



# REZINC

*A sustainable innovation to transform waste from carbon-based batteries into high-quality carbon paint.*

More about us



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



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14 LIFE BELOW WATER



15 LIFE ON LAND



# PROBLEM STATEMENT

The world has only  
**133 years left**

before the world exhausts its coal reserves

Source: Worldometer

**600,000 children**

suffer **mental retardation** due to excessive exposure to inappropriately processed **battery wastes**.

Source: National Institutes of Health (NIH)

**DAILY BATTERY WASTE DISPOSAL LEADS TO SEVERE ENVIRONMENTAL POLLUTION,  
WHILE ENERGY SOURCES ARE GRADUALLY DEPLETING EACH YEAR**



of all batteries equates to approximately **8,000 tonnes** end up in our general waste landfills

Source: [Cleanaway Australia](#)



A  
discarded  
battery of  
environent

Pollutes 500 liters of  
water.

1 cubic meter of soil for  
50 years.

**Harmful to human health.**

Source: City Children's Hospital



# OUR SOLUTION

“ A sustainable innovation to transform waste from carbon-based batteries into high-quality carbon paint. ”

## 1 Recycles Waste from Batteries



Waste batteries

Refined carbon powder



Black paste

## Carbon Paint



Carbon Powder



## 2 Uses of our Carbon Paint




- Metal surface painting
- Exterior surface painting

## 3 Uses of our Carbon Powder

- Black pigment
- Ingredient of other batteries: Lithium battery, Zinc Carbon battery, etc.

# VALUE PROPOSITION

 **ReZinc** carbon paint for metal surfaces

## 1 Environmentally friendly



- Minimize toxic battery waste impact
- Reuse carbon in batteries to save fossil fuels.

## 3 High durability

- ✓ **Impact** resistance
- ✓ **Abrasion** resistance
- ✓ **Chemicals** resistance
- ✓ **Weather** resistance



Impact & abrasion resistance tested at VinUniversity's lab

## 5 UV light protection

- Can blocks UV rays, extends surface life
- **Unique for carbon paint only**



## 2 Cost-effective

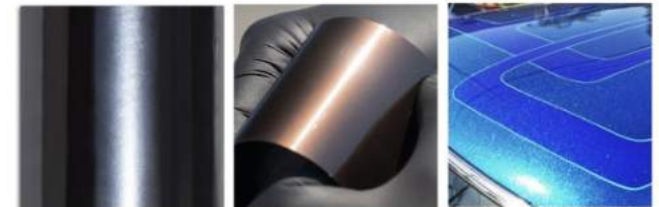
Lower production costs due to:

- Cheapest recycling method
- Abundant waste battery sources
- One-time R&D cost: 30M VND for 1 month



## 4 High coverage, nice tinting

Fineness results tested at VinUniversity's lab



Colors of carbon paint with high intensity





# IMPACT MEASUREMENT

Every **73 batteries**



Wastes from **1 Battery**



Makes **1 Liter** of ReZinc paint



Makes **8.6 grams\*** of ReZinc carbon powder



Every **1 Liter** of ReZinc paint recycles

**628 grams carbon powder**

Table: Estimated **reduction in greenhouse gas emissions** based on predicted sales

Year	Tons of ReZinc sold (**)	CO2 (ton) reduction (***)
2025	25.7	25.7 x 3.67 = 94.3
2026	51.3	188.3
2027	102.7	376.9
2028	196.9	722.8

(\*) Statistics from DMS Lab

Standard type size	Total mass (mg)	Zinc can (mg)	Carbon powder (mg)	Graphite rode (mg)	Others (mg)
Large	72206	12970	47465	5261	5294
Medium	13609	2861	8559	1084	816
Small	7193	1795	4200	536	588

(\*\*) Financial Projection

(\*\*\*) The **greenhouse gas emission factor for carbon powder is 3.67** (EPA, 2020).

