



**Pre-feasibility Study**

# **SETTING-UP AUTOMOTIVE GLASS REPLACEMENT SHOP**

**August 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

## Table of Contents

<b>1. DISCLAIMER .....</b>	<b>3</b>
<b>2. EXECUTIVE SUMMARY.....</b>	<b>4</b>
<b>3. INTRODUCTION TO SMEDA .....</b>	<b>5</b>
<b>4. PURPOSE OF THE DOCUMENT .....</b>	<b>5</b>
<b>5. BRIEF DESCRIPTION OF PROJECT &amp; Services .....</b>	<b>6</b>
5.1. Machinery and Equipment .....	6
5.2. Process Flow for Front and Rear Windshields, Window and Sunroof Glass .....	8
5.3. Process Flow for Installing Side Windows .....	10
5.4. Installed and Operational Capacities .....	11
<b>6. CRITICAL FACTORS .....</b>	<b>11</b>
<b>7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT .....</b>	<b>12</b>
<b>8. POTENTIAL TARGET CustOMErs / MARKETS .....</b>	<b>12</b>
<b>9. PROJECT COST SUMMARY .....</b>	<b>12</b>
9.1. Initial Project Cost .....	13
9.1.1. Land.....	13
9.1.2. Building and Renovation Cost.....	13
9.1.3. Office equipment cost details .....	14
9.1.4. Furniture and Fixture Requirements .....	15
9.1.5. Vehicle Requirement.....	15
9.1.6. Pre-Operating Costs .....	15
9.1.7. Security against Building.....	15
9.1.8. Initial Working Capital .....	16
9.2. Breakeven Analysis .....	16
9.3. Revenue Generation .....	17
9.4. Variable Cost Estimate .....	17
9.5. Fixed Cost Estimate.....	19
9.6. Financial Feasibility Analysis .....	19
9.7. Financial Feasibility Analysis with 50% Debt .....	19
9.8. Human Resource Requirement.....	20
<b>10. CONTACT DETAILS .....</b>	<b>20</b>
<b>11. USEFUL LINKS .....</b>	<b>21</b>
<b>12. ANNEXURES .....</b>	<b>22</b>
12.1. Income Statement.....	22
12.2. Balance Sheet.....	23
12.3. Cash Flow Statement.....	24
<b>13. KEY ASSU MPTIONS .....</b>	<b>25</b>
13.1. Operating Cost Assumptions .....	25
13.2. Revenue Assumptions .....	25
13.3. Financial Assumptions .....	25

## Table of Tables

Table 1 Installed and Operational Capacity .....	11
Table 2 Statistics Related to Passenger Cars .....	12
Table 3 Statistics Related to Accidents in Pakistan.....	12
Table 4: Initial Project Cost estimates.....	13
Table 5: Breakup of Space Requirement .....	13
Table 6: Renovation Cost Details .....	14
Table 7: Office Equipment Cost Details.....	14
Table 8: Furniture & Fixtures Cost Details .....	15
Table 9: Office Vehicle Cost Details.....	15
Table 10: Pre-Operating Cost Details .....	15
Table 11: Security against Building Details.....	16
Table 12: Initial Working Capital Details.....	16
Table 13: Breakeven Analysis.....	16
Table 14: Revenue Details .....	17
Table 15: Variable Cost Estimate .....	17
Table 16 Consumable Cost -Windshield .....	17
Table 17 Consumable Cost -Rear Window.....	18
Table 18 Other Consumable Cost.....	18
Table 19 Direct Labor .....	18
Table 20: Fixed Cost Estimate .....	19
Table 21 Management Staff .....	19
Table 22: Financial Feasibility Analysis .....	19
Table 23: Financial Feasibility Analysis with 50% Debt .....	20
Table 24: Human Resource.....	20
Table 25: Contact Details.....	20
Table 26: Useful Links .....	21
Table 27: Operating Cost Assumptions.....	25
Table 28: Revenue Assumptions.....	25
Table 29: Financial Assumptions.....	25

## Table of Figures

Figure 1 Suction Cup .....	7
Figure 2 Auto Trim Removal Kit.....	7
Figure 3 General Tool Kit.....	8
Figure 4 Silicon Gun .....	8
Figure 5 Process Flow for Installing Front and Rear Windshields, Window and Sunroof Glass .....	9
Figure 6: Process Flow for Installing Side Windows.....	10

## 1. DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on, as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

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## 2. EXECUTIVE SUMMARY

Automotive glass includes windshields, side and rear window glass of vehicles. Some cars also include a sunroof, sun blinds, glass panel roofs, etc. Each one of them serves a special purpose in the vehicle. These glasses are not just an ornamental feature for vehicle, but they also serve to maintain the structural integrity of car, provide unobstructed views of the road and ensure safety at all times. Any damage to car's windshields can cause serious safety issues. Chips and cracks on the windshields can impair the line of vision of the driver, obstructing the visibility and creating a safety hazard. The strong framework supports the roof and prevents it from caving in on the event of any accidents. However, a cracked or damaged windshield is weaker in nature and may not be able to provide the necessary support. Vehicle glass replacement services will be inevitably required by the vehicle owners where glass is cracked due to accident or harsh environment. In some cases, vehicle owner requires modification in vehicle for which he needs glass replacement service.

This "Pre-feasibility Document" provides details for Setting-up Automotive Glass Replacement Shop. The shop is proposed to be located in Karachi, Lahore, Islamabad, Peshawar, Rawalpindi, Quetta, Faisalabad, Sialkot, Hyderabad, Gujranwala, Multan or any other major city of Pakistan. These cities are preferred because majority of cars owners are present in these cities. Additionally, due to increasing number of vehicles, there is an increase in demand of automotive glass replacement services.

