Large chemical company saves $78M+ with an Azure-based IoT and Power BI analytics and reporting solution

CHALLENGE

This client is one of the largest chemical companies in the world. The company was looking to generate significant improvement in operational efficiencies across plant maintenance activities. Plant maintenance projects, referred to as 'turnarounds' in the industry, represent the client's largest company expense. If not properly managed, turnarounds – which are complex operationally and need to be completed safely, on time, and on budget – can considerably impact overall profitability. The company's legacy Tableau system did not offer timely insights into key turnaround data and lacked system performance and data integrity. Their current solution led to a lack of comprehensive, real-time visibility into work tracking events, inability to understand key performance KPI metrics, and inadequate visibility into worker locations within a plant which creates significant safety risks. The client's inability to effectively analyze key aspects of turnaround efficiency resulted in $1M+ of wasteful spending per turnaround and an increase in safety risks for plant workers.

⊙ SCROLL TO VIEW DETAILS ON THE 3CLOUD SOLUTION

SOLUTION

3Cloud and Microsoft partnered to design and build an Azure-based IoT analytics solution with Power BI reporting. Our engagement began with discovery workshops to assess current state and determine goals for a future-state solution. 3Cloud also engaged in a Modern Business Intelligence Jumpstart to design/build the analytics reporting solution in Power BI. Our team designed an IoT GPS data ingestion architecture into client's Azure Event Hub with streaming to an Azure Data Explorer Pool in Synapse. This platform provided a series of advanced IoT and GPS data calculations with results presented in Power BI as KPIs and analytics required to evaluate real-time performance. 3Cloud's Azure solution also integrated the company's plant mapping data to provide real-time views of worker locations within their plants. This feature enabled significant new capabilities impacting worker safety. In the event of an accident or catastrophic failure, first responders can pinpoint the position of each worker for rescue and/ or support. In addition, the solution incorporated notification and alert capabilities to ensure that admins and users were made aware of any failures of the system or data pipeline.

With 3Cloud's Managed Data engagement, we enhanced user experience of searching and updating Turnaround and Beacon information through the creation of a Power App solution to increase visibility of database information. We enforced consistency in data entry and minimized human errors through Power App controls. Also, additional screens boost efficiency by allowing users to automate PDF export of Power BI reports.

⊙ SCROLL TO VIEW DETAILS ON THE 3CLOUD RESULTS

CUSTOMER SPOTLIGHT
Large Chemical Company

RESULTS

3Cloud's next-gen Azure-based IoT and Power BI analytics and reporting solution delivered enormous business value and impact. The client achieved $78M in annual savings via improvements to turnaround operational maintenance cycles. Improved visibility in overall contractor performance against project plans and contracts allowed the company to better scrutinize contractors and optimally select those that provide the greatest value. Increased uptime, reliability, and processing speed reduced data processing and analytics reporting time from 10+ minutes using the legacy Tableau-based solution, down to milliseconds with Azure and Power BI. In addition, worker safety was greatly increased across all manufacturing plants and represented another $10M in annual savings with the ability to actively track locations within plants and report accidents or events.

CLIENT PROFILE

Multi-national corporation among the 3 largest chemical producers in the world
Employees: 37,800
Annual Revenue: $59.6B
Innovation Focus: Data & Analytics