# COMPETITIVE ANALYSIS

*In accordance with TCVN and ASTM Standards*

TCVN/ASTM* Standard	Nippon	Jotun	Dulux	TOA	ReZinc
<b>Durability</b>	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
<b>Ease of Application</b>	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
<b>Smoothness</b>	GOOD	GOOD	GOOD	GOOD	VERY GOOD
<b>Weather Resistance</b>	GOOD	GOOD	GOOD	GOOD	GOOD
<b>UV Shielding</b>	GOOD	GOOD	GOOD	GOOD	VERY GOOD
<b>Water Resistance</b>	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
<b>Cost per Liter</b>	<b>\$8-10</b>	<b>\$7-9</b>	<b>\$18-24</b>	<b>\$10-12</b>	<b>\$5.49</b>



Resistance test and apparatus



Coverage and smoothness test





# MARKET ANALYSIS

## B2C Customer Persona



### Iron/Steel painter

- **Needs:** Durable and eco-friendly paint for metal projects, household maintenance,...
- **Relevant people:** Homeowner, artist, craftsman, architect,...

## B2B Target Customers

Automotive  
Manufacturers



Shipbuilding industry



Public bridge  
construction projects



Construction Firms



Machine Production  
Companies



## Metal Coatings Market

Market value  
(2023)

**\$16.3 BN**

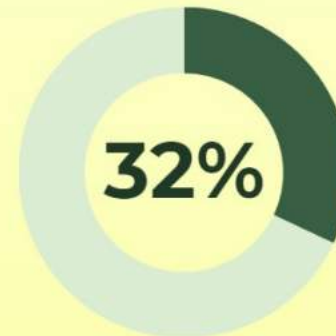
Market value  
(2032)

**\$27.6 BN**

CAGR  
(2024-2032)

**6.1%**

Water-borne paint  
market share 2023



Source: (GMI, 2024)

Asia-Pacific



Market size 2023

**\$6.1BN**



# BUSINESS MODEL

ReZinc's official retail agent

**B2C**  
**\$5.49/liter**

- ✓ Nationwide listed price
- ✓ Enjoy a 3-year warranty policy
- ✓ Receive a discount on bulk orders
- ✓ Get detailed usage instructions

**Buy at Retail Agent**

**\$2.99/liter**

- ✓ Official wholesale price
- ✓ Receive a 50% discount
- ✓ Receive support for marketing signs and banners
- ✓ Receive sales skills training
- ✓ Return unsold inventory

**Become Retail Agent**

**B2B**  
**\$2.7/liter**

- ✓ Receive a 55% discount
- ✓ Receive 1-year warranty support
- ✓ Receive usage instructions
- ✓ Support for installment payments

**Choose this Package**

**Carbon pigment**  
**\$2/kg**

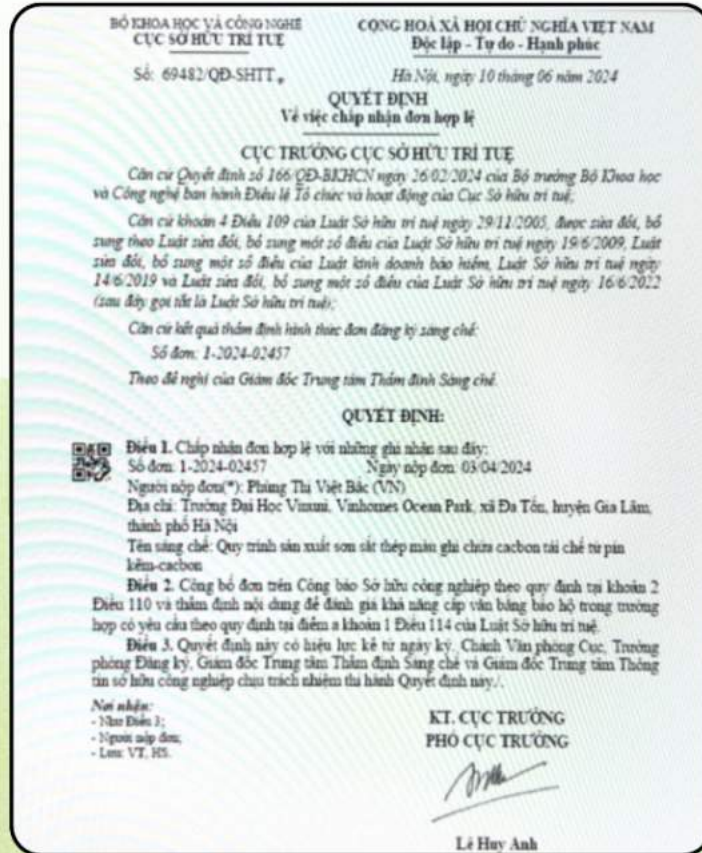
- Multiples uses in manufacturing
- High quality recycled product
- Discount for large orders