The proposed project will be set up in a rented building having an area of 900 sq. ft (4 Marla). The proposed project requires a total investment of PKR 1.75 million. This includes capital investment of PKR 1.24 million and working capital of PKR 0.50 million. This project is financed through 100% equity. The Net Present Value (NPV) of project is PKR 15.53 million with an Internal Rate of Return (IRR) of 107% and a Payback period of 1.18 years. Further, the proposed project is expected to generate Gross Annual Revenues of PKR 6.85 million in 1<sup>st</sup> year of operations, Gross Profit (GP) ratio ranging from 46% to 54% and Net Profit (NP) ratio ranging from 18% to 28% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 32% (3,635 glasses) with breakeven revenue of PKR 3.71 million in a year.

The proposed project may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the proposed unit provides Net Present Value (NPV) of PKR 17.28 million, Internal Rate of Return (IRR) of 106% and Payback period of 1.22 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from 18% to 29% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 33% (3,701 glasses) with breakeven revenue of PKR 3.78 million.

The proposed project will provide employment opportunities to 7 people. The legal form of this project is proposed as "Sole-Proprietorship".

### **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 'sectorial 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.

National Business Development Program for SMEs (NBDP) is a project of SMEDA, funded through Public Sector Development Program of Government of Pakistan.

The NBDP envisages provision of handholding support / business development services to SMEs to promote business startup, improvement of efficiencies in existing SME value chains to make them globally competitive and provide conducive business environment through evidence-based policy-assistance to the Government of Pakistan. The Project is objectively designed to support SMEDA's capacity of providing an effective handholding to SMEs. The proposed program aimed at facilitating around 314,000 SME beneficiaries over a period of five years.

### **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 provide information to the potential investors about establishing a business of "Automotive Glass Replacement Shop". The document provides a general understanding of the business to facilitate potential investors in crucial and effective 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 setup and its successful management.

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

## 5. BRIEF DESCRIPTION OF PROJECT & SERVICES

This document provides details for setting up a business for providing services of Automotive Glass Replacement Shop. Automotive glasses include windshields, side and rear window glass, sunroof, sun blinds, glass panel roofs, etc.

Vehicle glasses serve to maintain the structural integrity of car. These glasses also provide unobstructed views of the road and ensure safety of the passengers. Vehicle rear and front windshields and side door glasses also serve the purpose of safety i.e., these glasses serve as an obstruction to car thieves. Therefore, vehicle glasses are required for security, safety and obstruction free driving. The above-mentioned facts establish the need for vehicle windshields and door glasses. Thus, the need for replacing these glasses is inevitable in case these glasses are broken.

Windshield needs a type of glass that is tougher and stronger than ordinary glass as the windshield is the most accident-prone amongst all the car glasses. This is why laminated glass is used in the manufacture of windshields. Laminated glass has a special Plasticized polyvinyl butyral (PVB)<sup>1</sup> interlayer in between two sheets or panes of tempered glass. This multi-layered laminated glass provides exceptional resistance to harsh impact. On the rare occasion of breakage, it doesn't shatter but remains intact. The PVB interlayer acts as a glue and keeps the glass layers together. This characteristic further adds another layer of safety for the passengers. The interlayer in laminated glass has an ultraviolet (UV) filter that helps to protect the interior of the car from harmful UV rays. Tempered glass is used in manufacturing of side and rear window glasses.

This service will be primarily used by private or commercial vehicle owners. These vehicles include all types of cars, small passenger transportation vehicles (called wagons in local language) and small goods transportation vehicles (pickups). Passenger cars are the primary target vehicles for this business.

### 5.1. Machinery and Equipment

Machinery and equipment required for establishing Automotive Glass replacement shop are briefly discussed below:

#### **Suction Cup**

Vacuum cups, or suction cups are used to grip and handle the glass. This helps in removing and fixing the automotive glass safely without breaking it. Figure 1 shows suction cup.

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<sup>1</sup> Plasticized polyvinyl butyral (PVB) film that bonds with glass under heat and pressure to form laminated safety



**Figure 1 Suction Cup****Auto Trim Removal Kit**

Auto trim removal kits prevent damage and scratches of cars during removal and fixing of glass. Due to its specific shape and size of these tools, the shop worker can easily remove the glass or the required items without causing any damage to the car structure. These tools are especially used to remove dashboards, glass, fasteners, molding, trim, wheel hubs or even door panels. Figure 2 shows auto trim removal kit.

**Figure 2 Auto Trim Removal Kit****General Tool Kit**

General Tool Kit includes fitting tools, such as wrenches, spanners, screwdrivers, pliers, etc. Figure 3 shows general tool kit.



