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PROJECT PROFILE FOR SETTING UP A FORGING UNIT FOR MANUFACTURE OF AUTOMOBILE AND OTHER SPARE PARTS

CONTENTS

1. PROJECT BRIEF

This report relates to a study on the feasibility of setting up a small scale forging unit in the Sultanate of Oman. The project can cater to the requirement of spare parts as well as other engineering products like pulleys, flanges etc. The following is the brief illustration of the project

Name of Project		**Small Scale Forging Unit for manufacture of automobile and other spareparts**
Size of the Domestic Market (as of 2022)		4,400 tons (approx)
Capacity of the Project		1,000 tons
Total Investment		RO 234,000
Equity Investment		RO 93,600
Key Appraisal Criteria:		
IRR on total investment		19.49%
IRR on Equity		33.86%
Payback period of Total Investment		5 years 4 months
Payback period on equity		3 years 8 months
Break Even Point (as % of Capacity)		58.9
Cash Break Even Point (as % of Capacity)		55.1
Debt Equity Ratio		1.5:1
DSCR		3.99
Manpower	Total	22
	Nationals	8

2. MARKET ANALYSIS

2.1. PRODUCT & APPLICATIONS

2.1.1. Process Description

Forging is a manufacturing process involving the shaping of metal using localized compressive forces. The blows are delivered with a hammer or a die. Forging is often classified according to the temperature at which it is performed: cold forging, warm forging, or hot forging. Forged parts can range in weight from less than a kilogram to hundreds of metric tons.

Forged parts are widely used wherever a component requires high strength; such forgings usually require further processing to achieve a finished part. The forging process can create parts that are stronger than those manufactured by any other metalworking process.

2.1.2. Process Types

Following are the methods (or processes) to make a forged part:

- ***Impression Die Forging:*** Impression die forging pounds or presses metal between two dies (called tooling) that contain a precut profile of the desired part. Parts from a few ounces to 60,000 lbs. can be made using this process. Some of the smaller parts are actually forged cold.
- ***Cold Forging:*** Most forging is done as hot work, at temperatures up to 2,300°F, however, a variation of impression die forging is cold forging. Cold forging encompasses many processes -- bending, cold drawing, cold heading, coining, extrusions and more, to yield a diverse range of part shapes. The temperature of metals being cold forged may range from room temperature to several hundred degrees**.**
- ***Open Die Forging***: Open die forging is performed between flat dies with no precut profiles is the dies. Movement of the work piece is the key to this method. Larger parts over 200,000 lbs. and 80 feet in length can be hammered or pressed into shape this way.

- ***Seamless Rolled Ring Forging:*** Seamless rolled ring forging is typically performed by punching a hole in a thick, round piece of metal (creating a donut shape), and then rolling and squeezing (or in some cases, pounding) the donut into a thin ring. Ring diameters can be anywhere from a few inches to 30 feet.

2.1.3. Forging of Steel Materials

Depending on the forming temperature steel forging can be divided into:

- ***Hot forging of steel***
  - Forging temperatures above the re-crystallization temperature between 950 - 1250 °C
  - Good formability
  - Low forming forces
  - Constant tensile strength of the work pieces

- ***Warm forging of steel***
  - Forging temperatures between 750 – 950 °C
  - Less or no scaling at the work piece surface
  - Narrower tolerances achievable than in hot forging
  - Limited formability and higher forming forces than for hot forging
  - Lower forming forces than in cold forming

- ***Cold forging of steel***
  - Forging temperatures at room conditions, self-heating up to 150 °C due to the forming energy
  - Narrowest tolerances achievable
  - No scaling at work piece surface
  - Increase of strength and decrease of ductility due to strain hardening
  - Low formability and high forming forces are necessary

For industrial processes steel alloys are primarily forged in hot condition. Brass, bronze, copper, precious metals and their alloys are manufactured by cold forging processes, while each metal requires a different forging temperature.

2.1.4. Advantages of Forging

Forging can produce a piece that is stronger than an equivalent cast or machined part. As the metal is shaped during the forging process, its internal grain deforms to follow the general shape of the part. As a result, the grain is continuous throughout the part, giving rise to a piece with improved strength characteristics.

Some metals may be forged cold, but iron and steel are almost always hot forged. Hot forging prevents the work hardening that would result from cold forging, which would increase the difficulty of performing secondary machining operations on the piece. Also, while work hardening may be desirable in some circumstances, other methods of hardening the piece, such as heat treating, are generally more economical and more controllable.

2.1.5. Product uses & applications

Forged parts vary in size, shape and sophistication. There are many small forged steel components of close tolerance and precision used in commercial airplanes, space shuttle, automotive and automotive machines. The forging components and parts are superior to those manufactured by any other metal process. That is why forgings are used when reliability, light weight, high strength and human safety are prime considering. Common applications of forged components are:

a. Automotive & Truck
b. Agricultural Machinery & Equipment
c. Valves fittings, Oilfield applications

d. Hand Tools & Hardware
e. Highway Equipment/Rail Road
f. General Industrial Equipment
g. Ordinance/Ship Building
h. Aerospace

2.2. GLOBAL MARKET OUTLOOK

Steel forging is internationally classified under HS code:

732619 - Articles of iron or steel, forged or stamped, but not further worked, n.e.s. (excluding grinding balls and similar articles for mills).

2.2.1. Major Global Exporters

The table below details the major exporting countries of forged steel materials in both quantity and Value for the last 5 years

Rank	Exporters	Value/ Quantity	2017	2018	2019	2020	2021
1	China	USD('000)	481,245	375,971	356,361	368,304	620,256
		Ton	115,985	125,072	138,557	130,809	180,336
		USD/Ton	**4,149**	**3,006**	**2,572**	**2,816**	**3,439**
2	India	USD('000)	306,792	343,489	284,767	189,481	293,223
		Ton	95,281	105,931	82,791	53,301	101,713
		USD/Ton	**3,220**	**3,243**	**3,440**	**3,555**	**2,883**
3	Czech Republic	USD('000)	190,154	205,712	178,831	140,308	183,852
		Ton	81,089	79,366	65,301	51,754	60,737
		USD/Ton	**2,345**	**2,592**	**2,739**	**2,711**	**3,027**
4	United States of America	USD('000)	408,145	453,462	439,897	347,859	385,711
		Ton	57,298	65,921	59,613	43,933	53,624
		USD/Ton	**7,123**	**6,879**	**7,379**	**7,918**	**7,193**
5	Mexico	USD('000)	248,053	209,642	213,297	194,112	241,309
		Ton	57,564	50,000	49,952	41,902	51,503
		USD/Ton	**4,309**	**4,193**	**4,270**	**4,633**	**4,685**
6	France	USD('000)	229,346	252,882	248,781	187,952	226,323
		Ton	59,227	58,334	55,686	44,166	51,179
		USD/Ton	**3,872**	**4,335**	**4,468**	**4,256**	**4,422**
7	Spain	USD('000)	166,425	197,540	179,079	160,900	182,982
		Ton					46,957
		USD/Ton					**3,897**

Rank	Exporters	Value/ Quantity	2017	2018	2019	2020	2021
8	Turkey	USD('000)	52,441	71,511	66,830	61,492	80,506
		Ton	19,824	23,200	24,092	22,991	26,460
		USD/Ton	**2,645**	**3,082**	**2,774**	**2,675**	**3,043**
9	Korea	USD('000)	50,867	69,235	61,831	51,921	59,576
		Ton	22,090	25,111	23,250	20,320	24,190
		USD/Ton	**2,303**	**2,757**	**2,659**	**2,555**	**2,463**
10	Singapore	USD('000)	79,782	90,152	112,550	128,407	128,535
		Ton	23,266	16,299	16,653	13,196	18,380
		USD/Ton	**3,429**	**5,531**	**6,759**	**9,731**	**6,993**

Source: UNCOM Trade Data

2.2.2. Major Global Importers

The table below details the major importing countries of forged steel materials in both quantity and Value for the last 5 years

Rank	Importers	Value/ Quantity	2017	2018	2019	2020	2021
1	USA	USD('000)	384,511	431,917	400,446	333,868	442,389
		Ton	127,933	131,212	121,401	101,674	130,334
		USD/Ton	**3,006**	**3,292**	**3,299**	**3,284**	**3,394**
2	Mexico	USD('000)	269,344	314,876	319,658	259,853	342,007
		Ton	121,031	82,787			79,861
		USD/Ton	**2,225**	**3,803**			**4,283**
3	Germany	USD('000)	263,043	292,765	259,559	203,082	262,448
		Ton	76,761	78,575	72,052	60,237	70,663
		USD/Ton	**3,427**	**3,726**	**3,602**	**3,371**	**3,714**
4	France	USD('000)	237,507	207,775	173,919	143,426	157,422
		Ton	66,807	58,361	57,703	50,111	46,620
		USD/Ton	**3,555**	**3,560**	**3,014**	**2,862**	**3,377**
5	China	USD('000)	296,622	288,240	242,899	220,927	256,400
		Ton	40,165	40,720	39,993	30,455	37,059
		USD/Ton	**7,385**	**7,079**	**6,074**	**7,254**	**6,919**
6	Malaysia	USD('000)	103,643	141,375	166,530	165,761	185,502
		Ton	18,928	21,365	25,417	38,684	34,550
		USD/Ton	**5,476**	**6,617**	**6,552**	**4,285**	**5,369**
7	Slovakia	USD('000)	118,938	124,986	103,102	79,498	78,138
		Ton	52,084	50,524	43,289	35,643	29,460
		USD/Ton	**2,284**	**2,474**	**2,382**	**2,230**	**2,652**
8	Netherlands	USD('000)	49,195	48,024	50,035	53,443	64,723
		Ton	10,616	9,926	10,670	17,495	29,003
		USD/Ton	**4,634**	**4,838**	**4,689**	**3,055**	**2,232**

Rank	Importers	Value/ Quantity	2017	2018	2019	2020	2021
9	Korea	USD('000)	34,915	39,630	38,098	36,519	53,846
		Ton	11,420	15,022	17,798	18,439	27,918
		USD/Ton	**3,057**	**2,638**	**2,141**	**1,981**	**1,929**
10	Italy	USD('000)	103,593	121,253	91,691	77,704	99,610
		Ton		34,998	22,897		25,823
		USD/Ton		**3,465**	**4,004**		**3,857**

Source: UNCOM Trade Data

2.2.3. Global Scenario

The global metal forging market size was valued at USD 74.36 billion in 2021 and is projected to grow at a compound annual growth rate (CAGR) of 7.7% from 2022 to 2030.

