

AFRICAN FOUNDRY GROUP LIMITED

P. O. Box 8673

DAR ES SALAAM – TANZANIA

BUSINESS PLAN

FOR

FABRICATING ALL KINDS OF MACHINERY SPARE PARTS

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BRIEF SUMMARY PROJECT

COMPANY: AFRICAN FOUNDRY GROUP LIMITED

LOCATION: Manchali, Chamwino District, Dodoma Region.

CONTACTS: P. O. Box 8673

OBJECTIVE: TO ESTABLISH PROJECT FOR DESIGNING, RE ENGINEERING
&
FABRICATING ALL KINDS OF MACHINES

PROJECT VALUE: USD 1,500,000

BENEFITS: AVAILABILITY OF ALL KINDS OF MACHINES SPARE PARTS
LOCALLY DESIGNED AND FABRICATED, TECHNOLOGY
TRANSFER, JOBS CREATION, GOVERNMENT INCOME, IMPORT
SUBSTITUTION,

IMPLEMENTATION PERIOD: 5YEARS

1.0 PREAMBLE

AFRICAN FOUNDRY GROUP LIMITED is locally incorporated company planning to design, re-engineering and fabricate all kind of machines based of client's needs and specifications. Company's products will contain the experience and know-how of nearly 10 years. By carefully designing and re engineering of all types of machines, equipments, spare parts etc using the latest production technology, we are able to guarantee a product that will give a modern, fashionable, designable, durable at affordable cost.

1.2 RATIONALITY

Most of all machines available in Tanzania are being imported and few of them are designed, re engineered locally. The country is using a lot of foreign currency to buy machines parts which are not specifically designed to suit our local environment. **AFRICAN FOUNDRY GROUP LIMITED** has come to try to bridge that gap

1.3 REPORT'S OBJECTIVE

This report is documented to show the commercial viability, the operational feasibility and the social economic impact of establishing such project in a Dodoma city. It shows the plan for establishing such a project and then; the financial efficiency, positive environmental impact and benefits borne by the project. It is intended to be submitted to Tanzania Investment centre for acquiring the Certificate of Incentives, to be submitted to the Board of Directors for the resource's authorization, to guide the project implementers, and be submitted to other stakeholders for the project development.

1.4 PROJECT'S OBJECTIVE

The main objective by which this study is presented is to inform all stakeholders on the purposeful and solid intention of the AFRICAN FOUNDRY GROUP LIMITED Tanzania Company Limited to establish and operate a plant that will cater the needs of clients'

1.5 REGISTRATION AND OWNERSHIP

The company was established in Tanzania after being registered with the registrar of companies of 7th day of December, 2023 as a limited company by liabilities. Its registration No. 170608356 and has the authorized value of shares Tsh 50,000,000. **AFRICAN FOUNDRY GROUP LIMITED** Tanzania Company Limited is the owned and promoted by two shareholders namely:

Shareholders' Names	% Of Share	Nationality
YAN GUANGJIAN P. O. Box 8673 DAR ES SALAAM	80	Chinese
SUN QILONG P. O. Box 8673 DAR ES SALAAM	20	Chinese

1.6 LOCATION

The site for the project will located to un surveyed area **at Manchali, Chamwino District, Dodoma Region.**

The above stated location measuring 21,150square meters (5.22 acres) is ideal for the plant because it has enough and accessible.

2.0 NEED FOR THE PROJECT

This project is needed now and has been purposely planned to mean a lot to the country of investment and the owners, the Government of Tanzania is emphasizing industrialisation like any other country still need various people to investing in manufacturing sector, by having such project the company intend to complement government efforts as far as manufacturing sector is concerned.

2.1 PROJECT SUPPORT

On merit, the project is highly supported by the national investment promotion policy 2007, industrial policy, industrialization strategy, Investment Act of 2022 and government initiative of industrialization of Tanzania economy, these policies require and highly recommend manufacturing sector.