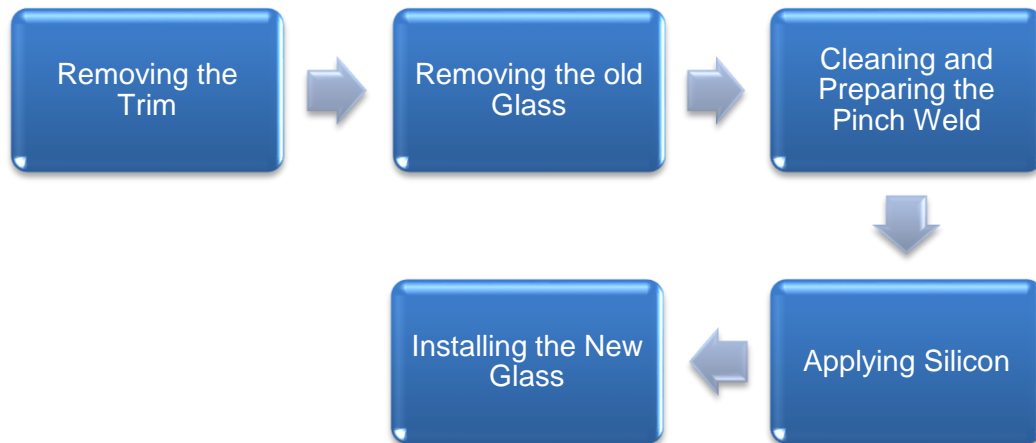
**Figure 3 General Tool Kit****Silicon Gun**

A silicon gun is a tool that holds a tube or cartridge that's filled with silicon used for sealing automotive glass. Silicon usually comes in a tube. The gun will help to regulate how much silicon is released at one time, and will also ensure to apply silicon evenly.

**Figure 4 Silicon Gun****5.2. Process Flow for Front and Rear Windshields, Window and Sunroof Glass**

The process flow for automotive glass replacement service is shown in following figure.

**Figure 5 Process Flow for Installing Front and Rear Windshields, Window and Sunroof Glass**



The brief description of process flow is as follow:

#### **Removing the Trim**

The first step in the glass replacement process is to remove the old trim that is holding the glass in place. A razor is often used for removing the trim and loosening the glass. While removing the trim, the worker will ensure that there is no scratches or damage to car during the removing of old trim.

#### **Removing the Glass**

Once the trim is removed, the glass can be lifted from the car if the glass is still intact. The worker will use large suction cups with handles to remove the glass out of its original place without breaking it and causing any injury to the shop worker.

In case the glass of vehicle is already broken, the worker after removing the trim will remove the broken glass with special care. The worker will use tools from General Tools Kits to remove pieces of broken glass.

#### **Cleaning Out and Preparing the Pinch Weld**

Once the glass is removed, the pinch weld needs to be cleaned out and prepared. The pinch weld is the small gap between the glass and the body of car that holds or pinches the edges of the glass. Old silicon, dirt, and dust can all build up in this area over time. The worker will clean pinch weld before installing a new glass to ensure that the glass accurately fits in the pinch weld, allowing it to fully hold the glass.

#### **Applying Silicon**

Once the pinch weld is cleaned, the worker will apply silicon to the edges of the pinch weld. Silicon acts like a glue or adhesive that holds the glass in place. The worker will apply silicon evenly and quickly to ensure it does not begin to dry or set before the glass can be put into the desired place.

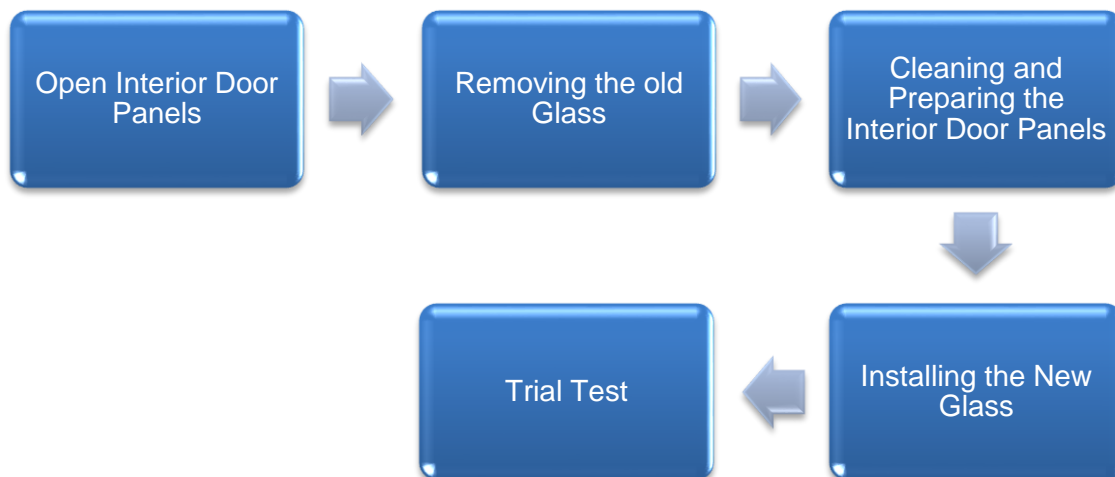
#### **Installing the New Glass**

The last step in the glass replacement process is to install the new glass. Once the silicon has been applied, the worker will carefully fit the glass within the pinch weld. Once properly positioned, the worker pushes the glass into place, typically with suction cups and bars and hold the glass in that position for several minutes. Once the silicon begins to set, the suction cups are removed and the windshield is allowed to completely cure. The curing process varies; based on the outside weather and the type of silicon used. In most of the cases, vehicle is ready for use within an hour of installation of new windshield.

After installation process of glass is complete, the worker applies a temporary adhesive tape on the new glass and the car body to prevent any movement of the glass from its position till the silicon gets completely cured and the glass is securely fixed. This adhesive tape is later removed.

