

# Rockfort Robotics

Intelligent, Low-Cost Robots for In-Aisle Warehouse SKU Picking & Restocking





## Warehouses Face Critical Challenges



**High Labor Costs** 

Manual picking is labor-intensive with rising wages across multiple shifts.



Space Inefficiency

Limited vertical reach by human pickers restricts storage density, forcing larger, costlier warehouses.



Scaling Difficulties

Hard to scale due to workforce hiring, training, and management challenges.



Market Gap in India

Zero robots for individual SKU picking. Existing solutions too expensive for local market.

Our solution: Cut labor costs by 50%, double storage density, enable effortless scaling.

# Introducing Tallboy: India's first robot capable of In-Aisle SKU picking



Watch Our Prototype Demo

- First mobile manipulator robot designed and made in India
- Reduce operating cost by 50% and 2x the storage density
- 1 robot replaces ~3 warehouse workers (across 3 shifts)

# Perfect Technology & Market Timing

Al Breakthroughs

Foundation models (SAM, GR00T, RT-2) enable plug-and-play robot intelligence

P Open Source Tools
LeRobot, ROS 2 accelerate
development & cut costs
dramatically

Advanced Simulation
Isaac Sim enables 100x faster
training with advanced physics

Q-Commerce Boom

Micro-warehouses & dark stores create ideal beach head market

Robotics Wave

Impending Global "ChatGPT moment" for robots driving mass adoption

India Policy Support

using GPUs

Government backing deep-tech innovation & manufacturing

# A Significant Global Opportunity

India

**\$1.6B**/year

1.5M pickers | ₹8K/picker/month

**USA** 

\$10B/year

1M pickers | \$10K/picker/year

Europe

\$10B/year

1M pickers | \$10K/picker/year

Total Addressable Market (TAM): ~\$21.6B / year

Serviceable Addressable Market (SAM): ~\$2.48B / year

Serviceable Obtainable Market (SOM): ~\$100M / year (Next 5 Years)

#### Multi-Layered Defensibility

# Proprietary Hardware Tech

- Custom-designed (except motors/sensors), cost-effective chassis.
- Modular design for easy plug-and-play maintenance.
- Proprietary drivetrain: 1/8th cost of traditional AGV drivetrains.
- Proprietary independent suspension caster wheels for uneven floors.
- Proprietary vertical linear motion: 5x lighter, cost-effective.
- Lightweight SCARA arm: handles up to 3 kg.

# Advanced Software & Al

- Proprietary controls, odometry, path-following (SLAM, Kalman, PID).
- Custom warehouse mapping, path planning & orchestration (TSP, MAPF/CBS).
- Robust safety and collision avoidance systems.
- Advanced IK & collision-free path planning for SCARA arm.
- Vision AI: Custom segmentation, Fast SAM for pick-points,
   3D to pick-points.
- Seamless WMS integration layer with easy-to-use APIs.

# Patent (In Process)

"In-Aisle Robotic picking of Individual Items using a mobile robot, a SCARA robotic arm and a two tote system, mounted on a gantry."

This innovative design enables efficient in-aisle picking with minimal infrastructure changes.

Detailed IP Document: Product IP and Moat - Rockfort Robotics

#### What Makes Rockfort Robotics Unique?



#### **Low Hardware Costs**

Designed and manufactured in India for local economic viability. Proprietary components significantly reduce costs.



# Reduced Upfront R&D Spending

Leveraging breakthroughs in AI (e.g., Meta's SAM) for our vision pipeline, accelerating development.



#### Minimal Infrastructure

Operates with standardized crates/shelves, no need for costly warehouse retrofitting.



#### Versatile & Scalable

Designed for warehouses of all sizes, including smaller ones (2,500–5,000 sq. ft.).



#### **End-to-End Automation**

Advanced AI vision-based SKU picking with a robotic hand, minimizing human intervention.

#### Navigating the Market

Key Insights (64 Companies Analyzed)

9 / 64 work on Al-based robotic SKU picking.

15 / 64 work with minimal infrastructure.

4 / 64 have low hardware costs (India-centric).

