



# BBVA Group: Sistol’s WhyB Managed Service Brings SkySpark® Analytics to a Major Banking Institution

Case Study  
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## Sistol Deploys SkySpark as a Managed Service for Spain’s BBVA Banking Group

Sistol, a longstanding SkyFoundry partner based in Spain delivers advanced analytics and energy efficiency to major organizations with their “WhyB Service”, a monitoring and analytics managed service based on SkyFoundry’s SkySpark® Analytics.

WhyB combines SkySpark technology with a comprehensive offering of services to help property owners and managers achieve their sustainability goals.



## **BBVA Group: Sistrol Uses SkySpark® Analytics to Bring Automated Monitoring and Analytics to a Major Banking Institution**

### *Overview*



CBRE is a leading international consulting and real estate services company, with more than 80,000 employees and has been in Spain since 1973. In Spain, they manage the headquarters of many Spanish companies. CBRE stands on their maintenance projects on energy management and optimization to achieve useful, comfortable and efficient buildings. In Madrid, CBRE GWS manages the main corporate headquarters of BBVA which is more than 215,000m<sup>2</sup>.

The BBVA Group corporate headquarters in Spain, known as BBVA City, is located in the Las Tablas district of Madrid. It is a complex of 114,000m<sup>2</sup> with 164,839 BMS points. It accommodates 8000 employees, in 7 buildings situated around a large square, where the “La Vela” building was constructed, a large circular tower of 93 meters high and is the central building of the complex. CBRE also manages 41 other buildings for the bank and 181 main branches, totaling more than 23,000 analytic points.

Sistrol a leading facilities services firm in Spain worked with CBRE and the bank to implement a comprehensive facility monitoring solution as a managed service.

## Project Details

**Location:** Madrid, Spain

**Building Type:** Banking Headquarters Complex

**Scope & Size:**

Buildings: 8 totaling 114,000m<sup>2</sup>

BMS Points: 23,000

**Key Technologies:**

Sistrol WhyB Services

SkyFoundry SkySpark® Analytics

## A Managed Services Approach

Sistrol, using their monitoring and analytics service called WhyB, based on the SkyFoundry's SkySpark Analytics tool, analyzes 23,000 BMS points within the BBVA City, with the goal of reducing energy consumption and maintenance costs, while maintaining the required environmental conditions.

