NIGHT MARK 3D

Illuminate Your Space, Effortlessly

BUSINESS PLAN & PROSPECTUS
Sioux Falls, South Dakota
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$25,000	200,000 Shares	15%
SEED ROUND TARGET	EQUITY ALLOCATION (4% STAKE)	MONTHLY LIFETIME COMMISSION

1. EXECUTIVE SUMMARY

Night Mark 3D is a specialized manufacturing enterprise headquartered in Sioux Falls, South Dakota, focused on producing high-performance photoluminescent (glow-in-the-dark) home safety and architectural fixtures. By leveraging a high-throughput, localized additive manufacturing (3D printing) print farm model, Night Mark 3D bridges the gap between passive aesthetic home hardware and critical emergency visibility.

The Core Problem: Navigating residential and commercial structures during low-light conditions or sudden power outages presents severe safety risks, frustration, and logistical delays. Standard reflective signs require an active direct light source to reflect, while traditional electric nightlights rely on continuous outlet power, battery maintenance, or complex hardwiring. Outdoor house numbers and indoor light switches become invisible when pitch darkness strikes, hindering occupants and creating critical delays for emergency first responders.

The Solution: Night Mark 3D manufactures precision-engineered architectural hardware—including high-visibility exterior address numbers, full alphabet letter sets, seamless replacement wallplates, snap-around switch surrounds, and precision keyhole locator rings. Crafted using high-density *Prusament PETG Ultraglow Green* photoluminescent filament, these products passively absorb ambient natural or indoor light throughout the day and emit a bright, continuous guidance glow for hours through the night—requiring zero wiring, zero batteries, and zero maintenance.

> **Core Strategic Objective**
>
> A direct-to-consumer (D2C) e-commerce storefront into a high-margin commercial wholesale supplier for regional and national big-box hardware retail chains, specifically targeting immediate vendor onboarding.

2. COMPANY OVERVIEW & LEADERSHIP

Night Mark 3D operates as an agile, founder-led enterprise positioned at the intersection of modern additive manufacturing, consumer hardware, and home safety innovation.

Executive Leadership

Andrew M. Cheaney, Founder & CEO: Directs all operational facets of Night Mark 3D, spanning product engineering, localized print farm optimization, digital e-commerce, and commercial wholesale strategy. Bringing a background across specialized consumer goods, digital publishing, and e-commerce execution, Andrew directly manages the in-house production workflow. His technical responsibilities include slice parameter optimization for photoluminescent PETG polymers, custom G-code execution, and print fleet orchestration to ensure industrial-grade output consistency.

Operational Model: Micro-Factory vs. Overseas Injection Molding

Unlike traditional hardware brands reliant on overseas injection molding—which requires months of lead time, massive capital expenditure for steel tooling, and rigid minimum order quantities (MOQs)—Night Mark 3D operates an on-demand, localized 3D printing fleet. This agile micro-factory structure delivers distinct strategic advantages:

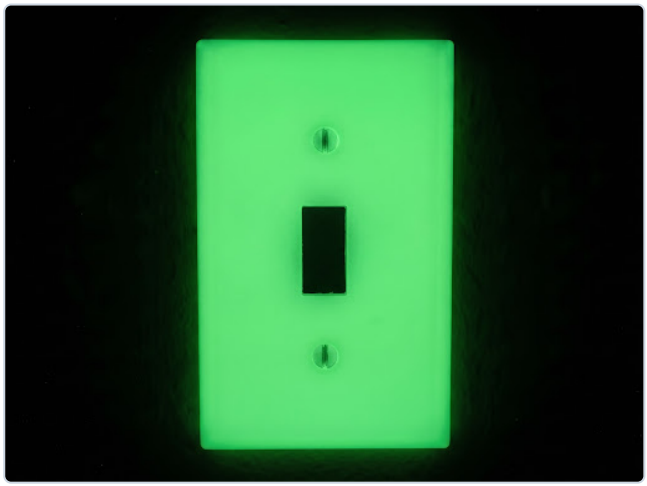
- **Zero Tooling Costs:** Instant design iteration and localized production customization without mold fabrication expenses.
- **Rapid Scalability:** Scaling output by adding modular CoreXY printing units on standard commercial racking as retail demand increases.
- **Eliminated Supply Chain Friction:** Production takes place in Sioux Falls, SD, eliminating container freight delays, tariff exposure, and international port bottlenecks.