### 5.3. Process Flow for Installing Side Windows

**Figure 6: Process Flow for Installing Side Windows**



The brief description of process flow is as follows:

#### **Open Interior Door Panels**

First step in replacing the side window is opening the interior door panels. Trim tools are used to open the door panels. Following steps are involved for opening interior door panels:

- Removing the plastic panel of doors
- Unscrewing everything that holds the door panel
- Unscrewing window crank or switch
- Removing the door handle if needed
- Removing the door panel

#### **Removing the Old Glass**

When the customer arrives with shattered glass of side windows of the vehicle, the worker will first remove the remaining pieces of shattered glass. The worker will remove the shattered pieces of glass by pulling of these pieces from the window

regulator. If the glass is still intact, the worker will pull it up through the door to remove the inner seal at the bottom of the window to make room for the removal of the glass.

### **Cleaning and Preparing the Interior Door Panels**

In this step, the interior door panel is cleaned from both sides to remove any remaining glass pieces or any other debris before the fitting of new glass.

### **Installing the New Glass**

After cleaning, the new side glass is carefully fitted into the vehicle. The worker checks that the new window glass is opening and closing without any hurdle. Once the window glass is fitted, the interior of vehicle is carefully cleaned again and the interior door panels are refitted.

## **5.4. Installed and Operational Capacities**

The total service capacity is based on the time needed to replace a vehicle glass. The proposed business will have maximum capacity of serving 11,200 jobs in a year. However, during 1<sup>st</sup> year of operation, the proposed business is expected to attain 60% of its installed capacity. The service unit operates in a single shift of 8 hours per day. Based on 280 working days in a year, the unit shall provide services to 6,721 vehicles during first year at 60% capacity utilization.

Table 1 depicts the installed and operational capacities of the proposed unit.

**Table 1 Installed and Operational Capacity**

Particulars	Ratios	No of Teams	Time consumption per Vehicles (Hours)	Max Operational Hours Per Year	Annual Service Capacity (Number of Vehicles)	Current Operational Capacity per Year @60%
Windshield	50%	3	0.75	6,720	4,480	2,688
Rear Window	20%		0.50		2,688	1,613
Side Window	25%		0.50		3,360	2,016
Sunroof	5%		0.50		672	404
<b>Total</b>	<b>100%</b>				<b>11,200</b>	<b>6,721</b>

## **6. CRITICAL FACTORS**

The following factors should be taken into account while making the investment decision:

- Technical know-how and basic knowledge of the entrepreneur
- Availability of high-quality glass
- Availability of skilled workforce and;

- Rigorous supervision of the process at every level

## 7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The demand for setting up the automotive glass replacement shop will be higher in large cities. Majority of private sector vehicles are present in the big cities of Pakistan. Therefore, the geographical potential for investment in this business is in the cities of Karachi, Lahore, Islamabad, Peshawar, Rawalpindi, Quetta, Faisalabad, Sialkot, Hyderabad, Gujranwala, Multan, Mardan, Sukkur or any other major city of Pakistan.

## 8. POTENTIAL TARGET CUSTOMERS / MARKETS

The services of the proposed unit shall be used by primarily the owners of private cars, which are used for personal as well as commercial purposes. These services of the proposed project can be used for any vehicle, these services are not linked with car size, car brand or engine capacity.

Vehicle glass replacements is primarily replaced because of safety and security concerns of vehicle owners. The vehicle glass may break due to road accident or due to excessive gathering of heat or gas inside the vehicle.

In Pakistan, the sale of registered passenger cars has increased by 57 percent in 2021 as the number of cars sold during year is 151,182<sup>2</sup> as compared to the year 2020 which was 96,455. A rapid growth in transportation and automotive sector during recent years is expected to be a significant market growth factor during the forecast period. Table 2 shows the increase in sale of passenger cars during the year 2021.

**Table 2 Statistics Related to Passenger Cars<sup>3</sup>**

Particulars	Year 2020	Year 2021
1300 cc and above	39,386	75,097
1000 cc	19,291	30,169
Below 1000 cc	37,778	45,916
<b>Total</b>	<b>96,455</b>	<b>151,182</b>

## 9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Automotive Glass Replacement Shop. Various costs 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 Annexure.

<sup>2</sup> Source: [www.pama.org.pk](http://www.pama.org.pk)

<sup>3</sup> Source: [www.pama.org.pk](http://www.pama.org.pk)

Project is proposed to be financed through 100% equity. Total project cost has been estimated to be PKR 1,745,051 comprises of capital investment of PKR 1,242,006 and working capital of PKR 503,044.

### 9.1. Initial Project Cost

The details of initial project cost calculated for the Automotive Glass Replacement Shop are shown in Table 3.

**Table 3: Initial Project Cost estimates**

Particulars	Cost (PKR)	Reference
Land	-	9.1.1
Building Renovation Cost	106,525	9.1.2
Equipment	415,000	9.1.3
Furniture & Fixtures	270,000	9.1.4
Office Vehicles	95,950	9.1.5
Pre-operating costs	84,531	9.1.6
Security against Building Rent	270,000	9.1.7
<b>Total Capital Cost – (A)</b>	<b>1,242,006</b>	
Working Capital Requirement - (B)	503,044	9.1.8
<b>Total Project Cost - (A+B)</b>	<b>1,745,051</b>	

#### 9.1.1. Land

As per the local industry norms the Automotive Glass Replacement Shop will be established in a rented building. Suitable location for setting up of shop like this can be easily found on rent. Therefore, no land cost has been added to the project cost. Total space requirement for the proposed project has been estimated as 900 sq. feet (4 Marla). The breakup of the space requirement is provided in Table 4

**Table 4: Breakup of Space Requirement**

Break-up of Area	% Break-up	Area (Sq. ft.)
Shop Area	14%	125
Waiting Area for Customer	11%	100
Open Area for Glass Replacement	69%	625
Washrooms	6%	50
<b>Total Area</b>	<b>100%</b>	<b>900</b>

#### 9.1.2. Building and Renovation Cost

There will be no cost of building since the shop will be started in the rented premises. However, there will be a renovation cost required to make the building ready to use

for the business. The proposed shop requires estimated electricity load of 2-3 KW for which an electricity connection under the General Supply Tariff-Commercial single phase will be required. Cost of such electricity connection has not been included in the Project Cost, since electricity connection is generally available in such buildings, which are offered for rent. Building rent of PKR 90,000 per month has been included in the operating cost.

