

Enabling A Data Driven Culture

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► Customer

Evolution Well Services (EWS) is an oilfield services company that provides pressure pumping services to exploration and production businesses that focus on developing unconventional oil and gas plays. EWS has revolutionized the pressure pumping industry through the introduction of their innovative electric pressure pumping process and data-driven culture. EWS has been developing their data-centric culture since they began operations. They founded the business with data in mind and have partnered with Canary Labs since the beginning. The **Canary System** has laid the foundation for their digital operations strategy.

► Strategy

Evolution's belief in data driven decision making is key to who they are. At Evolution, they prioritize digital culture, data, and analytics to drive efficiency in their business and empower subject matter experts to make the best possible decisions with the most valuable and effective data available.

Their strategy is to:

- **Empower** Evolution to make strategic decisions backed by quantitative metrics.
- **Leverage** machine learning and artificial intelligence to gain operational efficiencies and extend equipment life.
- **Deliver** real-time insight into equipment conditions, maintenance trends, and operating parameters.
- **Drive** automation at all levels to maximize productivity and reliability.
- **Integrate** technology stacks to drive collaboration, standardization, and partnership.
- **Utilize** vibration sensors, thermal cameras, drones, and HoloLens for advanced data collection and processing.



Challenge

Ability to collect, monitor, analyze, and interpret thousands of critical process and equipment parameters to drive rapid-response to abnormal conditions and optimize performance.

Solution

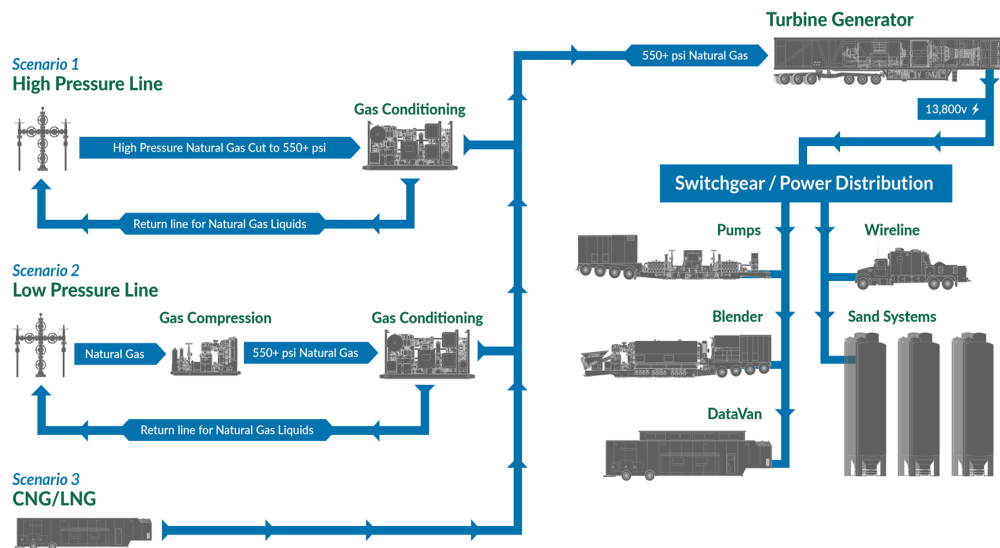
- Enterprise Canary Historian
- Local Canary Historians
- OPC DA Data Collectors
- ODBC and API Connectors
- Cloud Analytics
- Machine Learning & AI

Results

- Enterprise Operational Visibility
- Enhanced Analytics & Workflows
- Improved Maintenance Planning
- Improved Asset Reliability
- Improved Operating Efficiency

Enabling A Data Driven Culture

EWS requires real-time monitoring of their equipment and processes across a wide range of data sources. Quick interpretation of this data is crucial to their ability to respond quickly when abnormal conditions occur. The ability to monitor and analyze hundreds of thousands of critical process and equipment parameters and automatically generate real-time events and notifications was the top priority for their system selection. The reliability of Evolution's turbines, generators, pumps, and motors is essential for sustainable operations and overall business success. EWS sought a solution that could monitor and analyze critical asset parameters to ensure equipment reliability and prevent costly failures resulting in unplanned maintenance downtime. Additionally, the solution needed to be open to facilitate easy data sharing with other business platforms and solutions that support maintenance management, scheduling, and advanced analytics.



