Oil and Gas

Digital Innovation in Oil & Gas: Advancements in Monitoring, Inspection & Safety

From upstream to downstream, Oil and Gas organizations are experiencing the many benefits that the cloud can bring to different areas of their business. The Oil and Gas industry is increasingly moving towards cloud technologies as they look for innovative ways to reduce operating cost, streamline processes and drive efficiencies. Companies are utilizing the cloud to enable faster implementation of use cases ranging from data center consolidation, big data and IoT to artificial intelligence & machine learning.

Imagine a future with drone-enabled safety detection, eliminating manual and time-consuming inspections. From oilfield monitoring and predictive maintenance to AI-powered exploration and production, we work closely with our clients to empower faster decision making and reduce costs while increasing operational excellence.

Capabilities and Solutions

Optimization

Enhance manufacturing and industrial applications with real-time, cloud powered intelligence services, such as AWS IoT Core and Amazon SageMaker, designed for failure risk assessment, predictive maintenance, and usage optimization.

Automation

Enhance supply chain distribution by automating processes, all while increasing the overall scalability and efficiency of your workloads.

Transformation

Gain agility and reduce costs in the AWS Cloud by consolidating legacy data centers and leveraging Infrastructure as Code. This provides a secure environment that extracts data, digitizes it and makes it rapidly accessible.

Data Empowerment & Visualization

Whether it's data lakes, visualization, analytics or machine learning, using first-class tools like Onica's Data Science Workbench enables us to migrate large sets of data and deliver solutions quickly and efficiently in order to turn your data into a tool for innovation.

AI/ML & IoT

Improve workforce safety outcomes with computer vision and digitize the workplace with active monitoring, such as triggering real-time alerts when protective gear that is not properly worn is detected.

Customer Success

Case Study: A Petrochemical Company

The Customer: A Petrochemical Company needed to optimize chemical deliveries to field sites in order to minimize costs while maintaining local supply volume and addressing safety concerns.

What we did: Onica optimized delivery schedules and routes using algorithms ingesting data from on-site IoT devices.

Outcomes:
- Predict supply depletion at each site
- Algorithmically prioritize delivery schedule
- Optimize delivery routes to minimize costs

Case Study: Q-Engineering

The Customer: Q Engineering wanted a platform to support containerized workloads and an end-to-end CI/CD pipeline to route traffic from multiple endpoints to varying instance types handling specific workloads.

What we did: Onica developed an Amazon Elastic Container Service for Kubernetes (Amazon EKS) solution, with a CI/CD pipeline based on AWS CodeBuild and AWS CodePipeline.

Outcomes:
- Rapid deployment of applications
- Streamlined data analytics for forecasting
- Increased scalability to allow for easy handling of current and future workloads

Oil & Gas Discovery and Innovation Day

Join AWS and APN Premier Consulting Partner Onica for a virtual workshop focused on getting familiar with AWS services and discussing how IoT solutions on AWS can elevate your business.

AWS + IoT Hands-on Technical Lab

9:00 AM - 11:30 AM

Overview of AWS IoT Platform and hands-on experience using Rackspace IoT rapid prototyping kit for sensor monitoring.

Intended audience: Technical – engineering/IT leadership, software engineers, DevOps, data scientists & directors of automation/SCADA admins/managers.
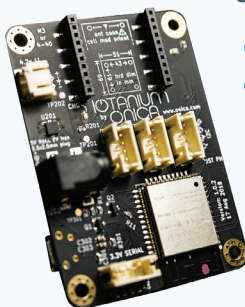
Lab activities include:

- Deploy and Manage Data Pipelines with Onica´s Data Science Workbench
- Best Practices for hosting Data Lakes on AWS
- ETL, Data Warehouses, and Data Visualization
- AWS Data Tools Deep Dive: AWS Glue, Amazon Athena, Amazon S3, Amazon EMR, Amazon Redshift, Amazon Kinesis, Amazon Elasticsearch, AWS DeepLens, Amazon Rekognition, and Amazon QuickSight

11:30 AM - 12:30 PM

Lunch

Driving Innovation in Oil & Gas | Monitoring, Security & Inspection

12:30 PM - 3:30 PM

During the afternoon session, we invite business and technical leaders to join us to learn about AWS and Onica´s experience in the Oil & Gas industry and explore the benefits of innovative solutions in monitoring, safety, and inspection. We'll then shift gears into solution ideation for your high priority use case(s) - whiteboarding requirements, outcomes, and high-level architecture.

Intended audience: Business – operations, safety, product teams, digital transformation, technical sales & technical engineering/IT leaders

- Walk through Oil & Gas customer use cases
- Explore business impacts of innovations using IoT & machine learning
  - Sensor monitoring for anomaly detection and predictive maintenance of key metrics including tank level, pressure, temp, and vibration for a broad range of equipment including tanks (chemical, oil, produced water, condensate/vapor recovery), compressors, pumps, wellheads, and more
  - Video monitoring in areas such as emissions (flare monitoring), safety (identifying entry into unsafe work zones), security (preventing oil theft at well sites), and inspection (discovering oil leaks using smart drones)
- Presenting a framework for evaluating the benefits & ROI for IoT projects
  - Determining the value of data
  - Timeliness of business decisions
  - Driving customer value through IoT
- High-level requirements for 1-2 high priority IoT projects
  - Data gaps (where are more sensors needed?)
  - Data utilization (how to do more with the data?)

Please contact us to schedule your your on-site or virtual workshop

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