Table 5 provides details of building renovation cost.

**Table 5: Renovation Cost Details**

Cost Item	Unit of Measurement	Total Liter / Area / Number	Cost / Unit / sq. ft.	Total Cost
Paint Cost	Liter	28	500	14,175
Labor Cost- Paint	Feet	2,835	10	28,350
Tiles Cost	Sq. Feet	275	120	33,000
Labor Cost- Tiles	Sq. Feet	275	40	11,000
Shop Fascia (Sign Board)	No.	1	20,000	20,000
<b>TOTAL (PKR)</b>				<b>106,525</b>

### 9.1.3. Office equipment cost details

Table 6 provides details of office equipment required for the proposed project.

**Table 6: Office Equipment Cost Details**

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Laptop Computer	1	80,000	80,000
Printer	1	40,000	40,000
Air Conditioners (1.5 Ton Inverter)	2	90,000	180,000
LED 32"	1	40,000	40,000
Water Dispenser	1	20,000	20,000
Ceiling Fan	3	5,000	15,000
Pedestal Fan	2	10,000	20,000
Security Camera (2 MP)	4	2,000	8,000
Digital Video Recorder	1	12,000	12,000
<b>Total</b>			<b>415,000</b>



#### 9.1.4. Furniture and Fixture Requirements

Table 7 provides details of furniture and fixtures.

**Table 7: Furniture & Fixtures Cost Details**

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Reception & Sales Counter	1	40,000	40,000
Executive Chairs	1	20,000	20,000
Staff Chairs	6	10,000	60,000
Sofa Sets	3	35,000	105,000
Wall racks for Machinery & Equipment	3	15,000	45,000
<b>Total</b>			<b>270,000</b>

#### 9.1.5. Vehicle Requirement

Table 8 provides details of the vehicles required along with their cost for the proposed project.

**Table 8: Office Vehicle Cost Details**

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
<b>Motorcycle</b>	1	95,000	95,000
Registration Fee			950
<b>Total</b>			<b>95,950</b>

#### 9.1.6. Pre-Operating Costs

Table 9 provides details of estimated pre-operating costs.

**Table 9: Pre-Operating Cost Details**

Costs Item	No.	Hiring Months Before in Year 0	Unit Cost (PKR)	Cost (PKR)
Labor Skilled	3	1	25,000	75,000
Utilities	1			9,531
<b>Total Cost (PKR)</b>				<b>84,531</b>

#### 9.1.7. Security against Building

The following table provides details of security against rented building.

**Table 10: Security against Building Details**

Cost item	Unit of Measurement	No.	Unit Cost (PKR)	Cost (PKR)
Security against Building Rent	Months	3	90,000	270,000
<b>Total Cost (PKR)</b>				<b>270,000</b>

**9.1.8. Initial Working Capital**

Table 11 provides details of working capital requirements for the project.

**Table 11: Initial Working Capital Details**

Particulars	No. of Months	Total Cost (PKR)
Consumables material inventory	1	163,044
Upfront building rent	1	90,000
Cash		250,000
<b>Working Capital</b>		<b>503,044</b>

**9.2. Breakeven Analysis**

Table 12 shows calculation of break-even analysis.

**Table 12: Breakeven Analysis**

Description	First Year Values (PKR)	Ratios
Sales (PKR)	6,854,600	100%
Variable Cost (PKR)	3,924,907	57%
Contribution (PKR)	2,929,693	43%
Fixed Cost (PKR)	1,584,701	23%
Contribution Margin	43%	
Services Provided (Glasses)	6,721	
Contribution Margin Per Glass	436	
<b>Breakeven</b>		
Breakeven Revenue (PKR)		3,707,724
Breakeven Units		3,635
Breakeven Capacity		32%

### 9.3. Revenue Generation

Table 13 provides details for revenue generation of the Automotive Glass Replacement Shop during the first year of operations.

**Table 13: Revenue Details**

Particular	Annual Service Capacity (Number of Glasses)	Current Operational Capacity @ 60% per Year (A)	Charges Per Vehicle (PKR) (B)	Total Revenue Annual (PKR) (A*B) = C
Windshield	4,480	2,688	1,500	4,032,000
Rear Window	2,688	1,613	1,000	1,613,000
Side Window	3360	2,016	500	1,008,000
Sunroof	672	403	500	201,600
<b>Total</b>	<b>11,200</b>	<b>6,721</b>		<b>6,854,600</b>

### 9.4. Variable Cost Estimate

Variable costs of the project have been provided in Table 14

**Table 14: Variable Cost Estimate**

Description of Costs	Amount (PKR)
Consumables Cost- Windshield	1,370,880
Consumables Cost- Rear Window	451,640
Other Consumables	134,012
Utilities Cost	114,375
Direct Labor	1,620,000
Communications expense (phone, fax, mail, internet, etc.)	72,000
Office vehicles running expense	72,000
Office expenses (stationery, entertainment, janitorial services, etc.)	90,000
<b>Total</b>	<b>3,924,907</b>

