

# ROI FEATURE

Voltea's CapDI<sup>®</sup>



## Automotive Plant Recovers 1.8 Million Gallons of Water Annually with Cutting-Edge Water Treatment Technology

### AUTOMOTIVE PAINT LINE

Ohio, U.S.A

**ROI PAYBACK: 3 MONTHS**

High water consumption is extremely common in the automotive industry, with nearly 39,000 gallons of water required to produce a single car.

An automotive plant based in Ohio faced this challenge on a regular basis – manufacturing seven different vehicle models but producing millions of gallons of waste water in the process.

The plant's very low water recovery rate was not only an environmental concern for this customer, but also costing hundreds of thousands of extra dollars per year in water treatment and labor.

The facility was ready to forgo the traditional, antiquated technology it had in place for a newer, innovative water treatment system that would very quickly prove its value.

### ● THE ● CHALLENGE:

#### **LOW WATER RECOVERY; HIGH COSTS**

Automotive manufacturing – including paint and coating operations – demand extremely pure water, requiring the Ohio plant's incoming municipal water to be heavily treated. The facility considered standard treatment technologies, but none of them delivered a sustainable, long-term solution to energy and cost savings, and waste water reduction.

With traditional chemical-based treatment methods, the plant would be faced with very high operating costs, along with an extremely labor-intensive process that would only add to the overwhelmingly high price tag. Water would have to be consistently monitored and adjusted based on incoming water quality.

Additionally, the chemicals used to treat the water make it unsafe to recycle, thus producing a significant amount of waste water that requires extensive treatment before disposal.

The automotive manufacturer needed to find a less expensive and complex way to reduce waste water production and decrease the volume of city water required.







## ● THE ● SOLUTION:

### DISRUPTIVE WATER TREATMENT TECHNOLOGY

It was time to implement a new water treatment method that would reduce the plant's work load, increase the water recovery rate and reduce overall costs.

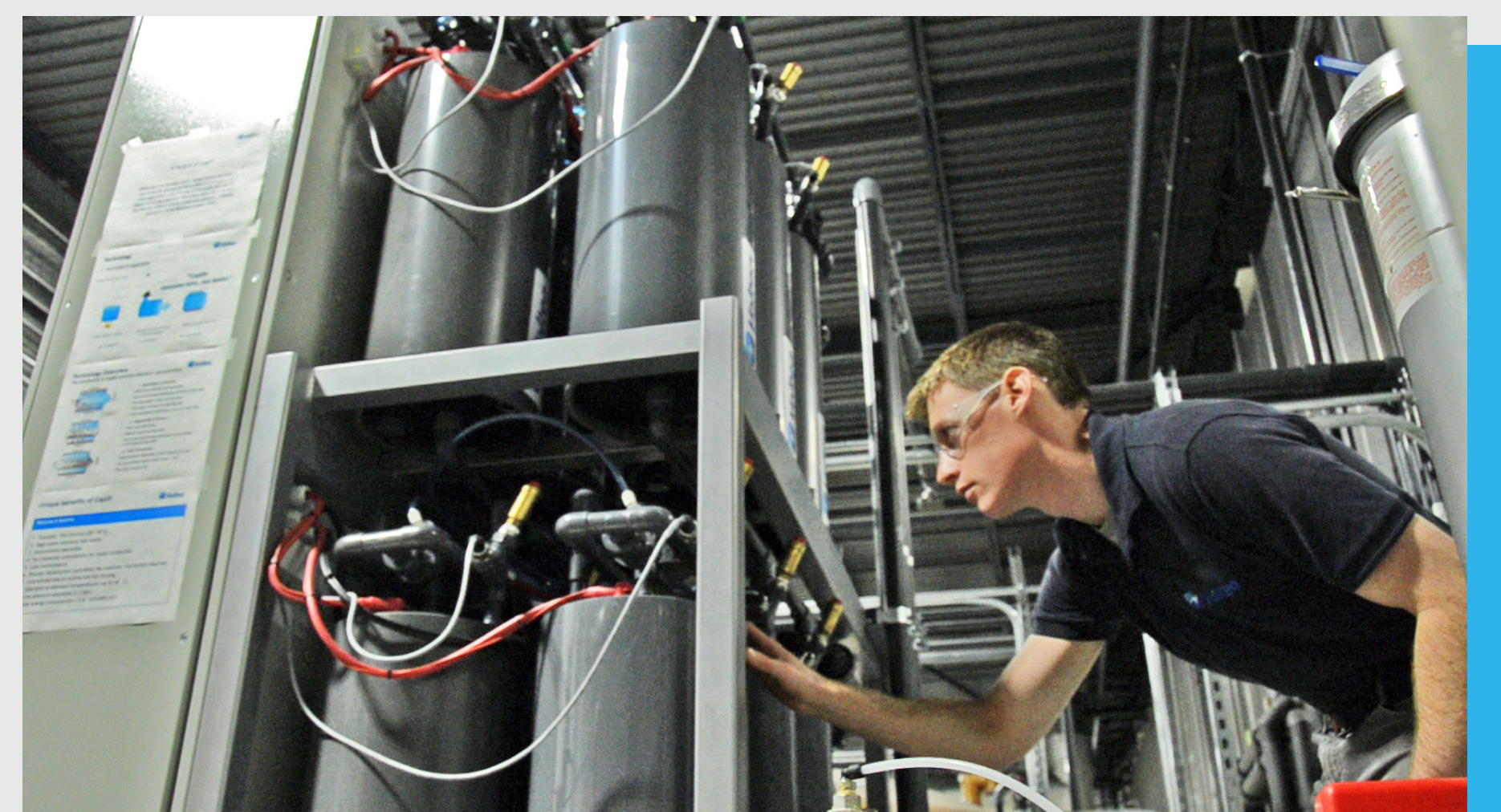
Voltea's revolutionary Membrane Capacitive Deionization (CapDI®), a salt-free, chemical-free water purification technology, treated all waste water by removing salt ions and total dissolved solids (TDS) via an electrical current.

The Industrial Series 12 System (IS-12) that was installed enabled the plant to reduce the municipal water feed and decrease the waste water produced. The technology lowered the conductivity to equal or better than the city water quality, allowing it to be recycled back to the pretreatment process, saving the plant over one million gallons of water.

This innovative technology stands out from other methods on the market because it tunably adjusts the feed water no matter the water quality. There's no need for operators to manually adjust the technology in order to achieve the perfect water quality. Instead, they simply set the desired output quality and the CapDI technology maintains that level through self-monitoring.



*"Having Voltea's system in place has been greatly beneficial! We've been able to significantly improve our sustainability efforts while decreasing operating expenses."*



## ● THE ● RESULTS:

### IMPROVED SUSTAINABILITY AND SAVINGS

After implementing Voltea's CapDI technology, it didn't take long for the automotive plant to see impressive results, which included:

- \$100,000 in annual labor savings
- 1,875,000 gallons of water recovered every year

"Traditional water treatment methods were not only expensive, but extremely inefficient to operate," said the automotive executive. "Having Voltea's system in place has been greatly beneficial! We've been able to significantly improve our sustainability efforts while decreasing operating expenses. And the best part is, the technology has helped us achieve all of that within a matter of just three months."

Making the switch to a new, cutting-edge technology allowed the world-class car manufacturer to produce and recycle world-class-quality water to match.

ANNUAL  
LABOR SAVINGS

**\$100,000**

ANNUAL  
WATER RECOVERY

**1.875M gal**

**ASK MORE FROM YOUR WATER!**

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