- The Asia Pacific dominated the global market in 2021 and accounted for the maximum share of more than 51.8% of the overall revenue. The increasing requirement for metal forgings in the railways, automobiles, energy, and aerospace industries is anticipated to propel its demand during the forecast period.
- North America also accounted for a significant market share, in terms of revenue, in 2021. The countries in the region are investing in renewable energy, which is expected to propel the product demand.

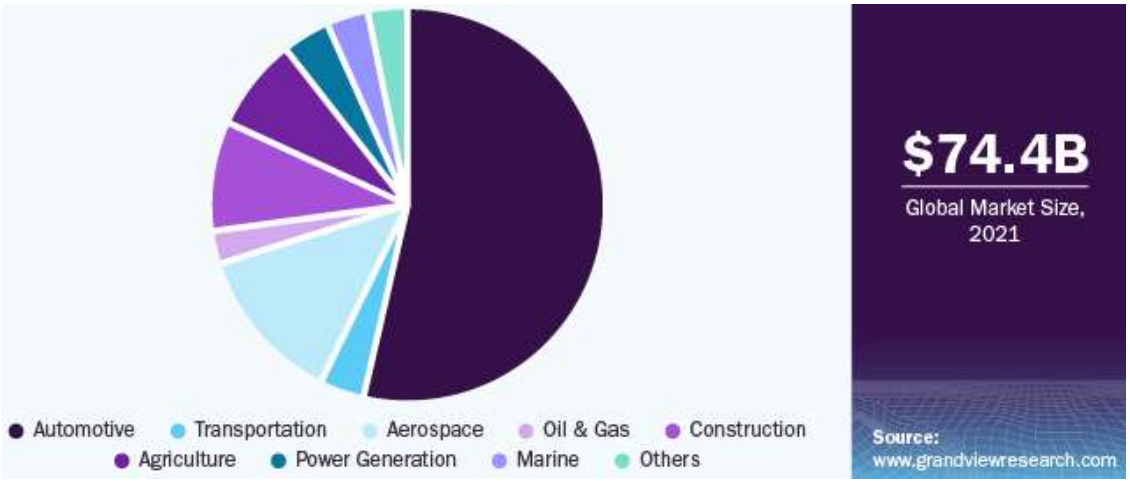
2.2.4. Application Insights

Automotive held a volume share of more than 58.5% in 2021 of the global market.

The power generation application segment is expected to register the fastest CAGR, in terms of volume, during the forecast period. Various small and large forging components, such as turbine blades, flanges, rings, seals, locks, sleeves, motor ends, stators, diaphragms, impellers, covers, spacers, casings, and rotors, are deployed in the wind and hydroelectric power plants. Growing investments in the power generation industry are thus, anticipated to augment segment growth over the coming years.

The transportation segment is also expected to witness rapid growth over the coming years. Components, such as axes, wheels, bushes, transmission lower spring seats, hanger blocks, center pivot pins, side bearers, guides, torsion bars, rollers, large rings, and connecting rods, are used in the transportation industry. Investments in the transportation sector are projected to remain a key growth factor for the market.

Global Metal Forging Market, share by application (%) 2021



2.2.5. Key companies and Market Share insights

The market is extremely competitive with the presence of a large number of players worldwide. Owing to the expanding demand for metal forgings, companies are increasing their manufacturing capacities. Some of the prominent players in the global metal forging market include:

- Aronic
- ATI
- Bharat Forge Ltd.
- Bruck GmbH
- China First Heavy Machinery Co., Ltd.
- ELLWOOD Group, Inc.
- Jiangyin Hengrun Heavy Industries Co., Ltd.
- Nippon Steel Corp.
- Precision Castparts Corp.
- Larsen & Toubro Ltd.

2.3. ESTIMATE OF DOMESTIC DEMAND

2.3.1. Local Production

Forging units are present in Oman and some of the major players in Oman market is as detailed below.

S. No	Name of the Company
1	Oman Fasteners
2	Oman Flange Production Factory LLC

2.3.2. Foreign Trade

Forged steel is categorized under HS Code: **73261900** - Other Articles of iron or steel, forged or stamped, but not further worked.

2.3.2.1.Import Trade Data of Oman

The table below details the imports of forged steel into Oman under the following HS Codes with quantities, values and country of origin.

Imported by HS Code	Units	2017	2018	2019	2020	2021
73261900	Value in RO	1,179,913	1,990,245	3,147,693	2,079,540	1,571,759
	Quantity in Tons	759	3,719	4,845	3,118	1,665
	RO/Ton	1,554	535	650	667	944

Source: ROP Statistics 2022

2.3.2.2.Import Sources - 2021

Country of Origin	Value (RO)	Quantity (Kg)	RO / Ton	% of Total
UAE	679,814	548,552	1,239	33%
Korea	280,897	442,127	635	27%
India	228,390	352,361	648	21%
Italy	239,333	219,356	1,091	13%
China	95,258	92,797	1,027	6%
Qatar	24,712	4,323	5,716	less than 1%
Turkey	2,174	1,126	1,931	
Oman Freezone	914	960	952	
Belgium	4,264	632	6,747	
United Kingdom	9,965	540	18,454	

Malaysia	190	476	399	
Oman	600	350	1,714	
Latvia	602	297	2,027	
Saudi Arabia	82	200	410	
Iran	135	200	675	
United States	2,514	199	12,633	
Luxembourg	746	103	7,243	
Norway	254	60	4,233	
Germany	869	57	15,246	
Bahrain	47	3	15,667	
Total	**1,571,760**	**1,664,719**	**944.16**	**100%**

Source: ROP Statistics 2022

2.3.2.3.Export Trade Data of Oman

The table below details the exports of forged steel out of Oman under the following HS Codes with quantities, values and country of origin.

Exported by HS Code	Units	2017	2018	2019	2020	2021
73261900	Value in RO	819,514	7,441,235	90,118	1,526	18,608
	Quantity in Tons	673	2,013	407	3	286
	RO/Ton	1,217	3,697	222	484	65

Source: ROP Statistics 2022

Export Destinations	Value (RO)	Quantity (Kg)	RO / Ton	% of Total
India	10,195	206,000	49	72%
Pakistan	6,930	77,000	90	27%
Qatar	1,483	2,752	539	1%
Total	**18,608**	**285,752**	**65**	**100%**

Source: ROP Statistics 2022

2.3.3. Demand Estimates for Steel Forging

The demand for forging services emanate from the manufacturing industry. The demand estimates are based on the following assumptions that have been arrived at through discussions with the local manufacturers

- The Repairs and Maintenance work of the manufacturing industry in the Sultanate can be considered as the base for estimating the demand for forging services in Oman.
- Discussions with the industry experts indicate that the demand for forged items can be estimated at 5% of the total Repairs & Maintenance Work
- Major players have their in house facilities catering mainly to their captive requirements.
- The Forged Items are made/supplied to other manufacturing companies as per the specifications sought as per their end user requirements.
- The rate for forging will vary depending on the kind of forged items that has to be made/supplied and will vary as per the end user requirements. An average rate of RO 950 per ton can be considered as the representative of the market prices and this is in line with the import rates of forged items into Oman.

The following table illustrates the Repairs and Maintenance Work of the manufacturing units from 2017 to 2019.

ISIC 2	Description	2019	2017	2018	2019	Target Demand - 2019	
		No of units	Repairs & Maintenance Expense			(%)	RO
10	Food Products	96	7,540,965	6,148,510	5,921,929	5.0%	296,096
11	Beverages	36	1,439,804	1,638,622	1,490,908	5.0%	74,545
13	Textiles	8	118,319	85,232	68,916	5.0%	3,446
14	Wearing Apparel	4	71,405	30,619	34,892	5.0%	1,745
15	Leather and related products	5	26,393	17,100	22,898	5.0%	1,145
16	Wood/wood products/ cork, excl. furniture	19	729,245	1,332,611	946,061	5.0%	47,303
17	Paper and Paper Products	15	496,146	192,322	681,763	5.0%	34,088
18	Printing	37	499,646	372,397	320,037	5.0%	16,002
19	Coke and refined petroleum products	22	13,507,358	16,688,936	13,875,843	5.0%	693,792
20	Chemicals and Chemical Products	72	16,837,794	14,664,800	13,100,527	5.0%	655,026
21	Pharmaceuticals, medicinal, chemicals etc	4	249,437	304,920	753,058	5.0%	37,653
22	Rubber and Plastic Products	77	1,970,383	1,639,347	1,479,640	5.0%	73,982
23	Other non metallic mineral products	217	17,821,678	11,000,186	13,139,791	5.0%	656,990
24	Basic metals	39	12,146,594	18,339,238	16,090,831	5.0%	804,542
25	Fabricated metal products, except machinery	108	3,703,038	7,312,358	4,473,986	5.0%	223,699
26	Computer, electronics and optical products	2	829,586	9,341	6,721	5.0%	336
27	Electrical Equipment	36	3,060,268	8,714,081	1,398,570	5.0%	69,929
28	Machinery & Equipment n.e.c	15	481,846	4,365,238	529,856	5.0%	26,493
29	Motor vehicles, trailers and semitrailers	4	8,224	11,113	16,843	5.0%	842
30	Other transport equipment	6	9,449,199	34,379	841,053	5.0%	42,053
31	Furniture	25	248,662	407,401	270,948	5.0%	13,547
32	Other manufacturing	11	25,683	127,190	124,294	5.0%	6,215
33	Repair & Installation of machinery/equipment	6	2,338	3,500	2,000	5.0%	100
	Total	**864**	**91,264,009**	**93,439,441**	**75,591,365**		**3,779,568**

Source: MOCI Annual Report

Considering the above, the estimated demand for Forging in Oman for the year 2019 is of value RO 3,779,568.