**Buy Now!**





# Patents & Pre-Order Agreements



The **intellectual property** application was approved by the **Ministry of Science and Technology** on June 10, 2024.



**Memorandum** of understanding for pre-order and production support commitment by the **Director of HLC Northern Construction and Trading Co., Ltd.**



ReZinc has so far achieved the following agreement with HLC Northern Construction and Trading Co., Ltd



ReZinc technology and manufacture methodologies are well-documented and officially patented.



# SUPPLY CHAIN



## Electronic Waste Recycling Centers

- Nghia Tan Ward Cultural House
- Hoan Kiem Public Works Management Board



## Community Battery Collection Programs

"Recovering old batteries - Protecting the green earth" 2024 by CoCoon Vietnam



## Battery Manufacturers and Retailers

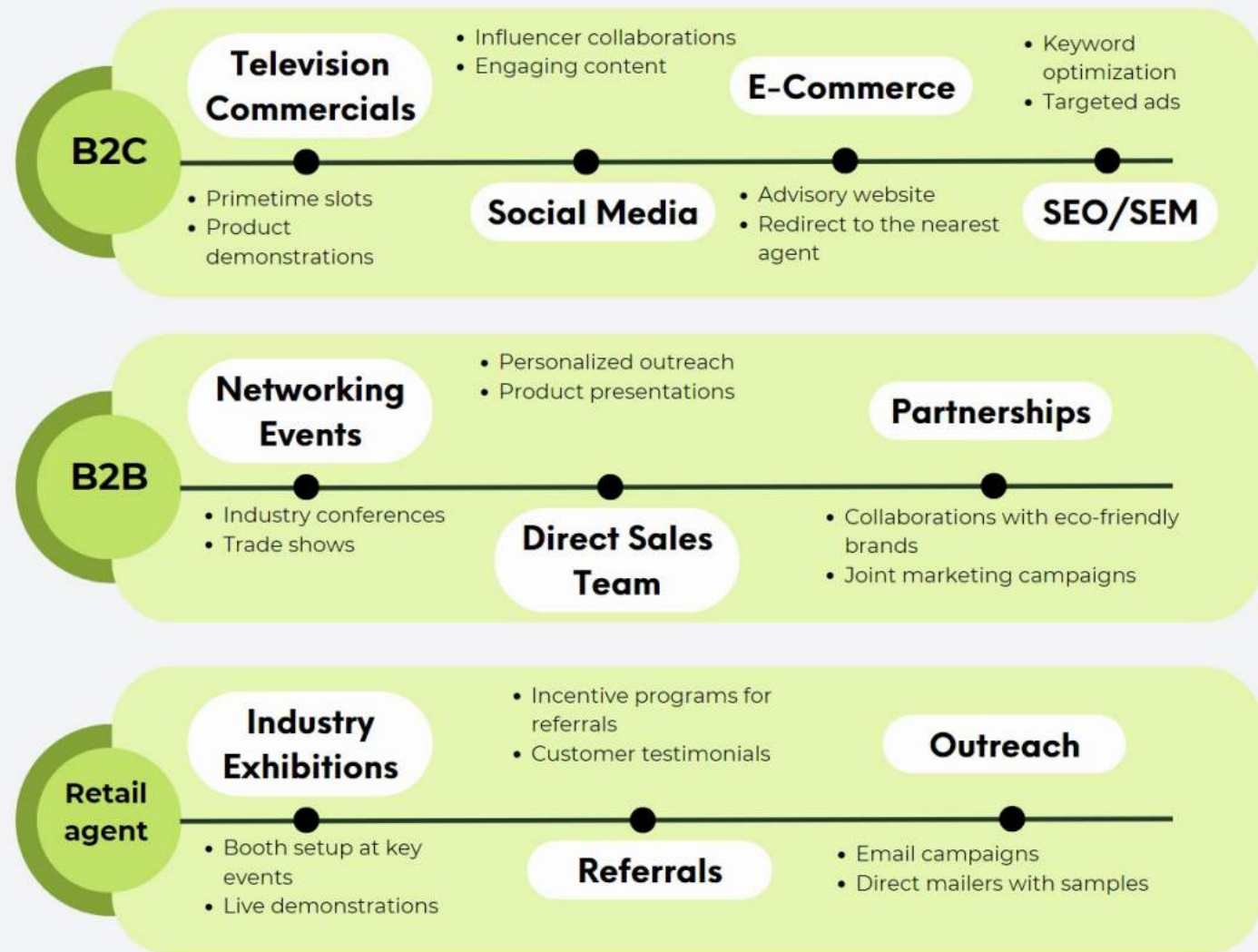
- Hanoi Battery Joint Stock Company
- Energizer Battery