3. PRODUCT LINE & MATERIAL SCIENCE

Night Mark 3D products utilize advanced photoluminescent polymer technology designed for extreme durability and long-duration luminance.

Photoluminescent Polymer Engineering

The product matrix exclusively uses high-grade **Prusament PETG Ultraglow Green** filament. PETG (Polyethylene Terephthalate Glycol) provides superior chemical resistance, UV stability for outdoor installation, high impact strength, and moisture resistance. Embedded photoluminescent aluminate pigments store photons when exposed to natural ambient daylight or indoor LED/incandescent lighting, releasing them gradually via phosphorescence throughout darkness.



Seamless Full-Replacement Glowing Switch Plate

Product Category Breakdown & Retail Matrix

Image	Product Category	Product Description & Specifications	Retail Price Range
	**Address Numbers (0-9)**	High-visibility numerals in 1, 2, 3, 4, 5, 6, and 8-inch sizes. Crucial for first responders, emergency services, and nighttime package delivery visibility.	$1.00 – $8.00 / ea
	**Glow Letters (A-Z)**	Complete A-Z 5-inch luminous letter sets for custom home exterior signage, estate names, commercial buildings, and directional markers.	$2.00 – $5.00 / ea
	**Electrical Plate Covers**	Full-replacement single, double, and triple wallplates for toggle switches and duplex outlets. Provides daytime aesthetic with night guidance glow.	$3.99 – $6.49 / ea
	**Plate Surrounds**	Snap-around perimeter frames that install instantly behind existing standard switch/outlet plates without removing electrical covers.	$4.99 / ea
	**Keyhole Surrounds**	Precision-fit glowing concentric rings engineered to fit exterior door lock cylinders, eliminating late-night key fumbling in pitch dark.	$4.99 / ea

4. MARKET ANALYSIS & COMPETITIVE POSITIONING

The market demand for passive home safety and smart utility hardware is expanding rapidly across three target customer segments:

1. **Safety-Conscious Homeowners & Renters:** Families, elderly individuals, and renters seeking low-cost, zero-wiring nighttime guidance without increasing electric bills or occupying wall outlets with plug-in lights.
2. **Big-Box Hardware Retail Chains:** Regional and national home improvement centers (such as Menards) seeking compact, impulse-buy retail displays with high profit margins per square foot.
3. **Strategic Seed Partners:** Investors focused on backing localized manufacturing enterprises with clear commercial scaling pathways.

Competitive Advantage Matrix

Feature / Capability	Night Mark 3D	Traditional Hardware (Hillman/Hy-Ko)	Solar-Powered Signage	LED Plug-In Nightlights
Nighttime Luminance	Active Photoluminescent	Passive Reflective / None	Electric LED (Solar Charged)	Electric LED (Grid Powered)

Feature / Capability	Night Mark 3D	Traditional Hardware (Hillman/Hy-Ko)	Solar-Powered Signage	LED Plug-In Nightlights
Wiring / Electricity Required	None (Passive)	None	Rechargeable Battery / Solar	Requires Outlet Connection
Weather Vulnerability	100% Solid PETG (Impervious)	Metal/Plastic Degradation	Solar Panel / Battery Failure	N/A (Indoor Only)
Installation Friction	Zero (Snap-On / Screw)	Screw Mount	Complex Wall/Ground Mount	Occupies Wall Outlet
Manufacturing Agility	In-House 3D Print Farm Fleet	Fixed Overseas Molding	Imported Electronics	Imported Mass Assembly



Outlet Plate Surround - Halo Lighting Effect

Zero-Maintenance, Passive Utility

Night Mark 3D bypasses the flaws of electronic hardware. Solar house numbers routinely suffer from battery decay, foggy solar panels, and failure in shaded entryways. LED nightlights consume continuous electricity, generate minor heat, and block valuable outlet plugs. Night Mark 3D products absorb light passively, cost $0.00 to operate annually, and function unconditionally during grid blackout emergencies.

