

INDUSTRY

**innovateIT**  
**CASE STORY**

## UNIQUE INNOVATION IN THE CAR WASH MARKET LEADS TO A FULLY WATER-ON-DEMAND SYSTEM

### INTRODUCTION

The car wash business is a multi-billion-dollar global business. According to an article printed in Business Wire (2022), a Berkshire Hathaway company, “the global car wash services market size is anticipated to reach USD 38.61 billion by 2030, registering a CAGR of 3.1% over the forecast period” (May 9, 2022, 8:27 AM Eastern Daylight Time). Trends towards professional services grow, offering greener solutions than washing cars by hand at home. The modern car wash allows users to simply drive up to a kiosk, select what kind of service they want using a touch screen, and pull through a tunnel car wash. Governmental regulations, set by agencies like the United States Environmental Protection Agency (EPA), govern practices related to water usage, and chemical and waste management to ensure environmentally safe communities and prevent the further degradation of water-stressed regions around the world. Behind the scenes, car wash companies are integrating new innovative technologies to align with these regulations and reputable companies are teaching their learnings to others. These companies innovate, partner with industry giants, and sell systems they have created fusing old knowledge with new to develop the latest technologies on the market.

### SITUATION

InnovateIT is a company, founded by Tom Hoffman Jr. Over the years, Tom Jr. and his father worked side-by-side in Albany, New York to advance systems in car washes they owned which led to the desire to launch a company that would help them sell these solutions to a larger market. A recent innovation called innovateIT RO, a reverse osmosis system, will be released the fall of 2022 and is built with the idea that instead of wasting water, water should be cleansed and reused ensuring sustainable

management and responsible consumption of national resources. InnovateIT’s Reverse Osmosis system integrates a specialized Grundfos pump and combines it with revolutionary ‘RO Flow On Demand’ technology to increase production of high quality spot free water while maintaining high operating efficiency.

### innovateIT’s Reverse Osmosis System:

Typical car wash RO systems are not designed to produce the quantity of RO water needed to support a busy car wash, requiring large storage tanks for both the RO and reject water. This storage requirement not only adds cost to the RO system installation but also takes up valuable room in the equipment room or requires underground tanks.

innovateIT’s RO system uses an RO ‘Flow on Demand’ algorithm to automatically adjust RO production rate to meet the demand in the car wash tunnel. This approach eliminates the need for generating and storing large amounts of RO overnight by monitoring usage in the tunnel and adjusting RO production to meet the demand. It also sizes the RO production capacity to meet the highest demand usage for the tunnel, accounting for changes in feed water temperature across the seasons. The result is reduced overall energy consumption and extended membrane life with the ability to produce up to 37,440 gallons per day, or 7 gallons per car at 225 cars per hour, of spot free rinse water. This capacity gives the operator flexibility in the tunnel set-up to adjust RO usage without worry about running out on busy days.

The pre-tested system fully integrates all pumps, sensors, controls, and the storage tank on a single stand, allowing for simple plug and play



installation. innovateIT's RO system also includes built-in diagnostics and maintenance data displayed on a user-friendly touchscreen interface, providing detailed history of operating hours, cycle counts, faults and more to support both maintenance and troubleshooting minimizing downtime.

The system's easily serviceable carbon block filters remove chlorine and contaminants to prolong the life of the system, helping operators save on maintenance and replacement costs.

#### **GRUNDFOS' PUMP INTEGRATED INTO THE BUILD:**

Integrated into the build is a vertical multistage centrifugal pump with integrated frequency converter called a Grundfos CRIE 10 series pump customized to run at high speeds. The pump as customized for innovateIT runs at 4000rpm.

By coupling the Grundfos pump with their RO flow on demand technology, innovateIT was able to increase the RO production rate of the system and eliminate the need for additional storage tanks, replacing it with a small storage tank integrated on the RO system skid. This approach is unique to the market. Instead, they use a bigger pump than many of their competitors to ensure RO water production on demand.

According to Dan St-Jacques, Marketing Manager of innovateIT, on-demand-water creates lower stress on the system components and a more efficient and sustainable process for the business. Even during colder temperatures, the ability to produce RO water for the car washes remains adequate, and the water-on-demand feature allows

RO production to meet the demand. "RO systems capacities always specify production based on standard 77-degree Fahrenheit feed water, but as temperature drops, the production decreases as well. The flow on demand controls adjusts RO production not only for the number of cars being washed, but also for changes in feed water temperature. This allows the operator to keep a consistent level of RO production even in the colder months or when the feed water temperature is much lower than 77 degrees." - Dan St-Jacques, Marketing Manager, innovateIT "The idea of RO Water on Demand, instead of having to store large amounts at the site is a huge savings in monthly water expense and simply area needed at the site. This along with our CRIE pumps providing energy savings is a huge benefit for this market. We are very excited to be working with innovateIT on these types of new platforms, as they align with Grundfos' core values." – Mike Kobal, Senior Area Sales Manager, Grundfos

***InnovateIT will be showcasing innovateIT RO at the Northeast Regional Carwash Conference in Atlantic City, NJ. September 19-21, 2022.***

Source:  
(2022, May 9) Global Car Wash Services Market (2022-2030) – Projected CAGR of 3.1% During the Forecast Period – Research and Markets. Business Wire. <https://www.businesswire.com/news/home/20220509005580/en/Global-Car-Wash-Services-Market-2022-2030---Projected-CAGR-of-3.1-During-the-Forecast-Period---ResearchAndMarkets.com>

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