cash	500,000
Total Working Capital	14,532,675
Total Investment	58,648,694

10.4 Space Requirement

The space requirement for the proposed PET Perform Manufacturing Unit for 19-liter bottles is estimated 19500. and the space may be divided according to the needs into management office, power house, godown and machine operating space, etc.;

Table 4: Space Requirement

Description	Estimated Area (Sq.ft)	Rate per sq.ft (Rs.)	Total amount (Rs.)
Area required	19,500	250	4,875,000
Total			4,875,000

Civil Work

Description	Area	Rate	amount
Godown for raw material	4,000	350	1,400,000
Godown for finished goods	6,000	350	2,100,000
Management office	1,000	800	800,000
Guard room	250	350	87,500
Open space	3,750	25	93,750
Processing area	4,500	450	2,025,000
Total cost			6,506,250

10.5 Machinery & Equipment Requirement

Plant, machinery and equipment for the proposed project are stated below.

Table 5: Machinery & Equipment

Description	Quantity/Set	Unit Cost (Rs.)	Total Cost (Rs.)
PET Preform Injection Molding Machine (Complete set)	1	25,500,000	25,500,000
16 Cavity Mold	-	-	-
Water Chiller	-	-	-

Cooling tower with pump and accessories	-	-	-
Air conditioner for mold space	-	-	-
Multi loader and accessories	-	-	-
Hopper tank for PET resin	-	-	-
Dust free & insulated hopper dryer	-	-	-
Dehumidifying dryer	-	-	-
Total			25,500,000/-

10.6 Furniture & Fixtures Requirement

Details of the furniture and fixture required for the project are given below;

Table 6: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Office chairs	5	25,000	125,000
Office tables	5	50,000	250,000
Visitor chairs	10	2,000	20,000
Generator (100 KVA)	1	2,737,000	2,737,000
Transformer (200 KVA)	1	600,000	600,000
Air-conditioners (2 ton split)	2	150,000	300,000
Electric wiring etc.	1	500,000	500,000
Total			4,532,000/-

10.7 Office Equipment Requirement

Following office equipment will be required for PET perform manufacturing unit for 19-liter bottles;

Table 7: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptops	2	120,000	240,000
3-in-1 printer	1	100,000	100,000

Telephones	2	10,000	20,000
Total			360,000/-

10.8 Human Resource Requirement

In order to run operations of perform manufacturing unit for 19-liter bottles smoothly, details of human resources required along with number of employees and monthly salary are recommended as under;

Table 8: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs.)
Manager	1	90,000
Accountant	1	80,000
Salesman	2	50,000
Machine supervisor/Mechanic	2	60,000
Machine operators	1	50,000
Labor/Helper	4	40,000
Driver	1	40,000
Guards	2	40,000
Total	14	720,000/-

10.9 Utilities and other costs

An essential cost to be borne by the project is the cost of utilities. The administrative expenses are Rs. 1,599,840 in year 1 which includes the utilities.

10.10 Revenue Generation

Based on the capacity utilization of **50%**, sales revenue during the first year of operations is estimated as under;

Table 9: Revenue Generation – Year 1

Description	No. of preforms Produced (No.)	Units available for Sale (No.)	Sales Price / preform (Rs.)	Sales Revenue (Rs.)
730g preform	1,152,000	1,152,000	320	368,640,000/-

11 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project be given.

11.1 Machinery Suppliers

Name of Supplier	Address	Phone	Fax	E-mail	Website
Hi-Tech Machinery	Plot No. E-94, Sector 31-D, P&T Co-operative Housing Society, Korangi Industrial Area, Karachi	+92 21 3515 1256, +92 315 4851 666	-	Sales@hitech-machinery.com	www.hitech-machinery.com
M.S. Polymers	New Azaadi Chowk Underpass Main Ravi Road. Lahore	+92 300 0433274, +92 42 37721796	-	info@mspolymers.pk	www.mspolymers.pk
Smart Power System (Pvt) Ltd	101-102 SP Chamber, Estate Avenue, S.I.T.E., Karachi - 75000	021-32588610, 021-32589994	021-32589994	info@smartpower.com.pk	www.smartpower.com.pk
Gatron (Industries) Ltd.	10th Floor, G & T Tower #18, Beaumont Road, Civil Lines -10, Karachi	+92 21 35659500-14	+92 21 35659549	marketing@gatronova.com	www.gatronova.com