0 / 64 match all attributes required for our target market.

Detailed Report: Competitor Analysis Report

Primary Competitor: Brightpick

Brightpick offers a similar in-aisle picking product.

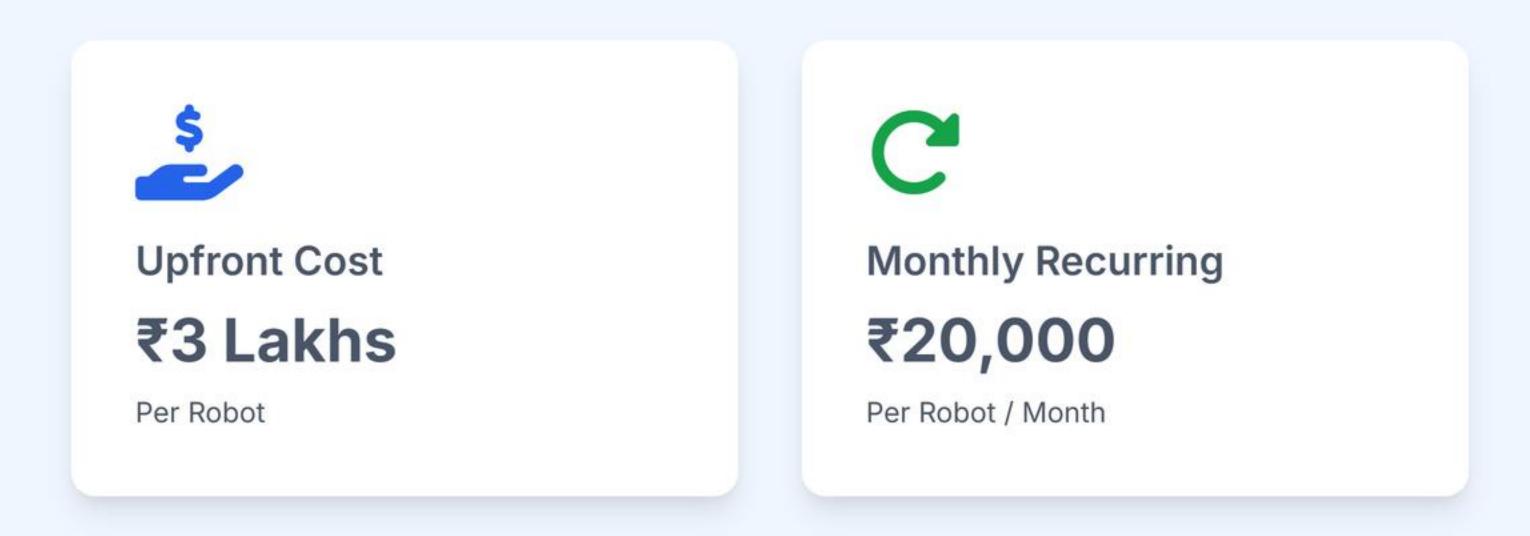
#### However:

- Focused on US & Western markets.
- No plans to enter India.
- Cost structure prohibitive for Indian market.
- They claim they cannot keep up with demand, validating the need.

Other potential competitors (e.g., Hand Plus Robotics, RightHand Robotics) exist but don't fully align with our specific USPs for the Indian context.

Our analysis shows a clear opportunity for a cost-effective, advanced solution tailored for India and similar markets.

### Robot as a Service (RaaS)



This model ensures affordability for customers, predictable revenue for Rockfort Robotics, and aligns incentives for ongoing service and upgrades.

### Strong Profitability & Margins

(Calculations with 6% discount rate for time & inflation adjustment)

↓ Total Adjusted Costs

₹6.21 Lakhs

(Manufacturing: ₹3L, Other: ₹1L, Servicing: PV of ₹30K/year for 10 yrs)

↑ Total Adjusted Income

₹20.66 Lakhs

(Upfront: ₹3L, Recurring: PV of ₹2.4L/year for 10 yrs)

**!** Key Financial Metrics

Profit Per Robot (Adjusted):

₹14.46 Lakhs

Gross Margin (Adjusted):

69.96%

Detailed Calculations: Rockfort Robotics - Unit Economics

#### Significant Cost Savings & ROI



Payback Period

< 11 Months

Rapid return on initial investment.



