



ANCAP Transforms Operations and Improves Efficiency with GE Digital



Fueling a nation

With an area of approximately 176,000 square kilometers, Uruguay is home to about 3.5 million residents. One state-owned company has the responsibility of fueling the majority of this growing nation—literally.

Administración Nacional de Combustibles, Alcohol y Portland (ANCAP) provides the fuel used for heating homes and businesses, and operating cooking equipment, agricultural machines, and transportation. Uruguay is not a petroleum producer, so its residents rely on ANCAP for the distribution of energy imports. ANCAP is also responsible for Uruguay's alcoholic beverages, Portland cement production, and more.

With the need for high reliability across its diverse operations, ANCAP sought to transform its processes by standardizing its HMI/SCADA systems. Working with Véritice Uruguay, ANCAP selected iFIX from GE Digital and Historian from GE Digital. The automation solution has helped ANCAP:

- Reduce costs
- Decrease energy consumption
- Ease government reporting
- Improve environmental protection and compliance

With the GE Digital software, ANCAP is achieving about 60% time savings each year through greater efficiency and more than 20% in energy savings.





Getting rid of “islands of information”

In ANCAP’s hydrocarbon business, the company’s assets include a crude oil import terminal, a refinery, and six distribution plants strategically located throughout Uruguay. The crude oil terminal can receive oil shipments of up to three million barrels and then is responsible for pumping it to its refinery in Montevideo, the country’s capital and largest city, approximately 106 miles away. The refinery has a normal crude distillation capacity of 50,000 barrels per day and a tank farm of 153 tanks for blending and storage. The company then distributes finished products to dispatch plants through pipelines, trains, and trucks. There is also a dock where tankers can receive and ship refined products.

With complex operations spread across the country, ANCAP generates an enormous amount of data daily. The company requires sophisticated logistics to adequately meet the demand for fuel. In the petroleum business, it’s important to strive for continuous improvement—not just for the company, but for the Uruguayan people it serves. Managing such large amounts of data and operations each day proved to be increasingly challenging for the company. ANCAP wanted to find a way to make processes more efficient, optimize energy consumption, integrate operational data from various systems, and ensure the health and sustainability of the company long term.

The company encompassed many “islands of information,” which included various spreadsheets that were updated manually and individual, disparate SCADA systems running locally. It became clear that ANCAP had to centralize its HMI/SCADA across its enterprise to not only better manage its processes and data but make more informed business decisions.



Finding the right fix with iFIX

A group of employees, with diverse backgrounds in information technology, industrial processes, and automation, formed a work team to implement a company-wide solution.

The team was charged with finding a set of tools to visualize, in real-time and across all facilities, the receipt and shipment of hydrocarbons, as well as all the movements of its different products. The solution had to be proven in oil and gas, web based and easily generate screens and reports in employees' native dialect.

The work team decided to partner with Vértice Uruguay, a distributor for GE Digital, and implement iFIX across its operations.

This included:

- An iFIX HMI/SCADA server at each plant
- A centralized corporate Historian server
- An iFIX Client Terminal server and Webspace service under relay configuration to serve more than 500 users

The solution was implemented in a phased approach. First, the company decided to focus on the crude oil import terminal, the refinery, and two of its fuel distribution plants in Montevideo. Then, the company brought the remaining four distribution plants online. More than 1,000 screens and 10,000 tags have been implemented through iFIX. With the software's user-friendly interface, employees at each location and with different job responsibilities can more easily utilize the data being collected and analyze it appropriately.

With iFIX, ANCAP is now able to monitor field data including gas and liquid flow rates, composition analyzers, tank levels and volumes, and more. The system also allows for monitoring performance rates, daily throughputs from process units, transfers from dispatch plants, vessel imports, and weather conditions. The solution centralizes data in one system, in real-time, and enables users to access information anytime, anywhere.

Changing company dynamics

The implementation of GE Digital's automation software has significantly improved the dynamics of communication between various departments across the company. ANCAP is saving around 60% of time each year through improved efficiencies and around 20%+ in energy savings. The iFIX, Historian, and Webspace solutions have been heavily embraced and utilized by employees involved in production, maintenance, planning, and logistics. Beyond having integrated solutions to learn, the user interface and intuitive training have helped with adoption. Management has been able to stop asking employees for updated information and manually generated reports—instead getting all they need to know, accurately and in a single interface instantly.

ANCAP isn't just seeing quantitative return on investment through efficiency and energy savings, it's also experiencing an increase of information sharing, accessibility, and informed decision making. This may be something harder to tangibly measure, but is no less important to the daily operations of ANCAP.



Since adopting GE Digital's solutions, ANCAP has been able to:

More efficiently report required emissions of all plants to the government

Data automatically processed, formatted to a spreadsheet, and uploaded to the government's website.

Adequately manage energy consumption across all plants

Efficiency of furnaces calculated and projected in real-time, and recorded in Historian to study trends and behavior over time.

Minimize loss of hydrocarbons, protecting economic and environmental impact

Import mass balance system information and generate grids in iFIX showing monthly loss for each product and each plant, as well as compare data with established tolerances.

Monitor emissions generated by the refinery

Collect data related to temperature, solar radiation, and wind speed from nearby weather station, then integrate with correlations and emission calculations in Historian.

Adequately supervise tanker truck loads from fuel distribution plants

Each load is recorded by compartment, calculating the average temperature, monitored in real time, while simultaneously being input into the company's billing system for streamlined operations.

Fueling the future

Moving forward, ANCAP plans to integrate GE Digital's software across all of its facilities, expanding the number of users and the iFIX tags implemented. With the population of Uruguay projected to continue increasing steadily, the company needs to also continue to meet the needs of those it serves. It sees the partnership with GE Digital and Vértice as essential to being able to implement new applications and work processes that will continue to optimize operations and fuel the future of Uruguay for years to come.

Learn more about GE Digital's automation software solutions.

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About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.

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