12 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	www.smeda.org.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 Jamu Kashmir	www.ajk.gov.pk
Trade Development Authority of Pakistan (TDAP)	www.tdap.gov.pk
Security Commission of Pakistan (SECP)	www.secp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Pakistan Horticulture Development and Export Company (PHDEC)	www.phdec.org.pk
Punjab Vocational Training Council (PVTC)	www.pvtc.gop.pk
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Pakistan Readymade Garment Technical Training Institute	www.prgmea.org/prgtti/
Livestock & Dairy Development Department, Government of Punjab.	www.livestockpunjab.gov.pk
Punjab Industrial Estates (PIE)	www.pie.com.pk
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk

13 ANNEXURES

13.1 Income Statement

Statement Summaries										SMEDA
Income Statement										Rs. in actuals
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	368,640,000	446,054,400	535,265,280	637,857,792	755,616,154	890,547,610	1,044,909,195	1,221,237,622	1,422,382,642	1,564,620,906
Cost of goods sold	367,489,500	416,498,689	468,174,553	522,639,856	580,023,137	640,459,040	704,088,669	771,059,971	841,528,147	867,657,505
Gross Profit	1,150,500	29,555,711	67,090,727	115,217,936	175,593,017	250,088,570	340,820,526	450,177,650	580,854,495	696,963,402
<i>General administration & selling expenses</i>										
Administration expense	1,599,840	1,755,603	1,926,531	2,114,100	2,319,932	2,545,804	2,793,667	3,065,663	3,364,140	3,691,677
Rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	-	-	-	-	-	-	-	-	-	-
Travelling & Comm. expense (phone, fax, etc.)	79,200	86,911	95,373	104,658	114,848	126,030	138,300	151,765	166,542	182,756
Office vehicles running expense	206,000	226,600	249,260	274,186	301,605	331,765	364,942	401,436	441,579	485,737
Office expenses (stationary, etc.)	15,840	17,382	19,075	20,932	22,970	25,206	27,660	30,353	33,308	36,551
Promotional expense	11,059,200	13,381,632	16,057,958	19,135,734	22,668,485	26,716,428	31,347,276	36,637,129	42,671,479	46,938,627
Insurance expense	265,300	237,740	210,180	182,620	155,060	144,088	115,271	86,453	57,635	28,818
Professional fees (legal, audit, etc.)	368,640	446,054	535,265	637,858	755,616	890,548	1,044,909	1,221,238	1,422,383	1,564,621
Depreciation expense	3,451,200	3,451,200	3,451,200	3,451,200	3,451,200	3,702,730	3,702,730	3,702,730	3,702,730	3,702,730
Amortization expense	56,554	56,554	56,554	56,554	56,554	-	-	-	-	-
Property tax expense	-	-	-	-	-	-	-	-	-	-
Miscellaneous expense	3,686,400	4,460,544	5,352,653	6,378,578	7,556,162	8,905,476	10,449,092	12,212,376	14,223,826	15,646,209
Subtotal	20,788,174	24,120,220	27,954,048	32,356,420	37,402,431	43,388,075	49,983,847	57,509,142	66,083,623	72,277,727
Operating Income	(19,637,674)	5,435,491	39,136,679	82,861,517	138,190,586	206,700,495	290,836,679	392,668,508	514,770,872	624,685,675
Other income	25,000	-	341,698	1,660,039	3,946,495	6,963,239	10,741,787	15,310,890	20,917,594	29,387,096
Gain / (loss) on sale of assets	-	-	-	-	824,000	-	-	-	-	-
Earnings Before Interest & Taxes	(19,612,674)	5,435,491	39,478,376	84,521,556	142,961,082	213,663,734	301,578,466	407,979,398	535,688,466	654,072,771
Interest expense	5,838,738	6,392,279	3,940,089	1,148,591	-	-	-	-	-	-
Earnings Before Tax	(25,451,412)	(956,788)	35,538,287	83,372,965	142,961,082	213,663,734	301,578,466	407,979,398	535,688,466	654,072,771
Tax	-	-	3,743,336	34,182,916	58,614,044	87,602,131	123,647,171	167,271,553	219,632,271	268,169,836
NET PROFIT/(LOSS) AFTER TAX	(25,451,412)	(956,788)	31,794,951	49,190,049	84,347,038	126,061,603	177,931,295	240,707,845	316,056,195	385,902,935
Balance brought forward		(25,451,412)	(26,408,200)	2,693,376	25,941,713	55,144,375	90,602,989	134,267,142	187,487,494	251,771,844
Total profit available for appropriation	(25,451,412)	(26,408,200)	5,386,751	51,883,425	110,288,751	181,205,978	268,534,284	374,974,987	503,543,689	637,674,779
Dividend	-	-	2,693,376	25,941,713	55,144,375	90,602,989	134,267,142	187,487,494	251,771,844	318,837,390
Balance carried forward	(25,451,412)	(26,408,200)	2,693,376	25,941,713	55,144,375	90,602,989	134,267,142	187,487,494	251,771,844	318,837,390

