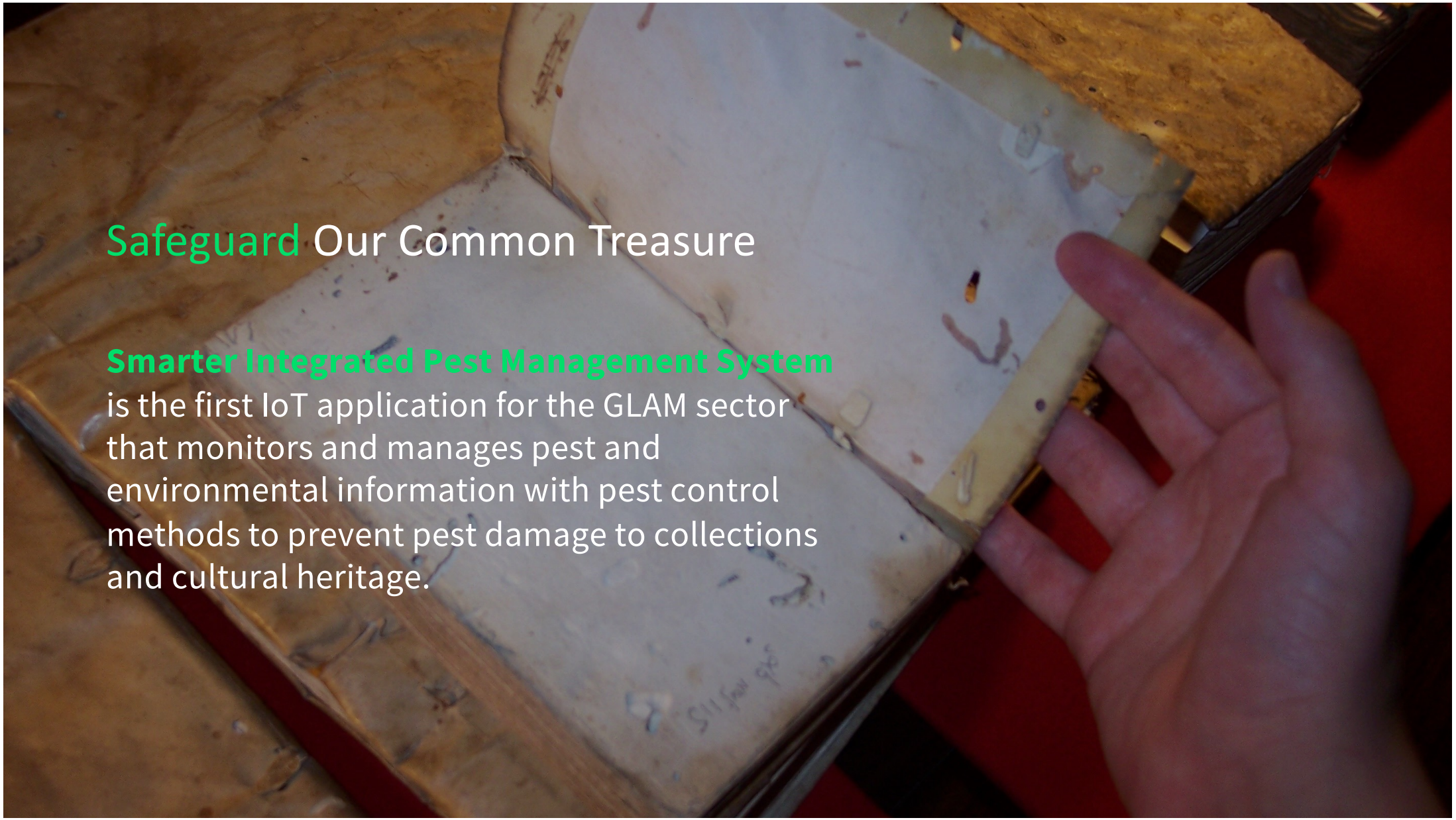
SIPMS

A New Generation of Integrated Pest Management system for the GLAM Sectors



Safeguard Our Common Treasure

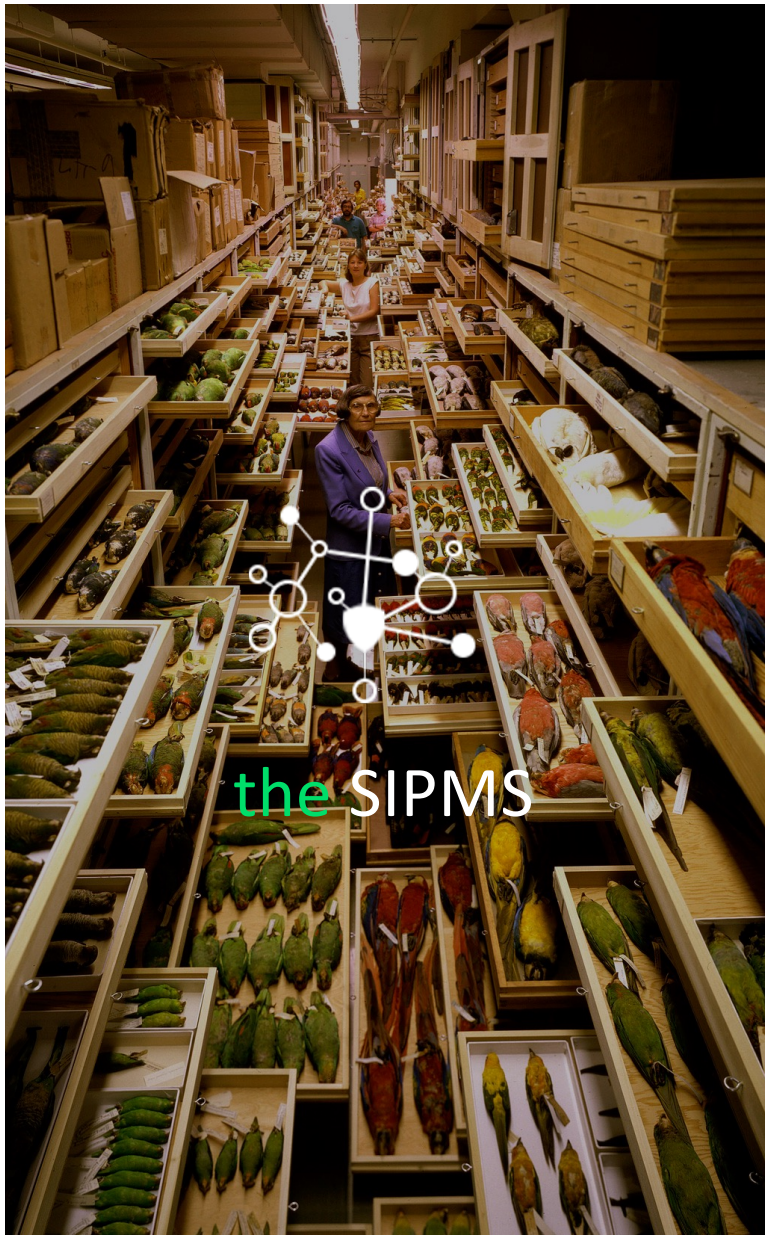
Smarter Integrated Pest Management System is the first IoT application for the GLAM sector that monitors and manages pest and environmental information with pest control methods to prevent pest damage to collections and cultural heritage.

