

INDUSTRIAL AUTONOMY

WITH AI & ML



Oil & Gas
Solutions Portfolio



About SMHcoders

SMHcoders is a UAE-based software solutions company specializing in Artificial Intelligence (AI) and Machine Learning (ML), serving diverse industrial segments. With expertise in predictive analytics, computer vision, chatbot development and AI/ML integrations, we help industries achieve smarter decisions, optimized operations and sustainable growth.

Challenges in the Oil & Gas Industry

- High operational costs due to aging infrastructure and asset failures
- Unplanned downtime of critical equipment leading to production losses
- Workforce safety risks in hazardous environments (offshore, refineries, pipelines)
- Data silos across exploration, drilling, refining, and distribution
- Environmental compliance with stricter emission and ESG standards



Oil & Gas Industries

Services

AIChatbot 01 **Development Natural Language** 02 **Processing Predictive Modelling** 03 **Computer Vision** 04 **AI Development Services** 05 **Web Development** 06 **Mobile App Development** 07 **Chat GPT Integrations** 80



Autonomous Process Control System for Oil and Gas Plants



AI-Driven Time Series Forecasting and Alarm System

Solutions



Annulus
Pressure
Monitoring and
Leak Detection
System



Intelligent Gas Lift Optimization Platform



Gas Lift Compressor Efficiency Optimization



AI-Driven Virtual Flow Meter (VFM) and Soft Sensing System



Advanced
Process Control
(APC) and AIBased
Controllers



State-Based
Event
Management and
Auto-Execution
Engine



Integrated
Prioritization
and Autonomous
Maintenance
Scheduling



AI-Based Production Optimization from Well to Field



Automated P&ID Generation Tool



AI-Powered Predictive Maintenance and Anomaly Detection



Key Benefits



- Reduces interventions
- Lowers energy use and variability



recovery • Reduces backpressur

e losses

• Extends reservoir life



- Improves maintenance and tuning
- Reduces shutdowns and containment loss



- Automates procedures
- Eliminates errors
- Ensures safe, repeatable operations



- Ensures well integrity and safety
- Prevents environmental harm
- Supports compliance



- Maximizes recovery
- Minimizes gas and energy use
- Improves field production balance



- Cuts maintenance backlog
- Boosts asset uptime
- Enables predictive maintenance



- Enables unmanned operations
- Cuts costs and errors
- Maximizes output with less energy



- Cuts CAPEX/OPEX
- Enables realtime monitoring
- Improves field optimization



- Maximizes overall field recovery
- Minimizes backpressure losses
- Extends reservoir life



- Speeds up engineering workflows
- Reduces human error in design
- Enhances digital twin integration



- Prevents costly equipment failures
- Extends asset life
- Improves safety and reliability

