

## Case Study

# Sports Venue

## Background

**OUC District Cooling** commonly referred to as district chilled water service, offers a more eco-friendly and centralized air conditioning solution that eliminates the need for traditional on-site air conditioning systems. This innovative technology relies on chilled water produced at centralized plants, which is then distributed throughout the city to cool buildings efficiently and sustainably.

A major sports venue in Downtown Orlando adopted this system to meet its unique cooling demands, enhance operational efficiency, and align with sustainability goals.

## Challenge

The sports venue faced several complex challenges in designing its cooling infrastructure. Traditional on-site mechanical chilled water plant systems would have required a significant upfront capital investment in equipment and installation, posing a financial hurdle.

Managing cooling operations during large-scale events also introduced logistical complexity, as a traditional system would require a dedicated facilities team for ongoing maintenance and troubleshooting.

Additionally, the venue required a cooling solution capable of handling highly variable demands—from no scheduled event to peak capacity events including ice rink load—without compromising operations, reliability, or efficiency. The variability poses a challenge for building owners and operators, with the need to have equipment to suit every potential use condition.



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## Solution

To address these challenges, the venue partnered with OUC to integrate District Cooling into its infrastructure. By leveraging OUC's centralized chilled water system, the venue avoided the excess capital expenditures and to maintain on-site cooling equipment.

This decision drastically reduced upfront investment costs and ongoing operational complexity. The Downtown District's system is a looped district design offering exceptional reliability and redundancy, ensuring uninterrupted cooling service during events of any size.

Moreover, the flexibility of OUC's chilled water network allowed the venue to seamlessly adapt to fluctuating cooling demands without additional equipment or staff.

## Implementation

The integration of OUC District Cooling into the sports venue began at the concept stage, ensuring a seamless transition from planning to execution.

OUC worked closely with city officials and venue stakeholders to develop a new chilled water plant tailored to the venue's needs. This plant, which came online in 2010, was connected to OUC's existing chilled water Downtown District to provide additional redundancy and resiliency. Construction of the Downtown West Plant was completed in an impressive 1.5 years, demonstrating OUC's efficiency and commitment to the project's success.

## Results

The implementation of OUC's District Cooling services delivered measurable benefits for the sports venue. By eliminating the need for on-site cooling equipment, the venue avoided significant capital costs and reduced the burden on its facilities staff, even during high-demand events.

The system's reliability ensured uninterrupted service, while its flexibility allowed the venue to handle variable cooling demands seamlessly. Additionally, OUC's looped district design helped the venue mitigate operational risks, aligning with its commitment to safety and efficiency.

Beyond financial and operational advantages, the venue also advanced its sustainability goals by adopting chilled water. The centralized system significantly reduced its environmental impact compared to traditional on-site chilled water plant solutions.



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OUC District Cooling