PROACTIVE

Detect and monitor pest activities using smart and modern techniques.

PREVENTIVE

Prevent a potential pest catastrophe using big data and spatial mapping.



PRODUCTIVE

Detect pest activities using mobile devices and report directly to a mapping database for further analysis.

COST EFFECTIVE

Reduce the time to manually enter and analyze information, then further staff resources and pest treatment costs.

Management Team

Dr. Richard LI

Founder / CEO
Conservator/ Researcher

YiMing LIANG

Co-founder / CTO
AWS Senior Solution Architect

Ada HE

Co-founder / CFO
CIT Specialist

Henry WEN

Co-founder / CMO
NVIDIA Marketing Director

XueTao YIN

Co-founder / COO
Dell Technologies Group Sales Director

Background Story

WHERE IT STARTS

As the GLAM sector practitioner, the current IPM systems and tools in place are archaic, outdated and failing with pest detection and management tasks being undertaken manually. One of our tasks was looking for an effective solution to record pest infiltration and activity.

After consulting with different organizations, we note that there isn't a comprehensive solution in the market due to its special sensitivity and reputation considerations.


What is the
Problem?
25hrs

The Problems

Vision & Mission Proposition

To be the pioneering force in safeguarding cultural heritage through cutting-edge IoT & AI solutions, revolutionizing pest management practices for GLAM sectors worldwide.

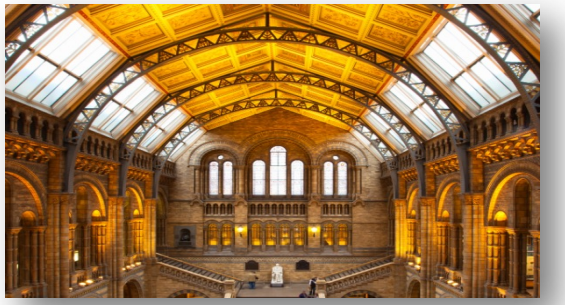
To Provide auto-collection or manual channel and identified pest by AI engine, also to provide solutions to eliminate pests.

Unique Value Proposition


Market
Research

Target Market

Art Galleries



Museums

Libraries

Archives

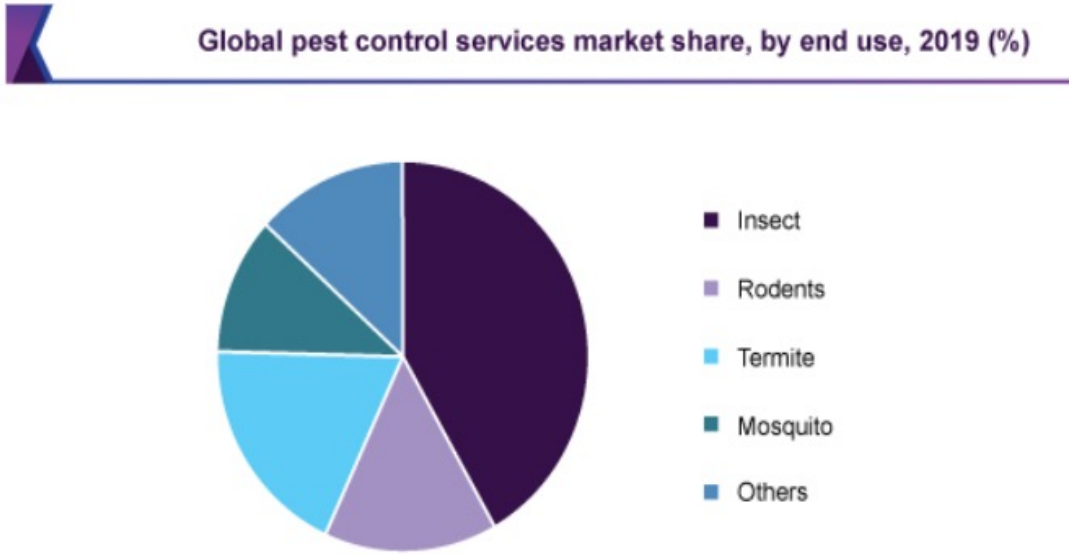
Historical Sites

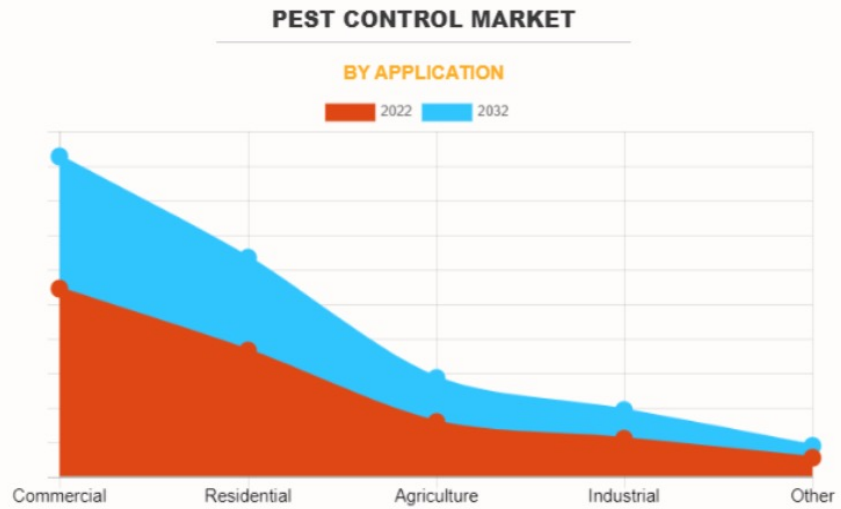
Competitor Analysis

Comparison Parameters	SIPMS	Rentokil Steritech	Orkin Canada	Terminix	Poulin's Pest Control	Abell Pest Control
IoT Driven Solution	✓	✗	✗	✗	✗	✗
Indoor Positioning Technology	✓	✗	✗	✗	✗	✗
Automated Pest Capture	✓	✗	✗	✗	✗	✗
Mobile interface & reporting	✓	✓	✓	✓	✗	✗
Advanced Data analysis	✓	✓	✓	✓	✗	✗
24/7 Monitoring & Detection	✓	✗	✗	✗	✗	✗

Market Analysis - Global

The global pest control market was valued at $24.6 billion in 2022 and is projected to reach $42.5 billion by 2032, growing at a CAGR of 5.7% from 2023 to 2032.





Commercials are projected as the most lucrative segment.

Market Analysis - Canada

2.3 B $

The market size, measured by revenue, of the Pest Control industry in Canada in 2022

6.2 %

Pest control revenue has grown at a CAGR over the past five years.

2.8 %

Increase in pest control industry in 2022.

3350

Total no. of Public library branches in Canada

2700

Museums, cultural heritage, and science centers.

Current Industry Trends

Rise of IoT in Heritage Protection

As IoT devices become more affordable and scalable, there's a noticeable trend towards their adoption in galleries, libraries, archives, and museums.

Eco-friendly and Sustainable Pest Management

The global move towards eco-friendly solutions is influencing the pest management sector, leading to a preference for solutions that reduce or eliminate the use of harmful chemicals.

Automated and Real-time Monitoring

Advanced sensors and automation technology are paving the way for systems that provide real-time feedback, immediate alert systems, and continuous monitoring mechanisms.