## Industrial Waste Management Companies

- Hanoi Thien Y Environmental Energy JSC

# MARKETING STRATEGY





# INITIAL FACTORY SET-UP COST

## Machinery



Thermal Cracking Reactor  
\$40,000



AF air classifier  
\$30,000



Metal Extraction System  
\$60,000



Material Sedimentation Tank  
\$1000



Materials Mixing System  
\$20,000



Industrial Paint Mixer  
\$1000



Furnace  
\$2000



Packaging Machine for Paint  
\$20000

Total machinery investment:  
**\$174.000**

## Factory rental cost

Area: **1500m<sup>2</sup>**

Address: **Hanoi** (near suppliers)

Cho thuê 03kho xưởng 300m<sup>2</sup>, 1500m<sup>2</sup> tại 628 đường Minh Khai( gần Cảng Hà Nội)- Hai Bà Trưng Hôm c  
Trung ☆☆☆☆  
Cho thuê 03kho xưởng tại 628 đường Minh Khai( gần Cảng Hà Nội)- Hai Bà Trưng- Hà Nội.DT: 30  
8 00 và 1500m<sup>2</sup> Đặc điểm nhà kho: - Xưởng nền bê tông, cao, còn mới , xe Container vào tí  
xưởng, không ngập lụt, có hệ thống... << xem chi tiết >>  
Diện tích: 1.500 m<sup>2</sup> KT: --- Hường  
Giá: 75 ngàn / m<sup>2</sup> / tháng Đường Minh Khai, Phường Vĩnh Tuy, Quận Hai Bà Trưng, Hà T

Source: alonhadat.com.vn **\$4.500/month**

CHO THUÊ 1500M<sup>2</sup> NHÀ XƯỞNG TẠI CỤM CÔNG NGHIỆP DUYÊN THAI-THƯƠNG TÍN/ Hôm q  
IANH TRI- HÀ NỘI  
Công ty chúng tôi cần cho thuê 1500m<sup>2</sup> kho nhà xưởng tại Cụm công nghiệp Duyên Thái- Thương  
Tín- Hà Nội - Dựng mới 1500m<sup>2</sup>. Kho, Nhà xưởng bằng khung zamil ca  
vách 9- đỉnh mái 13m. - Hệ thống P... << xem chi tiết >>  
chỗ để xe  
Diện tích: 1.500 m<sup>2</sup> KT: --- Hường  
Giá: 80 ngàn / m<sup>2</sup> / tháng Quốc lộ 1A, Xã Duyên Thái, Huyện Thường Tín, Hà N

Source: alonhadat.com.vn **\$4.800/month**

Cho thuê kho xưởng PCCC tự động nghiệm thu tại cụm CN  
Dương Liễu - Hoài Đức, DT: 500 - 1500m<sup>2</sup>  
90 nghìn/m<sup>2</sup> - 1.500 m<sup>2</sup>  
Hoài Đức, Hà Nội  
Đăng 4 ngày trước

