LIVESTOCK MONITORING SYSTEM
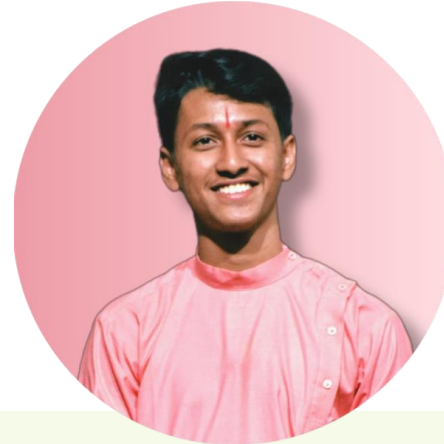
TEAM BRAHMA

MEET THE TEAM MEMBERS

SAGAR
LEADER

RISHABH
CO-LEADER

SIDDHANT
DATA ANALYST

RAHUL
DATA COLLECTOR

PROBLEM

STATEMENT:

Farmers often detect diseases too late due to a lack of real-time health monitoring, leading to animal deaths and significant financial losses as treatment is delayed.

STATISTICS:

➢ **Cattle and Buffaloes**

Lumpy Skin Disease (LSD):
Deaths (2022): Over 97,000 cattle
Infections: More than 2 million

Foot and Mouth Disease (FMD):
Annual Loss: ₹20,000 crore ($2.4 billion)

Haemorrhagic Septicaemia (HS):
Deaths: 58% to 77% of bovine deaths in India
Mortality Rate: Animals can die within 24 hours if untreated

➢ **Poultry (Chickens, Ducks, etc.):**

Avian Influenza (Bird Flu):

Culling (2021): Over 1.6 million poultry birds
Newcastle Disease:
Mortality Rate: 90% in unvaccinated birds

➢ **Sheep and Goats:**

Peste des Petits Ruminants (PPR):
Mortality Rate: 70-80% of infected animals if untreated
Annual Loss: ₹5,000 crore ($600 million)
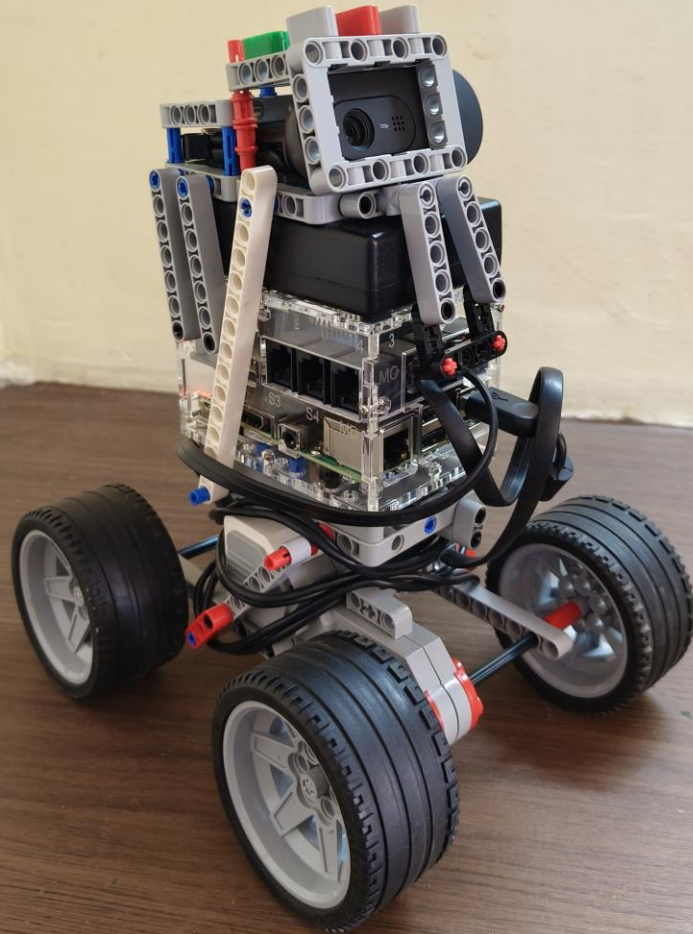**Blue Tongue Disease:** Causes high mortality in sheep.