**Annual Return Rate** 

114%

Annual savings exceed investment cost.



**Net Savings** 

₹2.1 Crore

Over 7 years with 10 robots.

1 Robot replaces 3 workers (across 3 shifts).

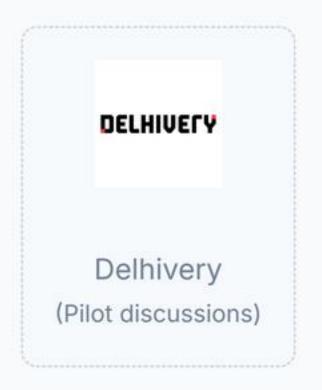
~53% drop in labor spend from Day 1.

Break-even within the first year, then pure savings.

Detailed Analysis: Labor Cost Savings - Rockfort Robotics

#### Strong Initial Interest from Industry Leaders

We have demoed our prototype and are in discussions for pilots:











- Delhivery: Discussed with VP of Automation, their team visited; open to dark store pilots.
- Flipkart: Director of Automation saw demo; open to pilot, Malur FC visited.
- Inamo: CEO discussions; visited their dark stores.
- Zepto: TN Head of Ops confirmed utility if ROI < 3 yrs & < 2 min processing. Visited 20+ dark stores, solution fits.
- Plazza (Pharma Q-Commerce): Founder amazed by cost-effectiveness compared to alternatives.

#### Experienced Founders with a Track Record



#### **Arivind Krishnan**

CEO & Co-Founder

**Product and Business** 

Ex: ShopUP, WholesaleX, Voonik

Edu: EEE - Mepco

in LinkedIn



#### **Abhishek Ramnath**

CTO & Co-Founder

AI, Software & Electronics

Ex: ShopUP, WholesaleX, Qualcomm

Edu: EEE - BITS Hyderabad

in LinkedIn



#### **Praveen Kumar**

Head of Hardware & Co-Founder

**Design & Electronics** 

Ex: Arrival Ltd UK, Phoenix Medical

Edu: M.Des @ NID, EEE - SASTRA

in LinkedIn



#### Successful Exit

Arivind & Abhishek built and sold WholesaleX to ShopUP for \$500K USD.

#### **Deep Relationships**

Arivind and Abhishek are brothers. Praveen & Abhishek are classmates.

# Robotics Experience

Built robots together, bringing complementary expertise.

#### Shaping the Future of Robotics



# Years 1-3: Ubiquitous Tallboy

Dominate individual SKU picking/restocking in India, US, Europe. Setting the standard for warehouse automation across markets.



# Years 3-5: Intelligent Dexterous Robots

Expand to complex tasks
(electronics assembly,
merchandising) using advanced Al
(Foundation Models, NVIDIA
Omniverse/Isaac Lab,
GR00T/OpenVLA).



# Beyond 5 Years: General-Purpose Household Robots

Deliver real value in homes by tackling cost and messy environments with advanced simulation and robot foundation models.



# **6** Current Financial Status

Cash in Bank

₹2.5 L

**Monthly Burn** 

₹1 L

**Runway Left** 

3 months

Investment Context

Cap Table

Raised: ₹52.25 L for 10.45%

From: Friends & Family

Antler Program

Status: Accepted to Residency

Potential Investment Offer: ₹2 Cr for 9% equity

With a Follow-on: Up to ₹2 Cr

# **How We'll Execute & Deliver**

# **©** Use of Funds

# Build Engineering Team (10 people)

- 3 Low-level software engineers
- 2 High-level software & orchestration
- 2 Al vision & picking system
- 3 Hardware engineers

# **Timeline & Milestones**

Month 6: Production-ready robot

Month 7: Deploy pilots

Goal: 2 customers × 2-phase pilots

Phase 1: 1 robot → Phase 2: 4 robots

Outcome: Convert to paid orders

Let's Make Robots Ubiquitous Together

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