13.2 Balance Sheet

Statement Summaries											SMEDA
Balance Sheet											Rs. in actuals
	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	500,000	-	-	6,833,951	26,366,833	52,563,077	86,701,703	128,134,042	178,083,761	240,268,127	347,473,798
Accounts receivable	-	15,149,589	16,740,296	20,164,103	24,105,269	28,633,026	33,825,283	39,769,660	46,564,661	54,320,964	61,376,785
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	159,375	191,441	228,059	269,793	317,277	371,214	432,390	501,681	580,061	633,427	-
Raw material inventory	13,608,000	16,034,579	18,737,717	21,744,496	25,084,451	28,789,782	32,895,589	37,440,115	42,465,019	45,488,528	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	265,300	237,740	210,180	182,620	155,060	144,088	115,271	86,453	57,635	28,818	-
Total Current Assets	14,532,675	31,613,349	35,916,252	49,194,963	76,028,889	110,501,188	153,970,236	205,931,951	267,751,137	340,739,864	408,850,583
<i>Fixed assets</i>											
Land	4,875,000	4,875,000	4,875,000	4,875,000	4,875,000	4,875,000	4,875,000	4,875,000	4,875,000	4,875,000	4,875,000
Building/Infrastructure	6,506,250	6,506,250	6,506,250	6,506,250	6,506,250	6,506,250	6,506,250	6,506,250	6,506,250	6,506,250	6,506,250
Machinery & equipment	25,500,000	22,950,000	20,400,000	17,850,000	15,300,000	12,750,000	10,200,000	7,650,000	5,100,000	2,550,000	0
Furniture & fixtures	4,532,000	4,078,800	3,625,600	3,172,400	2,719,200	2,266,000	1,812,800	1,359,600	906,400	453,200	-
Office vehicles	2,060,000	1,648,000	1,236,000	824,000	412,000	3,317,651	2,654,120	1,990,590	1,327,060	663,530	-
Office equipment	360,000	324,000	288,000	252,000	216,000	180,000	144,000	108,000	72,000	36,000	-
Total Fixed Assets	43,833,250	40,382,050	36,930,850	33,479,650	30,028,450	29,894,901	26,192,170	22,489,440	18,786,710	15,083,980	11,381,250
<i>Intangible assets</i>											
Pre-operation costs	282,769	226,215	169,661	113,107	56,554	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	282,769	226,215	169,661	113,107	56,554	-	-	-	-	-	-
TOTAL ASSETS	58,648,694	72,221,614	73,016,763	82,787,721	106,113,893	140,396,089	180,162,406	228,421,391	286,537,847	355,823,844	420,231,833
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	31,211,796	35,411,352	39,847,971	44,533,263	49,479,418	54,699,244	60,206,198	66,014,424	71,928,192	70,182,758
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	19,323,316	21,799,251	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	50,535,112	57,210,603	39,847,971	44,533,263	49,479,418	54,699,244	60,206,198	66,014,424	71,928,192	70,182,758
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	3,743,336	5,761,012	5,894,391	4,982,269	4,070,147	3,158,025	2,245,903	1,333,781
Long term debt	29,324,347	17,813,567	12,890,013	7,178,691	553,558	553,558	553,558	553,558	553,558	553,558	553,558
Total Long Term Liabilities	29,324,347	17,813,567	12,890,013	10,922,027	6,314,570	6,447,948	5,535,827	4,623,705	3,711,583	2,799,461	1,887,339
<i>Shareholders' equity</i>											
Paid-up capital	29,324,347	29,324,347	29,324,347	29,324,347	29,324,347	29,324,347	29,324,347	29,324,347	29,324,347	29,324,347	29,324,347
Retained earnings	-	(25,451,412)	(26,408,200)	2,693,376	25,941,713	55,144,375	90,602,989	134,267,142	187,487,494	251,771,844	318,837,390
Total Equity	29,324,347	3,872,935	2,916,147	32,017,723	55,266,059	84,468,722	119,927,336	163,591,489	216,811,840	281,096,191	348,161,737
TOTAL CAPITAL AND LIABILITY	58,648,694	72,221,614	73,016,763	82,787,721	106,113,893	140,396,089	180,162,406	228,421,391	286,537,847	355,823,844	420,231,833
<i>Note: Total assets value will differ from project cost due to first installment of leases paid at the start of year 0</i>											