Mobile Integration and Accessibility

Mobile interfaces and applications are becoming necessities for businesses offering technology-based solutions.

Preservation of Cultural Heritage

The global emphasis on preserving cultural heritage and tech-integrated preservation methods are leading to a higher demand for solutions that help institutions protect their collections.


Operating
Plan

Business Model

Basic Tier

- Basic 24/7 pest activity monitoring with standard sensors.
- Access to the SIPMS database and management portal.
- Mobile interface for on-the-fly reporting (limited features).
- Standard data analysis and reporting tools.
- Email support with standard response time.

Pricing: CAD $175/month

Standard Tier

- Enhanced 24/7 pest activity monitoring with advanced sensors.
- Full access to the SIPMS database and management portal.
- Mobile interface with image capture capability.
- Advanced data analysis and reporting tools.
- Indoor positioning technology.
- Email and phone support with priority response.
- Deployment of camera traps (Optional).

Pricing: CAD $350/month

Premium Tier

- Premium 24/7 pest activity monitoring with state-of-the-art sensors.
- Full access to the SIPMS database, & management portal
- Advanced mobile interface with full capabilities.
- Top-tier data analysis, reporting tools, and real-time alerts.
- Indoor positioning technology with precise mapping.
- Automated pest capture.
- Deployment of mobile scanning robots.

Pricing: CAD $700/month

Minimum Viable Product

Routine inspection

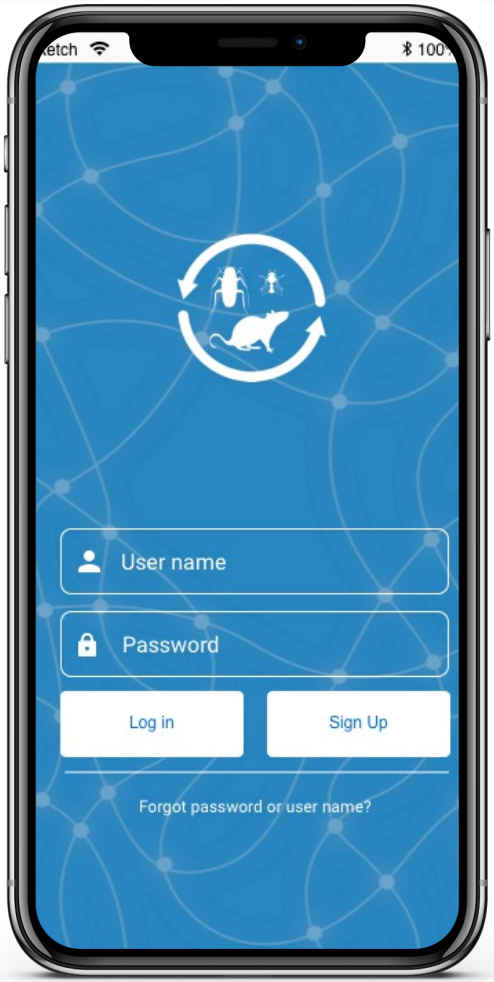
Create new trips and manage the existing trips using QR code and report the captures to the database.

Active monitoring

Provide a mobile data collection channel to upload and update the findings.

Incidental capture

Provide a reporting channel for the general staff to report pest activity around the buildings.



