



CASE STUDY

Digital Twins Maximize Asset Performance and Improve Equipment Uptime for US-based Process Manufacturer

Digital Transformation -> Industry 4.0

Our Client is a leading US-based Midstream O&G firm with 60+ gas processing plants across the region.



Business Challenges

- Lack of central real-time visibility prevented operations SMEs from monitoring and managing equipment operations centrally
- Critical assets at most sites monitored and managed manually - based on time-based maintenance; lack of real-time data prevented the operator from modernizing their maintenance strategies
- Missed opportunities for cross-plant optimization - ability to redirect gas to plants with additional capacity, when critical assets are down in one plant
- Sought to reduce miles driven by field technicians to perform standard inspection and maintenance activities

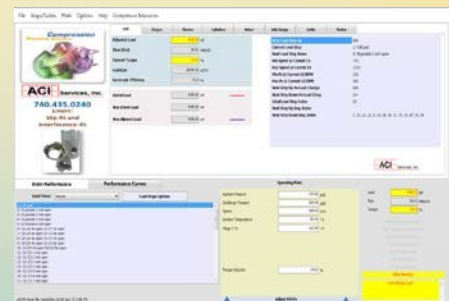


Solution Highlights

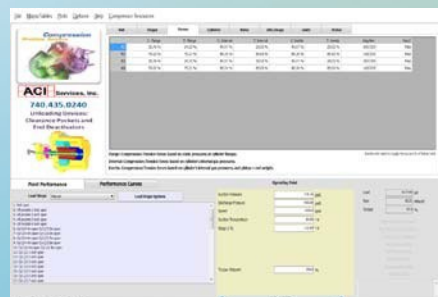
- Instrumentation of legacy equipment and aggregation of real-time data as per asset hierarchy into enterprise historian
- Detailed visualization of critical equipment operating parameters such as pressure, temperature and energy consumption to enable SMEs to analyze and recommend operations changes
- Integrated view of operations across sites into an Integrated Collaboration Center enabled SMEs to drive optimization across plants
- Digital Twins and AI/ML Algorithms to enable predictive maintenance



Real-time operations data from equipment



Performance Simulation to identify ideal operating window



Detailed performance parameters to allow SME to analyze and make informed decisions



Outcomes Delivered

- **Integrated Operations:** Enabled central visibility of plant operations allowing stakeholders to collaborate effectively to manage performance in and across plants.
- **Remote monitoring** of equipment health and performance reduced miles driven to inspect and manage them.
- **Comparison of real-time data with simulated data** to drive asset, unit, plant and cross-plant optimization opportunities
- **Ability to transition from time-based to condition and risk-based predictive maintenance strategies.**



Business Benefits

- **12% increase** in equipment uptime
- **20% reduction** in maintenance cost
- **75% reduction** in miles-driven for maintenance

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