Source: batdongsan.com.vn **\$5.400/month**

1st year estimated rental cost:  
**\$60.000**

## Others

1 Consultants to build process in  
the first 3 months: **\$6.000**

Industry mentors in the first 3  
months: **\$9.000**

Machinery depreciation per year:  
\*average 10-year machinery lifetime **\$26.100**

## Total

Call for funding:  
**\$309.000**

for initial machinery investment  
+ 2 years rental cost  
+ other expenses

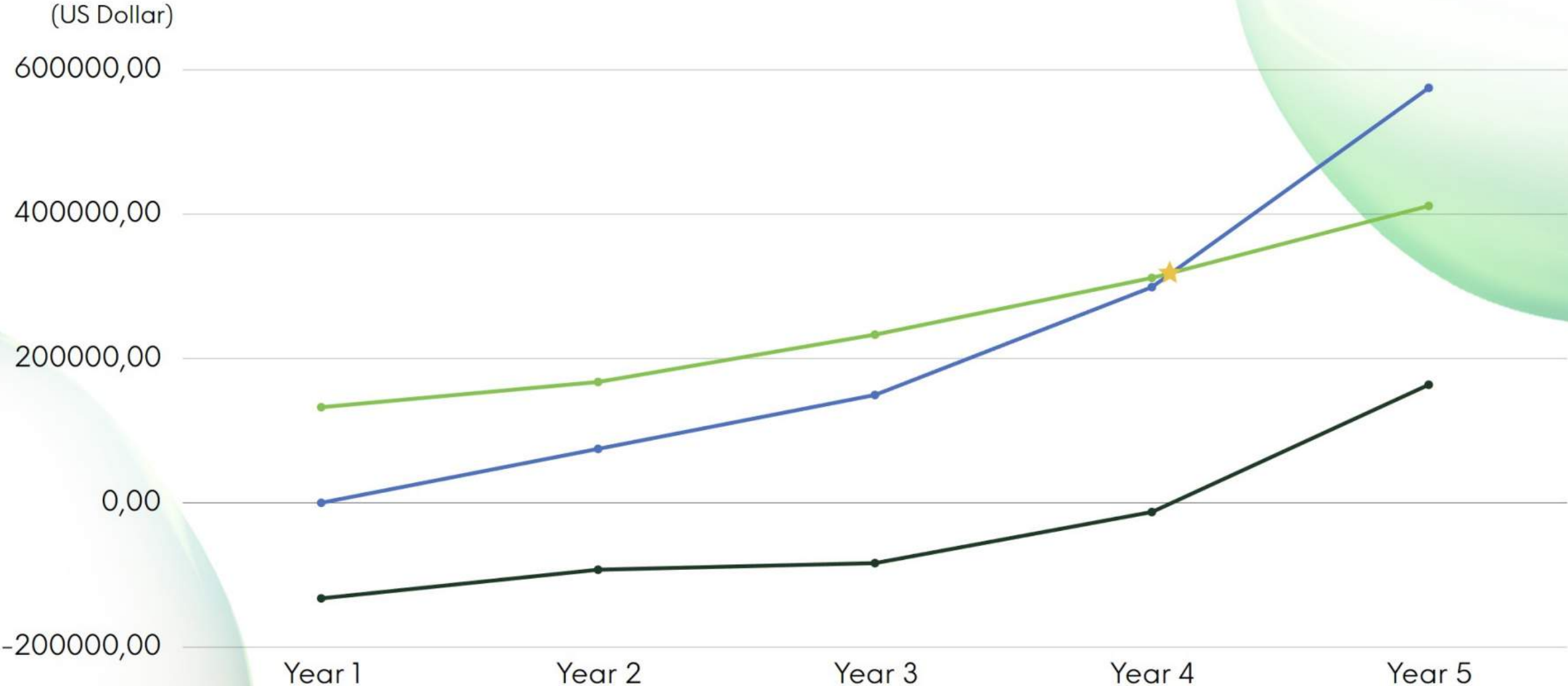
# FINANCIAL PROJECTION

Year	2024	2025	2026	2027	2028
Total volume of B2B ReZinc (kg)	0	7000	14000	28000	47600
Selling price per liter B2B	\$2,7	\$2,7	\$2,7	\$2,7	\$2,7
<b>Revenue from B2B</b>	<b>\$0</b>	<b>\$18.900</b>	<b>\$37.800</b>	<b>\$75.600</b>	<b>\$128.520</b>
Selling price per liter to retail agents	\$2,99	\$2,99	\$2,99	\$2,99	\$2,99
Total volume sold to retail agents (kg)	0	18.667	37.334	74.668	149.336
<b>Revenue from RA</b>	<b>\$0</b>	<b>\$55.814</b>	<b>\$111.629</b>	<b>\$223.257</b>	<b>\$446.515</b>
<b>Total revenue</b>	<b>\$0</b>	<b>\$74.714</b>	<b>\$149.429</b>	<b>\$298.857</b>	<b>\$575.035</b>
Machinery equipment	\$17.400	\$17.400	\$17.400	\$17.400	\$17.400
Factory rental costs	\$60.000	\$60.000	\$60.000	\$60.000	\$60.000
Depreciation of fixed assets	\$26.100	\$26.100	\$26.100	\$26.100	\$26.100
<b>Total fixed costs</b>	<b>\$103.500</b>	<b>\$103.500</b>	<b>\$103.500</b>	<b>\$103.500</b>	<b>\$103.500</b>