► Team

Nick Brady serves as the Digital Operations Supervisor of the EWS Data Technology team. His team is dedicated to developing and deploying digital tools for operations and enabling analytics across the company. "We focus on applying data analytics to areas such as equipment performance, maintenance practices, and operational processes to drive efficiency and reliability improvements".

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Nick explained, "The Canary System plays a pivotal role in data collection and analysis, particularly when assessing operating conditions and equipment performance." Nick's team actively participates in company-wide initiatives, both in developing and deploying digital toolsets, as well as providing comprehensive data analytics across the business. They also leverage data science methods to analyze datasets, including historical data collected by the Canary System, to offer valuable insights and solutions to overcome operational challenges. Additionally, they provide essential support and training for Canary users in the field.



► Solution

Flexible Deployment

EWS deployed a Canary System on each of their mobile operating fleets to locally collect real-time field data. They also maintain a centralized 'Corporate' Historian that facilitates remote access for leadership and associates to monitor operations and perform historical data analysis in support of continuous improvement and asset reliability initiatives. EWS deployed the **Canary OPC DA Collector** to collect data from all of their pumping fleet control systems. Each system continues to grow as new tags and analytics are routinely being added.

Asset Visibility

At the corporate level, they've created separate **Canary Views** for each mobile fleet. They also have plans to develop equipment-specific views for different asset categories used in their operations. Currently, they're working on asset-level views for pump trailers and blenders, their two primary asset categories. Anyone in the company with authorization can access over one hundred **Axiom** Applications they have developed for providing real-time operational insights.

Open

Brady further explains that they use **Canary's ODBC Connector** to pull Canary data into a SQL database and various tables. These tables are utilized by other in-house applications and analytics reports, thus extending their value as well. Brady has been using the system since joining Evolution in 2019 and has witnessed an ongoing increase in platform use and versatility. EWS invests in ongoing user training as new functionality is added to the Canary System to maximize system use.

"What I love most about the Canary System is the versatility it provides. Whether I'm an equipment operator looking for when my next maintenance items need to be performed or a data analyst running regression models on years of data, Canary can serve both and nearly everything in between!"

User Friendly

The user-friendly interface and system versatility contribute to Evolution's ongoing positive experience. **Axiom**, Canary's flagship graphical user client, makes it easy for users to create their own dashboards. Brady highlights, **"team members can quickly get up to speed with a crash course, navigating Axiom within a week. We are actively improving training materials, including walkthrough guides for Axiom navigation. Additionally, we are developing comprehensive training for those interested in building their own displays and reports."** Canary offers abundant online training opportunities through the **Canary Academy**, along with remote and onsite classroom training. Recently, some of their team attended in-person training at Canary headquarters in central PA. Despite using the system for over 10 years, the team gained fresh insights and discovered new ways to leverage the latest features. When asked about the most valuable aspect of the Canary System, Nick emphasizes its versatility, **"What I love most about the Canary System is the versatility it provides. Whether I'm an equipment operator looking for when my next maintenance items need to be performed or a data analyst running regression models on years of data, Canary can serve both and nearly everything in between."**

► Value

Data Driven Culture

Nick highlights how the Canary System propels their data-driven culture: **“The Canary System is the cornerstone of our digital culture, which is empowering individuals to make data-driven decisions. The accessibility of the Canary System facilitates this incredibly well. As a data-focused company, we continuously apply data across the business. The versatility of the Canary System allows us to enhance both analytics and workflows. Canary has become a vital tool for many across our company.”**

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Operational Visibility for All

Nick explains the pervasive use of the Canary System. **“We rely on it to calculate KPIs that help us monitor operational conditions, equipment performance, and operational efficiencies. The Canary system has revolutionized our maintenance planning in the field. Studies analyzing data collected with the Canary System demonstrate effective improvements in both processes and equipment performance.”**

Since deploying the Canary System from the outset of their business, its use has become widespread across the organization. Fleet personnel utilize Canary to varying degrees. Additionally, the Operations, Engineering, Asset Integrity, and Digital Technology departments rely on Canary every day.

