BUSINESS PROPOSAL FOR THE COMMERCIAL DEPLOYMENT OF THE PROJECT-BASED ELECTRONICS EXPERIMENTAL TEST BED

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Executive Summary

The Project-Based Electronics Experimental Test Bed is a cutting-edge, modular platform designed to facilitate hands-on learning, prototyping, and testing of electronic systems. There are several project based electronic experiments demonstrated, namely, embedded system developments, Basic electricity, Logic gates emulators, transformer experiments. Developed by ELDI, this innovative tool addresses the need for practical, experiential learning in Nigeria's electronics and engineering education sector.

Problem Statement

Nigeria's electronics and engineering education faces challenges such as:

- Limited access to hands-on training and experimentation facilities.

- Insufficient practical experience for students and professionals

- High costs of imported electronic training kits and resources

- Lack of locally relevant, industry-specific electronics training tools

Solution Overview

The Project-Based Electronics Experimental Test Bed offers:

- A modular, reconfigurable platform for electronics experimentation, ranging from basic electronics, transformer experiments, logic gate emulators and experiments, programmable embedded system experimentations e.t.c

- Hands-on training and prototyping capabilities

- Integration with industry-relevant tools and technologies

- Affordable, locally manufactured solution

The benefits of the Project-Based Electronics Experimental Test Bed include:

- Increased Efficiency: Hands-on training and prototyping capabilities can lead to faster product development and reduced errors.

- Cost Savings: Local manufacturing and reduced dependence on imported equipment can result in significant cost savings.

- Improved Quality: Practical experience and experimentation can improve the quality of electronic products.

Figure 1: Images of the Project-based Electronic Experimental Test Bed

Market Analysis

The Project-Based Electronics Experimental Test Bed addresses the needs of:

- Universities and technical colleges

- Vocational training centers

- Industry professionals and researchers

- Innovation hubs and startup accelerators

Financial Projections- Initial Investment: ₦200 million

- Annual Revenue: ₦300 million - ₦500 million

- Payback Period: 2-3 years

Implementation Plan

-Phase 1 (Pilot Production): 20 units to be produced at ELDI's Awka facility

- Phase 2 (Scale-up): Establish regional production lines in Lagos, Abuja, and Enugu

- Phase 3 (Export Readiness): Expand to West African markets under African Continental Free Trade Area(AfCFTA) trade agreements

Funding Requirements

To commence full-scale production and commercialization, the project requires ₦200 million in funding, distributed as follows:

- Equipment Procurement and Assembly Line Setup: ₦80 million

- Software Development and Integration: ₦30 million

- Marketing and Distribution: ₦40 million

- Working Capital and Staff Development: ₦50 million

Expected Return on Investment

The costs associated with the project include:

- Initial Investment: ₦200 million in funding for equipment and component procurement, software development, marketing, and staff development.

- Ongoing Expenses: Maintenance, updates, and potential upgrades to the test bed.

Estimated annual Revenue: ₦300,000,000 to ₦500,000,000

Then **ROI** will be between ₦100 million to ₦300 million