SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade (Cycle III)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

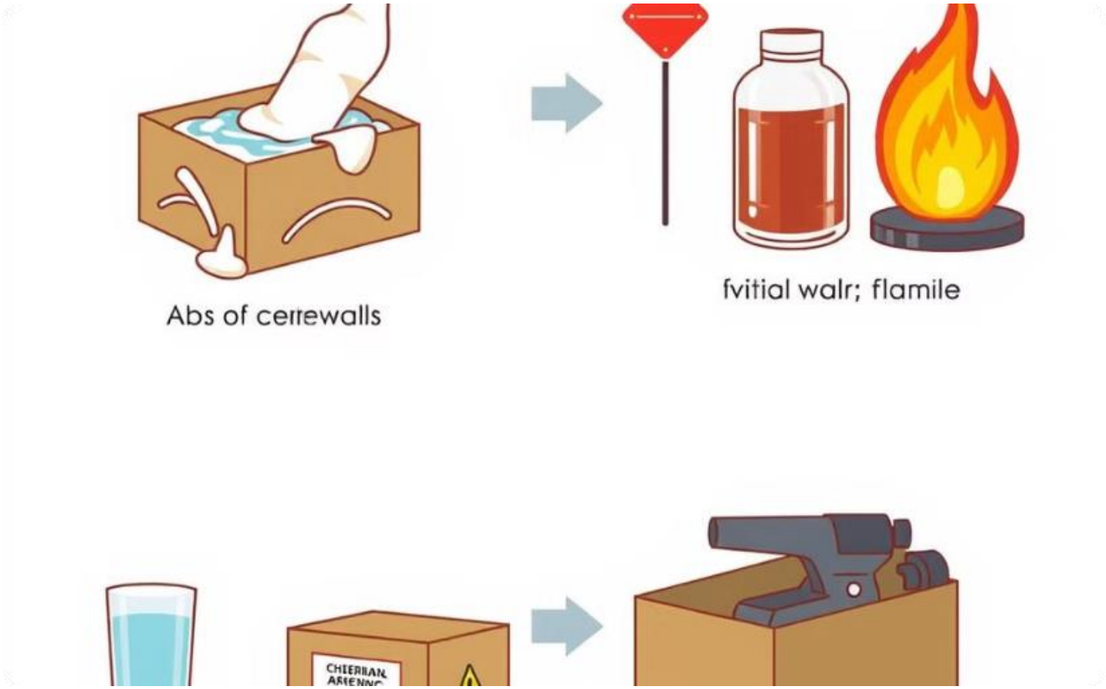
SMART IOT APPLICATIONS

III YEAR/ V SEMESTER

UNIT 3 –SMART INDUSTRIAL AND AGRICULTURAL APPLICATIONS

TOPIC-2 STORAGE INCOMPATIBILITY DETECTION, FLEET TRACKING

Addressing Storage Incompatibility



Risky Storage Practices

Improper handling of incompatible goods can lead to spoilage and safety hazards.

Understanding Incompatibility

Defining storage incompatibility and its consequences for your logistics operations.

IoT Sensors for Compatibility Monitoring

1 **Automated Alerts**

IoT sensors detect incompatibility issues and trigger real-time alerts.

2 **Comprehensive Monitoring**

Tracking temperature, humidity, and air quality to ensure product safety.

3 **Proactive Preventions**

Avoiding contamination and spoilage before they occur.

Enhancing Fleet Visibility

Tracking Importance

Knowing the location of vehicles is critical for logistics operations.