2.4. POTENTIAL FOR EXPORTS TO GCC COUNTRIES

The imports of forged materials, illustrated below have been considered as an indication of potential for exports to GCC countries other than Oman.

Imported by	Units	2017	2018	2019	2020	2021
Saudi Arabia	Value in USD '000	12,507	12,559	14,493	11,378	19,860
	Quantity in Tons	5,189	5,067	4,807	3,250	4,341
	USD/Ton	2,410	2,479	3,015	3,501	4,575
UAE	Value in USD '000	23,104	48,289	25,000	21,144	15,403
	Quantity in Tons	7,382	10,137	7,187	8,777	3,947
	USD/Ton	3,130	4,764	3,479	2,409	3,902
Qatar	Value in USD '000	1,378	2,246	2,836	1,987	3,722
	Quantity in Tons	145	772	941	448	943
	USD/Ton	9,503	2,909	3,014	4,435	3,947
Bahrain	Value in USD '000	2,112	2,636	2,309	2,497	986
	Quantity in Tons	769	790	792	819	329
	USD/Ton	2,746	3,337	2,915	3,049	2,997
Kuwait	Value in USD '000	3,155	4,141	2,739	1,345	2,282
	Quantity in Tons	1,753	2,219	831	259	261
	USD/Ton	1,800	1,866	3,296	5,193	8,743
Total GCC Imports (excluding Oman)	**Value in USD '000**	**42,256**	**69,871**	**47,377**	**38,351**	**42,253**
	Quantity in Tons	**15,238**	**18,985**	**14,558**	**13,553**	**9,821**
	Unit value of imorts USD/Ton	**2,773**	**3,680**	**3,254**	**2,830**	**4,302**

Source: UNCOM Trade Data

Total import of forged materials into GCC countries other than Oman was around 9,821 tons in 2021.

2.5. DEMAND PROJECTION

2.5.1. Domestic Market

Based on the above assumptions the Local demand for forged materials is projected as below:

Description	Target Demand - 2019	Growth rate (%)	Estimated Demand (RO)							
	RO		2020	2021	2022	2023	2024	2025	2026	2027
Food Products	296,096	5%	310,901	326,446	342,769	359,907	377,902	396,798	416,637	437,469
Beverages	74,545	3%	76,782	79,085	81,458	83,902	86,419	89,011	91,681	94,432
Textiles	3,446	1%	3,480	3,515	3,550	3,586	3,622	3,658	3,694	3,731
Wearing Apparel	1,745	1%	1,762	1,780	1,797	1,815	1,834	1,852	1,870	1,889
Leather and related products	1,145	1%	1,156	1,168	1,180	1,191	1,203	1,215	1,227	1,240
Wood/wood products	47,303	1%	47,776	48,254	48,736	49,224	49,716	50,213	50,715	51,222
Paper and Paper Products	34,088	1%	34,429	34,773	35,121	35,472	35,827	36,185	36,547	36,913
Printing	16,002	1%	16,162	16,323	16,487	16,652	16,818	16,986	17,156	17,328
Coke and refined petroleum products	693,792	5%	728,482	764,906	803,151	843,309	885,474	929,748	976,235	1,025,047
Chemicals and Chemical Products	655,026	5%	687,778	722,167	758,275	796,189	835,998	877,798	921,688	967,772
Pharmaceuticals, medicinal, chemicals etc	37,653	3%	38,782	39,946	41,144	42,379	43,650	44,960	46,308	47,698
Rubber and Plastic Products	73,982	10%	81,380	89,518	98,470	108,317	119,149	131,064	144,170	158,587
Other non metallic mineral products	656,990	3%	676,699	697,000	717,910	739,448	761,631	784,480	808,014	832,255
Basic metals	804,542	1%	812,587	820,713	828,920	837,209	845,581	854,037	862,577	871,203
Fabricated metal products, except machinery	223,699	3%	230,410	237,323	244,442	251,776	259,329	267,109	275,122	283,376
Computer, electronics and optical products	336	1%	339	343	346	350	353	357	360	364

Description	Target Demand - 2019	Growth rate (%)	Estimated Demand (RO)							
	RO		2020	2021	2022	2023	2024	2025	2026	2027
Electrical Equipment	69,929	1%	70,628	71,334	72,047	72,768	73,496	74,231	74,973	75,723
Machinery & Equipment n.e.c	26,493	1%	26,758	27,025	27,296	27,569	27,844	28,123	28,404	28,688
Motor vehicles, trailers and semitrailers	842	1%	851	859	868	876	885	894	903	912
Other transport equipment	42,053	1%	42,473	42,898	43,327	43,760	44,198	44,640	45,086	45,537
Furniture	13,547	1%	13,683	13,820	13,958	14,097	14,238	14,381	14,525	14,670
Other manufacturing	6,215	1%	6,277	6,340	6,403	6,467	6,532	6,597	6,663	6,730
Repair & Installation of machinery/equipment	100	1%	101	102	103	104	105	106	107	108
Total Manufacturing	**3,779,568**		**3,909,677**	**4,045,638**	**4,187,758**	**4,336,365**	**4,491,804**	**4,654,441**	**4,824,666**	**5,002,892**

2.6. COMPETITION ANALYSIS

As detailed in the earlier sections, there are manufacturers in Oman cater to their captive requirements and the other demand is catered by the Imports.

Some of the details of the key players are as detailed below.

- **Oman Fasteners** manufacture quality engineered nails. The process is forging driven.
- **Oman Flange Production Factory LLC** is a medium size flange and pipe fitting unit in Oman catering to the demand from Oil and Gas, Petrochemical, Fertilizer, Power, desalination plants and other chemical industries. Their products include flanges, socket weld pipe fittings, threaded pipe fittings.

2.7. MARKETING MIX STRATEGY OF COMPETITORS

2.7.1. Product

The Forged items are made / supplied as per the specifications sought as per the end-use requirements.

2.7.2. Pricing

Based on the secondary research, the Forged materials are sold in the range of RO 950 per ton.

2.7.3. Promotion

The products are sold mainly through contacts with major companies seeking forged components, distributors / dealers. The major players use the digital platform detailing their capabilities for promoting their product / services.

2.7.4. Trade Credit

The industry practice is to offer a reasonable credit period depending on the credit worthiness of the client. Often discounts of 5 – 10 percent are also given to the clients.

2.7.5. Distribution

The distribution process is through direct sales to end users seeking the product.

2.8. PROPOSED MARKETING MIX STRATEGY FOR THE COMPANY

2.8.1. Product Mix

Unlike the local players, the project being categorized as an SME unit, shall focus on Forged materials to requisite sizes based on customer requirements and specifications.

In addition to the components for the engineering industry, the project can also consider manufacturing components for the Automobiles as per the requirement.

2.8.2. Target Market

The project will mainly focus on the local market. The target market groups should be major companies seeking forged components.

While the primary focus of the project will be the domestic market, it could also develop a strategy to cater to the GCC demand in the future and can supply forged components based on specifications as desired by the customers.

2.8.3. Pricing

Based on the competition expected from the local players and from imports, the average selling price of forged components is considered at RO 800 per ton which is less than the average import price of forged components into Oman.

2.8.4. Promotion

Quality and design capability shall be the major promotion points for the project.

2.8.5. Distribution

The company would concentrate on direct marketing to the end users.

2.9. ESTIMATED MARKET SHARE

The unit with a production capacity of 1,000 MT per annum can effectively leverage its capability to service the target market. The following table illustrates the estimated market share for the proposed project

DETAILS	2024	2025	2026	2027
Estimated Local demand (RO)	4,491,804	4,654,441	4,824,666	5,002,892
Estimated Local Demand in Tons (considering rate of RO 950 per ton)	4,728	4,899	5,079	5,266
Estimated Domestic Sale (Tons)	600	600	750	800
Estimated Market Share (%)	12.7%	12.2%	14.8%	15.2%
Production Capacity	1000	1000	1000	1000
Capacity Utilization	60%	60%	75%	80%

Considering the target market potential and the conservative demand projections made, the proposed market shares are achievable by following the marketing mix strategy stated in the earlier sections of this report.

3. TECHNICAL ANALYSIS

3.1. LOCATION

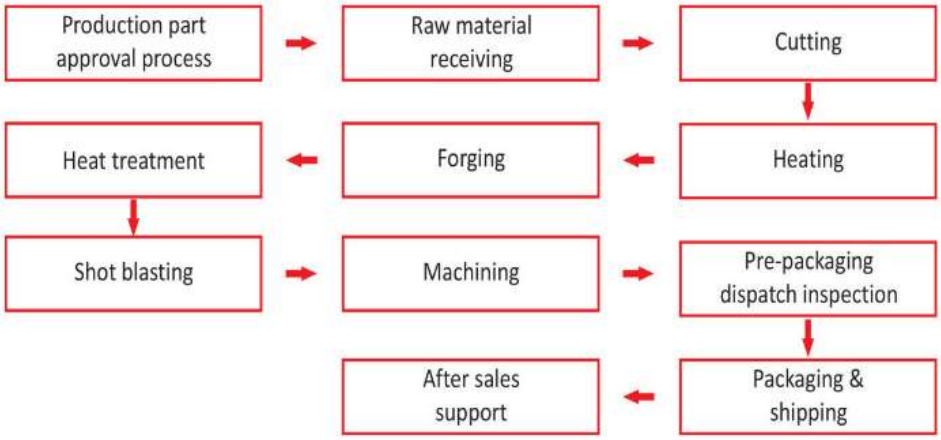
The proposed project can be located either at Sohar Industrial City or at the proposed Shinas Industrial City. The referred locations are taking proximity to raw material and the target market into consideration.

