

Aligned Enhanced Soft Water and Water Management Saves 24 Million Gallons of Water Annually at Its Phoenix Data Center

CASE STUDY

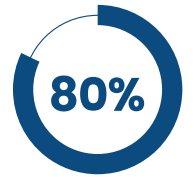


BACKGROUND

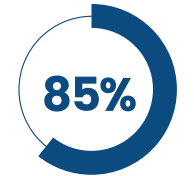
It takes a tremendous amount of energy and often copious amounts of water to power and cool any data center. In fact, data centers contribute to industry's consumption of 45 percent of all available clean water, which is especially a problem in developed countries. Hence, water usage has become a top-of-mind concern among environmentally-conscious data center operators and their customers alike.

INDUSTRY CHALLENGES

Aligned is committed to solving the world's toughest sustainability challenges associated with data center infrastructure, energy consumption and water usage. As part of this commitment, we sought to reduce water consumption at our data center in Phoenix, Arizona. Thanks to our patented, energy-efficient cooling technology, Delta³, our adaptive data center platform already requires up to 80% less energy, significantly reducing tenant Total Cost of Operation (TCO), and consumes up to 85% less water with the ability to run waterless as required, reducing points of failure and expense. However, based on growing customer demand and our shared commitment to environmental stewardship, we sought to achieve even greater levels of water conservation and water usage savings.



Less Energy



Less Water

WATER SAVINGS SUMMARY

with the Soft Water Program based on field data



PROJECTED



ACTUAL

Annual Water Savings



PROJECTED



ACTUAL

Annual MU Water Savings (Gallons)

SOLUTION

Aligned installed a soft water program to the fluid cooler system at our Phoenix data center. The soft water management program is a holistic approach to saving water, energy, labor cleaning hours and treatment chemicals, while maintaining excellent equipment health.

RESULTS

The installation of the soft water management program at Aligned's Phoenix data center resulted in abundant makeup water savings for the facility's fluid coolers. Makeup water is water that is supplied to a cooling system to compensate for losses by evaporation and leakage.

Aligned initially estimated the soft water program at Aligned's Phoenix data center would amount to annual water savings of \$99,750 and evaporation credits, and annual makeup water savings of 21 million gallons. However, the soft water management program exceeded these projections, with actual calculated annual water savings of \$114,000, plus \$15,000 in evaporation, and annual makeup water savings of 24 million gallons.

The soft water program also eliminated calcium scale along the fluid cooler wetted surfaces and reduced fugitive microbiological growth due to elevated pH and alkaline water, including Legionella bacteria, which is found in both potable and non-potable water systems. With the softened makeup water, calcium fouling will be minimized and improve the efficiency of the system, thus reducing fan power demand and energy costs. Additionally, when compared to a traditional program, the soft water program effected a 50% reduction of chemical usage.

[Learn more about Aligned's Delta³ cooling technology](#)

[Learn more about Aligned's commitment to sustainability](#)

ABOUT ALIGNED

Aligned is an infrastructure technology company that offers adaptable colocation and build-to-scale solutions to cloud, enterprise, and managed service providers. Our intelligent infrastructure allows densification and vertical growth within the same footprint, enabling customers to scale up without disruption, all while maintaining industry-leading Power Usage Effectiveness (PUE). By reducing the energy, water and space needed to operate, our data center solutions, combined with our patented cooling technology, offer businesses a competitive advantage by improving sustainability, reliability and their bottom line. For more information, visit www.alignedenergy.com and connect with us on [Twitter](#), [LinkedIn](#) and [Facebook](#).

