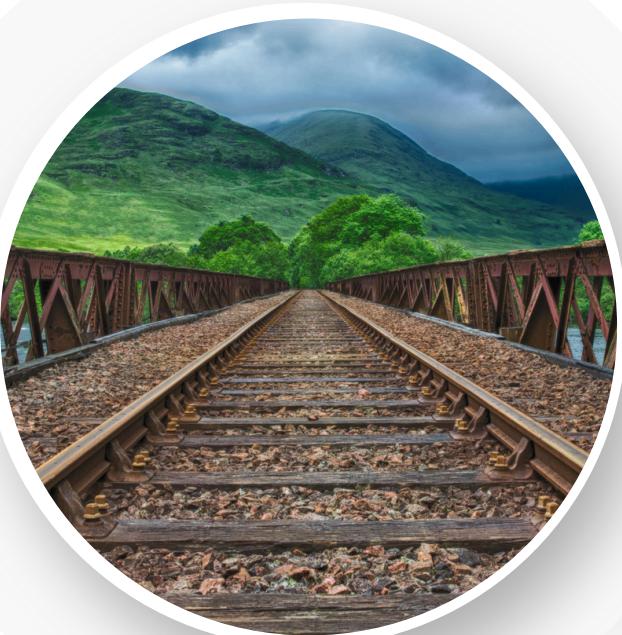


RAILWAY TRACK OBSTACLE DETECTION AND AUTOMATION (RAILTECH AUTOMATION)



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Content



- 1 **FIRST PHASE**
- 2 **SECOND PHASE**
- 3 **THIRD PHASE**
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FIRST PHASE



1

INTRODUCTION

2

PROBLEM IDENTIFICATION

3

PRELIMINARY RESEARCH

INTRODUCTION

Railway automation and obstruction detection technologies aim to enhance the safety and efficiency of rail operations through advanced sensors, AI, and data management systems. Overcoming financial and technological challenges is crucial for their successful implementation and widespread adoption.

PROBLEM IDENTIFICATION

The Udaipur-Jaipur Vande Bharat Express had to make an emergency stop after the locomotive pilots noticed stones obstructing the railway track.

Head on collision in the state of Bihar.



PHASE - 1

PRELIMINARY RESEARCH

- Need for the Solution
- Proposed Solution
- Scope of the Project
- Problems Identified
- Basic Flow Chart

REAL LIFE INCIDENT



A major derailment was reported near Buxar's Raghunathpur railway station in Bihar due to obstruction on tracks

NEED FOR THE SOLUTION

Railway automation and obstruction detection are essential for reducing accidents and enhancing operational efficiency, ensuring safer and more reliable rail transport. Implementing these solutions addresses the growing demand for improved safety standards and more efficient railway operation