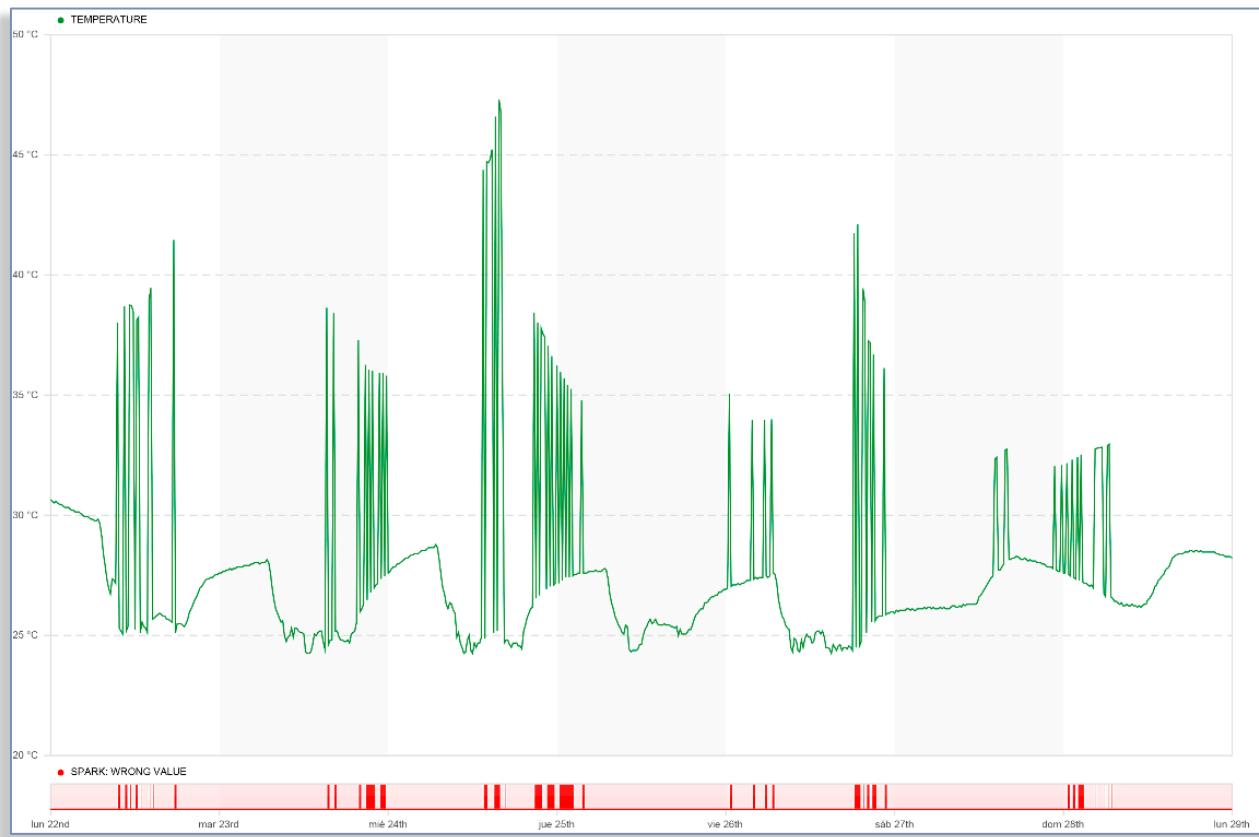
WhyB monitors the building systems, finding incidents automatically which are later analyzed, prioritized and managed by a WhyB Analyst. The Analyst keeps in touch with CBRE to explain, advise and help manage incidents with the Building Manager.



## Incident Studies

### Identifying Issues with BMS Sensor Data Quality

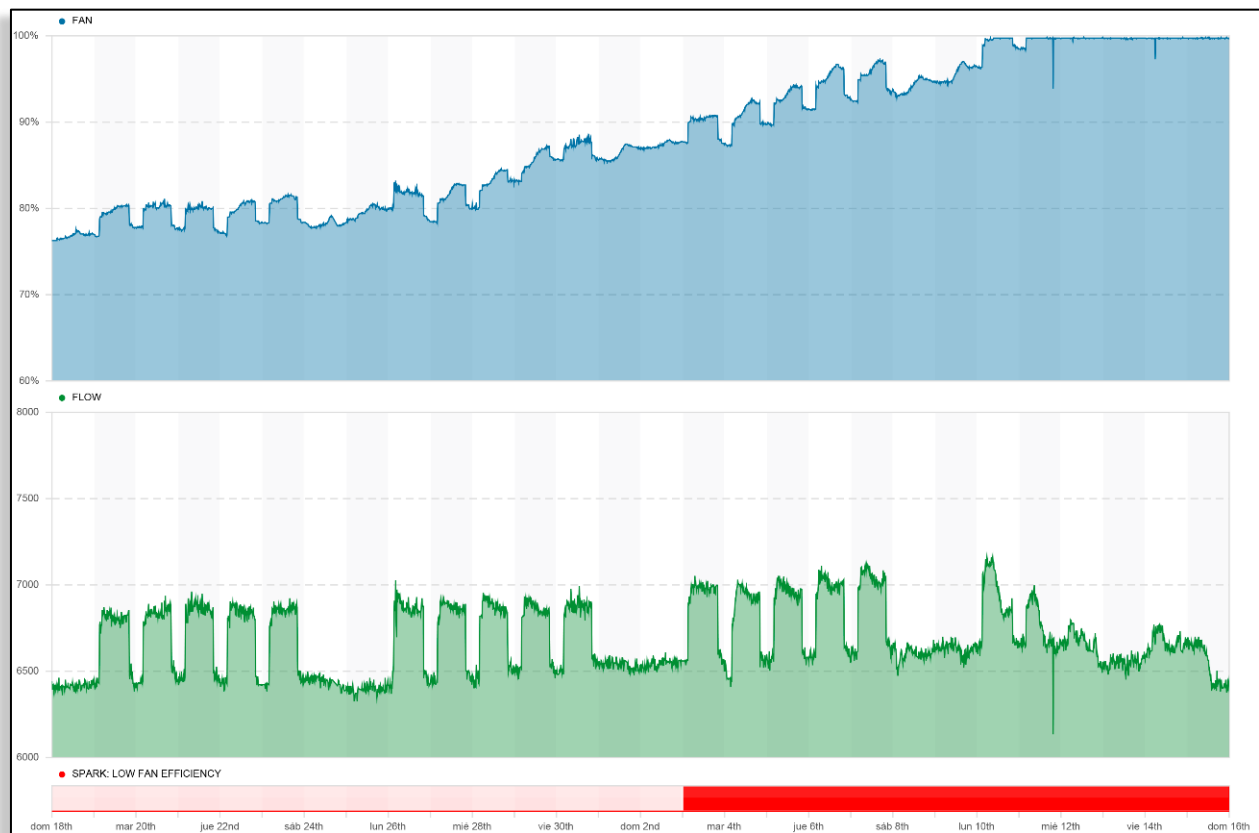
In one of the BBVA City areas, the room temperature sensor of the chilled beam started to record wrong values, causing an equipment malfunction. The following image shows the incorrect sensor readings (green) and the SkySpark spark that detected the issue.