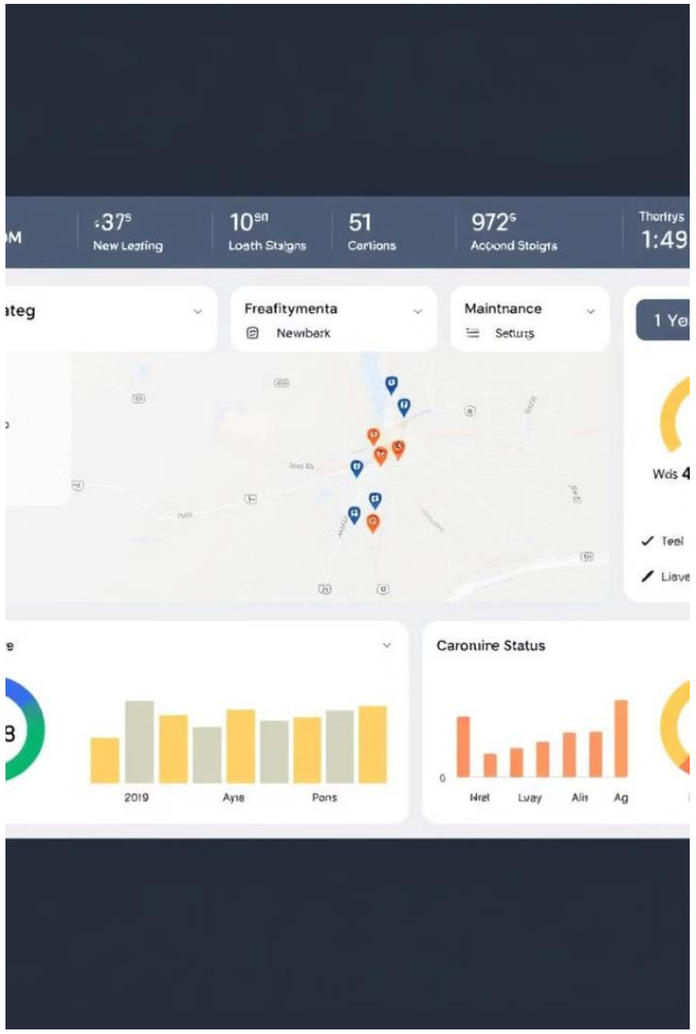
Real-Time Monitoring

IoT provides updates on delivery status, route optimization, and security.

Mitigating Delays

Proactively addressing issues like accidents, breakdowns, or theft.

IoT-Powered Fleet Management



1

Tracking Vehicles

GPS, RFID, and telematics monitor location, fuel usage, and driving.

2

Route Optimization

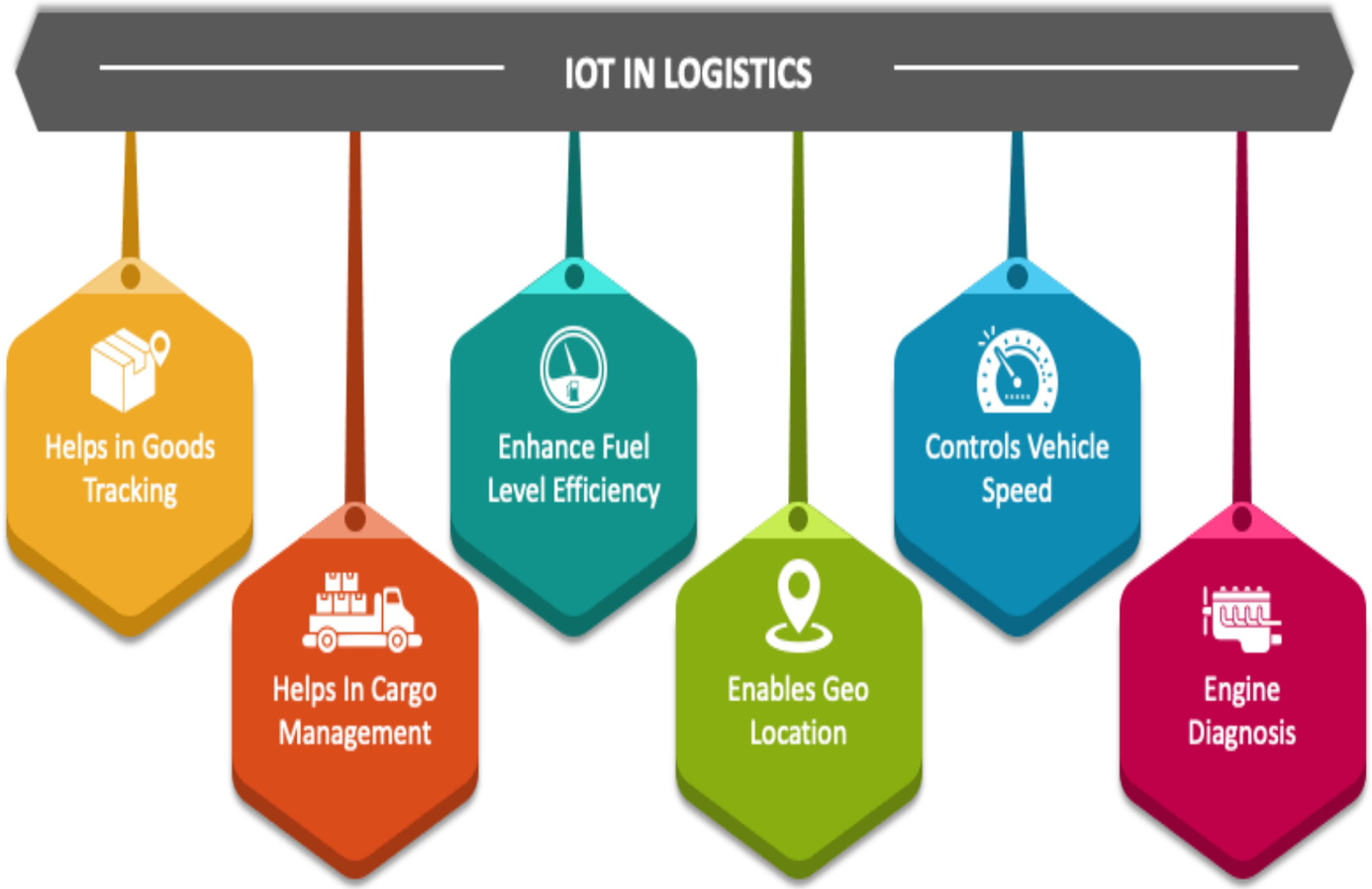
Real-time tracking enables efficient route planning and delivery.