For instance:

- **Operations team** uses it to monitor and optimize pumping operations.
- The **Asset Integrity department** leverages it to monitor equipment health and plan maintenance periods.
- The **Engineering team** employs it for job monitoring and metric analysis in process improvement projects.
- The **Digital Technology Department** utilizes the collected data for performance analytics and data sharing with its in-house maintenance and scheduling applications.

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Actionable Insights

Brady emphasizes that the nature of their operation demands real-time monitoring across a wide array of data. This monitoring must allow for quick interpretation and prompt action when conditions change. Canary fulfills this need effectively, providing a reliable system with robust visual tools that position his teams for success. **Canary Events** can be configured to capture abnormal conditions, downtimes, or changes in state or status of equipment. He continues, **“Canary provides us with real-time insights into every corner of our operation. Strategically, we leverage Canary for remote operational monitoring, maintenance planning, and deeper analytics. On a tactical level, Axiom serves as our primary data visualization tool in the field. It monitors pumping operations, displays equipment health to operators and maintenance teams, and offers real-time tracking of maintenance schedules.”**

“Canary provides us with real-time insights into every corner of our operation.”

Analytics

The Canary System has been instrumental in collecting and analyzing data for numerous projects. **“We’ve developed Axiom charts and applications for field use, closely monitoring operating conditions. Historical data helps us understand equipment behavior and uncover performance-limiting factors. For instance, we use Canary to run analytics on equipment performance, alarm frequencies, and operational trends. Whenever new features are released, we analyze their impact on our business and place a priority on providing proper training and support to end users, enabling them to maximize the effectiveness of new features. Ultimately, the Canary System unlocks the insights hidden within the data. With its wide range of applications, the possibilities are limitless.”**

► Success

Nick explains how he measures Canary’s success: **“I would measure it based on reliability, versatility, and ease of access. The Canary System has proven very reliable over the years and is highly versatile. It serves both tactical, in-the-moment decisions and large-scale analytics initiatives. Canary provides insights across the business, from the big picture down to minor details that impact our decisions. Analytics supported by the Canary System have significantly improved equipment life through operational solutions. The system itself, along with applications we pair with Canary, helps us maintain high service quality, building trust with our customers. Ease of access matters because not all users are equally data-savvy. Interfacing with data can be intimidating, but Canary’s interface makes it approachable even for novices.”**

Nick explains future value opportunities, **“We continue to drive success by expanding our use of the Canary System. Our current priorities include building lower-level asset models using Canary Views, leveraging the Canary API connector for cross-platform data sharing, and creating robust alerts through the Canary Calculations & Events service. We’re confident that we’ll extract even more value from the system.”**

► Recommendation

Nick offers his recommendation: “I would recommend the Canary System to others because of the reliability the Historian service has shown, the accessibility of data Axiom affords, and the additional services such as the **Web API connector** that provide an interface with historical data and external data sources. If you are looking for a highly versatile product that delivers deep insights to your operations, provides reliable historian services, and has a wide array of functionality, Canary is your choice.”

“We continue to do business with Canary because of the Canary Systems’ proven reliability, the features we both utilize and are looking to expand into, and the high level of support the Canary team has provided us over the years.”

If you are looking to build a digital operations culture and need a trusted partner and proven solution, then reach out to Canary. Canary has been helping customers collect, store, transform, analyze, monitor, and deliver real-time and historical operational insights for almost 40 years. **Don’t let Industry 4.0 overwhelm you; get started today with the Canary System.**

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About Canary

Founded in 1985 with a focus to develop solutions from the end user’s perspective, we have achieved more than 20,000 installations in over 70 countries. Our clients represent private, public, and government entities in all major industries.

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