3.2. LAND & BUILDING

The total land area required for the project is around 1,000 Sq. M. Building area required for the project is estimated at 700 Sq. Meters. It will be taken on lease. Lease rent will be RO 2.5 per square meter per month.

3.3. MANUFACTURING PROCESS

The process flow chart for forging process is as detailed below



Steel rods of different sizes are cut to the required length for forging in power shearing machine/hacksaw machine as per the customer's specifications.

The cut pieces are heated in the heating furnace to forging temperature. The hot pieces removed from the furnaces are forged in the power hammers/presses using forging dies. The forged components are then trimmed in the trimming press/ trimming hammer to get the exact size of the component. After inspection, the components are shot blasted and cleaned/fettled in the fettling shop. The good components without any defects are dispatched as per customers' requirements.

3.4. MACHINERY

The major machinery required for the project is the Heavy Duty Lathe and Hammer. Major suppliers are available in India and China.

S.No.	Item
1	Heavy Duty Central Lathe
2	Pedestal Grinder - Double Ended
3	High Speed Shaping Machine
4	Electrically Operated Furnace
5	Oil Fired Pre-heating Furnace with Oil Burners and Accessories
6	Drilling Machine
7	Weighing Machine - 500 Kg Capacity
8	Hydraulic hot and cold forging press
9	Power Hacksaw
10	Hardness Tester
11	Shot Blasting Chamber
12	60 Ton - Trimming Power Press
13	Heat Treatment Plant

The details of the main and auxiliary machineries required for the project is as detailed in Annexure 1.3.

3.5. PLANT CAPACITY

The capacity of the plant for producing forged materials per annum is around 1,000 tons. Based on the market demand, the plant shall be operating on a single shift basis for 12 hours in a day with one and half hours for cleaning & maintenance.

The estimated production is as detailed in the following table:

Details	Year 1	Year 2	Year 3	Year 4	Year 5
Installed capacity (Tons)	1,000	1,000	1,000	1,000	1,000
Capacity utilization	60%	60%	75%	80%	80%
Production considered for financial Projection (Tons)	600	600	750	800	800

3.6. VEHICLES

The vehicles are required for movement of raw materials and internal material movement. Details of Vehicles are provided in Annexure 1.4.

3.7. RAW MATERIALS AND CONSUMABLES

The raw materials will vary based on the type of forged materials requested by the customers and their specifications. For the sake of our analysis the cost of raw materials and consumables are taken at around 47.5% of the sales value.

3.8. UTILITIES

3.8.1. Water

Water is required for mainly human consumption. It is estimated that 1,500 cubic metres of water is required per annum.

3.8.2. Electricity

Electricity is used for machine operations and for general purpose lighting. The connected load is around 360 kW.

3.8.3. Fuel

The fuel required is Furnace oil and the annual requirement to run the plant at full capacity is around 37,000 Litres.

3.9. MANPOWER

It is estimated that 16 persons are required at the production department. The number of staff required in the administration and accounts department is estimated at 5. One person is proposed for the sales department.

The breakup of staff based on each department is detailed as below:

Department		No of persons
1	Production	16
2	Administration & Accounts	5
3	Sales	1
Total		**22**

3.10. PROJECT IMPLEMENTATION

Being an SME project, the total expected time duration for implementation shall be around 12 months.

4. FINANCIAL ANALYSIS

4.1. PROJECT COST

The total cost of the project is estimated at RO 234,000. Details are given in Annexure – 1. The break-up is given below:

Details	Amount (RO)
Plant & Machinery	59,000
Vehicles and Internal Transport	22,000
Furniture & Office Equipment	10,000
Pre- Operative Expenses	16,000
Contingency & Escalation	5,000
Sub Total	112,000
Working Capital	122,000
TOTAL CAPITAL	**234,000**

4.1.1. Land & Building

The total land area required for the project is around 1,000 Sq. M. Building area required for the project is estimated at 700 Sq. Meters. It will be taken on lease. Lease rent will be RO 2.5 per square meter per month. Details are provided in Annexure 1.1 and 1.2.

4.1.2. Plant & Machinery

The total cost of plant and machinery is estimated at RO 59,000. Details are given in Annexure- 1.3.

4.1.3. Vehicles & Internal Transport

The total cost of vehicles and internal transport is estimated at RO 22,000. Details are given in Annexure- 1.4.

4.1.4. Furniture & Office Equipment

The total cost of furniture and office equipment is estimated at RO 10,000. Details are given in Annexure- 1.5.

4.1.5. Pre-Operative Expenses

The pre-operative expenses include expenses for feasibility study, interest during project implementation, salaries and wages of project staff, travel and communication, legal fees, audit fees and other miscellaneous expenses. The total pre-operative expenses are estimated at R.O 16,000. Details are given in Annexure- 1.6.

4.1.6. Contingency & Escalation

A provision of 5 % of the estimated cost of items including building, plant & machinery, vehicles etc., is provided in the Project cost towards price escalation and any unforeseen expenses. This works out to RO 5,000. Details are given in Annexure- 1.7

4.1.7. Working Capital

Following assumptions are made for computation of working capital.

Details	Period
Accounts Receivable	2 Months
Raw Materials	1 Month
Consumables & packing	1 Month
Utilities	1 Month
Factory Wages	1 Month
Administration Expenses	1 Month
Sales Expenses	1 Month
Work in Progress	3 Days
Finished Goods	5 Days
Finance Cost	1 Month

The working capital requirements for the first 4 years of operation are given below. The working capital requirement in the first year comes to RO 122,000. Details are given in Annexure 1.8.

Particulars	Year 1	2	3	4
Working Capital Requirement (RO '000)	**122**	**123**	**143**	**151**

4.2. MEANS OF FINANCE

It is proposed to finance the Project as indicated in the following table.

Means of Finance	Amount (RO)
Equity Capital (40% of Project Cost)	93,600
Term Loan at 3% interest rate	55,400
Commercial Loan for Working Capital	85,000
TOTAL	**234,000**

It is proposed that the total project cost of RO 234,000 will be financed by owner's fund [equity] to the tune of RO 93,600, term loan with an interest of 3% for RO 55,400 and commercial borrowings for working capital at RO 85,000. The working capital loan is expected to carry interest @ 6% per annum.

4.3. COST OF SALES

The cost of sale has been projected for the first ten years of operation (Annexure-2) and those of first five years are summarized as below:

Figures are in RO '000)

Details	Year 1	Year 2	Year 3	Year 4	Year 5
Raw Materials & Consumables	228	228	285	304	304
Utilities	36	36	45	48	48
Factory Wages	92	95	98	101	104
PRIME COST	356	359	428	453	456
Rent for Land	30	30	30	30	30
Factory Overheads	1	2	2	2	2
Misc. Factory Exp.	4	4	5	5	5
FACTORY COST	**392**	**395**	**465**	**490**	**493**
Admin. Salaries	38	40	42	44	46
Admin. Expenses	8	8	9	9	9
TOTAL ADMIN EXPENSES	46	49	51	53	55
Sales Salaries	6	6	6	6	7
Sales Expenses	1	1	1	1	1
Advert.& Business Promotion	10	10	12	13	13
Total sales & distribution costs	16	17	19	20	21
OPERATING COST	**454**	**460**	**535**	**563**	**569**
Finance cost					
Int. on Institutional finance	2	2	1	1	1
Int. on working capital	5	5	5	5	5
Total finance cost	7	7	6	6	6
Non-cash expenses					
Depreciation	14	14	14	14	14
Prelim Expenses written off	16	0	0	0	0
Total Cost	**491**	**481**	**555**	**584**	**589**

4.3.1. Raw Materials

The cost of raw materials & consumables is taken at around 47.5% of the total sales value.

4.3.2. Utilities

The total cost of utilities for working in full capacity is RO 60,138. The basis of estimate is given in Annexure 2.2.

4.3.3. Salaries & Wages

The cost of salaries and wages in the first year of operation is RO 136,416. Details are given in Annexure 2.3.

4.3.4. Factory Overheads

The annual expenses include repairs and maintenance, civil repairs, cost of spares, spare parts, insurance and vehicle expense and the same is estimated at RO 1,180 for the first year, RO 2,065 for the second and RO 2,065 for the third year. Details are given in Annexure- 2.4.

4.3.5. Administrative Expenses

The basis of estimates of administrative expenses inclusive of salaries & wages is given in Annexure 2.5 and it works out to RO 46,416. Administrative expense includes salaries and benefits, vehicle expenses, communication related expenses, stationery, etc.

4.3.6. Depreciation

Depreciation works out to RO 13,854. Depreciation calculation is given in annexure- 2.7. The following are the rates considered for the calculation of depreciation.

Assets	Life (years)	% of depreciation
Plant & Machinery	10	10
Vehicles and Internal Transport	4	25
Furniture & Office Equipment	5	20

4.3.7. Loan & Interest Calculation

Interest rate for term loan and loan for working capital is taken at 3% and 6% respectively. Details of interest calculations are given in Annexure- 2.8.

4.4. INCOME TAX

No income tax is provided as the new units are exempted from tax for the first five years and 15% tax is considered from 6th year onwards.