2.2 CONSTRUCTION

The project planned for this development is designing, re engineering & fabricating all kinds of machines parts.

The plan will involve construction of structures for:

- i. **Offices:** this will be a two-storey building with the first floor containing the main reception, purchases and sales offices. The second floor will be for financial controls and for Directors' offices. This structure will require building materials, furniture and electronics.

- ii. **Production:** this will contain four parts. One for materials designing selection, another for re engineering, lastly melting, shaping and fabrication, the other for quality control. This will be the main section of the factory. It will involve construction of shade structures, installation of machinery.

- iii. **Inventory section:** the plant will have double inventory structures to handle both the raw materials stock and the finished products stock.

- iv. **Water reservoirs:** there will be two tanks for clean water storage each with a capacity of 1,000,000 liters. The water is for the factory production use and human use.

- v. **Fuel reservoirs:** one tank of 100,000 liters will be constructed to keep the fuel oil while another steel tank of 10,000 kgs will be installed for gas fuel.

- vi. **Sewage:** The sewage system will be constructed to handle both liquid sewage and solid sewage. There will be a water treatment section where dirty water will be purified and then recycled for reuse in the factory system.

- vii. **Store:** The yard will be a shaded area with a capacity of keeping number of finished products.

3.0 IMPLEMENTATION PLAN

Time	Activity
July 2025 –July 2026	Construction
July – December 2026	Fabrication machines installed
January – May 2027	Run test of factory
June –October 2027	Adjustments & servicing
December 2027	Official opening

The investors are so far committed to fulfil their duties basing on this implementation plan. They are all optimistic on the operationalization of their idea of this venture. The only limitation that can change the plan is the failure to secure various authoritative licenses on time. This is not the promoters' intention but the experience leant during the feasibility study took more than two years and revealed both positive and negative issues around investments. The assumption is that when most of the main requirements are covered and the permits are in place, the implementation will remain done as planned.

4.0 PROJECT INVESTMENT

Project Investment Cost the estimated capital investment cost of the project is **US\$ 1.5**

AFRICAN FOUNDRY GROUP LIMITED COST STRUCTURE

PARTICULAR	US\$
Land and Buildings	400,000.00
Machinery & Equipment	700,000.00
Motor Vehicles	100,000.00
Furniture & Fixtures	5,000.00
Pre exp	10,000.00
Others	5,000.00

Working Capital	280,000.00
TOTAL	1,500,000.00

5.0 QUALITY ASSURANCE

Quality is one of the key issues which will have a strong investment fulfilment, because it determines the qualification of the project to keep on producing and gives the plant an assurance of customers' availability with pride of products.

Each individual stage of work at the factory will be subjected to strict quality controls.

Local laboratories check the manufacturing process and the quality of our products on an ongoing basis. This is how we shall ensure that each machine spare parts meets all quality standards.

The producer/factory will use various known means of public information on the quality standard and the type of a product. Labels and symbol code familiar with a single digit will be applied to allow consumers to differentiate types of products. The factory will operate under the guidance and regulations of the Tanzania Bureau of Standards (TBS) and other international standards and accreditations.

6.0 PRODUCTS' MARKETING AND DISTRIBUTION

The project will market the products to various clients such as construction equipment companies, mining companies and manufactures using various associations and chamber of commerce, building big hardware whole selling

shops, trade fairs like the Dar es Salaam International Trade Fair. Also, mass media instruments like radios, newspapers and Television stations will be used to advertise on the project products to the communities.

7.0 PROJECT MANAGEMENT AND MANPOWER

7.1 Management

The project will be managed by 30 key staffs; the Management Officer will be the Chairperson. Under him/her will be the General manager, the Chief Engineer, the Production manager, the Finance Manager and the Marketing manager.

The project will have a high tech installment of machinery and new technology application.

