

Case Study

Building a Unified Asset & Operations Management Application



The Client

A regional energy and utilities provider in the United States responsible for managing power generation assets, substations, field operations, maintenance schedules, and regulatory reporting across multiple service territories. The organization operates critical infrastructure and must balance operational reliability, regulatory compliance, and workforce efficiency across geographically distributed teams.

The Challenge

- Fragmented legacy applications and spreadsheets are used to track assets, outages, and maintenance activities
- Limited real-time visibility into asset health, field operations, and incident status
- Manual coordination between operations, maintenance, and compliance teams leads to delays and inefficiencies
- Delayed and inconsistent reporting is impacting regulatory submissions and internal performance reviews
- Poor mobile experience for field technicians and supervisors, limiting real-time updates and responsiveness
- Lack of a unified operational platform capable of scaling with growing asset complexity and regulatory scrutiny

About Cogent Infotech

Founded in 2003, Cogent Infotech is a trusted, award-winning firm with **23+ years** of experience, **150+** government contracts, **10,000+** projects, and a **96% employee retention rate**. Recognized as an SBA Small Business and MBE-certified, we deliver excellence through diverse talent, AI-driven recruitment, and cooperative contracts like **NASPO Value Point** and **TIPS-USA**.



Solution and Process

- **Centralized Asset Dashboard**
Real-time visibility into generation units, substations, and critical infrastructure across service territories
- **Field Operations Module**
Mobile-friendly work orders, maintenance tracking, inspection workflows, and outage updates for field teams
- **Incident & Exception Management**
Automated alerts for outages, threshold breaches, delayed maintenance, and operational anomalies
- **Reporting & Analytics**
Standardized operational KPIs, compliance metrics, regulatory dashboards, and trend analysis
- **Role-Based Access Control**
Distinct, secure views for field technicians, supervisors, operations managers, and executive leadership

Outcome

- Replaced fragmented legacy tools with a **single unified operational platform**
- Achieved a **32% improvement in maintenance response times**
- Improved asset uptime through real-time monitoring and automated alerts
- Accelerated regulatory reporting with standardized dashboards and KPIs
- Enhanced productivity and responsiveness for field and operations teams through mobile access

Risk Analysis

- Operational continuity risk during migration from legacy tools
- Data accuracy and consistency risk across multiple source systems
- Integration risk with existing asset, meter, and monitoring platforms
- Scalability risk due to fluctuating operational and reporting demands
- Regulatory audit and compliance risk without standardized reporting
- Adoption risk among field users without a strong mobile experience

Best Practices

- ✓ Modular, microservices-based architecture to support independent scaling
- ✓ Real-time data ingestion and event-driven alerts for faster response
- ✓ Role-based UX design aligned to field, operational, and leadership needs
- ✓ Mobile-first workflows to drive field adoption and data accuracy
- ✓ Standardized KPIs and reporting frameworks for audit readiness
- ✓ Secure access controls and logging to support regulatory compliance

TECHNOLOGIES

- Java, Spring Boot, Microservices
- Angular (responsive web application)
- Azure App Services
- Azure SQL & Azur Data Lake
- Azure Event Grid & Azure Functions
- Azure DevOps (CI/CD pipelines)
- Power BI