SOLUTION

STATEMENT:

A real-time livestock health monitoring system using IoT, AI, and smart sensors enables early disease detection, reduces mortality, and minimizes economic losses. Smart wearables track vitals, AI predicts outbreaks, and mobile alerts ensure quick veterinary response, enhancing disease surveillance and livestock productivity.

KEY POINTS:

✅ **Real-Time Disease Detection** – Prevents outbreaks before they spread.

✅ **AI-Powered Health Insights** – Predicts illness early, reducing livestock mortality.

✅ **Smart Wearables & IoT Sensors** – Continuous monitoring for precise health tracking.

✅ **Instant Alerts & Veterinary Support** – Enables quick treatment, minimizing losses.

✅ **Data-Driven Disease Surveillance** – Integrates with government & research bodies for large-scale impact.

✅ **Cost-Effective & Scalable** – Affordable solution for farmers, dairy industries, and large farms.

MARKET OVERVIEW

1. Market Size & Growth:

•**Global Perspective:** The global livestock monitoring market was valued at approximately **USD 4.01 billion in 2023** and is projected to grow at a **CAGR of 11.56%** from 2024 to 2030, reaching around **USD 8.53 billion by 2030**.

grandviewresearch.com

•**Indian Context:**

₹12 lakh crore (~$150B) industry, 4% of GDP.

Smart monitoring market: 10-15% CAGR.

Dairy industry: ₹10 lakh crore (~$125B).

2. Market Drivers

✅ **Disease Outbreaks:** Huge losses from **Lumpy Skin Disease, Avian Flu, ASF**.

✅ **Govt Support: NADCP** aids disease control.

✅ **AgriTech Growth:** AI tracking.

✅ **Tech Adoption:** Increased use of **wearables, drones, AI**.

3. Challenges & Target Market:

•**Dairy & Poultry:** Amul, Mother Dairy, Suguna, Venky's.

•**AgriTech:** Stellapps, Prompt Equipments, AgNext.

•**Govt & Veterinary:** NDDB, IVRI, Animal Husbandry Depts.

•**Insurance & Finance:** Cattle insurance firms.

FEASIBILITY OF THE IDEA

✓ Availability of Technology:
- Wearable Sensors
- IoT Connectivity
- AI &ML

✓ Market Demand & Impact:
- Need for Disease Prevention
- Cost-Effectiveness

✓ Practical Implementation:
- Temperature monitoring
- Real-time alerts

TECHNICAL COMPLEXITY

✓ Sensor Integration
&
Data Collection

✓ AI & ML for Health &
Sentiment Analysis

✓ Connectivity & Real Time
Data Transmission

✓ Decision Making
&
Alert

PROBLEM

Farmers often detect diseases too late due to a lack of real-time health monitoring, leading to animal deaths and significant financial losses as treatment is delayed

EXISTING ALTERNATIVES

Indian Immunologicals (IIL)-Uses biotech for vaccine innovation

Idexx Laborataries-Leading provider of diagonostic tests

Hester Biosciences-provides advances health solution and vaccines for livestock

Neogen Corporation-Focus on food and animal safety

SOLUTION

A real-time livestock health monitoring system using IoT, AI & smart sensors enables early disease detection, reduces mortality & minimizes economic losses. Smart wearables track vitals, AI predicts outbreaks & mobile alerts ensure quick veterinary response, enhancing disease surveillance & livestock productivity

KEY METRICS

Financial Metrics

Sales & Market Metrics

Operational Metrics (Specific to Livestock Monitoring)

Customer Success Metrics

Impact Metrics (Specific to Disease Detection)