13.3 Cash Flow Statement

Statement Summaries											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
<i>Operating activities</i>											
Net profit	-	(25,451,412)	(956,788)	31,794,951	49,190,049	84,347,038	126,061,603	177,931,295	240,707,845	316,056,195	385,902,935
Add: depreciation expense	-	3,451,200	3,451,200	3,451,200	3,451,200	3,451,200	3,702,730	3,702,730	3,702,730	3,702,730	3,702,730
amortization expense	-	56,554	56,554	56,554	56,554	56,554	-	-	-	-	-
Deferred income tax	-	-	-	3,743,336	2,017,677	133,378	(912,122)	(912,122)	(912,122)	(912,122)	(912,122)
Accounts receivable	-	(15,149,589)	(1,590,707)	(3,423,807)	(3,941,166)	(4,527,758)	(5,192,257)	(5,944,378)	(6,795,000)	(7,756,304)	(7,055,821)
Finished good inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	(159,375)	(32,066)	(36,617)	(41,735)	(47,484)	(53,937)	(61,176)	(69,291)	(78,380)	(53,366)	633,427
Raw material inventory	(13,608,000)	(2,426,579)	(2,703,138)	(3,006,779)	(3,339,955)	(3,705,332)	(4,105,807)	(4,544,526)	(5,024,904)	(3,023,509)	45,488,528
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(265,300)	27,560	27,560	27,560	27,560	10,972	28,818	28,818	28,818	28,818	28,818
Accounts payable	-	31,211,796	4,199,556	4,436,619	4,685,292	4,946,155	5,219,826	5,506,954	5,808,226	5,913,768	(1,745,434)
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(14,032,675)	(8,312,536)	2,447,619	37,037,899	52,099,728	84,658,271	124,741,615	175,699,481	237,437,213	313,956,211	426,043,060
<i>Financing activities</i>											
Change in long term debt	29,324,347	(11,510,780)	(4,923,553)	(5,711,322)	(6,625,134)	(0)	(0)	(0)	0	0	0
Change in short term debt	-	19,323,316	2,475,935	(21,799,251)	-	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Change in lease financing	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	29,324,347	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financ	58,648,694	7,812,536	(2,447,619)	(27,510,573)	(6,625,134)	(0)	(0)	(0)	0	0	0
<i>Investing activities</i>											
Capital expenditure	(44,116,019)	-	-	-	-	(3,317,651)	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by invest	(44,116,019)	-	-	-	-	(3,317,651)	-	-	-	-	-
NET CASH	500,000	(500,000)	-	9,527,327	45,474,594	81,340,620	124,741,615	175,699,481	237,437,213	313,956,211	426,043,060
Cash balance brought forward		500,000	-	-	6,833,951	26,366,833	52,563,077	86,701,703	128,134,042	178,083,761	240,268,127
Cash available for appropriation	500,000	(0)	-	9,527,327	52,308,545	107,707,453	177,304,692	262,401,184	365,571,255	492,039,972	666,311,188
Dividend	-	-	-	2,693,376	25,941,713	55,144,375	90,602,989	134,267,142	187,487,494	251,771,844	318,837,390
Cash carried forward	500,000	-	-	6,833,951	26,366,833	52,563,077	86,701,703	128,134,042	178,083,761	240,268,127	347,473,798

14 KEY ASSUMPTIONS

14.1 Operating Cost Assumptions

Description	Details
Operational Days/ year	300
Hours operational/ days	8
Shift Length (Hours)	8

14.2 Production Cost Assumptions

Description	Details
Initial Capital utilization	50%
Annual Capital Utilization Growth	5%
Maximum Capital Utilization	90%

14.3 Revenue Assumptions

Description	Details
Revenue	368,640,000
Cost of goods sold	368,640,000
Sale Price/preform	320
Production per year (pcs)	1,152,000
Production Quantity sold (pcs)	1,152,000

14.4 Financial Assumptions

Description	Details
Interest Rate	14%
Debt: Equity Ratio	50:50
Debt Tenure	5 Years

Small and Medium Enterprises Development Authority

HEAD OFFICE

4th Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road, Lahore
Tel: (92 42) 111 111 456, Fax: (92 42) 36304926-7

www.smeda.org.pk, helpdesk@smeda.org.pk

REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KPK	REGIONAL OFFICE BALOCHISTAN
3 rd Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 helpdesk.punjab@smeda.org.pk	5 TH Floor, Bahria Complex II, M.T. Khan Road, Karachi. Tel: (021) 111-111-456 Fax: (021) 5610572 helpdesk-khi@smeda.org.pk	Ground Floor State Life Building The Mall, Peshawar. Tel: (091) 9213046-47 Fax: (091) 286908 helpdesk-pew@smeda.org.pk	Bungalow No. 15-A Chaman Housing Scheme Airport Road, Quetta. Tel: (081) 831623, 831702 Fax: (081) 831922 helpdesk-qta@smeda.org.pk