<i>Salaries for research and product development personnel</i>	<i>\$9.120</i>	<i>\$17.280</i>	<i>\$28.800</i>	<i>\$52.800</i>	<i>\$48.000</i>
Number of researchers	2	2	3	5	5
Salary per researcher per month	\$380	\$720	\$800	\$880	\$800
Number of months in the year	12	12	12	12	12
<i>Workers' salaries</i>	<i>\$0</i>	<i>\$17.640</i>	<i>\$55.566</i>	<i>\$77.792</i>	<i>\$122.523</i>
The number of workers	0	10	15	20	30
Salary per worker/month	\$280	\$294	\$309	\$324	\$340
Number of working months in the year	0	6	12	12	12
<i>Total cost of input materials (Raw material)</i>	<i>\$800</i>	<i>\$14.990</i>	<i>\$29.979</i>	<i>\$59.958</i>	<i>\$115.011</i>
Price per unit of material	\$0,008	\$0,008	\$0,008	\$0,008	\$0,008
Quantity of input materials (unit) (*)	100.000	1.873.691	3.747.382	7.494.764	14.376.328
<i>Shipping cost</i>	<i>\$40</i>	<i>\$1.200</i>	<i>\$2.400</i>	<i>\$4.800</i>	<i>\$9.600</i>
<i>Marketing expense</i>	<i>\$4.000</i>	<i>\$4.000</i>	<i>\$4.000</i>	<i>\$4.000</i>	<i>\$4.000</i>
<b>Total variable costs</b>	<b>\$13.960</b>	<b>\$55.110</b>	<b>\$120.745</b>	<b>\$199.351</b>	<b>\$299.134</b>
<i>Other costs</i>	<i>\$15.000</i>	<i>\$8.800</i>	<i>\$8.800</i>	<i>\$8.800</i>	<i>\$8.800</i>
<b>Total Cost</b>	<b>\$132.460</b>	<b>\$167.410</b>	<b>\$233.045</b>	<b>\$311.651</b>	<b>\$411.434</b>
<b>Profit/loss</b>	<b>-\$132.460</b>	<b>-\$92.695</b>	<b>-\$83.616</b>	<b>-\$12.793</b>	<b>\$163.601</b>

Note: Average 10-year machinery lifetime



# FINANCIAL PROJECTION



Total Revenue  
(US Dollars)



Total Cost  
(US Dollar)



