

POLAR-1000 MODEL GROSS MARGIN ANALYSIS

CONFIDENTIAL AND PROPRIETARY

Prepared for: Polar Dynamics Robotics, Inc.

Date: January 11, 2024

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1. EXECUTIVE SUMMARY

This gross margin analysis examines the unit economics and profitability metrics for the Polar-1000 autonomous mobile robot (AMR) model for fiscal year 2023. This document has been prepared by the Finance Department in collaboration with Operations and Engineering teams, and reviewed by Katherine Wells, Chief Financial Officer.

2. PRODUCT COST STRUCTURE

2.1 Direct Materials

- Proprietary cold-resistant actuators: \$12,450/unit
- Thermal management system components: \$8,275/unit
- Battery and power systems: \$7,890/unit
- Chassis and frame assembly: \$5,340/unit
- Sensors and navigation hardware: \$9,875/unit
- Other electronic components: \$4,230/unit

Total Direct Materials: \$48,060/unit

2.2 Direct Labor

- Assembly labor (45 hours @ \$85/hr): \$3,825/unit
- Quality control (12 hours @ \$95/hr): \$1,140/unit
- Testing and calibration (18 hours @ \$90/hr): \$1,620/unit

Total Direct Labor: \$6,585/unit

2.3 Manufacturing Overhead

- Facility allocation: \$2,240/unit
- Equipment depreciation: \$1,875/unit
- Production supervision: \$1,450/unit

- Quality assurance overhead: \$925/unit

Total Manufacturing Overhead: \$6,490/unit

3. TOTAL COST OF GOODS SOLD

3.1 Unit Cost Calculation

Total COGS per unit: \$61,135

- Direct Materials: \$48,060 (78.6%)
- Direct Labor: \$6,585 (10.8%)
- Manufacturing Overhead: \$6,490 (10.6%)

3.2 Volume-Based Cost Variations

- Production volume <50 units/quarter: +8% cost premium
- Production volume 50-100 units/quarter: standard cost
- Production volume >100 units/quarter: -5% cost reduction

4. PRICING AND MARGIN ANALYSIS

4.1 Standard Pricing

Base unit price: \$89,900

Extended warranty and service package: \$12,500

IceNav(TM) software license (annual): \$4,800

Total standard configuration: \$107,200

4.2 Gross Margin Calculation

Standard configuration gross margin: 43%

- Unit revenue: \$107,200
- Unit COGS: \$61,135
- Gross profit per unit: \$46,065

4.3 Margin Enhancement Opportunities

Component cost reduction initiatives: +2-3% margin potential

Labor efficiency improvements: +1-2% margin potential

Volume-based supplier discounts: +2-4% margin potential

5. COMPETITIVE POSITIONING

5.1 Market Price Comparison

- Primary competitor A: \$115,000-125,000
- Primary competitor B: \$98,000-108,000
- Industry average: \$105,000-120,000

5.2 Margin Sustainability Analysis

Current gross margin structure is projected to remain sustainable for 24-36 months based on:

- Secured supplier contracts through 2025
- Labor agreements in place until December 2025
- Projected market pricing trends

6. DISCLAIMERS AND LIMITATIONS

This analysis contains forward-looking projections and estimates based on current market conditions and internal cost structures. Actual results may vary based on multiple factors including, but not limited to:

Component price fluctuations

Labor market changes

Production volume variations

Market competitive dynamics

Technological advances

7. CERTIFICATION

The undersigned hereby certifies that this gross margin analysis accurately reflects the current cost structure and pricing strategy for the Polar-1000 model as of the date of this document.

—

Katherine Wells

Chief Financial Officer

Polar Dynamics Robotics, Inc.

Date: January 11, 2024

—

Sarah Nordstrom

Chief Operating Officer

Polar Dynamics Robotics, Inc.

Date: January 11, 2024

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