7.2 Workers' Welfare

All workers inclusive will benefit from the internal training for proper operations, quality and security observance. There will be out-dooring trainings for recommended staffs depending on their working requirements. Generally, the plant will apply sophisticated machinery of high technology, it is through the trainings that the Management team plans to transfer technology and skills to local workers and make

Sure, those foreign workers are employed where inevitable.

Health and Insurance: The project will provide medical treatments to its workers as per

Country policy requirements and will enroll workers to social security institutions as per the country policy too.

8.0 Financial Analysis

8.1 Considerations and Assumptions

The corporate tax charged is 30% of the profits. Capital investment allowance is 50%. The capital assets are exempted from custom duty . The straight-line method to depreciate the project's capital items has been applied.

Revenues have been conservatively estimated based on experience of the promoters and trends in the packaging materials products industry.

8.2 Project Investment

The estimated capital investment cost of the project is US\$ 1,500,000.

AFRICAN FOUNDRY GROUP LIMITED COST STRUCTURE

PARTICULAR	US\$
Land and Buildings	400,000.00
Machinery & Equipment	700,000.00
Motor Vehicles	100,000.00
Furniture & Fixtures	5,000.00
Pre exp	10,000.00
Others	5,000.00
Working Capital	280,000.00
TOTAL	1,500,000.00

For the project to be a reality a total investment amounting to US \$ 1,500,000 is needed

(i) **Land and Building: Us \$400,000**

The project building is estimated and budgeted as above, the board of directors has planned to purchase a land and construct a building and warehouse

(ii) **Machinery and Equipment: US\$ 700,000**

US \$700,000 is anticipated to be spent on the purchase of various factory tools and equipment which will accommodate new such as.

These machines have evolved over hundreds of years, making it possible to produce the most complex shapes, and in a way that involves much less human effort. There are various techniques used by the fabrication industry that have led to invention and evolution of many machines.

With such a diverse selection of machines, it's important to understand the different types and what each one can do. Fortunately, at AFRICAN FOUNDRY GROUP LIMITED we've consolidated our expertise to provide this list of the 11 machines that are the most ubiquitous in this industry.

These are the most common machines used for metal cutting and shaping operations in metalworking industries. Special purpose machines are also made for performing some specific operations on a specific product.

These machine tools are used for increasing the production rate.

Lathe Machine

Lathes are metalworking machines that rotate the workpiece to perform various machining operations. Lathes can be used to produce parts from ferrous and non-ferrous metals, plastics, and wood.

They are multipurpose machines that can be used to perform operations like cutting, sanding, knurling, drilling, boring, threading, facing, and turning. They come in various sizes, and with a range of accessories.

Lathes have been around since ancient times and are mostly used for precision work. They can be found in factories that produce light machinery parts, as well as machine shops and metalworking shops where heavy-duty machines are present.

Milling Machine

The milling machine is a metalworking tool that uses rotary cutters to remove undesired material. The workpiece is held tight on the movable work table, about which a rotating tool can be moved vertically.

The two major operations that a milling machine performs is face milling and peripheral milling. In face milling, the operator mills a flat surface that's at a right angle to the rotation of the cutter, whereas, in peripheral milling, the cutter is placed parallel to the workpiece.

They are used for a variety of purposes, from simple cutting to complex shaping and drilling. Because of this versatility, milling machines are a staple in most metalworking shops.

Grinding Machine

With a grinding machine, an abrasive wheel is made to rotate at relatively high speeds. The rotating wheel provides finishing to the workpiece by removing a very small amount of material along its surface, after which it becomes smooth to touch.

Grinders can be used to shape, flatten, and smooth the surfaces on pieces that have been cut with other tools, such as saws or lathes. Abrasive materials can also be applied to remove rust or paint from parts for repainting or refurbishing purposes.

The flexibility and precision provided by grinding machines make them an integral part of any manufacturing operation that involves metals.

Drilling Machines

Drilling machines are one of the most common types of machines that we commonly see around us in metalworking shops. They're often used for various household repair works too.