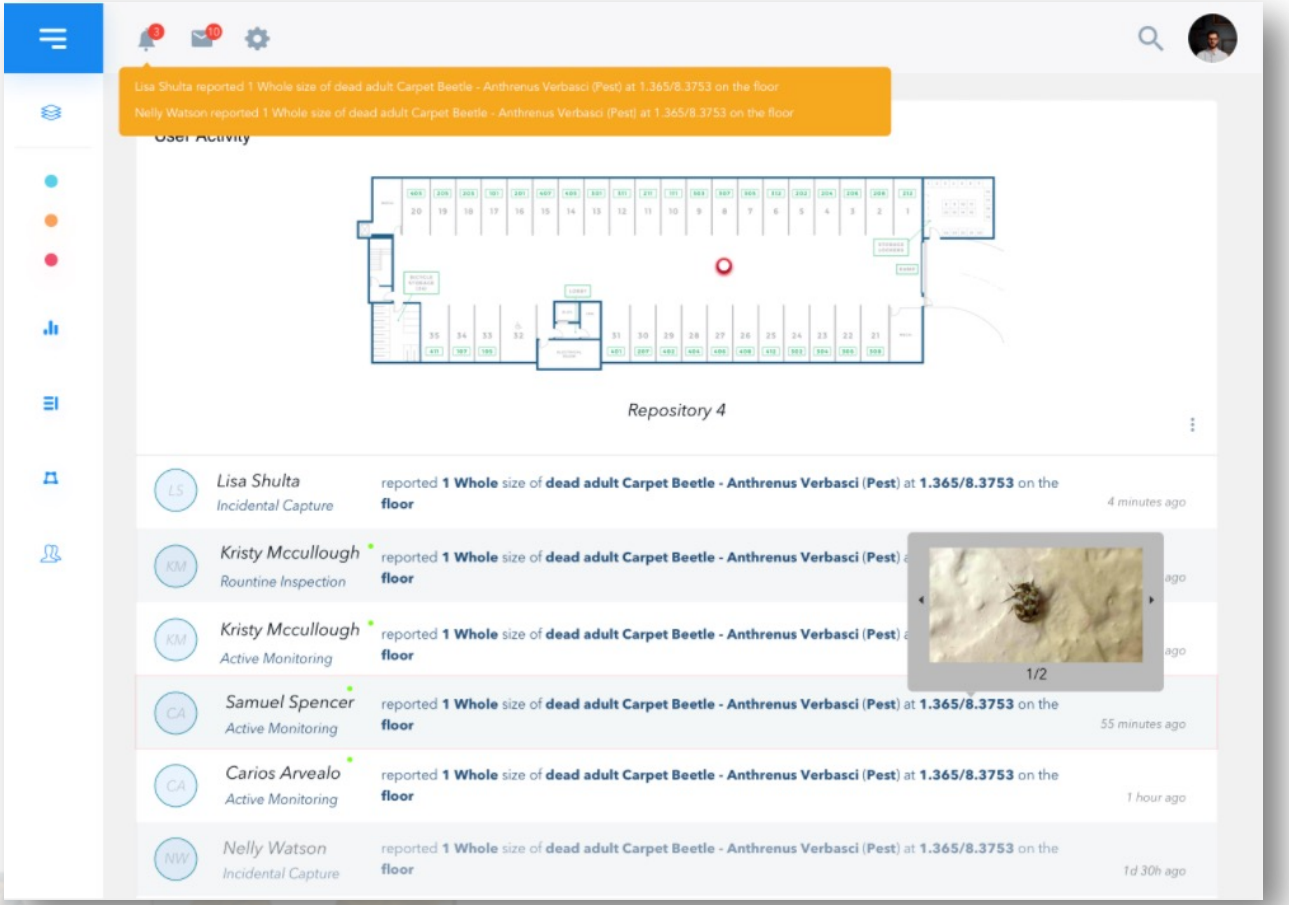
Minimum Viable Product

Instant

Seamlessly report and monitor the activity

Responsible

Detail information about the reporting and monitoring



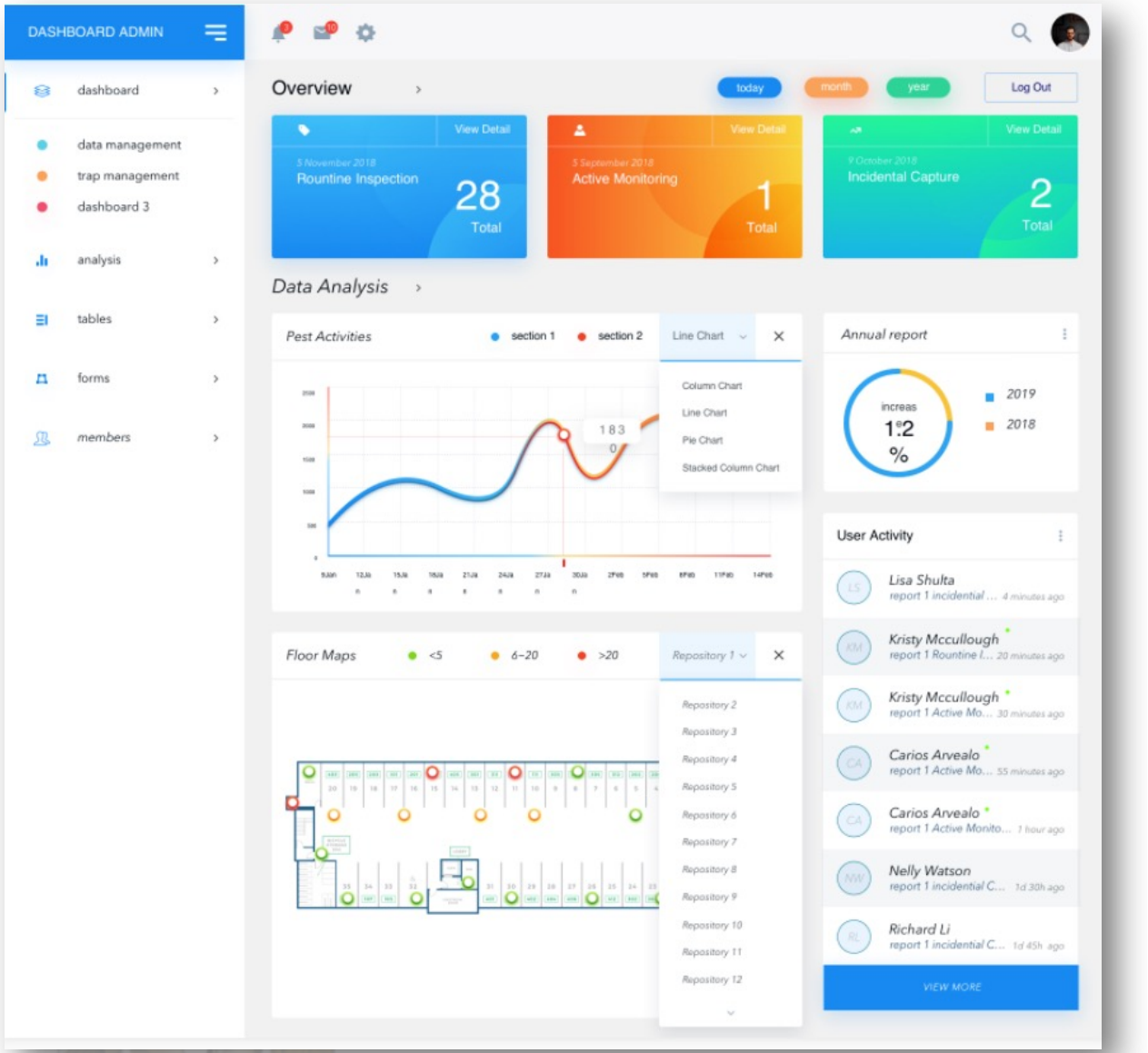
Minimum Viable Product

Meaningful

Input data can generate
meaningful information

Clear

All information is clear
at a glance



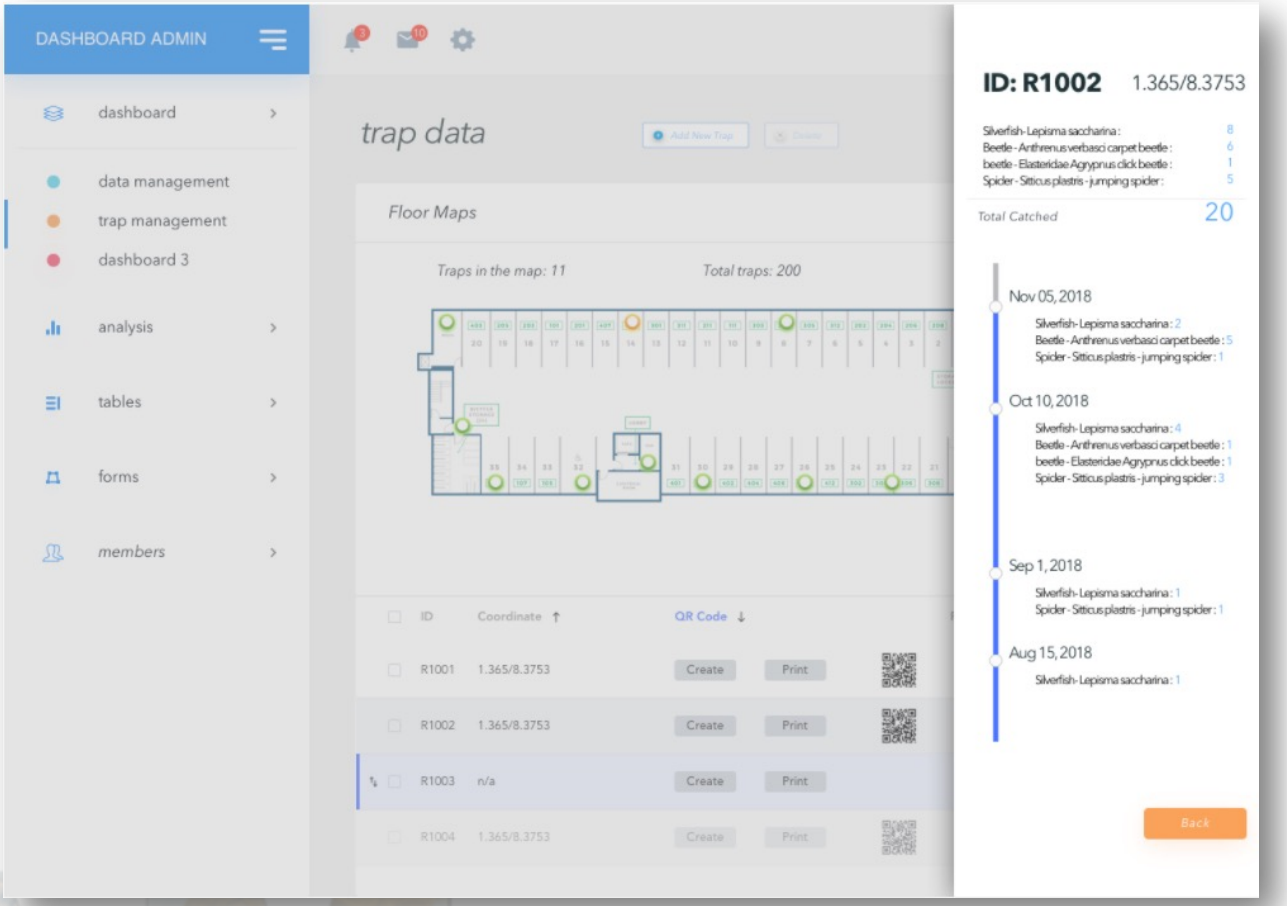
Minimum Viable Product

Active

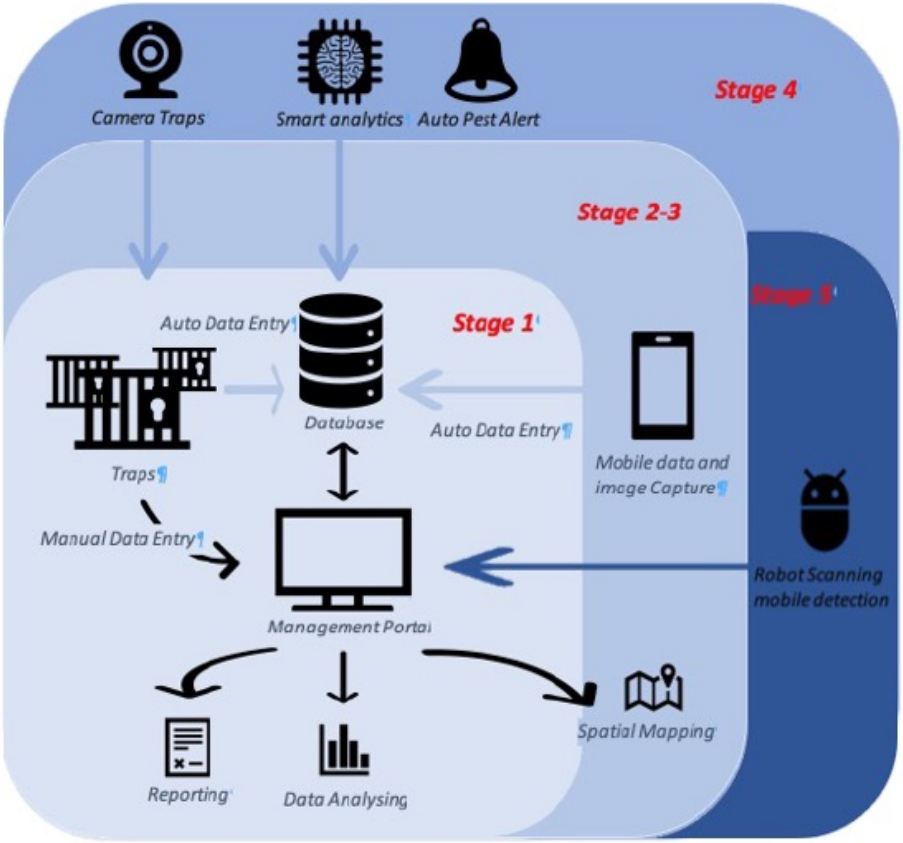
Actively report and monitor traps and connected devices

Central

Easy to manage the connected devices, traps, and accessories



Product Develop



Operational Timeline

Year 1

- Product Launch
- Research & Development
- Supplier Relationships
- Training Programs

Year 2

- Full Product Release
- Sales & Distribution
- Customer Support
- Product Enhancement

Year 3

- Market Penetration
- Content Creation
