



# NASA JET PROPULSION LAB, DATA CENTER

Pasadena, California



**\$2.9MM**

Verified Annual Savings

**12,600 MMBTU**

Verified Annual Energy Savings

## At a glance

CEG Solutions delivered a design-build ESPC project at NASA JPL to consolidate inefficient off-site IT systems into new high-efficiency data centers. This project cut energy waste and operating costs while safeguarding mission-critical space flight operations.

## OVERVIEW



Supporting more than 50 data center end-users, CalTech's NASA JPL required new high-efficiency data centers that could meet growing IT needs without disrupting mission-critical operations. The challenge was to consolidate systems from an inefficient off-site facility, improve resiliency, and enable future scalability — all while maintaining 24/7 uptime for space flight operations.

## Project Highlights

- \$2.9M in verified annual savings
- 12,600 MMBtu energy savings
- 3.7M kWh electricity reduction per year
- \$2M+ in annual O&M savings
- Achieved measured PUEs of 1.25 (B230) & 1.26 (B67)
- 50+ end-users supported with scalable capacity
- Redundant cooling & power for mission-critical uptime



## STRATEGIES



Electrification & Carbon Reduction, Energy & Operational Efficiency, Performance Assurance, Performance Contracting, Resiliency



## Awards

- 2022 DOE Federal Energy & Water Management Award
- 2021 AEE Region V Innovative Energy Project of the Year

## Energy Conservation Measures

- Data center consolidation
- New server racks, UPS, PDUs, backup generator, and ancillary infrastructure
- In-rack cooling and alternate high-efficiency cooling equipment
- Airside economization

## SOLUTIONS



CEG designed and built two new facilities with near Tier-III resiliency: (1) the B230 Phase 3 Data Center, supporting 96 racks with PUE 1.25, leveraging existing infrastructure and reinforced flooring for future buildouts; and (2) the B67 Modular Data Center, a self-contained microgrid supporting 28 racks with PUE 1.26, redundant UPS, and CRAC units that use outside air economization for most of the year. Together, these upgrades consolidated IT loads, reduced energy demand, and strengthened backup capacity.



## RESULTS

The data center consolidation reduced energy use by 12,600 MMBtu annually and lowered electricity consumption by 3.7M kWh, creating \$2.9M in verified annual savings. NASA also gained over \$2M in annual O&M savings, improved network performance, reduced IT maintenance requirements, and expanded long-term capacity — all while advancing sustainability goals.

