



CASE STUDY

GasOps BI Solution for Construction and Maintenance





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GasOps

GasOps, a natural gas industry leader with 20+ years of experience, offers **innovative solutions for efficient data collection and clarity.**

Team Makeup



Team

- 1 Product Manager
- 1 Engineering Manager
- 2 UX/UI
- 1 Backend Dev
- 1 Mobile Dev
- 1 QA
- 1 Cloud Infra & DevOps
- 6 Engineers



Technology Stack

- Programming Languages:** ASP.Net, ASP.Net MVC, C#, SQL Server, JavaScript, React Native, Cordova, go.js
- Development Tools:** Visual Studio, Visual Studio Code, SQL Server, Management Studio
- Frameworks:** .NET 4.6
- Environment & Operating Systems:** Windows
- Databases:** SQL Server
- Hosting Servers:** Azure
- API's and Plugin's:** Web API 2



Challenges Presented / The Goals

Business Challenges

Initially the founder of GasOps, sought experienced developers from prestigious universities like MIT and Stanford. However, realizing the project's complexity demanded not just domain knowledge but also technical expertise, they faced difficulties in crafting a suitable solution. Having invested significant time and money, GasOps approached Athenaworks CanWill, seeking a committed team capable of meeting deadlines and delivering high-quality results.

The Goals

GasOps aimed to develop a robust business intelligence solution to access and analyze data from construction, maintenance, and operations activities for compliance, regulatory reporting, and risk management, without disrupting existing processes extensively.

- 1 Despite a data-centric and asset-centric approach, **GasOps** struggled to gain desired insights.
- 2 **GasOps** aimed to develop a solution for organizations with diverse stakeholders and hierarchical levels, enabling progress tracking across multiple locations, including signal-challenging areas like tunnels.
- 3 Data collection led to siloed databases, hindering operational efficiency.
- 4 Addressing time-consuming reporting systems and mitigating business risks arising from unclear insights were key objectives.



The Solution

We suggested functional bifurcation of GasOps enterprise application to divide into 3 different number of mobile apps for different stakeholders designated at different hierarchy levels & locations.

- **GasOps Admin Web App**
- **GasOps Inspection**
- **GasOps Leak-Sketch**
- **GasOps Tunnel**

All apps are synced with each other.

Anywhere, Anytime on Any Device

The application can be used on any mobile device platform. It contains advanced features and rules to ensure that the data quality is not compromised as it is collected in the field. This means that crews do not spend more time collecting data than they do performing their actual work.

Admin Web App

- The GasOps Online solution includes easy-to-use tools & prompts, searches, and reports to provide answers quickly. This saves a great deal of time when preparing DOT Annual Reports, Mechanical Fitting Failure Reports, and other industry reports.
- We have designed and developed intelligent forms that mirror industry best practices and workflows. Data from construction, maintenance, and operations activities can be easily accessed and analyzed for compliance, regulatory reporting, and risk management purposes without extensively disrupting existing processes.
- It also includes elimination transcription errors via bar-code scanning, organization of data and information over complex workflows.



Key Features

- **Any Device:** The solution can be easily accessed and used from any computer with a web browser or mobile device. Access to information anytime & anywhere.
- **Updated:** Because it's online, the organization has access to all of the updates and enhancements without having to install any additional software or hardware.
- **Low Cost:** The Software-as-a-Service option lowers overall total cost of ownership.
- **Interoperability:** Data can be integrated with backend data systems like GIS, ERP Solutions through a series of API and web services.
- **Configurable:** The solution can be configured to company's requirements ensuring quicker adoption by field crews.
- **Scalable:** The solution was designed to be both extensible and scalable as organizational data requirements grow and evolve over time.

iOS App

GasOps Capital Construction App is developed to help Gas Companies providing Gas for domestic & Industrial usage. This App is an easy to use and improve business intelligence about your company's assets and compliance reporting.

GasOps Inspection

- **GasOps Inspection App** is developed to help Gas Companies providing Gas for domestic & Industrial usage to collect component level data and information real-time, location-based information to improve the overall business process, asset, and compliance management.
- The application is developed for different types of inspections did by the gas company. Inspection duration is either monthly or yearly. **It is used to collect inspection data/assets** in detail whether it is in good condition or if there is any corrosion, repair required.

GasOps Leak-Sketch

- **GasOps Leak Sketch App** is developed to help the Gas companies to build the leak sketch at the field.
- This App is easy to use and to draw the leak sketch. It will help gas company employees to **point out the exact leak location** with all required information.



- With this app any gas company can collect different level data and information to improve the overall business process, and management.
- The application is developed for the different types of leak sketches done by gas companies. It is used to collect the leak data and its assets details.

GasOps Tunnel

- **GasOps Tunnel App** is developed to help Gas Companies providing Gas for domestic & industrial usage.
- The app would be used by Tunnel inspectors working on different locations across the globe at tunnel locations.
- This App **helps to inspect Gas Pipelines and Other Assets situated into the tunnel** and take note of inspected parameters.
- Few of the features are collecting tunnel wise Inspection data, search tunnel by keyword, find a tunnel on the map.
- This application supports online and offline inspection with sync to cloud databases.

Key Features

- **Connectivity:** The mobile application can be used in a connected and disconnected mode. Even if the cellular connection is lost, the data is stored securely and transmitted back to the server once connected.
- **Scan Barcodes:** Crews can effortlessly scan 1-D and 2-D barcodes on various items from different vendors.
- **Capture Images:** Take as many pictures as you want. The photo capture tool makes it really easy to capture images of parts when installed, pressure test charts, or service line layout.
- **Secure:** No data is stored on the mobile device. All the information is passed using the latest encryption technology.
- **Easy To Use:** Streamline data collection without having to do extensive training.
- **Cost Effective:** Application runs on both iOS and Android devices making it more cost effective as compared to other devices to capture quality data in the field.



Results

The **GasOps Enterprise Application model** was not only validated through testing by both large natural gas utility companies and small municipal operators but also successfully evaluated by National Fuel through an NYSEARCH program co-sponsored by National Grid, National Fuel, and Pacific Gas & Electric.

In addition, several municipal operators in the State of Mississippi also tested and validated the solution. At present, several municipal operators currently use GasOps solution to satisfy their operational and asset management needs.

Contact Us

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