4.5. SALES REALIZATION

The annual sales realization at installed capacity is given as annexure 3.1. The annual sales realization is provided below:

Detail	Year 1	Year 2	Year 3	Year 4	Year 5
Sales – RO '000	480	480	600	640	640

4.6. COST RATIOS

The major cost indicators as a percentage of sales realization are given in Annexure- 3.

Details	Year 1	Year 2	Year 3	Year 4	Year 5
Raw Material / Total Sales	47.5%	47.5%	47.5%	47.5%	47.5%
Utilities / Total Sales	7.5%	7.5%	7.5%	7.5%	7.5%
Factory wages / Total Sales	19.3%	19.8%	16.3%	15.8%	16.2%
Prime Cost / Total Sales	74.3%	74.8%	71.4%	70.8%	71.3%
Rent / Total Sales	6.3%	6.3%	5.0%	4.7%	4.7%
Factory exp. / Total Sales	1.1%	1.2%	1.1%	1.1%	1.1%
Factory Cost / Total Sales	81.6%	82.3%	77.5%	76.6%	77.0%
Administrative exp. / Total Sales	9.7%	10.1%	8.5%	8.3%	8.7%
Selling exp. / Total Sales	3.4%	3.5%	3.2%	3.2%	3.2%
Finance Cost / Total Sales	1.4%	1.4%	1.1%	1.0%	0.9%
Non-Cash exp. /Total Sales	6.2%	2.9%	2.3%	2.2%	2.2%
Total Cost / Sales	102.3%	100.2%	92.5%	91.2%	92.0%

Being an engineering unit with skilled operators employed, the factory wages other than Raw Material costs would be a major cost element.

4.7. NET PROFIT AND PROFITABILITY ANALYSIS

As per the financial projection in Annexure – 3, the venture is financially viable. The summary of the analysis is given under:

(Figures are in RO '000)

Details	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	480	480	600	640	640
PBDIT	**26**	**20**	**65**	**77**	**71**
Depreciation	14	14	14	14	14
Finance Cost	7	7	6	6	6
Prelim. Exp. Written Off	16	-	-	-	-
Profit after tax	-11	-1	45	56	51

4.8. KEY APPRAISAL CRITERIA

The viability of the project based on major appraisal criteria is given below.

Detail	Value
IRR on total investment	19.49%
IRR on Equity	33.86%
Payback period of Total Investment	5 years 4 months
Payback period on equity	3 years 8 months
DSCR	3.99

4.9. SENSITIVITY ANALYSIS

A sensitivity analysis has been carried out to determine the susceptibility of the project to changes in main variables. Effect on the IRR on equity investment, based on 10 years of operation due to change in various variables is as follows:

Particulars	Original	Sales Volume down by 5%	RM Cost up by 5%	Sales Value down by 5%
IRR on Investment	19.5	14.7	14.5	8.9
IRR on equity	33.9	24.8	24.3	14.6

5. FACTORS TO CONSIDER BEFORE PROJECT IMPLEMENTATION

The following key factors have to be considered before implementing the project:

- The cost estimates of Plant and Machinery is based on secondary research.
- The investor should receive actual quotations from potential machinery suppliers before implementing the project.
- Quality and design capability are the major parameters to that shall ensure sales. It is recommended that required qualified resources are to be deployed for the successful operation of the project.
- While efforts are made to arrive at the economic size of the plant in line with the local demand, study should be conducted in detail to meet the actual market requirements (primary survey of major industrial units, process units etc.) before implementing the project.

6. CONCLUSION

The IRR on Total Investment for the project is 19.5% and the IRR on Equity Investment is 33.9%.

The project has a healthy DSCR of 3.99 and shall effectively manage the financial obligations of the unit.

Based on the various analysis carried out and as detailed above, the project is found to be technically feasible and financially viable.

Annexures – Financial Projections

ANNEXURE- 1					
SMALL SCALE STEEL FORGING UNIT					
ESTIMATED PROJECT COST					
S.No.	**Item**	**Refer**	**Amount**		**Remarks**
		App.	**(R.O.)**		
A1	**PROJECT COST**				
1	Land & Building etc.	1.1 & 1.2	0		On Lease Rental
2	Plant & Machinery	1.3	59,000		Estimates
3	Vehicles and Int. Transport	1.4	22,000		Estimates
4	Furniture & Office Equip.	1.5	10,000		Estimates
5	Pre- Operative Expenses	1.6	16,000		Estimates
6	Contingency & Escalation	1.7	5,000		Estimates
	Sub Total		112,000	**112,000**	
A2	**WORKING CAPITAL**		**120,936**	**121,000**	
A3	**TOTAL**			233,000	
	Say			**233,000**	
B	**MODE OF FINANCE**				
1	Equity			93,200	40% of the Project Cost
2	Term loan (ODB)			54,800	
3	**Total**			**148,000**	
4	Working Capital Loan			85,000	
	TOTAL			**233,000**	

ANNEXURE- 1.1						
SMALL SCALE STEEL FORGING UNIT						
ESTIMATED COST OF LAND & SITE DEVELOPMENT						
S.No.	**Item**	**Unit**	**Q'ty**	**Rate**	**Amount**	**Remarks**
				(R.O.)	**(R.O.)**	
A	**LAND**					
1	Land for Plant	Sq. M	1,000	0	-	Lease
					-	

ANNEXURE- 1.2			
SMALL SCALE STEEL FORGING UNIT			
ESTIMATED COST OF BUILDING & CIVIL WORKS			
S.No.	**Item**	**Area**	**Remarks**
		(SqM)	
A	**MAIN PLANT BUILDINGS**		
1	Industrial Building	600	Will be on
2	Stores	50	Lease Rental
	Sub Total	**650**	
B	**ADMIN BUILDING**		
1	Administrative Office Building	50	
	Sub Total	**50**	
	Total	**700**	

ANNEXURE- 1.3						
SMALL SCALE STEEL FORGING UNIT						
ESTIMATED COST OF PLANT & MACHINERY						
S. No	**Item**	**Power**	**Q'ty**	**Rate**	**Amount**	**Remarks**
		KW		**(R.O)**	**(R.O)**	
A	**MAIN PLANT AND MACHINERY**					
1	Heavy Duty Central Lathe	3	1	2,200	2,200	
2	Pedestal Grinder - Double Ended	2	1	400	400	
3	High Speed Shaping Machine	3	1	5,000	5,000	
4	Electrically Operated Furnace	200	1	3,000	3,000	
5	Oil Fired Pre-heating Furnace with Oil Burners and Accessories		1	3,000	3,000	
6	Drilling Machine	1	1	500	500	
7	Weighing Machine - 500 Kg Capacity		1	150	150	
8	Hydraulic hot and cold forging press	50	1	15,000	15,000	
9	Power Hacksaw	1	1	400	400	
10	Hardness Tester		1	600	600	
11	Shot Blasting Chamber	7	1	6,000	6,000	
12	60 Ton - Trimming Power Press	5	1	3,800	3,800	
13	Heat Treatment Plant		1	7,000	7,000	
	Sub Total	**272**			**47,050**	**-**
B	**AUXILIARY ITEMS**					
1	Hand Tools, Dies etc		**Set**		1,500	
2	Miscellaneous Equipments		**Set**		500	
	Sub Total				**2,000**	
C	**ELECTRIFICATION**				2,000	
D	**AT SITE COST**					
1	Total Plant				51,050	Sum A+B+C
2	Spares				1,000	Lumpsum
3	Packing, Insurance Forwarding				1,021	
4	C I F Cost				53,071	
5	Clearing & Transport to Site				531	
6	**At Site Cost**				**53,602**	
F	**ERECTED COST**					
1	At Site Cost				53,602	
2	Cost of erection - Local				5,105	Lumpsum
	TOTAL ERECTED COST				**58,707**	
	Say				**59,000**	

ANNEXURE- 1.4					
SMALL SCALE STEEL FORGING UNIT					
ESTIMATED COST OF VEHICLES & INTERNAL TRANSPORT					
S.No.	**Item**	**Q'ty**	**Rate**	**Amount**	**Remarks**
		(Nos.)		**(R.O.)**	
A	**VEHICLES**				
1	Pick up	1	10,000	10,000	
	Sub Total	**2**		**10,000**	
B	**TRANSP. EQUIPMENT**				
1	Forklift	1	10,000	10,000	
2	Registration, Painting, Spares etc			2,000	10% of the above
	Sub Total	**1**		**12,000**	
C	**TOTAL**	3		22,000	
	Say			**22,000**	

ANNEXURE- 1.5					
SMALL SCALE STEEL FORGING UNIT					
ESTIMATED COST OF FURNITURE & OFFICE EQUIPMENT					
S. No	**Item**	**Q'ty**		**Amount**	**Remarks**
				(R.O.)	
A	**OFFICE**				
1	P.C with Printer	2	300	600	Lumpsum
2	Photocopier	1		1,000	Lumpsum
3	Fax, Telephone	Set		1,000	Lumpsum
4	Other Office Equipment	Set		500	Lumpsum
5	Air Conditioners	2	250	500	Lumpsum
6	Office Furnitures			3,000	Lumpsum
	Sub Total			**6,600**	
B	**FACTORY FURNITURE**				
1	Work bench/Rack/Firniture etc			3,000	
	Sub Total			**3,000**	
C	**TOTAL**			9,600	
				10,000	