5. OPERATIONAL PLAN & PRODUCTION ARCHITECTURE

Production is centered around a standardized additive manufacturing print farm located in Sioux Falls, SD. Production workflow incorporates automated queue scheduling, fleet monitoring, and specialized post-processing.

Print Farm Infrastructure & Software Integration

The production operation utilizes **SimplyPrint** software for centralized cloud farm management. SimplyPrint enables continuous remote telemetry, automated print queue assignment, video monitoring, failure detection, and precise filament consumption analytics across all 18+ printing stations.

- **Fleet Standardization Roadmap:** Upgrading core production capacity from entry-level Creality setups to enclosed high-speed CoreXY platforms (Bambu Lab X2D / P2S / P1S series) to increase daily unit output by 350%.
- **Vertical Raw Material Integration:** Capital allocation includes an in-house industrial *Filament Extruder* system ($3,000 setup). This allows raw PETG resin pellets and Ultraglow phosphorescent powder to be compounded on-site, slashing raw material cost per kilogram from $30.00 down to under $8.00.
- **Commercial Racking Setup:** Heavy-duty industrial racking sourced from Menards optimized for minimal footprint and maximum vertical printer density.

6. MARKETING, SALES & RETAIL DISPLAY STRATEGY

Night Mark 3D employs a dual-channel sales strategy combining direct e-commerce fulfillment with high-density point-of-sale (POS) retail display placement in major hardware stores.

Turnkey POS Retail Displays for Big-Box Hardware Chains

To secure commercial retail space at chains like **Menards**, Night Mark 3D has developed self-contained, pre-sorted counter and shelf retail displays. These compact corrugated cardboard unit displays showcase products in ambient light while demonstrating photoluminescent glow.



Retail Display: 5-Inch Glow-in-the-Dark A-Z Letters



Retail Display: 5-Inch Glow-in-the-Dark 0-9 Numbers



Retail Display: Wall Toggle Switch Plates



Retail Display: Wall Duplex Outlet Plates

Direct-to-Consumer (D2C) Storefront Execution

Online storefront sales (via www.nightmark3d.com) capture high-margin individual orders ($20.00 to $40.00 typical cart size). Digital marketing emphasizes safety for children's bedrooms, hallway navigation for seniors, and emergency house address identification.

7. FINANCIAL PLAN & STARTUP COST ANALYSIS

The capitalization requirements for Night Mark 3D are grounded in precise equipment and material procurement. The total initial startup capital requirement is calibrated at exactly **$25,441.00**.

Itemized Startup Equipment & Operational Budget

Item Description	Quantity	Total Cost	Vendor / Supply Source
3D Printing Fleet Expansion Units	18	$13,710.00	Amazon / Direct Fleet
Filament Extrusion Machine (In-House Production)	1	$3,000.00	Industrial Equipment Vendor
Facility Rental Space (First Month + Security Deposit)	1	$3,000.00	Sioux Falls Commercial Leasing
Prusament PETG Ultraglow Polymer Filament Stock	50	$1,500.00	Timeplast / Specialty Supply
Industrial Farm Racking Units	10	$1,131.00	Menards Commercial Supply
Printer Maintenance Spare Parts & Hotend Assemblies	1	$1,000.00	Amazon
GS1 Official Universal Product Codes (UPC Codes)	1	$750.00	GS1 US Licensing
SimplyPrint Farm Management Software (Year 1 License)	1	$600.00	SimplyPrint Cloud System

Item Description	Quantity	Total Cost	Vendor / Supply Source
Retail Display Corrugated Units (Point-of-Sale Boxes)	50	$250.00	Custom Packaging Vendor
Marketing Exhibit Dark-Room Shadow Boxes	10	$250.00	TBD Retail Display Fabrication
Packaging Supplies (Tape, Labels, Hanging Tags, Cushioning)	Misc	$200.00	Amazon
Direct Shipping Boxes & Padded Envelopes	100	$50.00	Amazon
TOTAL STARTUP CAPITAL REQUIREMENT		**$25,441.00**	**Combined Budget Allocation**

Unit Economics & Margin Breakdown

Additive manufacturing provides robust gross margins across all product categories:

- **Keyhole & Plate Surrounds:** Average retail price $4.99. Raw material cost: $0.42. Packaging & handling: $0.35. **Gross Margin: 84.5%**.
- **5-Inch Address Numerals / Letters:** Average retail price $4.00. Raw material cost: $0.55. **Gross Margin: 86.2%**.
- **Full Wallplate Covers:** Average retail price $5.99. Raw material cost: $0.78. **Gross Margin: 87.0%**.