PR

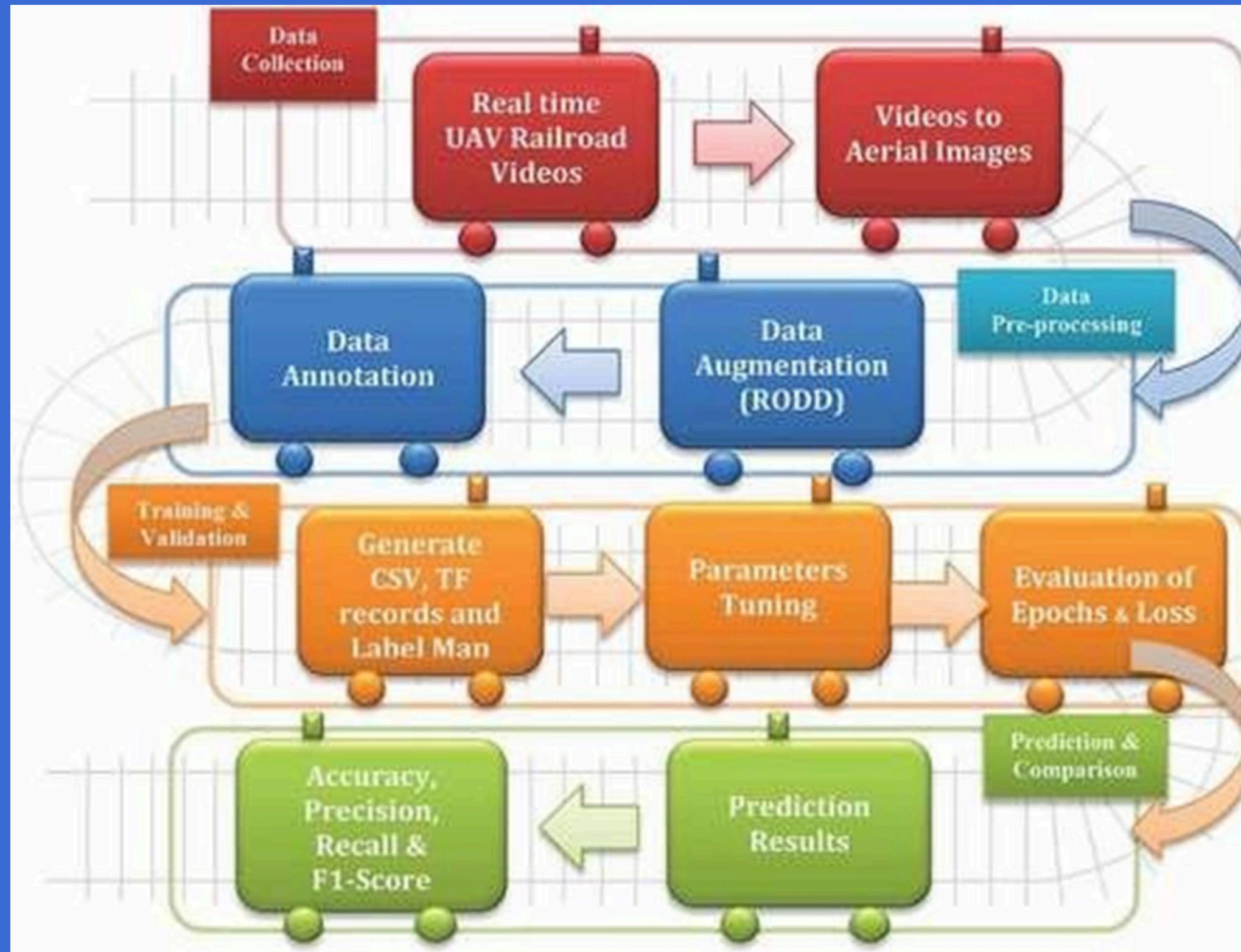
PROBLEMS IDENTIFIED

- HIGH INITIAL COSTS
- TECHNOLOGICAL INTEGRATION
- WEATHER RESILIENCE
- DATA SECURITY

PROPOSED SOLUTION

The proposed system integrates advanced sensors, cameras, and AI for real-time railway automation and obstruction detection, enhancing operational safety and efficiency. It addresses key challenges to ensure reliable and resilient railway operations.

DATA FLOW DIAGRAM



SECOND PHASE



1 BUSINESS ANALYSIS

2 PRODUCT DEVELOPMENT

3 SNAPSHOTS

BUSINESS ANALYSIS

- Type of Business It falls under the domain of technology solutions and services for the railway industry.
- Business Model Company Registration Private Limited Company, adhering to local business registration regulations.
- Business Mode ·Initially bootstrap, seeking funding after prototype development.
- Department Formations



PHASE - 2

PRODUCT DEVELOPMENT

- Initiation of Product Development
- Developing the Prototype
- Industry Standards
- Quality Check
- Production & Service Deployment