SkySpark analytics rules continuously analyze equipment data to detect issues including incorrect sensor readings

## Degradation of Equipment Performance

In another location in the BBVA campus, a large return-air fan slowly started to require more power to provide the same airflow. Eventually, even working at 100% power the unit could not achieve the needed minimum air flow. The next image shows the power output to the fan rising to 100% (blue). The lower graph shows the air conditioner return-air flow signal and the SkySpark spark that detected the “Low Fan Efficiency” condition.



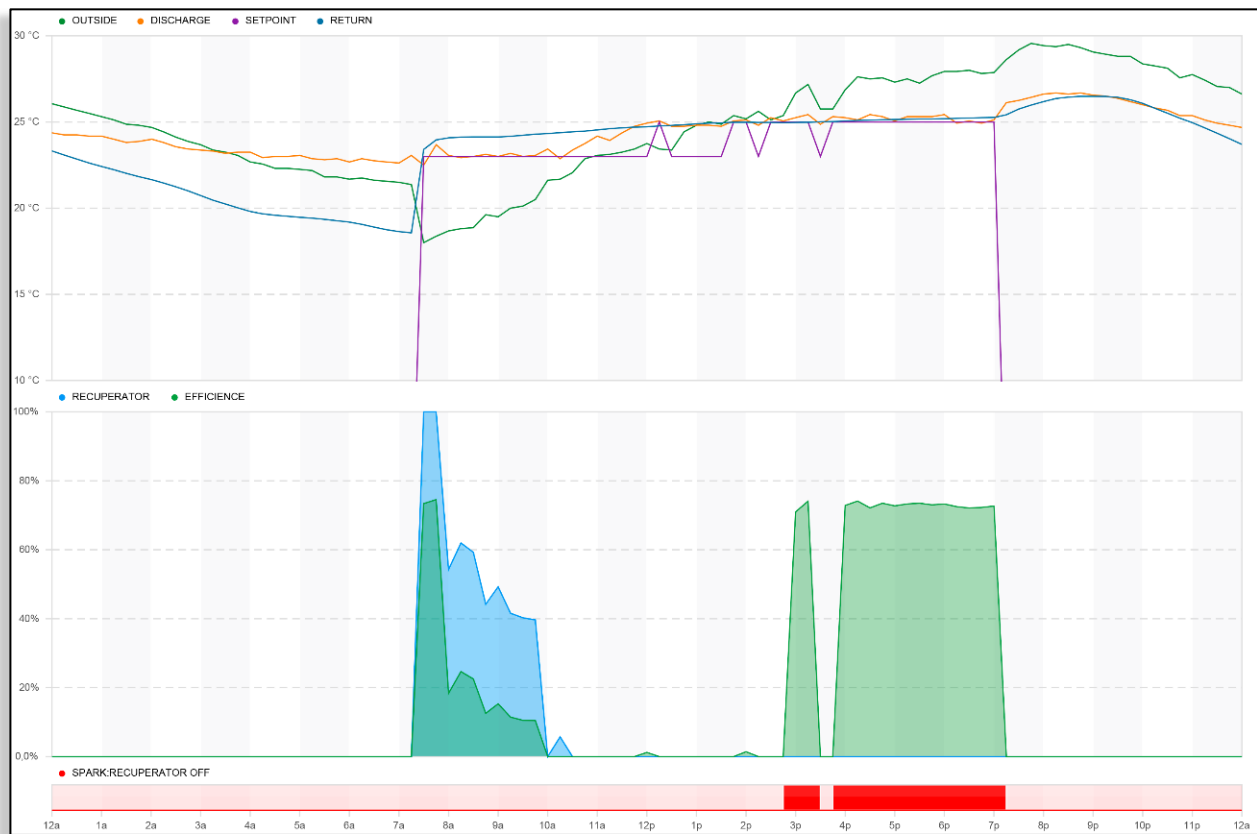
In these SkySpark screens, the Spark (red) shows periods of time where low fan efficiency was detected

