



## Case Study

# Prognose™ delivers dynamic performance data required by Syska Hennessy



**Syska Hennessy, one of the world's leading mission critical design consultants, chose Romonet's Prognose software suite to evaluate the energy performance and cost of ownership of leading-edge data center designs. Unlike other energy modeling packages, Prognose allows dynamic viewing of facility infrastructure performance as various inputs into the models are changed.**

### Challenge

Syska Hennessy's clients expect them to consistently deliver best-in-class data center designs incorporating the very latest sub-system and component technologies. They also demand the highest levels of cost optimization and energy efficiency throughout the lifetime of a facility – without ever compromising reliability and IT performance. In a dynamic data center environment with rapidly changing workloads and complex operational inter-dependencies, designing for optimum energy performance and TCO has previously been problematic.

Historically, there has been no accurate means to forecast the financial and operational impact of possible changes to infrastructure or IT equipment. Traditional design tools had previously been used to provide PUE estimates, but these were of limited value because the process was unable to evaluate the impact of multiple changes to operational variables in real-time.

Syska Hennessy needed a new and reliable methodology to greatly increase the accuracy of its lifetime cost and energy forecasts for different data center designs.

### Solution

With Romonet's Prognose software suite, Syska Hennessy was able to quickly and accurately model, predict and evaluate cost, energy efficiency, capacity, equipment performance and risk across a wide range of changing variables in real-time simulation, over the entire projected life cycle of various data center designs.

### Benefits

Prognose enables Syska Hennessy to simulate an extensive variety of 'what if' scenarios to evaluate the energy performance of different data center designs. By changing configurations, IT loads and environmental conditions, they are able to rapidly build a comprehensive understanding of cost, power usage and risk over time, providing the insight necessary to optimize TCO.

### Result

Prognose has allowed Syska Hennessy to make informed decisions about data center design by delivering an accurate, dynamic view of what happens to the performance of a facility when operational and environmental variables are changed. Prognose provides the fact-based data required to optimize energy efficiency and cost, without business risk, throughout the data center life cycle.

## Profile: Syska Hennessy

Syska Hennessy Group, Inc. ([www.syska.com](http://www.syska.com)) is a global leader in consulting, engineering and commissioning. The firm has helped engineer some of the world's most innovative, technically sophisticated, and energy efficient buildings.

*“With Prognose, discrepancies between design performance and actual performance at any given workload level can be more easily identified, reconciled and then corrected.”*

**Vali Sorell, Vice President and Critical Facilities Chief HVAC Engineer, Syska Hennessy Group**



### **Planning and designing tomorrow's world-class data centers, today**

The performance expectations of today's data centers are considerable. In an operating environment where demand is dynamic and energy costs are rising, the pressure is on to design facilities that are lifetime optimized for energy efficiency and cost – without compromising IT service provision and risk to the business. It's a challenge that is very familiar to Syska Hennessy.

Vali Sorell, Vice President and Critical Facilities Chief HVAC Engineer, Syska Hennessy Group, is clear about his focus. “Our clients want data center designs that are cost and energy optimized throughout their life cycle,” he says. “For us, that means having a clear and accurate understanding of what happens to performance and energy usage at a granular level as variables within the facility's infrastructure change over time. In the past, it has been pretty much impossible to access the kind of detail you need to make informed planning decisions. But these are the insights we really need to design tomorrow's world-class data centers.”

“There are planning tools out there used to predict design PUE performance, but they're based on hourly energy modeling platforms that require new data input for each change in condition or variable. In addition, establishing partial load performance was previously problematic and it wasn't in the best interests of clients because PUE cannot be balanced for best project delivery using an hourly energy simulator tool. We needed a more accurate energy modeling tool – something where loads, equipment and other variables can be easily changed and meaningful evaluations made.”

### **Optimize for cost, energy and capacity – for life**

Prognose allows you to design, build, operate and maintain a data center based on a detailed predictive simulation of equipment and facilities. So at any stage you can accurately model and compare performance, operational efficiency and costs across a wide range of variables. Prognose enables Syska Hennessy to rapidly create and compare multiple complex design options, test equipment performance before procurement, demonstrate how modular builds

optimize performance and assess how environment changes impact on energy usage and cost.

“Prognose allows dynamic viewing of the performance of the facility's infrastructure as various inputs into the model are changed,” says Sorell. “For example, outdoor conditions and IT loads change over time – and the provisioning of equipment to meet various conditions over the life of a modular facility also changes. The interactive display feature in the Prognose suite allows dynamic viewing of the performance of all aspects of the facility's response, including the PUE and DCiE at various conditions. The representation of the heat transfer process in Prognose and the end-point accuracies are very powerful too. It's simply a great planning tool.”

Prognose is now a key element in Syska Hennessy's service offering. “Being able to model the provisioning of different IT workloads across different system configurations with different power and cooling sub-systems is a central feature of Prognose – and one that doesn't exist anywhere else,” adds Sorell. “It gives us the insights we need to help make the right design decisions.”



[www.romonet.com](http://www.romonet.com)

#### **Romonet Ltd.**

Corinthian House,  
17 Lansdowne Road,  
Croydon, CR0 2BX  
United Kingdom

T. +44 (0) 20 8256 0250

#### **Romonet Inc.**

2121 N. California Blvd.  
Suite290,  
Walnut Creek, CA 94596  
USA

T. +1 (415) 658 5763