**Table 15 Consumable Cost -Windshield**

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Silicon Tube (300 ml)	2	230	460

Tape	1	50	50
<b>Consumable cost per vehicle</b>			<b>510</b>
Glass Replacement Services (Number of Vehicles)			2,688
<b>Total Consumable Cost</b>			<b>1,370,880</b>

**Table 16 Consumable Cost -Rear Window**

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Silicon Tube (300 ml)	1	230	230
Tape	1	50	50
<b>Consumable cost per vehicle</b>			<b>280</b>
Glass Replacement Services (Number of Vehicles)			1,613
<b>Total Consumable Cost</b>			<b>451,640</b>

**Table 17 Other Consumable Cost**

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Suction Cup	10	5,000	50,000
Glass Cutter	24	1,000	24,000
Auto Trim Removal Kit	4	8,000	32,000
Genral Tool Kit	4	5,000	20,000
Silicon Gun	4	2,000	8,000
<b>Other Consumable Cost</b>			<b>134,000</b>

**Table 18 Direct Labor**

Personnel	Number of Personnel	Salary Per Month Per-Resource (PKR)	Annual Salaries
Labor Skilled	3	25,000	900,000
Labor Unskilled	3	20,000	720,000
<b>Total</b>	<b>6</b>		<b>1,620,000</b>

### 9.5. Fixed Cost Estimate

Table 19 shows the estimated fixed cost of the project.

**Table 19: Fixed Cost Estimate**

Description of Costs	Amount (PKR)
Management Staff	360,000
Building rental expense	1,080,000
Depreciation expense	127,795
Amortization of pre-operating costs	16,906
<b>Total</b>	<b>1,584,701</b>

**Table 20 Management Staff**

Personnel	Number of Personnel	Salary Per Month Per-Resource (PKR)	Annual Salaries
Supervisor/Cashier	1	30,000	360,000
<b>Total</b>			<b>360,000</b>

### 9.6. Financial Feasibility Analysis

The financial feasibility analysis provides the information regarding projected Internal Rate of Return (IRR), Net Present Value (NPV) and Payback period of the study, which is shown in Table 21.

**Table 21: Financial Feasibility Analysis**

Description	Project
IRR	107%
NPV (PKR)	15,534,289
Payback Period (years)	1.18
Projection Years	10
Discount rate used for NPV	15%

### 9.7. Financial Feasibility Analysis with 50% Debt

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study on the basis of Debt: Equity Model (50:50), which is shown in Table 22.

**Table 22: Financial Feasibility Analysis with 50% Debt**

Description	Project
IRR	106%
NPV (PKR)	17,280,829
Payback Period (years)	1.22
Projection Years	10
Discount rate used for NPV	13%

### 9.8. Human Resource Requirement

The proposed project shall require the workforce as provided in Table 23.

**Table 23: Human Resource**

Personnel	Number of Personnel	Salary Per Month Per-Resource (PKR)	Annual Salaries
Labor Skilled	3	25,000	900,000
Labor Unskilled	3	20,000	720,000
Supervisor/Cashier	1	30,000	360,000
<b>Total</b>	<b>7</b>		<b>1,980,000</b>

## 10. CONTACT DETAILS

The contact details of all the major suppliers of machinery and equipment used in proposed project is given in Table 24.

**Table 24: Contact Details**

Name of Supplier	City	Address	Contact
Al- Fateh Plastic Store	Lahore	202 Ferozepur Rd, Ichhra Commercial Area Lahore	042-37554391
Pak Wheel auto parts	Karachi	Khalid Bin Walid Rd, P.E.C.H.S Block 2, Karachi	
Tools Sales Company	Lahore	Muhammad Nagar Garhi Shahu, Lahore, Punjab	0324-4544774
Chaudhry Auto World	Peshawar	2G56+HR8, Tahkal, Peshawar,	091-5845252

Abdullah Spare Parts	Quetta	Shop No. 15, Ali Plaza Kabarhi Market, Zarghun Road, Quetta	0300-3866820
Khalid Majeed Eng. Works	Gujranwala	Sialkot Rd, Usman Colony, Gujranwala	0300-8649784

## 11. USEFUL LINKS

**Table 25: Useful Links**

Name of Organization	E-mail Address
Small and Medium Enterprises Development Authority (SMEDA)	<a href="http://www.smeda.org.pk">www.smeda.org.pk</a>
National Business Development Program (NBDP)	<a href="http://www.nbdp.org.pk">www.nbdp.org.pk</a>
Government of Pakistan	<a href="http://www.pakistan.gov.pk">www.pakistan.gov.pk</a>
Trade Development Authority of Pakistan	<a href="http://www.tdap.gov.pk">www.tdap.gov.pk</a>
Federal Board of Revenue	<a href="http://www.fbr.gov.pk">www.fbr.gov.pk</a>
Government of Punjab	<a href="http://www.punjab.gov.pk">www.punjab.gov.pk</a>
Government of Sindh	<a href="http://www.sindh.gov.pk">www.sindh.gov.pk</a>
Government of Khyber Pakhtunkhwa	<a href="http://www.kp.gov.pk">www.kp.gov.pk</a>
Government of Balochistan	<a href="http://www.balochistan.gov.pk">www.balochistan.gov.pk</a>
Government of Azad Jammu and Kashmir	<a href="http://www.ajk.gov.pk">www.ajk.gov.pk</a>
Government of Gilgit Baltistan	<a href="http://www.gilgitbaltistan.gov.pk">www.gilgitbaltistan.gov.pk</a>
Excise and Taxation Department Government of Sindh	<a href="http://www.excise.punjab.gov.pk">www.excise.punjab.gov.pk</a>
Excise and Taxation Department Government of Punjab	<a href="http://www.excise.gos.pk">www.excise.gos.pk</a>
Excise and Taxation Department Government of Balochistan	<a href="http://www.balochistan.gov.pk">www.balochistan.gov.pk</a>
Excise and Taxation Department Government of KPK	<a href="http://www.kpexcise.gov.pk">www.kpexcise.gov.pk</a>
Pakistan Automotive Manufacturers Association	<a href="http://www.pama.org.pk">www.pama.org.pk</a>