SNAPSHOTS

- HARDWARE
- SOFTWARE

HARDWARE

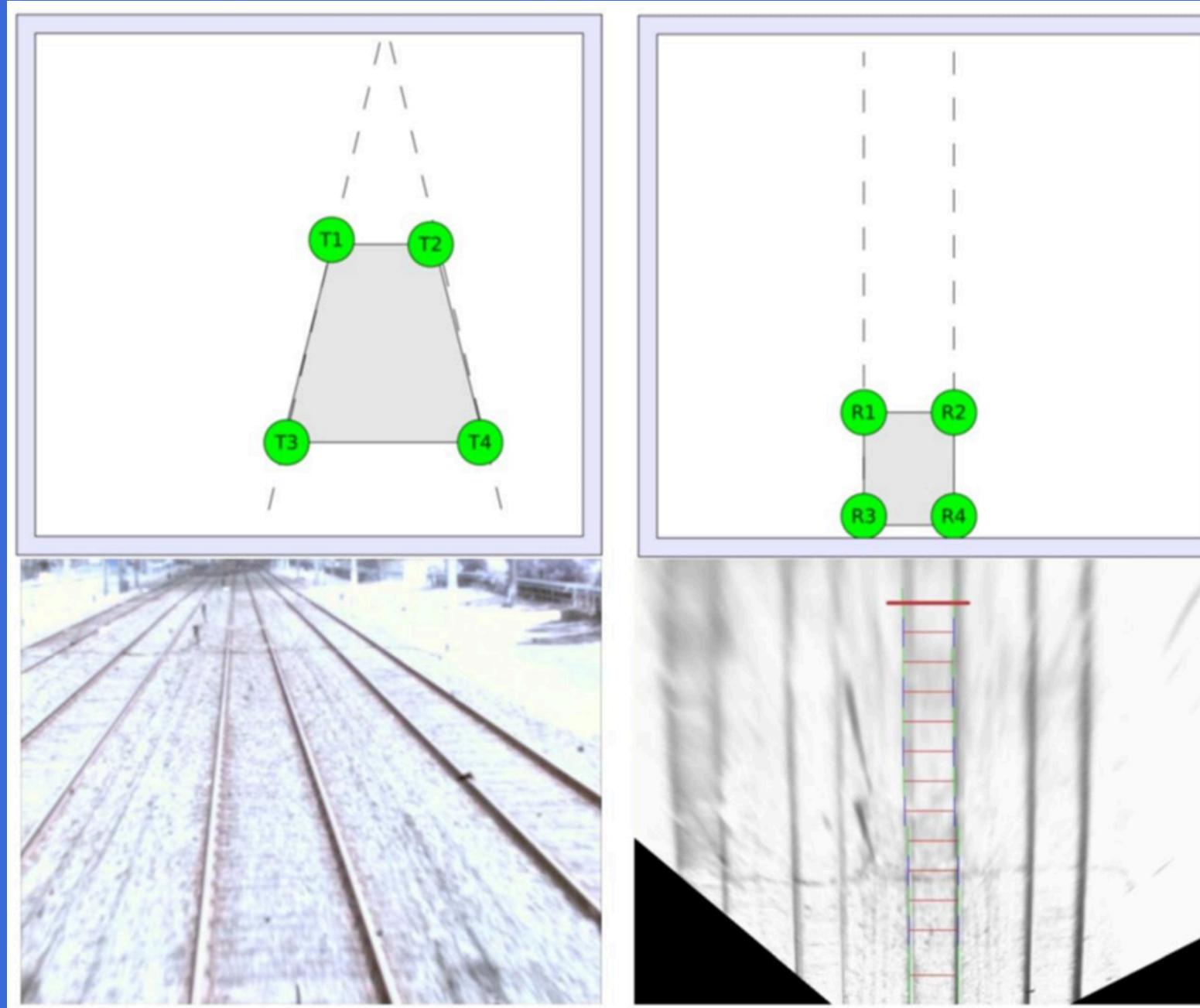


High resolution camera which already exists

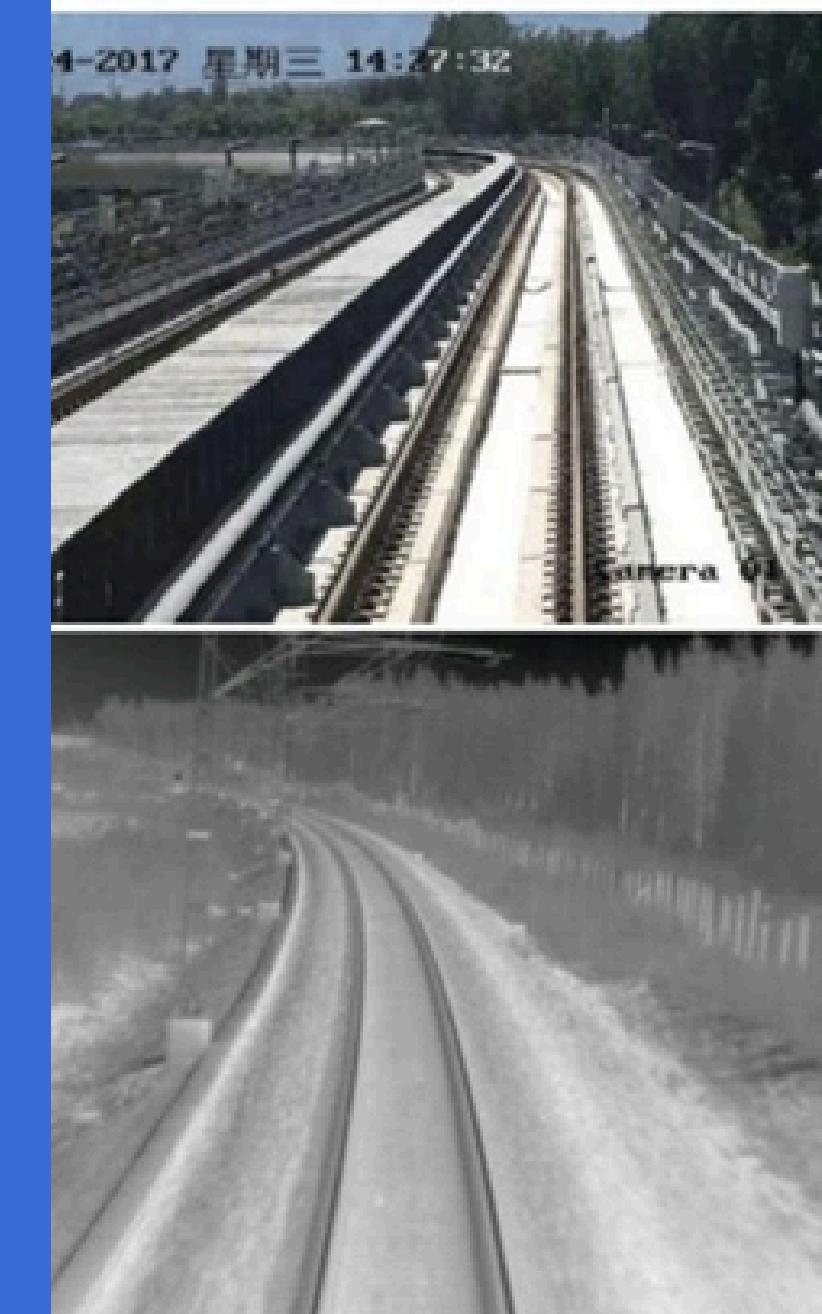


Cameras mounted on police cars also have similar resolution

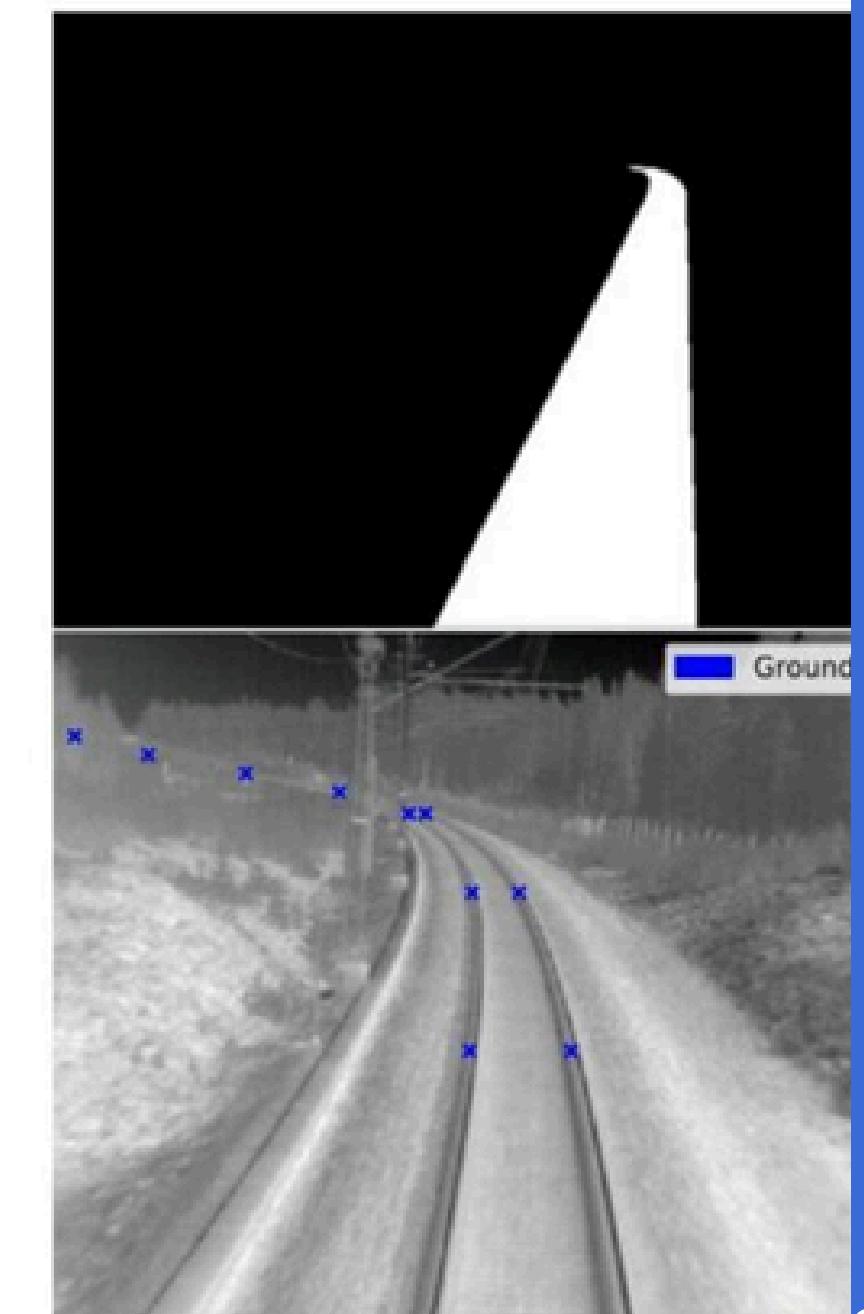
SOFTWARE



Real time working of the DisNet software



User Interface and Control Center





THIRD PHASE

1

STANDARD OPERATING PROCEDURES

2