- Tech Upgrades
- Expansion

Year 4

- Partnerships
- Feedback Loop
- Training & Workshops
- Diversification

Year 5

- Global Outreach
- Marketing Campaigns
- Stakeholder Engagement

SWOT Analysis

- Specialization in GLAM Sectors
- Technological Innovation
- Comprehensive Services
- Environmental Sustainability
- Operational Efficiency

- Reliance on Technology
- Market Awareness
- Cost Implications
- Adaptation Hurdles

- Market Expansion
- Strategic Partnerships
- Technological Upgrades
- Educational Outreach

- Competitive Emergence
- Rapid Tech Evolution
- Regulatory Challenges
- Economic Dynamics

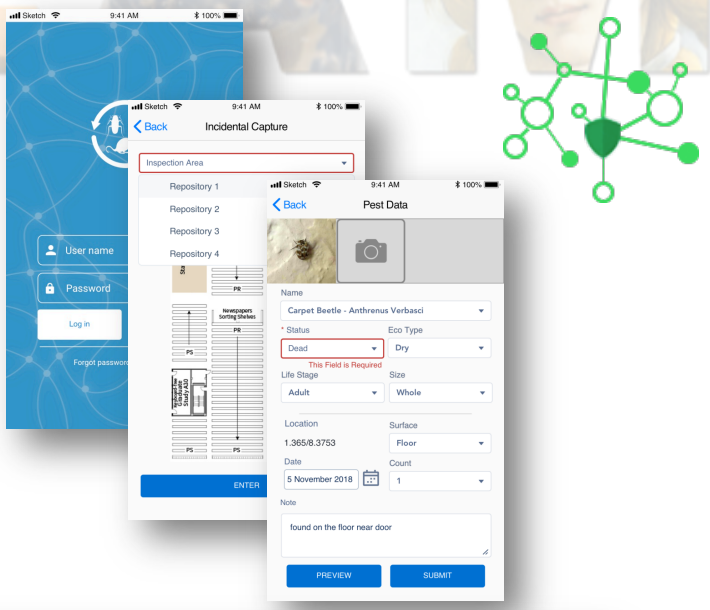
Key Intellectual Property

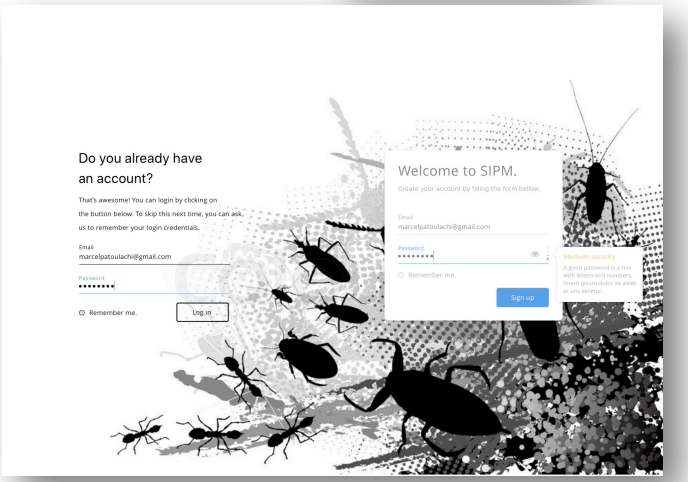
- **Copyrights:** SIPMS has the potential to copyright the codes used in development for its platform and mobile interface for pest reporting and data entry

