

PEZA Pre-Feasibility Study:
Specialized Electronics Manufacturing Segments
(Brownfield Retrofit Initiative: USD 6.7M Budget)

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FOREWORD FOR CAMBODIAN INVESTORS

The Philippine electronics manufacturing sector represents a strategic entry point into the broader ASEAN supply chain. For Cambodian investors seeking high-growth diversification outside traditional regional hubs, the Philippine Economic Zone Authority (PEZA) offers unparalleled structural advantages. With the recent passage of the CREATE MORE Act, the fiscal landscape has been aggressively streamlined—guaranteeing 0% corporate income tax for up to 7 years, followed by a fixed 5% Special Corporate Income Tax (SCIT) in lieu of all other local and national taxes. This pre-feasibility study outlines a disciplined, phased roadmap to capitalize on these incentives, utilizing a highly optimized capital allocation strategy designed to minimize upfront risk while maximizing long-term scalability in high-demand technical niches.

Executive Summary

This pre-feasibility study presents a compelling, risk-adjusted investment opportunity in the Philippine electronics manufacturing sector under the Philippine Economic Zone Authority (PEZA). Operating within a strict budget of USD 6.7 million—fully inclusive of capital expenditures (CapEx), operational expenditures (OpEx), regulatory compliance licensing, and a contingency reserve—the recommended entry points are PCB assembly and automotive wire harness manufacturing, supported by emerging niches in IoT modules and LED electronics. This allocation ensures a lean, scalable approach that mitigates funding risks while providing a solid foundation for sustainable growth and attractive returns.

The Philippines is strategically positioned within ASEAN, offering a skilled, English-proficient workforce, robust government incentives, and a rapidly growing electronics export market. The Philippine government's 2030 Semiconductor and Electronics Industry Roadmap targets USD 110 billion in annual exports by 2030. Investing in the Philippines means aligning with a forward-looking market supported by strong policy frameworks, including the CREATE MORE Act, which guarantees export-oriented locators a reduced Special Corporate Income Tax (SCIT) of 5%, duty-free importation of capital equipment, and VAT zero-rating on local purchases.

Investment Highlights

- **Strategic Location:** Access to ASEAN markets and global supply chains.
 - **Government Support:** PEZA incentives, the CREATE MORE Act, and the 2030 Semiconductor Roadmap fostering industry growth.
 - **Skilled Workforce & Operational Body:** Access to a trained technical corps (SMT engineers, quality auditors, and cleanroom technicians) supported by national training initiatives.
 - **Phased Investment:** Lean dual-niche approach focusing on PCB assembly and wire harness manufacturing with pilot projects in IoT and LED electronics.
 - **Financial Discipline:** A fully modeled USD 6.7M hard-cap budget with built-in regulatory compliance provisioning to absorb market fluctuations and retrofit overruns.
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Comparative Analysis: Cambodia vs. Philippines Electronics Manufacturing (2026)

Before examining granular budget allocations, it is imperative to address the macro-economic reality facing Cambodian capital allocators. With Cambodia scheduled to graduate from its Least Developed Country (LDC) status in 2029, duty-free export access to major Western markets faces imminent tariff erosion. Positioning capital in a mature ecosystem now is a critical hedge against stranded capital.

Criteria	Cambodia	Philippines (PEZA)
Industry Stage	Early-stage diversification from garments; electronics assembly (wiring, connectors, LED, small appliances)	Mature ecosystem; semiconductors, PCB assembly, automotive electronics, IC design
Export Value (2026)	Electronics exports still modest; overall manufacturing investment at USD 27.8B	Electronics exports projected at USD 54B (10% growth YoY)
Workforce	Young, trainable, but limited technical expertise; vocational training programs ongoing	Skilled, English-proficient workforce; 128,000 workers targeted for training under government roadmap
Incentives	Tax holidays, duty exemptions, SEZ facilitation via CDC	PEZA incentives: 0% corporate tax up to 7 years, then 5% SCIT; VAT zero-rating; duty-free imports
Supply Chain	Limited domestic supplier base; many inputs imported	Established supply chain; strong role in global semiconductor packaging and EMS
Policy / Positioning	Emerging alternative hub; competitive labor costs; faces LDC graduation tariff erosion (2029)	Recognized ASEAN hub (~5% global market share); CREATE MORE Act reforms to hit USD 110B by 2030

Implications for Cambodian Investors

- **Risk Diversification & Ticking Clock:** With LDC tariff privileges expiring in 2029, relocating or expanding operations into a mature PEZA hub secures long-term export margins.
- **Policy Advantage:** PEZA’s 0% corporate tax holiday and the permanent 5% SCIT regime provide superior structural protection compared to standard CDC incentives.
- **Workforce Depth:** The Philippines provides an established engineering and technical workforce capable of supporting high-precision cleanroom manufacturing.