## Energy Optimization Sensor and Equipment Failures are Not Always Obvious

A common incidence of failure is in the thermal energy recuperators (economizers). In the line chart below, outdoor and indoor air temperature values are represented.

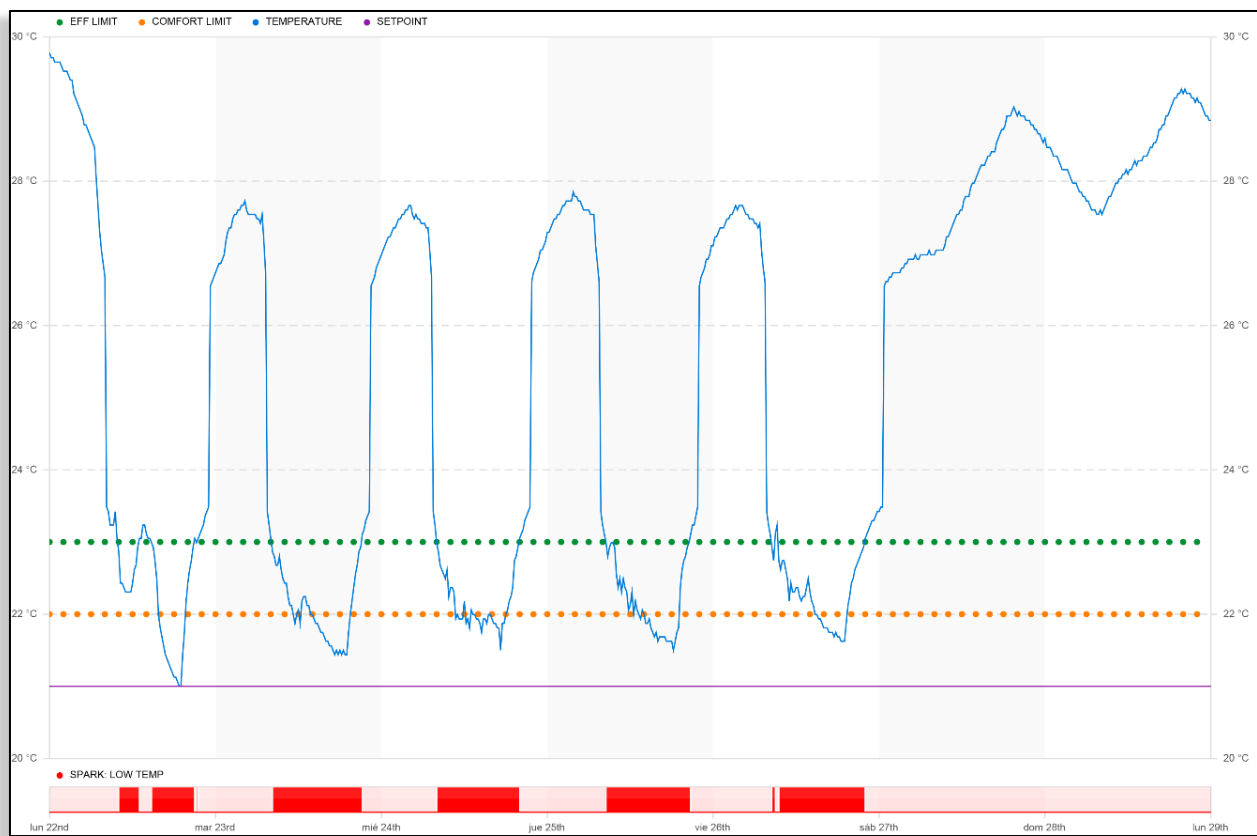
In the area chart, it shows the periods in which the recuperator would provide an efficiency benefit (green area chart) and the periods in which it is switched on (blue).