The tools of a drilling machine are easy to install and replace which makes it really easy to use. They can be used to drill holes into a diverse range of materials, including metals, cement, and even concrete.

Shaper Machines

A shaper machine uses a single-point cutting tool that moves in a linear motion to perform a cutting operation on a workpiece. It has a simple mechanism and is easy to operate too.

These mills can be used to cut, shape, or form metal into the desired shape. They are typically mounted on a table which allows them to access all sides of the material.

One type of workpiece that benefits from these types of machines is sheet metal as they can easily create complex shapes such as an arc with just one pass. As you can probably guess, they see very frequent use throughout the industry.

Broaching Machines

A broaching machine cuts, forms, and shapes a variety of materials. It uses a toothed tool or a broach to remove material from the workpiece.

There are two types of broaching processes – linear and rotary. The more common of the two is linear broaching, in which the machine is placed in line with the workpiece. In rotary broaching, however, the broach is rotated as it's applied to the workpiece.

Broaches are versatile tools that have many uses in a variety of industries. They create an array of different types of products for industry professionals who work on metalworking projects.

Saw Machines

There are three types of saw machines, the hacksaw, the circular saw, and the band saw. These machines are used to divide a metal piece into smaller parts.

Band Saw

The band saw is a great machine for cutting metal and wood. It can be used to create long pieces, such as pipes or solid bars, in any desired length and in large quantities.

Circular Saw

Circular saws, in both handheld and table saw variants, use a round blade that rotates or reciprocates to make the cut. The circular saw is one of the most versatile types of saw machines available for industrial operations.

Hacksaw

Perhaps the most recognizable saw is the hacksaw. This hand-powered machine features a straight blade with many small teeth for cutting through various metal objects, such as pipes, rods, and even sheet metal.

Planer Machine

Planar machines are very similar to shaper machines. In fact, the only difference in this machine is that the cutting tool is stationary and the workpiece is made to move in a linear motion. Generally, these machines are also larger than shaper machines.

They're used to reduce the thickness and size of materials like steel plates, bars, and rods by shaving off some excess material during

machining processes. It's also used to produce flat surfaces from rough or uneven surfaces.

Shearing Machine

A shearing machine is a one that is used for cutting sheet metal into desired shapes and sizes. One thing that makes these metalworking machines ideal for industrial shops is that the shearing process does not form chips or any residual material, reducing debris in the air and on the floor.

As with the other equipment on this list, shearing machines are vital for most industrial metalworking operations. Other major metal cutting operations that are similar to shearing are blanking and piercing.

Hobbing Machines

The use of hobbing machines in metalworking industries has drastically improved the quality and efficiency of manufacturing processes. They are a variant of milling machine that uses a special type of cutting tool for producing high-precision shafts, gears, splines, and other cylindrical parts that are needed for many different applications.

A typical metal working factory will have at least one or two hobber machines on site to meet their needs. They are relatively inexpensive and they typically only require a few people to run them while still producing large quantities of parts per day.

Drill Press

A drill press is a machine tool typically used in metalworking industries to perform drilling operations. It can be either hand-powered or electrically powered and often includes a work surface, called the bed, which allows the piece being drilled to be held vertically.

As a more reliable version of a hand-held drill, they have better stability than their counterparts. The workbench allows the drills to be made continuously and with exceptional accuracy.

The use of a drill press in metal working industries has been around for hundreds of years. A lot has changed since then, with new innovations that have made it easier than ever to complete metalworking operations quickly and efficiently

(iii) Motor Vehicles:US\$100,000

The project will need 2 heavy trucks, 2 light trucks and 1double cabin pick. These vehicles will be used in transportation of final products and double cabin pick up for administrative purposes.

(iv) Office Furniture and Equipment: US \$5000

This investment cost item has been estimated to cost US \$2,000. It will consist of office tables, chairs, telephone, fax, machines, file cabinets, sofa chairs etc.