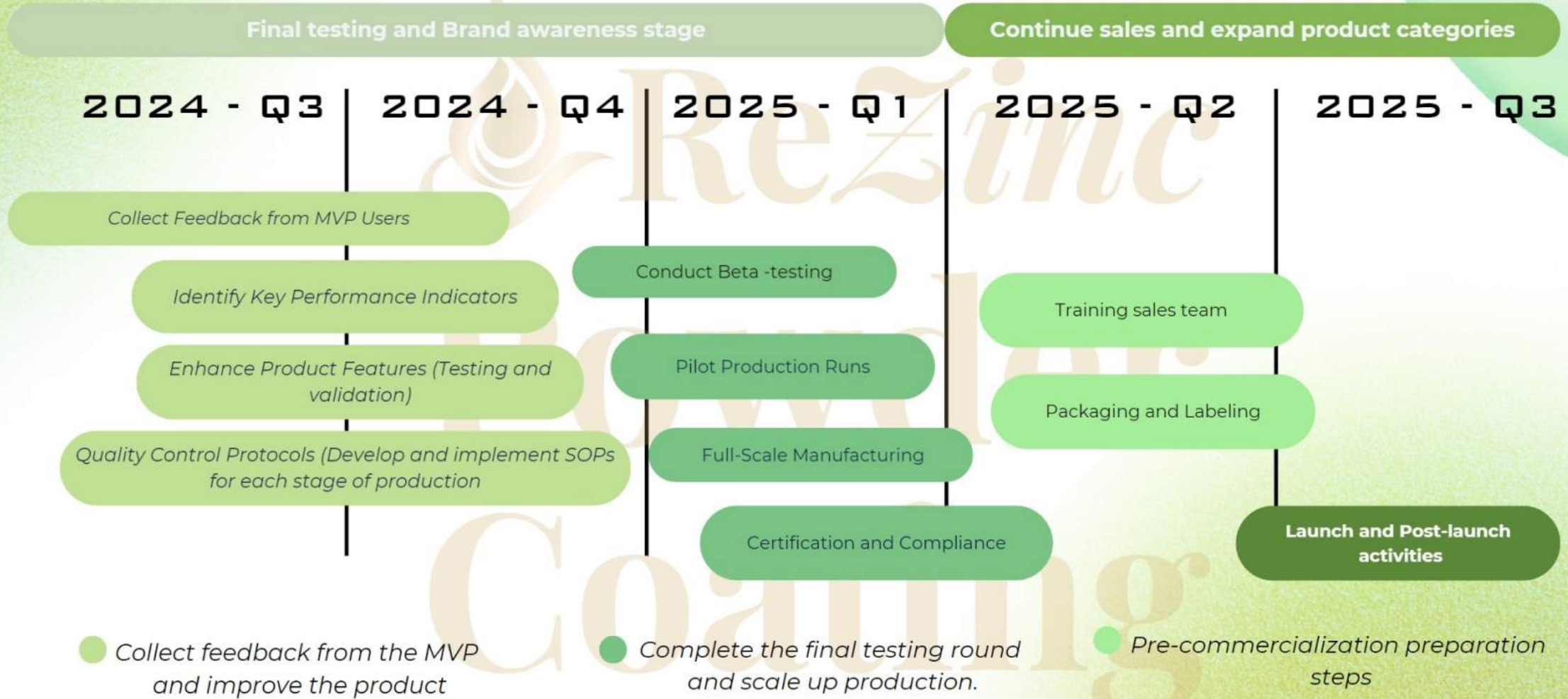
EBITDA  
(US Dollars)



Break-even point

# PRODUCT DEVELOPMENT PLAN

ReZinc - Product Completion Plan for the Next Year





# Our Team



**Nguyen The An**  
VinUniversity  
Business Analytics



**Nguyen Thuy Dung**  
VinUniversity  
Entrepreneurship



**Nguyen Ngoc Phuc Tien**  
VinUniversity  
Electrical Engineering



**Tran Minh An**  
VinUniversity  
Electrical Engineering



**Dinh The Minh**  
VinUniversity  
Electrical Engineering

# Our Advisory Board



**PhD. Phung Thi Viet Bac**  
Head of RM Office, Faculty of CECS,  
Executive Director of CEI



**PhD. Nguyen Phi Long**  
Research Scientist at DMS lab



**Assoc. Prof. Dr.  
Nguyen Trong Nghia**  
Senior Lecturer, Hanoi University of  
Science and Technology



**Marc Kramer**  
Senior Lecturer of Entrepreneurship,  
VinUniversity



**Alex Nguyen**  
Director of Entrepreneurship Lab  
VinUniversity

# Research support institutes





# THANKYOU

ReZinc  Paint Green For Life

