Business Plan: 90 Local Design 3D Printers Production.

Executive Summary

This Project seeks ₦148,547,050 to fund the production and distribution of 90 units of locally designed 3D printers in the six geo-political zones in Nigeria (15 units in each zone). It also involves the development of a laser cutting machine as an addition to precision production.

The initiative will:

- Minimize reliance on 3D printers importation
- Increase domestic production.
- Promote education, SMEs and innovation centers.
- Create Skilled jobs for Engineers, Technicians and logistic providers

The estimated ROI is 23%-40.6%, ensuring financial viability alongside strong socio-economic impact.

Problem Statement

The use of imported 3D printers in Nigeria leads to the high costs, forex, and long chain of supply. This discourages innovation in higher education institutions, polytechnics, SMEs as well as in research centers. Industrialization and job creation are not at full blast unless local production is undertaken.

The proposed project is going to solve these challenges by developing a sustainable local production line, which will democratize the use of 3D technology in printing.

Objectives

- Manufacture and distribute 90 of 3D printers nationwide (15 in each zone).
- Develop a laser cutting machine to enhance production precision.

- Carry out capacity building through training workshops in every zone.
- Create jobs in engineering, assembly and logistics.
- Less reliance on imports and develop local skills.
- Strengthen Nigeria's R&D and prototyping and SME-driven innovation system in Nigeria.

Implementation Plan

Phase 1: Phase 1 consists of setting up and procurement (Month 1):

- Acquire raw materials and electronics of printers and laser cutter.
- Establish assembly line and mobilize workforce.

Phase 2 - Production (Months 2-3):

- Production and assembling of laser cutter.
- Produce and assemble 90 printers.
- Perform calibration and quality control.

Phase 3 - Distribution & Training (Months 4-5):

- Dispatch printers to all zones.
- Conduct hands-on training workshops for end-users.

Phase 4- Monitoring and Evaluation (Month 6):

- Monitor deployment and obtain user feedback.
- Audit and issue impact reports.

Monitoring & Evaluation

Key Indicators:

- 90 printers deployed.
- There are 300+ people who were trained around the country.
- Laser cutting machine was incorporated into production.
- Case studies in educational, SME and innovation hub applications.

M\&E Tools:

- Quarterly reports.
- Site visits and audits.
- Feedback forms and user surveys.
- Reports of financial accountability.

Sustainability Plan

Revenue Generation: The printers will be sold at ₦1, 750,000-2,000,000 per unit.

Local Supply Chain: Laser cutter and in-house tools generate less expenditure in the future.

Capacity Building: Training ensures skilled end-users and reduces reliance on external support.

After Sales services: Regional centers will be used to offer servicing, parts and maintenance services.

Budget Breakdown (₦148,547,050)

Category	Amount (₦)	Justification
Production of 90 Units	128,047,050	Materials, electronics, labour, assembling
Laser Cutting Machine	1,000,000	Precision Manufacturing
Packaging and Logistics	3,000,000	Nationwide delivery and Insurance
Training and Capacity Building	9,800,000	Six zonal workshops
Quality Assurance and Testing	1,200,000	Caliberation and safety tests
Administration and Management	1,500,000	Oversight and compliance
Contigency	4,000,000	Risk buffer
Total	148,547,050	

Financial Viability & ROI

Unit Production Cost: ₦1,422,745

Selling Price Scenarios:

₦1,750,000: Revenue N157.5M - Profit N29.45M - ROI 23%

₦2,000,000: Revenue N180M - Profit N51.95M - ROI 40.6%

ROI Range: 23% - 40.6%

Risk Analysis

- **Supply Chain Risk:** Mitigated via diversified of local/international suppliers.
- **Technical Risk:** This risk is addressed through continuous R&D and integration of laser cutter.
- **Market Risk:** Minimized by institutional collaborations and training programs.

Conclusion:

This project offers a unique opportunity to position NASENI-Nigeria as a regional leader in 3D printing Technology. With ₦148,500,000:00. It will deliver 90 Printers, establish a sustainable production line, and generate long term socio-economic impact through job creation, reduced import and industrial innovation.