(v) Pre-Operational Expenses: US\$ 10,000

They cover things like company registration, expenses spent by **AFRICAN FOUNDRY GROUP LIMITED** in exploring the viability of the project, especially the market/client identification exercise. This pre-operational cost item also covers the architectural designs of project buildings and other engineering services. Also included under this item are issues like consultancy fees, legal fees and recruitment and training costs of personnel.

(vi) Initial Working Capital: US\$280,000

Calculations as well as assumptions for working capital requirements, it is estimated that it will cost US \$ 280,000.

8.3 Financing pattern

The project will be financed by equity **US\$500,000** and loan **US\$ 1,000,000**

8.4 Projected Revenue

For projection purposes, it is assumed that the economic life of the project is five years, and that revenue from the project commences from the first year of operation.

AFRICAN FOUNDRY GROUP LIMITED SUMMARY OF REVENUE "US\$"

	1	2	3	4	5
Revenue	5,280,000	5,544,000	5,821,200	6,112,260	6,417,873

8.5 Projected Profit and Loss Statement

The Income and Expenditure Statement shows the projected income for the 5 years period. The position depicted is that the project earns profit

throughout its life. Accumulated after tax profits grow from. **US \$ 666,400** in first year to **US \$ 3,860,547** in the 5th year

8.5 **Projected Cash Flows**

This is shown in the financial statements. The project has a positive end of year cash flow from 1st year **US\$ 770,400** of operation to the 5th year **U S \$ 4,180,547**.

8.6 **Projected Balance Sheet**

The projected Balance Sheet of the projected is shown in the financial statements under same heading. Shareholder's equity increases from **US\$ 500,000** in the first year of operation to **US \$ 4,360,547** in the 5th year.

8.6 **Projected Long Term Loan Repayment**

The projected loan is projected to be **US\$1,000,000** to be repaid within 4 years with bank interest of 8% annual.

8.7 **Project Projected Payback Period**

The projected Investment Cost is **US\$1,500,000**, Accumulated cash flow in year 3 is **US\$ 2,225,928**, which is greater than initial investment cost, therefore project payback period is within three years

9.0 **ECONOMIC BENEFIT OF THE PROJECT**

The proposed project will result into the following social and economic impacts:

- Make available machines and spare parts at affordable cost with customer specifications with high quality

- Increase the provision of high-quality services in manufacturing sector and other sectors such as construction and mining sector
- Increased availability of quality distribution and marketing products alongside competitive prices of these products will result in increased healthy competition among all manufacturing companies
- The project will result in direct employment creation of 30 people many more indirectly
- The Government and other agencies will benefit from various taxes, fees and commissions that will be paid by the company.

10.0 CONCLUSION

AFRICAN FOUNDRY GROUP LIMITED set out a proposal to invest in the establishment of designing, re engineering and fabrication of machines and spare parts project to be located in Dodoma.

The Executive Summary highlights indicate that the proposed project will be financial and economically viable, the project will generate significantly to the social and economic progress by way of increasing the provision of quality construction equipment and manufacturing sector in the country. It is recommended that the project be accorded the required institutional support to pave the way for its expeditious establishment and development.

In that regard; we strongly recommended that the project be approved by Tanzania Investment Centre and be granted the TIC Certificate of Incentives with its associated privileges and benefits as provided for under Tanzania Investment Act, 2022 to enable smooth implementation

11.0 RECOMMENDATIONS

The project is technically feasible, financially viable, and economically sound, provided the sponsors will manage it efficiently.

It is recommended that the project be approved by Tanzania Investment Centre and be granted the TIC Certificate of Incentives with its associated privileges and benefits as provided for under the Tanzania Investment Act, 2022.