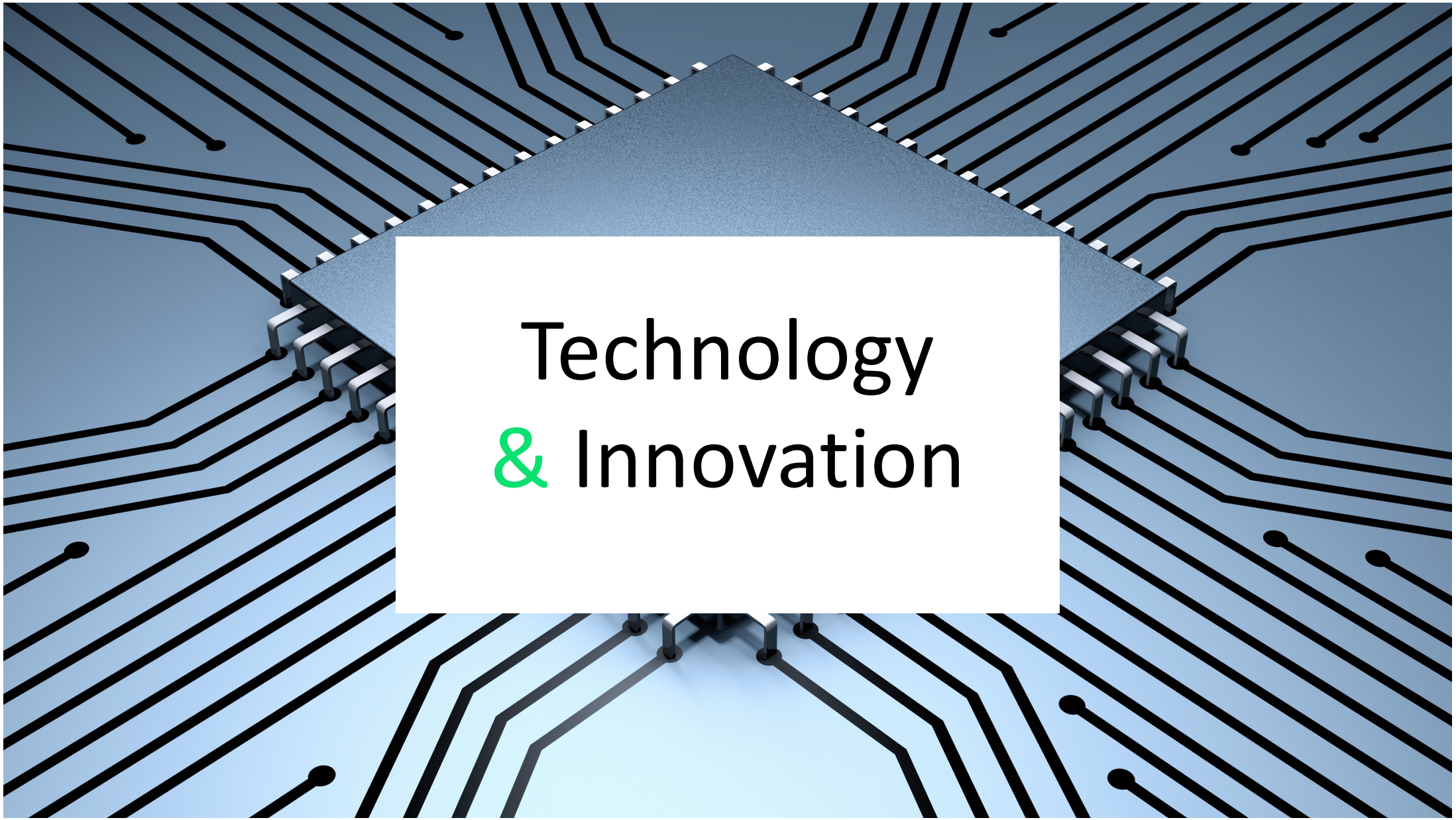
- **Patents:** SIPMS has an opportunity to potentially patent the novelties of IoT-driven pest management solutions. In the future, the company will seek patents for novel features such as sensors, monitoring devices, mobile scanning robots, or camera traps that will be used in their solution.

- **Trademarks:** SIPMS has the potential to seek trademark protection for its branding elements and website. The company can also trademark and protect its unique logo, any slogans or taglines,and company name

- **Contracts and Non-Disclosure Agreements (NDAs):** SIPMS will protect its intellectual property through contracts and NDAs with employees, contractors, partners, and vendors to ensure that sensitive information remains confidential.






Technology
& Innovation

Key Technology & Innovation

IoT Sensors

Internet of Things (IoT) sensors are placed strategically within indoor repository environments that continuously monitor environmental conditions, such as temperature, humidity, and pest activity.

Automated Pest Capture

Camera traps will automatically capture pests in real-time. These traps will use smart analytics, including shape recognition, to identify pests and their exact locations within buildings.

Mobile Scanning Robots

Mobile scanning robots use advanced techniques such as robotic skimming and thermal imagery to detect pests and upload data directly into the system.

Real-Time Alerts & Notifications

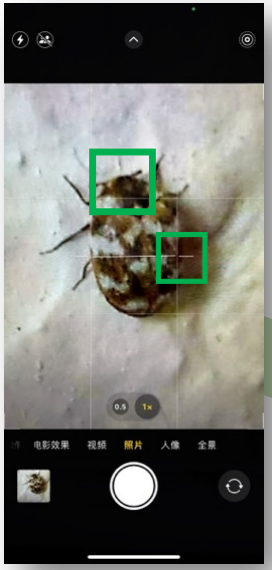
Real-time alert functionality detects whenever a pest is detected, and institutions receive immediate notifications, allowing for swift response and preventive measures.

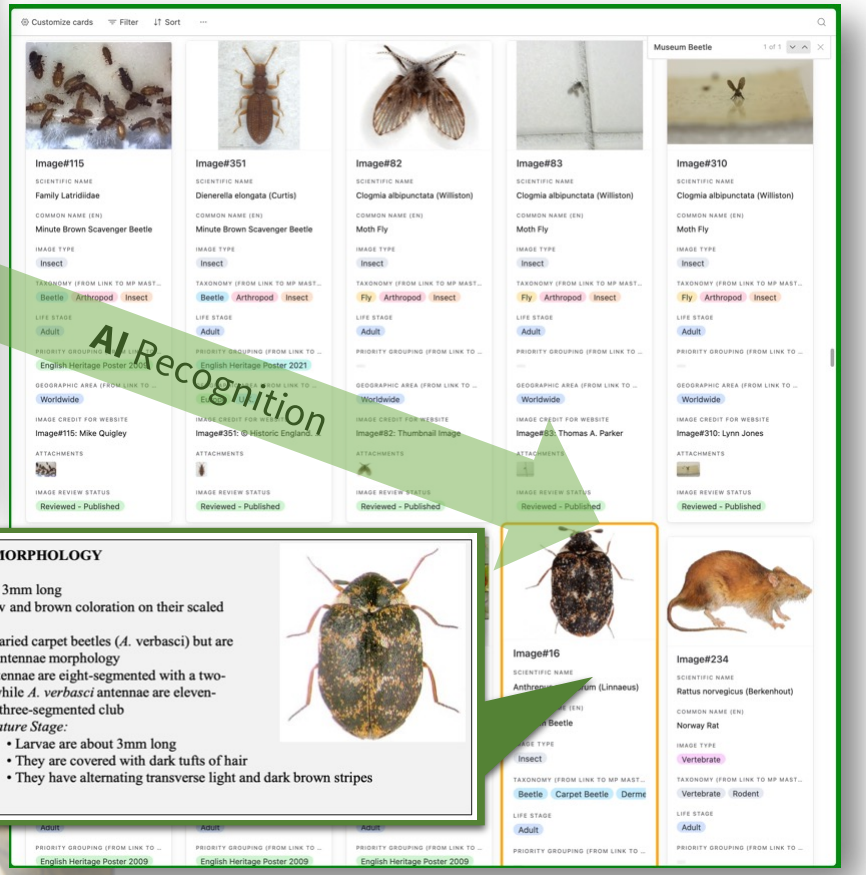
Indoor Positioning Technology

SIPMS utilizes this technology to precisely pinpoint and map pest events within indoor repository environments, which enhances analysis capabilities, enabling institutions to identify pest hotspots and trends accurately.