ANNEXURE- 1.6				
SMALL SCALE STEEL FORGING UNIT				
ESTIMATED COST OF PRE-OPERATIVE EXPENSES				
S. No	**Item**		**Amount**	**Remarks**
		(R.O.)	**(R.O.)**	
1	Preliminary Expenses		500	Upto formation of Co.
2	Feasibility Studies		1,000	
3	Salary during construction period			
a	Salary & benefits - Plant Engineer	2,400		2 Months
b	Salary & benefits - Production Staff	1,750		1 Month
c	Salary & benefits - Admin. Staff	1,135		1 Month
d	Salary & benefits - Sales Staff	350		1 Month
e	Visa, Passage etc.	3,200		For Expatriates at RO 400 / person
	Sub Total		**8,835**	
4	Financing Cost			
a	Institutional Loan Interest	822		At 3% for 6 months
b	Mortgage Expenses	274		At 0.5 % on Institu: Loan
c	Other Bank Charges	500		Lumpsum
	Sub Total		**1,596**	
5	Communication		600	lumpsum
6	Travel		1,000	Lumpsum
7	Recruitment & Training Charges		1,000	Lumpsum
8	Audit Fees, Legal Fees		500	Lumpsum
9	Insurance		236	At 0.4 % of Plant & Bldg.
10	Miscellaneous		500	Provision
11	**Total**		15,767	
	Say..		**16,000**	

ANNEXURE- 1.7					
SMALL SCALE STEEL FORGING UNIT					
ESTIMATES OF CONTINGENCY AND ESCALATION					
S.No.	**Item**	**Cost**	**Rate**	**Provision**	**Remarks**
		(R.O.)	**(%)**	**(R.O.)**	
A	**FIXED ASSETS**				
1	Land for Plant Site	-	0.0	-	
2	Building etc.	-	5.0	-	
3	Plant & Machinery	59,000	5.0	2,950	
4	Technical Know-How	-	5.0	-	
5	Vehicles and Int. Transport	22,000	5.0	1,100	
6	Furniture & Office Equip.	10,000	5.0	500	
7	Pre- Operative Expenses	16,000	5.0	800	
	TOTAL			5,350	
				5,000	say

ANNEXURE- 1.8								
SMALL SCALE STEEL FORGING UNIT								
ESTIMATES OF WORKING CAPITAL REQUIREMENTS								
S.No.	**Item**	**Req.**		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Remarks**
				In R.O. '000				
1	Acct. Receivable	2	Months	76	77	90	94	Cost of sales - Non C Ex.
2	Raw Materials	1	Month	19	19	24	25	
3	Utilities	1	Month	3	3	3	4	
4	Factory Wages	1	Month	8	8	8	8	
5	Admn. Expenses	1	Month	4	4	4	4	
6	Sales Expenses	1	Month	1	1	2	2	
7	Work in Progress	3	Day	3	3	4	4	At Factory Cost
8	Finished Goods	5	Days	6	6	7	7	At total Cost-Non cash-Selling and Distrbn
9	Finance Cost	1	Month	1	1	1	1	At Finance Cost
10	**Total**			**121**	**122**	**142**	**150**	

ANNEXURE- 2

SMALL SCALE STEEL FORGING UNIT

COST OF SALE

	Year of Operation	1	2	3	4	5	6	7	8	9	10	
	Production	60%	60%	75%	80%	80%	80%	80%	80%	80%	80%	
No	**Item**	**In R.O.'000**										**Remarks**
1	Raw Material & Consumables	228	228	285	304	304	304	304	304	304	304	Ref. Annexure 2.1
2	Utilities	33	33	42	44	44	44	44	44	44	44	Ref. Annexure 2.2
3	Factory Wages	92	95	98	101	104	107	110	114	117	121	Ref Annexure 2.3
4	**PRIME COST**	354	357	425	449	452	456	459	462	466	469	Sub total of 1 to 3
5	Rent for Industrial Shed	30	30	30	30	30	30	30	30	30	30	RO 2.5/sqm/month
6	Factory Overheads	1	2	2	2	2	2	2	2	2	2	Ref Annexure 2.4
7	Misc. Factory Exp.	4	4	5	5	5	5	5	5	5	5	At 1 % of (4) to (6)
8	**FACTORY COST**	**389**	**392**	**461**	**486**	**489**	**493**	**496**	**499**	**503**	**506**	Sub total of 4 to 7
9	Admin. Salaries	38	40	42	44	46	49	51	54	56	59	Ref Annexure2.3&2.5
10	Admin. Expenses	8	8	9	9	9	9	10	10	10	10	Ref Annexure 2.5
11	Total Admin expenses	46	49	51	53	55	58	61	64	66	70	Sum (9) to (10)
12	Sales Salaries	6	6	6	6	7	7	7	7	7	8	Ref Annexure2.3&2.6
13	Sales Expenses	1	1	1	1	1	1	1	1	1	2	Ref Annexure 2.6
14	Advert.& Business Promotion	10	10	12	13	13	13	13	13	13	13	2% on sales
15	Total sales & dist: costs	16	17	19	20	21	21	21	21	22	22	Sum of (12 to 15)
16	**OPERATING COST**	**452**	**458**	**531**	**560**	**566**	**571**	**578**	**584**	**591**	**598**	Sum(8)+(10)+(15)
	Finance cost											
17	Int on Institutional finanace	2	2	1	1	1	1	0	0	0	0	Ref Annexure 2.8
18	Int on working capital	5	5	5	5	5	5	5	5	5	5	Ref Annexure 2.8
19	Total finance cost	7	7	6	6	6	6	6	5	5	5	Sum (17)+(18)
	Non cash expenses											
20	Depreciation	14	14	14	14	14	14	14	14	14	14	Ref Annexure 2.7
21	Prelim Expenses written off	16	0	0	0	0	0	0	0	0	0	Ref Annexure 2.7
22	**COST OF SALE**	**488**	**478**	**552**	**580**	**585**	**591**	**597**	**603**	**610**	**617**	Sum 16+19+20+21

ANNEXURE- 2.1						
SMALL SCALE STEEL FORGING UNIT						
ESTIMATED COST OF RAW MATERIALS						
S.No.	**Item**	**Unit**	**Qty**	**Rate**	**Amount**	**Remarks**
A	**RAW MATERIALS**				**(R.O.)**	
1						
	SubTotal				**-**	
B	**CONSUMABLES**					
1	Lubricating Oil					
2	Cotton waste				-	
3	Others					
	SubTotal				**-**	
	TOTAL				**-**	
C	**PACKING MATERIALS**					
	Packing materials				**-**	
	Grand Total				**-**	% of market rate of forged materials

ANNEXURE- 2.2						
SMALL SCALE STEEL FORGING UNIT						
ESTIMATED COST OF UTILITIES						
S.No.	**Item**	**Unit**	**Qty**	**Rate**	**Amount**	**Remarks**
					(R.O.)	
						At installed capacity
1	Water	Cu M	1,500	0.770	1,155	
2	Electricity	KWH	1,814,400	0.030	54,432	
3	Furnace Oil	Litres	0	0.12	-	Price as of Aug 22
	TOTAL				**55,587**	

ANNEXURE- 2.3							
SMALL SCALE STEEL FORGING UNIT							
ESTIMATES OF ANNUAL SALARIES AND WAGES							
S.No.	**Item**	**No of personnel**		**Salary**		**Annual**	**Remarks**
				(RO/month)		**RO**	
		Expat	*Omani*	*Expat*	*Omani*		
A	**PRODUCTION**						
1	Works manager/Metallurgist (GM)	1	0	1,200		14,400	
2	Supervisor	1	1	300	500	9,600	
3	Skilled workers	6	2	250	350	26,400	
4	Unskilled workers	2	2	200	325	12,600	
5	Lab Technician	1	0	250		3,000	
	Sub Total	11	5			66,000	
	Other Benefits (40% of salary)					26,400	
	Total Cost					**92,400**	
B	**ADMINISTRATION & ACCOUNTS**						
1	Admin Manager / PRO	0	1	-	800	9,600	
2	Accountant	1	0	650	-	7,800	
3	Assistants	1	1	250	450	8,400	
4	Office Boy	1	0	120	-	1,440	
	Sub Total	3	2			**27,240**	
	Other Benefits (40% of salary)					10,896	
	Total Cost	**3**	**2**			**38,136**	
C	**SALES**						
a	**Sales**						
1	Sales Executives		1	350	600	4,200	
	Other Benefits (40% of salary)					1,680	
	Total Cost					**5,880**	
D	**GRAND TOTAL**	**14**	**8**			**136,416**	
	Omanisation		**36%**				

ANNEXURE- 2.4					
SMALL SCALE STEEL FORGING UNIT					
ESTIMATES OF ANNUAL FACTORY EXPENSES					
S.No.	**Item**	**Year**	**Year**	**Year**	**Remarks**
		1	**2**	**3**	
1	Repairs & Maintenance	295	295	295	At 0.5 % of erected cost of Plant and Machinery
2	Civil Repairs	-	-	-	At 1 % , 2%,3%of cost of Building and Civil Works
3	Spare Parts	295	1,180	1,180	At 0.5%, 2.0% and 2.0% of 'at-site' cost of P & M
4	Insurance	590	590	590	At 1 % of cost Building, Plant and Machinery
	TOTAL	**1,180**	**2,065**	**2,065**	

ANNEXURE- 2.5				
SMALL SCALE STEEL FORGING UNIT				
ESTIMATES OF ANNUAL ADMINISTRATIVE EXPENSES				
S.No.	**Item**		**Amount**	**Remarks**
		(R.O.)	**(R.O.)**	
1	Salaries & Benefits		38,136	
2	Vehicle Expenses & Petrol			
a	Cars (3 Nos)	1200		At R.O. 100/Month each
	Sub Total		1,200	
3	Telephone, Fax etc.		1,200	At R.O. 100/Month
4	Safety services		1,200	At R.O. 100/Month
5	Travel & Recruitment		500	Lumpsum
6	Legal, Audit Fees		1,000	Lumpsum
7	Utilities outside Plant		1,200	At R.O. 100/Month
8	Registratioin & Renewals		1,000	
9	Insurance		480	Lumpsum
10	Other Expenses		500	
	Total		**46,416**	

