ESBAAR

Rig AI

An Artificial Intelligence-based Solution Monitors Red Zones and Activities on the Rig Floor

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Rig AI Features

RIG FLOOR MONITORING
Monitors rig floor to detect human presence and equipment.

Human Detection Equipment Detection

ACTIVITY DETECTION
Recognizes key rig activities such as:

Drilling Reaming Connection and more

ZONE CLASSIFICATION
Classifies rig areas into:
- SAFE: Clear for entry
- CONDITIONAL: Caution advised
- UNSAFE: Entry restricted

Safe Activity

Conditional Activity

Unsafe Activity

ALERTING SYSTEM
- Displays real-time visual alerts for zone status.
- Keeps personnel informed about safety conditions.

ANALYTICS DASHBOARD
- Presents visual insights from rig data.
- Enables performance benchmarking.
- Help optimize procedures and improve work methods.

How It Works

1

Advanced CCTV cameras that constantly monitor the exact location of people and machinery on the drilling floor
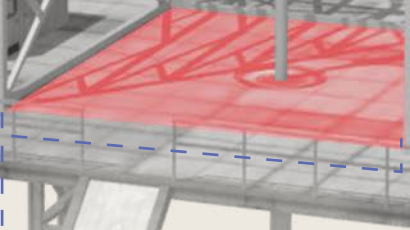
5

Alerting system that trigger when any intrusion occurred during the operation

3

Red zone area that is monitored by high resolution CCTV cameras

4

The system has been trained to detect human and specific machinery activities, enabling it to autonomously classify zones as either "Safe," "Conditional," or "Unsafe."

2

AI Engine that simultaneously analyzes CCTV streams and readings from rig sensors, providing real-time monitoring insights.

Overview

The Rig AI solution monitors red zones and activities on a rig floor by using advanced computer vision analytics combined with an AI-powered WITS data processor.

System Features

- Rig Floor Monitoring through CCTV cameras in order to detect intrusion of Red Zones

- Drilling Activity Detection using WITS data to determine safe versus dangerous zones

- Alerting to notify personnel of unsafe situations

- Analytics to provide key metrics and indicators

- PPE Violations Detection automatically flags missing or removed safety gear.

PPE Violation Detection

- **AUTOMATED PPE DETECTION:** Live CCTV monitors PPE compliance in real-time.
- **INSTANT ALERTS:** Any PPE removal is flagged instantly as a safety violation.
- **KEY GEAR TRACKED:** Detects helmets, safety boots, and more.