## 12. ANNEXURES

### 12.1. Income Statement

Calculations										
Income Statement										SMEDA
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	6,854,600	8,173,000	9,688,102	11,424,755	13,412,877	15,686,305	18,280,639	21,239,315	24,607,342	27,084,481
<i>Cost of sales</i>										
Consumables Cost- Windshield	1,370,880	1,651,453	1,977,679	2,356,263	2,794,842	3,302,106	3,887,939	4,563,576	5,341,786	5,940,066
Consumables Cost- Rear Window	451,640	543,946	651,609	776,181	920,483	1,087,848	1,280,627	1,503,531	1,759,647	1,956,728
Other Consumables	134,012	161,421	193,307	230,312	273,181	322,763	380,025	446,065	522,130	580,609
Utilities Cost	114,375	124,710	135,980	148,268	161,667	176,276	192,205	209,574	228,513	249,163
Direct Labor	1,620,000	1,777,140	1,949,523	2,138,626	2,346,073	2,573,642	2,823,285	3,097,144	3,397,567	3,727,131
Total cost of sales	3,690,907	4,258,670	4,908,098	5,649,650	6,496,245	7,462,635	8,564,081	9,819,890	11,249,644	12,453,697
Gross Profit	3,163,693	3,914,330	4,780,004	5,775,105	6,916,631	8,223,670	9,716,557	11,419,424	13,357,699	14,630,785
<i>General administration &amp; selling expenses</i>										
Management Staff	360,000	394,920	433,227	475,250	521,350	571,920	627,397	688,254	755,015	828,251
Building rental expense	1,080,000	1,188,000	1,306,800	1,437,480	1,581,228	1,739,351	1,913,286	2,104,614	2,315,076	2,546,584
Communications expense (phone, fax, mail, internet, etc.)	72,000	78,984	86,645	95,050	104,270	114,384	125,479	137,651	151,003	165,650
Office vehicles running expense	72,000	79,248	87,226	96,006	105,671	116,309	128,017	140,904	155,088	170,701
Office expenses (stationery, entertainment, janitorial services, etc)	90,000	98,730	108,307	118,813	130,337	142,980	156,849	172,064	188,754	207,063
Depreciation expense	127,795	127,795	127,795	127,795	127,795	127,795	88,748	227,355	227,355	227,355
Amortization of pre-operating costs	16,906	16,906	16,906	16,906	16,906	-	-	-	-	-
Subtotal	1,818,701	1,984,583	2,166,906	2,367,301	2,587,557	2,812,739	3,039,776	3,470,842	3,792,291	4,145,603
Operating Income	1,344,992	1,929,747	2,613,098	3,407,804	4,329,074	5,410,931	6,676,782	7,948,582	9,565,408	10,485,181
Gain / (loss) on sale of office equipment	-	-	-	-	-	-	103,750	-	-	-
Gain / (loss) on sale of office vehicles	-	-	-	-	-	-	23,988	-	-	-
Earnings Before Interest & Taxes	1,344,992	1,929,747	2,613,098	3,407,804	4,329,074	5,410,931	6,804,519	7,948,582	9,565,408	10,485,181
Subtotal	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	1,344,992	1,929,747	2,613,098	3,407,804	4,329,074	5,410,931	6,804,519	7,948,582	9,565,408	10,485,181
Tax	91,749	179,462	292,619	471,951	718,722	1,043,279	1,501,581	1,902,003	2,467,892	2,789,813
NET PROFIT/(LOSS) AFTER TAX	1,253,243	1,750,285	2,320,479	2,935,853	3,610,352	4,367,652	5,302,938	6,046,579	7,097,516	7,695,369