3

Predictive Maintenance

Monitoring vehicle health to prevent breakdowns and delays.

Benefits of IoT In logistics



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IoT Case Study: Logistics Transformation

Company Background

Highlighting a real-world logistics provider's IoT implementation.

IoT Solutions Deployed

Tracking fleet, monitoring storage, and leveraging data insights.

Measurable Impact

Reduced errors, faster delivery, and improved customer satisfaction.

Challenges of IoT Adoption

Cybersecurity

Ensuring data privacy and device security.

Data Integration

Connecting IoT with legacy systems and processes.

High Costs

Deploying IoT devices across fleets and warehouses.

The Future of IoT in Logistics

1

Autonomous Vehicles

Optimizing fleet tracking and delivery with self-driving trucks.

2

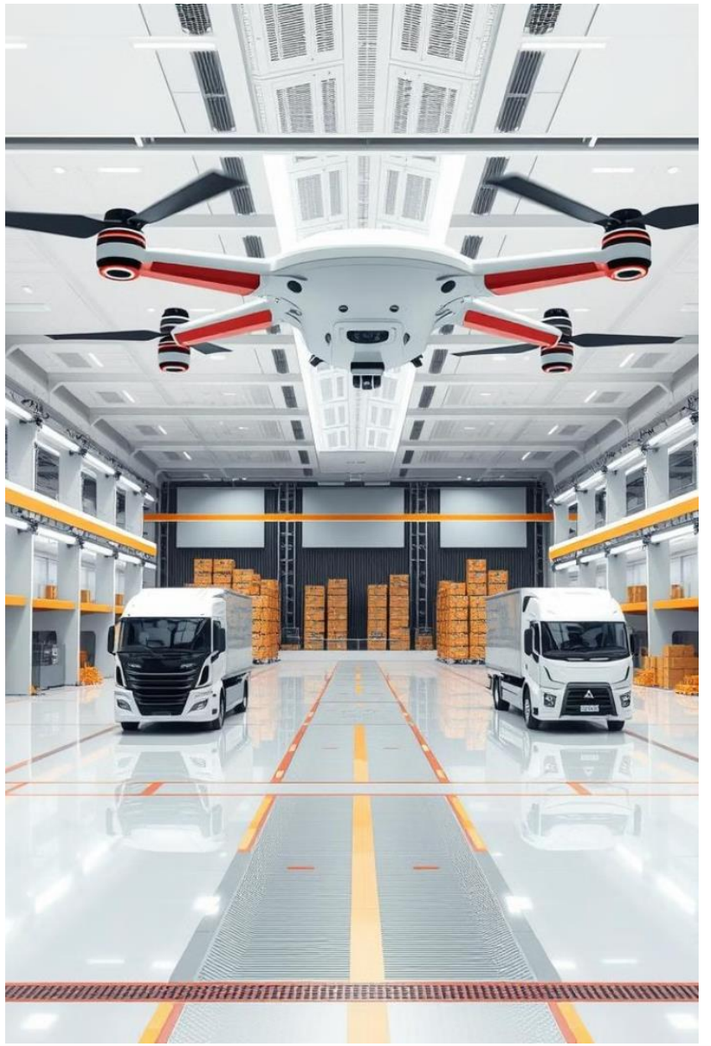
AI-Powered Decisions

Using machine learning to improve logistics planning and operations.

3

Blockchain Integration

Enhancing supply chain transparency and traceability.



Assessment

1. What are the key benefits of using IoT technology for detecting storage incompatibility in warehouses?
2. What types of data do these sensors typically collect to optimize fleet management?
3. What role does route optimization play in achieving this?
4. What are the potential challenges faced by logistics companies when implementing IoT solutions for storage and fleet tracking?
5. How does predictive maintenance powered by IoT benefit fleet management?

THANK YOU