

# AYBARS and InterceptIR Integration Project



Perfect Harmony of Nature and Technology!



## AYBARS Quadruped Based Chemical Gas & Vapor Detection & Identification System

This project aims to integrate InterceptIR on AYBARS to detect and identify toxic chemical gases. When sent to designated areas, AYBARS will conduct efficient scanning for chemical gases and mark the locations of detected gases on a map. This technology can be applied in emergency management, security, environmental protection, and industrial areas.

### Extraordinary Mobility



### System Components and Operation

#### InterceptIR

The device uses advanced FTIR technology capable of identifying more than 5600 chemical gases. Integrated onto the AYBARS, this device performs the following functions:

- Gas Detection & Identification: The device detects the presence of toxic chemical gases and identifies.
- Data Collection: It records data about the concentration, type, and location.
- Data Transmission: The detected gas information is sent to the AYBARS's control center or map application.

#### Mapping and Location Tracking

AYBARS marks the detected gas locations on a map using GPS data. This map can be viewed on a screen, allowing users to track areas with toxic gases. Marked locations are shown in real-time, enabling security personnel and commanders to quickly assess and respond to the situation.



BLG's most innovative platform, **AYBARS**, is groundbreaking in robotic technologies with its superior technical features, powerful sensing systems and customizable structure. Designed for use in both military and civilian applications, **AYBARS** makes a difference with its artificial intelligence-supported features.

## Application Areas

1. **Emergency and Disaster Management:** In areas with chemical leaks, AYBARS can safely enter hazardous zones to perform detection&identification, providing emergency teams with accurate information to make informed decisions.
2. **Military Use:** Enhances security against chemical attacks by marking the detected gas locations, allowing military personnel to avoid hazardous areas.
3. **Industrial and Manufacturing:** AYBARS can detect chemical gas leaks in facilities and transmit the information to safety teams for prompt action.
4. **Environmental Protection:** AYBARS can prevent further contamination by detecting harmful gas leaks, thus protecting the environment.

## System Features and Benefits

### Technological Advantages

- **Real-time Data Sharing:** Gas detection&identification locations are marked on the map in real-time, providing the commanders instant updates.
- **Versatility in Various Environments:** AYBARS can operate in urban areas, industrial sites, and disaster zones, among others.

### Safety and Effectiveness

- **Early Detection:** Early detection of gas leaks helps prevent larger-scale disasters.
- **Risk Reduction:** Using AYBARS reduces the risk of human exposure to dangerous gases.
- **Efficient and Rapid Response:** AYBARS can access hard-to-reach areas more quickly than teams, enabling faster intervention.

### Technical Requirements

- **AYBARS Hardware:** AYBARS with high mobility, equipped with various sensors and GPS integration.
- **InterceptIR:** A FTIR Analyzer capable of detecting&identifying more than 5600 chemical gases.
- **Software and Map Updates:** Updated mapping software and database to display detected gas locations on a map.
- **Network Connectivity:** Continuous data transfer between the AYBARS and the central control unit.

