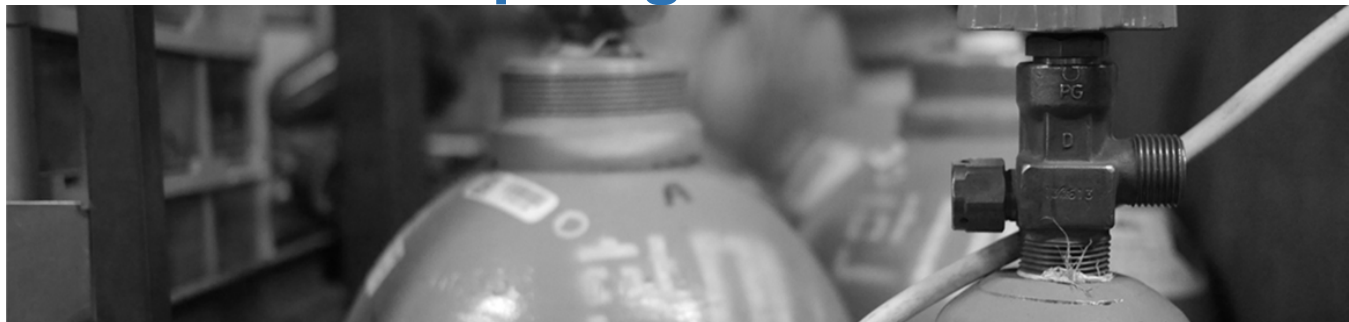


# Client Spotlight: AmeriGas



## Overview

AmeriGas, the nation's largest propane company, serves more than 2 million customers across all 50 states. Residential, industrial and commercial customers count on AmeriGas propane for heating, cooking, motor fuel, and other essentials. For this project, Avanceon streamlined the company's cylinder reconditioning lines by automating multiple processes and organizing the system into "work cells," increasing productivity while decreasing safety hazards.

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## The Challenge

At the AmeriGas Propane Exchange plant in Conroe, Texas, sorting propane exchange cylinders was a labor-intensive process. Hours of moving and lifting heavy cylinders wasted manpower and raised ergonomic safety concerns.

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## The Avanceon Solution

By automating several manual tasks, Avanceon's team devised a solution that both reduced safety issues and improved output. Work began in 2012, with Avanceon engineers studying cylinder-processing lines at several AmeriGas locations. The team used this data to create five "work cells" where operators complete a single cylinder-reconditioning task. Safety upgrades such as gas and motion sensors were incorporated in each cell. The previous lines necessitated up to ten touches per cylinder, each presenting a safety hazard and the potential for error; Avanceon's new system requires an operator touch only if the system detects and rejects a leaky cylinder.

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Avanceon's state-of-the-art automated lines entirely eliminated manual cylinder sorting at the beginning of the cylinder exchange process. After the automated system tests each cylinder for leaks, cylinders travel down a conveyor to the first work cell; defective cylinders are then diverted while the rest are visually inspected for attached regulators and old-style valves. At the next work cell, Avanceon developed a "hands-free" process for debris removal. The cylinders are brushed and pressure-washed before being visually inspected. Avanceon's innovative system requires only a single operator for this task; the old process involved up to six. High speed cameras also eliminated the need for a tedious manual inspection of each cylinder's collar and valves.

Cylinders destined for scrap or in need of a valve replacement are conveyed outside the plant and then transferred to another facility. Satisfactory cylinders continue to another touch-free cell, where they are painted and dried. Avanceon's automated solution eliminated the need for workers to hang each weighty cylinder on a hook and risk injury or cylinder damage. The freshly-painted cylinders next arrive at a work cell where a single operator accepts and records their weight before sending them on to the cylinder-filing carousel. The thorough system then again checks each for leaks before they're sleeved. An automated gantry system then palletizes the cylinders and readies them for loading.

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## The Team

This particular plant is the "proof of concept" site for Project PaSTA (Propane and Safety Through Automation). Project PaSTA began in 2012 when AmeriGas Director of National Reconditioning Ed Ferguson traveled to Europe, seeking inspiration from cylinder processing procedures overseas. After this trip, AmeriGas and Avanceon united to reassess the company's existing lines. Several AmeriGas regional managers worked with Avanceon engineers to create a customized solution that updated AmeriGas practices.

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## The Result

From design to implementation, Avanceon partnered with AmeriGas to create a customized solution that increased efficiency and decreased risk of operator injury. Our specialists brought their expertise to every aspect of the project, including site planning, line layout, machine design, controls, instrumentation, integration and reporting. Avanceon's stream-lined automated system allows the plant to process an additional 100 cylinders an hour, with far fewer operator "touches" at each step.

## Conclusion

This large-scale success demonstrates how the Avanceon team's holistic and innovative approach can help any customer overcome complex challenges. Avanceon engineers bring a fresh perspective to existing procedures and partner with clients to develop innovative solutions.