Below the area chart is the Spark which identified periods of time when the recuperator should have been activated but was not. This was the result of a small but significant programming error in the control sequence that prevented the recuperators from activating during all times when they should, resulting in a loss of efficiency.



## Identifying System Issues Affecting Occupant Comfort

Other issues were detected by rules related to occupant comfort. In this case, a SkySpark rule detected conditions when the zone setpoint temperature was being set to a value that was below the efficiency levels and comfort limits. The following graph shows the value of the zone temperature and setpoint and the Spark that detected the issues.



## The Overall Results – Improved Efficiency and Occupant Comfort

Sistrol monitors the BBVA City building systems, finding incidents automatically using their WhyB Service, which are later analyzed, prioritized and managed by a WhyB Analyst. The WhyB Analyst communicates with the Building Manager to explain, advise and help manage incidents within the BBVA City complex.

## For More Information

This Case Study provides a brief summary of the project and processes. For more information, please contact the following companies.



CBRE Group, Inc., a Fortune 500 and S&P 500 company headquartered in Los Angeles, is the world's largest commercial real estate services and investment firm (based on 2017 revenue). The company has more than 80,000 employees (excluding affiliates) and serves real estate investors and occupiers through more than 450 offices (excluding affiliates) worldwide. CBRE offers a broad range of integrated services, including facilities, transaction and project management; property management; investment management; appraisal and valuation; property leasing; strategic consulting; property sales; mortgage services and development services.

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



SISTROL has been using their combined experience in Building Management Systems (BMS), Commissioning and Building Analytics to make buildings work since 1999. In more than 700 projects, they have helped companies in 25 different markets to increase comfort, reliability and savings in their facilities. Their versatility and ability to tackle small and large projects has been key in providing savings to a large variety of projects and markets, in particular Hospitals, Pharma Labs, Data Processing Centers, Hotels and Leisure facilities, Shopping Malls, Logistics facilities, Industrial Installations, Transport and University campuses, and Corporate Headquarters and Office Buildings.

<https://sistrol.com/en/>



## SkySpark® – Analytics for a World of Smart Device Data

The past decade has seen dramatic advances in automation systems and smart devices. From IP connected systems using a variety of standard protocols, to support for web services and xml data schemas, it is now possible to get the data produced by the wide range of devices found in today's buildings and equipment systems.

Access to this data opens up new opportunities for the creation of value-added services to help businesses reduce energy consumption and cost and to identify opportunities to enhance operations through improved control, and replacement or repair of capital equipment. Access to the data is just the first step in that journey, however. The new challenge is how to manage and derive value from the exploding amount of data available from these smart and connected devices. SkyFoundry SkySpark directly addresses this challenge.

## About SkyFoundry

SkyFoundry's mission is to provide software solutions for the "Internet of Things". Areas of focus include:

- Building automation and facility management
- Energy management, utility data analytics
- Remote device and equipment monitoring
- Asset management

SkyFoundry's software helps customers derive value from their investments in smart systems. Learn more and request a demonstration at [www.skyfoundry.com](http://www.skyfoundry.com).



*The new frontier is to efficiently manage and analyze data to find what matters™.*

# SkyFoundry

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