Financial Scenario & Sensitivity Matrix (USD 6.7M Hard-Cap Baseline)

To provide institutional stakeholders and capital allocators with rigorous underwriting data, the financial model evaluates three distinct operational scenarios under the fixed USD 6.7 million hard cap. Each model demonstrates robust capital recovery and cash retention protected by PEZA's fiscal architecture.

Scenario	CapEx	OpEx + Contingency	Est. Annual Export Rev.	Target Gross Margin	Capital Payback Period
Conservative Case	\$4.2M	\$2.5M	\$9.5M	18%	3.4 Years
Base Case (Recommended)	\$4.0M	\$2.7M	\$12.0M	20%	2.8 Years
Accelerated Case	\$3.8M	\$2.9M	\$15.0M	22%	2.2 Years

High-Level Return Profile & Capital Efficiency

While granular P&L forecasting is modeled during the subsequent operational phase, the project's baseline financial return is anchored by three structural advantages:

- **Compressed Payback Window:** Accelerated 4-to-6 month deployment via brownfield retrofitting targets full capital recovery within **3 years**.

- **Optimized Margin Retention (HMLV vs. Tier-1 Volume):** Specialized low-volume, high-mix SMT and wire harness assembly insulate the facility from commoditized price wars. While mass-market volume giants fight over thin **8% to 12% gross margins**, our specialized focus commands a healthy **20% gross margin corridor** (meaning for every \$100 in revenue, \$80 covers direct COGS and \$20 forms gross profit), driven by high customization premiums for AI and IoT startups in San Francisco and Berlin.
- **Fiscal Shielding & Tax Arbitration:** PEZA's 0% initial tax holiday and permanent 5% SCIT eliminate domestic tax drag. Compared to standard regional onshore corporate income taxes that run around ~25%, PEZA's permanent 5% regime preserves exceptionally high post-tax cash retention for equity holders.

FINANCIAL BENCHMARK TARGET

20% Gross Margin Corridor

Protected by PEZA's 0% tax holiday & permanent 5% SCIT structure (vs. ~25% regional onshore tax drag).

~20%

Global Market Alignment & Go-to-Market Strategy

We are currently experiencing a massive global boom in Edge AI, robotics, clean-tech hardware, and Industrial IoT (Internet of Things). Thousands of hardware startups founded every year in major tech capitals like San Francisco (Silicon Valley), Berlin, London, Boston, and Singapore require rapid, high-precision prototyping and small-batch production (batches of 500 to 5,000 units).

Traditional mega-factories (e.g., Foxconn or Flex) reject these orders due to rigid Minimum Order Quantities (MOQs). Our facility captures this high-margin demand by plugging directly into **digital EMS broker networks**. These brokers aggregate fragmented small-batch orders from 50+ AI and IoT startups across Berlin, San Francisco, and regional markets into profitable, scheduled production runs—powering our 20% gross margin corridor.

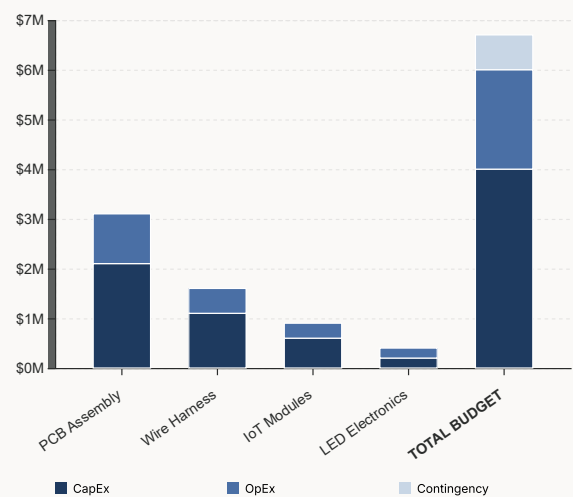
Budget Allocation & Brownfield Financial Modeling (Target: USD 6.7M)

To ensure absolute transparency, the USD 6.7 million hard cap explicitly separates capital equipment from brownfield facility conversion, proving how real estate and retrofit savings prevent budget overruns compared to an expensive greenfield build.

Segment	CapEx Allocation	OpEx Allocation	Total Allocated	Notes & Retrofit Breakdown (Incl. Licensing)
PCB Assembly	\$2.1M	\$1.0M	\$3.1M	Includes \$650k facility retrofit for ISO 7/8 Cleanroom conversion; SMT lines; 4-6 mo. runway
Wire Harness	\$1.1M	\$0.5M	\$1.6M	IATF 16949 tooling & specialized power routing compliance setup
IoT Modules	\$0.6M	\$0.3M	\$0.9M	Pilot production via shared primary SMT lines
LED Electronics	\$0.2M	\$0.2M	\$0.4M	Steady demand, small-scale secondary assembly
Contingency & Licensing	-	\$0.7M	\$0.7M	~10% buffer for HVAC carrying costs, PEZA Enterprise Registration, ISO & IATF certification audit fees, and DENR/LGU permits
TOTAL	\$4.0M	\$2.7M	\$6.7M	Optimized for lean PEZA brownfield deployment