ANNEXURE- 2.6			
SMALL SCALE STEEL FORGING UNIT			
ESTIMATES OF ANNUAL SALES EXPENSES			
S.No.	**Item**	**Amount**	**Remarks**
		(R.O.)	
1	Salaries	5,880	See Annexure 2.3
2	Travel	1,000	Lumpsum
	Total	**6,880**	

ANNEXURE- 2.7						
SMALL SCALE STEEL FORGING UNIT						
DEPRECIATION CALCULATIONS						
	Item	**Cost**	**Rate**	**S.V.**	**Amount**	**Renewals**
			(%)	**(R.O.)**	**(R.O.)**	
A	**FIXED ASSETS**					
1	Land for Plant Site	0	0	0	-	Nil
2	Building etc.	0	5	0	-	Nil
3	Plant & Machinery	58540	10	0	5,854	Year 11
4	Technical Know-How	0	10	0	-	Nil
5	Vehicles and Int. Transp.	22000	25	11000	5,500	Years 5, 9
6	Furniture & Office Equip.	10000	20	0	2,000	Years 6, 11
7	Contingency & Escalation	5000	10	0	500	Nil
8	Sub Total	95540		11000	**13,854**	
B	**PRELIM &PRE OPE: EXP**	16000	100	0	**16,000**	Nil
C	**WORKING CAPITAL**					
1	Working Capital	149893	0	149893	-	
D	**TOTAL**			**160,893**	**29,854**	
	Less Balance Loan			**85,000**		
E	**SALVAGE VALUE**			**75,893**		
	Note: S.V. = Salvage Value at the end of 10th year.					

ANNEXURE- 2.8								
SMALL SCALE STEEL FORGING UNIT								
LOAN & INTEREST CALCULATIONS								
		Term Loan			Bank		Annual	
No	**Year**	**Prn**	**Int**	**Rep**	**Prn**	**Int**	**Int**	**Rep**
	7		3%			6%		
1		55	0.8	0	85	2.6		
2	1	55	0.8	0	85	2.6	**6.7**	**0**
3		55	0.8	4	85	2.6		
4	2	51	0.8	4	85	2.6	**6.7**	**8**
5		47	0.7	4	85	2.6		
6	3	43	0.6	4	85	2.6	**6.5**	**8**
7		39	0.6	4	85	2.6		
8	4	35	0.5	4	85	2.6	**6.2**	**8**
9		31	0.5	4	85	2.6		
10	5	27	0.4	4	85	2.6	**6.0**	**8**
11		23	0.4	4	85	2.6		
12	6	20	0.3	4	85	2.6	**5.7**	**8**
13		16	0.2	4	85	2.6		
14	7	12	0.2	4	85	2.6	**5.5**	**8**
15		8	0.1	4	85	2.6		
16	8	4	0.1	4	85	2.6	**5.3**	**8**
17		0	0.0	0	85	2.6		
18	9	0	0.0	0	85	2.6	**5.1**	**0**
19		0	0.0	0	85	2.6		
20	10	0	0.0	0	85	2.6	**5.1**	**0**

ANNEXURE- 3												
SMALL SCALE STEEL FORGING UNIT												
ESTIMATED WORKING RESULTS												
	Year of Operation	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
	Production	60%	60%	75%	80%	80%	80%	80%	80%	80%	80%	
No	**Item**	**In R.O.'000**										**Remarks**
1	**Operating Cost**	452	458	531	560	566	571	578	584	591	598	Ref Annexure 2
2	Expected Sales											
a	Total Sales	480	480	600	640	640	640	640	640	640	640	
3	**Profit before Int & dep**	**28**	**22**	**69**	**80**	**74**	**69**	**62**	**56**	**49**	**42**	Sum of (2-1)
4	Depreciation	14	14	14	14	14	14	14	14	14	14	Ref Annexure 2.7
5	Finance Cost	7	7	6	6	6	6	6	5	5	5	Ref Annexure 2.8
6	**Operating profit**	**8**	**2**	**48**	**60**	**55**	**49**	**43**	**37**	**30**	**23**	Sum of (3 - 4 - 5)
7	Other income if any											
8	Prelim Expenses written off	16	-	-	-	-	-	-	-	-	-	Ref Annexure 2.7
9	Profit/Loss before tax	-8	2	48	60	55	49	43	37	30	23	Sum of (6 - 7 - 8)
10	Income Tax	0	0	0	0	0	7	6	6	5	4	15% Profit from Year 6
11	**Profit after tax**	**-8**	**2**	**48**	**60**	**55**	**42**	**37**	**31**	**26**	**20**	
12	Statutory reserve		0	5	6	5	4	4	3	3	2	
13	Profit for appropriation	-8	2	43	54	49	37	33	28	23	18	
14	Dividend	0	0	0	0	0	0	0	0	0	0	
15	General reserve	-8	2	43	54	49	37	33	28	23	18	Difference (13) - (14)
16	**Net cash accruals**	**22**	**16**	**62**	**74**	**69**	**55**	**50**	**45**	**40**	**34**	

ANNEXURE- 3.1					
SMALL SCALE STEEL FORGING UNIT					
ESTIMATES OF SALES REALISATION					
S.No.	**Item**	**Unit**	**Qty**	**Rate**	**Amount**
				RO	**RO**
A	**Income**				
1	Forged Steel Components	Ton	1,000	800	**800,000**
2	Scraps	Ton	50		**-**
	Total		**1,050**		**800,000**

ANNEXURE- 4

SMALL SCALE STEEL FORGING UNIT

PROJECTED CASH FLOW STATEMENT

	Year of Operation		1	2	3	4	5	6	7	8	9	10	
	Production		60%	60%	75%	80%	80%	80%	80%	80%	80%	80%	
	Nos	000											
No	**Item**	**In R.O.'000**											**Remarks**
A	**CASH INFLOW**												
1	Equity	93	0	0	0	0	0	0	0	0	0	0	Ref Annexure 1
2	Profit bef tax & int		-2	8	55	66	61	55	49	42	35	29	Ref Annexure 3
3	Depreciation	0	14	14	14	14	14	14	14	14	14	14	Ref Annexure 2.7
4	Prel exp written off		16	-	-	-	-	-	-	-	-	-	Ref Annexure 2.7
5	Increase in Other term loan	0	0	0	0	0	0	0	0	0	0	0	Ref Annexure 1
6	Increase in Bank Term Loan	55	0	0	0	0	0	0	0	0	0	0	Ref Annexure 1
7	Increase in W C loan	85	0	0	0	0	0	0	0	0	0	0	Ref Annexure 1
8	Other income	0											Ref Annexure 3
9	Sub Total	233	28	22	69	80	74	69	62	56	49	42	Sum of A1 to A8
B	**CASH OUTFLOW**												
1	Capital Project expenditure	96	0	0	0	0	22	10	0	0	22	0	Ref Annexure 1& 2.7
2	Other normal cap exp	16											Ref Annexure 1& 2.7
3	Increse in Working Cap:	121	0	2	20	0	0	0	0	0	0	0	Ref Annexure 1.7
4	Decrease in Institu:Loan	0	0	8	8	8	8	8	8	8	0	0	Ref Annexure 2.8
5	Decrease in Other term loan		0	0	0	0	0	0	0	0	0	0	
5	Interest on term loans		2	2	1	1	1	1	0	0	0	0	Ref Annexure 2.8
6	Interest on work cap loan		5	5	5	5	5	5	5	5	5	5	Ref Annexure 2.8
7	Income Tax	0	0	0	0	0	0	7	6	6	5	4	Ref Annexure 3.2
8	Dividend	0	0	0	0	0	0	0	0	0	0	0	Provision
9	Sub Total	233	7	16	34	14	36	31	20	19	32	9	Sum of B1 to B10
10	**OPENING BALANCE**	0	0	22	28	62	128	167	205	247	285	302	
C	**SURPLUS**	**0**	**22**	**6**	**34**	**66**	**39**	**38**	**43**	**37**	**18**	**34**	Difference(A9)-(B11)
D	**CLOSING BALANCE**	**0**	**22**	**28**	**62**	**128**	**167**	**205**	**247**	**285**	**302**	**336**	

ANNEXURE- 5

SMALL SCALE STEEL FORGING UNIT

INTERNAL RATE OF RETURN ON TOTAL CAPITAL

	Year of Operation		1	2	3	4	5	6	7	8	9	10	
	Production		60%	60%	75%	80%	80%	80%	80%	80%	80%	80%	
No	**Item**	**In R.O.'000**											**Remarks**
A	**CASH INFLOW**												
1	Net Profit bef. Tax		-8	2	48	60	55	49	43	37	30	23	Refer Annexure - 3
2	Depreciation	0	14	14	14	14	14	14	14	14	14	14	Ref Annexure 2.7
3	Prelim Exp written off		16	0	0	0	0	0	0	0	0	0	Ref Annexure 2.7
4	Finance Cost	0	7	7	6	6	6	6	6	5	5	5	Ref Annexure 2.8
5	Salvage Value	0	0	0	0	0	0	0	0	0	0	405	Ref Annexure 2.7
6	Sub Total	0	28	22	69	80	74	69	62	56	49	447	Sum of A1 to A5
B	**CASH OUTFLOW**												
1	Capital Project expenditure	96	0	0	0	0	22	10	0	0	22	0	Refer Annexure - 1
2	Other normal cap exp	16	0	0	0	0	0	0	0	0	0	0	Refer Annexure - 1
3	Working Capital	121	0	2	20	0	0	0	0	0	0	0	Refer Annexure - 1
4	Income Tax		0	0	0	0	0	7	6	6	5	4	Refer Annexure - 3.2
5	Sub Total	233	0	2	20	0	22	17	6	6	27	4	Sum of B1 to B4
C	**NET CASHFLOW (AT)**	**-233**	**28**	**21**	**49**	**80**	**52**	**51**	**56**	**50**	**23**	**444**	
D	**NETCASH FLOW(PT)**	**-233**	**28**	**21**	**49**	**80**	**52**	**59**	**62**	**56**	**27**	**447**	
E	**INTERNAL RATE OF RETURN ON TOTAL INVESTMENT**										**21.16**	%	