Usage and Engagement metrics

UNIQUE VALUE PROPOSITION

Early Detection, Early Action

Easy-to-Use System

Real-Time Alerts

Affordable & Scalable

Your livestock's health is your wealth

HIGH-LEVEL CONCEPT

Disease detection and prevention

Advanced technology in livestock system

Economic and industry impact

Government initiatives and support

UNFAIR ADVANTAGE

Exclusive Data Collection & Insights

Strategic Partnerships with Government & Research Institutions

First-Mover Advantage in Specific Markets

Expertise & Specialized Knowledge

User-Friendly Platform with Local Customization

Continuous Learning AI System

CHANNELS

Direct Sales Channels

Partnerships & Collaborations

Digital Marketing Channels

Industry Events & Trade Shows

Institutional Partnerships

CUSTOMER SEGMENTS

B2B :-

Dairy & Poultry :- Amul, Mother Dairy, Suguna, Venky's.

AgriTech :- Stellapps, Prompt Equipments, AgNext.

Govt & Veterinary :- NDDB, IVRI, Animal Husbandry Depts.

Insurance & Finance :- Cattle insurance firms

B2C :-

Large Scale Farmers

EARLY ADOPTERS

Large-Scale Livestock Operators

AgriTech-Savvy Farmers

Government and Veterinary Institutions

Livestock Insurance Providers

Export-Oriented Livestock Businesses

Research Institutions & Universities

Innovative cooperatives and diary produtions

Progressive Smallholder Farmers

COST STRUCTURE

Consumables

Equipment investment

Infrastructure setup

License and Compliance

Maintenance and Repairs

Software developmentt

REVENUE STREAMS

Subscription based model-most realible

Hardware as a service-lower upfront case, higher adoption

Data monetization-high profit potential from industry

After sales sservice and support-additional revenue sources

Revenue Model

1. Subscription-Based Model (Most Reliable Scalable):
•Recurring revenue ensures long-term financial stability.
•Tiered pricing makes it accessible for small and large farmers.
•Premium plans with AI-based analytics can drive higher revenue.

2. Hardware-as-a-Service (HaaS) (Lower Upfront Cost, Higher Adoption):
•Leasing wearable devices reduces the entry barrier for farmers.
•Monthly fees + maintenance services create a steady income stream.

3. Data Monetization (High-Profit Potential from Industry Partnerships):
•Selling anonymized livestock health data to agritech firms, pharma companies, and government bodies.
•Valuable insights help in vaccine development and disease prediction.

4. After-Sales Services & Support (Additional Revenue Source):
•Farmers pay for **installation, training, and maintenance packages**.
•Ensures customer retention and increases product lifespan.

OUR COMPETITION

INDIAN MARKET:
1.**Indian Immunologicals (IIL)** – Uses biotech for vaccine innovation (e.g., Cysvax for pigs).
2.**Hester Biosciences** – Develops advanced vaccines & health solutions for livestock.
3.**Boehringer Ingelheim** – Provides AI-powered preventive animal health solutions.
4.**Zoetis Inc.** – Uses predictive analytics & smart detection for disease control.
Would you like a competitor analysis slide for your PPT?
GLOBAL MARKET:
1.**IDEXX Laboratories** – Leading provider of diagnostic tests for livestock disease detection.
2.**Zoetis Inc.** – Global leader in animal health with vaccines and diagnostics.
3.**Neogen Corporation** – Focuses on food and animal safety with disease detection solutions.

1.AI-Powered Disease Prediction:
   Uses **machine learning** to analyze sensor data and predict diseases before symptoms appear.

2.IoT Smart Wearables:
   Smart collars for animals & **health trackers** for farmers provide real-time health monitoring and alerts.

3.AI Veterinary Chatbots:
   Offers **instant diagnosis suggestions** and enables **telemedicine**, reducing response time for treatment.

4.Automated Quarantine & Smart Gates:
    AI isolates sick animals and activates **smart disinfection systems** to prevent disease spread.

5.Blockchain Health Records:
   Secure disease tracking for animals and farmers with **transparent data sharing** between stakeholders.