Key Technology & Innovation

Spider pest pictures from the internet and take insect photos for preparing machine learning data, target to coverage 80% indoor pests.





AI Recognition

Museum beetle

CONTROL TREATMENT

Standard control and treatment methods for museum pests will generally control this beetle, with identification and isolation of the infestation being the most critical post-infestation step. Low temperature treatments have proven effective.

DIAGNOSTIC MORPHOLOGY

Adults:

- Adults are about 3mm long
- They have yellow and brown coloration on their scaled wing covers
- They resemble varied carpet beetles (*A. verbasci*) but are differentiated by antennae morphology
- *A. museorum* antennae are eight-segmented with a two-segmented club, while *A. verbasci* antennae are eleven-segmented with a three-segmented club

Immature Stage:

- Larvae are about 3mm long
- They are covered with dark tufts of hair
- They have alternating transverse light and dark brown stripes

- Artificial Intelligence (AI)
- IoT Sensors
- Automated Pest Capture
- Mobile Scanning Robots
- Real-Time Monitor
- Indoor Positioning Tech

Key Technology & Innovation

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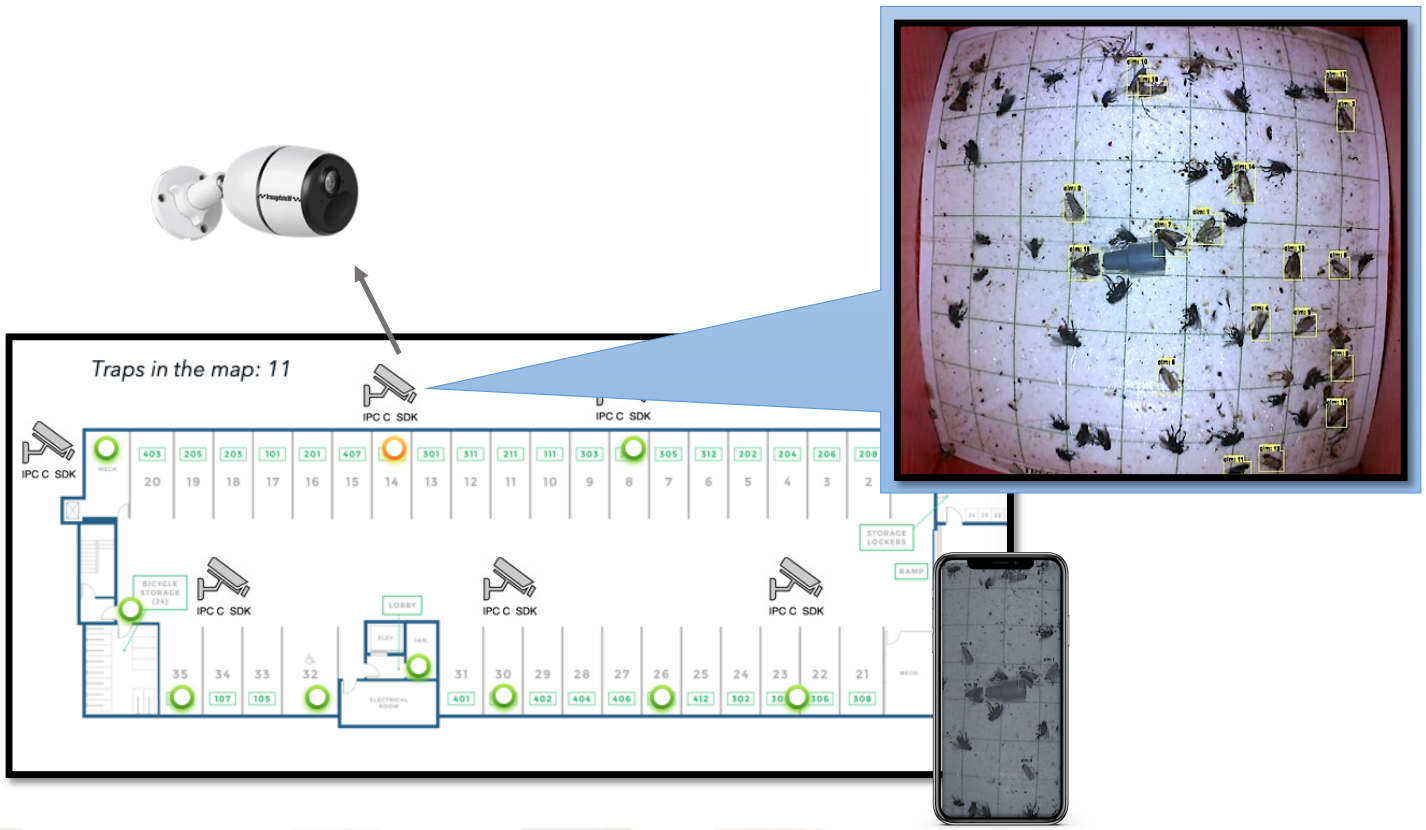
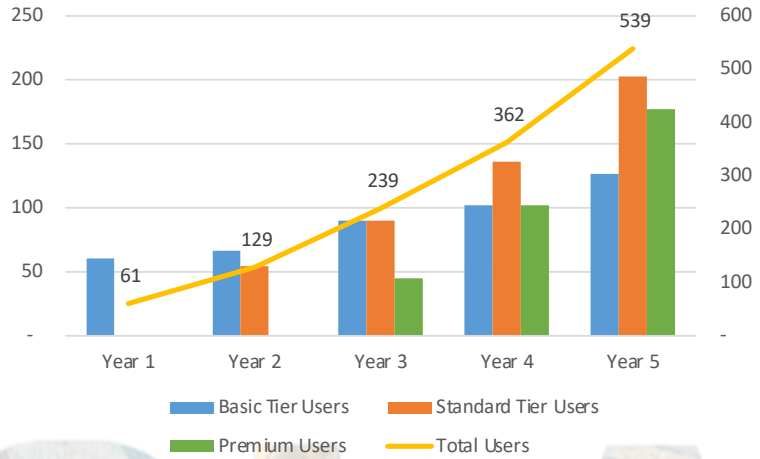