ANNEXURE- 6													
SMALL SCALE STEEL FORGING UNIT													
INTERNAL RATE OF RETURN ON EQUITY CAPITAL (AFTER TAX)													
	Year of Operation	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
	Production		60%	60%	75%	80%	80%	80%	80%	80%	80%	80%	
No	**Item**	**In R.O.'000**											**Remarks**
A	**CASH INFLOW**												
1	Net Profit before Tax	0	-8	2	48	60	55	49	43	37	30	23	Refer Annexure- 3
2	Depreciation	0	14	14	14	14	14	14	14	14	14	14	Refer Annexure - 2.7
3	Prelim Exp written off	0	16	0	0	0	0	0	0	0	0	0	Refer Annexure - 2.7
4	Salvage Value	0	0	0	0	0	0	0	0	0	0	405	Refer Annexure - 2.7
5	Sub Total	0	22	16	62	74	69	63	57	51	44	442	Sum of A1 to A4
B	**CASH OUTFLOW**												
1	Equity	93	0	0	0	0	0	0	0	0	0	0	Refer Annexure - 1
2	Fixed Assets	0	0	0	0	0	22	10	0	0	22	0	Refer Annexure - 1
3	Working Capital	0	0	2	20	0	0	0	0	0	0	0	Refer Annexure - 1
4	Loan Instalment	0	0	8	8	8	8	8	8	8	0	0	Refer Annexure - 2.8
5	Income Tax	0	0	0	0	0	0	7	6	6	5	4	Refer Annexure - 3.1
6	Sub Total	93	0	9	28	8	30	25	14	13	27	4	Sum of A1 to A5
C	**NET CASHFLOW**	**-93**	**22**	**6**	**34**	**66**	**39**	**38**	**43**	**37**	**18**	**439**	
D	**INTERNAL RATE OF RETURN ON EQUITY INVESTMENT**								**36.81**	**%**			

ANNEXURE- 7													
SMALL SCALE STEEL FORGING UNIT													
PROJECTED BALANCE SHEET													
	Year of Operation		1	2	3	4	5	6	7	8	9	10	
	Production		60%	60%	75%	80%	80%	80%	80%	80%	80%	80%	
No	**Item**	**In R.O.'000**											**Remarks**
A	**ASSETS EMPLOYED**												
1	Fixed Assets												
a	Gross Fixed Assets	96	96	96	96	96	118	128	128	128	150	150	Refer Annexure - 2.7
b	Preliminary expenses	16	0	0	0	0	0	0	0	0	0	0	Refer Annexure- 2.7
c	Acc. Depreciation	0	14	28	42	55	69	83	97	111	125	139	Refer Annexure - 2.7
d	Net Fixed Assets	112	82	68	54	41	49	45	31	17	25	11	
2	Current Assets												
a	Cash	0	22	28	62	128	167	205	247	285	302	336	Refer Annexure - 4
b	Other Cur. Assets	121	121	123	142	142	142	142	142	142	142	142	Refer Annexure - 1.7
c	Total Cur. Assets	121	143	150	205	271	310	347	390	427	445	478	
3	Less: Cur. Liabilities	0	0	0	0	0	0	0	0	0	0	0	
		233	**225**	**219**	**259**	**311**	**358**	**392**	**421**	**444**	**470**	**490**	
B	**FINANCED BY**												
1	Equity	93	93	93	93	93	93	93	93	93	93	93	Refer Annexure - 1
2	Statutory reserve		0	0	5	11	16	21	24	27	30	32	
3	General reserves	0	-8	-7	37	91	140	178	210	239	262	280	Cu.NP-Cu.Divident
4	Other term loan	0	0	0	0	0	0	0	0	0	0	0	Refer Annexure - 2.8
5	Institutional Finance	55	55	47	39	31	23	16	8	0	0	0	Refer Annexure - 2.8
6	Bank Borrowings	85	85	85	85	85	85	85	85	85	85	85	Refer Annexure - 2.8
		233	**225**	**219**	**259**	**311**	**358**	**392**	**421**	**444**	**470**	**490**	

ANNEXURE- 8											
SMALL SCALE STEEL FORGING UNIT											
RATIO ANALYSIS											
	Years of Operation	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A	**COST RATIOS**										
1	Raw Material / Total Sales	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
2	Utilities / Total Sales	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%
3	Factory wages / Total Sales	19.3%	19.8%	16.3%	15.8%	16.2%	16.7%	17.2%	17.8%	18.3%	18.8%
4	Prime Cost / Total Sales	73.7%	74.3%	70.8%	70.2%	70.7%	71.2%	71.7%	72.2%	72.7%	73.3%
5	Rent / Total Sales	6.3%	6.3%	5.0%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
6	Factory exp. / Total Sales	1.0%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
7	Factory Cost / Total Sales	81.0%	81.8%	76.9%	76.0%	76.5%	77.0%	77.5%	78.0%	78.5%	79.1%
8	Administrative exp. / Total Sales	9.7%	10.1%	8.5%	8.3%	8.7%	9.1%	9.5%	9.9%	10.4%	10.9%
9	Selling exp. / Total Sales	3.4%	3.5%	3.2%	3.2%	3.2%	3.3%	3.3%	3.3%	3.4%	3.4%
10	Finanace Cost / Total Sales	1.4%	1.4%	1.1%	1.0%	0.9%	0.9%	0.9%	0.8%	0.8%	0.8%
11	Non-Cash exp. /Total Sales	6.2%	2.9%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
12	Total Cost / Sales	101.7%	99.6%	92.0%	90.6%	91.5%	92.4%	93.3%	94.2%	95.3%	96.3%
B	**PROFITABILITY RATIOS**										
1	PBDIT / Sales	5.9%	4.6%	11.4%	12.5%	11.6%	10.7%	9.7%	8.7%	7.7%	6.6%
2	Operating profit / Sales	1.6%	0.4%	8.0%	9.4%	8.5%	7.6%	6.7%	5.8%	4.7%	3.7%
3	PAT / Sales	-1.7%	0.4%	8.0%	9.4%	8.5%	6.5%	5.7%	4.9%	4.0%	3.1%
4	PAT / Investment	-5.6%	1.2%	32.6%	40.7%	36.9%	28.1%	24.7%	21.1%	17.4%	13.4%

ANNEXURE- 9				
SMALL SCALE STEEL FORGING UNIT				
BREAK EVEN ANALYSIS				
S.No.	**Item**	**Year 1**	**Year 6**	**Remarks**
		In R.O. '000		
A	**FIXED COST**			
1	Production Wages	92	107	Refer Annexure - 2
2	Factory Overhads	1	2	Refer Annexure - 2
3	Misc. Factory Exp.	4	5	Refer Annexure - 2
4	Admin. Expenses	46	51	Refer Annexure - 2
5	Sales Expenses	16	21	Refer Annexure - 2
6	Depreciation	14	14	Refer Annexure - 2
7	Prelim. Expenses written off	16	0	Refer Annexure - 2
8	Financing Cost	7	6	Refer Annexure - 2
9	Income Tax	0	7	Refer Annexure - 2
10	Sub Total	197	213	
B	**VARIABLE COST**			
1	Raw materials	228	304	Refer Annexure - 2
2	Utilities	33	44	Refer Annexure - 2
3	Misc. Expenses	0	0	
4	Sub Total	261	348	
C	**SALES**	480	640	Refer Annexure - 3
D	**CONTRIBUTION**	219	292	Difference C - B
E	**BREAK EVEN POINT**	54.0	58.4	As % of Plant Capacity
F	**CASH BEP**	45.8	54.5	As % of Plant Capacity

ANNEXURE- 10					
SMALL SCALE STEEL FORGING UNIT					
SENSITIVITY ANALYSIS (IRR FOR 10 YEARS)					
		Projection	Change in One		
S. No	Item	No Change	Variable at a Time		
A	VARIABLE		Volume	R. M	Sales
			Nos	Cost	Value
B	PESSIMISTIC				
	Change		-5%	5%	-5%
C	OPTIMISTIC				
	Change		5%	-5%	5%
D	I R R - PESSIMISTIC PROJECTION				
1	I R R on Investment	21.2	16.4	16.2	10.8
2	I R R on Equity	36.8	27.6	27.2	17.5
E	I R R - OPTIMISTIC PROJECTION				
1	I R R on Investment	21.2	25.9	26.1	31.5
2	I R R on Equity	36.8	46.6	47.1	59.0

ANNEXURE- 11												
SMALL SCALE STEEL FORGING UNIT												
DEBT SERVICE COVERAGE RATIO												
	Years of Operation	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Production in (%)		60%	60%	75%	80%	80%	80%	80%	80%	80%	80%
No	**Item**	**In R.O.'000**										
1	Profit after tax		-8	2	48	60	55	42	37	31	26	20
2	Depreciation		14	14	14	14	14	14	14	14	14	14
3	Prelimnery exp. Written off		16	0	0	0	0	0	0	0	0	0
4	Interest		7	7	6	6	6	6	6	5	5	5
5	Total		28	22	69	80	74	61	56	50	45	39
1	Annual repayment		0	8	8	8	8	8	8	8	0	0
2	Interest		7	7	6	6	6	6	6	5	5	5
3	Total		7	15	14	14	14	14	13	13	5	5
	D.S.C.R		4.20	1.54	4.80	5.71	5.39	4.51	4.19	3.85	9	8
	WT. AVERAGE D.S.C.R	**4.27**										