

# On-Site Generation (OSG) – A True Disruptive Innovation

## Water, Salt, Electricity and The Inevitable Future of the Cleaning Industry

Until the 1950s, American households purchased ice to refrigerate food in their iceboxes. Consumers paid suppliers to make, transport and deliver frozen water to their homes. Packaged cleaning chemicals — which largely consist of water, dyes and perfumes — are on a similar path as home-delivered ice because of a disruptive innovation that's rapidly gaining the acceptance and confidence of early adopters.

On-Site Generation (OSG) technologies create effective cleaning and antimicrobial solutions right on site. This can eliminate the need for many packaged chemicals used by cleaning teams in education facilities, hospitals, public venues, casinos, retail stores and many other spaces.

A growing number of early adopters in these markets have discovered that solutions “made on site” with OSG systems often cost less than the blue, green, purple, orange and yellow packaged chemicals they've purchased for years. But cost savings are only a small part of the story, as early adopters have identified other compelling advantages that make OSG worth adopting.



**Simplified Cleaning Process.** Replace multiple multi-colored chemical concentrates with a simple OSG unit. Reduce the burden of training new cleaning staff on how to safely dilute and apply the multiple conventional packaged chemicals.



**Improved Health and Safety.** Reduce employee, customer and cleaning team exposure to highly concentrated conventional chemicals. Most OSG solutions contain no VOCs and no fragrance – which reduces unwanted odors and improves indoor air quality. Unlike most packaged chemicals, OSG solutions leave no surfactant residues – and actually removes these residues left behind.



**Reduced Environmental Footprint.** Lifecycle assessments conducted by independent experts indicate that OSG solutions result in a dramatically reduced environmental footprint compared to conventional packaged chemicals. Not only is the transportation of these conventional packaged chemicals greatly reduced, there is less associated packaging which minimizes disposal requirements.



**Lower Cost to Clean.** In addition to the potential for lower chemical costs, OSG can reduce soft costs, such as training, ordering and managing of inventory.

## How It Works

Uncomplicated devices (relatively low cost and easy maintenance) are connected to a tap water supply, drain and standard electrical outlet. Softened tap water and a small amount of salt, which is typically stored in the device, are combined and the mixture flows into an electrolytic cell.

Water electrolysis creates two separate streams — a cleaning solution and a one-step cleaner-disinfectant. Built-in sensors measure critical output parameters in the solutions to ensure efficacy. The solutions are then dispensed into spray bottles, automatic scrubbers, all-surface cleaners and carpet extractors for use by cleaning crews.

## Learning Opportunity

Like in-home refrigerators — or hybrid cars, cloud storage and smartphones — OSG is a true disruptive innovation. While early adopters tend to move quickly, most end-users require understanding of OSG technologies and real-world evidence before they consider transforming their operations. Additional information — including case studies, videos, and OSG products — is available at [www.orbio.com](http://www.orbio.com). Contact Orbio Technologies directly at 1-800-553-8033.

### ELECTROLYZED WATER PROCESS