3-Year Financial Forecast (Pro-Forma Income Statement)

Metric / Financial Year	Year 1 (D2C + Regional B2B)	Year 2 (Menards Rollout)	Year 3 (National Expansion)
Gross Retail Revenue	$145,000.00	$480,000.00	$1,250,000.00
Cost of Goods Sold (COGS)	$21,750.00	$67,200.00	$162,500.00
Gross Profit	**$123,250.00**	**$412,800.00**	**$1,087,500.00**
Operating Expenses (Facility, Software, Utilities)	$38,000.00	$85,000.00	$195,000.00
Direct Lifetime Commission Pool (15%)	$21,750.00	$72,000.00	$187,500.00
Net Income Before Tax	**$63,500.00**	**$255,800.00**	**$705,000.00**

8. SEED INVESTMENT STRUCTURE & OFFER

Night Mark 3D is offering a formalized seed investment package engineered for strategic growth capital, specifically seeking partners with retail distribution channels.

Seed Partnership Term Sheet Summary

- **Total Seed Investment Amount:** $25,000.00 USD
- **Equity Allocation:** 200,000 Shares issued at $0.125 per share (representing a 4.0% total equity ownership stake).
- **Direct Revenue Share:** 15% Monthly Lifetime Commission paid directly to the seed partner based on gross sales performance.

Milestone-Based Fund Deployment

1. **Milestone 1: Print Farm Fleet Standardization:** Acquisition of high-speed CoreXY 3D printers and industrial racking to increase throughput capacity.
2. **Milestone 2: Commercial Bulk Material Procurement:** Sourcing high-volume PETG resin pellets and Ultraglow photoluminescent pigment for in-house extrusion, maximizing unit profit margins.
3. **Milestone 3: Retail Vendor Onboarding:** Finalizing GS1 UPC registration, corrugated display box fabrication, and shipping compliance to fulfill initial regional stock purchase orders for Menards.

9. RISK MANAGEMENT & MITIGATION STRATEGIES

- **Risk: 3D Print Fleet Downtime or Mechanical Wear.**
  Mitigation: $1,000 dedicated spare parts reserve maintained in-house. Modular printer architecture allows quick hot-swapping of print heads without halting the entire farm.
- **Risk: Material Cost Fluctuations for Specialty Filament.**
  Mitigation: Deploying the $3,000 in-house filament extruder to compound raw PETG pellets locally, removing reliance on third-party spool resellers.
- **Risk: Big-Box Retail Onboarding Delays.**
  Mitigation: Robust D2C sales channel provides strong cash flow independent of B2B retail cycles.

10. STRATEGIC EXECUTION ROADMAP

Phase / Timeline	Key Operational Milestones	Target Deliverables
Phase 1: Months 1–2	Secure $25,000 Seed Funding; execute facility lease in Sioux Falls; deploy 18-printer fleet and SimplyPrint farm management software.	Farm operational; 100% test print yield verified; e-commerce storefront live.
Phase 2: Months 3–4	Commission in-house filament extruder; manufacture 50 retail display units; complete GS1 UPC product cataloging.	Raw material cost dropped to <$8/kg; retail display inventory stockpiled.
Phase 3: Months 5–6	Initiate vendor presentation; launch targeted D2C marketing campaigns across digital channels.	First commercial PO secured; D2C monthly revenue exceeding $10,000.

Phase / Timeline	Key Operational Milestones	Target Deliverables
Phase 4: Months 7–12	Fulfill regional rollout; scale fleet by an additional 12 CoreXY units; evaluate regional hardware chain expansion.	Full regional retail footprint; projected Year 1 net profit target achieved.

Presented By:

Andrew M. Cheaney

Founder & CEO, Night Mark 3D

Accepted & Agreed (Seed Partner):

Investor Signature / Date