AFRICAN FOUNDRY GROUP LIMITED PROJECTED INCOME & EXPENDITURE STATEMENT

	1	2	3	4	5
Revenue	5,280,000	5,544,000	5,821,200	6,112,260	6,417,873
Operating Expenses:	4,224,000	4,435,200	4,656,960	4,889,808	5,134,298
Profit before Depreciation &Interest	1,056,000	1,108,800	1,164,240	1,222,452	1,283,575
Interest	80,000	60,000	40,000	20,000	-
Depreciation	24,000	24,000	24,000	24,000	24,000
Gross Profit	952,000	1,024,800	1,100,240	1,178,452	1,259,575
Tax (30%)	285,600	307,440	330,072	353,536	377,872
Profit After Tax	666,400	717,360	770,168	824,916	881,702
Accumulated Profit	666,400	1,383,760	2,153,928	2,978,844	3,860,547

AFRICAN FOUNDRY GROUP LIMITED PROJECTED CASH FLOW US\$

SOURCES:		1	2	3	4	5
Profit before interest and depreciation	-	1,056,000	1,108,800	1,164,240	1,222,452	1,283,575
Equity	500,000					
Loan	1,000,000					
Total Sources	1,500,000	1,056,000	1,108,800	1,164,240	1,222,452	1,283,575
Applications:						
Capital expenditure	1,210,000	-	-	-	-	-
working Capital &Others	290,000					
Cash	-	770,400	801,360	834,168	868,916	905,702
Tax	-	285,600	307,440	330,072	353,536	377,872
Sub total	1,500,000	1,056,000	1,108,800	1,164,240	1,222,452	1,283,575
Total applications	1,500,000	1,056,000	1,108,800	1,164,240	1,222,452	1,283,575
Accumulated cash		770,400	1,571,760	2,405,928	3,274,844	4,180,547

AFRICAN FOUDRY GROUP LIMITED PROJECTED BALANCE SHEET USD

Fixed Assets	-	1	2	3	4	5
Opening balance	-	1,210,000	1,186,000	1,162,000	1,138,000	1,114,000
Total Long-term Assets	-	1,210,000	1,186,000	1,162,000	1,138,000	1,114,000
Less depreciation	-	24,000	24,000	24,000	24,000	24,000
Closing balance	-	1,186,000	1,162,000	1,138,000	1,114,000	1,090,000
Working capital	290,000	290,000	290,000	290,000	290,000	290,000
Accumulated cash	-	770,400	1,571,760	2,405,928	3,274,844	4,180,547
Total assets	290,000	2,246,400	3,023,760	3,833,928	4,678,844	5,560,547
Financed by						
Equity	500,000	500,000	500,000	500,000	500,000	500,000
Accumulated profit	-	666,400	1,383,760	2,153,928	2,978,844	3,860,547
Total equity	500,000	1,166,400	1,883,760	2,653,928	3,478,844	4,360,547
Long term loan	1,000,000	750,000	500,000	250,000	-	-
Total debts	1,000,000	750,000	500,000	250,000	-	-
Total equity and debts	1,500,000	1,916,400	2,383,760	2,903,928	3,478,844	4,360,547

AFRICAN FOUNDRY GROUP LIMITED PROJECTED LONG TERM LOAN REPAYMENT US\$

Year	principle	Loan Interest (8%)	Total Amount Paid	Loan Balance
1	250,000.00	80,000.00	330,000.00	1,000,000.00
2	250,000.00	60,000.00	310,000.00	750,000.00
3	250,000.00	40,000.00	290,000.00	500,000.00
4	250,000.00	20,000.00	270,000.00	250,000.00

AFRICAN FOUNDRY GROUP LIMITED PROJECT PROJECTED PAYBACK PERIOD US\$

Year	Profit After Tax	Depreciation	Total Cash Flow	Accumulated Cash Flow
1	666,400	24,000	690,400	690,400
2	717,360	24,000	741,360	1,431,760
3	770,168	24,000	794,168	2,225,928
4	824,916	24,000	848,916	3,074,844
5	881,702	24,000	905,702	3,980,547