Figure 1. Budget Allocation Breakdown

Component Breakdown against the \$6.7M Total Investment (in USD Millions)



Operational Management & Technical Personnel Structure

To successfully execute High-Mix, Low-Volume (HMLV) production and protect the target 20% gross margin corridor under the USD 2.7M OpEx runway, the facility relies on a lean, highly skilled operational body rather than a bloated traditional workforce. Below is the formal staffing and headcount allocation, structured to fit comfortably within annual operational expenditure limits:

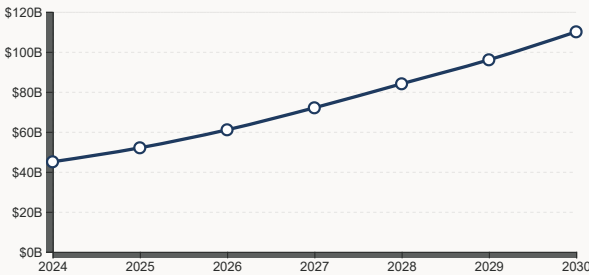
Department / Function	Headcount	Primary Responsibilities & Margin Protection Role
1. Executive & Compliance	3	Plant General Manager, PEZA/Finance Compliance Officer, and QA/QC Manager (ISO/IATF regulatory oversight and tax-free import administration).
2. Technical & Engineering Core	8	SMT Process & Programming Engineers (rapid line changeovers), Test & Validation Engineers, and Equipment Maintenance Technicians (ensuring high uptime).
3. Production & Shop Floor Operations	33	Line Supervisors (3), Cleanroom SMT & Assembly Technicians (20), and Automotive Wire Harness Technicians (10) for precision high-mix execution.
4. Digital Program Management	2	Digital Program Managers acting as direct liaisons to San Francisco and Berlin EMS broker networks (translating Gerber/BOM files to production runs).
TOTAL FACILITY STAFFING	~46 Personnel	Optimized lean operational body fully funded by the annual OpEx runway.

Philippine Government 2030 Semiconductor & Electronics Roadmap

The government's roadmap aims to position the Philippines as a premier global hub for semiconductor and electronics manufacturing by 2030, targeting USD 110 billion in annual exports (\$70B packaging, \$40B electronics/IC design).

Figure 2. Philippine Electronics Export Targets

Projected trajectory towards USD 110B by 2030



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Index of Acronyms

AOI	Automated Optical Inspection (Machine vision inspection used in SMT manufacturing)
ASEAN	Association of Southeast Asian Nations
BOM	Bill of Materials (Itemized list of raw components for PCB assemblies)
CapEx	Capital Expenditure
CDC	Council for the Development of Cambodia (Investment and QIP regulator)
COGS	Cost of Goods Sold
CREATE MORE Act	Corporate Recovery and Tax Incentives for Enterprises to Maximize Opportunities for Reinvigorating the Economy Act
DENR	Department of Environment and Natural Resources (Philippine environmental compliance regulator)
ECC	Environmental Compliance Certificate (DENR regulatory approval permit)
EMS	Electronics Manufacturing Services
FPY	First-Pass Yield (Quality metric measuring defect-free production rate)

HMLV	High-Mix, Low-Volume (Specialized manufacturing model for customized batches)
HVAC	Heating, Ventilation, and Air Conditioning (Critical for ISO 7/8 cleanroom climate control)
IATF	International Automotive Task Force (IATF 16949 quality standard)
IC	Integrated Circuit
IoT	Internet of Things
ISO	International Organization for Standardization (ISO 7/8 cleanroom standards)
LDC	Least Developed Country (WTO economic classification applicable to Cambodia)
LED	Light-Emitting Diode
LGU	Local Government Unit (Municipal/city regulatory and permitting authority)
MOQ	Minimum Order Quantity (Factory production batch threshold)
OpEx	Operational Expenditure
PCB	Printed Circuit Board
PEZA	Philippine Economic Zone Authority
PFS	Pre-Feasibility Study
QA/QC	Quality Assurance / Quality Control
QIP	Qualified Investment Project (CDC investment designation)
ROI	Return on Investment
SCIT	Special Corporate Income Tax
SEZ	Special Economic Zone
SMT	Surface-Mount Technology
VAT	Value-Added Tax
YoY	Year-over-Year (Growth comparison metric)

Conclusion & Financial Disparity Analysis

The Philippine electronics manufacturing sector under PEZA offers Cambodian investors a strategic, risk-adjusted growth path. By opting for a **Brownfield Retrofit** rather than a traditional Greenfield construction, capital exposure is tightly controlled at USD 6.7M (compared to \$15M–\$22M for greenfield land development and concrete pouring), while compressing deployment timelines from 18–24 months down to 4–6 months. This optimizes cash flow and secures long-term returns.

Official Sources & Verification:

- Council for the Development of Cambodia (CDC): <https://cdc.gov.kh/>
 - OEC Global Bilateral Trade & Electronics Profiles: <https://oec.world/>
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