MARKETING STRATEGIES

3

SALES

SOP'S

- Standard Operating Procedures



PHASE - 3

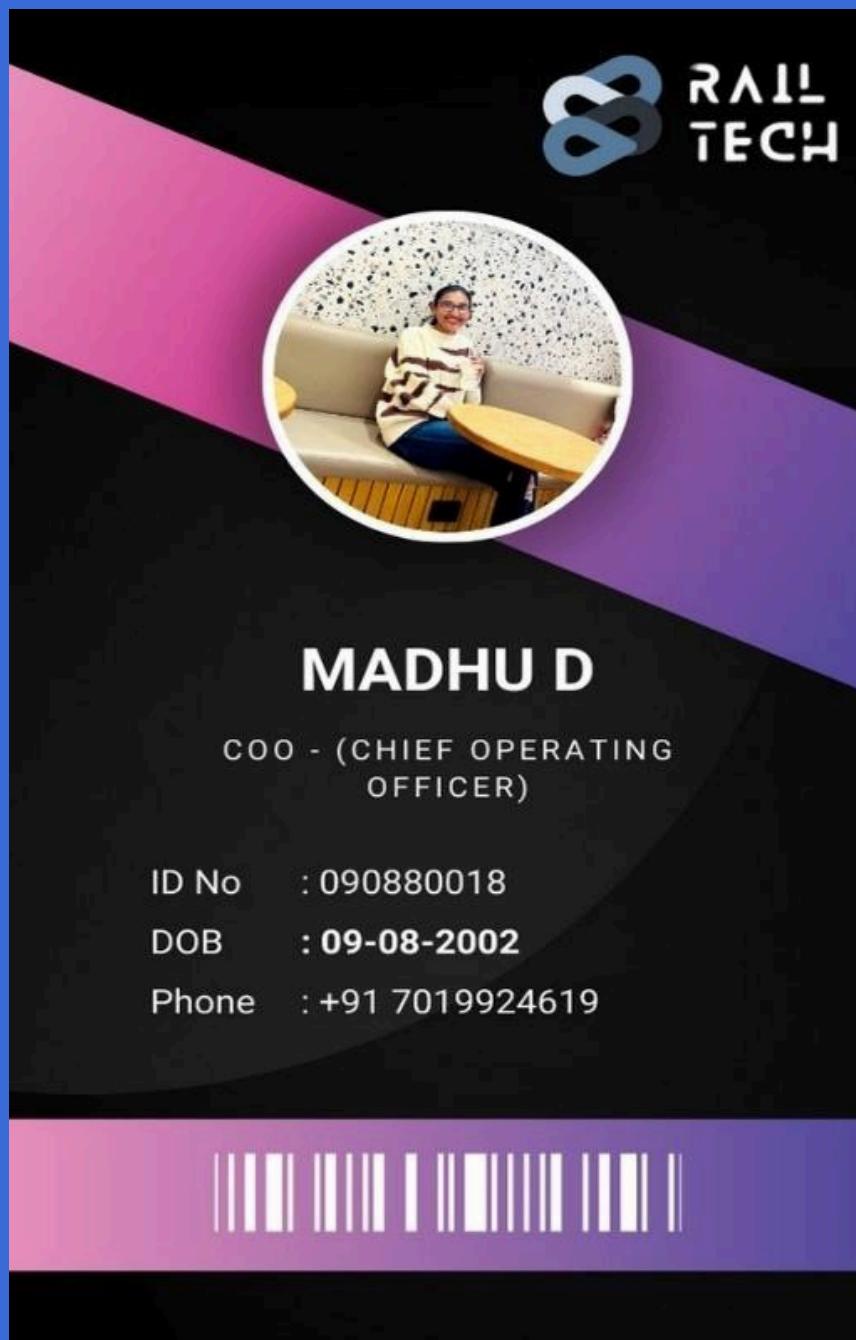
MARKETING STRATEGIES

- Marketing Strategies
 - 1.Trade Shows and Events
 - 2.Partnerships and Collaborations
 - 3.Digital Marketing
- Target Segment and Audience
- Outcome of Marketing

SALES

- Types of Sales
 - 1.Direct Sales
 - 2.Enterprise Sales
 - 3.Channel Sales
- Sales Strategies
- Sales Outcomes

EMPLOYEE ID CARDS



VISITING CARDS



FINAL PHASE



**1 POLICIES AND
LEGAL FRAMEWORK**

**2 PRODUCT
DEPLOYMENT**

3 CONCLUSION

POLICIES AND LEGAL FRAMEWORK

- Human Resources (HR) Policies
- Legal and Compliance Framework

CONCLUSION

Railway automation and obstruction detection can greatly enhance safety and efficiency, but addressing high costs and technological integration is crucial for successful implementation.



PHASE - 4

PRODUCT DEPLOYMENT

Deploy the railway automation and obstruction detection system by first conducting pilot testing and infrastructure upgrades, followed by system integration and staff training, ensuring robust data security throughout the process. Gradually expand to full-scale deployment across the railway network while continuously monitoring and refining the system.

Thank You

From Team