Financial
Projections

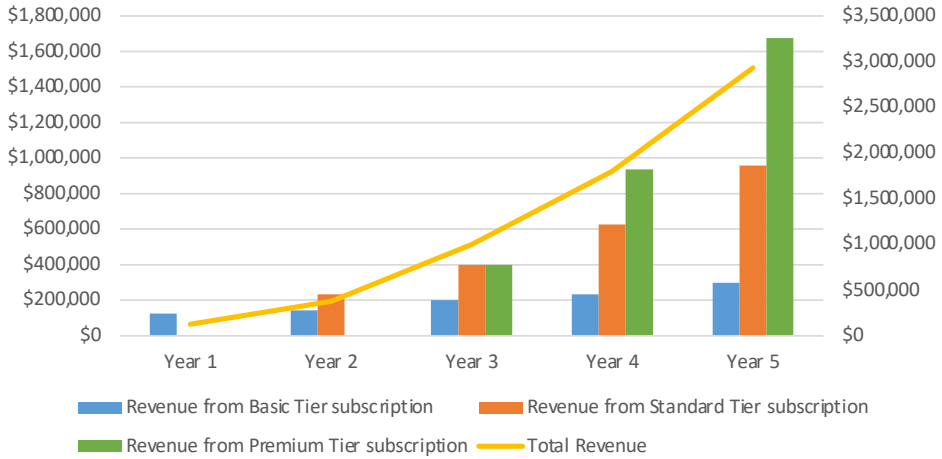
Financial Projections - Revenue

Revenue Streams	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue from Basic Tier subscription	$127,050	$143,700	$200,057	$234,466	$299,218
Revenue from Standard Tier subscription	$0	$235,146	$400,114	$625,241	$957,497
Revenue from Premium Tier subscription	$0	$0	$400,114	$937,862	$1,675,620
Total Revenue	**$127,050**	**$378,846**	**$1,000,286**	**$1,797,569**	**$2,932,335**

User Numbers

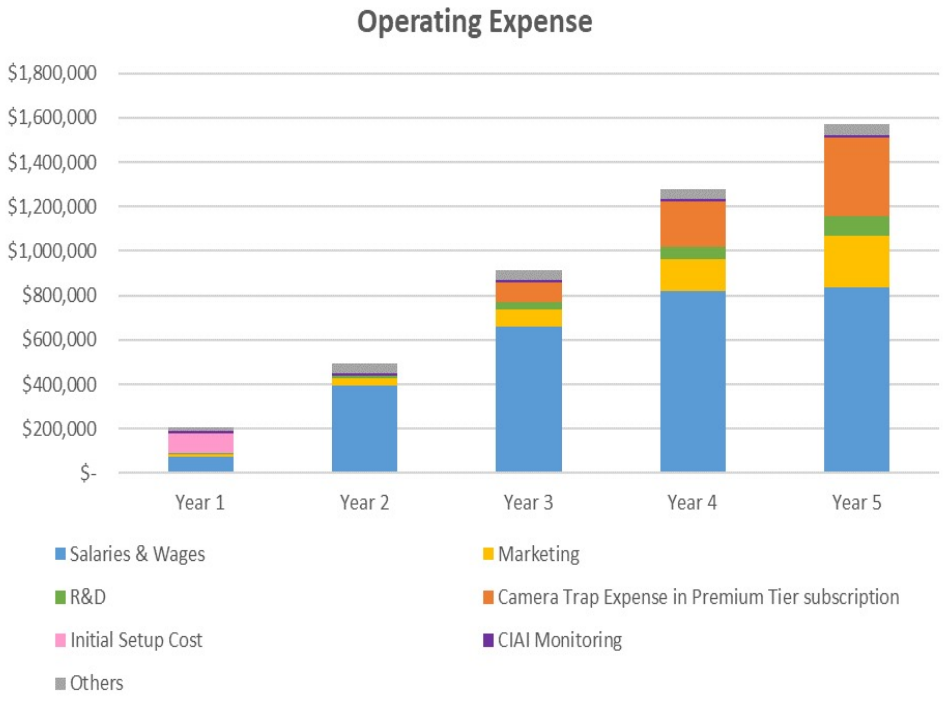


Revenue Streams



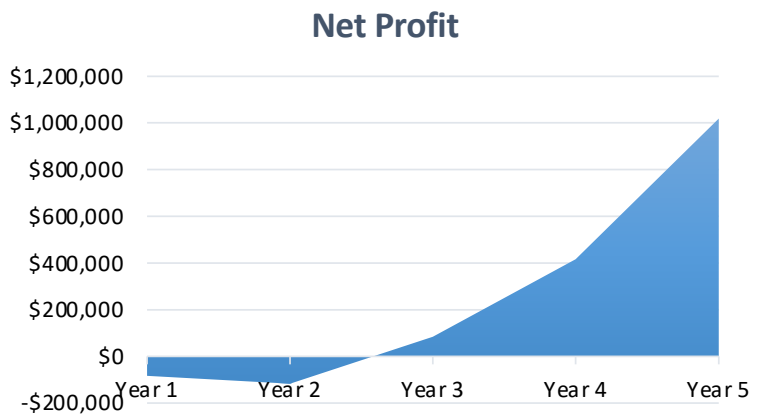
Financial Projections - Operating Expense

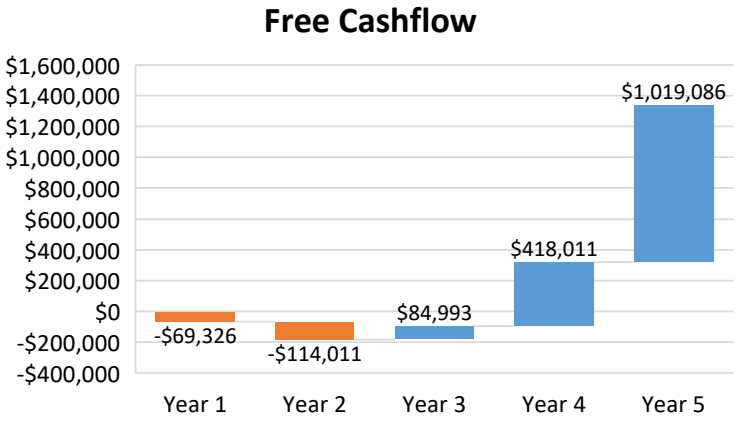
Operating Expense	Year 1	Year 2	Year 3	Year 4	Year 5
Salaries & Wages	$75,000	$396,450	$657,661	$819,873	$833,969
Marketing	$10,164	$30,308	$80,023	$143,806	$234,587
R&D	$3,812	$11,365	$30,009	$53,927	$87,970
Camera Trap Expense in Premium Tier subscription	$0	$0	$89,797	$204,352	$354,468
Initial Setup Cost	$88,800	$0	$0	$0	$0
CIAI Monitoring	$10,000	$10,000	$10,000	$10,000	$10,000
Others	$19,800	$44,334	$45,604	$46,912	$48,260
Total	**$207,576**	**$492,457**	**$913,093**	**$1,278,869**	**$1,569,253**



Financial Projections - Financial Metrics

Financial Metrics	Year 1	Year 2	Year 3	Year 4	Year 5
Net Profit	-$83,326	-$117,011	$83,493	$415,011	$1,019,086
Free Cashflow	-$69,326	-$114,011	$84,993	$418,011	$1,019,086





Conclusion

Smarter Integrated Pest Management System represents the inaugural implementation of IoT within the GLAM sector. It actively monitors and manages pest and environmental information while employing pest control methods to prevent damage to collections and cultural heritage from pests.

A dedicated database

Spatial mapping

Portable data collection tool

Management portal

Remote monitoring and sensing devices

Online / off-line data collection

Cloud / on-site data storage


Thank you


Q&A