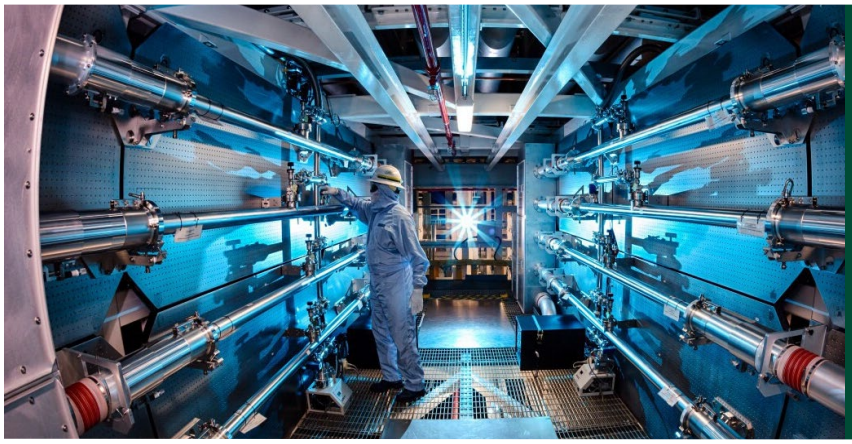
CBRE | ROMONET

Case Study: Lawrence Livermore National Laboratory



Key Information

Client

The Laboratory delivers solutions for the nation's most challenging security problems, including terrorism and weapons of mass destruction

Quick Facts

Client since: 2012
Geography: California, US

Services

Predictive Analytics, Energy Modelling

"The software enabled us to analyse 'what-if' scenarios for key projects and to understand their ROI before spending any money or scarce resources. This gives us quantitative information to justify our decisions to our budget holders."

Anna Maria Bailey
High Performance Computing Program Manager, LLNL

Contact Us

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Challenge

Lawrence Livermore National Laboratory (LLNL) is sponsored by the National Nuclear Security Administration, Department of Energy, and home to a number of the most powerful computer systems in the world. The world-class programmes and capabilities at the LLNL span one square mile, what many consider to be "the smartest square mile on Earth."

In response to Executive Orders and Department of Energy directives, the Laboratory was challenged to improve optimisation of LLNL's data centres and reduce energy intensity. CBRE | Romonet was retained along with Syska Hennessy, the Department of Energy, and the California Energy Commission to improve the overall operations of a specific building: B112 Enterprise Data Centre. The building comprised 15,000 sq. ft. of raised floor space with a capacity of 1.11 MW.

Solution

CBRE | Romonet provided a combined view of the electrical, thermal and IT parameters in a single graph that made for easy interpretation of the information. The graphical representation of the data was presented, including an interactive view of the Power Usage Effectiveness (PUE) charts.

CBRE | Romonet clearly pointed out faculty metering and helped predict the ROI and payback for the various energy performance improvement options being considered. Options included consolidating enterprise functions into a single facility, use of variable frequency drives in the computer room air conditioning units (CRAC), and use of a waterside economiser. The decision was made to implement the first two options.

"CBRE | Romonet is interesting because it encompasses the capability and direction we knew we needed to evaluate internal engineering and costs models and reduce our energy spending. Like many other organisations, we relied heavily on complex spreadsheets and a lot of manual labour in order to derive the business finance information from engineering options and operational choices.

In our situation, evaluating and recommending engineering options and operational choices are part of our commitment, ensuring we not only find but also justify solutions that maximise our returns. We knew that scaling that capability with our internal tools and resources was not going to be possible and having looked at using other alternatives found that we were not going to be able to do it within the timeframe and resource constraints.

What LLNL needed was technology built with data centre operators in mind and able to bring engineering, operations and finance together. We now have consistency of data and accuracy of output. We can compare investments on an apples-for apples basis and thanks to the customer ready graphical output from CBRE | Romonet, we can go directly from a model of our data centre to budget meetings with easy to understand and in-depth data, giving our budget holders confidence in our ability to not only understand the consequences of our choices but also show their financial payback. CBRE | Romonet has allowed us to prove that consolidating several applications in the same data centre would have an immediate beneficial impact."

Anna Maria Bailey
High Performance Computing Manager, LLNL