## 12.2. Balance Sheet

Calculations	SMEDA										
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	250,000	1,036,791	1,681,392	2,312,312	2,944,949	3,590,056	4,243,160	7,972,578	13,968,117	21,017,849	30,798,345
Consumables material inventory	163,044	216,173	284,957	373,664	487,812	634,409	822,122	1,062,189	1,368,432	1,674,881	-
Pre-paid building rent	90,000	99,000	108,900	119,790	131,769	144,946	159,440	175,385	192,923	212,215	-
<b>Total Current Assets</b>	<b>503,044</b>	<b>1,351,964</b>	<b>2,075,249</b>	<b>2,805,766</b>	<b>3,564,529</b>	<b>4,369,411</b>	<b>5,224,722</b>	<b>9,210,152</b>	<b>15,529,472</b>	<b>22,904,945</b>	<b>30,798,345</b>
<i>Fixed assets</i>											
Building/Infrastructure	106,525	95,873	85,220	74,568	63,915	53,263	42,610	31,958	21,305	10,653	-
Furniture & fixtures	270,000	229,500	189,000	148,500	108,000	67,500	27,000	511,815	435,043	358,270	281,498
Office vehicles	95,950	81,558	67,165	52,773	38,380	23,988	9,595	146,190	124,261	102,333	80,404
Office equipment	415,000	352,750	290,500	228,250	166,000	103,750	41,500	786,678	668,677	550,675	432,673
Security against building	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000
<b>Total Fixed Assets</b>	<b>1,157,475</b>	<b>1,029,680</b>	<b>901,885</b>	<b>774,090</b>	<b>646,295</b>	<b>518,500</b>	<b>390,705</b>	<b>1,746,640</b>	<b>1,519,286</b>	<b>1,291,931</b>	<b>1,064,576</b>
<i>Intangible assets</i>											
Pre-operation costs	84,531	67,625	50,719	33,812	16,906	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>84,531</b>	<b>67,625</b>	<b>50,719</b>	<b>33,812</b>	<b>16,906</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>1,745,051</b>	<b>2,449,269</b>	<b>3,027,853</b>	<b>3,613,669</b>	<b>4,227,730</b>	<b>4,887,911</b>	<b>5,615,427</b>	<b>10,956,792</b>	<b>17,048,758</b>	<b>24,196,875</b>	<b>31,862,921</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		77,597	94,349	114,152	137,520	165,104	197,673	236,099	281,486	332,087	302,764
Other liabilities											
<b>Total Current Liabilities</b>	<b>-</b>	<b>77,597</b>	<b>94,349</b>	<b>114,152</b>	<b>137,520</b>	<b>165,104</b>	<b>197,673</b>	<b>236,099</b>	<b>281,486</b>	<b>332,087</b>	<b>302,764</b>
<i>Other liabilities</i>											
<b>Total Long Term Liabilities</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Shareholders' equity</i>											
Paid-up capital	1,745,051	1,745,051	1,745,051	1,745,051	1,745,051	1,745,051	1,745,051	1,745,051	1,745,051	1,745,051	1,745,051
Retained earnings		626,622	1,188,453	1,754,466	2,345,160	2,977,756	3,672,704	8,975,642	15,022,222	22,119,737	29,815,106
<b>Total Equity</b>	<b>1,745,051</b>	<b>2,371,672</b>	<b>2,933,504</b>	<b>3,499,516</b>	<b>4,090,210</b>	<b>4,722,807</b>	<b>5,417,755</b>	<b>10,720,693</b>	<b>16,767,272</b>	<b>23,864,788</b>	<b>31,560,156</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>1,745,051</b>	<b>2,449,269</b>	<b>3,027,853</b>	<b>3,613,669</b>	<b>4,227,730</b>	<b>4,887,911</b>	<b>5,615,427</b>	<b>10,956,792</b>	<b>17,048,758</b>	<b>24,196,875</b>	<b>31,862,921</b>

### 12.3. Cash Flow Statement

Calculations	SMEDA										
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		1,253,243	1,750,285	2,320,479	2,935,853	3,610,352	4,367,652	5,302,938	6,046,579	7,097,516	7,695,369
Add: depreciation expense		127,795	127,795	127,795	127,795	127,795	127,795	88,748	227,355	227,355	227,355
amortization of pre-operating costs		16,906	16,906	16,906	16,906	16,906	-	-	-	-	-
Consumables Inventory	(163,044)	(53,128)	(68,784)	(88,707)	(114,147)	(146,597)	(187,713)	(240,067)	(306,243)	(306,449)	1,674,881
Pre-paid building rent	(90,000)	(9,000)	(9,900)	(10,890)	(11,979)	(13,177)	(14,495)	(15,944)	(17,538)	(19,292)	212,215
Accounts payable		77,597	16,753	19,803	23,368	27,584	32,569	38,426	45,387	50,601	(29,323)
Cash provided by operations	(253,044)	1,413,413	1,833,055	2,385,385	2,977,796	3,622,863	4,325,808	5,174,101	5,995,540	7,049,731	9,780,497
<i>Financing activities</i>											
Issuance of shares	1,745,051	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	1,745,051	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(1,242,006)	-	-	-	-	-	-	(1,444,683)	-	-	-
Cash (used for) / provided by investing activities	(1,242,006)	-	-	-	-	-	-	(1,444,683)	-	-	-
<b>NET CASH</b>	<b>250,000</b>	<b>1,413,413</b>	<b>1,833,055</b>	<b>2,385,385</b>	<b>2,977,796</b>	<b>3,622,863</b>	<b>4,325,808</b>	<b>3,729,418</b>	<b>5,995,540</b>	<b>7,049,731</b>	<b>9,780,497</b>

## 13. KEY ASSUMPTIONS

### 13.1. Operating Cost Assumptions

**Table 26: Operating Cost Assumptions**

Description	Details
Operating costs growth rate	10.1%
Communication expenses	20% of management staff expenses
Office Vehicle running expenses	20% of management staff expenses
Office expenses (stationery, janitorial, etc.)	25% of management staff expenses

### 13.2. Revenue Assumptions

**Table 27: Revenue Assumptions**

Description	Details
Sale price growth rate	10.1%
Capacity utilization	60%
Capacity utilization growth rate	5%
Maximum capacity	100%

### 13.3. Financial Assumptions

**Table 28: Financial Assumptions**

Description	Details
Project life (Years)	10
Debt: Equity	0:100
Discount Rate with Equity	15%
Discount Rate with Debt: Equity (50:50)	13%

# Small and Medium Enterprises Development Authority

## HEAD OFFICE

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[www.smeda.org.pk](http://www.smeda.org.pk), [helpdesk@smeda.org.pk](mailto:helpdesk@smeda.org.pk)

REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KPK	REGIONAL OFFICE BALOCHISTAN
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