

# LEED PROJECT PROFILE



## EMERSON GLOBAL DATA CENTER Ferguson, MO

**13%** phase one electricity from on-site  
photovoltaic array

**31%** improved process energy  
performance over baseline

**80%** construction waste diverted  
from landfills

### LEED® Facts

#### EMERSON GLOBAL DATA CENTER Ferguson, MO

Certification awarded February 12, 2010

**Gold 40\***

**Sustainable Sites 8/14**

**Water Efficiency 2/5**

**Energy & Atmosphere 8/17**

**Materials & Resources 6/13**

**Indoor Environmental Quality 12/15**

**Innovation & Design 4/5**

*\*Out of a possible 69 points*

The information provided is based on that stated in the LEED® project certification submittals. USGBC and Chapters do not warrant or represent the accuracy of this information. Each building's actual performance is based on its unique design, construction, operation, and maintenance. Energy efficiency and sustainable results will vary.



## EMERSON GLOBAL DATA CENTER

### Creating a more energy-efficient data center

“Energy Logic” as a path toward lower power usage

#### PROJECT BACKGROUND

This project involves the design and construction of a 35,000-square-foot Tier 3 data center on Emerson’s St. Louis headquarters campus. The project features an initial build-out of 6,000 square feet of raised data floor, with accompanying “A” and “B” side mechanical, electrical, UPS, and battery rooms. A small office area accommodating 12 people stretches along the northeast side of the facility, parallel with the main drive to the building.

#### STRATEGIES AND RESULTS

A data center uses a tremendous amount of process energy (electricity) to power the servers and other computing equipment and keep them cool. Realizing this, Emerson sought to design and construct the most energy-efficient data center possible. Key to this strategy is the incorporation of all 10 of Emerson Network Power’s “Energy Logic” strategies. Energy Logic is a vendor-neutral system of reducing process energy consumption in a data center. Select strategies include energy-efficient supplemental cooling strategies, delivering higher voltage power to the servers, using variable capacity cooling, and server virtualization. The Emerson data center performs 31% better in terms of energy efficiency than a similar data center not incorporating these strategies.

The project features a 7,800-square-foot, 550-module, 100kW photovoltaic array. The wedge-shaped array is mounted on the roof, tilted at a 10 degree angle, and rotated from the building’s structural grid to take advantage of a due south orientation. This power is fed directly into the “B” side electrical system and used on the data floor. The array has been providing over 13% of electrical power during initial use.

The project also achieved savings by mounting the cooling condensers on the roof, directly above the computer room air-conditioning units (CRACs). This arrangement saved more than 2 miles of copper pipe and kept condenser pads off the adjacent green space.

#### ABOUT EMERSON

Emerson is a diversified global manufacturing and technology company headquartered in St. Louis, Missouri. Emerson offers a wide range of products and services in its network power, process management, industrial automation, climate technologies, and tools and storage businesses. Recognized widely for its engineering capabilities and management excellence, Emerson has approximately 127,700 employees and 240 manufacturing locations worldwide.

“The LEED Gold certification – a rare designation for a data center – is a significant validation of Emerson’s commitment to energy efficiency and environmental responsibility.”

Emerson Chairman and Chief Executive Officer David N. Farr



**Architect and Interior Designer:** Fox Architects  
**Civil Engineer:** Berutti & Associates  
**Commissioning Agent:** Technology Site Planners  
**Contractor:** Musick Construction Co.  
**LEED/Sustainability Consultant:** Fox Architects  
**MEP Engineer:** Clive Samuels and Associates  
**Structural Engineer:** KPFF Consulting Engineers  
**Owner:** Emerson

Photographs Courtesy of: Fox Architects

#### About USGBC-Missouri Gateway Chapter

USGBC is the nation’s foremost coalition of leaders from across the building industry. Missouri Gateway Chapter members represent all segments of the building industry and work together to promote buildings that are environmentally responsible, profitable, and healthy places to live and work.

