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**Date: 4/13/2025**

**Quotation Reference: KS57016**

Dear Client,

We are pleased to provide you with a detailed quotation **intelligent vehicle monitoring and controlling system (KS57016)** At Spherenex Innovation Labs, we are excited about the opportunity to collaborate with you on this project. Our team is confident that our expertise in development and AI-driven solutions will meet your requirements.

Please find the attached quotation, which outlines the scope of work, technology stack, pricing details, and payment terms. Should you have any questions or require further clarifications, feel free to reach out. We are more than happy to schedule a call or meeting to discuss any concerns.

Thank you for considering Spherenex Innovation Labs for your project. We look forward to working together to bring **intelligent vehicle monitoring and controlling system (KS57016)**

Best regards:
Spherenex Innovation Labs
Authorized Signature

(MD of Spherenex Innovation Labs)

**Quotation Number:**
**SPN-13042025-KS57016**

# Project Overview

**Project Name:** **intelligent vehicle monitoring and controlling system (KS57016)**

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|---|---|
| **Project Description:** | As discussed, the project involves the design and development **intelligent vehicle monitoring and controlling system (KS57016)** |

## Scope of Work:

### Scope of Work: Vehicle Monitoring and Controlling System

### 1. Objective

To develop an intelligent vehicle monitoring and controlling system that enhances security, safety, and real-time data monitoring using IoT, image processing, and cloud analytics.

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### 2. System Overview

The system consists of four core modules:

1. **Face Recognition for Authorized Ignition Control**
2. **Alcohol Detection with Speed Limiting and Alert System**
3. **Vibration Detection with Cloud Logging and Web Dashboard**
4. **CO2 Detection with Alert and Notification System**

**1. Authorized/Unauthorized Person Detection (Image Processing)**

- **Camera Module**: Use OpenCV real-time face detection and recognition.
- **Database**: Store images of authorized users.

- **Process**:
    - Capture image → Compare with stored faces → If matched, allow ignition (e.g., relay to control ignition).
    - If not matched, capture photo → Send to **Telegram Bot** (via Python telepot or python-telegram-bot).

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**2. Alcohol Detection & Speed Control**

- **Sensor**: MQ-3 alcohol sensor near the steering area.
- **Microcontroller**: Arduino/ESP32 to interface sensor and vehicle speed module.
- **Logic**:
    - If alcohol detected → Reduce vehicle speed (PWM control if electric vehicle) → Trigger buzzer.
    - Maintain restricted speed until alcohol-free driver is detected.
    - Sends the message to owner

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**3. Vibration Detection & Cloud Dashboard**

- **Sensor**: Accelerometer module (like MPU6050 or ADXL345).
- **Microcontroller**: ESP32 for vibration sensing + WiFi capability.
- **Cloud Logging**:
    - Use Google Firebase or Google Sheets API or AWS IoT.
    - Log timestamped vibration data.
- **Web Dashboard**:
    - Graphs of vibration over time.
    - Show frequency, intensity, location (optional GPS).
    - Use ML to suggest whether it's due to road condition, mechanical failure, or tire issues.

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**4. CO2 Detection**

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- **Sensor**: MQ-135 for air quality / CO2 detection.
- **Microcontroller**: Same ESP32 or a separate unit.
- **Alert System**:
    - If CO2 > threshold → Trigger buzzer inside the vehicle.
    - Send a message (SMS or Telegram or email) to the owner.

## Completed project development cost: 13,699

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**Note: if any materials already have, we cutdown price according to the prices of the material**

**Payment Terms:** 30% upfront payment is required to begin the project.

## Optional Add-On:

**Pricing for Hands on Learning and development: RS 2500 /- per person + 0 (GST).**

**Workshop Details:**

**Duration: 15-17 hours (flexible based on client's timeline).**

**Certification provided by MSME, Udyam, and AICTE-approved**.

**Workshop Features:**

- Certificates awarded upon completion.
- Practical sessions covering basic concepts to project-level understanding.
- Provided materials and components.
- Multiple sensor integrations.
- Communication methods and software platform integration.
- Experience with various controllers.
- Introduction to mechanical CAD design and 3D printing.
- PCB hardware integration.

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**Terms and Conditions:**

- No free replacements for physical damage after delivery.
- The client is responsible for confirming functionality upon delivery.
- Minor errors will be addressed within the scheduled timeline.
- The client must collect the project within the specified time; delays in collection may affect the project's delivery.

- No refunds or returns.
- Any customizations beyond the existing scope will incur additional charges.
- We look forward to working with you and are excited to begin this innovative project together. Should you have any questions, feel free to reach out to us.

Best regards:

Spherenex Innovation Labs

Authorized Signature

(MD of Spherenex Innovation Labs)